SPRINGERVILLE MUNICIPAL AIRPORT

AIRPORT MASTER PLAN

FINAL REPORT
April 24, 2007

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

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Introduction

Springerville Municipal Airport
Airport Master Plan

INTRODUCTION

The Town of Springerville, Arizona, as the Airport Sponsor, is continuing its effort to plan for future development of the Springerville Municipal Airport. This development is designed to enhance air and ground operations, improve safety, provide better airport services and stimulate the local economy through business growth potential.

FIGURE 1. FBO HANGAR AT SPRINGERVILLE

PURPOSE

An airport master plan document describes and depicts the overall concept for the long-term development of an airport. It presents the concepts graphically in the airport layout plan (ALP) drawing set and reports the data and logic on which the concept is based in the airport master plan (AMP) report. The goal of the master plan report is to provide direction for future airport development that will satisfy aviation demand in a financially feasible manner and meet the needs of the community with respect to the airport.

OBJECTIVES

The primary objectives of the airport master plan are to produce an attainable phased development plan concept that will satisfy the airport needs in a safe, efficient, economical and environmentally sound manner. The plan serves as a guide to decision makers, airport users and the general public for implementing airport development actions while considering both airport and community concerns and objectives. There are a number of objectives that the Town of Springerville would like to achieve as a result of this master plan.

Objectives of the airport master plan include:

- Clearly identify the present and future roles of the Springerville Municipal Airport.
- Update aircraft activity forecasts for the airport.
- Refine the size and layout of general aviation areas.
- Refine the size and layout of the future USFS Air Tanker Base facilities.
- Determine the preferred development alternatives for meeting airfield facility requirements and FAA safety and design standards.
- Provide a plan for improvement of the facility to accommodate increased usage and meet current FAA airport design standards.
- Identify optimum landside uses, which will enhance the economic benefits of the airport and that are compatible with airside development.
- Develop active and productive public involvement throughout the planning process.
- Prepare a schedule of development projects and reasonable cost estimates by which to implement the improvements proposed herein (i.e. Capital Improvement Plan).
- Develop realistic, phased development and maintenance plans for the airport.
- Provide an Airport Layout Plan drawing set in accordance with current FAA standards.
- Prepare an Environmental Overview for proposed development.
- Prepare compatible land-use and height restriction plan for the airport vicinity including recommended zoning protection within the airport influence zone.
- Accomplish obstruction survey and momumentation in accordance with FAA Standard 405 for a potential WAAS approach.

MASTER PLAN PROCESS AND SCHEDULE

FIGURE 2. MASTER PLANNING PROCESS

Airport planning takes place at a national, state, regional and local level. These plans are formulated on the basis of overall transportation demands and are coordinated with other transportation planning and comprehensive land use planning. The National Plan of Integrated Airport Systems (NPIAS) is a ten-year plan continually updated and published by the Federal Aviation Administration (FAA). This publication lists developments at public use airports that are considered to be of national interest and thus eligible for financial assistance for airport planning and development under the Airport and Airway Improvement Act of 1982. Statewide Integrated Airport Systems Planning identifies the general location and characteristics of new airports and the general expansion needs of existing airports to meet statewide air transportation goals. This planning is performed by state transportation or aviation planning agencies. Regional Integrated Airport Systems Planning identifies airport needs for a large regional or metropolitan area. Needs are stated in general terms and incorporated into statewide systems plans. Airport Master Plans are prepared by the operators of individual airports and are usually completed with the assistance of consultants. The Town of Springerville is completing this master plan with the assistance of Armstrong Consultants, Inc. The airport master planning process involves collecting data, forecasting demand, determining facility requirements, studying various alternatives and developing plans and schedules. The flow chart in Figure 2 depicts the steps in the master planning process. This process will take into consideration the needs and concerns of the airport sponsor, airport tenants and users, as well as the general public.

PLANNING ADVISORY COMMITTEE

The Springerville Planning Advisory Committee (PAC) consists of members representing varied interests in the airport and the community. Their involvement throughout the master planning process will help to keep interested parties informed and will foster consensus for future development actions.

PAC REPRESENTATIVES

- *Town of Springerville – Scott Garms*
- *Town of Springerville – James Hamblin*
- *Pilot - Chuck Cory*
- *Pilot - Tim Alder*
- *Pilot - Ron Bryce*
- *Pilot - Candy Cook*
- *Springerville Municipal Airport – Brian Martin*
- *Luke Air Force Base – Terry Hansen*
- *Arizona Aeronautics Division – Michael Klein*
- *Federal Aviation Administration – Margie Drilling*

Chapter One
Inventory

Springerville Municipal Airport
Airport Master Plan

CHAPTER ONE
AIRPORT INVENTORY

INTRODUCTION AND AIRPORT HISTORY

The Springerville Municipal Airport (D68) is a general aviation airport located in eastern Arizona, approximately 2 miles west; southwest of the Town of Springerville. The airport is 162 nautical miles northeast of Phoenix Sky Harbor International Airport, however, it is over 220 miles to drive from Springerville to Phoenix.

The airport was initially constructed at its present location in the 1940's and was originally owned by the Springerville-Eager Airport Corporation. The Town of Springerville acquired the airport in 1948 and paved the primary runway in 1962. The original apron was reconstructed and expanded in the 1970's and a parallel taxiway to Runway 3/21 was constructed in the early 1980's. In the 1990's the Town of Springerville constructed a crosswind runway, expanded the aircraft-parking apron, constructed a vehicle parking area as well as a hangar and terminal area. Runway 3/21 has also been extended and resurfaced numerous times throughout the years. A parallel taxiway was constructed to Runway 11/29 in 1994 and the runway was resurfaced in 2001.

The Town of Springerville is located in an area known as Round Valley in the foothills of the White Mountains. Situated on the banks of the Little Colorado River, the Town grew around Henry Springer's Trading Post. The Town of Springerville was established in 1879, but was not incorporated until 1948. Springerville is also located immediately north of Eagar, Arizona and the two communities share many services.

AIRPORT GRANT HISTORY

The original Airport Master Plan was completed in 1989 and this Airport Master Plan replaces the 1994 Airport Master Plan Update and subsequent revisions. A federal and state grant history for the capital improvements at the Springerville Municipal Airport is provided in Table 1-1. In Arizona, under the most recent FAA Airport Improvement Program legislation (Vision 100), capital improvement projects are typically funded at 95 percent Federal Aviation Administration (FAA), 2.5 percent State of Arizona and 2.5 percent by the sponsor.

SERVICE LEVEL

The airport service level reflects the type of public use the airport provides to the community. The service level also reflects the funding categories established by Congress to assist in airport development. The following list identifies the different types of airport service levels:

- **Commercial service** airports are public airports that enplane 2,500 or more annual passengers and receive aircraft offering scheduled passenger service. Commercial service airports are either:

  Primary- airport that enplanes more than 10,000 passengers annually; or

  Nonprimary- airport that enplanes between 2,500 and 10,000 passengers annually.

- **General Aviation Airports** while not specifically defined are considered to be airports not classified as commercial service. General aviation airports include:

  Reliever is an airport designated by the FAA as having the function of relieving congestion at a commercial service airport and providing more general aviation access to the overall community. Privately owned airports may be identified as reliever airports.

  Privately owned public-use airports that enplane 2,500 or more passengers annually and receive scheduled passenger service are also classified as general aviation because they do not meet the criteria for commercial service.

  Other General Aviation are airports that are largely intended to serve the needs of general aviation users (users who conduct non-military operations not involving the carriage of passengers or cargo for hire or compensation.

Springerville Municipal Airport is listed in the NPIAS as a general aviation airport. The airport meets all of the NPIAS criteria for a general aviation airport.

AIRPORT ROLE

The Springerville Municipal Airport provides a good facility for a variety of users that need access to the Springerville area. The geographic location of the Springerville Municipal Airport near the communities of Springerville and Eagar allows easy access to users throughout the entire area.

The Springerville Municipal Airport is currently an Airport Reference Code (ARC) B-II airport serving predominately single engine piston, multi-engine piston and turbo prop aircraft, with some use by light turbojet aircraft. Users include:

Air Medivac Services: Air medivac provides essential emergency medical transport in life threatening situations and patient transfers from clinics to higher level care facilities throughout the Springerville-Eagar area. These users utilize a variety of multi-engine turboprop and turbojet aircraft.

Business/Recreational Transportation: These users desire the utility and flexibility offered by general aviation aircraft. The types of aircraft utilized for personal and business transportation varies with individual preference and resources and generally include a mix of single-engine, multi-engine and turbojet aircraft. This category also includes hunting and tourism traffic. There will be an increased number of these users as the community continues to grow and the number of second homes increases.

Wildfire Management: The U.S. Forest Service utilizes the airport for wildfire control and suppression. The number of these operations varies greatly depending on the fire season in the area. The type of aircraft predominately used for aerial fire fighting is the single engine air tanker (SEAT).

Flight Training: Kestrel Aviation provides flight instruction. Flight schools from other airports in the state have students perform cross-country flights to Springerville Municipal Airport. Flight training includes instructional flying to obtain a pilot's license or proficiency checks including biennial flight reviews. The majority of aircraft used for flight instruction include single and multi engine piston.

TABLE 1-1 GRANT HISTORY Project No. & Date	Description of Work	Federal Amount
AIP-001 – 1982	Acquire Land for Development and Approaches Construct Taxiway	$302,396
AIP-002 – 1983	Extend Runway Install Runway Lighting Install Runway Vertical/Visual Guidance System	$203,045
AIP-003 – 1986	Extend Runway	$439,236
AIP-004 – 1988	Install Apron Lighting Construct Runway	$606,986
AIP-005 – 1989	Install Apron Lighting Install Runway Vertical/Visual Guidance System	$117,976
AIP-006 – 1990	Improve Access Road Acquire Land for Approaches	$204,929
AIP-007 – 1991	Rehabilitate Taxiway	$261,674
AIP-008 – 1992	Extend Runway Install Runway Lighting Extend Taxiway	$932,454
AIP-009 – 1994	Improve Airport Drainage Construct Taxiway	$380,000
AIP-010 – 2001	Rehabilitate Runway	$406,000
AIP-011 – 2002	Rehabilitate Runway	$29,298
AIP-012 – 2003	Install Perimeter Fencing	$89,172
AIP-013 – 2005	Update Airport Master Plan Study	$150,000
	TOTAL FAA AMOUNTS	**$4,153,148**
State Grant No. & Date		State Amount
N052-1987	MIRL Rwy 11/29	$5,791
N145-1990	Txwy and Rwy 3/21	$50,572
N145-1991	Access Road and Land Acquisition	$10,059
N447-1992	Master Plan Update	$39,600
N638-1992	MITL	$61,774
N340-1992	Rwy, Txy Est and apron; Fence and lights	$495,679
N435-1994	Land Acquisition access road and fencing	$37,321
N538-1994	Utilities Fire Protection	$370,965
N561-1994	Parallel Taxiway 11/29 perimeter fencing	$18,665
N871-1998	Install PAPI	$90,000
1122-2001	Fire Protection Design Waterline	$126,000
2F30-2001	Rehab Rwy 11/29 Phase I	$19,930
3F52-2003	Rehab Rwy 11/29 Phase II	$10,230
3S99-2003	Pavement Preservation	$189,945
6S86-Pending	Install Perimeter Fence	$4,378
	TOTAL STATE AMOUNTS	**$1,530,909**

SOURCE: FAA AND ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT)

AIRPORT LOCATION

The Springerville Municipal Airport is located in the east-central portion of Arizona in southern Apache County. The airport is situated in portions of Sections 5, 6, 31 and 32, Township 9 North, Range 29 East of the Gila and Salt River Meridian. Figure 1-1 provides a graphic depiction of the location of the Town of Springerville. The airport is designated by the FAA as Site Number 00797.A and is a public airport. The airport location is Latitude 34^{o} 08' 07.60" North and Longitude 109^{o} 18' 36.09" West according to FAA Form 5010-1, Airport Master Record. The airport elevation is 7,051 feet and the airport currently has a B-II Airport Reference Code.

Source: Economic Development of Apache County Corporation (EDAC)

FIGURE 1-1. LOCATION MAP

AIRPORT PROPERTY

The existing airport property line encompasses approximately 558 acres according to the airport deeds. The Town of Springerville also has a number of easements for the Runway Protection Zones (RPZs) off the ends of Runway 3/21 totaling approximately 167 acres. However, the RPZs off the ends of Runway 11/29 are currently uncontrolled by the Town of Springerville. The property off the ends of Runway 3/21 need to be acquired allowing the fence to be relocated outside of the Runway Safety areas and Object Free areas.

LAND USE PLANNING

The existing land use zoning for the Town of Springerville is shown in Figure 1-2. The airport is located on a low mesa adjacent to rangeland/agricultural to the north, west and south. The east side of the airport consists of some residential and commercial land uses. The airport is surrounded by land uses that are considered compatible with the airport. The FAA recommends that airport sponsors protect the areas surrounding an airport from incompatible development. Incompatible development includes those land uses which would be sensitive to aircraft noise or over flight, such as residences, schools, churches and hospitals and those uses which could attract wildlife and cause a hazard to aircraft operations such as landfills, ponds and wastewater treatment facilities. A recommended Compatible Land Use and Height Restriction Plan is included as part of this Master Plan.

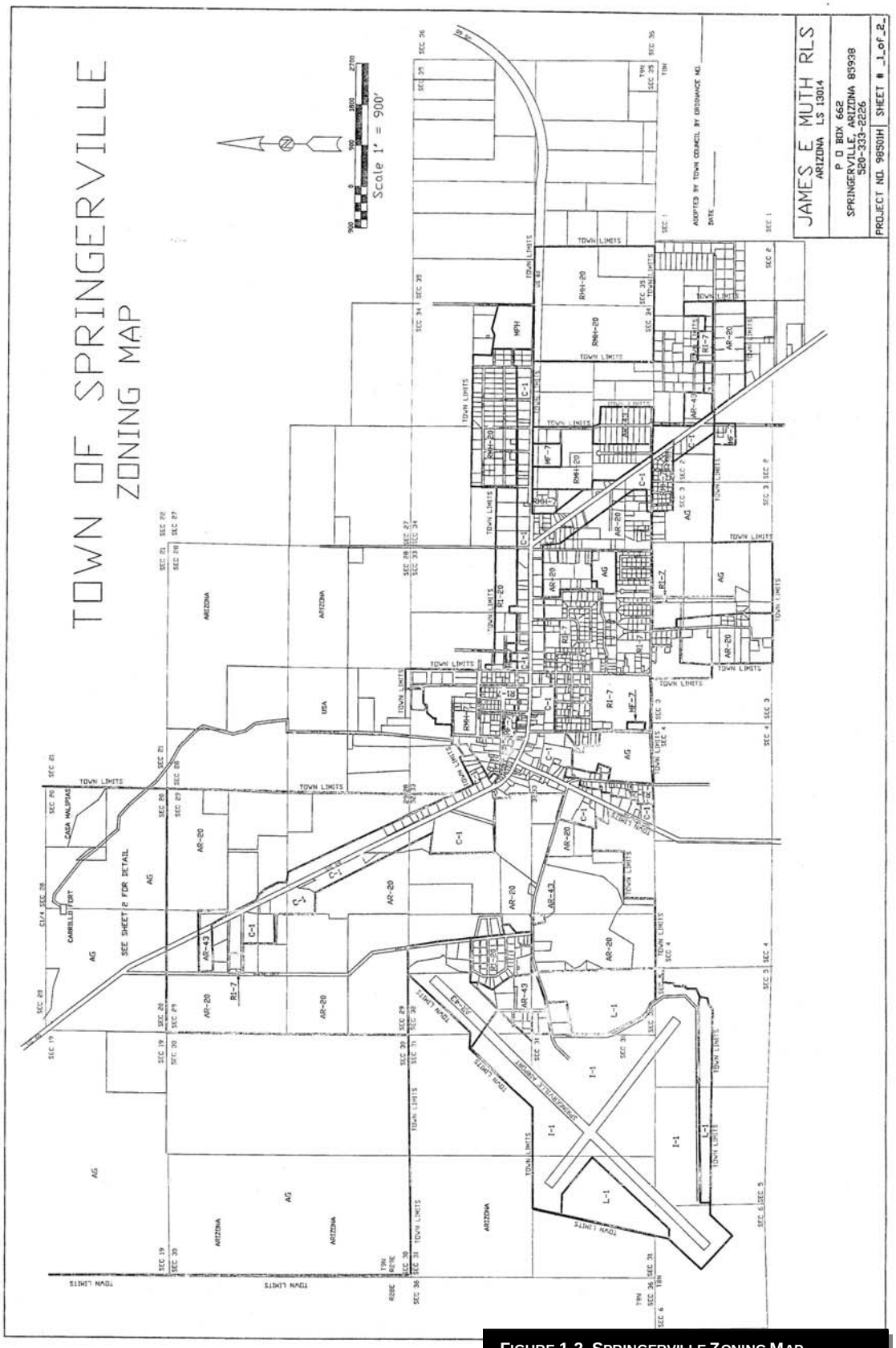


FIGURE 1-2. SPRINGERVILLE ZONING MAP

REGIONAL SETTING

The Town of Springerville is located in northeastern Arizona on the banks of the Little Colorado River at an elevation of 7,000 feet. The Town was developed around Henry Springer's trading post and was incorporated in 1948. Springerville and the neighboring Town of Eagar both reside in the Round Valley just north of the White Mountains. Combined with a mild climate and proximity to a wealth of outdoor recreation year round, ranging from hunting and fishing to winter skiing, Springerville is a haven for recreational enthusiasts in Arizona and New Mexico. Springerville is approximately 30 highway miles south of St. Johns, the Apache County seat, and approximately 55 highway miles east of Show Low, Arizona.

FIGURE 1-3. REGIONAL SETTING

RECREATION AND TOURISM

The many lakes, streams, year round hunting and nearby ski resort attract many visitors to the Springerville/Eagar area. Sunrise Ski & Recreation Park, owned by the White Mountain Apache Tribe, is 20 miles southwest of Springerville. The communities are located just outside the northern boundary of the Apache Sitgreaves National Forest which encompasses more than 2 million acres. The Sitgreaves National Forest includes the northern end of the Coronado Trail, which offers exceptional views of forest-meadow country, hunting lodges for off-trail hunting and fishing, wildlife and former gold camps. There are also four rivers, 24 lakes and reservoirs and more than 680 miles of clear trout streams in the area. In addition, the National Forest is home to the Casa Masapai's Ruins, a National Park affiliate. The Little Colorado River originates 14 miles southwest in Greer, Arizona and flows through the area on its way to the Grand Canyon.

SOCIOECONOMIC CHARACTERISTICS

Examining the specific socioeconomic characteristics of the Town of Springerville and Apache County will help determine the factors influencing aviation activity in the area and the extent to which aviation facility developments are needed in Springerville. Characteristics, such as employment, demographic patterns and income, will help in establishing the potential growth rate of aviation within the town and the county. In other words, by analyzing the information in this Chapter, forecasts of aviation activity can be developed. Those forecasts are provided in Chapter 2.

LOCAL PROFILE

For many years, agriculture and trading were the focus of the area. While ranching and hay production are still important, the construction of two power plants, the startup of a sawmill and other timber-related industries and the growing tourism/recreation trade has broadened the economic base. Service to the tourist trade and local community is the major contributor to the employment structure, followed by retail trade. The Springerville Generating Station, operated by Tucson Electric Power, employs approximately 200 local residents. The primary employer throughout Apache County is government, including the U.S. Forest Service.

POPULATION

As of the 2000 US Census, there were 1,972 people residing in Springerville, 4,033 residing in Eagar and 69,423 residing in Apache County. According to population estimates from the Arizona Department of Economic Security and the U.S. Census Bureau, these populations increased moderately from 2000 to 2004. The Town of Springerville's population increased to 1,995, the Town of Eagar increased to 4,265, while the population of the County increased to 71,320 residents. Table 1-2 shows this increasing population trend.

TABLE 1-2 POPULATION

	1990	2000	2004
Springerville	1,802	1,972	1,995
Eagar	4,025	4,033	4,265
Apache County	61,591	69,423	71,320
Arizona	3,665,228	5,130,632	5,832,150

Sources: Arizona Department of Economic Security, US Census Bureau (June 2005)

The Arizona Department of Economic Security, Research Administration, Population Statistics Unit developed population projections for all Arizona communities, counties and the state in 1997. Population projections as shown in Table 1-3 indicate a 37 percent population increase for the State of Arizona from 2004 to 2025. The combined populations of Springerville and Eagar are projected to increase to 10,558 by 2025 or a 69 percent increase from the current population.

TABLE 1-3 POPULATION PROJECTIONS

	2010	2015	2020	2025
Springerville	2,338	2,500	2,663	2,821
Eagar	6,024	6,604	7,182	7,627
Apache County	76,650	81,175	85,775	90,275
Arizona	6,145,125	6,744,800	7,363,625	7,993,000
Springerville/Eager	8,362	9,104	9,845	10,558

Source: Arizona Department of Economic Security, Research Administration Population Statistics Unit (July, 1997)

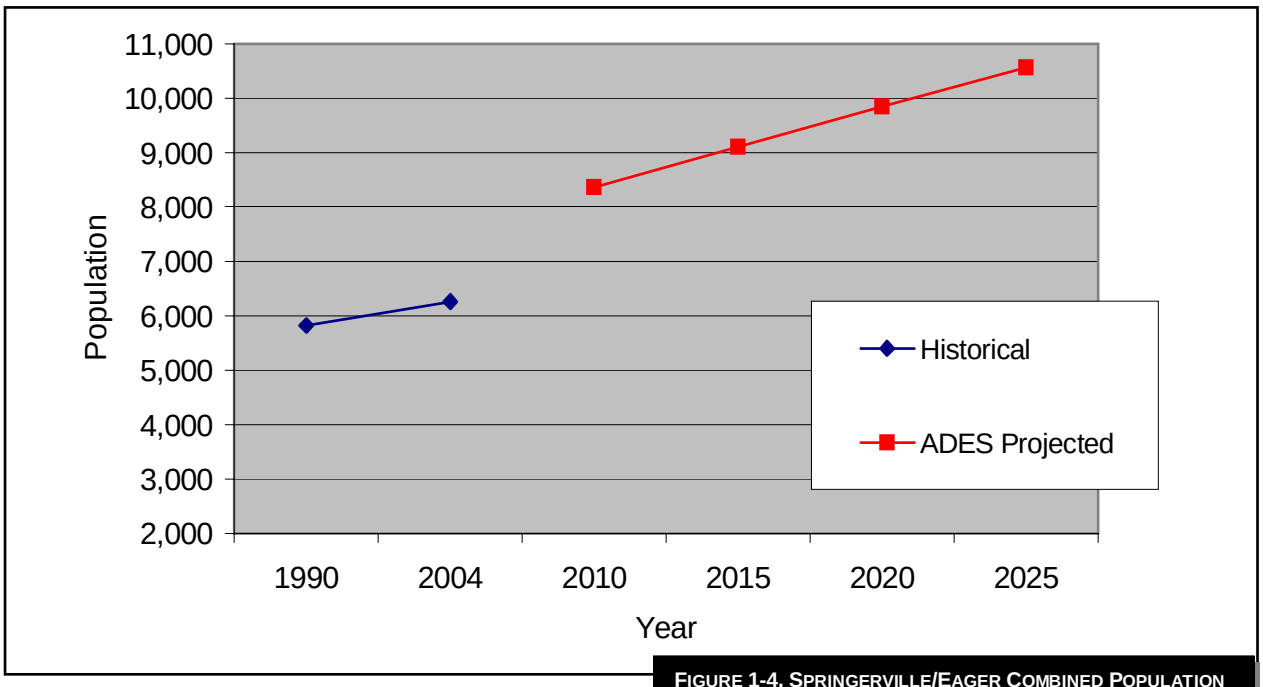


FIGURE 1-4. SPRINGERVILLE/EAGER COMBINED POPULATION

EMPLOYMENT

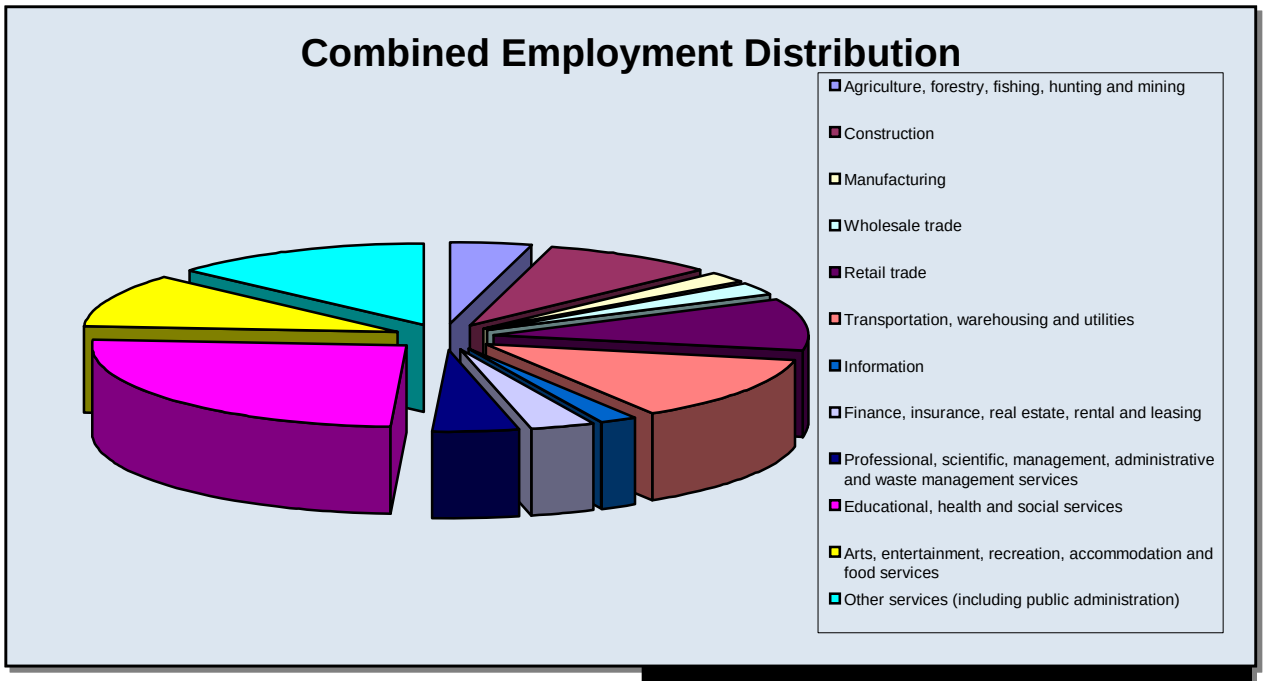
As stated previously, the largest employer in Apache County is government according to the Arizona Department of Economic Security. The second largest employment sector in the County is other private service which includes the employees of Tucson Electric Power who work at the Springerville Generating Station. The Station is expanding with the construction of a third coal-fired generator scheduled for completion in 2006. The other major private employer in the area is the White Mountain Regional Medical Center in Springerville. Public and government employers in the area include the U.S. Forest Service, the Arizona Department of Corrections and the Round Valley Unified School District.

According to the Arizona Department of Economic Security, the unemployment rate in Springerville was 6.8 percent in 2000 and 6.9 percent in 2004. The unemployment rate in Eagar was 4.0 percent in 2000 and 4.1 percent in 2004. While the unemployment rate has remained steady in both communities, the civilian labor force has increased approximately 8 percent from 2000 to 2004. Employment distribution by industry for both Springerville and Eagar is shown in Table 1-4 and Figure 1-5.

TABLE 1-4 SPRINGERVILLE AND EAGAR EMPLOYMENT DISTRIBUTION

	Springerville	% of Total	Eagar	% of Total
Agriculture, forestry, fishing, hunting and mining	24	3.1%	78	4.8%
Construction	87	11.3%	123	7.5%
Manufacturing	6	0.8%	53	3.2%
Wholesale trade	23	3.0%	37	2.3%
Retail trade	82	10.7%	162	9.9%
Transportation, warehousing and utilities	88	11.4%	228	13.9%
Information	12	1.6%	31	1.9%
Finance, insurance, real estate, rental and leasing	17	2.2%	68	4.2%
Professional, scientific, management, administrative and waste management services	33	4.3%	69	4.2%
Educational, health and social services	198	25.7%	414	25.2%
Arts, entertainment, recreation, accommodation and food services	84	10.9%	169	10.3%
Other services (including public administration)	115	15%	206	12.6%
Total	769	100%	1,638	100%

Source: U.S. Bureau of the Census, Census 2000



SOURCE: U.S. BUREAU OF THE CENSUS, CENSUS 2000

FIGURE 1-5. SPRINGERVILLE/EAGER EMPLOYMENT SECTORS

INCOME

According to the 2000 US Census, the median income for a household in Apache County was $23,344. The median household income for Springerville and Eagar was much higher than the county at $30,769 and $37,378 respectively. The per capita income in 2000 was $8,986 for the county, $13,830 for Springerville and $14,623 for Eagar. The percentage of families living below the poverty line was 33.5 percent for the county, 14.7 percent for Springerville and 7.8 percent for Eagar.

GROWTH INDICATORS

Additional growth indicators include building permits, taxable sales and net assessed valuation. Building permits in Eagar increased from 48 in 1990 to 66 in 2000 and have remained steady since. Building permit data was not reported by the Town of Springerville. According to the Arizona Tax Research Foundation, taxable sales have increased 2 percent in Springerville from just over $41 Million in 2000 to almost $42 Million in 2004. Taxable sales in Eagar have increased approximately 60 percent from $11.2 Million in 2000 to over $18 Million in 2004. Net assessed valuation of real property in Springerville has increased approximately 18 percent since 2000 to $7.5 Million, while net assessed valuation in Eagar has increase approximately 17 percent since 2000 to almost $16 Million.

This data indicates that while the population base in the area resides primarily in Eagar, the majority of the economic activity takes place in Springerville, however, taxable sales are growing rapidly in Eagar. As shown in previous paragraphs, the socioeconomic condition of the Towns of Springerville and Eagar is very strong and growing steadily. Healthy socioeconomic growth in the area will enhance the Springerville Municipal Airport's ability to attract future aviation activity and the planned industrial airpark will only enhance this economic growth.

CERTIFICATED PILOTS AND REGISTERED AIRCRAFT

The FAA databases of certificated airmen and registered aircraft were reviewed to determine the current distribution of pilots and registered aircraft in the Springerville/Eagar area.

This data indicates that there are 6 certificated pilots and 17 aircraft registered in Springerville, Arizona and 7 certificated pilots and 17 aircraft registered in Eagar, Arizona. Aircraft are not always based where they are registered, which explains why there are only 18-based aircraft at the Springerville Municipal Airport. Towns within a 45-mile radius were reviewed for certificated pilots and aircraft registrations and are listed in Table 1-5.

TABLE 1-5 CERTIFICATED PILOTS AND REGISTERED AIRCRAFT NEAR SPRINGERVILLE

	Aircraft Registered	Certificated Pilots
Springerville	13	6
Eagar	17	7
Show Low	37	35
Pinetop	12	11
Lakeside	23	
Taylor/Snowflake	7	
St. Johns	5	
Concho	6	
Nutrioso	2	
Alpine	2	3
Heber	3	1
Overgaard	38	19
Holbrook	10	5

SOURCE: FAA, 2006

BASED AIRCRAFT AND OPERATIONS

According to the 1995 Airport Master Plan, in 1994 there were 26 based aircraft at the Springerville Municipal Airport with an annual operations estimate of 9,300. That master plan forecasted based aircraft and operations to increase annually from these baseline numbers. However, the Fixed Base Operator at the airport has been recording based aircraft and operations for the past three years and reports current based aircraft and operations at approximately 18 and 3,864. Operations have fluctuated over the past three years, primarily dependent on fire fighting operations at the airport. U.S. Forest Service fire fighting operations are estimated by the FBO at approximately 1/3 of all operations at the airport. These fire-fighting operations include both fixed wing and helicopter operations, aerial reconnaissance flights, air attack and air tanker operations. The number of fires in the region has a significant impact on the number of annual operations at the Springerville Municipal Airport. In 2003, approximately 4,109 operations were recorded and in 2004, operations increased to approximately 4,850 before dropping in 2005 due to a decrease in the number of fires.

INVENTORY OF EXISTING AIRPORT FACILITIES

AREA AIRPORT/SERVICE AREA

An airport service area is defined by the communities and surrounding areas served by the airport facility. For example, factors such as the airport's surrounding topographical features (mountains, rivers, etc.), proximity to its users, quality of ground access, required driving time to the airport and the proximity of the facility to other airports that offer the same or similar services can all affect the size of a particular airport's service area. To define the service area for the Springerville Municipal Airport, the airports in the area and their specific services and facilities were reviewed.

The nearest public airport with a paved surface is located approximately 23 nautical miles north in St. Johns, Arizona. Runway 14/32 at St. Johns is 5,322 feet long and 75 feet wide, while the crosswind runway at St. Johns is 3,400 feet long by 60 feet wide. Show Low Municipal Airport is located approximately 35 nautical miles west of Springerville. Taylor Airport in Taylor, Arizona is located approximately 44 nautical miles northwest of Springerville. The primary service area (20 miles-30 minute drive) and the secondary service area is ½ way between Springerville and the next closest airport offering similar services.

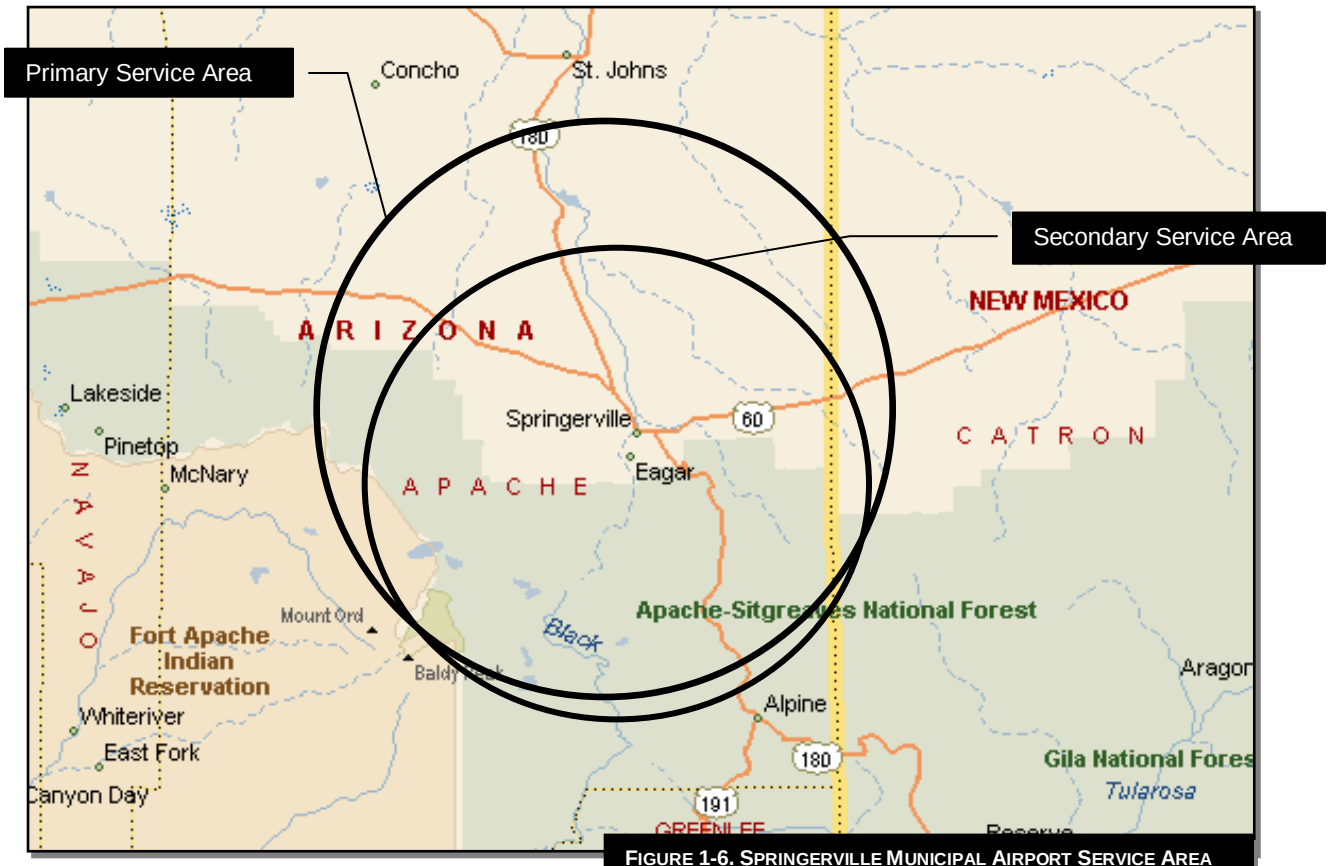


FIGURE 1-6. SPRINGERVILLE MUNICIPAL AIRPORT SERVICE AREA

SOURCE: MAP QUEST, 2006

TABLE 1-6 AIRPORTS SURROUNDING SPRINGERVILLE

	Identifier	Distance (Nautical Miles)	Distance (Highway Miles)	NPIAS Status	Runway Length(s) Width(s)	Pavement Type	Instrument Approaches	Fuel
St. Johns Industrial Air Park, St. Johns, AZ	SJN	23 N	29	GA	5,322' x 75' 3,400' x 60'	asphalt	GPS	Yes
Show Low Regional Airport, Show Low, AZ	SOW	35 W	46	OCS	7,200' x 75' 3,937' x 60'	asphalt	GPS/NDB	Yes
Taylor Airport, Taylor, AZ	TYL	44 NW	61	GA	7,200' x 75'	asphalt	GPS	Yes
Black Rock Airport, Zuni Pueblo, NM	ZUN	62 NE	84	GA	4,807'x 50'	asphalt	GPS/VOR	No
Safford Regional Airport, Safford, AZ	SAD	79 S	174	GA	6,015' x 100' 4,800' x 75'	asphalt	GPS	Yes

OCS: Other Commercial Service
GA: General Aviation
PVT: Private, not included in NPIAS
SOURCE: AIRNAV, 2006

TOPOGRAPHY AND TERRAIN

Springerville Municipal Airport is at an elevation of 7,051 feet Mean Sea Level (MSL). Surrounding land features include the Little Colorado River, which runs south to north through the area and passes east of the airport. Additional land features include the Mogollon Rim and White Mountains to the south and west of the town. Less than two miles south of the airport the terrain rises sharply from the valley floor to the

foothills of the White Mountains. Baldy Peak, located in the White Mountains lies approximately 20 nautical miles southwest of the airport. Baldy Peak is the second highest mountain in the State of Arizona at 11,590 feet MSL.

AIRSIDE FACILITIES

The airside facilities of an airport are described as the runway configuration, the associated taxiway system, the ramp and aircraft parking area and any visual or electronic approach navigational aids. Figure 1-7 depicts the existing airside facilities at the Springerville Municipal Airport while Figure 1-8 shows the existing landside facilities at the airport. An overview of the Springerville Municipal Airport facilities is provided in Table 1-8. The ADOT Aeronautics Division, in association with Applied Pavement Technology, Inc. conducted a 2003 Airport Pavement Management System Update of all airport pavements in the state of Arizona. According to the inspector comments, Runway 3-21 was in poor condition with a Pavement Condition Index (PCI) of 79. Runway 11-29 was in excellent condition with a PCI of 100. Taxiway A was in good condition having a PCI value of 90, while Taxiway B was in excellent condition with a PCI of 93. The primary aircraft-parking apron had a PCI of 80, while the U.S. Forest Service apron had a PCI of 77.

TABLE 1-7 PAVEMENT CONDITION INDEX (PCI)

Pavement	PCI Index	Rating
Runway 3/21	79	Poor
Runway 11/29	100	Excellent
Taxiway A	90	Good
Taxiway B	93	Excellent
Primary Apron	80	Fair
Forest Service Apron	77	Poor

SOURCE: ADOT AERONAUTICS DIVISION, 2003

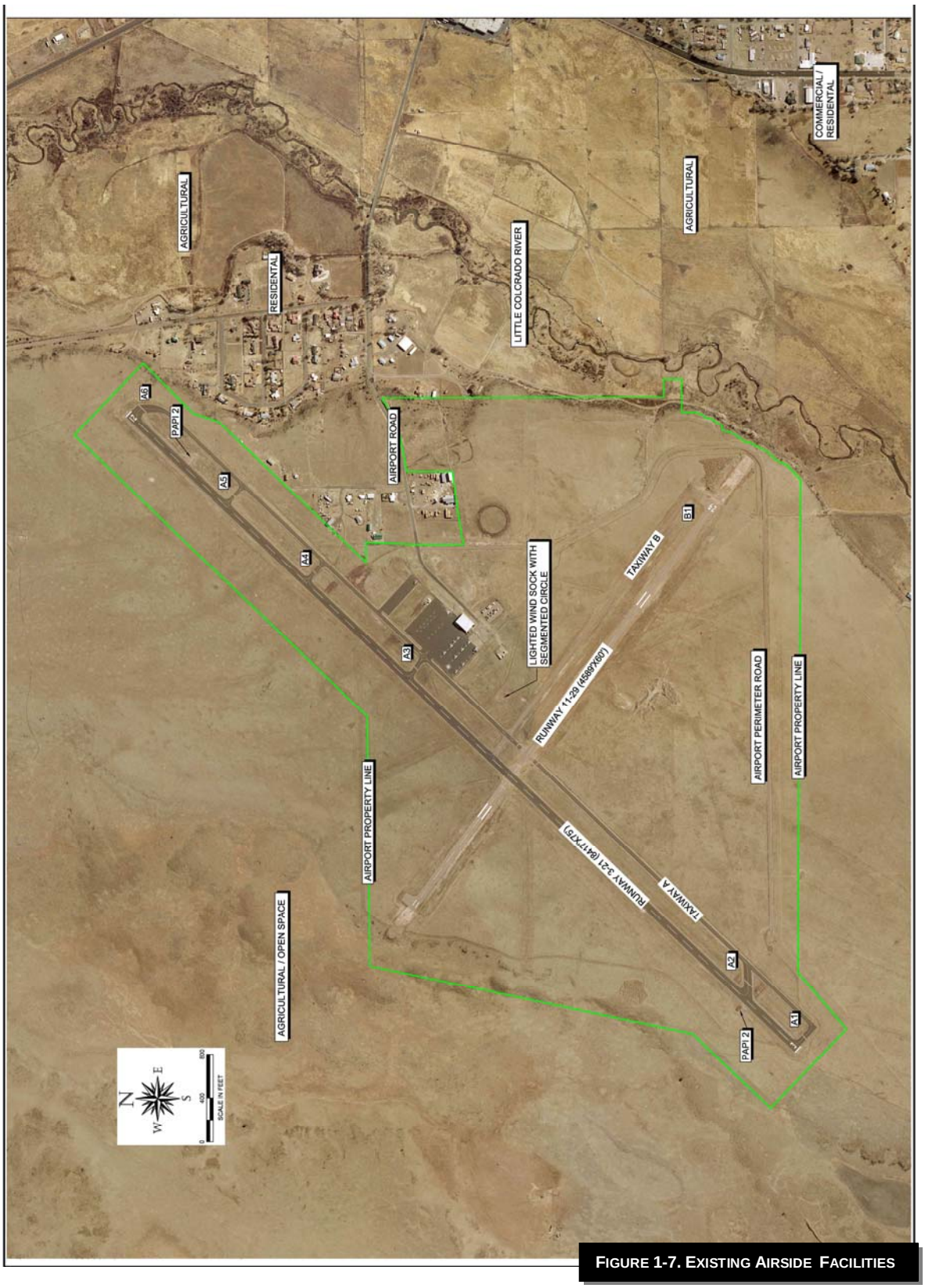


FIGURE 1-7. EXISTING AIRSIDE FACILITIES

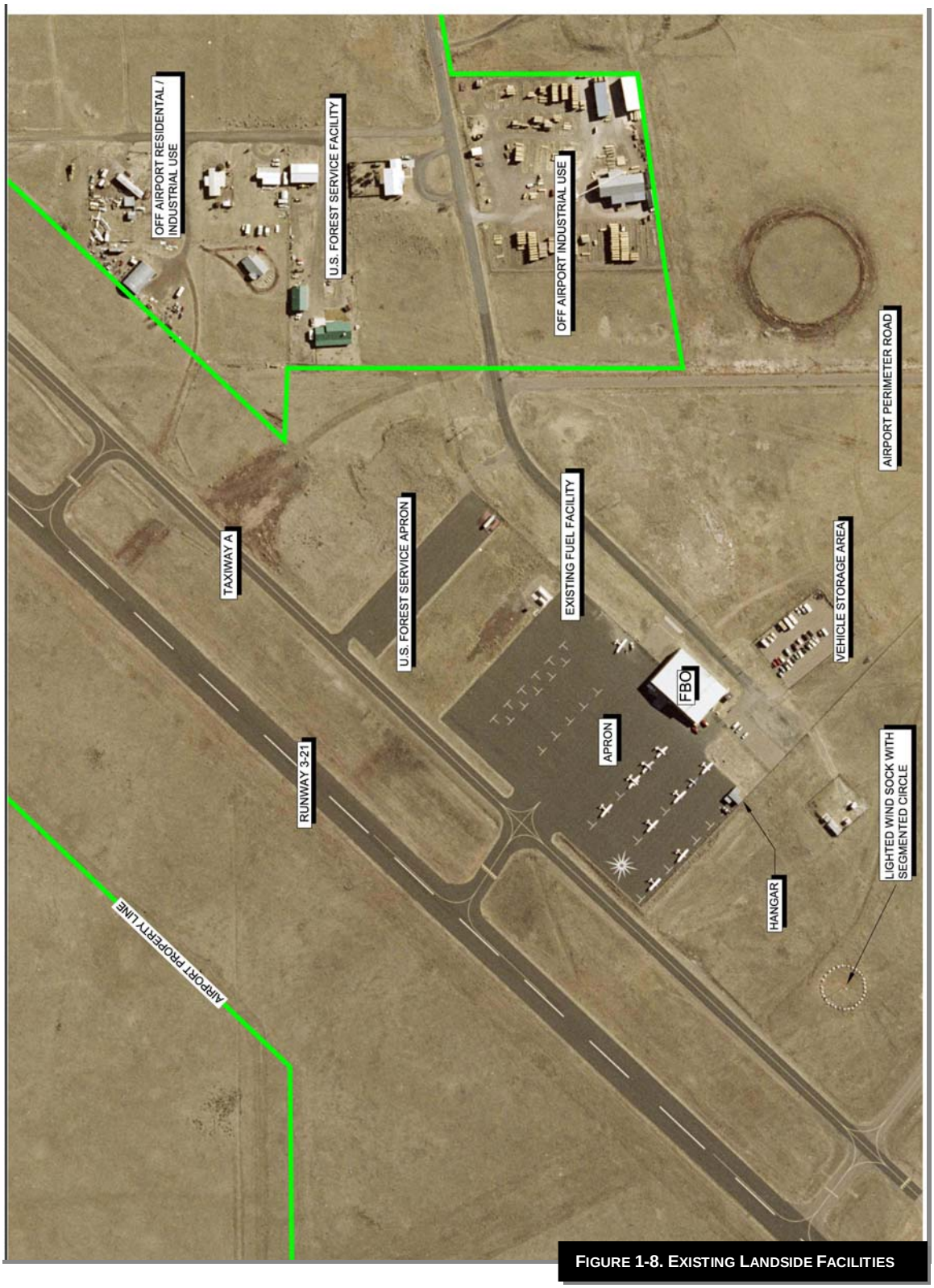


FIGURE 1-8. EXISTING LANDSIDE FACILITIES

TABLE 1-8 SPRINGERVILLE MUNICIPAL AIRPORT INVENTORY

Airport Data		
Identifier	D68	
FAA Site Number	00797.*A	
NPIAS Number	04-0038	
Airport Reference Code	B-II	
Owner/Sponsor	Town of Springerville	
Airport Elevation	7,051’	
Facilities		
Runway 3/21	Length: 8,417’ Width: 75’ Surface: Asphalt Marking: Basic visual	Pavement: Poor with longitudinal and transverse cracking Marking: Good
Runway 11/29	Length: 4,589’ Width: 60’ Surface: Asphalt Marking: Basic visual	Pavement: Good Markings: Fair
Runway Lighting	Pilot Controlled MIRL	Direct burial, need 2-way amber globes, Runway 21
Navigational Aids	GPS straight in procedure to Runway 21	
Approach Minimums	1 mile visibility, 321’ ceiling height	
Visual Aids Runway 3/21	PAPI-2 both ends, Beacon, Lighted wind cone and segmented circle	
Visual Aids Runway 11/29	PAPI-2 at Runway 11 End, Beacon, Lighted wind cone and segmented circle	PAPI RW 11 Inoperative
Taxiway A Taxiway B	Full Length Parallel to Runway 3/21 Partial Parallel to Runway 11/29	Fair to Poor 30’ wide Fair to Good 30’ wide
Taxiway Lighting	Reflectors on Taxiway A No lighting on Taxiway B	Reflectors in poor condition, not present on entire taxiway
Aircraft Aprons	216,000 SF Primary 40,000 SF U.S. Forest Service Apron	Fair
Tie Downs	36	Good
Pavement Strength	12,500 lbs on Runway 3/21 and Taxiway A 12,500 lbs on Runway 11/29 and Taxiway B	Apron pavement is 12,500 lbs
Hangar Facilities	1 100’ x 100’ FBO Maintenance Hangar 1 T-Hangar	Good Fair
Automobile Parking	6,000 SY	Fair
Perimeter Fencing	5-Strand barbed wire	Does not cover entire airport
Fuel	100 LL AvGas and Jet A tanks and 1,500 Gallon Jet A Truck	AvGas Tank = 10,000 Gal. Jet A Tank = 5,000 Gal.
Weather Equipment	Wind monitoring station owned by TEP	Terminal has wind monitoring for reporting on Unicom
FBO	Kestrel Aviation	
Utilities	Power, Water, Phone, Gas, Sewer	

RUNWAY

Springerville Municipal Airport currently has two runways available to aviation users. Runway 3/21 is constructed of asphalt and is 8,475 feet long and 75 feet wide with a 2003 PCI Index of 79 and a published runway strength of 12,500 pounds. The pavement is experiencing moderate transverse cracking and small potholes. Runway 3/21 has basic visual markings that are in good condition; however, the markings for Runway 21 should be reconfigured to coincide with the non-precision GPS straight-in instrument approach procedure to that end of the runway. Runway 11/29 is also constructed of asphalt and is 4,589 feet long and 60 feet wide with a 2003 PCI Index of 100 and published runway strength of 12,500 pounds SWG. Runway 11/29 has basic visual markings that are in fair condition.

FIGURE 1-9. RUNWAY 21

TAXIWAYS

Taxiways provide a surface for aircraft access from the parking apron to and from the runways. They expedite aircraft departures from the runway and increase operational safety and efficiency. The Springerville Municipal Airport has a full-length parallel taxiway (Taxiway A) to Runway 3/21 located 240 feet southeast of the runway and is constructed to the same pavement strength as Runway 3/21. Runway 11/29 has a partial parallel taxiway (Taxiway B) located 240 feet northeast of Runway 29 and is constructed to the same pavement strength as Runway 11/29. Both taxiways are 30 feet wide. The FAA taxiway width design standard for Runway 3/21 is 35 feet while the design standard for Runway 11/29 is 25 feet.

FIGURE 1-10. TAXIWAY A

AIRCRAFT APRON

The aircraft apron provides an area for aircraft to park. The apron is typically connected to the runway via taxiways or taxilanes. The primary aircraft-parking apron at Springerville Municipal Airport has approximately 216,000 square feet (SF) of area and contains approximately 36 aircraft tiedowns with Group I taxilane separations and a Group II taxilane in the middle of the apron. The 2003 apron PCI Index was rated at 80; however the pavements continue to deteriorate. A slurry seal was applied in 2003 to prolong the pavements until the planned apron reconstruction in summer of 2006. The apron is lighted on both the north and south side and near the fueling area.

AIRFIELD LIGHTING AND SIGNAGE

Guidance on airport lighting standards is provided in FAA Advisory Circular (AC) 150/5340-30B, *Design and Installation Details for Airport Visual Aids.* Airport lighting enhances safety during periods of inclement weather and nighttime operations by providing visual guidance to pilots in the air and on the ground.

Several common airfield lighting and visual aid features of general aviation airports include a rotating beacon (activated by photoelectric cell for dusk to dawn operations), pilot-controlled Medium Intensity Runway Lights (MIRLs) (activated by aircraft radio signal), threshold lights, Runway End Identifier Lights

(REILs) which mark the runway threshold with flashing strobe lights, Medium Intensity Taxiway Lights (MITLs) and/or reflective markers and Precision Approach Path Indicators (PAPIs) to provide descent guidance information during an approach to the runway. Lighting at Springerville Municipal Airport consists of Medium Intensity Runway Lights (MIRL's) on Runways 3/21 and 11/29 which can be controlled by the clicks of the pilot's microphone while the radio is set on frequency 122.8 (three clicks for low intensity, five clicks for medium intensity and seven clicks for high intensity). The runway lights have white colored lenses. The lenses at the last 2,000 feet of Runway 21 should be bi-colored with white and yellow lenses to correspond with the non-precision GPS instrument approach procedure to that runway. The airport also has a segmented circle and lighted wind cone. Taxiway A is marked with reflectors on portions of the taxiway. The airport currently has no signs. The airport should install lighted runway identification signs at each runway end and at all hold lines.

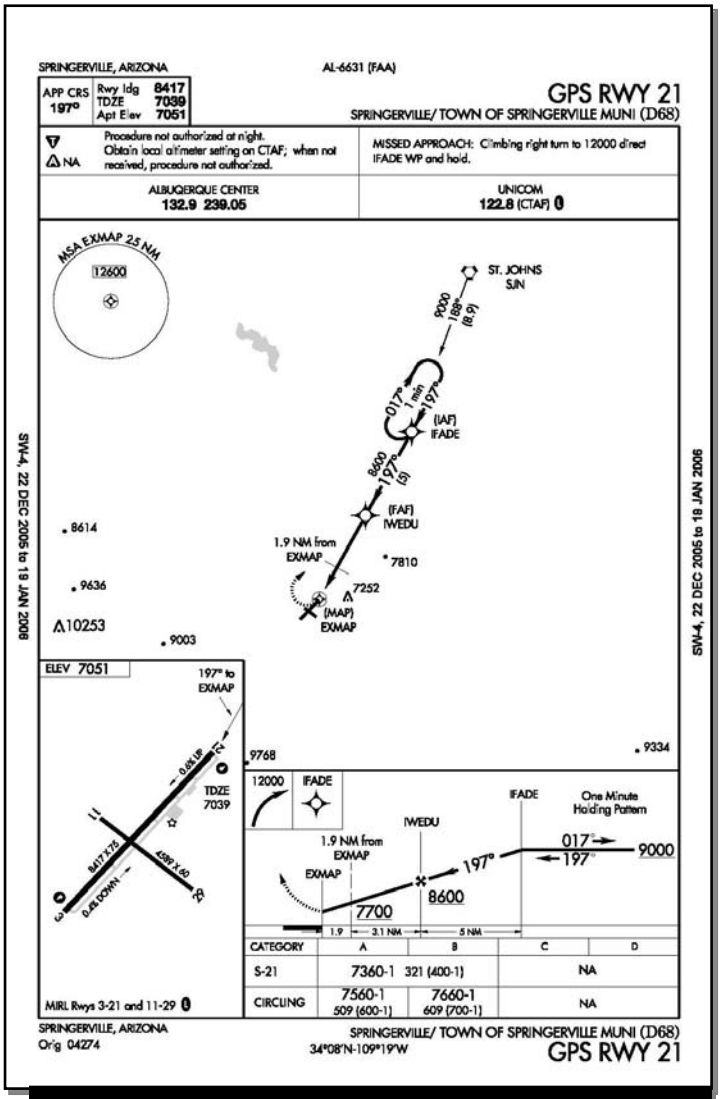


FIGURE 1-11. SPRINGERVILLE GPS APPROACH PROCEDURE (NOT FOR NAVIGATION)

NAVIGATIONAL AIDS AND APPROACH PROCEDURES

The current approach procedures at the Springerville Municipal Airport include a straight-in non-precision GPS instrument approach to Runway 21 and a circling GPS approach. Services include Albuquerque Air Route Traffic Control Center (ARTCC) and Prescott Flight Service Station (FSS). Enroute and radar coverage for the Springerville area is provided by the Albuquerque ARTCC. The altitude of radar coverage may vary as a result of the FAA navigational/radar facilities in operation, weather conditions and terrain which surrounds Springerville. The Prescott FSS provides additional weather data and other pertinent weather information to pilots on the ground and enroute. There is no air traffic control tower (ATCT) at the airport.

A Navigational Aid (NAVAID) is any ground based visual or electronic device used to provide course or altitude information to pilots. NAVAIDs include Very High Omnidirectional Range (VORs), Very High Frequency Omnidirectional Range with Tactical Information (VOR-TACs), Nondirectional Beacons (NDBs) and Tactical Air Navigational Aids (TACANs), as examples. There are no ground based NAVAIDs at the Springerville Municipal Airport. The closest NAVAID is the Saint Johns VOR (SJN) located 15.8 nautical miles north-northeast of the airport. The GPS approach to Runway 21 for the Springerville Municipal Airport is illustrated in Figure 1-11. (Note: These are for information purposes only and should not be used for navigation).

AIRPORT SERVICES/FIXED BASE OPERATIONS

A Fixed Base Operator (FBO) is usually a private enterprise that leases land from the airport sponsor on which to provide services to based and transient aircraft. The extent of the services provided varies from airport to airport; however, these services frequently include aircraft fueling, minor maintenance and

repair, aircraft rental and/or charter services, flight instruction, pilot lounge and flight planning facilities and aircraft tiedown and/or hangar storage. FBO services at the Springervillle Airport are provided by Kestrel Aviation. Services provided by Kestrel include aircraft fueling, pilot lounge, flight planning room and aircraft parking/tie downs and aircraft repair services.

LANDSIDE FACILITIES

BUILDING AREA

The building area of a typical general aviation airport usually consists of FBO offices and/or hangars, a pilot lounge, terminal building, eating facility, additional aircraft hangars, a maintenance building and other related structures. Existing buildings at the Springerville Municipal Airport include one large conventional hangar (100 feet by 100 feet), with an attached terminal/FBO office and pilot lounge area used by Kestrel Aviation. There is also one T-Hangar located on the southwest corner of the apron area.

FIGURE 1-12. KESTREL AVIATION FBO BUILDING

UTILITIES

Available utilities at the Springerville Municipal Airport include power, water, phone, propane and sewer. Electricity is provided by Navapache Electric Cooperative, Inc. through a 14,400 volt single phase power line, propane gas is provided by three private companies, telephone services are provided by Citizens Telecom and the Town of Springerville provides water and sewer lines to the airport. The water line serving the airport is a 6-inch water line. The sewer line serving the airport is an 8-inch line. There are no waste treatment facilities in the vicinity of the airport.

GROUND ACCESS AND SIGNAGE

The Springerville Municipal Airport can be reached by following US Highway 60 east from Show Low, Arizona or South from St. Johns, Arizona, on US Highway 180. Springerville is centrally located 220 miles northeast of Phoenix, Arizona and 230 miles west of Albuquerque, New Mexico. The Springerville Municipal Airport is located near the intersection of US Highway 60 and State Highway 260. The signage to the airport currently consists of two airport signs one for traffic traveling south on State Highway 260 and one for traffic traveling north on State Highway 260, the existing signs are considered adequate. Access to the Springerville Municipal Airport is provided via Airport Road, a paved two lane road which enters from the east side of the airport. Airport Road is in fair condition.

FIGURE 1-13. SPRINGERVILLE FUEL

INTERMODAL TRANSPORTATION

The ground transportation network in the vicinity of the Springerville Municipal Airport consists of private automobile transportation only. There is no bus or rail service to Springerville. The nearest bus service is 92 miles northwest in Holbrook, Arizona and the nearest rail service is 126 miles northwest in Winslow, Arizona. There are no rental car companies in Springerville. The closest rental car facilities are located in Show Low, Arizona and will bring a vehicle to Springerville for a drop off/pickup fee.

AIRCRAFT FUEL FACILITIES

A Fixed Base Operator (FBO) or the airport sponsor often provides aircraft fuel services. Combinations of 100LL and 80 Octane Aviation Gas and/or Jet-A fuel are usually provided depending on the aircraft traffic mix. These fuels may be stored in underground storage tanks, above ground storage tanks, fuel trucks or a combination of the three.

The Springerville Municipal Airport has one 5,000 gallon above ground fuel tank which contains Jet A, one 10,000 gallon above ground fuel tank which contains 100 low lead and a 1,500 gallon Jet A truck. The fuel tanks are owned by the Town of Springerville and fuel is dispensed by the FBO Kestrel Aviation. Only trained FBO personnel are authorized to fuel aircraft. Emergency services are available nearby and provided by the Town of Springerville. The fuel tank is double walled for secondary containment purposes. The Town does not maintain a Spill Prevention, Control and Countermeasure (SPCC) plan and should develop one as soon as possible. The Town of Springerville is in the process of developing a storm water pollution prevention plan in accordance with Arizona Department of Environmental Quality (ADEQ).

AIRPORT FENCING AND SECURITY

The primary purpose of airport fencing is to prevent unwanted intrusions by persons or animals on to airport property. Airport fencing provides increased safety and security for the airport. It is normally installed along the perimeter of the airport property and outside any of the safety areas defined by the Federal Aviation Administration (FAA) in Advisory Circular (AC) 150/5300-13, *Airport Design* and Federal Aviation Regulation (FAR) Part 77, *Objects Affecting Navigable Airspace*. The airport is partially fenced with 5-strand barbed wire along the perimeter. The terminal area is fenced with six foot chain link fencing and has a manual vehicle access gate. An electric vehicle access gate with keypad entry is scheduled for installation in summer of 2006. This is considered inadequate, as there has recently been a runway incursion by a domestic dog. Vehicle skid marks, tire tracks and broken threshold lights off the end of Runway 21 indicate unauthorized vehicle access on the runway (see Design Standards Inventory Photos in Appendix A). Design has been completed for the installation of airport perimeter wildlife fencing and is awaiting funding.

EMERGENCY SERVICES

Emergency fire and ambulance services are available from the Springerville Volunteer Fire Department. The closest hospital is the White Mountain Community Hospital located in Springerville. The hospital is a 15-bed facility with 13 physicians on staff. The Round Valley Ambulance Service provides ambulance service to the Springerville/Eagar area.

TABLE 1-9 SPRINGERVILLE EMERGENCY SERVICES

DISTANCE FROM AIRPORT: 2 MILES	**RESPONSE TIME**: 8 MINUTES
PERSONNEL	12 - FIRST RESPONDER
VOLUNTEER: 20	6 - EMTS
-	2 - PARAMEDICS
EQUIPMENT	**STORAGE (GAL.)**
E-1 FIRE ENGINE 1,500 GALLONS PER MINUTE	1,000
FIRE ENGINE 750 GALLONS PER MINUTE	500
RESCUE VEHICLE	-
WATER TENDER	3,500 GALLONS
BRUSH TRUCK	-

SOURCE: SPRINGERVILLE VOLUNTEER FIRE DEPARTMENT, 2006

ADDITIONAL FACILITIES

There is not currently any Airport Rescue and Fire Fighting (ARFF) equipment or personnel based at the Springerville Municipal Airport. There are also no designated security personnel at the airport.

FAA SAFETY AND DESIGN STANDARDS

FAA AC 150/5300-13, *Airport Design*, establishes design standards for airports based on the Airport Reference Code (ARC) of the airport. When design standard deficiencies exist, the FAA recommends correction of such deficiencies as soon as practicable. Design standards are based on the Airport Reference Code (ARC) and approach visibility minimums of the airport. The ARC is a combination of the wingspan and approach speed of the critical aircraft operating at the airport. The current ARC for the Springerville Municipal Airport is B-II. A more detailed discussion of ARCs is included in Chapter 3. Some of the design standard deficiencies that exist at the Springerville Municipal Airport include the runway safety area and object free area for Runway 3/21 at both ends of the runway are penetrated by fencing off the ends at 200'. Design standard deficiencies for the Springerville Municipal Airport are listed in Table 1-10, shown in Figure 1-14 and detailed in the Airport Design Standards Inventory in Appendix A.

TABLE 1-10 SPRINGERVILLE MUNICIPAL AIRPORT DESIGN STANDARD DEFICIENCIES (I.E. NON-STANDARD CONDITIONS)

	B-II Standard	Deficiency
RSA	150' wide, 300' beyond runway end	Runway 3/21 RSA penetrated by a fence at 200'
OFA	500' wide, 300' beyond runway end	Runway 3/21 penetrated by fence at 200'
Runway Lighting	Last 2,000', lenses should be colored white/yellow for instrument runway	Lenses are all white
Hold Position Markings	200' from the runway centerline	Several Hold bars missing and located at 125'
RPZ	No residences and places of public assembly	RPZ on crosswind runway are uncontrolled
RVZ	Area of unobstructed view between intersecting runways	FBO, T-hangar and apron located in RVZ
Runway Markings	Non precision instrument markings for instrument runway	Visual markings on non precision runway
Taxiway Width	Group II taxiway width 35'	Taxiway A 30' wide
Signs	Lighted Hold Position Signs	No lighted signs at the airport
Traffic Pattern Indicator	Right hand traffic pattern to Runway 21 requires a traffic pattern indicator on the segmented circle	Traffic pattern indicator is missing

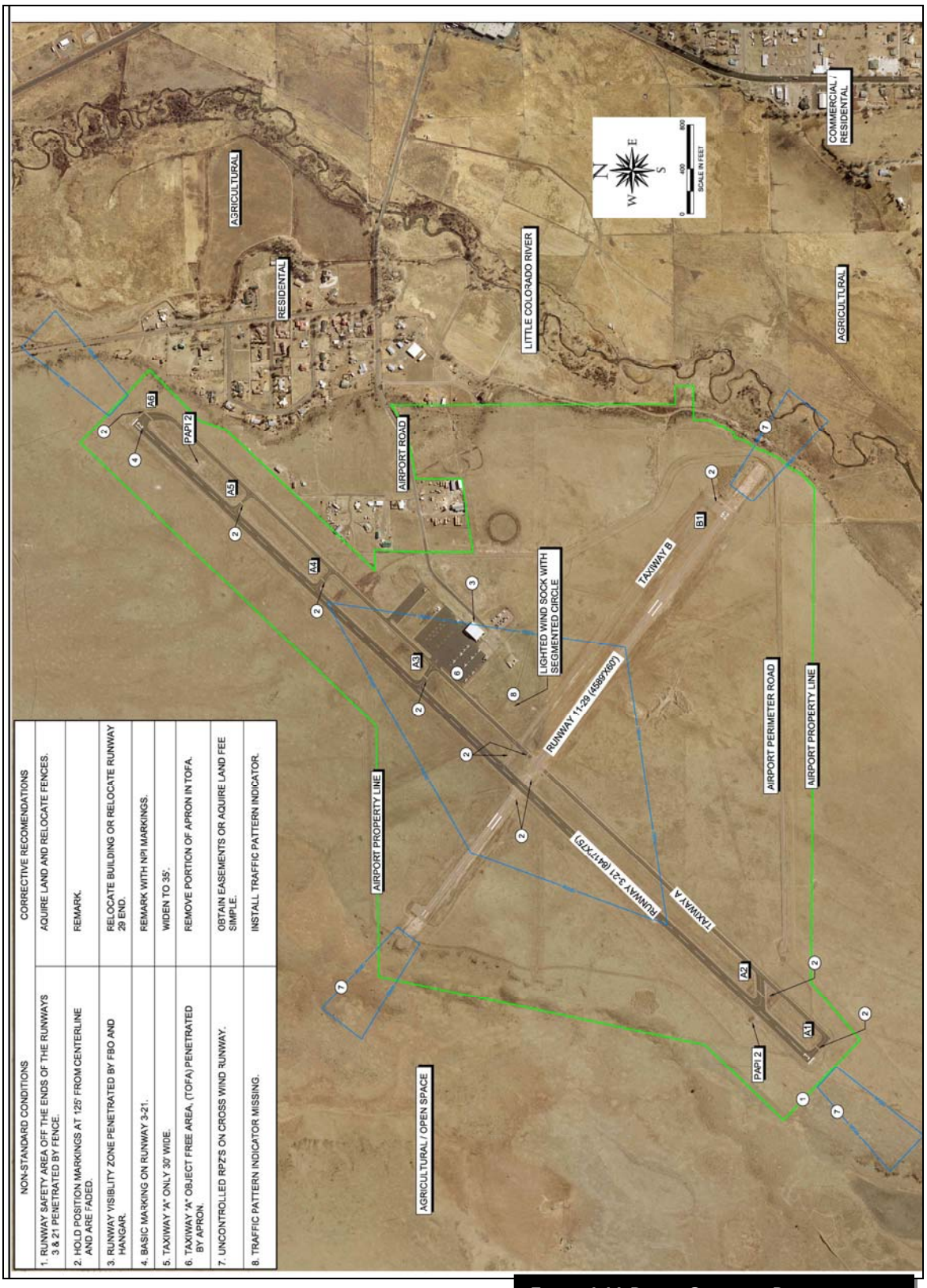


FIGURE 1-14. DESIGN STANDARD DEFICIENCIES

SAFETY AREAS

Runway and Taxiway Safety Areas (RSAs and TSAs) are defined surfaces surrounding the runway or taxiway prepared specifically to reduce the risk of damage to aircraft in the event of an undershoot, overshoot or excursion from the runway or taxiway. The Safety Areas must be:

- Cleared and graded and have no potentially hazardous surface variations;
- Drained so as to prevent water accumulation;
- Capable, under dry conditions, of supporting snow removal equipment, ARFF equipment and the occasional passage of aircraft without causing structural damage to the aircraft; and
- Free of objects, except for objects that need to be located in the runway or taxiway safety area because of their function.

The runway safety areas off the ends of Runway 3 and 21 at the Springerville Municipal Airport do not meet these standards. The airport perimeter fence should be located outside of the runway safety area on both ends.

OBSTACLE FREE ZONE (OFZ) AND OBJECT FREE AREA (OFA)

The Obstacle Free Zone (OFZ) is a three dimensional volume of airspace which supports the transition of ground to airborne aircraft operations. The clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible visual Navigational Aids (NAVAIDs) that need to be located in the OFZ because of their function. The OFZ is similar to the FAR Part 77 Primary Surface insofar that it represents the volume of space longitudinally centered on the runway. It extends 200 feet beyond the end of each runway. The Runway Object Free Area (OFA) is a two-dimensional ground area surrounding the runway. The ROFA standard precludes parked airplanes, agricultural operations and objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. Existing ROFA penetrations include the perimeter fence off the ends of Runway 3 and 21.

THRESHOLD SITING SURFACE

According to FAA AC 150/5300-13, the runway threshold should be located at the beginning of the full-strength runway pavement or runway surface. However, displacement of the threshold may be required when an object obstructs the airspace required for landing airplanes and is beyond the airport owner's power to remove, relocate or lower. Thresholds may also be displaced for environmental considerations such as noise abatement or to provide the standard RSA and OFA lengths.

Based on the non-precision GPS instrument approach and size of aircraft using the Springerville Municipal Airport, in order to meet FAA design standards, no object should penetrate a surface that starts 200 feet from the threshold of Runway 3/21 at the elevation of the runway centerline at the threshold and slopes upward from the threshold at a slope of 20 feet (horizontal) to 1 foot (vertical). In the plan view, the centerline of this surface extends 10,000 feet along the extended runway centerline. This surface extends laterally 400 feet on each side of the centerline at the threshold and increases in width to 1,900 feet at a point 10,000 feet from the threshold. No object should penetrate a surface that starts at the threshold of Runway 11/29 at the elevation of the runway centerline at the threshold and slopes upward from the threshold at a slope of 20 (horizontal) to 1 (vertical). In the plan view, the centerline of this surface extends 1,500 feet along the extended runway centerline. This surface extends laterally 200 feet on each side of the centerline at the threshold and increases in width to 500 feet at a point 1,500 feet from the threshold.

RUNWAY PROTECTION ZONE (RPZ)

According to FAA AC 150/5300-13, the RPZ is trapezoidal in shape and centered about the extended runway centerline. The RPZ dimension for a particular runway end is a function of the type of aircraft and approach visibility minimum associated with that runway end. At both ends of Runways 3/21 and 11/29 the RPZ begins 200 feet from the runway threshold and extends for 1,000 feet. The RPZ is 500 feet wide at the inner end and 700 feet wide at the outer end. The land uses prohibited from the RPZ are residences and places of public assembly (churches, schools, hospitals, office buildings, shopping centers and other uses with similar concentrations of persons typify places of public assembly). The RPZ's for Runway 11/29 should be controlled either fee simple or through avigation easements.

TABLE 1-11 DESIGN STANDARDS

Description	B-II
Rwy centerline to parallel Twy centerline	240’
Rwy centerline to aircraft parking apron	250’
Rwy width	75’
Rwy Safety Area width	150’
Rwy Safety Area length beyond Rwy end	300’
Rwy Object Free Area width	500’
Rwy Object Free Area beyond Rwy end	300’
Rwy Obstacle Free Zone width	400’
Rwy Obstacle Free Zone length beyond Rwy end	200’
Rwy Protection Zone	500’ x 700’ x 1,000’
Twy width	35’
Twy Safety Area width	79’
Twy Object Free Area width	131’
Rwy centerline to aircraft hold lines	200’

FAA ADVISORY CIRCULAR 150/5300-13 CHANGE 9

AIRSPACE CHARACTERISTICS

The National Airspace System consists of various classifications of airspace that are regulated by the FAA. Airspace is either controlled or uncontrolled. Pilots flying in controlled airspace are subject to Air Traffic Control (ATC) and must follow either Visual Flight Rule (VFR) or Instrument Flight Rule (IFR) requirements. These requirements include combinations of operating rules, aircraft equipment and pilot certification and vary depending on the Class of airspace and are described in Federal Aviation Regulations (FAR) Part 71, *Designation of Class A, Class B, Class C, Class D and Class E Airspace Areas; Airways; Routes; and Reporting Points* and FAR Part 91, *General Operating and Flight Rules*. Figure 1-15 below shows the different airspace classes and gives a graphical representation of them.

General definitions of the Classes of airspace are provided below:

- **Class A Airspace**: Airspace from 18,000 feet Mean Sea Level (MSL) up to and including Flight Level (FL) 600.
- **Class B Airspace**: Airspace from the surface to 10,000 feet MSL surrounding the nation’s busiest airports in terms of IFR operations or passenger enplanements.
- **Class C Airspace**: Generally, airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by radar approach control and that have a certain number of IFR operations or passenger enplanements. The airspace usually consists of a 5 nautical mile (nm) radius core surface area that extends from the surface up to 4,000 feet above the airport elevation and a 10 nm radius shelf area that extends from 1,200 feet up to 4,000 feet above the airport elevation.
- **Class D Airspace**: Airspace from the surface up to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports with an operational control tower.
- **Class E Airspace**: Generally, controlled airspace that is not Class A, Class B, Class C or Class D.
- **Class G Airspace**: Generally, uncontrolled airspace that is not designated Class A, Class B, Class C, Class D or Class E.
- **Victor Airways:** These airways are low altitude flight paths between ground based VHF Omnidirectional Receivers (VORs).

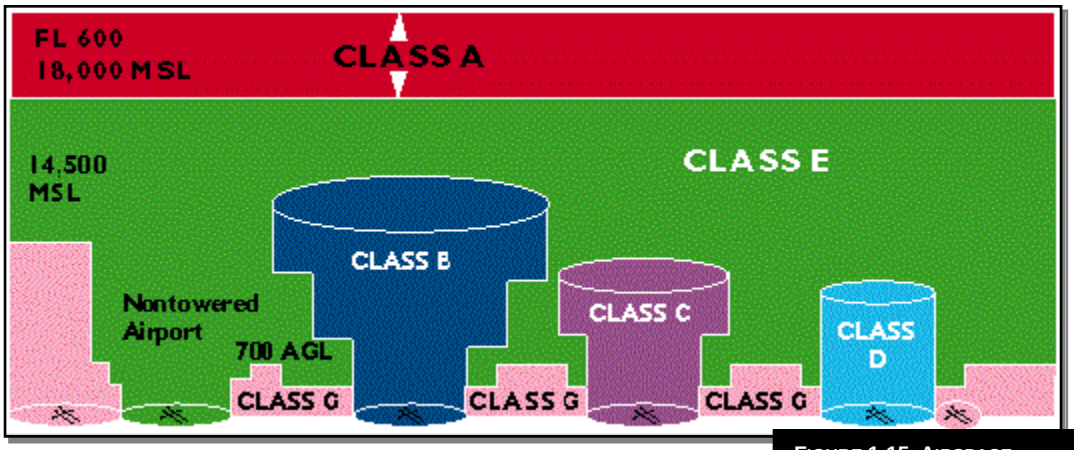


FIGURE 1-15. AIRSPACE

Figure 1-16 provides a graphical depiction of the airspace surrounding the Springerville Municipal Airport. The airport is situated under Class E airspace starting at 700 feet above the surface. Between the surface and 700 feet, the airspace is considered Class G. There is also a victor airway in the vicinity of Springerville. Victor Airway 190 (V 190) runs northeast/southwest and passes approximately 16 nautical miles northwest of the airport.

The traffic patterns to the Springerville Municipal Airport are standard left hand traffic to all runways except runway 21. Pilots must make right hand turns when approaching to land on Runway 21. There are no noise abatement procedures currently in place at the airport. The Springerville Municipal Airport is also located in the vicinity of some noise sensitive national parks and wilderness areas. The Escudilla Wilderness area is located approximately 17 nautical miles southeast, the Mount Baldy Primitive Area is approximately 20 nautical miles southwest and the Blue Range Primitive Area is approximately 35 nautical miles southeast. Airspace and land use planning are further discussed in Chapter 3.

FIGURE 1-16. SPRINGERVILLE SURROUNDING AIRSPACE

SOURCE: 2006 ALBUQUERQUE SECTIONAL

AIRSPACE JURISDICTION

The Town of Springerville is located within the jurisdiction of the Albuquerque Air Route Control Center (ARTCC) and the Prescott Flight Service Station (FSS). The altitude of radar coverage by the Albuquerque ARTCC may vary as a result of the FAA navigational/radar facilities in operation, weather conditions and surrounding terrain. The Prescott FSS provides additional weather data and other pertinent information to pilots on the ground and enroute.

AIRSPACE RESTRICTIONS

The Springerville Municipal Airport is located north of several Military Operations Areas (MOAs) and low-level military training routes (MTRs) (see Figure 1-16). MOAs and MTRs are established for the purpose of separating certain military training activities, which routinely necessitate acrobatic or abrupt flight maneuvers, from Instrument Flight Rules (IFR) traffic. IFR traffic can be cleared through an active MOA if IFR separation can be provided by Air Traffic Control (ATC), otherwise ATC will reroute or restrict the IFR traffic.

The Springerville Municipal Airport is situated approximately 10 nautical miles north of the Reserve MOA, 18 nautical miles northeast of the Jackal MOA and 28 nautical miles west of the CATO MOA. Use of the Reserve MOA occurs intermittently and is published by notice to airman (NOTAM). The altitude of use for the Reserve MOA is 5,000 feet Above Ground Level (AGL) to 18,000 feet Mean Sea Level (MSL). Use of the Jackal MOA occurs between the hours of 7:00 AM and 6:00 PM, Monday through Friday at an altitude of 11,000 feet MSL or 3,000 feet AGL, whichever is higher up to 18,000 feet MSL. The altitude of use for

CATO MOA is 13,500 feet MSL to 18,000 feet MSL. Use of the CATO MOA occurs between the hours of 8:00 AM and 10:00 PM, Monday through Saturday.

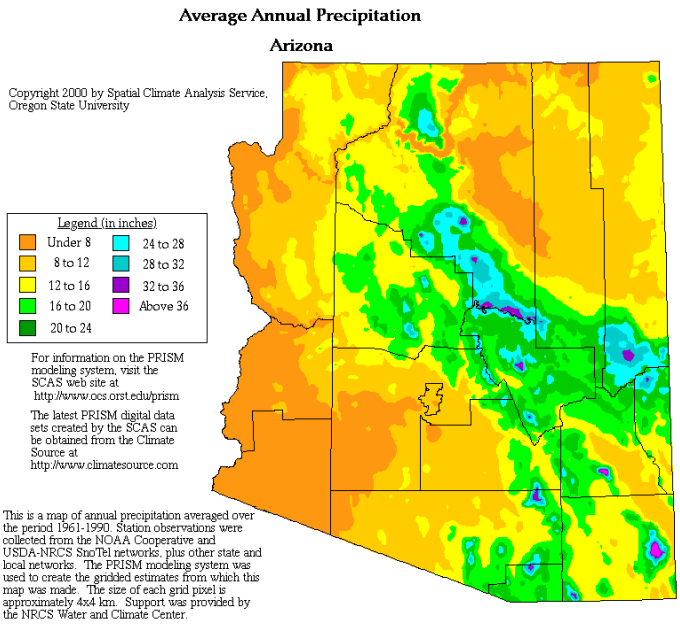
In addition to the MOAs, a Military Training Route (MTR) exists in the vicinity of Springerville. The MTR program is a joint venture by the FAA and the Department of Defense (DOD). MTRs are mutually developed for use by the military to conduct low-altitude, high-speed training. Military Training Route IR276-320 is located approximately 30 nautical miles northwest of Springerville Municipal Airport. Military Route VR176 runs north south approximately 22 nautical miles east of the Springerville Municipal Airport. Increased vigilance is recommended for pilots operating in the vicinity of these training routes.

METEOROLOGICAL CONDITIONS

Meteorological conditions have a direct impact on the operational characteristics of an airport. These conditions determine the regulations under which operations may be conducted, the frequency of use for each operational configuration and the instrumentation required to assist aircraft in landing and departing.

LOCAL CLIMATOLOGICAL DATA

The Town of Springerville is located in southern Apache County in an area that receives approximately 12 to 16 inches of precipitation annually. Average annual snowfall for the Springerville Area is 19.5 inches. The average maximum temperature of the hottest month, July, is 82.3 degrees Fahrenheit, while the average minimum temperature of the coldest month, January, is 15.3 degrees. The annual average maximum temperature is 65.4 degrees and the annual average minimum temperature is 31.2 degrees.



Source: Spatial Climate Analysis Service, Oregon State University

FIGURE 1-17. ARIZONA PRECIPITATION

CEILING AND VISIBILITY CONDITIONS

Ceiling and visibility conditions are important considerations since the occurrence of low ceiling and/or poor visibility conditions limit the use of the airport to instrument approach and departure operations until conditions change. Under poor visibility conditions or Instrument Meteorological Conditions (IMC), the pilot must operate under Instrument Flight Rules (IFR), rather than Visual Flight Rules (VFR). Under IFR, the pilot maneuvers the aircraft through sole reference to instruments in the aircraft and navigational aids on the ground. The airport must be closed for use when conditions are worse than the published IFR minimums for that airport. When flight conditions are visual or Visual Meteorological Conditions (VMC), the pilot can maneuver the aircraft by reference to the horizon and objects on the ground.

The Springerville Municipal Airport currently has a straight-in non-precision GPS instrument approach to Runway 21 and a circling non-precision GPS instrument approach. The minimums for the straight-in approach are 309 foot ceilings and 1-mile visibility while the circling approach minimums are 509 foot ceilings and 1-mile visibility.

RUNWAY WIND COVERAGE

Wind direction and speed determine the desired alignment and configuration of the runway system. Aircraft land and takeoff into the wind and therefore can tolerate only limited crosswind components (the percentage of wind perpendicular to the runway centerline). The ability to land and takeoff in crosswind conditions varies according to pilot proficiency and aircraft type.

TABLE 1-12 CROSSWIND COMPONENT

Allowable Crosswind in Knots	Airport Reference Code
10.5 knots	A-I & B-I
13 knots	A-II & B-II
16 knots	A-III, B-III, & C-I through D-III
20 knots	A-IV through D-VI

FAA Advisory Circular 150/5300-13, *Airport Design*, recommends that a runway should yield 95 percent wind coverage under stipulated crosswind components. If one runway does not meet this 95 percent coverage, then construction of an additional runway may be advisable. The crosswind component of wind direction and velocity is the resultant vector, which acts at a right angle to the runway. It is equal to the wind velocity multiplied by the trigonometric sine of the angle between the wind direction and the runway direction. The allowable crosswind component for each Airport Reference Code is shown in Table 1-12.

A wind rose was developed for the Springerville Municipal Airport using hourly observations from the Tucson Electric wind monitoring station at the Springerville Municipal Airport from January 15th 2003 to December 31st 2005. This wind rose is shown in Figure 1-18 and indicates combined 10.5-knot crosswind coverage of 97.7 percent and combined 13-knot crosswind coverage of 99.19 percent. It is recommended that the Town of Springerville obtain an AWOS and connect it to the National Airspace Data Interchange Network (NADIN). This will allow national dissemination of the AWOS observations and allow the National Oceanic and Atmospheric Administration (NOAA) to digitally record the hourly observations. It will also provide automated real-time weather information to pilots in the air and on the ground.

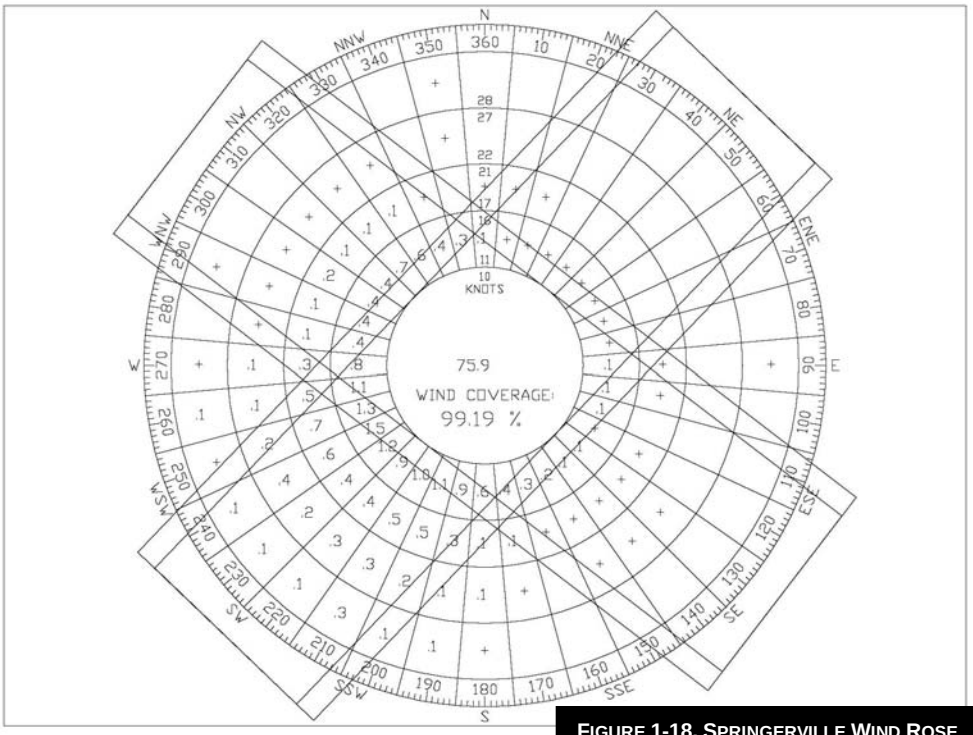


FIGURE 1-18. SPRINGERVILLE WIND ROSE

TABLE 1-13 CROSSWIND COVERAGE

	10.5 knots	13.0 knots	16.0 knots
Runway 3/21	92.32%	95.94%	98.69%
Runway 11/29	84.28%	89.01%	-
Combined	97.70%	99.19%	-

Source: Tucson Electric Wind Station, Springerville Airport 2003-2005

Chapter Two
Forecasts of Aviation Activity

Springerville Municipal Airport
Airport Master Plan

CHAPTER TWO
AIRPORT FORECASTS

INTRODUCTION

Forecasts of aviation activity serve as a guideline for the timing required for implementation of airport improvement programs. While such information is necessary for successful comprehensive airport planning, it is important to recognize that forecasts are only approximations of future activity, based upon historical data and viewed through present situations. They must therefore, be used with careful consideration, as they may lose their validity with the passage of time.

For this reason, an ongoing program of examination of local airport needs and national and regional trends is recommended and encouraged in order to promote the orderly development of aviation facilities at the Springerville Municipal Airport.

At airports not served by air traffic control towers, estimates of existing aviation activity are necessary in order to form a basis for the development of realistic forecasts. Unlike towered airports, non-towered general aviation airports have historically not tracked or maintained comprehensive logs of aircraft operations. Estimates of existing aviation activity are based upon a review of based aircraft, available historical data, available local information and regional, state and national data form the baseline to which forecasted aviation activity trends are applied.

Activity projections are made based upon estimated growth rates, area demographics, industry trends and other indicators. Forecasts are prepared for the Initial-Term (0-5 years), the Intermediate-Term (6-10 years) and the Long-Term (11-20 years) time frames. Utilizing forecasts within these time frames will allow the construction of airport improvements to be timed to meet demand, but not so early as to remain idle for an unreasonable length of time.

There are four types of aircraft operations considered in the planning process. These are termed “local, based, itinerant and transient.” They are defined as follows:

Local operations are defined as aircraft movements (departures or arrivals) for the purpose of training, pilot currency or pleasure flying within the immediate area of the local airport. These operations typically consist of touch-and-go operations, practice instrument approaches, flights to and within local practice areas and pleasure flights that originate and terminate at the airport under study.

Based aircraft operations are defined as the total operations made by aircraft based (stored at the airport on a permanent, seasonal or long-term basis) at the study airport, with no attempt to classify the operations as to purpose.

Itinerant operations are defined as arrivals and departures other than local operations and generally originate or terminate at another airport. These types of operations are closely tied to local demographic indicators, such as local industry and business use of aircraft and usage of the facility for recreational purposes.

Transient operations are defined as the total operations made by aircraft other than those based at the airport under study. These operations typically consist of business or pleasure flights originating at other airports, with termination or a stopover at the study airport.

The terms transient and itinerant are sometimes erroneously used interchangeably. This study will confine analysis to local and itinerant operations.

NATIONAL AND REGIONAL TRENDS

According to factors such as aircraft production, pilot activity and hours flown, general aviation reached a peak in the late 1970s. This peak was followed by a long downturn that persisted through most of the 1980s and the early 1990s and has been attributed to high manufacturing costs associated with product liability issues as well as other factors. The General Aviation Revitalization Act (GARA) of 1994 was enacted with the goal of revitalizing the industry by limiting product liability costs. The Act established an 18-year statute of repose on liability related to the manufacture of all general aviation aircraft and their components. According to a 2001 report to Congress by the General Accounting Office (GAO), trends in general aviation since GARA was enacted suggest that liability costs have been less burdensome to manufacturers, shipments of new aircraft have increased and technological advances have been made. Indicators of general aviation activity, such as the numbers of hours flown and active pilots, have also increased in the years since GARA, but their growth has not been as substantial as the growth in manufacturing.

The unfortunate terrorist attacks of September 11, 2001 have had a substantial impact on these positive general aviation industry trends. Significant restrictions were placed on general aviation flying following September 11th which resulted in a considerable decrease in general aviation activity. Fortunately, most of these restrictions have now been lifted and the Federal Aviation Administration (FAA) is forecasting continued growth in general aviation. The FAA annually convenes expert panels in aviation and develops forecasts for future activity in all areas of aviation, including general aviation. The FAA's 2006 forecast predicts the general aviation aircraft fleet will increase at an average annual rate of 1.4 percent during the 12-year forecast period, growing from an estimated 214,591 in 2005 to 252,775 aircraft in 2017. The fleet of turbine aircraft is expected to increase at a greater rate than the fleet of piston aircraft; as a result, the number of piston aircraft, while continuing to increase, is expected to represent a smaller percentage of the total general aviation fleet. The General Aviation Manufacturer's Association (GAMA) produces activity forecasts based on general aviation hours flown. As shown in Table 2-1, the number of turbojet (TJ) hours is forecast to increase 90% from 2005 to 2015.

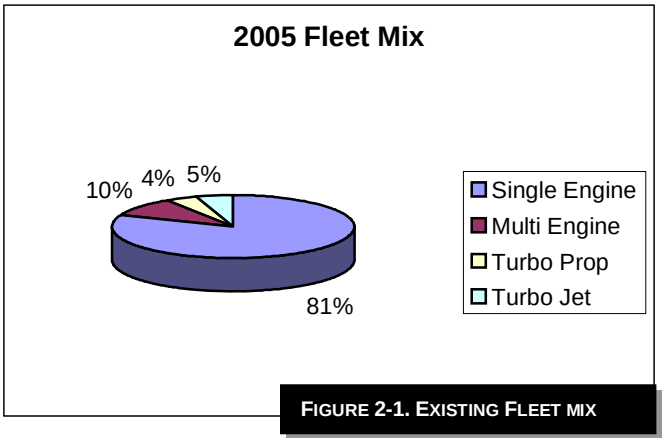


FIGURE 2-1. EXISTING FLEET MIX

SOURCE: GENERAL AVIATION MANUFACTURER'S ASSOCIATION (GAMA) 2005

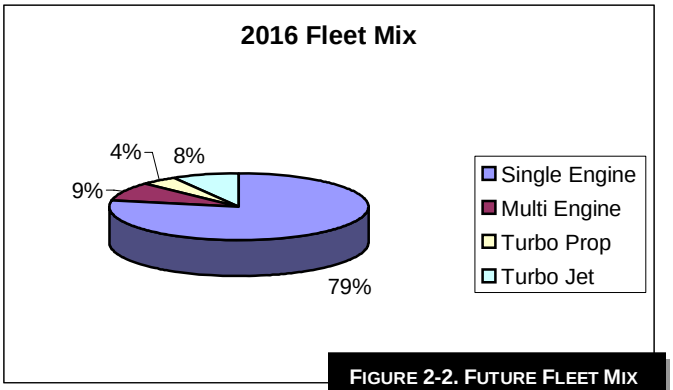


FIGURE 2-2. FUTURE FLEET MIX

SOURCE: GAMA 2005

TABLE 2-1 NATIONAL GENERAL AVIATION FORECAST

	Hours Flown (in millions)				
Year	SE	ME	TP	TJ	Total
2005	16.5	2.2	1.8	2.9	23.4
2006	16.6	2.2	1.9	3.1	23.8
2007	16.7	2.2	1.9	3.4	24.2
2008	16.8	2.2	1.9	3.6	24.5
2009	16.8	2.2	1.9	3.9	24.8
2010	16.9	2.2	2.0	4.2	25.3
2011	17.0	2.2	2.0	4.6	25.8
2012	17.1	2.2	2.0	4.9	26.2
2013	17.1	2.2	2.1	5.2	26.6
2014	17.2	2.2	2.1	5.5	27.0
2015	17.2	2.2	2.1	5.9	27.4
2016	17.3	2.2	2.1	6.1	27.7

Source: General Aviation Manufacturer's Association 2005 statistical Databook

Another industry trend is the increasing amount of research funding for programs like the Small Aircraft Transportation System (SATS). The National Aeronautics and Space Administration (NASA), Federal Aviation Administration, States, industry and academic partners have joined forces to pursue the NASA National General Aviation Roadmap leading to a Small Aircraft Transportation System. This long-term strategic undertaking seeks to bring next-generation technologies and improved air access to small communities. The envisioned outcome is to improve travel between remote communities and transportation centers in urban areas by utilizing a new generation of single-pilot light aircraft for personal and business transportation between the nation's 5,400 public use general aviation airports. Current NASA investments in aircraft technologies are enabling industry to bring affordable, safe and easy-to-use features to the marketplace, including "Highway in the Sky" glass cockpit operating capabilities, affordable crashworthy composite airframes, more efficient IFR flight training and revolutionary aircraft engines. To facilitate this initiative, a comprehensive upgrade of public infrastructure must be planned, coordinated and implemented within the framework of the national air transportation system. State partnerships are proposed to coordinate research support in key public infrastructure areas. Ultimately, SATS may permit more than tripling aviation system throughput capacity by tapping the under-utilized general aviation facilities to achieve the national goal of doorstep-to-destination travel at four times the speed of highways for the nation's suburban, rural and remote communities.

FIGURE 2-3. SATS CONCEPTUALIZATION

Source: NASA Nebraska Space Grant & EPSCoR

The introduction of the Very Light Jet (VLJ) is a major milestone in aviation history. The small (less than 10,000 lbs.) jet can travel at speeds exceeding 400 knots at altitudes of 41,000 feet and is relatively inexpensive in the jet market. These aircraft will allow people to travel in jet aircraft to virtually any airport in the U.S due to the small size and the short length required for takeoff and landing. The demand for these aircraft is beginning to take shape as the first VLJs approach certification which is expected

sometime in 2006. Estimates have forecasted as many as 4,500 VLJs flying by 2016. The majority of the VLJ market is expected to be business people who seek flexible traveling schedules and air taxi services. The lack of efficiency in the hub and spoke system is a major contributor to the VLJ market which will provide high-speed, low cost, convenient service to desired destinations.

FIGURE 2-4. VLJ

The continued growth in fractional ownership arrangements is another significant industry trend. Fractional ownership arrangements allow businesses and individuals to purchase an interest in an aircraft and pay for only the time that they use the aircraft. According to the National Business Aviation Association (NBAA), in 1986, there were three owners of fractionally held aircraft. By 1993, there were 110. From 2000 to 2002, the number of companies and individuals using fractional ownership grew by 52 percent, from 3,834 to 5,827 shares; the growth from 1999 (2,607) to 2002 was 124 percent. The number of airplanes in fractional programs grew 11 percent in 2002, from 696 to 776. The shift toward turbine aircraft is likely a result of the success of fractional ownership, the introduction of new types of turbine aircraft and a transition from commercial air travel to corporate/business air travel as a result of September 11th.

AVAILABLE ACTIVITY FORECASTS

The first step in preparing aviation forecasts is to examine historical and existing activity levels and currently available forecasts from other sources. The FAA Terminal Area Forecasts (TAF) and the Arizona State Aviation Needs Study (SANS) 2000 were reviewed for the Springerville Municipal Airport. The FAA TAF (February 2006) indicates 12 existing based aircraft for Springerville and 2,975 existing annual operations. The TAF numbers are forecast to remain constant through the year 2025. The Arizona SANS 2000 indicates 16 existing based aircraft and 8,580 existing annual operations at the Springerville Municipal Airport. SANS 2000 includes a forecast of 20 based aircraft and 10,726 annual operations for Springerville by the year 2020. The 1995 Springerville Municipal Airport Master Plan projected 48 based aircraft and 22,100 operations by 2015.

FAA RECORDS OF BASED AIRCRAFT AND OPERATIONS

FAA Form 5010-1, *Airport Master Record*, is the official record kept by the Federal Aviation Administration to document airport physical conditions and other pertinent information. The record normally includes an annual estimate of aircraft activity as well as the number of based aircraft. This information is normally obtained from the airport sponsor. The accuracy of these documents varies directly with the sponsor's record keeping system. The FAA Form 5010-1 for the Springerville Municipal Airport indicates 17-based aircraft (all single engine) and 4,100 annual aircraft operations. This form also breaks down the Springerville operations to 820 Air Taxi, 820 GA Local and 2,360 GA Itinerant.

EXISTING AVIATION ACTIVITY

According to the 2006 airport inventory and correspondence with the current airport manager, based aircraft and operations totals at the Spingerville Municipal Airport are similar to the numbers shown in the TAF, 5010 and SANS 2000.

There are currently 18 single-engine aircraft based at the Springerville Municipal Airport. The airport manager has also recorded operations during business hours at the airport from 2003 to 2004 reflecting approximately 97 percent of total operations. The total annual operations estimate for the Springerville Municipal Airport is approximately 3,864. For the purposes of this study, existing based aircraft and operations at the Springerville Municipal Airport will be 18 aircraft and 3,864 operations. These totals result in a reasonable 214 operations per based aircraft (OBPA).

The Springerville Municipal Airport is currently an Airport Reference Code (ARC) B-II airport serving predominately single engine piston, multi-engine piston and turbo prop aircraft, with some use by light turbojet aircraft. Users include:

Air Medivac Services: Air medivac provides essential emergency medical transport in life threatening situations and patient transfers from clinics to higher level care facilities throughout the Springerville-Eagar area. These users utilize a variety of multi-engine turboprop and turbojet aircraft.

Business/Recreational Transportation: These users desire the utility and flexibility offered by general aviation aircraft. The types of aircraft utilized for personal and business transportation varies with individual preference and resources and generally include a mix of single-engine, multi-engine and turbojet aircraft. This category also includes hunting and tourism traffic. There will be an increased number of these users as the community continues to grow and the number of second homes increases.

Wildfire Management: The U.S. Forest Service utilizes the airport for wildfire control and suppression. The number of these operations varies greatly depending on the fire season in the area. The type of aircraft predominately used for aerial fire fighting is the single engine air tanker (SEAT).

Flight Training: Kestrel Aviation provides flight instruction. Flight schools from other airports in the state have students perform cross-country flights to Springerville Municipal Airport. Flight training includes instructional flying to obtain a pilot's license or proficiency checks including biennial flight reviews. The majority of aircraft used for flight instruction include single and multi engine piston.

TABLE 2-2 SPRINGERVILLE BASED AIRCRAFT

Type	Model	Tail Number
Single Engine Piston	Cessna 172	N53632
Single Engine Piston	Beech J35	N3019C
Single Engine Piston	Cessna 175	N8232T
Single Engine Piston	Beech J35	N8259D
Single Engine Piston	Cessna 182	N6045J
Single Engine Piston	Ercoupe 415	N99929
Single Engine Piston	Cessna 152	N6327M
Single Engine Piston	Cessna 182	N2843Y
Single Engine Piston	Aero Commander 100-180	N3743X
Single Engine Piston	Experimental	N75ES
Single Engine Piston	Piper PA-18-150	N929SC
Single Engine Piston	Sea Hawker	N21QT
Single Engine Piston	Series 5 Vixen	N141HS
Single Engine Piston	Kitfox Rotax	N191HS
Single Engine Piston	Cessna 182P	N8217G
Single Engine Piston	Piper PA-28-140	N6309W

The other two-based aircraft have not yet been assigned tail numbers both are experimental.

EXISTING BASED AIRCRAFT DEMAND

The Town has received inquiries from aircraft owners interested in basing at the Springerville Municipal Airport. Several have indicated a strong interest in basing an aircraft as soon as adequate hangar space is available or land on the airport is made available to lease and allow the aircraft owner to build a hangar at his own expense. The airport has also had interest from an owner of a Global Express business jet to use the airport.

HISTORICAL BASED AIRCRAFT AND OPERATIONS

There is no accurate historical record of based aircraft and operations for the Springerville Municipal Airport. According to the 1990 Arizona State Aviation System Plan there were 12 based aircraft at the airport in 1990. According to the 1995 Airport Master Plan, there were 24 based aircraft in 1994 and approximately 10,440 annual operations. The FBO has kept records of based aircraft and operations since 2003, the based aircraft number has remained relatively constant; however the number of operations has shown fluctuation depending on the number of fire fighting operations during the fire season. There are currently no commercial service or air cargo operations at the Springerville Municipal Airport.

FORECASTS OF AVIATION ACTIVITY

FACTORS INFLUENCING AVIATION DEMAND

There are several factors that are influencing the aviation demand at the Sprinverville Municipal Airport. These factors include the prison, Sunrise Ski and Recreation Park, new homes including second homes, a new golf course with golf course housing lots. The economic development taking place in Springerville and Eagar is a major factor in the demand for airport facilities. Private recreational, government and tourism flying will continue to be factors in the utilization of the airport.

BASED AIRCRAFT

A comparative analysis of based aircraft forecasts was accomplished using three methodologies to derive a preferred forecast of based aircraft for the Springerville Municipal Airport. The first method utilized a bottom-up per capita approach that projects the number of based aircraft in direct proportion to the projected combined population of Springerville and Eagar. This resulted in 30 based aircraft at Springerville in 2026 and has been adopted as the preferred based aircraft forecast.

TABLE 2-3 PER CAPITA METHOD*

Year	Population	Aircraft
2006	6,260	18
2011	8,362	24
2016	9,104	26
2021	9,845	28
2026	10,448	30

*Preferred Based Aircraft Forecast

According to FAA Order 5090.3C, when forecast data is not available, a satisfactory procedure is to forecast based aircraft using the statewide growth rate from the February 2006 TAF and to develop activity statistics by estimating annual operations per based aircraft. The second forecasting method for based aircraft utilized the FAA's Terminal Area Forecast annual growth rate for the State of Arizona of 2% per year. This growth rate of 10% every five years results in approximately 26 based aircraft in Springerville in 2026.

TABLE 2-4 FAA TAF METHOD

Year	Based Aircraft
2006	18
2011	20
2016	22
2021	24
2026	26

The third forecasting method for based aircraft utilized a market share analysis based on the State Aviation Needs Study (SANS 2000) forecast of based aircraft for Apache County. The SANS 2000 based aircraft projection for Apache County was applied to the existing demand level to estimate Springerville's market share. This market share was then applied to the SANS 2000 aircraft projections. This resulted in 26 based aircraft in Springerville in 2026.

TABLE 2-5 MARKET SHARE METHOD

Year	Apache County Based Aircraft	Springerville Market Share Aircraft
2006	38	18
2011	41	19
2016	44	21
2021	50	24
2026	54	26

The Per Capita growth rate method is recommended as the preferred based aircraft forecast. Once the airport's terminal area and hangar area are initially improved and the pending demand for basing aircraft is met, the airport is expected to at least keep pace with the population growth within the service area.

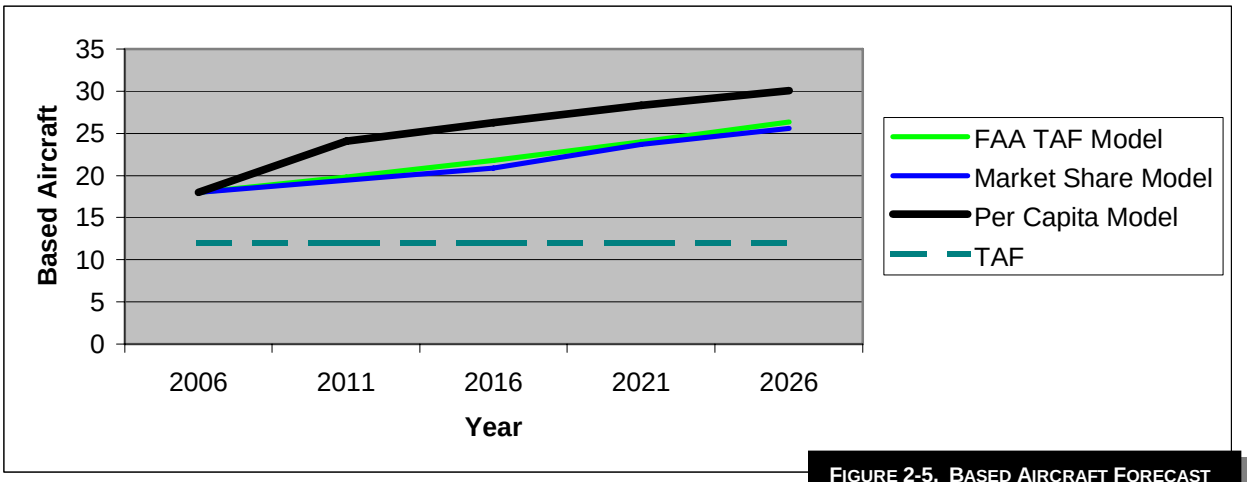


FIGURE 2-5. BASED AIRCRAFT FORECAST

ANNUAL AIRCRAFT OPERATIONS

In order to develop a preferred method of forecasting aircraft operations at the Springerville Municipal Airport, a number of methods were analyzed. Each method utilizes the preferred based aircraft forecast of 30 based aircraft in 2026 then applies an operations per based aircraft (OPBA) to the based aircraft forecast. The methods are summarized as follows:

Method 1: Existing operations and based aircraft (214 OPBA)

Method 2: FAA Order 5090.3C (250 OPBA)

Method 3: All Arizona NPIAS GA Airports (459 OPBA)

Method 4: FAA Advisory Circular 150/5300-13 (679 OPBA)

Method 5: Arizona NPIAS GA Airports – 15 to 30 Based Aircraft (871 OPBA)

For the first method, the base year level of operations per based aircraft of 214 was applied to the preferred based aircraft forecast. Applying 214 OPBA to the preferred based aircraft forecast (Table 2-3) results in 6,420 annual operations in 2026.

A general guideline from FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)* of 250 OPBA for rural general aviation airports with little itinerant traffic was applied to the based aircraft forecast for Method 2. Applying 250 OPBA to the preferred based aircraft forecast results in 7,500 forecast operations in 2026.

For the third method, the average OPBA for all Arizona general aviation airports included in the NPIAS was calculated. This average was calculated by dividing the number of based aircraft by the number of operations at each airport according to the SANS 2000 data. The average was calculated to be 459 OPBA. Applying 459 OPBA to the preferred based aircraft forecast results in 13,770 annual operations in 2026.

TABLE 2-6 AIRPORTS ANALYZED IN METHOD 5

Airport	Aircraft	Operations	OPBA
Taylor Airport	18	4,800	267
Nogales International	23	22,890	995
Avi Suquilla	18	14,000	778
Cochise County	15	7,096	473
Winslow-Lindberg	15	27,650	1,843
TOTALS	**89**	**76,436**	**871**

SOURCE: FAA 5010, 2006

The fourth method, as outlined in FAA Advisory Circular 150/5300-13, applied 679 OPBA (for NPIAS Public Use Airports) to the preferred based aircraft forecast. This method results in a forecast of 20,370 operations in 2026.

For the fifth method, the average OPBA for Arizona general aviation airports included in the NPIAS with 15-25 based aircraft was calculated. The airports used in this analysis are shown in Table 2-6. This analysis resulted in an OPBA of 871 or 25,770 operations in 2026.

These estimates provide a likely range of activity for future operations at the Springerville Municipal Airport and are shown in Figure 2-6. For planning purposes, Method 2 was determined to be the most realistic and was therefore selected as the preferred operations forecast for the Springerville Municipal Airport.

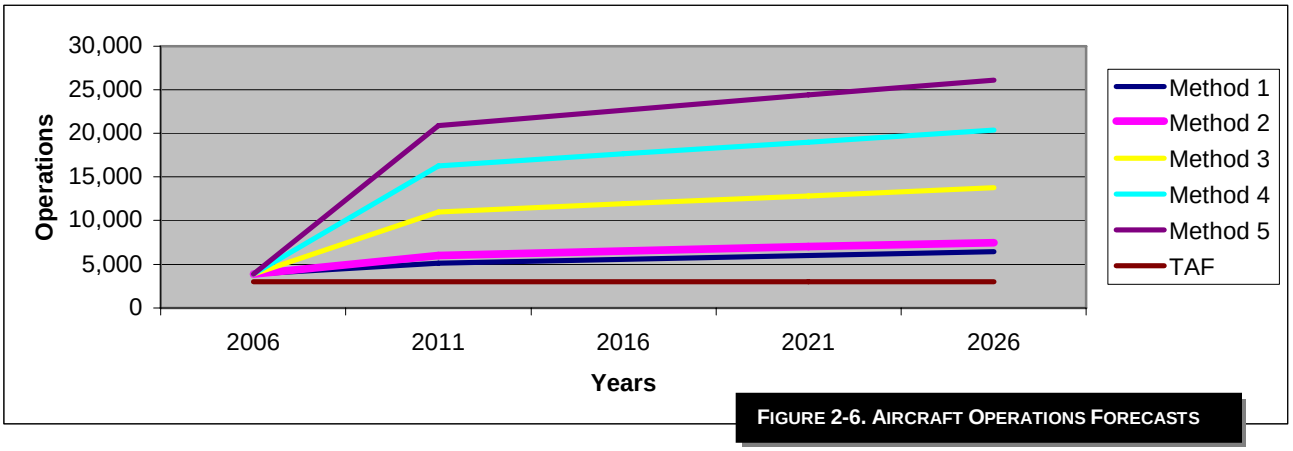


FIGURE 2-6. AIRCRAFT OPERATIONS FORECASTS

ITINERANT AND LOCAL OPERATIONS

Local operations consist primarily of training and recreational flights in the area. The remaining itinerant flights primarily consist of personal transportation, business transportation and recreational flights to and from other airports. The percentage of local versus itinerant operations is expected to trend toward the Arizona average of 58% itinerant and 42% local based on the anticipated airport users and fleet mix described in the following section. Anticipated users whose operations would likely be considered local include ranchers, aerial observation and surveying, recreation and tourism, fire management and flight training.

TABLE 2-7 PREFERRED FORECAST OF AVIATION ACTIVITY

Year	Based Aircraft	Local Operations	Itinerant Operations	Total Operations
2006	18	900	2,964	3,864
2011	24	1,398	4,602	6,000
2016	26	1,514	4,986	6,500
2021	28	1,630	5,370	7,000
2026	30	1,747	5,753	7,500

AIRPORT USERS AND FLEET MIX

Interviews with existing and potential users indicate the following types of operations are anticipated for the Springerville Municipal Airport:

Ranchers: Ranching is one of the primary economic activities in this part of Arizona due to the vast expanse of ranch land. Aircraft are often used in ranching to inventory and locate livestock.

Aerial Observation and Surveying: With close proximity to the Apache-Sitgreaves National Forest, the airport may provide a location for government agencies and private individuals to conduct environmental surveys, wildlife counts and other studies. Slow flying, single-engine aircraft are generally the preferred type of aircraft for this use.

Business Transportation: The Springerville/Eagar area is approximately a one-hour flight in a single-engine general aviation aircraft to Albuquerque, Phoenix or Tucson versus a driving time of approximately 3.5 to 4.5 hours. Business aviation users benefit by being able to travel to or from these business centers to conduct business activities in a single day, without requiring an overnight stay or extensive ground travel time. Local and other small businesses will generally utilize single-engine and multi-engine piston aircraft. Medium sized businesses and larger corporations having a need to travel to the Springerville/Eagar area would generally utilize multi-engine piston and turboprop aircraft and light to medium business jets respectively. This user category also includes state and federal agencies and travel by government officials.

Personal Transportation: These users desire the utility and flexibility offered by general aviation aircraft. The types of aircraft utilized for personal transportation vary with individual preference and resources and generally include a mix of single-engine, multi-engine and in some cases turbojet aircraft.

Recreational and Tourism: These users include transient pilots flying into the region to visit recreational and tourist attractions. These users mostly utilize single-engine piston aircraft; however, a small percentage may operate multi-engine piston aircraft. Other types of aircraft in this category include home-built, experimental aircraft, gliders and ultralights.

Fire Management: Air tanker operations are conducted out of the Springerville Municipal Airport. A fixed base air tanker facility is located on the northeast side of the apron. The amount of air tanker activity depends largely on the fire season for the local area. A mix of single-engine and multi-engine aircraft conduct these operations.

Air Medivac and Medical Services: Air Medivac provides essential emergency medical transport in life threatening situations. Medical services users would be physicians traveling into the airport to provide medical or dental services in the Springerville/Eagar area. These users utilize a variety of multi-engine turboprop and turbojet aircraft such as Cessna 421's, Beech King Airs, Pilatus PC-12s and Lear Jets.

Flight Training: These users conduct local and itinerant flights in order to meet flight proficiency requirements for obtaining FAA pilot certifications. These flights include touch-and-goes, day and night local and cross-country flights and simulated approaches. Pilot certifications include Sport, Private, Instrument, Commercial, Instructor and Airline Transport ratings. Depending on the level of interest and aircraft availability, a multi-engine rating may or may not be available. A commercial rating may be accomplished with either a single-engine or multi-engine aircraft. Air transport ratings are usually obtained at larger regional FAR Part 121 certificated flight schools.

Search and Rescue: With close proximity to the Apache-Sitgreaves National Forest, local aircraft owners and pilots may be requested to assist in search and rescue efforts in the area. The Civil Air Patrol (CAP), a non-profit aviation-related organization is commonly known for providing these types of services on a volunteer basis. CAP also provides mentoring, flight instruction and in some cases aircraft rentals for members and trainees (Cadets). Generally, small single-engine aircraft are used for this purpose.

Table 2-8 DETAILED FORECASTS BY AIRCRAFT TYPE

		2006	2011	2016	2021	2026
Single Engine Aircraft		16	20	23	24	25
	Operations	2,764	3,900	4,225	4,550	4,875
Multi Engine Piston/Turbo Prop Aircraft		0	1	1	1	2
	Operations	200	660	715	770	825
Turbo Jet Aircraft		0	0	0	1	1
	Operations	200	360	390	420	450
Rotorcraft		0	0	0	0	0
	Operations	100	180	195	210	225
Experimental & Other		4	5	5	5	5
	Operations	600	900	975	1,050	1,125
Annual Operations		3,864	6,000	6,500	7,000	7,500

Based on these types of uses, local operations are expected to be conducted by predominately single-engine aircraft. Itinerant operations are expected to trend from primarily single engine piston aircraft towards the GAMA forecast fleet mix of 65% single-engine, 11% multi-engine, 6% jet, 3% helicopter, 15% experimental and other. These trends were applied to the operations forecast to derive the forecast by aircraft type shown in Table 2-8.

FIGURE 2-7. TWIN COMANCHE AT SPINGERVILLE

AIRPORT SEASONAL USE DETERMINATION

A seasonal fluctuation in aircraft operations may be expected at any airport. This fluctuation is most apparent in regions with severe winter weather patterns and at non-towered general aviation airports. The fluctuation is less pronounced at major airports, with a high percentage of commercial and scheduled airline activity.

Non-towered airports generally experience a substantially higher number of operations in summer months than off-season months. The average seasonal use trend for FAA towered airports from the 1979-1984 records (total aircraft operations handled by tower facilities nationally from *FAA Statistical Handbook of Aviation*) was used as a baseline for determining seasonal use trends. As discussed above, the seasonal fluctuation is more pronounced at non-towered airports than towered airports. The seasonal use trend for towered airports was adjusted to approximate seasonal use trends at non-towered airports. This is presented in Table 2-9 and in Figure 2-8.

TABLE 2-9 SEASONAL USE TREND

Month	Non-towered	Towered
January	3.5%	7.2%
February	4.0%	8.2%
March	4.8%	8.6%
April	7.5%	9.0%
May	11.3%	9.1%
June	13.5%	9.4%
July	14.8%	9.1%
August	13.0%	8.7%
September	10.0%	8.7%
October	8.0%	7.8%
November	5.8%	7.1%
December	3.8%	7.1%

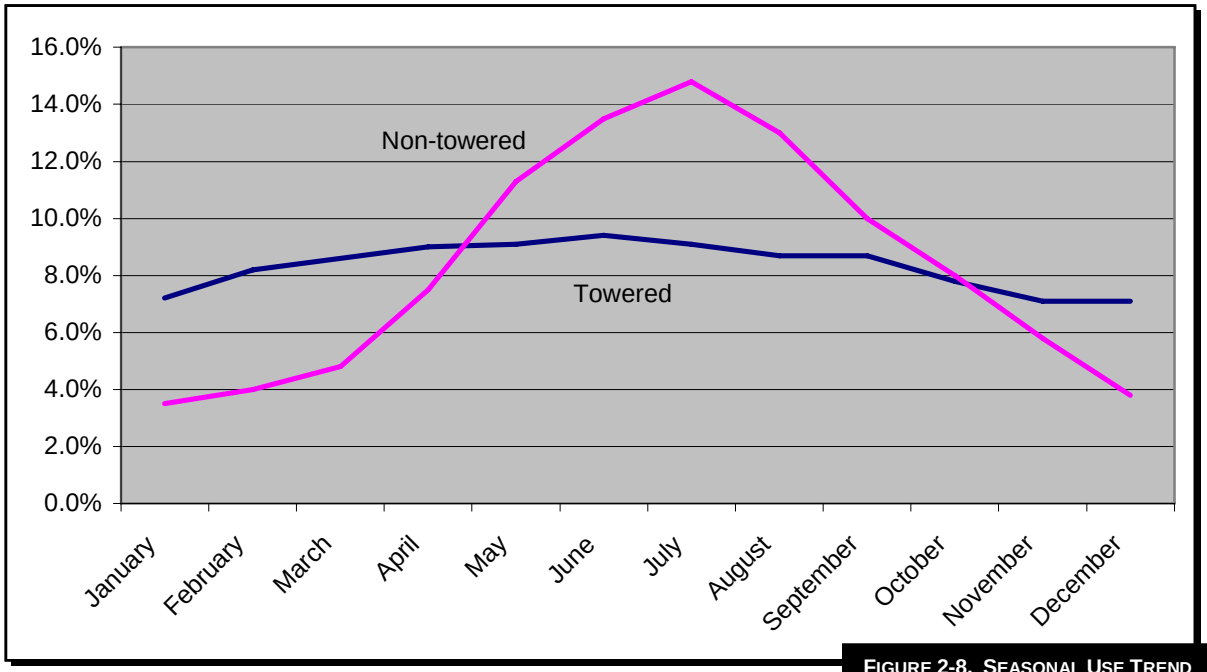


FIGURE 2-8. SEASONAL USE TREND

HOURLY DEMAND AND PEAKING TENDENCIES

In order to arrive at a reasonable estimate of demand at the airport facilities, it was necessary to develop a method to calculate the levels of activity during peak periods. The periods normally used to determine peaking characteristics are defined below:

Peak Month: The calendar month when peak enplanements or operations occur.

Design Day: The average day in the peak month derived by dividing the peak month enplanements or operations by the number of days in the month.

Busy Day: The Busy Day of a typical week in the peak month. In this case, the Busy Day is equal to the Design Day.

Design Hour: The peak hour within the Design Day. This descriptor is used in airfield demand/capacity analysis, as well as in determining terminal building, parking apron and access road requirements.

Busy Hour: The peak hour within the Busy Day. In this case, the Busy Hour is equal to the Design Hour.

The Seasonal Use Trend Curve, as presented in Figure 2-8, was used as a tool to determine the peaking characteristics for the Springerville Municipal Airport. Using the Seasonal Use information, a formula was derived which will calculate the average daily operations in a given month, based on the percentage of the total annual operations for that month, as determined by the curve. The formula is as follows:

$$M = A (T / 100)$$
$$D = M / (365 / 12)$$

Where T = Monthly percent of use (from curve)
M = Average monthly operations
A = Total annual operations
D = Average Daily Operations in a given month

Approximately 90% of total daily operations will occur between the hours of 7:00 AM and 7:00 PM (12 hours) at a typical general aviation airport, meaning the maximum peak hourly occurrence may be 50% greater than the average of the hourly operations calculated for this time period.

The Estimated Peak Hourly Demand (P) in a given month was, consequently, determined by compressing 90% of the Average Daily Operations (D) in a given month into the 12-hour peak use period, reducing that number to an hourly average for the peak use period and increasing the result by 50% as follows:

$$P = 1.5 (0.90D / 12)$$

Where D = Average Daily Operations in a given month.
P = Peak Hourly Demand in a given month.

The calculations were made for each month of each phase of the planning period. The results of the calculations are shown in Table 2-10. As is evident in the Table, the Design Day and Design Hour peak demand in the planning year occurs under VFR weather conditions in the month of July (highlighted in bold in each Table), with 40 daily operations and approximately 4.5 operations per hour in 2026.

TABLE 2-10 ESTIMATED HOURLY DEMAND/MONTH

MONTHLY/DAILY/HOURLY DEMAND

Planning Year: 2011
Operations: 6,000

Month	% Use	Operations Monthly	Daily	Hourly
January	3.5	210	7	0.8
February	4.0	240	8	0.9
March	4.8	288	9	1.0
April	7.5	450	15	1.7
May	11.3	678	22	2.5
June	13.5	810	27	3.0
July	**14.8**	**888**	**29**	**3.3**
August	13.0	780	26	2.9
September	10.0	600	20	2.3
October	8.0	480	16	1.8
November	5.8	348	11	1.2
December	3.8	228	7	0.8

Planning Year: 2016
Operations: 6,500

Month	% Use	Operations Monthly	Daily	Hourly
January	3.5	228	7	0.8
February	4.0	260	9	1.0
March	4.8	312	10	1.1
April	7.5	488	16	1.8
May	11.3	735	24	2.7
June	13.5	878	29	3.3
July	**14.8**	**962**	**32**	**3.6**
August	13.0	845	28	3.2
September	10.0	650	21	2.4
October	8.0	520	17	1.9
November	5.8	377	12	1.4
December	3.8	247	8	0.9

Planning Year: 2021
Operations: 7,000

Month	% Use	Operations Monthly	Daily	Hourly
January	3.5	245	8	0.9
February	4.0	280	9	1.0
March	4.8	336	11	1.2
April	7.5	525	17	1.9
May	11.3	791	26	2.9
June	13.5	945	31	3.5
July	**14.8**	**1,036**	**34**	**3.8**
August	13.0	910	30	3.4
September	10.0	700	23	2.6
October	8.0	560	18	2.0
November	5.8	406	13	1.5
December	3.8	266	9	1.0

Planning Year: 2026
Operations: 7,500

Month	% Use	Operations Monthly	Daily	Hourly
January	3.5	263	9	1.0
February	4.0	330	10	1.1
March	4.8	360	12	1.4
April	7.5	563	19	2.1
May	11.3	848	28	3.2
June	13.5	1,013	33	3.7
July	**14.8**	**1,110**	**36**	**4.1**
August	13.0	975	32	3.6
September	10.0	750	25	2.8
October	8.0	600	20	2.3
November	5.8	435	14	1.6
December	3.8	285	9	1.0

INSTRUMENT OPERATIONS

According to the FAA TAF, 45 percent of the total aircraft operations in Arizona are instrument operations. According to the TAF, this number is forecast to increase to 51 percent by 2020. Since virtually all commercial and business jet flights and most military aircraft flights are IFR, the number of instrument operations does not reflect the occurrence of instrument weather or the provision of instrument approaches at airports. At most general aviation airports with an instrument approach and no commercial service or military activity, instrument operations will comprise approximately 2.5 percent of total operations. The majority of general aviation operations are under VFR. Business transportation and air medivac/air ambulance are the most likely users of the instrument approaches at Springerville with annual instrument operations approximately 3 percent of total operations. The number of instrument operations for 2004 were reviewed using GCR1 airport data which indicated 118 IFR filed flight plans to and from Springerville.

FORECAST SUMMARY

Multiple forecasts were prepared for the Springerville Municipal Airport. Activity estimates were made for based aircraft operations and the ultimate fleet mix at the airport. These forecasts represent low, medium and high expected activity trends. The FAA TAF forecasts based aircraft and operations to remain constant over the 20 year planning period. However, the interest in basing aircraft at the airport shows the potential demand at the airport. This demand is currently constrained by the lack of available hangar space and the lack of a future terminal area plan at the airport. Once a terminal area plan is developed, the Town of Springerville can begin leasing ground on the airport to allow aircraft owners to construct hangars at the airport. Another option for the Town of Springerville is to construct hangars and lease the hangar space to these aircraft owners. This potential demand for basing aircraft and operating at the Springerville Municipal Airport explains why the master plan preferred forecasts exceed the TAF forecasts by more than 10 percent. Table 2-11 shows the forecast summary for the Springerville Airport Master Plan.

TABLE 2-11 FORECAST SUMMARY

	Enplanements			Itinerant Operations					Local Operations				
Year	AC	COMM	TOTAL	AC	AT & COM	GA	MIL	TOTAL	GA	MIL	TOTAL	TOT OPS	INST OPS
2006	0	0	0	0	820	2,044	100	2,964	900	0	900	3,864	118
2011	0	0	0	0	1,273	3,173	155	4,602	1,398	0	1,398	6,000	183
2016	0	0	0	0	1,379	3,438	168	4,986	1,514	0	1,514	6,500	199
2021	0	0	0	0	1,485	3,702	181	5,370	1,630	0	1,630	7,000	214
2026	0	0	0	0	1,591	3,967	194	5,753	1,747	0	1,747	7,500	229

Chapter Three
Facility Requirements

Springerville Municipal Airport
Airport Master Plan

CHAPTER THREE
AIRPORT FACILITY REQUIREMENTS

INTRODUCTION

One of the primary objectives of this planning study is to determine the size and configuration of airport facilities needed to accommodate the types and volume of aircraft expected to utilize the airport. Data from Chapter 1 and forecasts from Chapter 2 are coupled with established planning criteria to determine what improvements are necessary to airside and landside areas. Then, having established the facility requirements, alternatives for providing these facilities are provided in Chapter 4 to determine the viability of meeting the facility needs.

The time frame for addressing development needs usually involves short-term (up to five years), medium-term (six to ten years) and long-term (eleven to twenty year) periods. Long range planning primarily focuses on the ultimate role of the airport and is related to development. Medium-term planning focuses on a more detailed assessment of needs, while the short-term analysis focuses on immediate action items and may include details not geared towards long-term development.

AIRPORT REFERENCE CODE

The Airport Reference Code (ARC) is a system established by the FAA that is used to relate airport design criteria to the operational and physical characteristics of the aircraft currently operating and/or intended to operate at the airport. The ARC has two components relating to the airport design aircraft. The first component, depicted by a letter, is the Aircraft Approach Category and relates to aircraft approach speed (operational characteristics). The second component, depicted by a Roman numeral, is the Aircraft Design Group and relates to aircraft wingspan (physical characteristic). Generally, aircraft approach speed applies to runway dimensional criteria and safety zones prior to and beyond the end of the runway. Aircraft wingspan is primarily associated with separation criteria involving taxiways and taxilanes. Table 3-1 has been included to provide a definition of both Aircraft Approach Categories and Aircraft Design Groups. Figure 3-1 shows examples of aircraft and their Airport Reference Codes.

TABLE 3-1
AIRCRAFT APPROACH CATEGORIES AND DESIGN GROUPS

AIRCRAFT APPROACH CATEGORY: An aircraft approach category is a grouping of aircraft based on an approach speed of 1.3 times the stall speed of the aircraft at the maximum certificated landing weight.

Aircraft Category	Approach Speed
Category A	Speed less than 91 knots
Category B	91 knots or more but less than 121 knots
Category C	121 knots or more but less than 141 knots
Category D	141 knots or more but less than 166 knots
Category E	166 knots or more

AIRCRAFT DESIGN GROUP: The aircraft design group subdivides aircraft by wingspan. The aircraft design group concept links an airport's dimensional standards to aircraft approach categories or to aircraft design groups or to runway instrumentation configurations. The aircraft design groups are:

Design Group	Aircraft Wingspan
Group I	Up to but not including 49 feet
Group II	49 feet up to but not including 79 feet
Group III	79 feet up to but not including 118 feet
Group IV	118 feet up to but not including 171 feet
Group V	171 feet up to but not including 214 feet
Group VI	214 feet up to but not including 262 feet

AI

Primarily Single-Engine Propeller Aircraft, some light twins

Example Type: Cessna 172 Skyhawk

BI

Primarily Light Twin-Engine Propeller Aircraft

Example Type: Piper Navajo

BII

(<12,500 lbs)
Primarily Light Turboprops

Example Type: Beechcraft King Air

BII

(>12,500 lbs)
Mid-sized corporate jets and commuter airliners

Example Type: Cessna Citation II

A/BIII

Primarily large commuter-type aircraft

Example Type: De Havilland Dash 8

CI, DI

Primarily small and fast corporate jets

Example Type: Lear Jet 36

C/DII

Large corporate jets and regional-type commuter jets

Example Type: Gulfstream IV

C/DIII

Commercial airliners (approx. 100-200 seats)

Example Type: Boeing 737

C/DIV

Large commercial airliners (approx. 200-350 seats)

Example Type: Boeing 767

DV

Jumbo commercial airliners (approx. 350+ seats)

Example Type: Boeing 747

FIGURE 3-1. AIRCRAFT REFERENCE CODES

To ensure that all airport facilities are designed to accommodate the expected air traffic and to meet FAA criteria, the specific ARC for the airport must be determined. In order to designate a specific ARC for an airport, aircraft in that ARC should perform a minimum of 500 annual itinerant operations. The aircraft currently using the Springerville Municipal Airport have an ARC of A-I, B-I and B-II. Airport users and fleet mix were discussed in Chapter 2. Examples of aircraft with an ARC of A-I and B-I are listed in Table 3-2. Examples of aircraft with an ARC of A-II and B-II are listed in Table 3-3. These are the types of aircraft expected to utilize the airport in the short, medium and long-term time frames. A small number of operations by C-I and C-II aircraft occur at Springerville given the available runway length and the existing non-precision instrument approach.

This information indicates that fundamental development items should be based on an ARC of B-II for aircraft weighing up to 45,000 pounds. It is also anticipated that occasional operations will occur by C-I, D-I, C-II and C-III aircraft weighing up to 65,000 pounds. It is recommended that wherever feasible the airport should configure facilities, setbacks and separations to minimize constraints for a potential upgrade to an ARC of C-II in the event Category C aircraft operations exceed forecasts.

TABLE 3-2 EXAMPLE AIRCRAFT HAVING AN ARC OF A-I OR B-I

Aircraft	Approach Speed (knots)	Wingspan (feet)	Max T.O. Weight (pounds)
Beech Baron 58P	101	37.8	6,200
Beech Bonanza V35B	70	33.5	3,400
Beech King Air B100	111	45.9	11,799
Cessna 150	55	33.3	1,670
Cessna 172	60	36.0	2,200
Cessna 177	64	35.5	2,500
Cessna 182	64	36.0	2,950
Cessna 340	92	38.1	5,990
Cessna 414	94	44.1	6,750
Cessna Citation I	108	47.1	11,850
Gates Learjet 28/29	120	42.2	15,000
Mitsubishi MU-2	119	39.1	10,800
Piper Archer II	86	35.0	2,500
Piper Cheyenne	110	47.6	12,050
Rockwell Sabre 40	120	44.4	18,650
Swearingen Merlin	105	46.3	12,500
Raytheon Beechjet	105	43.5	16,100

Source: FAA AC 150/5300-13, Airport Design

TABLE 3-3 EXAMPLE AIRCRAFT HAVING AN ARC OF A-II OR B-II

Aircraft	Approach Speed (knots)	Wingspan (feet)	Max T.O. Weight (pounds)
Air Tractor 802F	105	58.0	16,000
Beech King C90-1	100	50.3	9,650
Beech Super King Air B200	103	54.5	12,500
Cessna 441	100	49.3	9,925
Cessna Citation II	108	51.6	13,300
Cessna Citation III	114	50.6	17,000
Dassault Falcon 50	113	61.9	37,480
Dassault Falcon 200	114	53.5	30,650
Dassault Falcon 900	100	63.4	45,500
DHC-6 Twin Otter	75	65.0	12,500
Grumman Gulfstream I	113	78.5	35,100
Pilatus PC-12	85	52.3	9,920

Source: FAA AC 150/5300-13, Airport Design

TABLE 3-4 EXAMPLE AIRCRAFT HAVING AN ARC OF C-II OR D-II

Aircraft	Approach Speed (knots)	Wingspan (feet)	Max T.O. Weight (pounds)
Canadair CL-600	125	61.8	41,250
Gulfstream-III	136	77.8	68,700
1329 JetStar	132	54.5	43,750
Sabre 80	128	50.4	24,500
Gulfstream-II	141	68.8	65,300
Gulfstream-IV	145	77.8	71,780
Rockwell 980	121	52.1	10,325
Cessna Citation 650	126	53.6	23,000
Cessna Citation 750 X	131	63.6	36,100
Astra 1125	126	52.5	23,500
Hawker 125-1000	130	61.9	36,000
Falcon 900 EX	126	63.5	48,300

Source: FAA AC 150/5300-13, Airport Design

AIRSIDE FACILITY REQUIREMENTS

The airside facilities of an airport are described as the runway configuration, the associated taxiway system, the ramp and aircraft parking area and any visual or electronic approach aids.

RUNWAY REQUIREMENTS

Annual Service Volume: The Annual Service Volume (ASV) is a calculated reasonable estimate of an airport's annual capacity; taking into account differences in runway utilization, weather conditions and aircraft mix that would be encountered in one year. When compared to the forecasts or existing operations of an airport, the ASV will give an indication of the adequacy of a facility in relationship to its activity level. The ASV is determined by reference to the charts contained in FAA Advisory Circular (AC) 150/5060-5, *Airport Capacity and Delay*.

The FAA Airport Design Program was used to calculate the ASV for a two-runway airport with the forecasted operation levels determined in Chapter 2. Annual Service Volume for the runway configuration is 230,000 operations per year. Under these conditions, the existing runway facilities will adequately meet the demand within the time frame of this study.

Runway Length: FAA Advisory Circular 150/5325-4B, Runway Length Requirements for Airport Design, provides guidance for determining runway length requirements. Furthermore, the FAA has developed a computer software program entitled "Airport Design." The program provides the user with recommended runway lengths and other facilities on an airport according to FAA design standards. The information required to execute the program for recommended runway lengths, includes airfield elevation, mean maximum temperature of the hottest month and the effective gradient for the runway. This specific information for the Springerville Municipal Airport that was used for the purposes of this portion of the study for Runway 3/21:

Field Elevation: 7,051' MSL
Mean Maximum Temperature of Hottest Month: 90.0^{o} F
Effective Gradient: 43 Feet

(Note: The actual difference in feet from runway end to runway end is required to run the FAA software program and is listed as the effective gradient. However, the effective gradient is usually shown as a percent.)

With this data, the Airport Design program provides several runway length recommendations for both small and large aircraft according to varying percentages of aircraft fleet and associated takeoff weights. A summary of the data provided by the program is listed in Table 3-5.

TABLE 3-5 RECOMMENDED RUNWAY LENGTH Description	Runway Length
Existing Runway Length	8,417'
Recommended to accommodate:	
Small Aircraft (<12,500 lbs.)	
Less than 10 passenger seats	
75 percent of these small airplanes	6,130'
95 percent of these small airplanes	8,740'
100 percent of these small airplanes	8,740'
10 or more passenger seats	8,740'
Large Aircraft (>12,500 lbs., <60,000 lbs.)	
75 percent of these planes at 60 percent useful load	8,130'
75 percent of these planes at 90 percent useful load	9,030'
100 percent of these planes at 60 percent useful load	11,430'
100 percent of these planes at 90 percent useful load	11,430'

Source: FAA Computer Software Program, Airport Design Version 4.2d

Using the results of the FAA's software program, it would be fair to suggest that the runway should have a minimum length of 9,030 feet. This would accommodate 75 percent of the large aircraft fleet. However, it is important to identify the runway length requirements for the specific aircraft that are expected to operate at the airport.

Takeoff Distance Requirements: When determining runway length requirements for any airport it is necessary to consider the types of aircraft (aircraft design group and critical aircraft) that will be using the airport and their respective takeoff distance requirements. Figure 3-2 gives examples of takeoff distance requirements for the aircraft currently using the Springerville Municipal Airport and aircraft that are anticipated to use the airport in the future.

Based on the required runway lengths for these categories of aircraft, the existing runway length of 8,417 feet provides adequate takeoff distance for the current fleet; however, as operations by large aircraft increase an increased length to 9,030 feet is recommended.

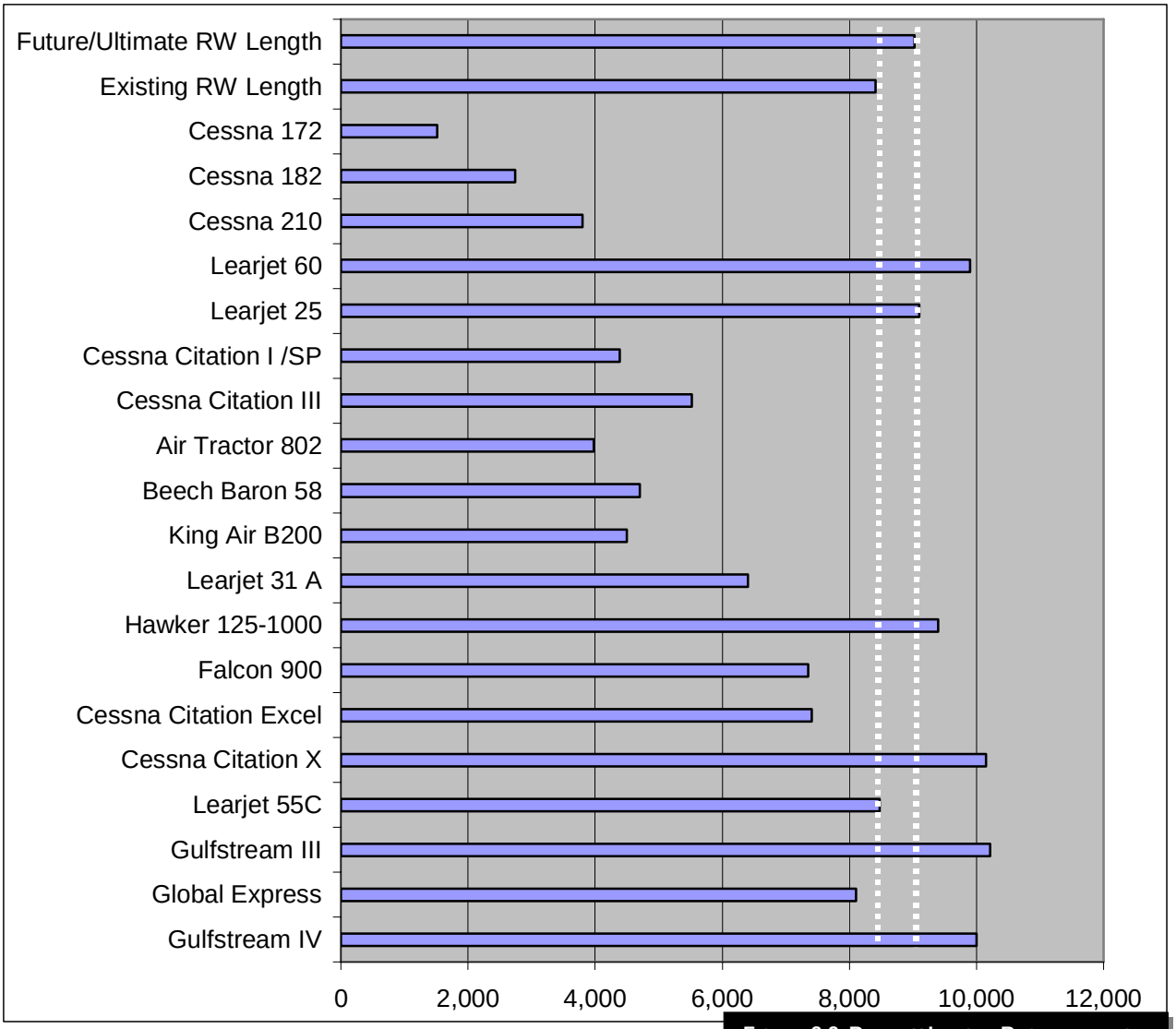


FIGURE 3-2. RUNWAY LENGTH REQUIREMENTS

SOURCE: AIRCRAFT MANUFACTURERS DATA

**Aircraft performance data based on a mean maximum temperature of the hottest month of 90° F and an airport elevation of 7,051 feet mean sea level (MSL).*

Runway Strength and Width: Runway strength requirements are normally based upon the design aircraft that may be expected to use the airport on a regular basis. The existing strength of Runway 3/21 is 30,000 pounds Single Wheel Gear (SWG) and the existing strength of Runway 11/29 is 12,500 pounds. It is recommended that the Runway 3/21 strength be increased to 45,000 pounds SWG/ 68,000 pounds DWG to accommodate the demand by larger aircraft.

FAA design standards for runways serving aircraft having an ARC of B-II require a minimum runway width of 75 feet. The existing runway meets this standard. Runways serving aircraft with an ARC of C-II require a minimum width of 100 feet. A runway widening to 100 feet should be accomplished if operations by aircraft in Approach Category C exceed 500 annually.

CROSSWIND RUNWAY REQUIREMENTS

The FAA recommends that a runway's orientation provide at least 95 percent crosswind coverage. If the wind coverage of the runway does not meet this 95 percent minimum for the appropriate ARC, then a

crosswind runway should be considered. Crosswind coverage for Runway 3/21 is 92.32 percent for a 10.5 knot crosswind and 95.54 percent for a 13.0 knot crosswind; therefore a B-I crosswind is justified.

The wind study analysis described in Chapter 1 indicated that Runways 3/21 and 11/29 at the Springerville Municipal Airport meet the FAA standard of at least 95 percent combined crosswind coverage. The airport should obtain an automated weather observation system (AWOS) to provide pilots with real time weather conditions when operating at the Springerville Municipal Airport. The existing width of the crosswind runway is 60 feet, which meets the FAA requirement. The existing length of the crosswind runway is considered adequate.

RUNWAY INCURSIONS

There are currently no runway incursion mitigation measures in place at the Springerville Municipal Airport. Perimeter wildlife fencing is planned and an electronic vehicle access gate is being installed to minimize the potential for wildlife and vehicle incursions. The installation of lighted holding position signs and increasing the hold bar markings from 6" stripes to 12" stripes is recommended to minimize aircraft incursions.

TAXIWAY REQUIREMENTS

Length and Width: The primary function of a taxiway system is to provide access between runways and the terminal area. The taxiways should be located so that aircraft exiting the runway will have minimal interference with aircraft entering the runway or remaining in the traffic pattern. Taxiways expedite aircraft departures from the runway and increase operational safety and efficiency.

According to FAA Advisory Circular 150/5300-13, Airport Design, the minimum recommended runway to taxiway centerline separation for a runway with an ARC of B-II is 240 feet and the minimum recommended width is 35 feet. The minimum recommended runway to taxiway separation for an airport with an ARC of C-II or B-II with an instrument approach with visibility minimums lower than ¾-mile is 300 feet. There is currently a full length parallel taxiway for Runway 3/21, Taxiway A and a partial parallel taxiway to Runway 29, Taxiway B. Both taxiways are currently 30 feet wide and have 240 feet of separation from their respective runways. Taxiway A should be widened to 35 feet to meet Group II standards. Portions of Taxiway B that serve Group II aircraft should be widened to 35 feet. The remaining portions of Taxiway B could remain 30 feet wide or be reduced to 25 feet wide for Group I aircraft.

Strength: The strength of the taxiway should be maintained at a strength equal to that of the associated runway pavement. Portions of Taxiway B that serve Group II aircraft should be strengthened to match the strength of Runway 3/21.

AIRCRAFT APRON

The apron space requirements as shown in this planning document were developed according to recommendations given in AC 150/5300-13, *Airport Design*. Consideration must be made in the overall apron requirements for aircraft parking and tiedown requirements, taxilanes, adjacent taxiways and proximity to all aircraft expected to use the airport, including turboprops and business jets.

The majority of existing based aircraft are currently parked on the apron. Consequently, future apron square yardage should be planned for both transient and based aircraft. The existing aircraft parking apron occasionally becomes filled to capacity during peak periods in the summertime (see Figure 3-3). An apron expansion is recommended to accommodate based and transient aircraft including business jets.

Tiedown Requirements: Aircraft tiedowns should be provided for those small and medium sized aircraft utilizing the airport. These aircraft risk being damaged or may cause damage or injury in sudden wind gusts if not properly secured. A number of tiedowns are required to accommodate the peak daily transient aircraft and overnight transient aircraft, plus based aircraft that are not hangared. Tiedown requirements for the 20-year planning period are listed in Table 3-6. The current tiedown layout is based on Group II taxilane OFAs. The future apron layout should be planned to provide for Group II taxilane OFAs. Typically large aircraft, including business jets, are not tied down and can usually be parked overtop multiple tiedowns.

FIGURE 3-3. AIRCRAFT APRON

Apron Requirements:
Generally speaking, an apron tiedown area should allow approximately 360 square yards per transient aircraft and 300 square yards per based aircraft. This square yardage per aircraft provides adequate space for tiedowns, circulation and fuel truck movement. The Town of Springerville should plan for additional apron expansion and taxilane expansion to hangar development areas. Demand for hangar space has been indicated and the Town should take advantage of this revenue generating opportunity.

NAVIGATIONAL AIDS

A Navigational Aid (NAVAID) is any ground based visual or electronic device used to provide course or altitude information to pilots. NAVAIDs include Very High Omnidirectional Range (VORs), Very High Frequency Omnidirectional Range with Tactical Information (VOR-TACs), Nondirectional Beacons (NDBs) and Tactical Air Navigational Aids (TACANs), as examples. There are no ground based NAVAIDs at the Springerville Municipal Airport and none are recommended.

APPROACH PROCEDURES

Non-precision Global Positioning System (GPS) approaches do not require ground-based facilities on or near the airport for navigation. The GPS receiver uses satellites for navigation. Therefore, it involves little or no cost for the Airport Sponsor. GPS was developed by the United States Department of Defense for military use and is now available for civilian use. GPS approaches are rapidly being commissioned at airports across the United States. Approach minimums as low as 350-foot ceilings and 1-mile visibility are typical for this type of approach. An instrument approach will increase the utility of the airport by providing for the capability to operate in inclement weather conditions. This is especially important for air medivac/air ambulance, physician transport and business flights. It is also useful for conducting training and maintaining instrument currency and proficiency requirements.

The existing approach procedure at the airport includes a non-precision instrument GPS approach to Runway 21. The minimums for this approach are 309-foot ceiling and 1-mile visibility. A future potential approach that should be considered is a GPS approach procedure with vertical guidance (LNAV/VNAV) using the Wide Area Augmentation System (WAAS). This approach could potentially provide instrument minimums as low as 300-foot ceilings and less than ¾-mile visibility. The LNAV/VNAV approach with minimums less than 1-mile would increase the FAR Part 77 Primary Surface from 500 feet wide to 1,000 feet wide.

AIRFIELD LIGHTING, SIGNAGE, MARKING AND VISUAL AIDS

Airport lighting enhances safety during periods of inclement weather and nighttime operations by providing visual guidance to pilots in the air and on the ground. Lighting and visual aids can consist of a variety of equipment or a combination thereof as described in Chapter 1. The airport's existing inventory of lighting and visual aids includes two-box precision approach path indicators, a rotating beacon, medium intensity runway lights (MIRLs), runway end identifier lights (REILs), 6-light runway threshold lights, visual runway markings, a segmented circle and taxiway reflectors. The airport terminal area is also equipped with area lighting. The majority of the airfield lighting and visual aids are in good condition and should be maintained in their present condition. The immediate lighting upgrades needed are rehabilitation of the MIRLs and installation of two-way bicolored white/yellow globes at the last 2,000-feet of Runway 21 and the replacement of the 6-light runway threshold light system with an 8-light system on Runway 3/21. The installation of lighted signs and hold position signs is recommended. An approach lighting system (ALS) such as ODALS, MALS, MALSF, SSALS or SALS would be necessary to obtain ¾-mile visibility minimums. The ALS is designed to provide earlier visual acquisition of the runway approach in visibility limiting Instrument Meteorological Conditions (IMC). The lighting of the taxiways with medium intensity taxiway lights (MITLs) is also recommended.

Runway 3/21 is currently marked as a visual runway at both ends. Because there is a published instrument approach procedure to Runway 21, this runway should be remarked with non-precision instrument runway markings. Runway 11/29 is currently marked as a visual runway at both ends. Runway 3/21 markings are in good condition, Runway 11/29 markings are in fair condition. If the approach minimums are lowered to ¾ mile the change of marking on Runway 21 to precision approach markings is recommended.

LANDSIDE FACILITY REQUIREMENTS

Landside facilities are another important aspect of the airport. Landside facilities serve as the processing interface between the surrounding community and the airport operating environment. Likewise, it offers the traveler the first impression of the airport and the local area. Landside facilities house the support infrastructure for airside operations and often generate substantial revenues for the airport.

FIGURE 3-4. EXISTING TERMINAL AND HANGAR

TERMINAL BUILDING

The construction of a terminal building at any airport offers many amenities to passengers, local and transient pilots and airport management. Terminal buildings (often called pilot lounges at general aviation airports) most often house public restrooms, public telephones, a pilot's lounge and information regarding airport services. The existing terminal building at the Springerville Municipal Airport is attached to the FBO maintenance hangar. The terminal building includes a lobby area, restrooms, telephone, a flight planning room and airport management offices. The terminal building is well maintained and provides adequate space and amenities to accommodate existing and long term demand.

HANGAR FACILITIES

Hangars are typically classified as either T-hangars, small multi-unit storage complexes that usually accommodate one single engine aircraft in each unit or conventional hangars, small to very large units, which accommodate a variety of aircraft types or corporate fleets. The number of aircraft that each conventional hangar can hold varies according to the manufacturer and the specifications of the airport owner or operators. The existing hangars at the Springerville Municipal Airport include the 100-foot by 100-foot FBO maintenance hangar and one T-hangar located on the southern edge of the apron area.

FIGURE 3-5. EXISTING T-HANGAR

Based Aircraft Hangar Requirements: Future facility requirements for based aircraft typically determine the number of tiedown locations, number of shaded spaces, number of T-hangars and number of conventional type hangars required. There is current demand for a multi-unit T-hangar. Development areas will be identified on the ALP for a mix of T-hangars, box hangars and larger corporate hangars.

Transient Aircraft Hangar Requirements: Transient single-engine aircraft operators generally do not require aircraft storage facilities unless there is inclement weather expected (such as hail or snow) or if the operator is planning an extended stay. Some higher performance single-engine and multi-engine aircraft operators may desire overnight aircraft storage or a heated hangar in the winter. Airport management reports that transient aircraft hangar space is frequently filled to capacity and aircraft choose to go to other airports.

General: The airport sponsor should consider providing long-term land leases to interested parties for the construction of aircraft storage hangars. Allowing the tenant to retain ownership of the hangar while leasing the ground reduces capital outlay requirements for the Town of Springerville and enables the Town to collect property taxes on the hangar and other improvements as well as providing motivation for the tenant to maintain the hangar in good condition to maximize resale value at the end of the lease period. However, recent legislation has made aircraft hangars an eligible cost under the Airport Improvement Program (AIP). While this creates an opportunity for airport sponsors willing to build hangars to meet existing demand, hangars are considered a lower priority than airside projects. The Town of Springerville should still consider applying for federal grants to construct needed hangars. The Town should also charge a standard annual, monthly and overnight tiedown fee for use of the open apron.

AVIATION FUEL FACILITIES

Fuel is available during normal business hours at the Springerville Municipal Airport. Kestrel Aviation offers 100-Low Lead avgas and Jet A to based and transient aircraft owners. It is also recommended that a self-serve credit card reader fueling system be installed to provide 24-hour fuel access at the airport. Fuel storage at the airport consists of 10,000 gallons of 100-Low Lead, 5,000 gallons of Jet A and a 1,500 gallon Jet A truck. The fuel tanks are owned by the Town of Springerville and operated by Kestrel Aviation.

AIRPORT ACCESS AND VEHICLE PARKING

The Springerville Municipal Airport is accessed via Airport Road, which is a two lane, paved road. Airport Road enters the airport from the east side of the airport. Access to the airport is considered adequate for the short term planning period; however it is recommended that the City of Springerville upgrade/improve the access road in the medium to long term planning period to ensure adequate access to the airport is available. Airport Road extends around the east end of Runway 29 and provides access to the northeast and southeast quadrants of the airport. Should development take place on the west side of the airport an access road will need to be constructed.

FENCING

The Springerville Municipal Airport is currently partially fenced with 5-strand barbed wire fencing. The terminal area is surrounded by a six-foot chain link fence with a manual vehicle access gate. The primary purpose of this fencing is to restrict inadvertent access to the airport by wildlife and persons. The fence penetrates the runway safety area off the ends of Runway 3 and 21. The fence should be relocated outside of the runway safety area and runway object free area. It is also recommended that the airport be completely encompassed by wildlife fencing to prevent access to the airport by wildlife and increase security at the airport. The installation of an electronic vehicle access gate is scheduled for summer of 2006. A fencing design project has been completed and is awaiting funding for installation.

AIRPORT RESCUE AND FIRE FIGHTING (ARFF) EQUIPMENT & STORAGE BUILDING

Airport Rescue and Fire Fighting (ARFF) equipment is not required at airports that do not serve scheduled passenger service with aircraft having 10 or more passenger seats. Local municipal or volunteer fire departments typically provide fire protection to general aviation airports in their district. Mutual aid agreements may also be provided for nearby fire departments to assist in emergency situations. In any case, procedures should be in place to ensure emergency response in case of an accident or emergency at the airport. Although statistically very safe, the most likely emergency situations at general aviation airports are an aircraft accident, fuel or aircraft fire or hazardous material (fuel) spill. The level of protection recommended in FAA Advisory Circular 150/5210-6D, *Aircraft Fire and Rescue Facilities and Extinguisher Agents*, for small general aviation airports is 190 gallons of aqueous film forming foam (AFFF) supplemented with 300 pounds of dry chemical. Proximity suits should be utilized for fire fighter protection. Aviation rated fire extinguishers should be immediately available in the vicinity of the aircraft apron and fueling facilities. Adequate facilities should be provided to store any ARFF vehicle(s) or equipment that is acquired.

Currently, aviation fire extinguishers are available at the Springerville Municipal Airport and the Springerville Volunteer Fire Department responds to emergencies at the airport. The Springerville Volunteer Fire Department has 20 volunteers and five fire trucks; one 1,000 gallon truck, one 500 gallon truck, a rescue truck, a brush truck and a 3,500 gallon water tender. Estimated response time to the airport is eight minutes. It is recommended that the Springerville Volunteer Fire Department meet the recommendations in FAA Advisory Circular 150/5210-6D. However, these are only recommendations as ARFF equipment is technically not required at the Springerville Municipal Airport.

SNOW REMOVAL EQUIPMENT

The Town of Springerville currently provides snow removal services at the airport. The Town has only a minimal amount of snow removal equipment therefore the airport is a low priority during snow conditions. It is recommended that the airport obtain its own snow removal equipment (SRE) and SRE storage building.

INFRASTRUCTURE NEEDS

UTILITIES

Available utilities at the airport have been designed and sized to meet the typical needs of a general aviation airport. The existing electrical power is a 14,400-volt single-phase line and the water and sewer service is via a 6-inch line and an 8-inch line respectively. A utility corridor running parallel to the hangar area access road is recommended. Power is provided by the Navapache Electric Cooperative, Inc. Gas in the area is propane and three separate private companies provide service. Telephone service is provided by Citizens Telecom. Water and sewer services are provided by the Town of Springerville. The existing utilities are considered adequate for the planning period.

WEATHER REPORTING

Currently weather is available to pilots from the FBO over the Unicom frequency during business hours. It is recommended that an Automated Weather Observation System (AWOS) be installed. AWOS uses various sensors, a voice synthesizer and a radio transmitter to provide real-time weather data. There are four types of AWOS. An AWOS-A only reports altimeter setting while an AWOS-1 also measures and reports wind speed, direction, gusts, temperature and dew point. AWOS-2 provides visibility information

in addition to everything reported by an AWOS-1. The most capable system, the AWOS-3 also includes cloud and ceiling data. The AWOS transmits over a VHF frequency or the voice portion of a navaid. The transmission can be received within 25 nautical miles of the site or above 3,000 feet above ground level (AGL). The frequencies for AWOS are published on Aeronautical charts as well as in the airport facilities directories. The AWOS can be connected to the telephone service allowing pilots to check current weather conditions at the airport. An AWOS-3 is recommended for the Springerville Municipal Airport.

LAND USE COMPATIBILITY AND CONTROL

AIRPORT PROPERTY

The existing airport property line encompasses 558 acres according to the airport legal description. The Runway Protection Zone (RPZ) for Runways 3 and 21 are controlled through avigation easements. The RPZ for Runway 11 and 29 are currently uncontrolled and it is recommended that the airport either acquire the RPZ's fee simple or obtain avigation easements on the land to prevent incompatible development.

COMPATIBILITY WITH STATE/REGIONAL PLANS

The master plan for the Springerville Municipal Airport should conform to all additional state and regional transportation plans. There is not a current ADOT Highway Plan for the area. According to the ADOT Transportation Planning Division, Springerville is included in the White Mountains Study Area of the Regional Transportation Profile. The White Mountains Study Area is scheduled to be studied in FY 2007.

ZONING

Development around airports can pose certain hazards to air navigation if appropriate steps are not taken to ensure that buildings and other structures do not penetrate the FAR Part 77 Airspace Surfaces (described in the following section). The FAA therefore recommends that all Airport Sponsors implement height restrictions in the vicinity of the airport to protect these Part 77 Surfaces. A draft height restriction zoning ordinance will be prepared as part of this Master Plan project.

COMPATIBLE LAND USE

In addition to ensuring that obstructions to Part 77 Surfaces are avoided or appropriately marked and lighted, it is recommended that the Airport Sponsor make reasonable efforts to prevent incompatible land uses from the immediate area of the airport. For example, the FAA states in FAA Advisory Circular 150/5200-33A, *Hazardous Wildlife Attractants On or Near Airports* that landfills and/or transfer stations are incompatible land uses with airports. Therefore, these types of facilities should be located at least 5,000 feet from any point on a runway that serves piston type aircraft and 10,000 feet from any point on a runway that serves turbine type aircraft. Furthermore, any facility which may attract wildlife (especially birds) such as sewage treatment ponds and wastewater treatment plants should also be located this same distance from any point on the runway. Development proposals should also be reviewed to ensure compatibility in the vicinity of the airport. A draft compatible land use zoning ordinance is included as part of this Master Plan.

STATE OF ARIZONA LAND USE PLANNING

Arizona State Statues 28-8485 and 28-8486 require that airport sponsors develop Airport Influence Area (AIA) maps and airport disclosure maps. These documents are included as part of the Airport Layout Plan portion of this study and were sent to the Arizona Real Estate Department.

AIRPORT MANAGEMENT STRUCTURE

The Springerville Municipal Airport is the responsibility of the Springerville Town Manager who reports to the Springerville Town Council. Daily operation and management of the airport is delegated by the Town Manager to Kestrel Aviation. This management structure is considered adequate for the safe and efficient operation of the Springerville Municipal Airport.

In order to aid the Springerville Municipal Airport in the daily operation of the airport, an Airport Operations Manual including minimum standards, rules and regulations, statements of rates and charges, standard lease agreements, an emergency plan with a crash/rescue grid map, airport self inspection

procedures and an airport security plan are included in this Master Plan. The Town of Springerville also participates in the Aeronautics Division's Pavement Management Plan program. There is currently no runway incursion program. Although a formal runway incursion plan is not deemed necessary, the installation of perimeter fencing, an access control gate, lighted signage and enhanced hold bar markings will contribute towards incursion minimization.

SUMMARY OF FACILITY REQUIREMENTS

In summary, the facility requirements for the Springerville Municipal Airport are based on the types and volume of aircraft expected to use the airport in the short and long-term timeframes. These facilities will enable the airport to serve its users in a safe and efficient manner. The recommended airside and landside facilities are summarized in Table 3-6.

TABLE 3-6 SUMMARY OF AIRPORT FACILITY REQUIREMENTS

Facility		Short-Term (0-5 years)	Long-Term (6-20 years)
Runways			
3/21	Length (feet)	8,417'	9,030'
	Width (feet)	75'	75'
	Strength (pounds)	30,000 (SWG)	45,000 (SWG), 68,000 (DWG)
11/29	Length (feet)	4,589'	4,589'
	Width (feet)	60'	60'
	Strength (pounds)	12,500 (SWG)	12,500 (SWG)
Marking	Runway 3	Visual	Visual
	Runway 21	Nonprecision (visual currently)	Precision
	Runway 11	Visual	Visual
	Runway 29	Visual	Visual
Taxiways			
	Parallel	Yes	Yes
	Bypass Taxiways	Yes	Yes
	Width (feet)	30	35
	Strength (pounds)	12,500 (SWG)	45,000 (SWG), 68,000 (DWG)
Apron			
	Tie Downs	50	60*
NAVAID			
	Approaches	NPI	NPI
Lighting & Visual Aids			
	Runway Edge	MIRL	MIRL
	Taxiway/Apron Edge	Reflectors	MITL
	Threshold Lights	Yes	Yes
	REILs	Yes	Yes
	Approach Slope Indicator	PAPI-2	PAPI-2
	Segmented Circle/Wind Cone	Yes	Yes
	Rotating Beacon	Yes	Yes
	Approach Lighting System	No	ODALS (RW 21)
Access & Parking			
	Automobile	22	40
Hangar Facilities			
	T-Hangars or Small Box Hangars	1	10
	Conventional-Small	0	5
	Conventional-Medium/Large	1	2
Fuel Storage			
	100 LL (gallons)	10,000	10,000
	Jet-A (gallons)	5,000 and Truck	5,000 and Truck
Other			
	AWOS	No	Yes
	Unicom	Yes	Yes

**As required based on demand*

FEDERAL AVIATION REGULATION (FAR) PART 77 AIRSPACE SURFACES

Federal Aviation Regulations (FAR) Part 77 establishes several Imaginary Surfaces that are used as a guide to provide a safe, unobstructed operating environment for aviation. These surfaces, which are typical for civilian airports, are shown in Figure 3-6. The Primary, Approach, Transitional, Horizontal and Conical Surfaces identified in FAR Part 77 are applied to each runway. For the purpose of this section, a visual/utility runway is a runway that is intended to be used by propeller driven aircraft of 12,500 pound maximum gross weight and less. A non-precision instrument/utility runway is a runway that is intended to be used by aircraft of 12,500 pounds maximum gross weight and less with a straight-in instrument approach procedure and instrument designation indicated on an FAA approved airport layout plan, a military service approved military airport layout plan or by any planning document submitted to the FAA by competent authority. A non-precision instrument/larger-than-utility runway is a runway intended for the operation of aircraft weighing more than 12,500 pounds that also has a straight-in instrument approach procedure.

As described previously, the Springerville Municipal Airport currently has a non-precision instrument approach to Runway 21 and visual approaches to Runway 3, Runway 11 and Runway 29. Runway 11/29 is considered a utility runway since the pavement strength is 12,500 pounds. Runway 3/21 is a larger than utility runway since the pavement strength is greater than 12,500 pounds. The FAR Part 77 Airspace Surfaces for these classifications are described in the following paragraphs. While it is desirable to eliminate penetrations of FAR Part 77 airspace surfaces, in some cases, penetrations (also known as obstructions) may be mitigated with appropriate marking and/or lighting. The surfaces are described below and the dimensions are listed in Table 3-7.

PRIMARY SURFACE

The Primary Surface is an imaginary surface of specific width longitudinally centered on a runway. Primary Surfaces extend 200 feet beyond each end of the paved surface of runways, but do not extend past the end of non-paved runways. The elevation of any point on the Primary Surface is the same as the elevation of the nearest point on the runway centerline. The width of the Primary Surface varies from 250, 500 or 1,000 feet depending on the type of approach and approach visibility minimums.

The current primary surface width for Runway 3/21 is 500 feet. This will increase to 1,000 feet if the approach minimums are lowered to ¾-mile. Although the wider primary surface would likely result in primary and transitional surface penetrations, the OFZ would remain clear. Marking and lighting of all Part 77 obstructions is recommended. However for this planning period 1-mile visibility minimums are considered adequate.

APPROACH SURFACE

The Approach Surface is a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the Primary Surface. An Approach Surface is applied to each end of the runway based upon the type of approach available or planned for that runway, either 20:1, 34:1 or 50:1. The inner edge of the surface is the same width as the Primary Surface. It expands uniformly to a width corresponding to the FAR Part 77 runway classification criteria.

TRANSITIONAL SURFACE

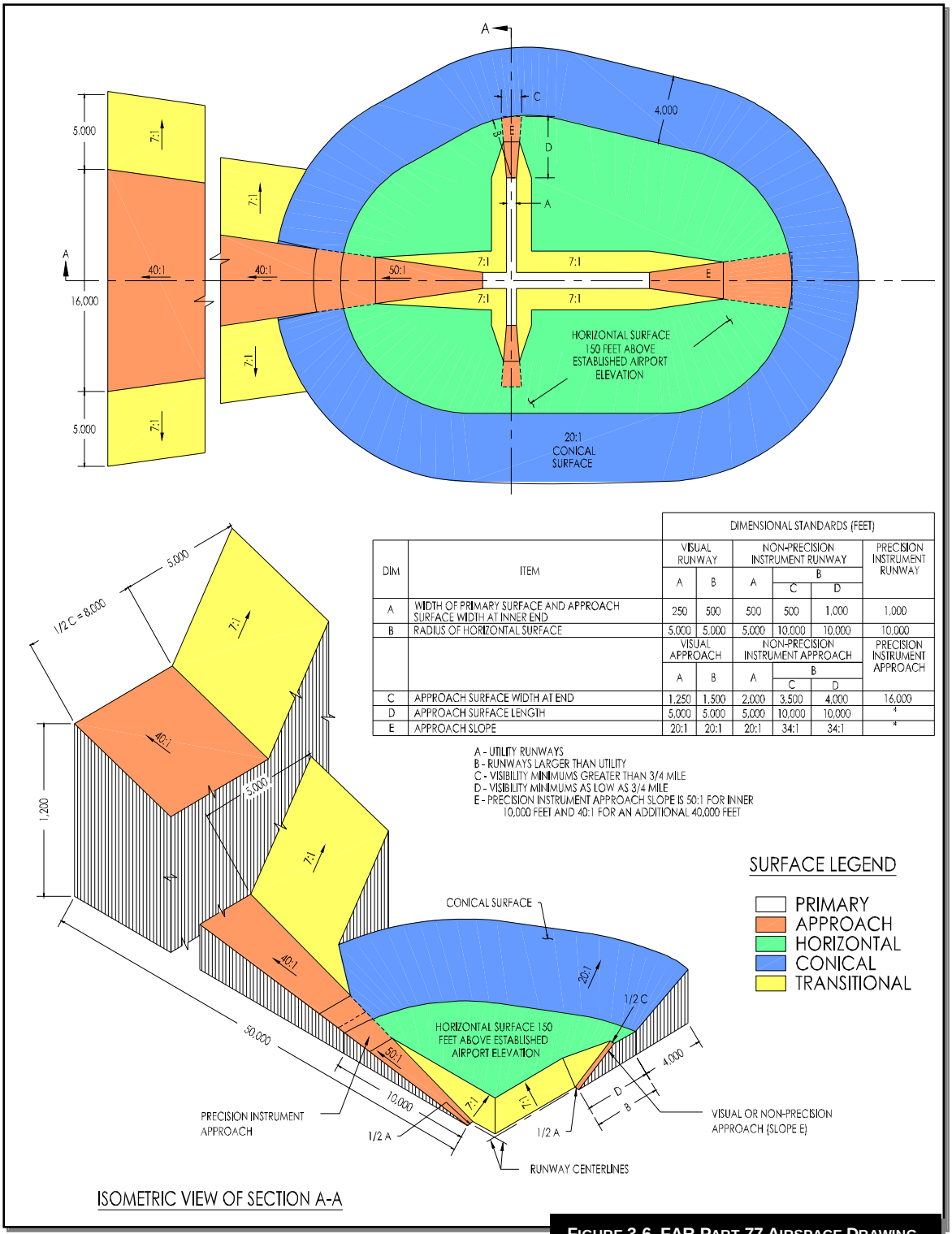
The Transitional Surfaces extend outward and upward at right angles to the runway centerlines from the sides of the Primary and Approach Surfaces at a slope of 7:1 and end at the Horizontal Surface.

HORIZONTAL SURFACE

The Horizontal Surface is considered necessary for the safe and efficient operation of aircraft in the vicinity of an airport. As specified in FAR Part 77, the Horizontal Surface is a horizontal plane 150 feet above the established airport elevation. The airport elevation is defined as the highest point of an airport's useable runways, measured in feet above mean sea level. The perimeter is constructed by arcs of specified radius from the center of each end of the Primary Surface of each runway. The radius of each arc is 5,000 feet for runways designated as utility or visual and 10,000 feet for all other runways.

CONICAL SURFACE

The Conical Surface extends outward and upward from the periphery of the Horizontal Surface at a slope of 20:1 for a horizontal distance of 4,000 feet.



DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY			PRECISION INSTRUMENT RUNWAY
		A	B	A	B C	B D	
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	500	500	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5,000	5,000	10,000	10,000	10,000
		VISUAL APPROACH		NON-PRECISION INSTRUMENT APPROACH			PRECISION INSTRUMENT APPROACH
		A	B	A	B C	B D	
C	APPROACH SURFACE WIDTH AT END	1,250	1,500	2,000	3,500	4,000	16,000
D	APPROACH SURFACE LENGTH	5,000	5,000	5,000	10,000	10,000	[4]
E	APPROACH SLOPE	20:1	20:1	20:1	34:1	34:1	[4]

A - UTILITY RUNWAYS
B - RUNWAYS LARGER THAN UTILITY
C - VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
D - VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
E - PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET

FIGURE 3-6. FAR PART 77 AIRSPACE DRAWING

SOURCE: FAR PART 77

SUMMARY OF DESIGN STANDARDS

Table 3-7 summarizes the FAA design standards (described in Chapter 1) for the recommended airport facilities.

TABLE 3-7 SUMMARY OF DIMENSIONAL CRITERIA

Design Criteria	Existing	Future	Post-Planning Potential
Airport Reference Code	B-II	B-II	C-II
Approach Type	NPI > Utility, 1-mile visibility minimums	NPI >Utility, 3/4-mile visibility minimums	NPI > Utility, ¾ mile visibility minimums
FAA Airport Design Standards (AC 150/5300-13 Change 9)			
Runway centerline to parallel taxiway centerline	240’	240’	300’
Runway centerline to edge of aircraft parking apron	250’	250’	500’
Runway width	75’	75’	100’
Runway shoulder width	10’	10’	10’
Runway Safety Area width	150’	150’	500’
Runway Safety Area length beyond runway end	300’	300’	1,000’
Runway Object Free Area width	500’	500’	800’
Runway Object Free Area length beyond runway end	300’	300’	1,000
Runway Obstacle Free Zone width	400’	400’	400’
Runway Obstacle Free Zone length beyond runway end	200’	200’	200’
Runway Protection Zone	500’x700’x1,000’	5,000’x700’x1,000’	1,000’x1,510’x1,700’
Taxiway width	35’	35’	35’
Taxiway Safety Area width	79’	79’	79’
Taxiway Object Free Area width	131’	131’	131’
Taxilane Object Free Area width	115’	115’	115’
Runway centerline to aircraft hold lines	200’	200’	200’
Airspace Surfaces (Part 77)			
Primary Surface width	500’	1,000’	1,000’
Primary Surface length beyond runway ends	200’	200’	200’
Approach Surface dimensions RW 3	500’x1,500’x5,000’	500’x1,500’x5,000’	500’x1,500’x5,000’
Approach Surface dimensions RW 21	500’x3,500’x10,000’	500’x3,500’x10,000’	1,000’x4,000’x10,000’
Approach Surface dimensions RW 11	250’x1,250’x5,000’	250’x1,250’x5,000’	250’x1,250’x5,000’
Approach Surface dimensions RW 29	250’x1,250’x5,000’	250’x1,250’x5,000’	250’x1,250’x5,000’
Approach Surface slope RW 3	20:1	20:1	20:1
Approach Surface slope RW 21	34:1	34:1	34:1
Approach Surface slope RW 11	20:1	20:1	20:1
Approach Surface slope RW 29	20:1	20:1	20:1
Transitional Surface slope	7:1	7:1	7:1
Horizontal Surface radius from runway	10,000’	10,000’	10,000’
Conical Surface width	4,000’	4,000’	4,000’

SOURCE: FAA AC 150/5300, AIRPORT DESIGN; FAR PART 77, OBJECTS AFFECTING NAVIGABLE AIRSPACE

Chapter Four
Development Alternatives

Springerville Municipal Airport
Airport Master Plan

CHAPTER FOUR
DEVELOPMENT ALTERNATIVES

INTRODUCTION

The preceding discussion of facility requirements provides the basis for formulating alternative development concepts. Chapter 3 provided recommended development items for the airport. In some situations, multiple options exist for implementing facility requirements. In other cases, the selection of a favored project can result from a straightforward and logical discussion of the options at hand.

The Facility Requirements chapter provided recommended development to accommodate existing and future demand at Springerville Municipal Airport with a B-II Airport Reference Code (ARC). The airside alternatives focus on correcting the nonstandard RVZ condition and the landside alternatives focus on selecting preferred locations for siting various aviation sectors of users. The goal of future development will be to place landside development facilities outside of the RVZ, to meet aviation demand in an efficient and cost effective manner and to configure facilities for the maximum potential for future upgrade or expansion.

AIRSIDE ALTERNATIVES

Fundamentally, the airside airport configuration meets the facility requirements for existing and future demand with a B-II airport reference code and ¾-mile instrument approach minimums. There are several logical improvements, such as strengthening the airfield pavements and constructing a 613 foot extension to Runway 3/21, which do not require an extensive alternatives analysis. For example, the terrain, property ownership, existing roads and development result in significant obstacles to extending the runway to the northeast. Therefore, the logical action is to extend the runway to the southwest where there are fewer obstacles. On the other hand, there are multiple variations and options to correcting the nonstandard RVZ conditions which warrant further analysis of each alternative to develop a preferred solution. The RVZ alternative analysis is detailed below. Estimated costs for each project element and the overall alternative are shown in order to identify significant cost factors and to conduct an overall comparative analysis. Each alternative is also shown graphically in the drawings at the end of this Chapter.

Alternative 1

This alternative would include relocating the existing hangars and apron outside of the RVZ.

The major advantages to this alternative are:

- Requires no shifting of Runway 11/29
- Moves the hangars and apron outside the RVZ
- No land acquisition required
- Does not reduce the length of Runway 11/29

The major disadvantages to this alternative are:

- Requires the relocation of existing facilities, some of which are not FAA grant eligible
- Costs associated with relocating the facilities

TABLE 4-1 ALTERNATIVE 1 ESTIMATED COST

Project	Total Cost	FAA Share	State Share	Local Share
Remove Existing FBO Hangar	$206,000	$195,700	$5,150	$5,150
Construct New FBO Hangar	$600,000	-	-	$600,000*
Construct Partial Parallel Taxiway 1,450'	$400,000	$380,000	$10,000	$10,000
Construct New Apron (600'x420')	$2,000,000	$1,900,000	$50,000	$50,000
Construct New T-Hangar	$50,000	$47,500	$1,250	$1,250
TOTAL COST	**$3,256,000**	**$2,523,200**	**$66,400**	**$666,400**

***** Sponsor-owned buildings are only eligible for removal or demolition costs, not relocation or reconstruction.

Alternative 2

This alternative would include removing 600 feet from the southeast end of Runway 11/29, which would move the RVZ outside of the FBO hangar. This alternative would reduce the length of Runway 11/29 to 3,989 feet.

The major advantages to this alternative are:

- Less costly than moving the FBO hangar
- Moves FBO hangar out of the RVZ
- No land acquisition required
- Moves Runway 11/29 further away from town

The major disadvantages to this alternative are:

- Reduces the length of Runway 11/29 by 600 feet
- Does not move the existing aircraft parking apron out of the RVZ

TABLE 4-2 ALTERNATIVE 2 ESTIMATED COST

Project	Total Cost	FAA Share	State Share	Local Share
Remove 600' of Runway	$100,000	$95,000	$2,500	$2,500
Construct Partial Parallel Taxiway 1,450'	$400,000	$380,000	$10,000	$10,000
Lighting	$48,000	$45,600	$1,200	$1,200
Pavement Marking	$14,000	$13,300	$350	$350
TOTAL COST	**$562,000**	**$533,900**	**$14,050**	**$14,050**

Alternative 3(A)

This alternative would include removing 1,200 feet from the southeast end of Runway 11/29 and adding 611 feet of runway to the northwest end of Runway 11/29, this would move the FBO hangar and a majority of the apron area out of the RVZ. This alternative would reduce the length of Runway 11/29 to 4,000 feet.

The major advantages to this alternative are:

- Moves the existing terminal area, including the apron and FBO hangar out of the RVZ
- Does not require the relocation of the existing FBO hangar and aircraft parking apron
- Moves the crosswind runway further away from town

The major disadvantages to this alternative are:

- Cost associated with the runway shift
- Requires additional land acquisition
- Reduces the length of Runway 11/29 by 589 feet
- Increases parallel taxiway length

TABLE 4-3 ALTERNATIVE 3(A) ESTIMATED COST

Project	Total Cost	FAA Share	State Share	Local Share
Remove 1,200' of Runway	$200,000	$190,000	$5,000	$5,000
Construct 611' of Runway	$520,000	$494,000	$13,000	$13,000
Construct 2,087' of Taxiway	$550,000	$522,500	$13,750	$13,750
Fencing	$8,000	$7,600	$200	$200
Visual Aids	$34,000	$32,300	$850	$850
Lighting	$67,000	$63,650	$1,675	$1,675
Marking	$28,000	$26,600	$700	$700
Environmental Assessment	$120,000	$114,000	$3,000	$3,000
Land Acquisition	$100,000	$95,000	$2,500	$2,500
TOTAL	**$1,627,000**	**$1,545,650**	**$40,675**	**$40,675**

Alternative 3(B)

This alternative would include removing 1,200 feet from the southeast end of Runway 11/29 and adding the 1,200 feet to the northwest end of Runway 11/29, this would move the existing FBO hangar and a majority of the apron area out of the RVZ. This alternative would not reduce the length of Runway 11/29.

The major advantages to this alternative are:

- Moves the existing terminal area, including apron and FBO hangar out of the RVZ
- Does not require the relocation of the existing FBO hangar and aircraft parking apron
- Moves the crosswind runway further away from town
- Does not reduce the length of Runway 11/29

The major disadvantages to this alternative are:

- Cost associated with the runway shift and increased fill
- Requires additional land acquisition
- Increased parallel taxiway length

TABLE 4-4 ALTERNATIVE 3(B) ESTIMATED COST

Project	Total Cost	FAA Share	State Share	Local Share
Remove 1,200' of Runway	$200,000	$190,000	$5,000	$5,000
Construct 1,200' of Runway	$1,510,000	$1,434,500	$37,750	$37,750
Construct 2,676' of Taxiway	$900,000	$855,000	$22,500	$22,500
Fencing	$17,000	$16,150	$425	$425
Visual Aids	$34,000	$32,300	$850	$850
Lighting	$94,000	$89,300	$2,350	$2,350
Marking	$28,000	$26,600	$700	$700
Environmental Assessment	$120,000	$114,000	$3,000	$3,000
Land Acquisition	$200,000	$190,000	$5,000	$5,000
TOTAL	**$3,103,000**	**$2,947,850**	**$77,575**	**$77,575**

LANDSIDE DEVELOPMENT ALTERNATIVES

Several landside development alternatives were also evaluated to determine which areas should be developed and what the preferred use was of each area. The layouts in Figure 4-1 were presented during the development alternatives meeting. The preferred landside development alternative is also shown. The goals of the landside development are to provide small box and T-hangar development areas along with an area for large box hangars and corporate development. The landside development also provides areas for lease parcels, aircraft parking apron, airpark development and an air tanker base. During the development alternatives meeting a template was created for each use that was moved around to the various areas identified on the drawing in order to visualize each option and select the preferred location for each use.

NO DEVELOPMENT ALTERNATIVE

The Town of Springerville also considered a no development alternative. However, because the airport is in need of development to correct existing design standard deficiencies and accommodate demand, this alternative was not pursued further.

SELECTION OF THE PREFERRED ALTERNATIVES

These alternatives were discussed and analyzed during the May 3rd 2006 Planning Advisory Committee meeting. Input was received from all members of the Planning Advisory Committee including representatives from the Arizona Aeronautics Division and the Federal Aviation Administration. Suggestions during the meeting to correct the RVZ included discussion on displacing the threshold, however it was advised that this would not correct the problem with the RVZ. A threshold relocation would correct the RVZ problem however the crosswind runway length would be decreased. Several individuals, including airport users, advised that shortening the length of the crosswind runway was not a good idea. The length of the crosswind runway is primarily needed for stopping distance and that if it were shortened safety would be decreased. Upon further review of the advantages and disadvantages of each alternative and based on input from the Planning Advisory Committee, Airside Alternative 3(B) was selected as the preferred alternative.

The primary advantage to Airside Alternative 3(B) is that it does not shorten the crosswind runway and clears the RVZ of fixed objects including the FBO building and the aircraft parking apron. It was suggested that Alternative 3(B) be implemented in phases and prioritized in the CIP with other priority projects such as runway rehabilitation and taxiway reconstruction and widening.

Landside development was also discussed. The preferred layout includes increasing the apron area to the north with limited hangar development adjacent to the apron, T-hangar and box hangar development to the southeast adjacent to Taxiway B and apron expansion adjacent to the future T-Hangar development area. The corporate and industrial development would be completed on the southwest side of Runway 11/29 along with a Forest Service Tanker Base.

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)	0000 0000	0000 0000	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)		N/A	SECTION CORNER
RVZ(E)	RVZ(U)	RUNWAY VIZIBILITY ZONE (RVZ)			AWOS
BRL(E)	(BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			ROADS
		FENCING			MARKINGS

KEY

① - ③ RVZ OPTIONS & RESULTING RW END LOCATIONS

Ⓐ - Ⓙ POTENTIAL LANDSIDE DEVELOPMENT AREAS

AIRPORT PROPERTY LINE

MAGNETIC DECLINATION = 0° 6' East

MAGNETIC NORTH SOURCE: NOAA GEOPHYSICAL DATA CENTER 03,31,06 RATE OF CHANGE 0°6' W/YEAR

10°43'

0 500 1000

SCALE IN FEET

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SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

No.	Revision	Date	By

Project No: 045720
Date: 05.02.06
File Name: 5720522

Drawn: GWK
Checked: JZP
Approved: DAC

SPRINGERVILLE DEVELOPMENT ALTERNATIVES

FIGURE 4-1

Chapter Five
Airport Plans

Springerville Municipal Airport
Airport Master Plan

CHAPTER FIVE
AIRPORT LAYOUT PLAN

INTRODUCTION

This set of plans, referred to as the Airport Layout Plan (ALP), has been prepared in accordance with Federal Aviation Administration (FAA) Advisory Circular 5300-13, Change 8, *Airport Design*, the FAA, Western-Pacific Regional ALP checklist as well as the State of Arizona, Aeronautics Department, ALP checklist. The purpose of this set of plans is to graphically depict the recommendations for the airport layout, disposition of obstructions and future use of land in the vicinity of the airport.

- Cover Sheet
- Airport Layout Plan Drawing
- Terminal/Building Area Plan Drawing
- Inner Portion of the Approach Surface Drawing
- Airport Airspace Drawing
- Land Use Drawing
- Exhibit “A” Property Map
- Aerial Photograph

In addition to the Airport Layout Plan drawing set, a model zoning ordinance and avigation easement guide has been prepared and is included in Appendix C.

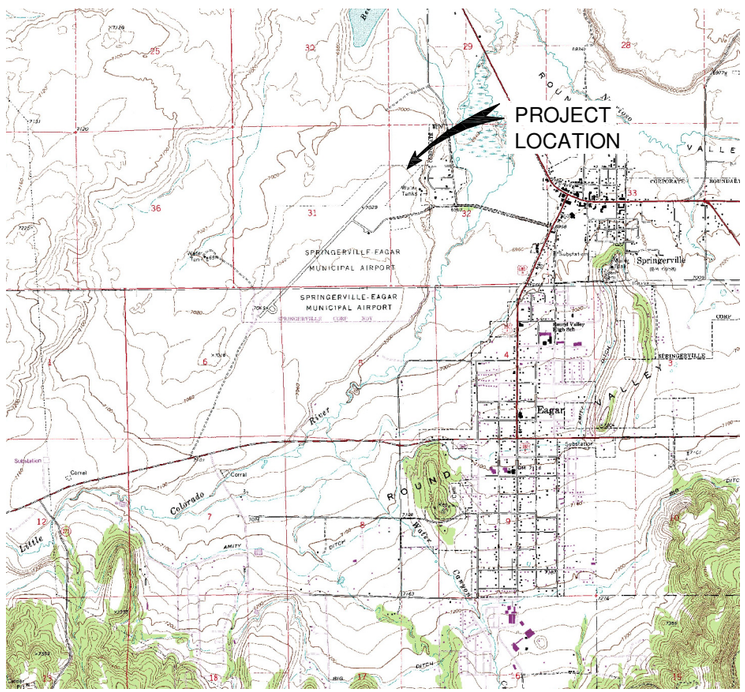
SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

AIRPORT LAYOUT PLANS

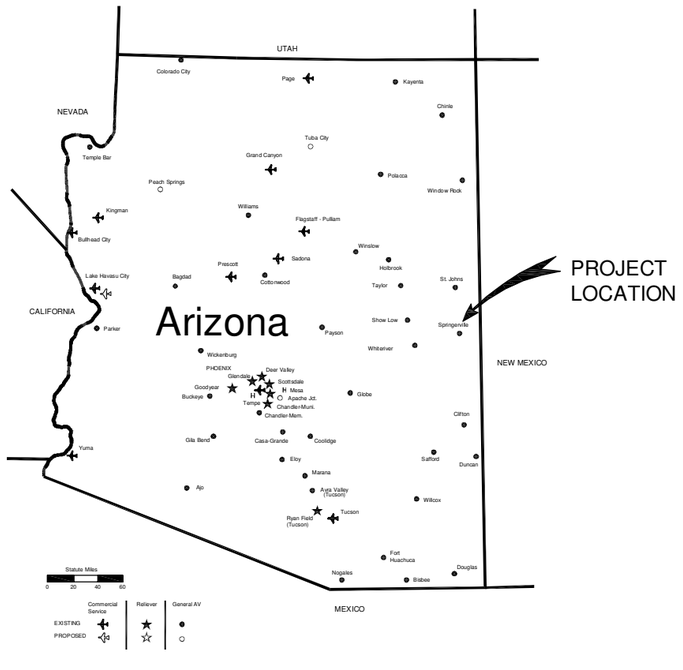
PREPARED BY:

ARMSTRONG CONSULTANTS, INC.

A.I.P. NO. 3-04-0038-13
A.C.I. PROJECT NO. 045720
DATE: APRIL 16, 2007



VICINITY MAP



INDEX TO SHEETS

(E = EXISTING, F = FUTURE)

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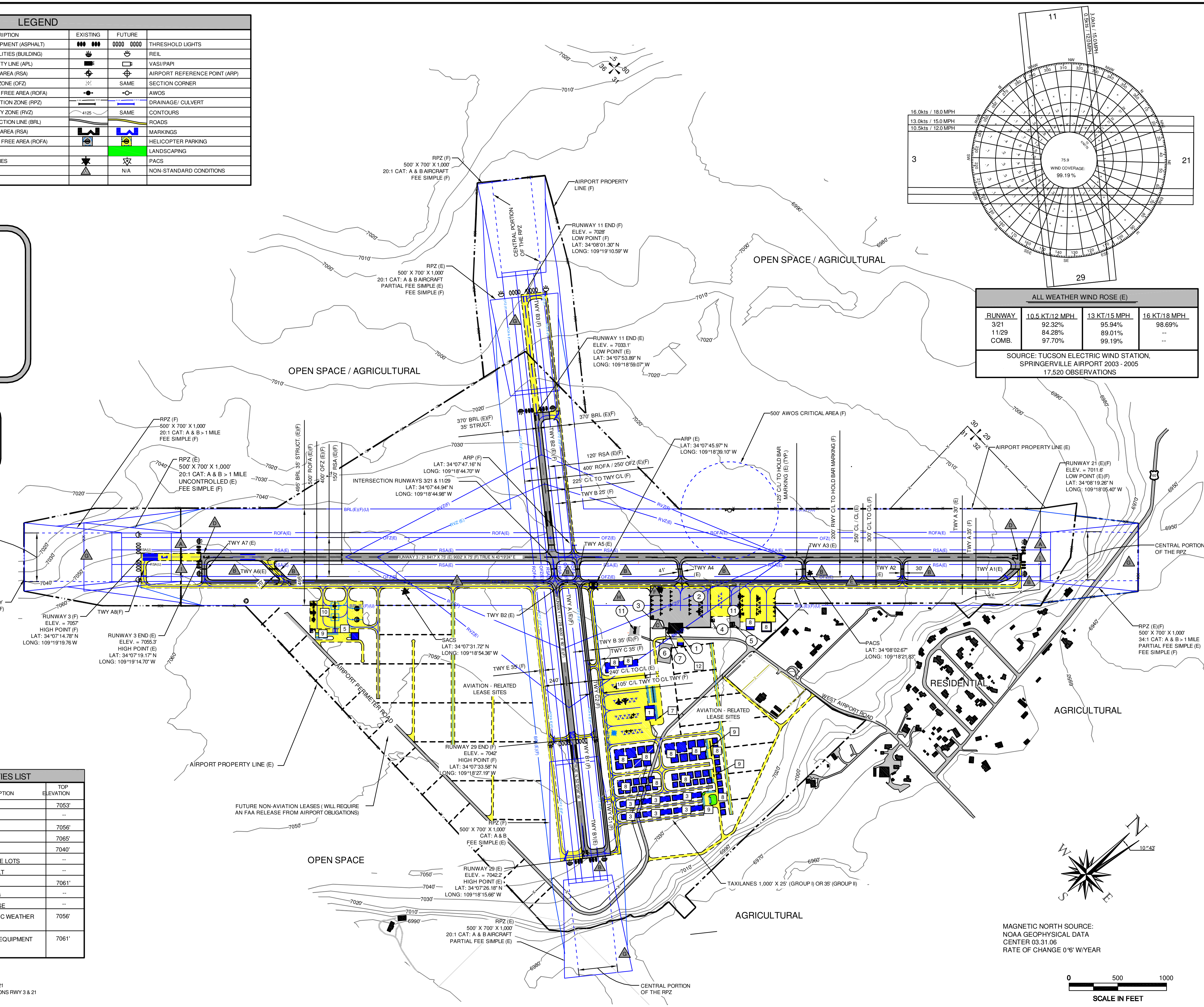
5691501

LEGEND					
EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)		0000 0000	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)		SAME	SECTION CORNER
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			AWOS
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)			DRAINAGE/ CULVERT
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE (RVZ)	4125	SAME	CONTOURS
BRL(E)	BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			ROADS
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)			MARKINGS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			HELICOPTER PARKING
X X	XX XX	FENCING			LANDSCAPING
		LEASE PARCEL LINES			PACS
			A	N/A	NON-STANDARD CONDITIONS

FAA APPROVAL

SPONSOR APPROVAL

MAYOR, TOWN OF SPRINGERVILLE DATE



ALL WEATHER WIND ROSE (E)			
RUNWAY	10.5 KT/12 MPH	13 KT/15 MPH	16 KT/18 MPH
3/21	92.32%	95.94%	98.69%
11/29	84.28%	89.01%	--
COMB.	97.70%	99.19%	--

SOURCE: TUCSON ELECTRIC WIND STATION, SPRINGERVILLE AIRPORT 2003 - 2005 17,520 OBSERVATIONS

AIRPORT FACILITIES LIST			
EXISTING	FUTURE	FACILITY DESCRIPTION	TOP ELEVATION
1		FBO	7053'
2		TIEDOWNS	--
3	3	T- HANGAR	7056'
4		FUEL STORAGE	7065'
5	5	SLURRY TANK	7040'
6		VEHICLE STORAGE LOTS	--
7	7	ELECTRICAL VAULT	--
8	8	BOX HANGARS	7061'
9	9	VEHICLE PARKING	--
10	10	BLM / TANKER BASE	--
11		TUCSON ELECTRIC WEATHER STATION	7056'
	12	SNOW REMOVAL EQUIPMENT BUILDING	7061'

NOTE: OFZ OBJECT PENETRATIONS RW 3 & 21
THRESHOLD SITING SURFACE PENETRATIONS RWY 3 & 21
(SEE SHEET 3).

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SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

AIP No. 3-04-0038-13
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Project No: 045720
Date: 04.16.07
File Name: 5720502

Drawn: GWK
Checked: JZP
Approved: DAC

AIRPORT LAYOUT PLAN

Sheet: 2 of: 15

RUNWAY DATA

ITEM	RUNWAY 3/21 EXISTING	RUNWAY 3/21 FUTURE	RUNWAY 11/29 EXISTING	RUNWAY 11/29 FUTURE
APPROACH VIS. MIN./TYPE APPROACH VIS. MIN./TYPE	RWY 3 VISUAL, > UTILITY RWY 21 1-MILE / NPI > UTILTY	RWY 3 VISUAL, > UTILITY RWY 21 1-MILE / NPI > UTILTY	RWY 11 VISUAL,UTILITY RWY 29 VISUAL,UTILITY	RWY 11 VISUAL,UTILITY RWY 29 VISUAL,UTILITY
FAR PART 77 APPROACH SLOPE	RW 3 20:1 RW 21 34:1	RW 3 20:1 RW 21 34:1	RW 11 20:1 RW 29 20:1	RW 11 20:1 RW 29 20:1
RUNWAY LENGTH	8,417'	9,032'	4,600'	4,600'
RUNWAY WIDTH	75'	75'	60'	60'
RUNWAY & TAXIWAY PAVEMENT	ASPHALT	ASPHALT	ASPHALT	ASPHALT
PAVEMENT STRENGTH (LBS)	30,000 lbs. SWG.	45,000 lbs. SWG. 68,000 lbs. DWG.	12,000 lbs. SWG.	12,000 lbs. SWG.
RUNWAY LIGHTING	MIRL	MIRL	MIRL	MIRL
RUNWAY MARKING	RW 3 VISUAL RW 21 VISUAL	RW 3 NPI RW 21 NPI	RW 11 VISUAL RW 29 VISUAL	RW 11 VISUAL RW 29 VISUAL
% EFFECTIVE GRADIENT	0.62%	0.62%	0.60%	0.51%
% MAXIMUM GRADE	0.62%	0.62%	0.60%	0.51%
LINE OF SIGHT REQUIREMENTS MET	NO	YES	NO	YES
% WIND COVERAGE 12 MPH/10.5 KNOTS 15 MPH/13.0 KNOTS 18 MPH/16.0 KNOTS	92.32% 95.94% 98.69%	92.32% 95.94% 98.69%	84.28% 89.01% --	84.28% 89.01% --
VISUAL APPROACH AIDS	RW 3: PAPI, REIL RW 21: PAPI, REIL	RW 3: PAPI, REIL RW 21: PAPI , REIL	NONE NONE	NONE NONE
INSTRUMENT APPROACH AIDS	GPS	GPS	NONE	NONE
DESIGN AIRCRAFT	KING AIR - 200 WINGSPAN = 54.5' APP. SPEED = 103 kts. 12,500 lbs. UNDER CARRIAGE WIDTH = 13'	FALCON 900 WINGSPAN = 63.4' APP. SPEED = 100 kts. 45,500 lbs. UNDER CARRIAGE WIDTH = 15'	PIPER CHEYENNE WINGSPAN = 47.7' APP. SPEED = 110 kts. 12,050 lbs. UNDER CARRIAGE WIDTH = 9'	PIPER CHEYENNE WINGSPAN = 47.7' APP. SPEED = 110 kts. 12,050 lbs. UNDER CARRIAGE WIDTH = 9'
AIRPORT REFERENCE CODE	B-II	B-II	B-I	B-I
RUNWAY SAFETY AREA (RSA) WIDTH LENGTH BEYOND RWY END	150' 300' (200' ACTUAL)	150' 300'	120' 240'	120' 240'
RUNWAY OBJECT FREE AREA (ROFA) WIDTH LENGTH BEYOND RWY END	500' 300' (200' ACTUAL)	500' 300'	400' 240'	400' 240'
OBSTACLE FREE ZONE (OFZ) WIDTH LENGTH BEYOND RWY END	400' 200' OFZ OBJECT PENETRATIONS	400' 200'	250' 200' NO OFZ OBJECT PENETRATIONS	250' 200'
RUNWAY ELEVATIONS (NAVD88)	RW 3 / RW 21	RW 3 / RW 21	RW 11 / RW 29	RW 11 / RW 29
RUNWAY END	7,055.3' / 7,011.6'	7,057.0' / 7,011.6'	7,033.1' / 7,042.2'	7,028.0' / 7,042.0'
TOUCHDOWN ZONE (TDZ)	7,055.3' / 7,025.0'	7,057.0' / 7,025.0'	7,041.0' / 7,042.2'	7,041.0' / 7,042.0'
HIGH POINT	7,055.3'	7,057.0'	7,042.2'	7,042.0'
LOW POINT	7,011.6'	7,011.6'	7,033.1'	7,028.0'
RUNWAY INTERSECTION ELEV.	7,040.0'	7,040.0'	7,040.0'	7,040.0'
RUNWAY CENTERLINE TO HOLD BARS & SIGNS	200' (125' ACTUAL)	200'	200'	200'
RUNWAY CENTERLINE TO PARALLEL TAXIWAY CENTERLINE	240' (250' ACTUAL)	300'	240'	225'
TAXIWAY OFA WIDTH	131'	131'	131'	131'
TAXIWAY SAFETY AREA WIDTH	79'	79'	79'	79'
TAXIWAY WINGTIP CLEARANCE	26'	26'	26'	26'
TAXIWAY CENTERLINE TO FIXED OR MOVABLE OBJECT	65.5'	65.5'	65.5'	65.5'

AIRPORT DATA

	EXISTING	FUTURE
AIRPORT ELEVATION (NAVD 88) (ft. MSL)	7,055.3'	7,057.0'
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83) LAT: / LONG:	34° 07' 45.98" N 109° 18' 39.09" W	34° 07' 47.16" N 109° 18' 44.70" W
MEAN MAX. TEMP: HOTTEST MONTH(JULY)	82.3° F	82.3° F
COMBINED RUNWAY WIND COVERAGE		
12MPH / 10.5 kts.	97.70%	97.70%
15MPH / 13 kts	99.19%	99.19%
18MPH / 16 kts	98.69%	98.69%
AIRPORT REFERENCE CODE	B-II	B-II
NPIAS ROLE	GA	GA
TAXIWAY LIGHTING	MITL	MITL
AIRPORT & TERMINAL NAVAIDS	GPS, PAPIs,REILs	GPS, PAPIs,REILs

RUNWAY END COORDINATES (NAD 83)

RUNWAY END	LATITUDE	LONGITUDE
3 (E)	34° 07' 19.17" N	109° 19' 14.70" W
3 (F)	34° 07' 14.78" W	109° 19' 19.76" W
21 (E)(F)	34° 08' 19.26" N	109° 18' 05.40" W
11 (E)	34° 07' 53.89" N	109° 18' 59.07" W
11 (F)	34° 08' 01.30" N	109° 19' 10.59" W
29 (E)	34° 07' 26.18" N	109° 18' 15.66" W
29 (F)	34° 07' 33.58" N	109° 18' 27.19" W

NOTES

1. THRESHOLD SITING SURFACE OBJECT PENETRATIONS. RWY 3 & RWY 21.
2. NAD 83 / NAVD 88 COORDINATES AND ELEVATIONS WERE SURVEYED BY WOOLPERT APRIL 2006.
3. PACS MONUMENT / STATION IS A PUNCH HOLE TOP CENTER ON A STAINLESS STEEL ROD SET IN A GREASE SLEEVE ENCASED IN A PVC PIPE WITH LOGO CAP FLUSH WITH THE GROUND.
4. SACS MONUMENT / STATION IS A BRASS DISK SET IN THE TOP OF A CONCRETE POST FLUSH WITH THE GROUND.

	NON-STANDARD CONDITIONS	CORRECTIVE RECOMENDATIONS
A	RUNWAY SAFETY AREA OFF THE ENDS OF THE RUNWAYS 3 & 21 PENETRATED BY FENCE.	ACQUIRE LAND AND RELOCATE FENCES RWY 3. RELOCATE FENCE RWY 21.
B	HOLD POSITION MARKINGS AT 125' FROM CENTERLINE AND ARE FADED.	REMARK AT 200'.
C	RUNWAY VISIBLITY ZONE PENETRATED BY FBO AND HANGAR.	RELOCATE RUNWAY 29 END OR RELOCATE BUILDING.
D	VISUAL MARKING ON RUNWAY 3/21.	REMARK WITH NPI MARKINGS.
E	TAXIWAY "A" ONLY 30' WIDE.	WIDEN TO 35'.
F	TAXIWAY "A" OBJECT FREE AREA, (TOFA) PENETRATED BY APRON.	REMOVE PORTION OF APRON IN TOFA.
G	UNCONTROLLED RPZ'S.	OBTAIN EASEMENTS OR ACQUIRE LAND FEE SIMPLE.
H	TRAFFIC PATTERN INDICATOR MISSING.	INSTALL TRAFFIC PATTERN INDICATOR.
I	THRESHOLD SITING SURFACE & OBSTACLE FREE ZONE (OFZ) RWY 3 & 21 PENETRATED BY FENCES.	ACQUIRE LAND AND RELOCATE FENCE RWY 3. RELOCATE FENCE RWY 21.

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SPRINGERVILLE, ARIZONA

AIP No. 3-04-0038-13
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2	RECIEVED FAA REVALIDATION	07.30.01	
3	AIRPORT MASTER PLAN STUDY	04.16.07	GWK

Project No: 045720
Date: 04.16.07
File Name: 5720502

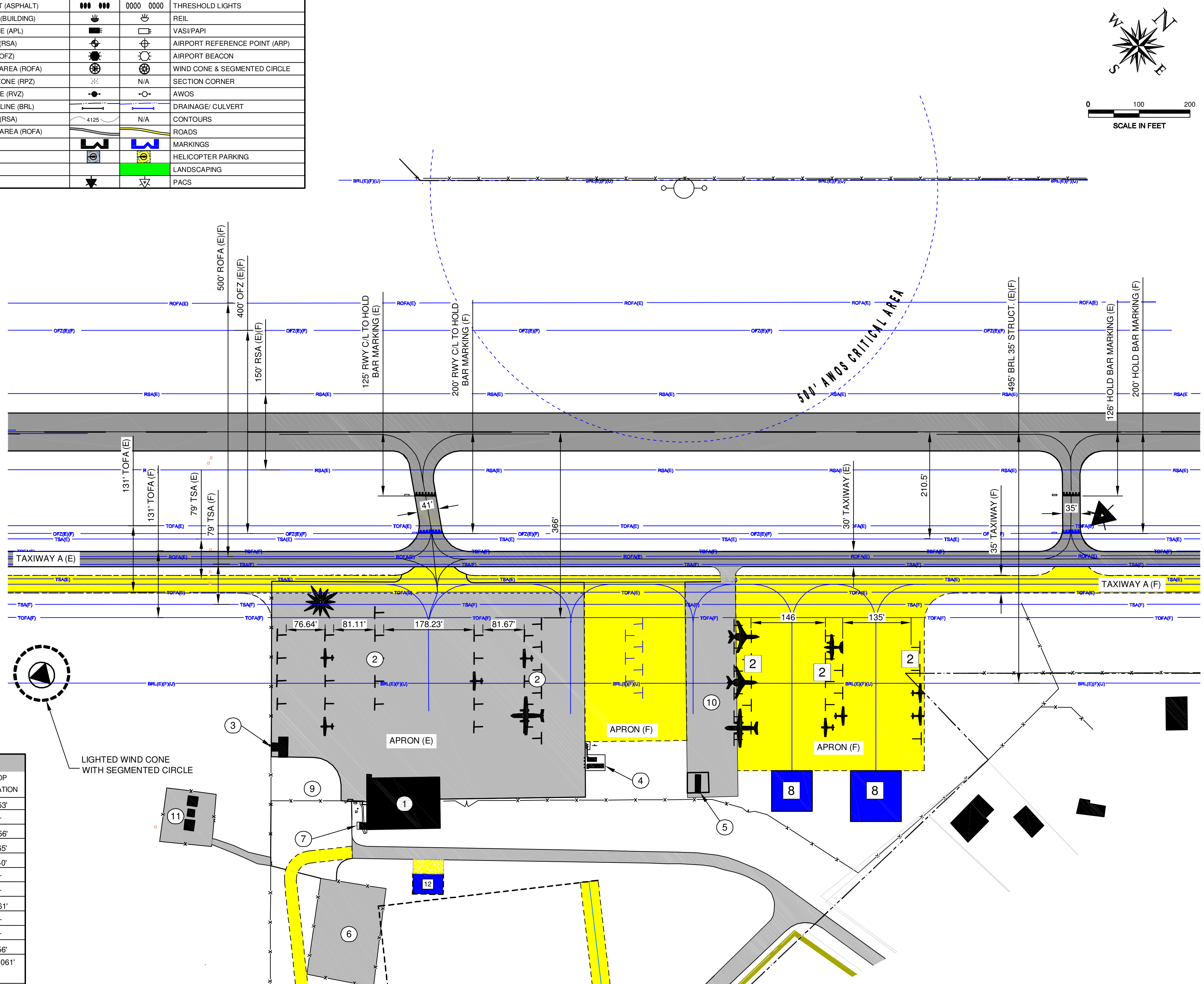
Drawn: GWK
Checked: JZP
Approved: DAC

DATA SHEET

Sheet: 3 of: 15

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)		0000 0000	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)		N/A	SECTION CORNER
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE (RVZ)			AWOS
BRL(E)	BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			ROADS
		FENCING			MARKINGS
					HELICOPTER PARKING
					LANDSCAPING
					PACS



AIRPORT FACILITIES LIST

EXISTING	FUTURE	FACILITY DESCRIPTION	TOP ELEVATION
1		FBO	7053'
2		TIEDOWNS	--
3	3	T- HANGAR	7056'
4		FUEL STORAGE	7065'
5	5	SLURRY TANK	7040'
6		VEHICLE STORAGE LOTS	--
7		ELECTRICAL VAULT	--
8	8	BOX HANGARS	7061'
9	9	VEHICLE PARKING	--
10	10	BLM / TANKER BASE	--
11		TUCSON ELECTRIC	7056'
	12	SNOW REMOVAL EQUIPMENT BUILDING	7061'

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Project No: 045720
Date: 04.16.07
File Name: 5720503

Drawn: GWK
Checked: JZP
Approved: DAC

TERMINAL AREA PLAN (E)(F)

Sheet: 4 of: 15

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)		0000 0000	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
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RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE (RVZ)			AWOS
BRL(E)	BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			ROADS
x x	xx xx	FENCING			MARKINGS
					HELICOPTER PARKING
					LANDSCAPING
					PACS

AIRPORT FACILITIES LIST

EXISTING	FUTURE	FACILITY DESCRIPTION	TOP ELEVATION
1		FBO	7053'
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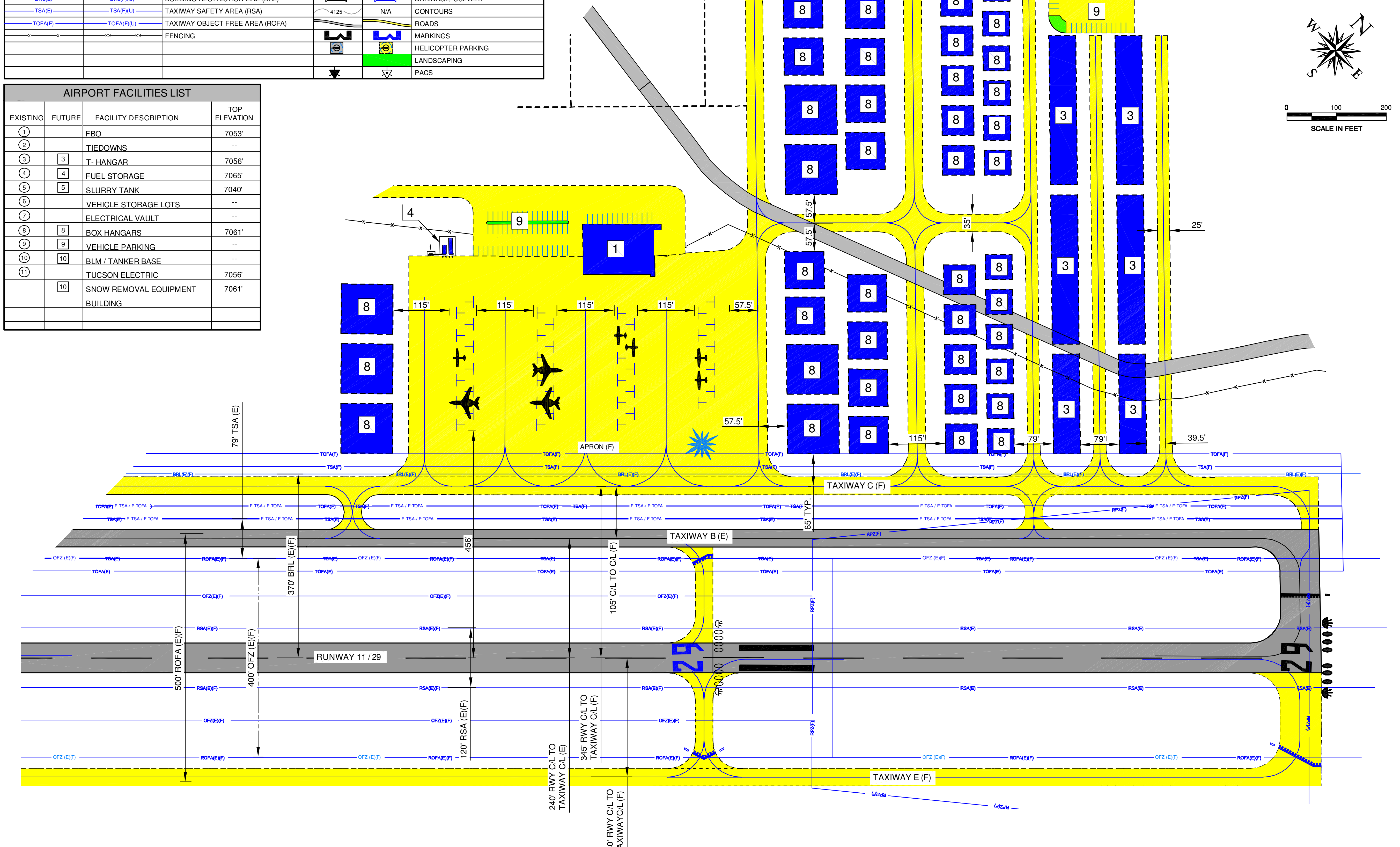
3	3	T- HANGAR	7056'
4	4	FUEL STORAGE	7065'
5	5	SLURRY TANK	7040'
6		VEHICLE STORAGE LOTS	--
7		ELECTRICAL VAULT	--
8	8	BOX HANGARS	7061'
9	9	VEHICLE PARKING	--
10	10	BLM / TANKER BASE	--
11		TUCSON ELECTRIC	7056'
	10	SNOW REMOVAL EQUIPMENT BUILDING	7061'



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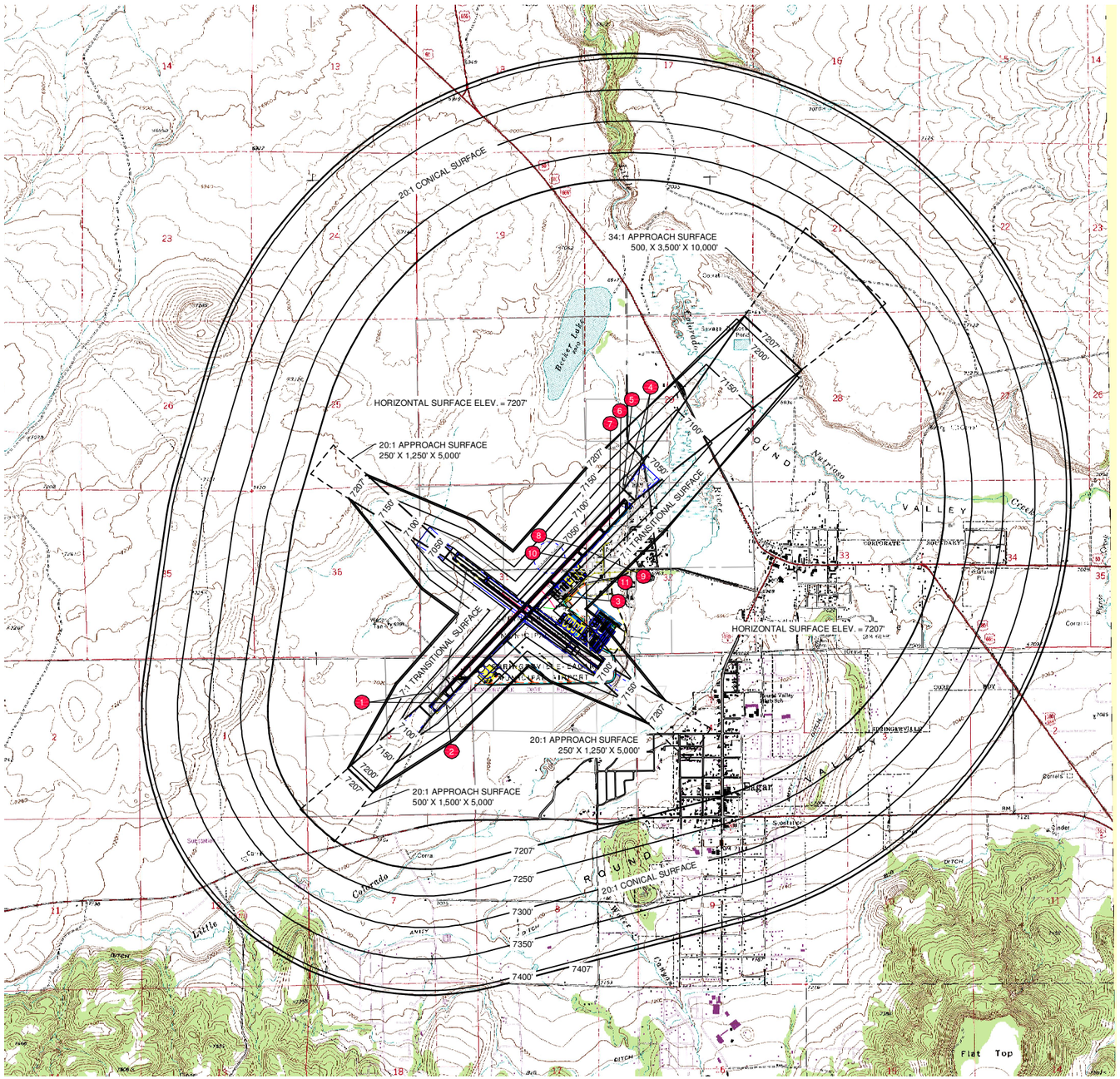
Drawn: GWK
Checked: JZP
Approved: DAC

TERMINAL AREA PLAN (F)



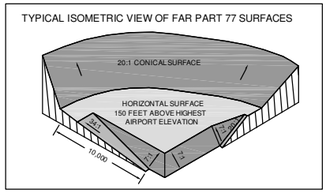
SURFACE PENETRATIONS TO PART 77				
SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
PRIMARY	FENCE 1	7062'	7'	REMOVE / RELOCATE
PRIMARY	FENCE 4	7015'	3'	REMOVE / RELOCATE
PRIMARY	TAXIWAY 6	7015.8'	1.7'	NONE
PRIMARY	TAXIWAY 7	7020.6'	1.4'	NONE
PRIMARY	TERRAIN 8	7025.3'	0.4'	NONE
PRIMARY	TAXIWAY 9	7025.3'	0.4'	NONE
PRIMARY	TERRAIN 10	7028.4'	0.3'	REGRADE
PRIMARY	TERRAIN 11	7032.3'	0.5'	REGRADE
PRIMARY	TAXIWAY 12	7040.6'	0.9'	NONE
TRANSITIONAL	FENCE 2	7063'	7'	RELOCATE
TRANSITIONAL	FENCE 3	7044'	1'	REMOVE / RELOCATE
TRANSITIONAL	FENCE 5	7015'	3'	REMOVE / RELOCATE
HORIZONTAL	NONE	--	NONE	NONE
CONICAL	NONE	--	NONE	NONE
APPROACH	FENCE 1	7062'	7'	REMOVE / RELOCATE
APPROACH	FENCE 4	7015'	3'	REMOVE / RELOCATE

NOTE:
1. SEE INNER APPROACH DRAWINGS FOR DETAILED INFORMATION ON CLOSE-IN OBSTRUCTIONS.
2. OBJECT ELEVATIONS IN FEET MSL (VERTICAL DATUM NAVD 88).
3. BASE MAP (GROUND TOPO) IS TAKEN FROM 7.5 MINUTE QUADRANGLE MAPS (NAVD 29).
4. THE ULTIMATE AIRPORT ELEVATION IS 7057' (NAVD 88)

N
W E
S

0 2000 4000
SCALE IN FEET

TYPICAL ISOMETRIC VIEW OF FAR PART 77 SURFACES



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SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

AIP No. 3-04-0038-13
AIRPORT LAYOUT PLANS

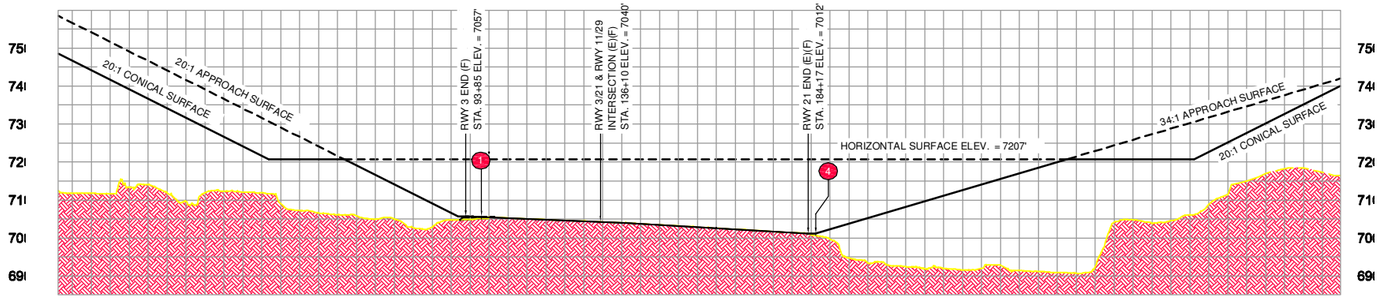
No.	Revision	Date	By
1	RECIEVED FAA CONDITIONAL APPROVAL	02.27.01	
2	RECIEVED FAA REVALIDATION	07.30.01	
3	AIRPORT MASTER PLAN STUDY	04.16.07	GWK

Project No: 045720
Date: 04.16.07
File Name: 5720504

Drawn: GWK
Checked: JZP
Approved: DAC

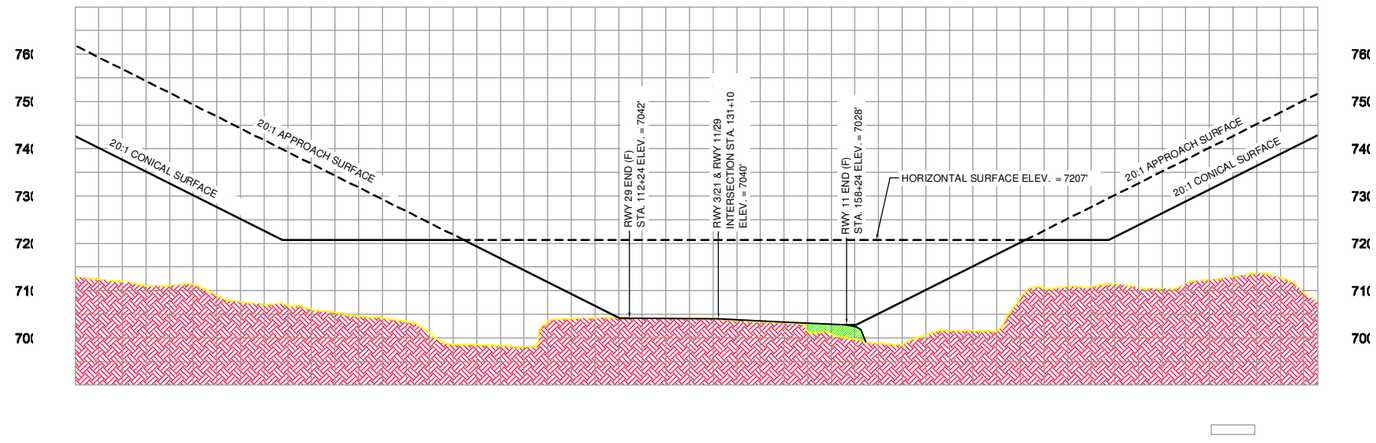
PART 77
AIRSPACE
DRAWING

Sheet: 6 **of:** 15



RWY 3 / 21 FUTURE

SCALE: PER GRID



RWY 11 / 29 FUTURE

SCALE: PER GRID

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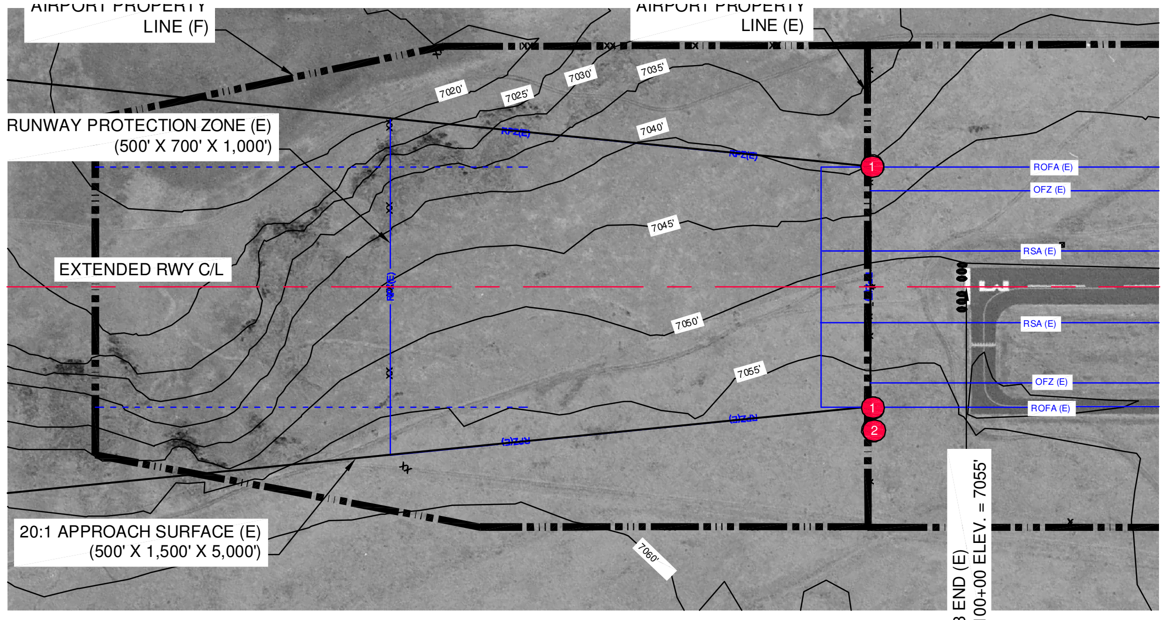
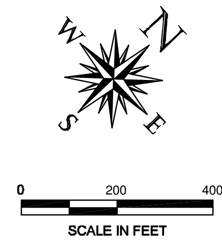
PART 77
AIRSPACE
DRAWING

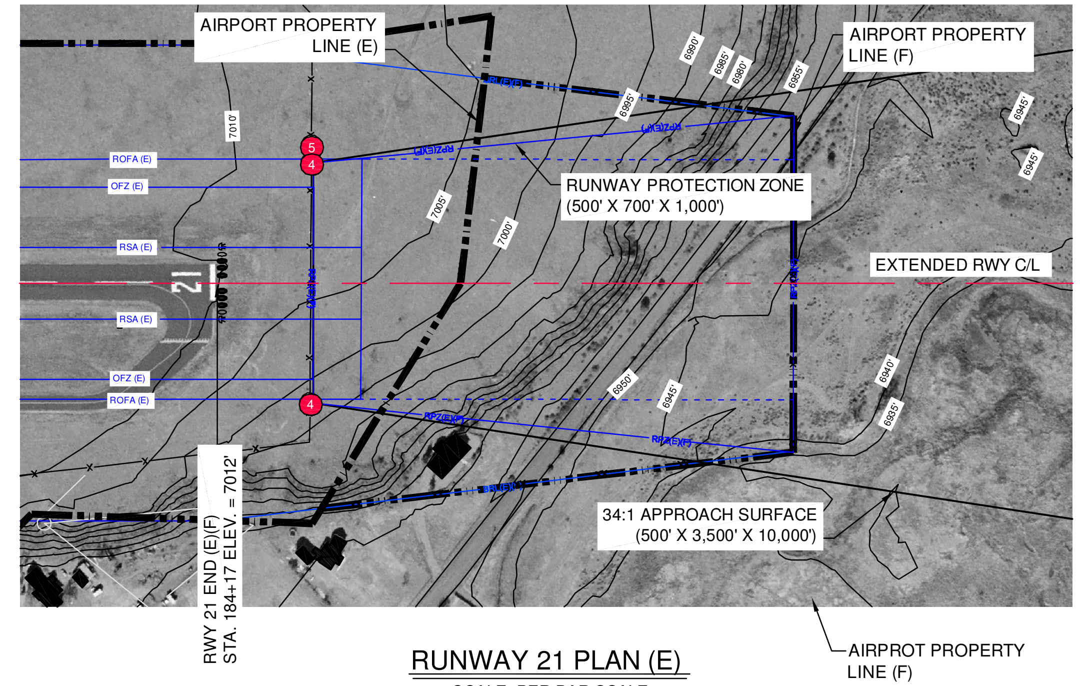
Sheet: 7 **of:** 15



RUNWAY 3 PLAN (E)

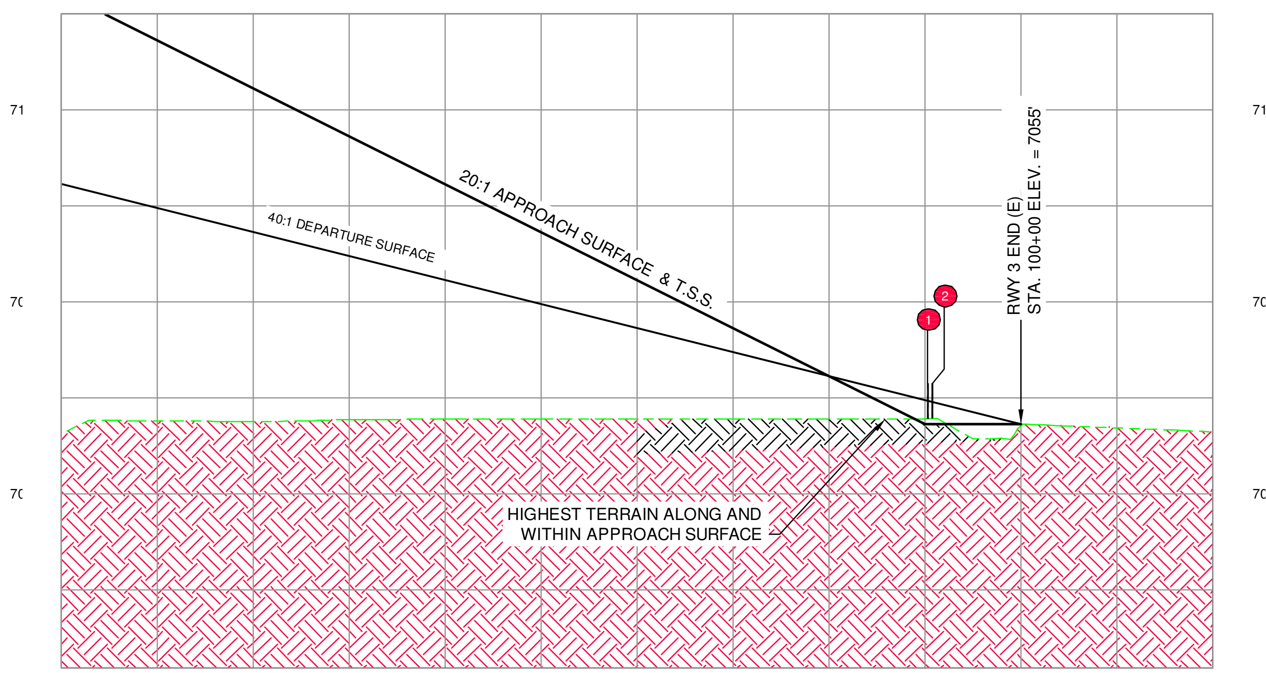
SCALE: PER BAR SCALE





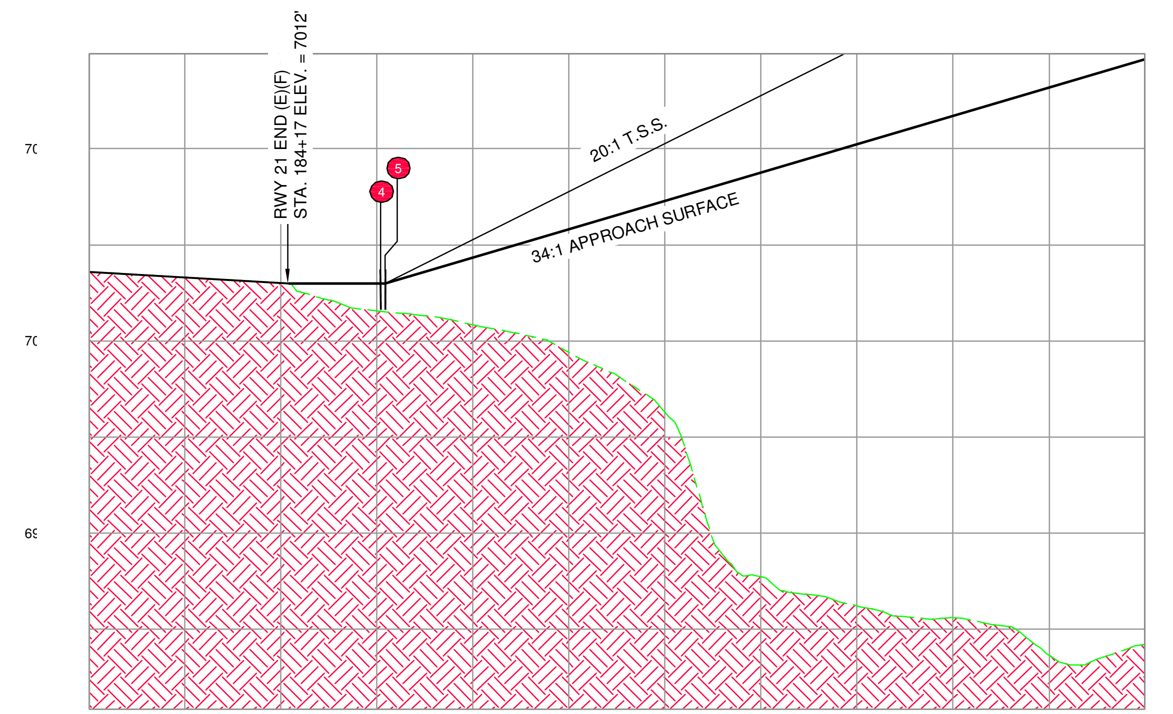
RUNWAY 21 PLAN (E)

SCALE: PER BAR SCALE



RUNWAY 3 PROFILE (E)

SCALE: PER GRID



RUNWAY 21 PROFILE (E)

SCALE: PER GRID

SURFACE PENETRATIONS TO PART 77

SURFACE	OBJECT		TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
PRIMARY	FENCE	1	7062'	7'	REMOVE / RELOCATE
TRANSITIONAL	FENCE	2	7063'	7'	REMOVE / RELOCATE
DEPARTURE	FENCE	1	7062'	3.6'	REMOVE / RELOCATE
DEPARTURE	FENCE	2	7063'	4'	REMOVE / RELOCATE
T.S.S.	FENCE	1	7062'	7'	REMOVE / RELOCATE
APPROACH	FENCE	1	7062'	7'	REMOVE / RELOCATE

T.S.S. : THRESHOLD SITING SURFACE

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)		0000 0000	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)		N/A	SECTION CORNER
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE (RVZ)			AWOS
BRL(E)	BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			ROADS
x	xx	FENCING			MARKINGS

SURFACE PENETRATIONS TO PART 77

SURFACE	OBJECT		TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
TRANSITIONAL	FENCE	5	7015'	3'	REMOVE / RELOCATE
PRIMARY	FENCE	4	7015'	3'	REMOVE / RELOCATE
DEPARTURE	NONE		--	--	NONE
PRIMARY	NONE		--	--	NONE
T.S.S.	FENCE	4	7015'	3'	REMOVE / RELOCATE
APPROACH	FENCE	4	7015'	3'	REMOVE / RELOCATE

T.S.S. : THRESHOLD SITING SURFACE

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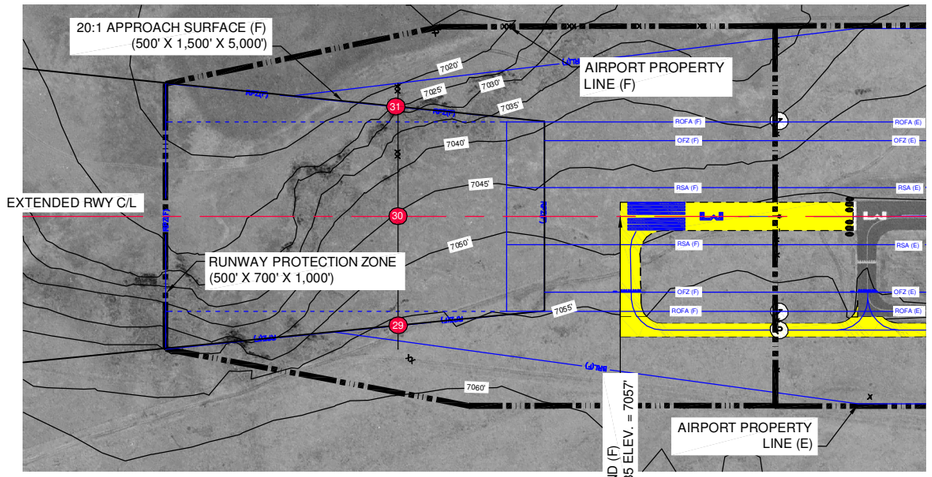
Project No: 045720
Date: 04.16.07
File Name: 5720505

Drawn: GWK
Checked: JZP
Approved: DAC

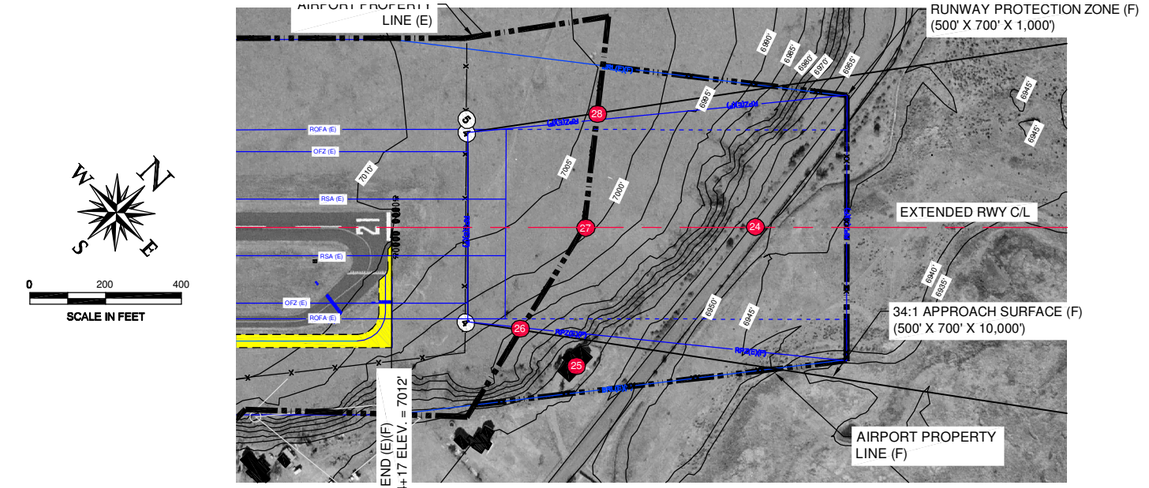
RUNWAY 3/21 INNER APPROACH (E)

Sheet: 8 of: 15



RUNWAY 3 PLAN (F)

SCALE: PER BAR SCALE

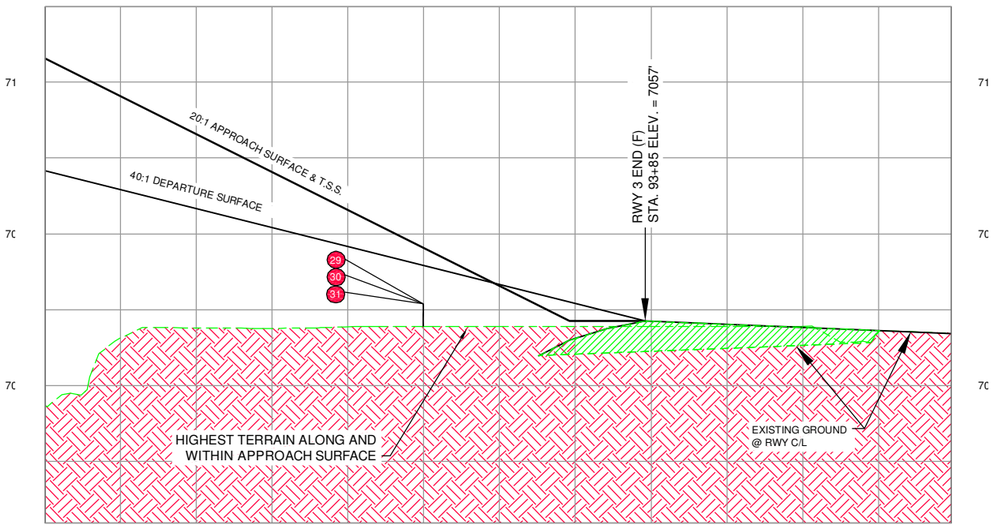


RUNWAY 21 PLAN (F)

SCALE: PER BAR SCALE

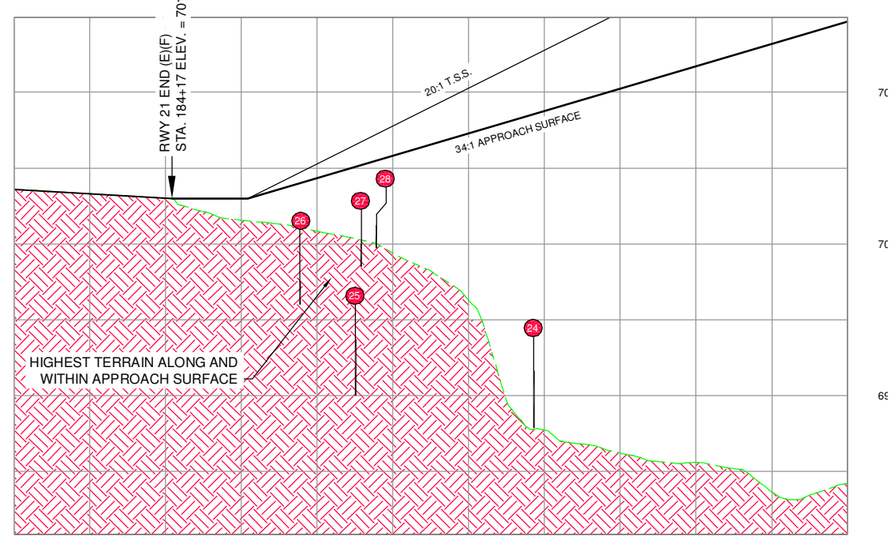
0 200 400

SCALE IN FEET



RUNWAY 3 PROFILE (F)

SCALE: PER GRID



RUNWAY 21 PROFILE (F)

SCALE: PER GRID

FILL

SURFACE PENETRATIONS TO PART 77				
SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
APPROACH / T.S.S.	FENCE 29	7061'	-15'	NONE
APPROACH / T.S.S.	FENCE 30	7051'	-24'	NONE
APPROACH / T.S.S.	FENCE 31	7031'	-45'	NONE
DEPARTURE	FENCE 29	7061'	-11'	NONE
DEPARTURE	FENCE 30	7051'	-21'	NONE
DEPARTURE	FENCE 31	7031'	-41'	NONE
DEPARTURE				

T.S.S. : THRESHOLD SITING SURFACE

LEGEND					
EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)			THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)		N/A	SECTION CORNER
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE (RVZ)			AWOS
BRL(E)	BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			ROADS
		FENCING			MARKINGS

SURFACE PENETRATIONS TO PART 77				
SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
APPROACH	ROAD @ CRIT. PNT. 24	6966'	-72'	NONE
APPROACH	RESIDENCE 25	6975'	-46'	NONE
APPROACH	FENCE 26	6996'	-26'	NONE
APPROACH	FENCE (F) 27	7015'	-21'	NONE
APPROACH	FENCE (F) 28	7015'	-17'	NONE
DEPARTURE	FENCE (F) 28	6996'	-30'	NONE
DEPARTURE	FENCE 27	7015'	-24'	NONE
DEPARTURE	FENCE 28	7015'	-20'	NONE

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3	AIRPORT MASTER PLAN STUDY	04.16.07	GWK

Project No: 045720
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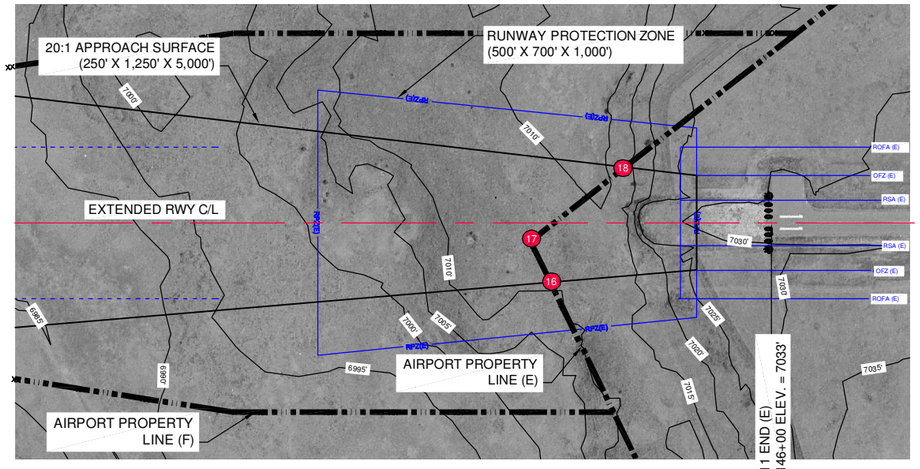
Checked: JZP
Approved: DAC

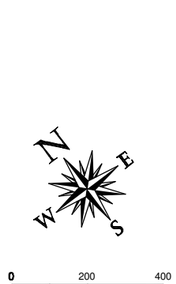
RUNWAY 3/21
INNER
APPROACH (F)

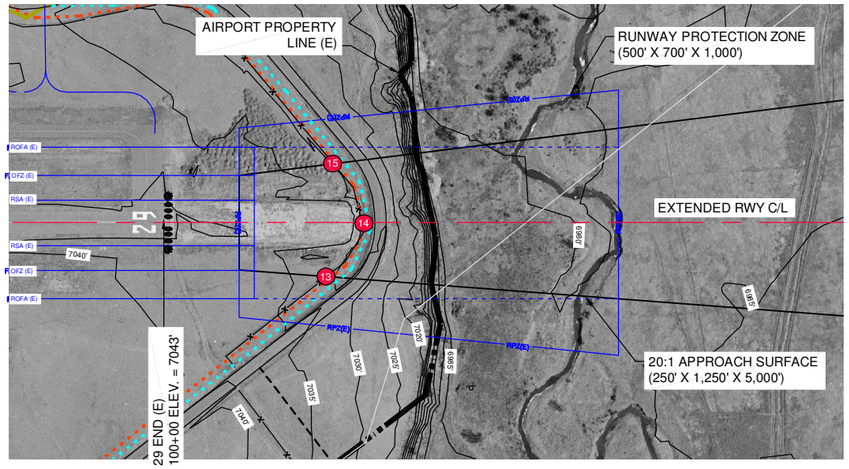
Sheet: 9 of: 15



RUNWAY 11 PLAN (E)

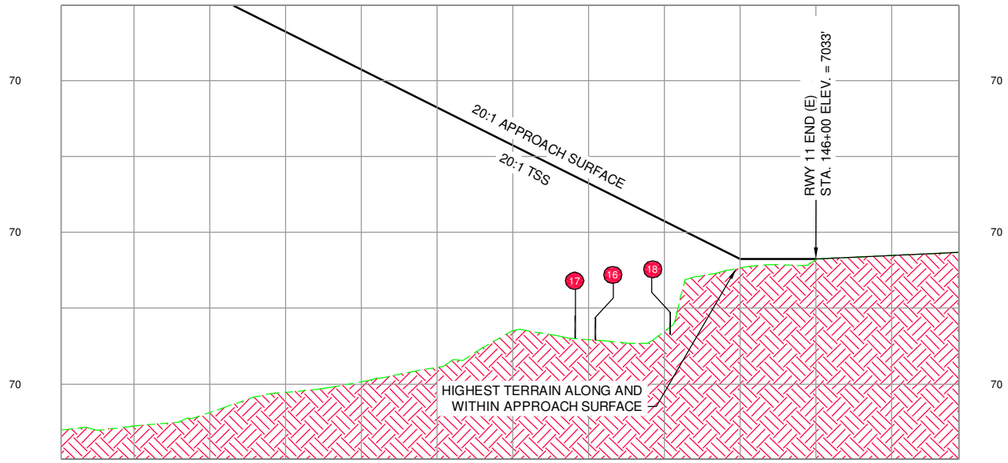
SCALE: PER BAR SCALE





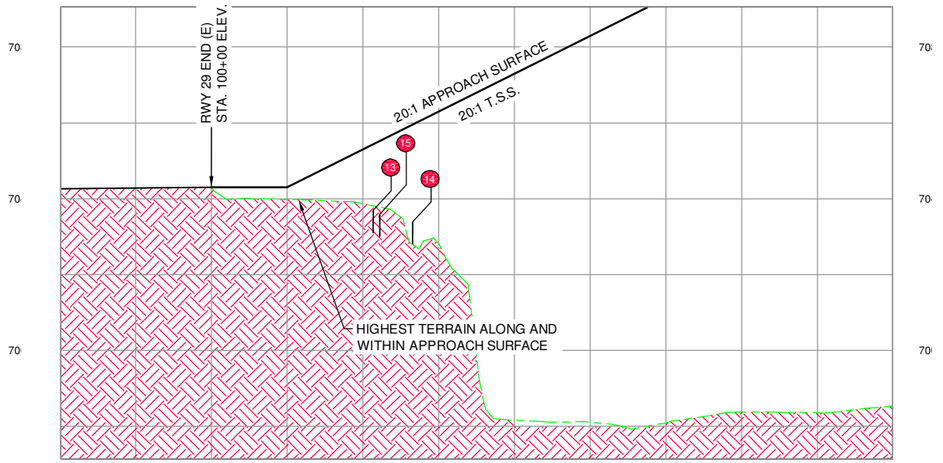
RUNWAY 29 PLAN (E)

SCALE: PER BAR SCALE



RUNWAY 11 PROFILE (E)

SCALE: PER GRID



RUNWAY 29 PROFILE (E)

SCALE: PER GRID

SURFACE PENETRATIONS TO PART 77				
SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
APPROACH	FENCE 18	7016'	-34'	NONE
APPROACH	FENCE 17	7018'	-37'	NONE
APPROACH	FENCE 16	7019'	-29'	NONE
T.S.S.	NONE	--	--	NONE

T.S.S. : THRESHOLD SITING SURFACE

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)			THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)		N/A	SECTION CORNER
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE (RVZ)			AWOS
BRL(E)	BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			ROADS
		FENCING			MARKINGS

SURFACE PENETRATIONS TO PART 77				
SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
APPROACH	FENCE 13	7037'	-17'	NONE
APPROACH	FENCE 14	7036'	19'	NONE
APPROACH	FENCE 15	7034'	-26'	NONE
T.S.S.	NONE	--	--	NONE

T.S.S. : THRESHOLD SITING SURFACE

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Project No: 045720
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Drawn: GWK
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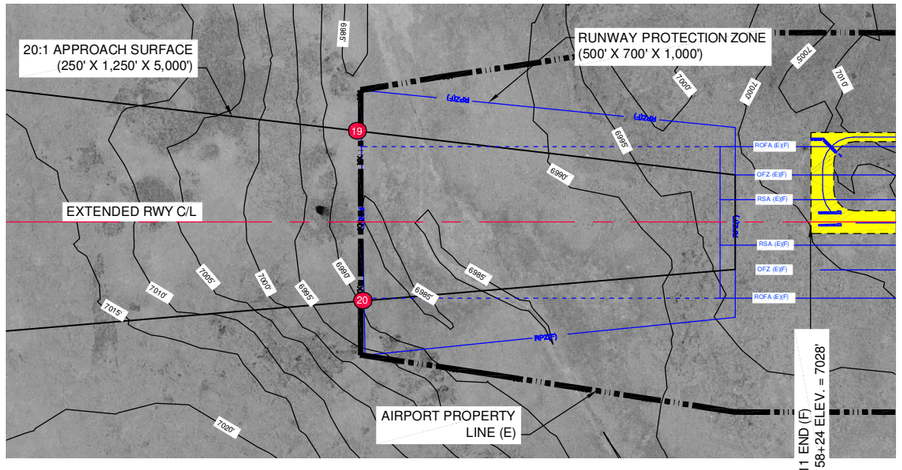
Approved: DAC

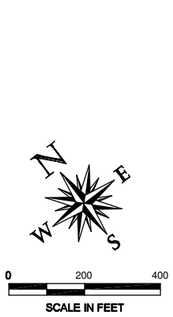
RUNWAY 11/29
INNER
APPROACH (E)

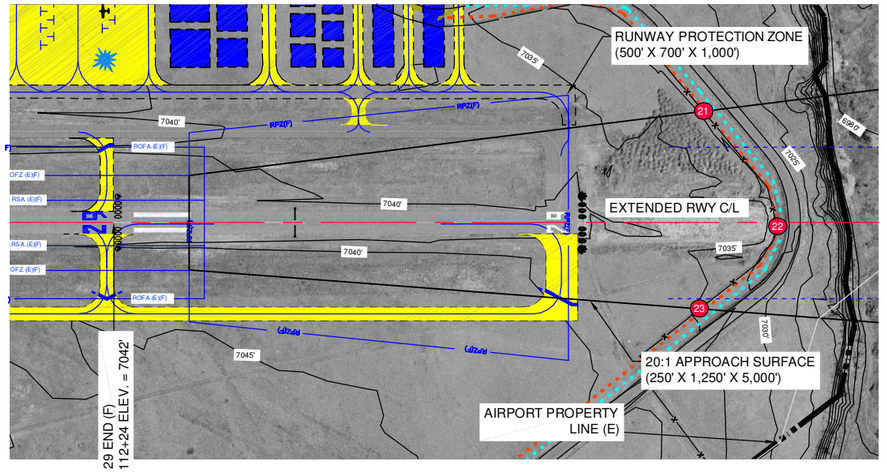
Sheet: 10 **of:** 15



RUNWAY 11 PLAN (F)

SCALE: PER BAR SCALE





RUNWAY 29 PLAN (F)

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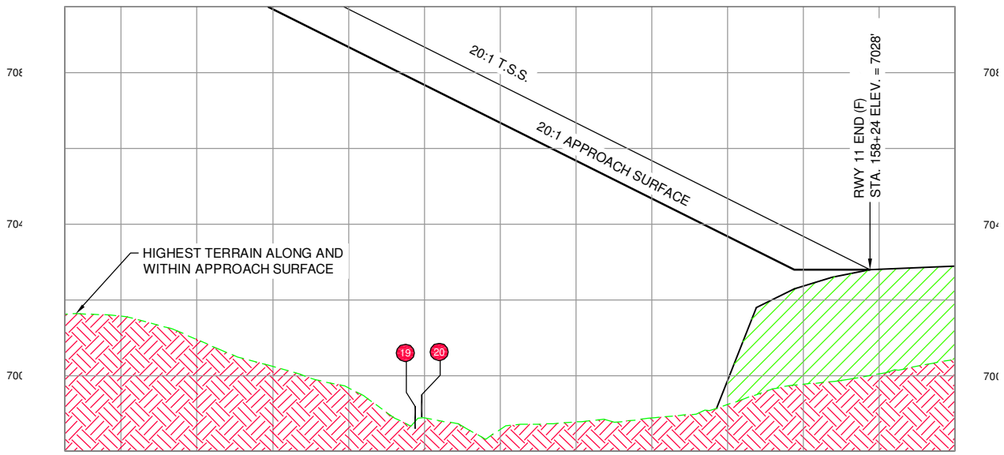
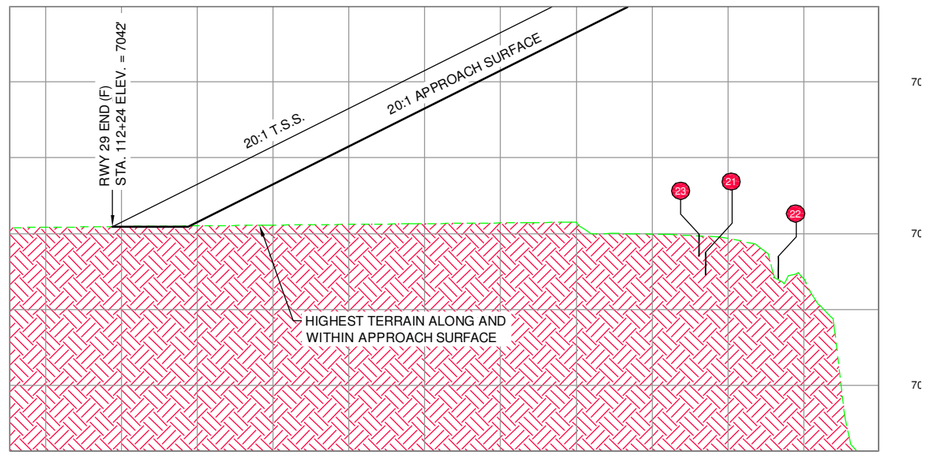


RUNWAY 11 PROFILE (F)

SCALE: PER GRID



RUNWAY 29 PROFILE (F)

SCALE: PER GRID

FILL

SURFACE PENETRATIONS TO PART 77				
SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
APPROACH	FENCE (F) 19	7016'	-35'	NONE
APPROACH	FENCE (F) 20	7018'	-38'	NONE
T.S.S.	NONE	--	--	NONE

T.S.S. : THRESHOLD SITING SURFACE

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)		0000 0000	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)		N/A	SECTION CORNER
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE (RVZ)			AWOS
BRL(E)	BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			ROADS
X X	XX XX	FENCING			MARKINGS

SURFACE PENETRATIONS TO PART 77				
SURFACE	OBJECT	TOP ELEVATION	AMOUNT OF PENETRATION	PROPOSED ACTION
APPROACH	FENCE 21	7035'	-17'	NONE
APPROACH	FENCE 22	7034'	19'	NONE
APPROACH	FENCE 23	7040'	-26'	NONE
T.S.S.	NONE	--	--	NONE

T.S.S. : THRESHOLD SITING SURFACE

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3	AIRPORT MASTER PLAN STUDY	04.16.07	GWK

Project No: 045720
Date: 04.16.07
File Name: 5720505

Drawn: GWK
Checked: JZP
Approved: DAC

RUNWAY 11/29
INNER
APPROACH (F)

Sheet: 11 **of:** 15

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)		0000 0000	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)		N/A	SECTION CORNER
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE (RVZ)			AWOS
BRL(E)	(BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			ROADS
		FENCING			MARKINGS

OPEN SPACE / AGRICULTURAL

OPEN SPACE / AGRICULTURAL

FUTURE DEVELOPMENT

AERONAUTICAL

AERONAUTICAL

GENERAL AVIATION

CORPORATE / INDUSTRIAL AIRPARK

REVENUE GENERATING NON-AERONAUTICAL LEASES (WILL REQUIRE AN FAA RELEASE FROM AIRPORT OBLIGATIONS

CORPORATE / INDUSTRIAL

GENERAL AVIATION

RESIDENTIAL

AGRICULTURAL

AGRICULTURAL

0 500 1000

SCALE IN FEET

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SPRIGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

AIP No. 3-04-0038-13
AIRPORT LAYOUT PLANS

No.	Revision	Date	By
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2	RECEIVED FAA REVALIDATION	07.30.01	
3	AIRPORT MASTER PLAN STUDY	04.16.07	GWK

Project No: 045720
Date: 04.16.07
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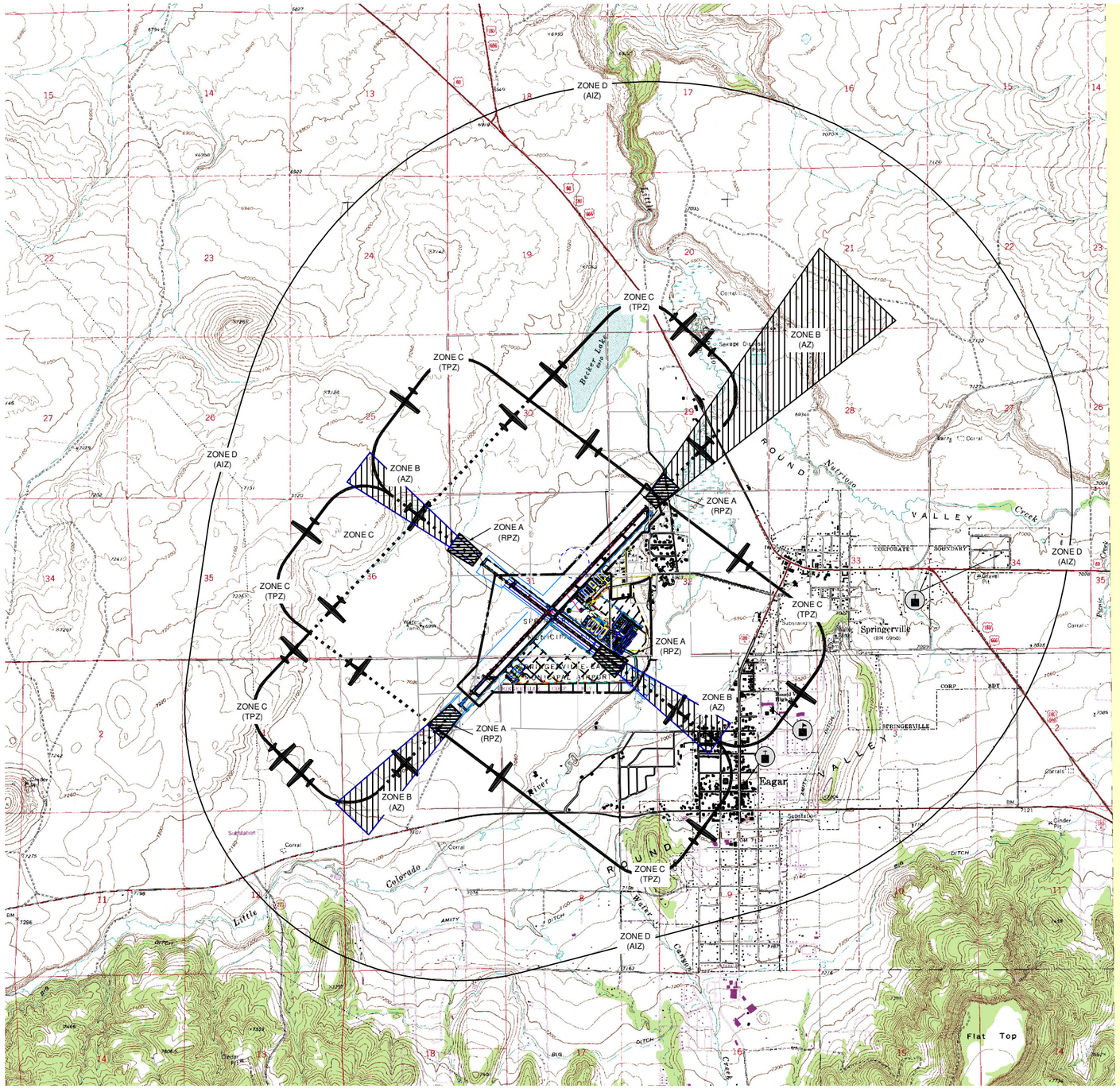
Checked: JZP
Approved: DAC

ON AIRPORT LAND USE



RUNWAY PROTECTION ZONE (RPZ) AS DIMENSIONED ON SHEET 2 OF AIRPORT LAYOUT PLAN.

APPROACH SURFACE AS DESCRIBED ON THE FAR PART 77 DRAWING OF THE AIRPORT LAYOUT PLAN.

STANDARD 1-MILE TRAFFIC PATTERNS.

STANDARD 1-MILE TRAFFIC PATTERNS.

TYPICAL TRAFFIC PATTERN DIRECTION AND FLIGHT TRACK AREA.

N
W E
S

0 2000 4000
SCALE IN FEET

LAND USE COMPATIBILITY GUIDELINES

Land Use Category	ZONE D Airport Influence (AIZ)	ZONE C Traffic Pattern (TPZ)	ZONE B Approach (AZ)	ZONE A Runway Protection (RPZ)
Residential				
single-family, nursing homes, mobile homes, multi-family, apartments, condominiums	+	o (3)	- (1,3)	- -
transient lodging, hotel, motel	+	o (3)	- (1,3)	- -
Public				
schools, libraries, hospitals	+	o (3)	- (3)	- -
churches, auditoriums, concert halls	+	o (3)	- (3)	- -
transportation, parking, cemeteries	++	++	++	- (2,5)
Commercial and Industrial				
offices, retail trade, service commercial, wholesale trade, warehousing, light industrial, general manufacturing, utilities, extractive industry	++	+	o (3)	- -
Agricultural and Recreational				
cropland	++	++	++	++
livestock breeding	++	++	++	- (2)
parks, playgrounds, zoos, golf courses, riding stables, water recreation	++	++	++	- (2)
outdoor spectator sports	++	+	- (3)	- -
amphitheaters	o	- (4)	- -	- -
open space	++	++	++	++

NOTE: DEVELOPMENT PROJECTS WHICH ARE WILDLIFE ATTRACTANT, INCLUDING SEWERAGE PONDS AND LANDFILLS, WITHIN 10,000 FEET OF THE AIRPORT ARE UNACCEPTABLE. (REF.: FAA AC 150/5200-33)
(1) If allowed, avigation easements and disclosure must be required as a condition of development.
(2) Any structures associated with uses allowed in the RPZ must be located outside the RPZ.
(3) If no reasonable alternative exists, use should be located as far from extended centerline as possible.
(4) If no reasonable alternative exists, use should be located as far from extended runway centerline and traffic patterns as possible.
(5) Transportation facilities in the RPZ (i.e. roads, railroads, waterways) must be configured to comply with Part 77 requirements.

CRITERIA

Land Use Availability	Interpretation/Comments
++ Clearly Acceptable	The activities associated with the specified land use will experience little or no impact due to airport operations. Disclosure of airport proximity should be required as a condition of development.
+ Normally Acceptable	The specified land use is acceptable in this zone or area. Impact may be perceived by some residents. Disclosure of airport proximity should be required as a condition of development. Dedication of avigation easements may also be advisable.
o Marginally Acceptable	An impact will be perceived as a result of allowing the specified use in this zone or area. Disclosure of airport proximity and avigation easements should be required as a condition of development.
- Normally Unacceptable	Specified use should be allowed only if no reasonable alternative exists. Disclosure of airport proximity and avigation easements must be required as a condition of development.
- - Clearly Unacceptable	Specified use must not be allowed. Potential safety or overflight nuisance impacts are likely in this area.

EXISTING ZONING ORDINANCES

Compatible land use and height restriction zoning is currently existing.

NOTICE OF PROPOSED CONSTRUCTION

An FAA Form 7460-1, "Notice of Proposed Construction or Alteration" must be submitted for any construction or alteration (including hangars and other on-airport and off-airport structures, towers, etc.) within 20,000 horizontal feet of the airport greater in height than an imaginary surface extending outward and upward from the runway at a slope of 100 to 1 or greater in height than 200 feet above ground level.

LEGEND

- CHURCH
- SCHOOL
- HOSPITAL
- PARK

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SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

AIP No. 3-04-0038-13
AIRPORT LAYOUT PLANS

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2	RECIEVED FAA REVALIDATION	07.30.01	
3	AIRPORT MASTER PLAN STUDY	04.16.07	GWK

Project No: 045720
Date: 04.16.07
File Name: 5720507

Drawn: GWK
Checked: JZP
Approved: DAC

OFF AIRPORT LAND ISE

Sheet: 13 of: 15

EXISTING AIRPORT PROPERTY

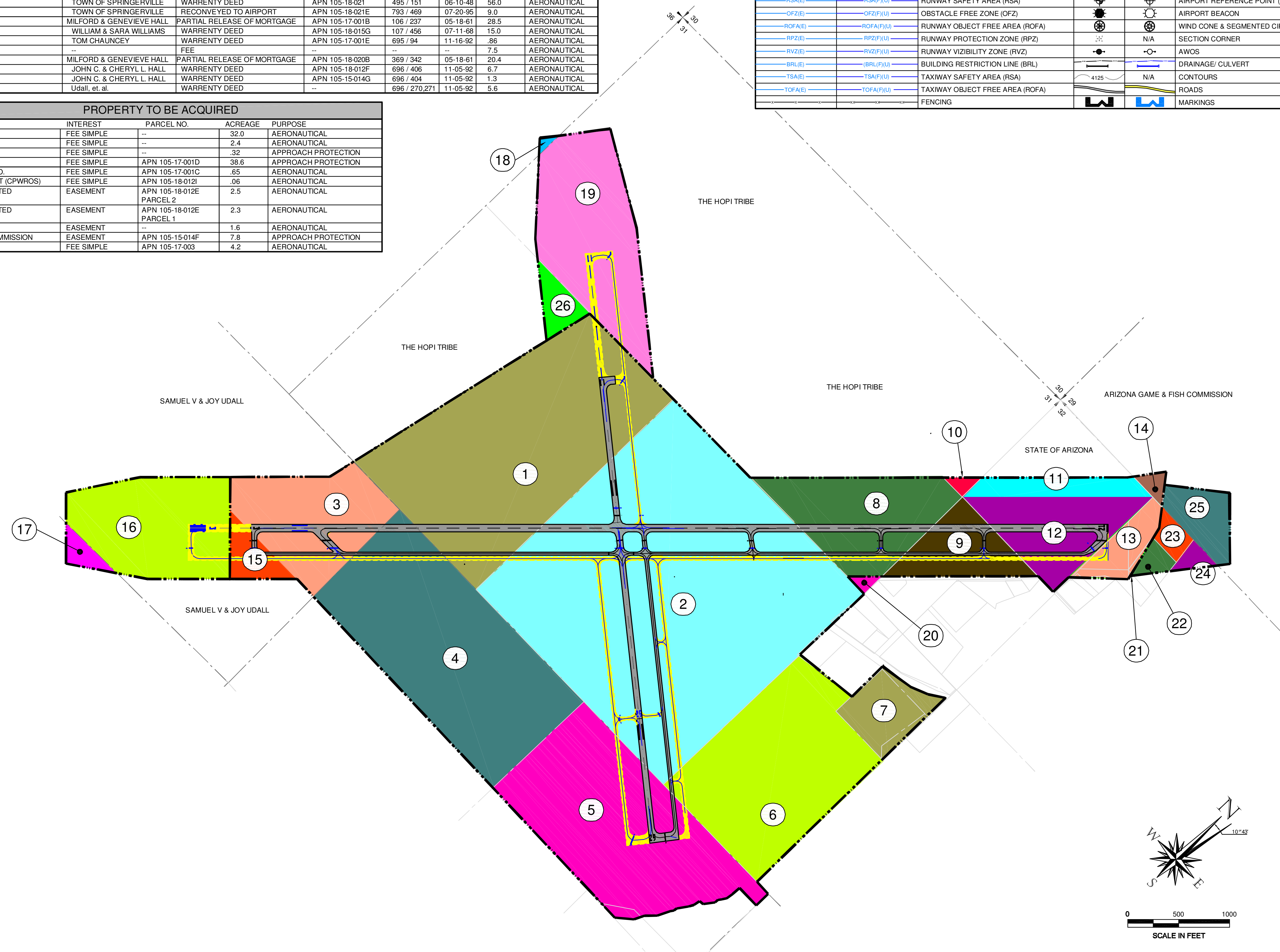
TRACT	CURRENT OWNER	GRANTOR	INTEREST	PARCEL NO.	BOOK/PAGE	DATE	ACREAGE	PURPOSE
1	TOWN OF SPRINGERVILLE	JOHN C. & CHERYL L. HALL	WARRENTY DEED	APN 105-17-002	495 / 151	05-05-78	90.009	AERONAUTICAL
2	TOWN OF SPRINGERVILLE	TOWN OF SPRINGERVILLE	WARRENTY DEED	APN 105-17-002	495 / 151	06-10-48	166.0	AERONAUTICAL
3	TOWN OF SPRINGERVILLE	TOWN OF SPRINGERVILLE	WARRENTY DEED	APN 105-17-001A	495 / 151	06-10-48	21.5	AERONAUTICAL
4	TOWN OF SPRINGERVILLE	TOWN OF SPRINGERVILLE	WARRENTY DEED	APN 105-17-001A	495 / 151	06-10-48	72.8	AERONAUTICAL
5	TOWN OF SPRINGERVILLE	TOWN OF SPRINGERVILLE	WARRENTY DEED	APN 105-17-001A	495 / 151	06-10-48	61.5	AERONAUTICAL
6	TOWN OF SPRINGERVILLE	TOWN OF SPRINGERVILLE	WARRENTY DEED	APN 105-18-021	495 / 151	06-10-48	56.0	AERONAUTICAL
7	TOWN OF SPRINGERVILLE	TOWN OF SPRINGERVILLE	RECONVEYED TO AIRPORT	APN 105-18-021E	793 / 469	07-20-95	9.0	AERONAUTICAL
8	TOWN OF SPRINGERVILLE	MILFORD & GENEVIEVE HALL	PARTIAL RELEASE OF MORTGAGE	APN 105-17-001B	106 / 237	05-18-61	28.5	AERONAUTICAL
9	TOWN OF SPRINGERVILLE	WILLIAM & SARA WILLIAMS	WARRENTY DEED	APN 105-18-015G	107 / 456	07-11-68	15.0	AERONAUTICAL
10	TOWN OF SPRINGERVILLE	TOM CHAUNCEY	WARRENTY DEED	APN 105-17-001E	695 / 94	11-16-92	.86	AERONAUTICAL
11	TOWN OF SPRINGERVILLE	--	FEE	--	--	--	7.5	AERONAUTICAL
12	TOWN OF SPRINGERVILLE	MILFORD & GENEVIEVE HALL	PARTIAL RELEASE OF MORTGAGE	APN 105-18-020B	369 / 342	05-18-61	20.4	AERONAUTICAL
13	TOWN OF SPRINGERVILLE	JOHN C. & CHERYL L. HALL	WARRENTY DEED	APN 105-18-012F	696 / 406	11-05-92	6.7	AERONAUTICAL
14	TOWN OF SPRINGERVILLE	JOHN C. & CHERYL L. HALL	WARRENTY DEED	APN 105-15-014G	696 / 404	11-05-92	1.3	AERONAUTICAL
15	TOWN OF SPRINGERVILLE	Udall, et. al.	WARRENTY DEED	--	696 / 270,271	11-05-92	5.6	AERONAUTICAL

PROPERTY TO BE ACQUIRED

PARCEL	CURRENT OWNER	INTEREST	PARCEL NO.	ACREAGE	PURPOSE
16	SAMUEL V & JOY UDALL	FEE SIMPLE	--	32.0	AERONAUTICAL
17	UNKNOWN	FEE SIMPLE	--	2.4	AERONAUTICAL
18	UNKNOWN	FEE SIMPLE	--	.32	APPROACH PROTECTION
19	THE HOPI TRIBE	FEE SIMPLE	APN 105-17-001D	38.6	APPROACH PROTECTION
20	COYOTE CREEK CATTLE CO.	FEE SIMPLE	APN 105-17-001C	.65	AERONAUTICAL
21	CHAD A. & SHAWNE J. YOST (CPWROS)	FEE SIMPLE	APN 105-18-012I	.06	AERONAUTICAL
22	PALMENBURG FAMILY LIMITED PARTNERSHIP	EASEMENT	APN 105-18-012E PARCEL 2	2.5	AERONAUTICAL
23	PALMENBURG FAMILY LIMITED PARTNERSHIP	EASEMENT	APN 105-18-012E PARCEL 1	2.3	AERONAUTICAL
24	JOHN C. & CHERYL L. HALL	EASEMENT	--	1.6	AERONAUTICAL
25	ARIZONA GAME & FISH COMMISSION	EASEMENT	APN 105-15-014F	7.8	APPROACH PROTECTION
26	THE HOPI TRIBE	FEE SIMPLE	APN 105-17-003	4.2	AERONAUTICAL

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)		0000 0000	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)		N/A	SECTION CORNER
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE (RVZ)			AWOS
BRL(E)	(BRL(F)(U)	BUILDING RESTRICTION LINE (BRL)			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			ROADS
x x x	xx xx xx	FENCING			MARKINGS



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SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

AIP No. 3-04-0038-13
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"THE PREPERATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGHT A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982 AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HERIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIROMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS".

Project No: 045720
Date: 04.16.07
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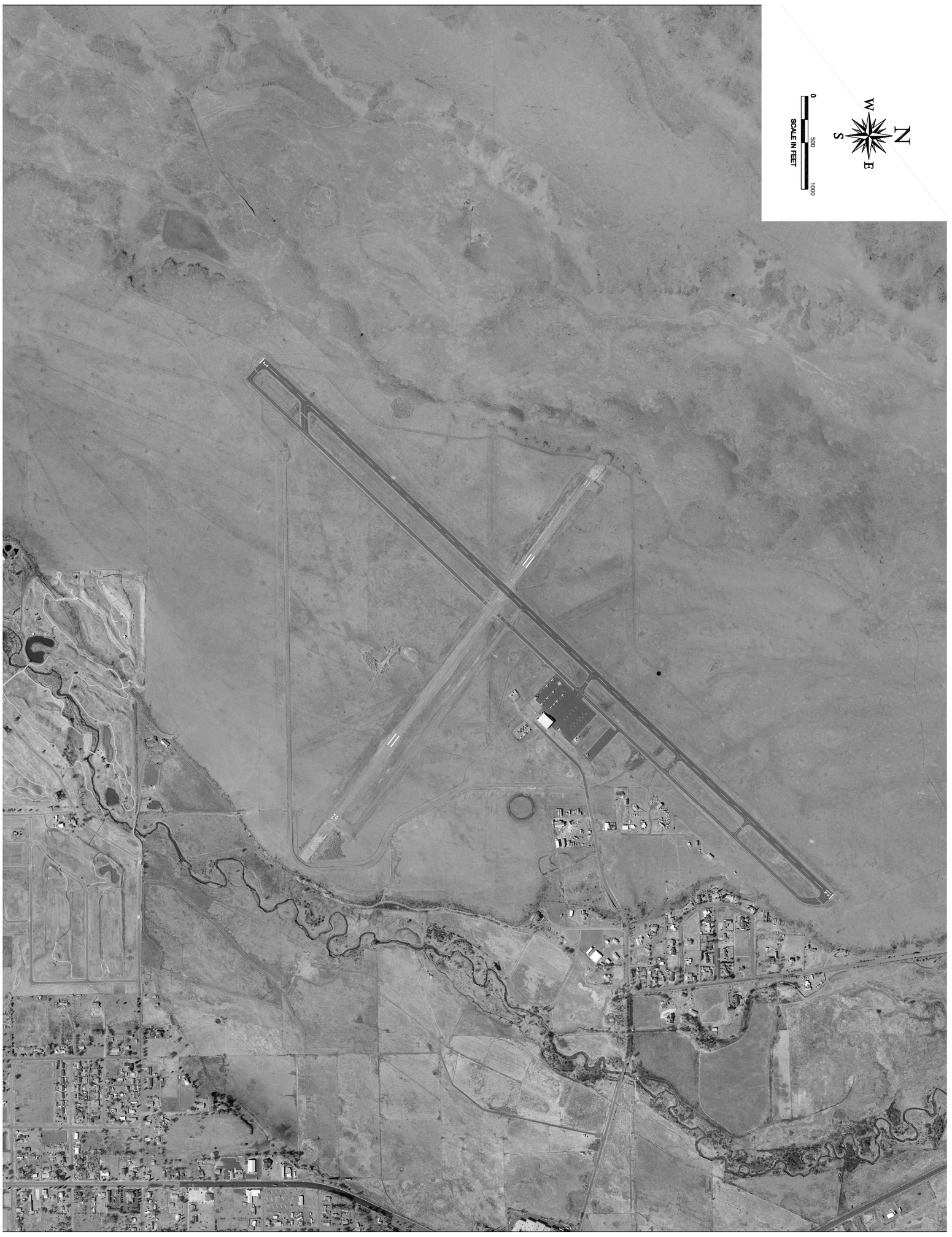
Drawn: GWK
Checked: JZP
Approved: DAC

EXHIBIT "A"
PROPERTY
LAYOUT MAP



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SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

AIP No.
AIRPORT LAYOUT PLANS

Sheet: 15 of 15

AERIAL PHOTOGRAPH

Drawn: GWK
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Project No: 045720
Date: 04.16.07
File Name: 5720509

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Chapter Six
Environmental Overview

Springerville Municipal Airport
Airport Master Plan

CHAPTER SIX
ENVIRONMENTAL OVERVIEW

INTRODUCTION

This environmental overview examines the potential environmental impacts associated with the proposed airport improvements listed in the Capital Improvement Program (CIP) in the next Chapter. The proposed improvements most likely to result in environmental impacts include the extension of Runway 3/21, the shift of Runway 11/29 and the acquisition of land for the Runway Protection Zones (RPZs). All other improvements occur on existing airport property. This chapter is intended to provide an overview of the potential impacts and identify additional environmental documentation that may be required as a prerequisite to development.

AIR QUALITY

The Clean Air Act of 1970 was enacted to reduce emissions of specific pollutants via uniform Federal standards. These standards include the National Ambient Air Quality Standards (NAAQS) which set maximum allowable ambient concentrations of ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), lead (Pb) and particulate matter 10 microns or smaller (PM_{10}). Section 176(c) of the Act, in part, states that no Federal agency shall engage in, support in any way or provide financial assistance for, license or permit or approve any activity that does not conform to the State Implementation Plan.

Federal Aviation Administration Orders 5050.4B and 1050.1E require air quality analysis for projects in areas not in compliance with the Environmental Protection Agency (EPA) approved State Implementation Plan (SIP). Because the entire area is considered in attainment with the SIP, no further air quality analysis is required.

Construction emissions, specifically dust, are not a long-term factor. These emissions are described in the "Construction Impacts" section of this Chapter. The necessary permits will be obtained before construction begins and construction projects will conform to FAA Advisory Circular (AC) 150/5370-10B, *Standards for Specifying Construction of Airports*.

The following best management practices are recommended to minimize construction emissions:

I. Site Preparation
   A. Minimize land disturbance;
   B. Use watering trucks to minimize dust;
   C. Cover trucks when hauling dirt or debris;
   D. Stabilize the surface of dirt piles and any disturbed areas;
   E. Use windbreaks to prevent any accidental dust pollution; and
   F. Segregate storm water drainage from construction sites and material piles.

II. Construction Phase
   A. Cover trucks when transferring materials; and
   B. Minimize unnecessary vehicular and machinery activities.

III. Completion Phase
   A. Revegetate any disturbed land not used;
   B. Remove unused material and dirt piles; and
   C. Revegetate all disturbed areas if appropriate.

Correspondence was sent to the Arizona Department of Environmental Quality (ADEQ) Air Quality Division concerning any actions that should be taken before improvements begin. No response has been received from the ADEQ.

COASTAL RESOURCES

There are no coastal zones associated with the proposed development. Therefore, compliance with the Coastal Zone Management Act of 1972 and the Coastal Barriers Resources Act of 1982 is not a factor.

COMPATIBLE LAND USE

Land use compatibility considerations include safety, height hazards and noise exposure. Although extremely rare, most aircraft accidents occur within 5,000 feet of a runway. Therefore, the ability of the pilot to bring the aircraft down in a manner that minimizes the severity of an accident is dependent upon the type of land uses within the vicinity of the airport. Land uses are reviewed in three zones surrounding the airport: the Runway Protection Zone (RPZ), the Approach Zone, Airport Influence Zone and the Traffic Pattern Zone. The RPZ is a trapezoidal area extending 1,200 feet beyond the ends of the runway and is typically included within the airport property boundary. Residential and other uses that result in congregations of people are restricted from the runway protection zone. The approach zone generally falls within the FAR Part 77 Approach Surface area. Within the approach zone, public land uses, such as schools, libraries, hospitals and churches should be avoided. New residential developments should include avigation easements and disclosure agreements. The Traffic Pattern Zone is generally the area within one mile of the airport. Within the Traffic Pattern Zone, avigation easements should be considered for residential and public uses within this area and disclosure statements should be required. The Airport Influence Zone is the area where aircraft are transitioning to or from enroute altitude or airport over-flight altitude to or from the standard traffic pattern altitude of 800 to 1,000 feet above airport elevation

The closest populated areas to the Springerville Municipal Airport are located immediately east and south of the airport. The majority of the Town of Springerville is located within either the Traffic Pattern Zone or the Airport Influence Zone. There are also a number of residential land uses in the Approach Zone to Runway 29. The airport has implemented a nonstandard right hand traffic pattern to Runway 21, this reduces the amount of traffic flying over the Towns of Springerville and Eagar. The planned 1,200-foot relocation of the Runway 29 threshold will increase the height of the Approach Zone over these incompatible land uses and reduce noise exposure to the residences.

Federal Aviation Regulation (FAR) Part 77, *Objects Affecting Navigable Airspace*, provides imaginary surfaces surrounding an airport that should be protected from penetration by objects. These include the approach surface, horizontal surface and conical surface. These surfaces were described in Chapter 4. Proposed structures in the vicinity of the airport should be reviewed against the Part 77 criteria to ensure hazards to air navigation are not created. Because the terrain off the end of the runways is lower than the runway elevation, no penetrations to the approach surface currently exist. Objects penetrating these surfaces could result in a hazard to air navigation.

The Town of Springerville has implemented an Airport Overlay Zoning Ordinance, including Compatible Land Use Overlay and Height Restriction drawings. A copy of the land use zoning map is included in Chapter 1. This ordinance and drawings protect the airport from future incompatible land uses and any objects that may be considered hazards to air navigation. An updated ordinance and drawings have been included as part of this Master Plan and should be adopted by the Town of Springerville. A copy of the ordinance and zoning maps are included in Appendix B.

CONSTRUCTION IMPACTS

Local, State and Federal ordinances and regulations address the impacts of construction activities, including dust and noise from heavy equipment traffic, disposal of construction debris and air and water pollution.

Construction operations for the proposed development will cause specific impacts resulting solely from and limited exclusively to the construction period. Construction impacts are distinct in that they are temporary in duration and the degree of adverse impacts decreases as work is concluded. The following construction impacts can be expected:

- A temporary increase in particulate and gaseous air pollution levels as a result of dust generated by construction activity and by vehicle emissions from equipment and worker's automobiles;
- Increases in solid and sanitary wastes from the workers at the site;
- Traffic volumes that would increase in the airport vicinity due to construction activity (workers arriving and departing, delivery of materials, etc.);
- Increase in noise levels at the airport during operation of heavy equipment; and
- Temporary erosion, scarring of land surfaces and loss of vegetation in areas that are excavated or otherwise disturbed to carry out future developments.

All construction projects will comply with guidelines set forth in FAA Advisory Circular 150/5370-10B, *Standards for Specifying the Construction of Airports*. The contractor will obtain the required construction permits. The contractor will also prepare Storm Water Pollution Prevention and Fugitive Dust Control Plans for construction. These requirements will be specified in the contract documents for the construction of the proposed improvements.

DOT ACT – SECTION 4(F)

Section 303c of Title 49, U.S.C., formerly Section 4(f) of DOT Act of 1966, provides that the Secretary of Transportation shall not approve any program or project that requires the use of any publicly owned land from a public park, recreation area or wildlife or waterfowl refuge of National, State or Local significance or land from an historic site of National, State or Local significance, as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such project includes all possible planning to minimize impacts. The proposed improvements will not require land from any public park, recreation area or wildlife or waterfowl refuge.

FARMLANDS

The Farmland Protection Policy Act (FPPA) authorizes the Department of Agriculture to develop criteria for identifying the effects of Federal programs upon the conversion of farmland to uses other than agriculture.

Conversion of "Prime or Unique" farmland may be considered a significant impact. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed or fiber without intolerable soil erosion as determined by the Secretary of Agriculture. Unique farmland is land other than prime farmland which is used to produce specific high value food and fiber crops, such as citrus, tree nuts, olives, cranberries, fruits and vegetables.

Figure 6-1 shows the high quality farmland in the State of Arizona in Red and Green. As shown, there is no high quality farmland in Apache County.

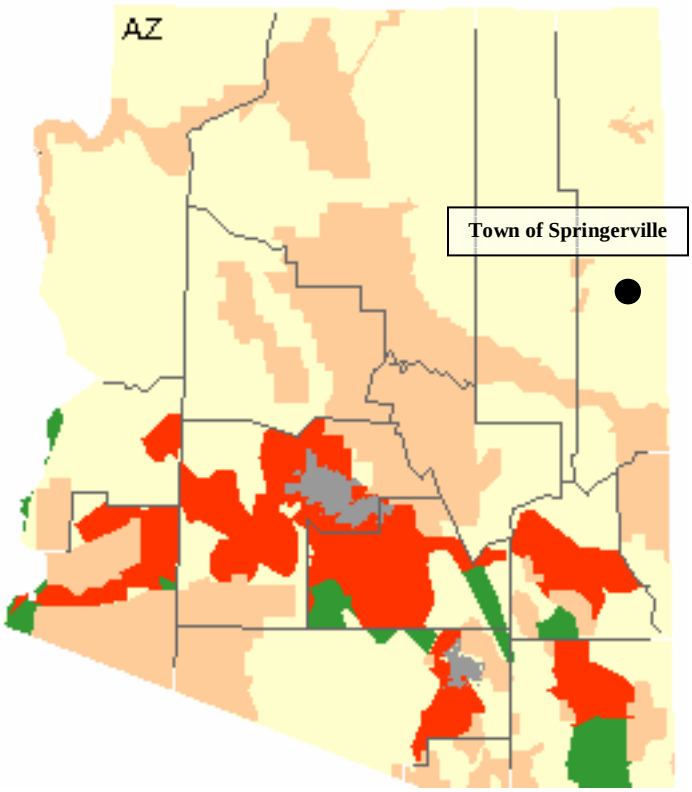


FIGURE 6-1. ARIZONA HIGH QUALITY FARMLAND

FISH, WILDLIFE AND PLANTS

This category concerns potential impacts to existing wildlife habitat and threatened and endangered species. Examining both the area of land to be altered or removed and its relationship to surrounding habitat quantify the significance of the impacts in this category. For example, removal of a few acres of habitat which represents a small percentage of the area's total similar habitat or which supports a limited variety of common species would not be considered significant. However, removal of a sizeable percentage of the area's similar habitat or habitat which is known to support rare species, would be considered significant impact. Improvements to the Springerville Municipal Airport would remove approximately 40 acres of habitat. The surrounding area offers an abundance of similar habitat and the proposed improvements are not considered to be a significant habitat loss.

Section 7 of the Endangered Species Act, as amended, requires each Federal agency to insure that "any action authorized, funded or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat of such species . . .".

An *Endangered Species* is defined as any member of the animal or plant kingdoms determined to be in danger of extinction throughout all or a significant portion of its range. A *Threatened Species* is defined as any member of the plant or animal kingdoms that are likely to become endangered in the foreseeable future.

The following species are currently listed for Apache County, but do not necessarily occur in the vicinity of Springerville or within the project areas.

<u>Endangered</u>
Black-footed ferret, Mustela nigripes
California brown pelican, Pelecanus occidentalis californicus
California condor, Gymnogyps californianus
Mexican gray wolf, Canis lupus baileyi
Southwestern willow flycatcher, Empidonax traillii extimus

<u>Threatened</u>
Apache (Arizona) trout, Oncorhynchus apache
Bald eagle, Haliaeetus leucocephalus
Chiricahua leopard frog, Rana chiricahuensis
Little Colorado spinedace, Lepidomeda vittata
Loach minnow, Tiaroga cobitis
Mexican spotted owl, Strix occidentalis lucida
Navajo sedge, Carex specuicola
Zuni fleabane, Erigeron rhizomatus

<u>Candidate</u>
Three forks springsnail, Pyrulopsis trivalis
Yellow-billed cuckoo, Coccyzus americanus
Zuni bluehead sucker, Catostomus discorbolus yarrowi

Correspondence was sent to the U.S. Fish and Wildlife Service (USFWS) concerning the possibility of the proposed development actions impacting any area threatened or endangered species. No response has been received. Unless otherwise informed by USFWS a biological assessment/threatened and endangered species survey should be conducted for previously undisturbed areas underlying the runway extension and shift footprints. This is typically accomplished as part of the Environmental Assessment process.

FLOODPLAINS

Floodplains are defined by Executive Order 11988, Floodplain Management, as the lowland and relatively flat areas adjoining coastal water . . . including at a minimum, that area subject to a one percent or greater chance of flooding in any given year . . . ", that is, an area which would be inundated by a 100-year flood. If a proposed action involves a 100-year floodplain, mitigating measures must be investigated in order to avoid significant changes to the drainage system.

As described in FAA Order 5050.4B, an airport development project would be a significant impact pursuant to NEPA if it results in notable adverse impacts on natural and beneficial floodplain values. Mitigation measures for base floodplain encroachments may include committing to special flood related design criteria, elevating facilities above base flood level, locating nonconforming structures and facilities out of the floodplain or minimizing fill placed in floodplains. The existing and planned property lines for the Springerville Municipal Airport do not encroach upon a designated 100-year floodplain and no floodplain impacts are expected.

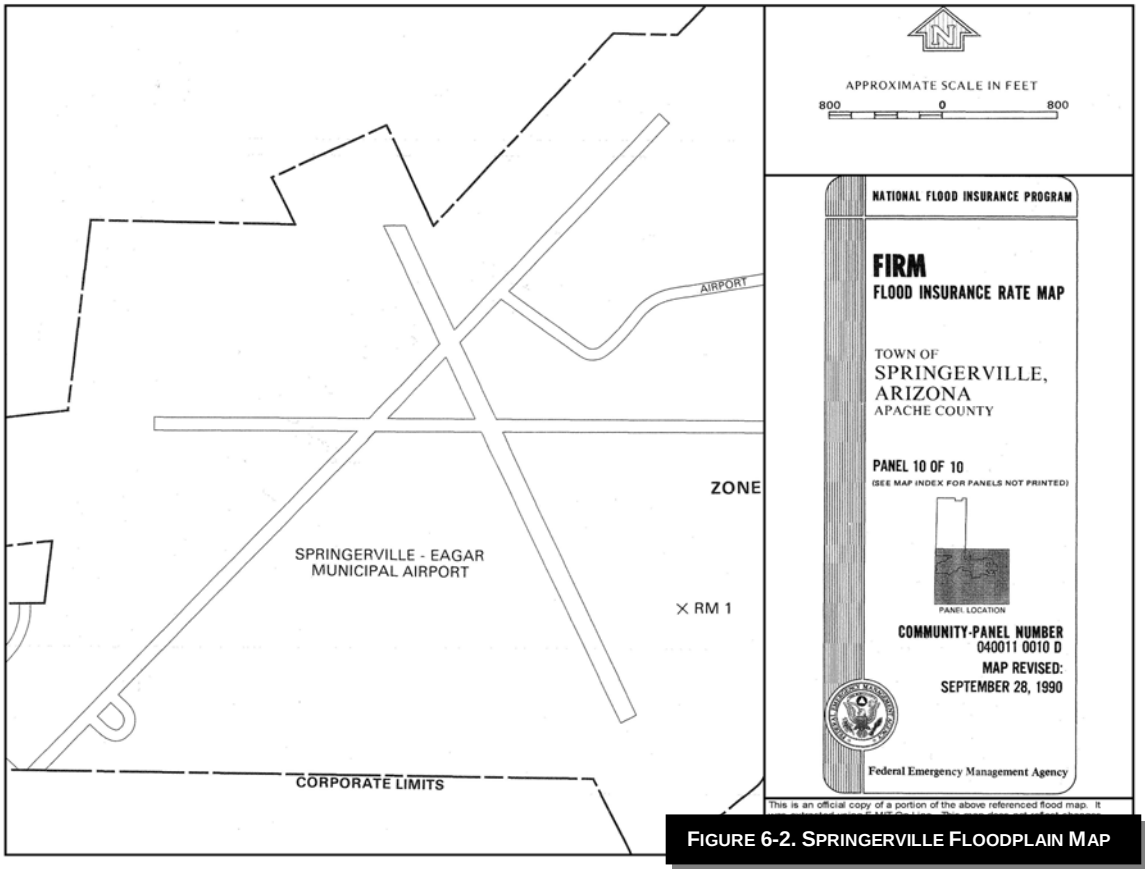


FIGURE 6-2. SPRINGERVILLE FLOODPLAIN MAP

HAZARDOUS MATERIALS, POLLUTION PREVENTION AND SOLID WASTE

Four primary laws have been passed governing the handling and disposal of hazardous materials, chemicals, substances and wastes. The two statutes of most importance to the FAA in proposing actions to construct and operate facilities and navigational aids are the Resource Conservation and Recovery Act (RCRA) (as amended by the Federal Facilities Compliance Act of 1992) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA or Superfund) and the Community Environmental Response Facilitation Act of 1992. RCRA governs the generation, treatment, storage and disposal of

hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment.

The area surrounding the Springerville Municipal Airport is currently used for ranching purposes. There is no reason to believe that the proposed improvements will be constructed in an area that contains hazardous waste.

Airport development actions that relate only to construction or expansion of runways, taxiways and related facilities do not normally include any direct relationship to solid waste collection, control or disposal other than that associated with the construction itself. The nature of the proposed airport meets these criteria and will not significantly increase net waste output for the Town.

Any solid waste disposal facility (i.e. sanitary landfill) which is located within 5,000 feet of all runways planned to be used by piston-powered aircraft or within 10,000 feet of all runways planned to be used by turbine aircraft, is considered by the FAA to be an incompatible land use because of the potential for conflicts between birds and low-flying aircraft. This determination is found in FAA Advisory Circular 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports*. There are no solid waste disposal facilities within 10,000 feet of the airport. Any planned solid waste disposal facilities should be located at least 10,000 feet from the runway.

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES

The National Historic Preservation Act of 1966 requires that an initial review be made in order to determine if any properties in or eligible for inclusion in the National Register of Historic Places are within the area of a proposed action's potential environmental impact (the area within which direct and indirect impacts could occur and thus cause a change in historic, architectural, archaeological or cultural properties).

The Archaeological and Historic Preservation Act of 1974 provides for the survey, recovery and preservation of significant scientific, prehistorical, historical, archaeological or paleontological data when such data may be destroyed or irreparably lost due to a federal, federally funded or federally licensed project.

Correspondence with the Arizona State Historic Preservation Office (SHPO) stated "the vast majority of the area of Springerville Municipal Airport has not been assessed for cultural resource, the exception being a small corridor northwest of the north end of the runway. It was inspected in 1993 and sponsored by the Town of Springervlle, no historic properties were identified within the study area." A cultural resources survey was recommended by the SHPO.

LIGHT EMISSIONS AND VISUAL IMPACTS

Airfield lighting is the main source of light emissions from an airport. Rotating airport beacons are provided so pilots can identify the location of an airport at night or in reduced visibility conditions. Rotating beacons consist of alternating white and green lights rotating at six rotations per minute. Beacons are typically mounted on a tower or on top of a hangar or other building. Specifications for spotting airport beacons allow the beam to be angled from 2^{o} to 12^{o} above the horizon. The standard setting is 6^{o}. If necessary, the beacon can be shielded to reduce visibility of the beacon from below the horizon line. Medium Intensity Runway Edge Lights (MIRLs) are single white or yellow lights mounted on 14-30 inch posts spaced at 200 foot intervals along both edges of the runway. They define the boundaries of the runway surface usable for takeoff and landing. Precision Approach Path Indicators (PAPIs) are used for visual descent guidance and consist of two or four light units located to the left of the runway and perpendicular to the runway centerline. The lights are directed at a glide path angle of 3^{o} above the runway. If the aircraft is above the glide path, the pilot will see all white lights. If the pilot is on the proper glide path, the light unit closest to the runway will be red and the unit farthest from the runway will be white. When the pilot is below the glide path the light units will be red. PAPIs have an effective

visual range from the air of approximately five miles during the day and up to twenty miles at night. These visual aids are extremely useful and enhance safety in situations where there are few visual references surrounding the airport. Runway End Identifier Lights (REILs) are synchronized flashing lights located laterally on each side of the runway threshold. They are angled upward and outward from the runway and provide rapid and positive identification of the threshold of a runway. This is especially useful in metropolitan and densely developed areas where lights in the vicinity of the airport make it difficult to identify the runway. Proposed improvements will primarily replace existing lighting and will not substantially increase light emission impacts at the Springerville Municipal Airport.

NATURAL RESOURCES, ENERGY SUPPLY AND SUSTAINABLE DESIGN

Executive Order 13123, Greening the Government Through Efficient Energy Management (64FR 30851, June 8, 1999), encourages each Federal agency to expand the use of renewable energy within its facilities and in its activities. E.O. 13123 also requires each Federal agency to reduce petroleum use, total energy use and associated air emissions and water consumption in its facilities.

It is also the policy of the FAA, consistent with NEPA and the CEQ regulations, to encourage the development of sustainability. All elements of the transportation system should be designed with a view to their aesthetic impact, conservation of resources such as energy, pollution prevention, harmonization with the community environment and sensitivity to the concerns of the traveling public.

Energy requirements associated with airport improvements generally fall into two categories: 1) changed demand for stationary facilities (i.e. airfield lighting and terminal building heating) and 2) those that involve the movement of air and ground vehicles (i.e. fuel consumption). The use of natural resources includes primarily construction materials and water.

Energy requirements are not expected to significantly increase as a result of the proposed improvements. There are existing water and sewer lines at the airport and the existing capacity is expected to be adequate.

Demand for aircraft fuel is expected to increase. Aircraft fuel should be stored in above ground tanks at the airport that conform to EPA regulations. Significant increases in ground vehicle fuel consumption is not anticipated.

NOISE

Noise analysis considerations include whether the Federal thresholds of noise exposure are exceeded, whether the 65 day-night level (DNL) noise contour extends beyond airport property and if there are any residences, churches, schools or hospitals within the 65 DNL noise contour.

The basic measure of noise is the sound pressure level that is recorded in decibels (dBA). The important point to understand when considering the impact of noise on communities is that equal levels of sound pressure can be measured for both high and low frequency sounds. Generally, people are less sensitive to sounds of low frequency than they are to high frequencies. An example of this might be the difference between the rumble of automobile traffic on a nearby highway and the high-pitched whine of jet aircraft passing overhead. At any location, over a period

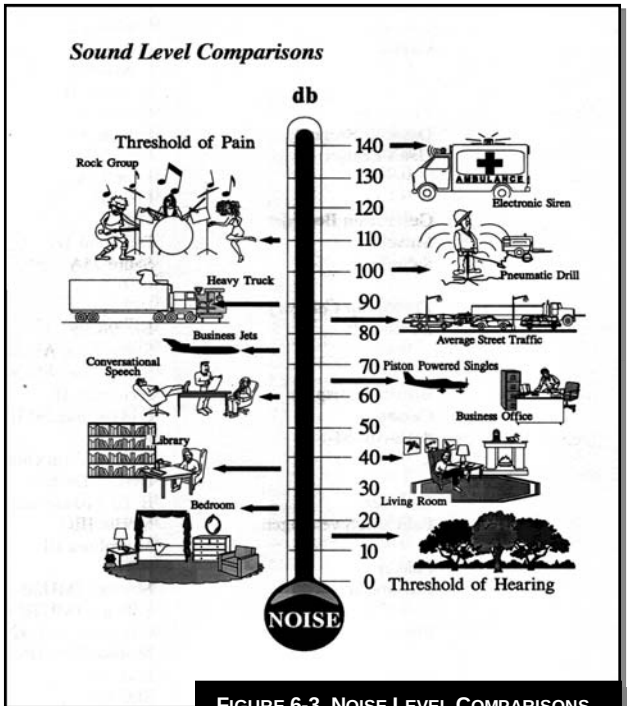


FIGURE 6-3. NOISE LEVEL COMPARISONS

of time, sound pressure fluctuates considerably between high and low frequencies. Figure 6-3 depicts a Sound Level Comparison of different noise sources.

The identification of airport generated noise impacts and implementation of noise abatement measures is a joint responsibility of airport operators and users. FAA Order 5050.4B states that "no noise analysis is needed for proposals involving Design Group I and II airplanes operating at airports whose forecast operations in the period covered by the EA do not exceed 90,000 annual adjusted propeller operations or 700 annual adjusted jet operations . . .". Noise analysis is not required for the Springerville Municipal Airport since operations are forecasted to only be 7,500 in 2026.

VOLUNTARY NOISE ABATEMENT PROGRAM

Although the noise exposure levels will not exceed 65 DNL over any noise sensitive area, several voluntary measures can be applied to minimize noise exposure to surrounding areas. Several of these measures are listed below. It is recommended that a voluntary noise abatement program be implemented for the airport and publicized to all based and transient pilots.

Pilots:

- Be aware of noise sensitive areas, particularly residential areas near the airport and avoid low flight over these areas.
- Fly traffic patterns tight and high, keeping the aircraft as close to the field as possible.
- In constant-speed-propeller aircraft, do not use high RPM settings in the pattern. Propeller noise from high-performance singles and twins increases drastically at high RPM settings.
- On takeoff, reduce to climb power as soon as safe and practical.
- Climb after liftoff at best-angle-of-climb speed until crossing the airport boundary, then climb at best rate.
- Depart from the start of the runway rather than intersections, for the highest possible altitude when leaving the airport vicinity.
- Avoid prolonged run-ups and do them inside the airport area, rather than at its perimeter.
- Try low-power approaches and always avoid the low, dragged-in approach.

Instructors:

- Teach noise abatement procedures to all students, including pilots you take up for flight reviews.
- Know noise-sensitive areas and point them out to students.
- Assure students fly at or above the recommended pattern altitude.
- Practice maneuvers over unpopulated areas and vary practice areas so that the same locale is not constantly subjected to aircraft operations.
- During practice of ground-reference maneuvers, be particularly aware of houses or businesses in your flight path.
- Stress that high RPM propeller settings are reserved for takeoff and for short final but not for flying in the pattern. Pushing the propeller to high RPM results in significantly higher levels of noise.

Fixed Base Operators (FBOs):

- Identify noise-sensitive areas and work with customers to create voluntary noise abatement procedures.
- Post any noise abatement procedures in a prominently visible area and remind pilots of the importance of adhering to them.
- Call for the use of the least noise sensitive runway whenever wind conditions permit.
- Initiate pilot education programs to teach and explain the rationale for noise abatement procedures and positive community relations.

Airport Owner and Surrounding Jurisdictions:

- Maintain appropriate zoning in the vicinity of the airport and see that noise sensitive land uses are not authorized within pattern, approach and departure paths.

- Disclose the existence of the airport and the airport influence area to real estate purchasers.
- Publish voluntary noise procedures on the Internet.
- Publish voluntary calm runway use procedures.

Source: Aircraft Owners and Pilots Association (AOPA)

SECONDARY (INDUCED) IMPACTS

These secondary or induced impacts involve major shifts in population, changes in economic climate or shifts in levels of public service demand. The effects are directly proportional to the scope of the project under consideration. Assessment of induced socioeconomic impacts is usually only associated with major development at large air carrier airports, which involve major terminal building development or roadway alignments and similar work. The extent of the indirect socioeconomic impacts of the proposed development is not of the magnitude that would normally be considered significant; however, positive impacts can be foreseen in the form of direct, indirect and induced economic benefits generated from the airport.

SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, the accompanying Presidential Memorandum and Order DOT 5610.2, Environmental Justice, require FAA to provide for meaningful public involvement by minority and low-income populations and analysis, including demographic analysis that identifies and addresses potential impacts on these populations that may be disproportionately high and adverse. Included in this process is the disclosure of the effects on subsistence patterns of consumption of fish, vegetation or wildlife and effective public participation and access to this information. The Presidential Memorandum that accompanied E.O. 12898, as well as the CEQ and EPA Guidance, encourage consideration of environmental justice impacts in EA's especially to determine whether a disproportionately high and adverse impact may occur. Environmental Justice is examined during evaluation of other impact categories, such as noise, air quality, water, hazardous materials and cultural resources.

SOCIOECONOMIC IMPACTS

Induced socioeconomic impacts are usually only associated with major development at large air carrier airports. The socioeconomic impacts produced as a result of the proposed improvements to the Springerville Municipal Airport are expected to be positive in nature and would include direct, indirect and induced economic benefits to the local area. These airport improvements are expected to attract additional users and in turn to encourage tourism, industry and to enhance the future growth and expansion of the community's economic base.

If acquisition of real property or displacement of persons is involved, 49 CFR part 24 (implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970), as amended must be met for Federal projects and projects involving Federal funding. Otherwise, the FAA, to the fullest extent possible, observes all local and State laws, regulations and ordinances concerning zoning, transportation, economic development, housing, etc. when planning, assessing or implementing the proposed action.

ENVIRONMENTAL JUSTICE

The focus of the Environmental Justice evaluation is to determine whether the proposed action results in an inequitable distribution of negative effects to special population groups, as compared to negative effects on other population groups. These special population groups include minority or otherwise special ethnicity or low-income neighborhoods.

The proposed action is not expected to result in any significant negative impacts to any population groups and therefore, would not result in disproportionate negative impacts to any special population group. Socioeconomic and induced economic impacts are expected to be positive in nature and are expected to benefit all population groups in the area.

CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Pursuant to Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, Federal agencies are directed, as appropriate and consistent with the agency's mission, to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. Agencies are encouraged to participate in implementation of the Order by ensuring that their policies, programs, activities and standards address disproportionate risks to children that result from environmental health risks or safety risks. The proposed improvements are not expected to result in any environmental health risks or safety risks on children.

WATER QUALITY

Water quality considerations related to airport development often include increased surface runoff and erosion and pollution from fuel, oil, solvents and deicing fluids. Potential pollution could come from petroleum products spilled on the surface and carried through drainage channels off of the airport. State and Federal laws and regulations have been established to safeguard these facilities. These regulations include standards for above ground and underground storage tanks, leak detection and overflow protection. An effective Storm Water Pollution Prevention Plan (SWPPP) identifies storm water discharge points on the airport, describes measures and controls to minimize discharges and details spill prevention and response procedures. The Town of Springerville is in the process of developing a SWPPP to identify the direction of flow for a fuel spill and outlining procedures for responding to such an incident. In July of 2002, the EPA amended the Oil Pollution Prevention Regulation at Title 40 of the Code of Federal Regulations, Part 112 (40 CFR Part 112). Subparts A through C of this regulation are often referred to as the "SPCC rule" because they describe requirements for certain facilities (including airports) to prepare and implement Spill Prevention Control and Countermeasure (SPCC) Plans.

In accordance with Section 402(p) of the Clean Water Act, a National Pollution Discharge Elimination System (NPDES) General Permit is required from the Environmental Protection Agency for construction projects that disturb one or more acres of land. Applicable contractors will be required to comply with the requirement and procedures of the NPDES General Permit, including the preparation of a Notice of Intent and a Storm Water Pollution Prevention Plan, prior to the initiation of construction activities.

Correspondence was sent to the Arizona Department of Environmental Quality (ADEQ) Water Quality Division concerning any actions that should be taken before improvements proceed. The Arizona Department of Environmental Quality responded that the proposed action may require a 404 Permit and 401 Certification. A copy of the letter can be found in Appendix I.

Recommendations established in FAA Advisory Circular 150/5370-10B, *Standards for Specifying Construction of Airports*, Item P-156, *Temporary Air and Water Pollution, Soil Erosion and Siltation Control,* will be incorporated into the project design and specifications. The design and construction of the proposed improvements will incorporate Best Management Practices (BMP) to reduce erosion, minimize sedimentation, control non-storm water discharges and to protect the quality of surface water features potentially effected. These practices will be selected based on the site's characteristics and those factors within the contractor's control and may include: construction scheduling, limiting exposed areas, runoff velocity reduction, sediment trapping and good housekeeping practices.

Future fuel storage and dispensing facilities should be designed, constructed, operated and maintained in accordance with Federal, State and Local regulations. Waste fluids, including oils, coolants, degreasers and aircraft wash facility wastewater will be managed and disposed of in accordance with applicable Federal, State and Local regulations.

WETLANDS

Wetlands are defined in Executive Order 11990, *Protection of Wetlands*, as "those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support, a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps,

marshes, bogs and similar areas such as sloughs, potholes, wet meadows, river overflows and natural ponds. Jurisdictional Waters of the United States may also include drainage channels, washes, ditches, arroyos or other waterways that are tributaries to Navigable Water of the United States or other waters where the degradation or destruction of which could affect interstate or foreign commerce.

Correspondence was sent to the Army Corps of Engineers, Arizona/Nevada District regarding potential impacts to wetlands and waters of the United States. The Army Corps of Engineers stated that the proposed activity may require a Department of the Army permit issued under Section 404 of the Clean Water Act if wetlands or other jurisdictional waters of the United States are impacted. Wetlands delineation and mapping should be completed as part of the Environmental Assessment for the runway improvements.

Based on site visits and reviews of aerial photography it does not appear that improving the airport would impact wetlands or waters of the United States.

WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act (PL 90-542) describes those river areas eligible for protection from development. As a general rule, these rivers possess outstanding scenic, recreational, geological, fish and wildlife, historical, cultural or other similar value.

The Wild and Scenic River list from the National Park Service indicated one Wild and Scenic River listed in Arizona. The Verde River is located in Yavapai County in western Arizona, more than 100 miles from Springerville and would not be affected by the proposed improvements.

MEANS TO MITIGATE AND/OR MINIMIZE ADVERSE ENVIRONMENTAL IMPACTS

Where appropriate, the mitigation or minimization of environmental impacts was noted in the discussion of impacts. These actions are summarized below:

- Maintain compatible land uses in the vicinity of the airport;
- Acquire land for the runway extension, shifts and RPZs;
- Utilize pilot controlled lighting on all airfield lighting and visual aids. Utilize timers or motion sensors for apron and automobile parking area lights;
- Adhere to FAA AC 150/5370-10B, *Standards for Specifying the Construction of Airports* and best management practices to minimize or eliminate impacts to water quality and air quality during construction;

SUMMARY AND CONCLUSIONS OF ENVIRONMENTAL IMPACTS

Table 6-1 provides a summary of the analysis ratings for the eighteen environmental impact categories with respect to the proposed airport improvements. While some categories indicate a potential impact, they are all estimated to be below the threshold of significance as described in FAA Order 5050.4B. The selected alternatives for the development, offers the least overall environmental impact of all the potential development alternatives evaluated.

TABLE 6-1 POTENTIAL ENVIRONMENTAL IMPACTS

Impact Category	Impact Level	Description
Air Quality	Minor	Short-term dust and exhaust
Coastal Resources	None	
Compatible Land Use	None	
Construction Impacts	Minor	Short-term dust, exhaust erosion
DOT Act Section 4(F)	None	
Farmlands	None	
Fish, Wildlife and Plants	None	
Floodplains	None	
Hazardous Material, Pollution Prevention and Cultural Resources	None	
Historical, Architectural, Archaeological and Cultural Resources	None	
Light Emissions and Visual Impacts	None	
Natural Resources and Energy Supply	None	
Noise	None	
Secondary (Induced) Impacts	Minor Positive	Economic benefit from airport
Socioeconomic Impacts, Environmental Justice and Children's Environmental Health	Minor Postive	Increased employment
Water Quality	Minor	Storm water runoff
Wetlands	None	
Wild and Scenic Rivers	None	

Based on this evaluation, it is recommended that categorical exclusion be issued for all projects included in the CIP. None of the projects appear to exceed the specific thresholds of significance for environmental impacts. Although no significant environmental impacts are anticipated, FAA policy may dictate that an Environmental Assessment be prepared for the major projects including the runway extension, runway shifts and runway strengthening.

Chapter Seven
Capital Improvement Program (CIP) and Financial Plan

Springerville Municipal Airport
Airport Master Plan

CHAPTER SEVEN
CAPITAL IMPROVEMENT AND FINANCIAL PLAN

INTRODUCTION

A program of recommended airport development for Springerville Municipal Airport has been formulated to guide the sponsor in the systematic development of the airport and to aid the Federal Aviation Administration, Arizona Department of Transportation Aeronautics Division and the Town in allocating funding over the planning period. In Arizona, projects eligible for Airport Improvement Program (AIP) participation are normally funded at 95 percent by the FAA, 2.5 percent by the State and 2.5 percent by the Sponsor. The grant eligible items typically include airfield and aeronautical related facilities such as runways, taxiways, aprons, lighting and visual aids as well as land acquisition and environmental tasks needed to accomplish the improvements. The public use (non-revenue generating) portions of passenger terminals are also grant eligible. In addition, recent AIP legislation has made fuel systems and hangars eligible, however, these items are considered a low priority for FAA funding.

CAPITAL IMPROVEMENT PROGRAM (CIP)

Future airport development at the Springerville Municipal Airport, as included in this study, covers a twenty-year period. Development items are grouped into three phases. Phase I is short-term (1-5 years), Phase II is medium-term (6-10 years) and Phase III is long-term (11-20 years). Estimated development costs are based on the proposed improvements (as shown on the airport layout plan) and are included for each item in the Capital Improvement Program (CIP). Proposed improvements are based on the recommended facility requirements discussed in Chapter 3. The phasing of projects assists the airport sponsor in budgetary planning for construction projects. A drawing showing the phasing of each project is included at the end of this Chapter. The sequence in which the projects are completed is important as the ultimate configuration of the airport will require numerous projects.

Phase I (1-5 Years)
Apron Reconstruction
Runway Rehabilitation
Construct Taxilanes to T-hangar area
Runway Strengthening (Widen Fillets Midfield)
Reconstruct Taxiway A (Widen/Strengthen)
Install an AWOS
Install Airport Signage
Install Taxiway Lighting
Replace Runway Lighting
Partial Parallel Taxiway Runway 11/29
Snow Removal Equipment and Storage Building
Wildlife Fencing

Phase II (6-10 Years)
Land Acquisition for Runway 3/21 and RPZ
Runway 3/21 Extension
Apron Expansion
Land Acquisition for Runway 11/29 and RPZ

Phase III (11-20 Years)
Shift Runway 11/29 1,200'
Install Parallel Taxiway for Runway 11/29
Construct 10-unit T-hangar
PAPIs and REILs for Runway 11/29
Construct Taxilanes to Corporate Hangar Area

TABLE 7-1 20-YEAR CAPITAL IMPROVEMENT PROGRAM

Phase I, Short-Term Development Items	TOTAL	FAA	STATE	LOCAL
A1 Apron Reconstruction 400'x600'	$1,500,000	$1,425,000	$37,500	$37,500
A2 Runway 3/21 Reconstruct 8,417'x75'	$3,000,000	$2,850,000	$75,000	$75,000
A3 Runway lighting and signage	$300,000	$285,000	$7,500	$7,500
A4 Construct Taxilanes to T-Hangar Area	$200,000	$190,000	$5,000	$5,000
A5 Runway Strengthening 8,417'x75'	$1,600,000	$1,520,000	$40,000	$40,000
A6 Taxiway A Reconstruct and lights 8,417'x35'	$2,000,000	$1,900,000	$50,000	$50,000
A7 Taxiway lighting and signage	$300,000	$285,000	$7,500	$7,500
A8 Install AWOS	$175,000	$166,250	$4,375	$4,375
A9 Partial Parallel Taxiway "B" 1,500'x35'	$600,000	$570,000	$15,000	$15,000
A10 Snow Removal Equipment Storage Building	$400,000	$380,000	$10,000	$10,000
A11 Snow Removal Equipment	$300,000	$285,000	$7,500	$7,500
A12 Pavement Maintenance	$100,000	$95,000	$2,500	$2,500
A13 Wildlife Fencing 11,351'	$125,000	$118,750	$3,125	$3,125
A14 Update Airport Layout Plan	$100,000	$95,000	$2,500	$2,500
Total Short Term Cost	**$10,700,000**	**$10,165,000**	**$267,500**	**$267,500**
Phase II, Medium-Term Development Items	TOTAL	FAA	STATE	LOCAL
B1 Environmental Assessment	$100,000	$95,000	$2,500	$2,500
B2 Land Acquisition for Runway 3/21 and RPZs 90 ac.	$450,000	$427,500	$11,250	$11,250
B3 Runway 3/21 Extension 613'x75'	$500,000	$475,000	$12,500	$12,500
B4 Relocate Roadway around hangar development area	$200,000	$190,000	$5,000	$5,000
B5 Construct Taxiway 3,027'x35' secondary parallel	$1,500,000	$1,425,000	$37,500	$37,500
B6 Construct Taxilanes to T-hangar area	$200,000	$190,000	$5,000	$5,000
B7 Apron Construction 400'x600'	$2,000,000	$1,900,000	$50,000	$50,000
B8 Environmental Assessment shift RW 11/29	$150,000	$142,500	$3,750	$3,750
B9 Land Acquisition 11/29 shift and RPZ 40 ac.	$200,000	$190,000	$5,000	$5,000
B10 Update Airport Master Plan	$150,000	$142,500	$3,750	$3,750
Total Medium-Term Cost	**$5,450,000**	**$5,177,500**	**$136,250**	**$136,250**
Phase III, Long-Term Development Items	TOTAL	FAA	STATE	LOCAL
C1 Shift Runway 11/29 1,200'	$1,900,000	$1,805,000	$47,500	$47,500
C2 Install Parallel Taxiway 11/29 1,200'x35'	$500,000	$475,000	$12,500	$12,500
C3 Construct 10 Unit T-hangar	$300,000	$285,000	$7,500	$7,500
C4 Construct Taxilanes to Corporate Hangar Area	$200,000	$190,000	$5,000	$5,000
Total Long-Term Cost	**$2,900,000**	**$2,755,000**	**$72,500**	**$72,500**
TOTAL	**$19,050,000**	**$18,097,500**	**$476,250**	**$476,250**

Cost estimates in 2006 dollars

CAPITAL DEVELOPMENT

Federal Grant Assistance: The phasing of projects assists the airport sponsor in budgetary planning for construction improvements that are needed to provide safe and functional facilities for aviation demands. Phased development schedules also assist the airport sponsor in contingencies and construction. Table 7-1 assumes that the Federal Aviation Administration will participate with funding from the Airport Improvement Program (AIP) of 95 percent of eligible items and the Arizona Department of Transportation Aeronautics Division will contribute 2.5 percent towards capital improvements. The Town of Springerville would then be responsible for providing 2.5 percent matching funds for grant eligible projects. The Town may meet its local share requirements through cash, in-kind service, force-account, donations or private/third party participation.

The Airport and Airways Act of 1982 created and authorized the Airport Improvement Program (AIP) to assist in the development of a nationwide system of public-use airports adequate to meet the current projected growth of civil aviation. The Act provides funding for airport planning and development projects at airports included in the National Plan of Integrated Airport Systems (NPIAS).

State Assistance: The Arizona Department of Transportation's (ADOT) Aeronautics Division participates in funding airport development and maintenance projects in the State of Arizona. ADOT normally contributes 90 percent to projects without Federal participation and contributes 2.5 percent matching funds to the FAA's 95 percent funding of Federally eligible capital improvement projects. The resulting local share is generally 2.5 percent for FAA and State funded projects and 10 percent for State only funded projects.

Funding The Local Share: The airport sponsor has several methods available for funding the capital required to meet the local share of airport development costs. The most common methods involve cash, debt financing which amortize the debt over the useful life of the project, force accounts, in-kind service, third-party support and donations.

Bank Financing: Some airport sponsors use bank financing as a means of funding airport development. Generally, two conditions are required. First, the sponsor must show the ability to repay the loan plus interest and second, capital improvements must be less than the value of the present facility or some other collateral used to secure the loan. These are standard conditions which are applied to almost all bank loan transactions.

General Obligation Bonds: General Obligation bonds (GO) are a common form of municipal bonds whose payment is secured by the full faith credit and taxing authority of the issuing agency. GO bonds are instruments of credit and because of the community guarantee, reduce the available debt level of the sponsoring community. This type of bond uses tax revenues to retire debt and the key element becomes the approval of the voters to a tax levy to support airport development. If approved, GO bonds are typically issued at a lower interest rate than other types of bonds.

Self-liquidating General Obligation Bonds: As with General Obligation bonds, Self-liquidating General Obligation Bonds are secured by the issuing government agency. They are retired, however, by cash flow from the operation of the facility. Providing the state court determines that the project is self-sustaining, the debt may be legally excluded from the community's debt limit. Since the credit of the local government bears the ultimate risk of default, the bond issue is still considered, for the purpose of financial analysis, as part of the debt burden of the community. Therefore, this method of financing may mean a higher rate of interest on all bonds sold by the community. The amount of increase in the interest rate depends, in part, upon the degree of risk of the bond. Exposure risk occurs when there is insufficient net airport operating income to cover the level of service plus coverage requirements, thus forcing the community to absorb the residual.

Revenue Bonds: Revenue Bonds are payable solely from the revenues of a particular project or from operating income of the borrowing agency, such as an airport commission which lacks taxing power. Generally, they fall outside of constitutional and statutory limitations and in many cases do not require voter approval. Because of the limitations on the other public bonds, airport sponsors are increasingly turning to revenue bonds whenever possible. However, revenue bonds normally carry a higher rate of interest because they lack the guarantees of municipal bonds. It should also be noted that the general public would usually be wary of the risk involved with a revenue bond issue for a general aviation airport. Therefore, the sale of such bonds could be more difficult than other types of bonds.

Combined Revenue/General Obligation Bonds: These bonds, also known as "Double-Barrel Bonds", are secured by a pledge of back-up tax revenues to cover principal and interest payments in cases where airport revenues are insufficient. The combined Revenue/General Obligation Bond interest rates are usually lower than Revenue Bonds, due to their back-up tax provisions.

Force Accounts, In-kind Service, Donations: Depending on the capabilities of the Sponsor, the use of force accounts, in-kind service, or donations may be approved by the FAA and the State for the Sponsor to provide their share of the eligible project costs. An example of force accounts would be the use of heavy machinery and operators for earthmoving and site preparation of runways or taxiways; the installation of fencing; or the construction of improvements to access roads. In-kind service may include surveying, engineering or other services. Donations may include land or materials such as gravel or water needed for the project. The values of these items must be verified and approved by the FAA prior to initiation of the project.

Third-Party Support: Several types of funding fall into this category. For example, individuals or interested organizations may contribute portions of the required development funds (Pilot Associations, Economic Development Associations, Chambers of Commerce, etc.). Although not a common means of airport financing, the role of private financial contributions not only increases the financial support of the project, but also stimulates moral support to airport development from local communities. Because of the potential for hangar development, private developers may be persuaded to invest in hangar development. A suggestion would be that the Town authorize long-term leases to individuals interested in constructing a hangar on airport property. This arrangement generates revenue from the airport, stimulates airport activity, and minimizes the sponsor's capital investment requirements. Another method of third-party support involves permitting the fixed base operator (FBO) to construct and monitor facilities on property leased from the airport. Terms of the lease generally include a fixed amount plus a percentage of revenues and a fuel flowage fee. The advantage to this arrangement is that it lowers the sponsor's development costs, a large portion of which is building construction and maintenance.

FINANCIAL PLAN

The ultimate goal of any airport should be the capability to support is own operation and development through airport generated revenues. Unfortunately, few airports similar in size to the Springerville Municipal Airport are able to do this. For example, it is difficult to break even when the fees received from hangar rentals and fuel sales will not adequately amortize the cost of construction projects. Yet the effort to become self-sufficient will generate a more positive perception of the airport by the community.

However, while most airports the size of Springerville Municipal Airport are not able to become self-sustaining, the intrinsic value of such a well-maintained airport for the community or region exceeds the day-to-day operational and maintenance costs of the airport. In other words, the dollars spent in the community or the region by individuals or businesses that use the airport exceeds the expenses that are incurred as a result of operation of the airport. Furthermore, the Springerville Municipal Airport provides access for valuable services to the Towns of Springerville and Eagar.

PROJECTED REVENUES AND EXPENDITURES

Expenditures: Airport operating expenditures typically include insurance, utilities, maintenance and management costs. Insurance costs include liability insurance for the airport and property insurance for any real property on the airport owned by the Town of Springerville. Utility expenses primarily consist of power costs to operate airfield lighting and visual aids and water for public use areas. Pavement maintenance consists of crack sealing on an annual basis and seal coating and remarking the pavements every five years. Facility maintenance consists of mowing, snow removal and repair and replacement of parts and equipment such as light bulbs, light fixtures, fences, etc. Management costs may include an airport manager or contract services provided by a third party or an FBO. Currently at the Springerville Municipal Airport, the FBO manages and administers the day-to-day details for the airport.

Revenues: Airport revenues generally consist of land leases, user fees and property taxes generated from on-airport improvements. A rates and charges study was conducted for airports of similar size in the region to determine what other airports are charging. A summary of the level of rates and charges used in revenue projections is listed in Table 7-2. The ranges for these rates are considered accurate for

general aviation airports. Table 7-2 also shows the current rates and charges for Springerville Municipal Airport along with the recommended rates and charges as a result of the study.

TABLE 7-2 RATES AND CHARGES FOR REVENUE PROJECTIONS

	Survey Rates	Current Rates	Recommended Rates
Land Leases	$.10-$.24/sq.ft/year	$.10/sq.ft/year	$.15/sq.ft/year
Hangar Leases Monthly	$.05-$.10/sq.ft/month	$.05-$.10/sq.ft/month	$.05-$.10/sq.ft/month
Hangar Rental Fee Overnight	-	$15-$100	$15-$100
Tie-Down Fees Monthly	$25.00-$45.00/month/aircraft	$20-$75	$25-$40
Transient Overnight Tie-Down Fees	$0.00-$15.00/night/aircraft	$3-$25	$0-$15
Through-the-Fence Fees	$150.00-$450.00/aircraft/year	-	-
Fuel Flowage Fees	$0.05-$0.25/gallon	$0	$0.10/gallon
Airport Usage Fee (Charter Aircraft)	-	$25	$25
Call Out Fee	$25-$75	$25	$25
Vehicle Storage Fee Monthly	-	$20-$50	$20-$50
Commercial Activity Fees	$0.00-$500/activity/year	-	$200/activity/year

Land Leases: Property on the airport that is not devoted to airfield use, vehicle parking or contained within areas required to be cleared of structures may be leased to individual airport users or aviation related businesses. Typically, the individual is provided a long-term lease on which to construct a hangar, business or others facility. At the termination of the lease, the lessee has the option to renew the lease, sell or lease the buildings or to remove the buildings.

Hangar Leases: Hangars on the airport owned by the airport sponsor can be leased to private aircraft operators or businesses. Typically, as with land leases, the individual or business is provided a long-term lease of the hangar. At the termination of the lease, the lessee has the option to renew the lease or cease use of the hangar.

Hangar Rental: The FBO Hangar is available for monthly or nightly rental. The fees are usually established on a nightly for transient aircraft or monthly for based aircraft. Rent is currently charged by the FBO.

Tie-Down Fees: A fee is typically established for the use of fixed ramp tiedowns on paved apron areas. The fees are usually established on a monthly or annual basis for based aircraft and on an overnight basis for transient aircraft.

Through-the-Fence Fees: A fee is typically charged to adjacent landowners who are provided access directly from their private parcel to the public use airport facilities. This fee ensures that the level of rates and charges assessed to on-airport users is equitable to off-airport users and that there is not an unfair economic advantage to operating “through-the-fence”. Additionally, through-the-fence operators are required to maintain a secure airport perimeter with fencing and/or gates and to construct paved access taxiways to the airport operating areas. However, the FAA generally discourages through-the-fence operations. Therefore, it is anticipated that all aircraft operations will be conducted from on airport and therefore will not generate through-the-fence fees. In lieu of through-the-fence fees, these aircraft would generate tie-down fees or land lease revenue from hangars.

Fuel Flowage Fee: This fee is typically imposed on all aircraft fuels delivered to the airport and would include all fuels used by aircraft including AvGas, Jet-A, and MoGas. The fee would apply to fixed base operators, self-fueling (if authorized) and through-the-fence operators who conduct self-fueling.

Airport Usage Fee: This fee is imposed on all charter aircraft and can be waived if the operator purchases a minimum of 50 gallons of fuel. The airport usage fee is charged by the FBO.

Call Out Fee: This fee is imposed on all users who require after hours fuel service from the FBO.
Vehicle Storage Fee: The FBO currently leases land to people for storage of cars, trucks and mobile homes. The fee imposed is monthly.

Commercial Activity Fee: This fee is imposed on commercial activities operating "for profit" at the airport. Typical commercial activities may include fixed base operators, maintenance services, air taxi or charter services, automobile rental, restaurants, retail or other goods and services which may be provided at the airport. The fee is in addition to land lease rates which may be charged for their facilities.

TABLE 7-3 ANNUAL AIRPORT REVENUES AND EXPENSES	PROJECTED[1]			
	2005-2006	Phase I[1]	Phase II	Phase III
Operating Revnenues				
Commercial Activity Fee	-	$2,400	$4,800	$4,800
Land and apron Lease (USFWS Tanker Base)	$11,200	$21,906	$26,612	$29,983
Total Operating Revenues	**$11,200**	**$24,306**	**$31,412**	**$34,783**
Operating Expenses				
Airport Operator (Kestrel)	$12,000	$12,000	$12,000	-
Machinery and Equipment	$500	$500	$500	$500
Memberships	$50	$50	$50	$50
Building Repairs and Maintenance	$1,000	$1,500	$2,000	$2,500
Utilities	$8,700	$9,500	$10,500	$11,000
Public Relations	$300	$300	$300	$300
Auditing and Accounting	$400	$400	$400	$400
General Supplies	$850	$850	$850	$850
Maintenance	$4,000	$4,500	$5,000	$5,500
Total Operating Expenses	**$27,800**	**$29,600**	**$31,600**	**$21,100**
Net Operating Revenue and Expenses	**-$16,600**	**-$5,294**	**-$188**	**$13,683**

[1] *Projections based on last year of each time period (in 2006 dollars)*

RECOMMENDATIONS

A review of airport revenues indicates that the level of rates and charges at the Springerville Municipal Airport are adequate compared with other similar sized airports. Kestrel Aviation currently keeps all revenue generated by airport operations as part of the agreement between the FBO and Town. The most effective means of increasing revenue at the Springerville Municipal Airport is to accommodate existing unmet demand and to continue to attract new and additional users. Several potential strategies for increasing revenues are listed below:

- Increase rates for ground leases and increase the number of ground leases for aircraft storage hangars;
- Apply for federal funding to construct T-hangars and box hangars to meet existing and future demand; and
- Focus on attracting business/corporate aviation tenants.

Increasing aircraft storage hangars at the airport would result in not only increased direct revenues generated through property leases, but would also produce indirect revenue through increased use of airport services and facilities, such as increased fuel purchases. Several aircraft owners have indicated an interest in leasing land from the airport to construct hangars. Locations for additional nested T-hangars and individual box hangars have been identified on the Terminal Area Drawing (TAD) included in Chapter 5. Business/corporate tenants are typically flight departments for local businesses and provide employment in the local community. They generally operate multi-engine turboprop or business jet aircraft. Their land lease parcels are usually large, the aircraft are typically operated two to three times

per week and fuel purchases are typically larger than other general aviation user (several hundred gallons per fueling).

Whether the improved Springerville Municipal Airport operates at an annual surplus or subsidy depends greatly on the amount of activity and facilities that are constructed at the airport. Existing demand is currently constrained by the lack of aircraft storage facilities. The most efficient way for the Town to accommodate this demand is to construct taxilanes and provide land leases for hangars (a sample Land Lease for hangars has been provided in the Airport Standards Manual). If demand for basing aircraft at the Springerville Municipal Airport continues in the long-term, the Town should consider constructing multi-unit T-hangars and/or box hangars. If federal funding is approved to construct these hangars and vacancy rates are low, the Town could potentially increase revenues to the point where they meet or exceed expenditures.

COMMUNITY SUPPORT

While it would certainly be advantageous for an airport to support itself, the indirect and intangible benefits of the airport to the community's economy and growth must be considered. People are directly or indirectly employed on the airport by the Town, the FBO and individual businesses. As airport activity increases, it is probable that employment on the airport will also grow throughout the planning period. The local construction industry will also benefit directly from implementation of the development programs. Other community benefits involve business growth and development that is enhanced by the availability of air transportation including commercial service, corporate and private aviation. Clients and suppliers of area businesses will also benefit from the future improvement to the airfield.

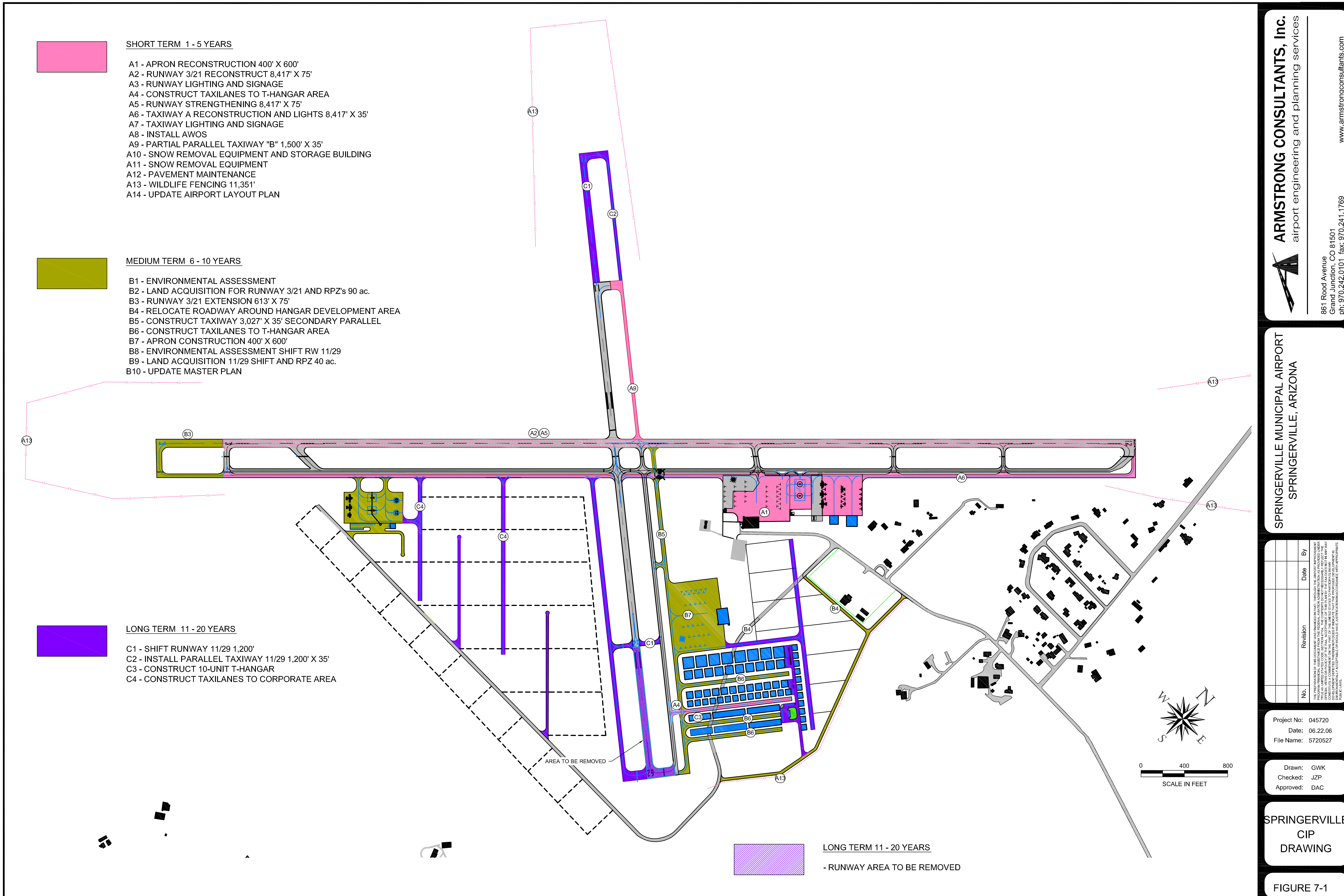
The use of corporate and business aircraft is an increasing trend across the United States. The movement of American industry from large metropolitan areas to smaller communities that offer lower taxes and labor costs and a better working environment has influenced this trend. Time is money in the business environment and corporate aircraft are answering the need for quick and convenient access to and from these new locations for both executives and management personnel. The ability of a community to provide convenient access to corporate aircraft will be reflected not only in benefits to existing businesses and industries but will be a strong factor in attracting new industry. The events of September 11, 2001, have also resulted in increased corporate and business aviation activity as companies are looking to avoid delays inconveniences associated with commercial airline travel.

These factors place the Springerville Municipal Airport in a prime position to capitalize on the trends in the general aviation industry and to maximize the benefits the airport provides to the community.

CONTINUOUS PLANNING PROCESS

Airport planning is a continuous process that does not end with the completion of a major project. The fundamental issues upon which this master plan are based are expected to remain valid for several years; however, several variables, such as based aircraft, annual aircraft operations, and socioeconomic conditions are likely to change over time. The continuous planning process necessitates that the Town of Springerville consistently monitor the progress of the airport in terms of growth in based aircraft and annual operations, as this growth is critical to the exact timing and need for new airport facilities. The information obtained from this monitoring process will provide the data necessary to determine if the development schedule should be accelerated, decelerated or maintained as scheduled.

Periodic updates of the Airport Layout Plan, Capital Improvement Plan, and Airport Master Plan are recommended to document physical changes to the airport, review changes in aviation activity and to update improvement plans for the airport. The primary goal of this Airport Master Planning effort is to develop a safe and efficient airport that will meet the demands of its aviation users and stimulate economic development for the Springerville/Eagar area. The continuous airport planning process is a valuable tool in achieving that goal.


SHORT TERM 1 - 5 YEARS
A1 - APRON RECONSTRUCTION 400' X 600'
A2 - RUNWAY 3/21 RECONSTRUCT 8,417' X 75'
A3 - RUNWAY LIGHTING AND SIGNAGE
A4 - CONSTRUCT TAXILANES TO T-HANGAR AREA
A5 - RUNWAY STRENGTHENING 8,417' X 75'
A6 - TAXIWAY A RECONSTRUCTION AND LIGHTS 8,417' X 35'
A7 - TAXIWAY LIGHTING AND SIGNAGE
A8 - INSTALL AWOS
A9 - PARTIAL PARALLEL TAXIWAY "B" 1,500' X 35'
A10 - SNOW REMOVAL EQUIPMENT AND STORAGE BUILDING
A11 - SNOW REMOVAL EQUIPMENT
A12 - PAVEMENT MAINTENANCE
A13 - WILDLIFE FENCING 11,351'
A14 - UPDATE AIRPORT LAYOUT PLAN
MEDIUM TERM 6 - 10 YEARS
B1 - ENVIRONMENTAL ASSESSMENT
B2 - LAND ACQUISITION FOR RUNWAY 3/21 AND RPZ's 90 ac.
B3 - RUNWAY 3/21 EXTENSION 613' X 75'
B4 - RELOCATE ROADWAY AROUND HANGAR DEVELOPMENT AREA
B5 - CONSTRUCT TAXIWAY 3,027' X 35' SECONDARY PARALLEL
B6 - CONSTRUCT TAXILANES TO T-HANGAR AREA
B7 - APRON CONSTRUCTION 400' X 600'
B8 - ENVIRONMENTAL ASSESSMENT SHIFT RW 11/29
B9 - LAND ACQUISITION 11/29 SHIFT AND RPZ 40 ac.
B10 - UPDATE MASTER PLAN
LONG TERM 11 - 20 YEARS
C1 - SHIFT RUNWAY 11/29 1,200'
C2 - INSTALL PARALLEL TAXIWAY 11/29 1,200' X 35'
C3 - CONSTRUCT 10-UNIT T-HANGAR
C4 - CONSTRUCT TAXILANES TO CORPORATE AREA
AREA TO BE REMOVED
LONG TERM 11 - 20 YEARS
- RUNWAY AREA TO BE REMOVED
0 400 800
SCALE IN FEET
ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services
861 Rood Avenue
Grand Junction, CO 81501
ph: 970.242.0101 fax: 970.241.1769
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SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA
No. Revision Date By
Project No: 045720
Date: 06.22.06
File Name: 5720527
Drawn: GWK
Checked: JZP
Approved: DAC
SPRINGERVILLE CIP DRAWING
FIGURE 7-1

Appendix A
Design Standards Inventory

Springerville Municipal Airport
Airport Master Plan

Airside Inventory Checklist

Airport	Springerville Municipal	ARC	B-II
City	Springerville, Arizona	Approach Type	NPI>Utility, 1-Mile Vis
Contact	James Hamblin	Date Inventoried	January 23, 2006
Phone No.	928 333-5746	Inspected By	REH/DAC

Runway 3-21 Inventory	Published	Required	Actual
Distance To:			
Hold lines from centerline	-	200'	*125'
Parallel taxiway from centerline	-	240'	240'
Aircraft parking from centerline	-	250'	290'
Runway width	75'	75'	75'
Runway length	8417'	-	8417'
RSA width	-	150'	150'
ROFA width	-	500'	500'
Primary/transitional surface penetrations	-	Clear	None
Longitudinal grade - site distance problems	-	2%, RVZ Clear	RVZ Penetrations
OFZ	-	400'	400'
Pavement marking type	Basic	NPI	Basic
Pavement marking condition	Good	-	Good
Pavement strength	30 K	-	30K
Pavement condition	Good	-	Poor, Longitudinal Cracking
Runway 3 End Inventory			
RSA beyond runway end	-	300'	200'
ROFA beyond runway end	-	300'	200'
Approach obstructions	-	-	Fence
Runway end elevation	7050.9	-	-
RPZ	Easement	Owned in Fee	Easement
Runway 21 End Inventory			
RSA beyond runway end	-	300'	200'
ROFA beyond runway end	-	300'	200'
Approach obstructions	-	-	Fence
Runway end elevation	7019.5	-	-
RPZ	Easement	Owned in Fee	Easement
Runway Lighting Inventory			
Distance from pavement edge	-	10' Max	OK
Maximum distance between lights	-	200' Max	OK
Type	MIRL	Optional	MIRL
Condition	-	-	Good
Color	-	White/Amber	Not White/Amber
		last 1000'	last 1000'
Runway 3 Threshold			
Distance from pavement edge	-	10' Max	10'
Maximum distance between lights	-	Varies	10'
Color/Number of Lights	-	Red/Green/8	Red/Green/6
Runway 21 Threshold			
Distance from pavement edge	-	10' Max	10'
Maximum distance between lights	-	Varies	10'
Color/Number of Lights	-	Red/Green/8	Red/Green/6

COMMENTS *Not all exit taxiways have hold markings, none have hold position signs

Airside Inventory Checklist

Airport	Springerville Municipal	ARC	B-II
City	Springerville, Arizona	Approach Type	Basic Visual
Contact	James Hamblin	Date Inventoried	January 23, 2006
Phone No.	928 333-5746	Inspected By	REH

Runway 11-29 Inventory	Published	Required	Actual
Distance To:			
Hold lines from centerline	-	125'	*None/Faded
Parallel taxiway from centerline	-	225'	240'
Aircraft parking from centerline	-	200'	900'
Runway width	60'	60'	60'
Runway length	4589'	-	4589'
RSA width	-	120'	120'
ROFA width	-	250'	250'
Primary/transitional surface penetrations	-	Clear	None
Longitudinal grade - site distance proble	-	2%, RVZ Clear	RVZ Penetrations
OFZ	-	250'	250'
Pavement marking type	Basic	Basic	Basic
Pavement marking condition	Good	-	Good
Pavement strength	-	-	12500 K
Pavement condition	-	-	Good
Runway 11 End Inventory			
RSA beyond runway end	-	120'	120'
ROFA beyond runway end	-	240'	240'
Approach obstructions	-	-	None
Runway end elevation	7029.9	-	-
RPZ	Uncontrolled	Owned in Fee	Uncontrolled
Runway 29 End Inventory			
RSA beyond runway end	-	120'	120'
ROFA beyond runway end	-	240'	240'
Approach obstructions	-	-	None
Runway end elevation	7029.9	-	-
RPZ	Uncontrolled	Owned in Fee	Uncontrolled
Runway Lighting Inventory			
Distance from pavement edge	-	10' Max	OK
Maximum distance between lights	-	200' Max	OK
Type	MIRL	Optional	MIRL
Condition	-	-	Good
Color	-	White	White
Runway 11 Threshold			
Distance from pavement edge	-	10' Max	10'
Maximum distance between lights	-	Varies	10'
Color/Number of Lights	-	Red/Green/6	Red/Green/6
Runway 29 Threshold			
Distance from pavement edge	-	10' Max	10'
Maximum distance between lights	-	Varies	10'
Color/Number of Lights	-	Red/Green/6	Red/Green/6

COMMENTS *Hold markings faded out, no hold position signs

Airside Inventory Checklist

Airport	Springerville Municipal	ARC	B-II
City	Springerville, Arizona	Approach Type	NPI>Utility, 1-Mile Vis
Contact	James Hamblin	Date Inventoried	January 23, 2006
Phone No.	928 333-5746	Inspected By	REH/DAC

Taxiway A Inventory	Published	Required	Actual
Taixway width	-	35'	30'
TSA width	-	79'	79'
TOFA width	-	131'	102.5'
Dist. from centerline to fixed or movable obj	-	65.5'	45'
Pavement marking type	-	Centerline	Centerline
Pavement marking condition	-	-	Good
Pavement strength	-	Same as Runway	Same as Runway
Pavement condition	-	-	Fair
Taxiway Lighting Inventory			
Distance from pavement edge	-	10'	10'
Maximum distance between lights	-	100'	Varies
Type	-	-	*Reflectors
Condition	-	-	Fair to Poor
Color	-	Blue	Blue
Miscellaneous			
Type of beacon	-	Yes	Standard
Size of beacon	-	-	-
Visual Aids (i.e. PAPI, VASI, REIL, etc.)	-	-	PAPIs on RWs 3, 21 and 11
Windcone (condition & compliance)	-	Yes	Good
Segmented circle (condition & compliance)	-	Yes	**Good, no TPI
Fencing	-	Perimeter	Some perimeter
Signs (type, condition, placement)	-	Yes	Need lighted hold position signs

COMMENTS *Only portions of the parallel taxiway are lined with reflectors

**TPI = Traffic Pattern Indicator

Airside Inventory Checklist

Airport	Springerville Municipal	ARC	B-II
City	Springerville, Arizona	Approach Type	NPI>Utility, 1-Mile Vis
Contact	James Hamblin	Date Inventoried	January 23, 2006
Phone No.	928 333-5746	Inspected By	REH/DAC

Taxiway B Inventory	Published	Required	Actual
Taixway width	-	25'	30'
TSA width	-	49'	49'
TOFA width	-	89'	89'
Dist. from centerline to fixed or movable ol	-	44.5'	480'
Pavement marking type	-	Centerline	Centerline
Pavement marking condition	-	-	Good
Pavement strength	-	Same as Runway	Same as Runway
Pavement condition	-	-	Good
Taxiway Lighting Inventory			
Distance from pavement edge	-	10'	
Maximum distance between lights	-	100'	
Type	-	-	None
Condition	-	-	
Color	-	Blue	

COMMENTS Only partial parallel to Runway 29, no parallel to Runway 11

Landside Inventory Checklist

Airport	Springerville Municipal	ARC	B-II
City	Springerville, Arizona	Approach Type	NPI>Utility, 1-Mile Vis
Contact	James Hamblin	Date Inventoried	January 23, 2006
Phone No.	928 333-5746	Inspected By	REH/DAC

Facilities	Existing	Notes
Tie-downs	36	
T-hangars	1	
Box hangars	1	
Apron		
Size	360' x 600'	
Pavement strength	30	
Pavement condition	Good	Slurry seal recently applied
Pavement marking	Tiedowns	No taxilane centerline markings
Pavement marking condition	Good	
Automobile parking	150' x 50'	Also, 180' x 140' vehicle storage lot
Weather equipment	Yes	Owned by Tuscan Electric Power
Fuel storage	Yes	10,000G AvGas, 5,000G Jet A
Fuel type available	Jet A and AvGas	Also have 1.500G Jet A Truck
FBO/Terminal building	Yes	

COMMENTS

Appendix B
Springerville Airport Overlay Zoning Ordinance

Springerville Municipal Airport
Airport Master Plan

SPRINGERVILLE, ARIZONA
SPRINGERVILLE MUNICIPAL AIRPORT
OVERLAY ZONING ORDINANCE

An ordinance regulating and restricting the height of structures and objects of natural growth, and otherwise regulating the use of property, in the vicinity of Springerville Municipal Airport by creating the appropriate zones and establishing the boundaries thereof; providing for changes in the restrictions and boundaries of such zones; defining certain terms used herein, referring to Springerville Municipal Airport FAR Part 77 Airspace Drawing and Off Airport Land Use Drawing which are incorporated in and made a part of this ordinance; providing for enforcement; establishing a board of adjustment; and imposing penalties.

It is hereby found that an obstruction has the potential for endangering the lives and property of users of the Springerville Municipal Airport and property or occupants of land in its vicinity; that an obstruction may affect existing and future instrument approach minimums at the Springerville Municipal Airport; and that an obstruction may reduce the size of areas available for the landing, takeoff and maneuvering of aircraft, thus tending to destroy or impair the utility of the Springerville Municipal Airport and the public investment therein. Accordingly, it is declared:

1. That the creation or establishment of an obstruction has the potential of being a public nuisance and may injure the region served by the Springerville Municipal Airport.

2. That the encroachment of noise sensitive or otherwise incompatible land uses within certain areas as set forth herein below may endanger the health, safety and welfare of the owners, occupants or users of the land; and

3. That it is necessary in the interest of the public health, public safety and general welfare that the creation or establishment of obstructions that are a hazard to air navigation be prevented; and

4. That the prevention of these obstructions should be accomplished, to the extent legally possible, by the exercise of the police power without compensation; and

5. That the Springerville Municipal Airport fulfills an essential community purpose.

It is further declared that the prevention of the creation of establishment of hazards to air navigation, the elimination, removal, alteration or mitigation of hazards to air navigation, or the marking and lighting of construction are public purposes for which a political subdivision may raise and expend public funds and acquire land or interests in land.

It is hereby ordained by the City of Springerville as follows:

SECTION I
SHORT TITLE

This Ordinance shall be known and may be cited as the Springerville Municipal Airport Overlay Zoning Ordinance.

SECTION II
DEFINITIONS

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

1. AIRPORT – Springerville Municipal Airport.

2. AIRPORT ELEVATION - The highest point of an airport's usable landing area measured in feet above mean sea level.

3. APPROACH SURFACE - A surface longitudinally centered on the extended runway centerline, extending outward and upward from the end of the primary surface and at the same slope as the approach zone height limitation slope set forth in Section IV of this Ordinance. In plan the perimeter of the approach surface coincides with the perimeter of the approach zone.

4. APPROACH, TRANSITIONAL, HORIZONTAL AND CONICAL ZONES - These zones are set forth in Section III of this Ordinance.

5. BOARD OF ADJUSTMENT - A Board consisting of _____#_____ members appointed by the Springerville City Council.

6. CONICAL SURFACE - A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

7. HAZARD TO AIR NAVIGATION - An obstruction determined to have a substantial adverse effect on the safe and efficient utilization of the navigable airspace.

8. HEIGHT - For the purpose of determining the height limits in all zones set forth in this Ordinance and shown on the zoning map, the datum shall be mean sea level elevation unless otherwise specified.

9. HELIPORT PRIMARY SURFACE - The primary surface coincides in size and shape with the designated takeoff and landing area of a heliport. This surface is a horizontal plane at the elevation of the established heliport elevation.

10. HORIZONTAL SURFACE - A horizontal plane 150 feet above the established airport elevation, the perimeter of which in plan coincides with the perimeter of the horizontal zone.

11. LARGER THAN UTILITY RUNWAY - 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. NAVD 88 - North American Vertical Datum 1988. All elevations in this ordinance are referenced to the 1988 North American Vertical Datum.

13. NONCONFORMING USE - Any pre-existing structure, object of natural growth, or use of and which is inconsistent with the provisions of this Ordinance or an amendment thereto.

14. NONPRECISION INSTRUMENT RUNWAY - 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. It also means a runway for which a nonprecision approach system is planned and is so indicated on an approved Airport Layout Plan or any other planning document.

15. OBSTRUCTION - Any structure, growth or other object, including a mobile object, which exceeds a limiting height set forth in Section IV of this Ordinance.

16. PERSON - An individual, firm, partnership, corporation, company, association, joint stock association or governmental entity; includes a trustee, a receiver, an assignee or a similar representative of any of them.

17. PRECISION INSTRUMENT RUNWAY - A runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS), a Precision Approach Radar (PAR) or a Global Positioning System (GPS). It also means a runway for which a precision approach system is planned and is so indicated on an approved airport layout plan or any other planning document.

18. PRIMARY SURFACE - 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 Section III of this Ordinance. 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 - A defined area on an airport prepared for landing and takeoff of aircraft along its length.

20. STRUCTURE - An object, including 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 (7) feet horizontally for each foot vertically from the sides of the primary and approach surfaces to where they intersect the horizontal and 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 - Any object of natural growth.

23. UTILITY RUNWAY - A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

24. VISUAL RUNWAY - A runway intended solely for the operation of aircraft using

visual approach procedures.

SECTION III
AIRPORT HEIGHT RESTRICTION ZONES

In order to carry out the provisions of this ordinance, there are hereby created and established certain zones which include all of the land lying beneath the approach surfaces, transitional surfaces, horizontal surfaces and conical surfaces as they apply to the Springerville Municipal Airport. Such zones are shown on the Springerville Municipal Airport Federal Aviation Regulation (FAR) Part 77 Airspace Drawing. Three (3) original, official, and identical copies of the FAR Part 77 Airspace Drawing reflecting the boundaries of the airport height restriction overlay zoning districts of the City of Springerville, Arizona are hereby adopted, and the Commissioner and Springerville City Clerk are hereby authorized to sign and attest each map as the official Springerville Municipal Airport FAR Part 77 Airspace Drawing of the City of Springerville, Arizona, and such maps shall be filed and maintained as follows:

1. One (1) copy shall be filed for permanent record in the office of the Springerville City Clerk and shall be designated as Exhibit 1. This copy shall not be changed in any manner.

2. One (1) copy shall be filed in the office of the Director of Planning and shall be designated as Exhibit 2. This copy shall be maintained by the Planning Department by posting thereon all subsequent changes and amendments.

3. One (1) copy shall be filed in the office of the Airport Manager and shall be designated as Exhibit 3. This copy shall be maintained by the Planning Department by posting thereon all subsequent changes and amendments.

Each portion of an area located in more than one (1) of the following zones shall be evaluated independently according to the zone in which it is located. The various zones are hereby established and defined as follows:

1. PRECISION INSTRUMENT RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY) – The inner edge of this approach zone coincides with the width of the primary surface and is 1,000 feet wide. The approach zone expands outward uniformly to a width of 16,000 feet at a horizontal distance of 50,000 feet. Its centerline is the continuation of the centerline of the runway.

2. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY) - The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 3,500 feet at a horizontal distance 10,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

3. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (UTILITY AIRCRAFT) – The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 2,000 feet at a horizontal distance 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

4. VISUAL RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY) – The inner edge of this approach zone coincides with the width of the primary surface

and is 500 feet wide. The approach surface expands uniformly to a width of 1,500 feet at a horizontal distance 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

5. VISUAL RUNWAY APPROACH ZONE (UTILITY AIRCRAFT) - The inner edge of this approach zone coincides with the width of the primary surface and is 250 feet wide. The approach surface expands uniformly to a width of 1,250 feet at a horizontal distance of 5,000 feet from the primary surface. The centerline of the approach zone is a continuation of the centerline of the runway.

6. TRANSITIONAL ZONE - The transitional zones are the areas beneath the transitional surfaces.

7. HORIZONTAL ZONE - The horizontal zone is established by swinging arcs of 5,000 or 10,000 feet radii from the center of each end of the primary surface of the primary runway and connecting the adjacent arcs by drawing lines tangent to those arcs. The horizontal zone does not include the approach and transitional zones. The horizontal zone was constructed with 10,000 feet radii.

8. CONICAL ZONE - The conical zone is established as the area that commences at the periphery of the horizontal zone and extends outward there from a horizontal distance of 4,000 feet.

SECTION IV
AIRPORT ZONE HEIGHT LIMITATIONS

Except as otherwise provided in this ordinance, no structure shall be erected, altered, or maintained, and no tree shall be allowed to grow in any zone created by this ordinance to a height in excess of the applicable height limit herein established for such zone. Such applicable height limitations are hereby established for each of the zones in question as follows:

1. PRECISION INSTRUMENT RUNWAY APPROACH ZONE – Slopes fifty (50) feet outward for each 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. Then slopes forty (40) feet outward for each foot upward beginning at the end of and at the same elevation as the first 10,000 feet and extending to a horizontal distance of 40,000 feet along the extended runway centerline.

2. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY) - Slopes thirty-four (34) feet outward for each 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.

3. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (UTILITY AIRCRAFT) – Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

4. VISUAL RUNWAY APPROACH ZONE - Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary

surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

5. TRANSITIONAL ZONE - Slopes seven (7) feet outward for each 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. In addition to the foregoing, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending to where they intersect the conical surface. Where the precision instrument runway approach zone projects beyond the conical zone, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending a horizontal distance of 5,000 feet measured at 90 degree angles to the extended runway centerline.

6. HORIZONTAL ZONE - Established at 150 feet above the airport elevation.

7. CONICAL ZONE - Slopes twenty (20) feet outward for each foot upward beginning at the periphery of the horizontal zone and at 150 feet above the airport elevation and extending to a height of 350 feet above the airport elevation.

SECTION V
COMPATIBLE LAND USE REGULATIONS

1. AIRPORT COMPATIBLE LAND USE OVERLAY ZONING DISTRICTS - For the purpose of regulating the development of noise sensitive land uses to promote compatibility between the Airport and the surrounding land uses, to protect the Airport from incompatible development and to promote the health, safety and general welfare of property users, the controlled area of Springerville Municipal Airport is divided into Airport Compatible Land Use Overlay Zoning districts. The Airport Compatible Land Use Overlay Zoning districts established herein shall be known as:

Off Airport Land Use Zone Number	Zoning District Name
1	Airport Influence Zone (AIZ)
2	Traffic Pattern Zone (TPZ)
3	Runway Protection Zone (RPZ)
4	Approach Zone (AZ)

2. OFF AIRPORT LAND USE DRAWING

A. The boundaries of the Airport Compatible Land Use Overlay Zoning Districts set out herein are delineated upon the Springerville Municipal Airport Off Airport Land Use Drawing of the City of Springerville, Arizona, said Off Airport Land Use Drawing being adopted by reference and made a part of this chapter as fully as if the same were set forth herein in detail.

B. Three (3) original, official, and identical copies of the Off Airport Land Use Drawing reflecting the boundaries of the Airport Compatible Land Use Overlay Zoning

districts of the City of Springerville, Arizona are hereby adopted, and the Commissioner and the Springerville City Clerk are hereby authorized to sign and attest each map as the official Off Airport Land Use Drawing of the City of Springerville, Arizona, and such maps shall be filed and maintained as follows:

1) One (1) copy shall be filed for permanent record in the office of the Springerville City Clerk and shall be designated as Exhibit 1. This copy shall not be changed in any manner.

2) One (1) copy shall be filed in the office of the Director of Planning and shall be designated as Exhibit 2. This copy shall be maintained by the Planning Department by posting thereon all subsequent changes and amendments.

3) One (1) copy shall be filed in the office of the Airport Manager and shall be designated as Exhibit 3. This copy shall be maintained by the Planning Department by posting thereon all subsequent changes and amendments.

3. AIRPORT COMPATIBLE LAND USE OVERLAY ZONING DISTRICT BOUNDARIES

A. The Airport Compatible Land Use Overlay Zoning District boundary lines shown on the official Off Airport Land Use Drawing shall be located and delineated along contour lines established for the Springerville Municipal Airport. Where uncertainty exists as to the boundaries of the Airport Compatible Land Use Overlay Zoning Districts as shown on the official Map, the following rules shall apply:

1) Boundaries shall be scaled from the nearest runway end shown on the map.

2) Boundaries shall be scaled from the nearest physical feature shown on the map.

3) Boundaries may be scaled from the nearest platted lot line as shown on the map.

4) Distances not specifically indicated on the original Off Airport Land Use Drawing shall be determined by a scaled measurement on the map.

B. Where physical features on the ground differ from the information shown on the official Off Airport Land Use Drawing or when there arises a question as to how or where a parcel of property is zoned and such questions cannot be resolved by the application of Section V-3A, the property shall be considered to be classified as the most restrictive Airport Compatible Land Use Overlay Zoning District.

C. Where a parcel of land lies within more than one (1) Airport Compatible Land Use Overlay Zoning District, the zone within which each portion of the property is located shall apply individually to each portion of the development.

4. USE OF LAND AND BUILDINGS

A. Within the Airport Compatible Land Use Overlay Zoning Districts as defined herein, no land shall hereafter be used and no structure or other object shall hereafter be erected, altered, converted or modified other than for those compatible land uses permitted by underlying comprehensive zoning districts, as specified in the City of

Springerville Land Use Code. Additional land uses are prohibited in the Airport Compatible Land Use Overlay Zoning Districts, regardless of underlying zoning, as set forth in the Land Use Compatibility Table included in Attachment A.

B. Where any use of prohibited land and buildings set forth in Section V-4A conflicts with any use of land and buildings set forth in the City of Springerville Land Use Code, as an allowed use on the Zoning District Map, this chapter shall apply.

C. Section V-4 does not apply to property within the official boundaries of the airport.

D. Where specified on the Airport Compatible Land Use Table, the property owner shall dedicate, in advance of receiving a building permit, an aviation clear zone easement to the City of Springerville, Arizona. The purpose of this easement shall be to establish a maximum height restriction on the use of property and to hold the public harmless for any damages caused by noise, vibration, fumes, dust, fuel, fuel particles, or other effects that may be caused by the operation of aircraft landing at, taking off from, or operating on, or at, public airport facilities.

5. ADDITIONAL LAND USE REGULATIONS

A. Within the City of Springerville, Arizona the more restrictive of the City of Springerville Land Use Code or Section V-4A, shall apply to the development of all property covered by the Off Airport Land Use Drawing.

B. On property within the Off Airport Land Use Drawing jurisdiction, but outside the jurisdictional limits of the City of Springerville, Arizona, Section V-4A shall apply to formulate land use recommendations or responses to land use comment requests from other jurisdictions.

C. When a provision of this section conflicts with any airport height hazard restrictions, the most restrictive provision shall apply.

D. Notwithstanding any other provisions of this chapter or other chapter of the City of Springerville Land Use Code, no use may be made of land, water, or structures within any zone established by this chapter in such a manner as to create electrical interference with navigational signals or radio communication between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and others, or result in glare in the eyes of pilots using the airport; impair visibility in the vicinity of the airport; create bird strike hazards, or otherwise in any way endanger or interfere with the landing, taking off or flight operations of aircraft utilizing the airport.

E. When a subdivision plat is required for any property within an Airport Compatible Land Use Overlay Zoning District or within an area shown on the FAR Part 77 Airspace Drawing for the Springerville Municipal Airport, the property owner shall dedicate an aviation hazard easement to the City of Springerville over and across that property. This easement shall establish a height restriction on the use of the property and hold the public harmless from any damages caused by noise, vibration, fumes, dust, fuel, fuel particles, or other effects that may be caused by the operation of aircraft taking off, landing, or operating on or near the Springerville Municipal Airport.

SECTION VI
NONCONFORMING USES

1. REGULATIONS NOT RETROACTIVE - The regulations prescribed by this ordinance shall not be construed to require the removal, lowering, or other change or alteration of any structure or tree not conforming to the regulations as of the effective date of this ordinance, or otherwise interfere with the continuance of nonconforming use. Nothing contained herein shall require any change in the construction, alteration, or intended use of any structure, the construction or alteration of which was begun prior to the effective date of this ordinance, and is diligently prosecuted. Nonconforming land uses existing as of the effective date of this ordinance may be modified such that 1) only existing structures may be enlarged or expanded; 2) that they do not result in any greater violation of height restrictions; and 3) a variance in accordance with Section VII-4 is obtained.

2. MARKING AND LIGHTING - Notwithstanding the preceding provision of this section, the owner of any existing nonconforming structure or tree is hereby required to permit the installation, operation, and maintenance thereon of such markers and lights as shall be deemed necessary by the City of Springerville to indicate to the operators of aircraft in the vicinity of the airport the presence of such airport obstruction. Such markers and lights shall be installed, operated and maintained at the expense of the Springerville Municipal Airport.

SECTION VII
PERMITS

1. FUTURE USES - Except as specifically provided in A and B hereunder, 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 hereby created unless a permit therefore shall have 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 regulating use, structure, or tree would conform to the regulations herein prescribed. An FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, shall accompany each application. If such determination is in the affirmative, the permit shall be granted. No permit for a use inconsistent with the provisions of this ordinance shall be granted unless a variance has been approved in accordance with Section VII, 4.

   A. In the area lying within the limits of the approach zone, transition zone, horizontal zone, and conical zone, no permit shall be required by this ordinance for any tree or structure less than 200 feet above ground level which is also lower than an imaginary surface extending outward and upward at a slope of 100 feet horizontal for each 1 foot vertical beginning at the closest point of the closest runway.

   B. Nothing contained in any of the foregoing exceptions shall be construed as permitting or intending to permit any construction or alteration of any structure, or growth of any tree in excess of any of the height limits established by this ordinance.

2. EXISTING USES - No permit shall be granted that would allow the establishment or creation of any 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 this ordinance or any amendments thereto or than it is when the application for a permit is made. Except as indicated, all applications for such a permit shall be granted.

3. NONCONFORMING USES ABANDONED OR DESTROYED - Whenever the City of

Springerville determines that a nonconforming tree or structure has been abandoned or more than 80 percent torn down, physically deteriorated or decayed, no permit shall be granted that would allow such structure or tree 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 ordinance, may apply to the Board of Adjustment for a variance from such regulations. The application for variance shall be accompanied by a determination from the Federal Aviation Administration as to the effect of a 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 ordinance.

   Additionally, no application for variance to the requirements of this ordinance may be considered by the Board of Adjustment unless a copy of the application has been furnished to the City of Springerville for advice as to the aeronautical effects of the variance. If the City of Springerville does not respond to the application within fifteen (15) days after receipt, the Board of Adjustment may act on its own to grant or deny said application.

5. OBSTRUCTION MARKING AND LIGHTING - Any permit or variance granted may, if such action is deemed advisable to effectuate the purpose of this ordinance and be reasonable in the circumstances, 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 condition may require in accordance with FAA provisions.

SECTION VIII
ENFORCEMENT

It shall be the duty of the City of Springerville to administer and enforce the regulations prescribed herein. Applications for permits and variances shall be made to the City of Springerville upon a form published for that purpose. Applications required by this ordinance to be submitted to the City of Springerville shall be promptly considered and granted or denied. Application for action by the Board of Adjustment shall be forthwith transmitted by the City of Springerville.

SECTION IX
BOARD OF ADJUSTMENT

1. There is hereby created a Board of Adjustment to have and exercise the following powers: (1) to hear and decide appeals from any order, requirements, decision, or determination made by the City of Springerville in the enforcement of this ordinance; (2) to hear and decide special exceptions to the terms of this ordinance upon which such Board of Adjustment under such regulations may be required to pass; and (3) to hear and decide specific variances.

2. The Board of Adjustment shall consist of members appointed by the City of Springerville and each shall serve for a term of __#__ years until a successor is duly appointed and qualified. Of the members first appointed one shall be appointed for a term of __#__ years. Members shall be removable by the appointing authority for cause, upon written charges, after a public hearing.

3. The Board of Adjustment shall adopt rules for its governance and in harmony with the provisions of this ordinance. Meetings of the Board of adjustment shall be held at the call of the chairperson and at such other times as the Board of Adjustment may determine. The chairperson or, in the absence of the chairperson, the acting chairperson may administer oaths and compel the attendance of witnesses. All hearings of the Board of Adjustment shall be public. The Board of Adjustment shall keep minutes of its proceedings showing the vote of each member upon each questions; or if absent or failing to vote, indicating such fact, and shall keep records of its examinations and other official actions all of which shall immediately be filed in the office of the City of Springerville Planning and Zoning Department and on due cause shown.

4. The Board of Adjustment shall make written findings of facts and conclusions of law giving the facts upon which it acted and its legal conclusions from such facts in reversing, affirming, or modifying any order requirement, decision or determination which comes before it under the provisions of this ordinance.

5. The concurring vote of a majority of the members of the Board of Adjustment shall be sufficient to reverse any order, requirement, decision or determination of the City of Springerville or decide in favor of the application on any matter upon which it is required to pass under this ordinance, or to effect variation to this ordinance.

SECTION X
APPEALS

1. Any person aggrieved, or any taxpayer affected, by any decision of the City of Springerville made in the administration of the ordinance, may appeal to the Board of Adjustment.

2. All appeals hereunder must be taken within a reasonable time as provided by the rules of the Board of Adjustment, by filing with the City of Springerville a notice of appeal specifying the grounds thereof. The City of Springerville shall forthwith transmit to the Board of Adjustment all the papers constituting the record upon which the action appealed from was taken.

3. An appeal shall stay all proceedings in furtherance of the action appealed from unless the City of Springerville certifies to the Board of Adjustment, after the notice of appeal has been filed with it, that by reason of the facts stated in the certificate a stay would in the opinion of the City of Springerville cause imminent peril to life or property. In such case, proceedings shall not be stayed except by the order of the Board of Adjustment on notice to the City of Springerville and on due cause shown.

4. The Board of Adjustment shall fix a reasonable time for hearing appeals, give public notice and due notice to the parties in interest, and decide the same within a reasonable time. Upon the hearing, any party may appear in person or by agent or by attorney.

5. The Board of Adjustment may, in conformity with the provisions of this ordinance, reverse or affirm, in whole or in part, or modify the order, requirement, decision or determination appealed form and may make such order, requirement, decision or determination as may be appropriate under the circumstances.

SECTION XI
JUDICIAL REVIEW

Any person aggrieved, or any taxpayer affected, by any decision of the Board of Adjustment, may appeal to the Court of _____ a provided in Section _____ of Chapter

_____ of the Public Laws of _____.

SECTION XII
PENALTIES

Each violation of this ordinance or of any regulations, order, or ruling promulgated hereunder shall constitute a misdemeanor and shall be punishable by a fine of not more than _____ dollars or imprisonment for not more than _____ days or both; and each day a violation continues to exist shall constitute a separate offense.

SECTION XIII
CONFLICTING REGULATIONS

Where there exists a conflict between any of the regulations or limitations prescribed in this ordinance 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 requirements shall govern and prevail.

SECTION XIV
SEVERABILITY

If any of the provisions of this ordinance or the application thereof to any person or circumstances are held invalid, such invalidity shall not affect other provisions or applications of the ordinance which can be given effect without the invalid provision or application, and to this end, the provisions of this ordinance are declared to be severable.

SECTION XV
EFFECTIVE DATE

WHEREAS, the immediate operation of the provisions of this ordinance is necessary for the preservation of the public health, public safety, and general welfare, and emergency is hereby declared to exist, and this ordinance shall be in full force and effect from and after its passage by the City of Springerville and publication and posting as required by law. Adopted by this _____ day of _____, 20____.

ATTACHMENT A

LAND USE COMPATIBILITY TABLE

LAND USE CATEGORY	AIRPORT INFLUENCE ZONE (AIZ)	TRAFFIC PATTERN ZONE (TPZ)	RUNWAY PROTECTION ZONE (RPZ)	APPROACH ZONE (AZ)
RESIDENTIAL				
Single-Family, Nursing Homes, Mobile Homes, Multi-Family, Apartments, condominiums	+	o(3)	--	-(1,3)
PUBLIC				
Schools, Libraries, Hospitals	+	o(3)	--	-(3)
Churches, Auditoriums, Concert Halls	+	o(3)	--	-(3)
Transportation, Parking, Cemeteries	++	++	--	++
COMMERCIAL & INDUSTRIAL				
Offices, Retail Trade	++	+	--	o(3)
Service Commercial, Wholesale Trade, Warehousing, Light Industrial	++	+	--	o(3)
General Manufacturing, Utilities, Extractive industry	++	++	--	o(3)
AGRICULTURAL & RECREATIONAL				
Cropland	++	++	++	++
Livestock Breeding	++	++	-(2)	++
Parks, Playgrounds, Zoos, Golf Courses, Riding Stables, Water Recreation	++	++	-(2)	++
Outdoor Spectator Sports,	++	+	-(3)	-(3)
Amphitheaters	o	-(4)	--	--
Open Space	++	++	++	++

++ Clearly Acceptable + Normally Acceptable o Marginally Acceptable - Normally Unacceptable - - Clearly Unacceptable

Note: Development projects which are wildlife attractant, including sewerage ponds and landfills, within 10,000 feet of the airport are unacceptable. (Ref.: FAA AC 150/5200-33)

Conditions:

(1) If allowed, avigation easements and disclosure must be required as a condition of development.
(2) Any structures associated with uses allowed in the RPZ must be located outside the RPZ.
(3) If no reasonable alternative exists, use should be located as far from extended centerline as possible.
(4) If no reasonable alternative exists, use should be located as far form extended runway centerline and traffic patterns as possible.
(5) Transportation facilities in the RPZ (i.e. roads, railroads, waterways) must be configured to comply with Part 77 requirements.

Appendix C
Acronyms

Springerville Municipal Airport
Airport Master Plan

COMMONLY USED ACRONYMS

AC	Advisory Circular
AD	Airport Design
ADG	Airplane Design Group
AGL	Above Ground Level
AIP	Airport Improvement Program
ALP	Airport Layout Plan
ALS	Approach Lighting System
ARC	Airport Reference Code
ARP	Airport Reference Point
ARTCC	Air Route Traffic Control Center
ASDA	Accelerate Stop Distance
ASDE	Airport Surface Detection Equipment
ASR	Airport Surveillance Radar
ASV	Annual Service Volume
ATC	Air Traffic Control
ATCT	Airport Traffic Control Tower
AWOS	Automated Weather Observation system
BRL	Building Restriction Line
CAT	Category
CFR	Code of Federal Regulations
CWY	Clearway
CY	Calendar Year
DME	Distance Measuring Equipment
EL	Elevation
EMT	Emergency Medical Technician
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBO	Fixed Base Operator
FSS	Flight Service System
FY	Fiscal Year
GA	General Aviation
GPS	Global Positioning System
HIRL	High Intensity Runway Lights
IEMT	Intermediate Emergency Medical Technician
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
LDA	Landing Distance Available
LOC	Localizer
MALS	Medium Intensity Approach Lighting System
MALSF	Medium Intensity Approach Lighting System
MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
ME	Multi-Engine
MIRL	Medium Intensity Runway Lights
MITL	Medium Intensity Taxiway Lights
MLS	Microwave Landing System
MOA	Military Operating Area
MSL	Mean Sea Level
NAVAID	Navigational Aid
NDB	Nondirectional Beacon
NM	Nautical Mile
NPIAS	National Plan of Integrated Airport Systems
ODALS	Onmnidirectional Approach Lighting System
OFA	Object Free Area
OFZ	Obstacle Free Zone
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
RAIL	Runway Alignment Indicator Lights
REIL	Runway End Identifier Lights
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RVR	Runway Visual Range
RW	Runway
SWY	Stopway
TERPS	Terminal Instrument Procedures
TH	Threshold
TL	Taxilane
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available
TSA	Taxiway Safety Area
TVOR	Very High Frequency Omnirange on an Airport
TW	Taxiway
USGS	United States Geological Society
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules
VOR	Very High Frequency Omnirange
WAAS	Wide Area Augmentation System

Appendix D
Glossary of Terms

Springerville Municipal Airport
Airport Master Plan

GLOSSARY OF TERMS

Above Ground Level (AGL)	A height above ground as opposed to MSL (height above Mean Sea Level).
Advisory Circular (AC)	Publications issued by the FAA to provide a systematic means of providing non-regulator guidance and information in a variety of subject areas.
Airport Improvement Program (AIP)	The AIP of the Airport and Airways Improvement Act of 1982 as amended. Under this program, the FAA provide funding assistance for the design and development of airports and airport facilities.
Aircraft Mix	The number of aircraft movements categorized by capacity group or operational group and specified as a percentage of the total aircraft movements.
Aircraft Operation	An aircraft takeoff or landing.
Airport	An area of land or water used or intended to be used for landing and takeoff of aircraft, includes buildings and facilities, if any.
Airport Elevation	The highest point of an airport's useable runways, measured in feet above mean sea level.
Airport Hazard	Any structural or natural object located on or near a public airport, or any use of land near such airport, that obstructs the airspace required for flight of aircraft on approach, landing, takeoff, departure, or taxiing at the airport.
Airport Land Use Regulations	Are designed to preserve existing and/or establish new compatible land uses around airports, to allow land use not associated with high population concentration, to minimize exposure of residential uses to critical aircraft noise areas, to avoid danger from aircraft crashes, to discourage traffic congestion and encourage compatibility with non-motorized traffic from development around airports, to discourage expansion of demand for governmental services beyond reasonable capacity to provide services and regulate the area around the airport to minimize danger to public health, safety, or property from the operation of the airport, to prevent obstruction to air navigation and to aid in realizing the policies of a County Comprehensive Plan and Airport Master Plan.
Airport Layout Plan (ALP)	A graphic presentation, to scale, of existing and proposed airport facilities, their location on the airport and the pertinent applicable standards. To be eligible for AIP funding assistance, an airport must have an FAA-approved ALP.

Airport Master Record, Form 5010	The official FAA document, which lists basic airport data for reference and inspection purposes.
Airport Reference Code (ARC)	The ARC is a coding system used to relate airport design criteria to the operational and physical characteristics of the airplanes intended to operate at the airport.
Airport Reference Point (ARP)	The latitude and longitude of the approximate center of the airport.
Airspace	Space above the ground in which aircraft travel; divided into corridors, routes and restricted zones.
Air Traffic	Aircraft operating in the air or on an airport surface, excluding loading ramps and parking areas.
Approach Surface	A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end.
Automated Weather Observing System (AWOS)	This equipment automatically gathers weather data from various locations on the airport and transmits the information directly to pilots by means of computer generated voice messages over a discrete frequency.
Based aircraft	An aircraft permanently stationed at an airport.
Building Restriction Line	A line, which identifies suitable building area locations on airports.
Ceiling	The height above the earth's surface of the lowest layer of clouds or other phenomena which obscure vision.
Conical Surfaces	A surface extending outward and upward form the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.
Controlled Airspace	Airspace in which some or all aircraft may be subject to air traffic control to promote safe and expeditious flow of air traffic.
Critical/Design Aircraft	In airport design, the aircraft which controls one or more design items such as runway length, pavement strength, lateral separation, etc., for a particular airport. The same aircraft need not be critical for all design items.

Day Night Level (DNL)	24-hour average sound level, including a 10 decibel penalty for sound occurring between 10:00 PM and 7:00 AM
Decibel	Measuring unit for sound based on the pressure level.
Design Type	The design type classification for an airport refers to the type of runway that the airport has based upon runway dimensions and pavement strength.
Federal Aviation Administration (FAA)	The federal agency responsible for the safety and efficiency of the national airspace and air transportation system.
FAR Part 77	A definition of the protected airspace required for the safe navigation of aircraft.
Fixed Base Operator (FBO)	An individual or company located at an airport and providing commercial general aviation services.
Fuel Flowage Fees	A fee charged by the airport owner based upon the gallons of fuel either delivered to the airport or pump at the airport.
General Aviation (GA)	All aviation activity in the United States, which is neither military nor conducted by major, national or regional airlines.
Glider	A heavier-than-air aircraft that is supported in flight by the dynamic reaction of the air against its lifting surfaces and whose free flight does not depend principally on an engine (FAR Part 1),
Global Positioning System (GPS)	The global positioning system is a space based navigation system, which has the capability to provide highly accurate three-dimensional position, velocity and time to an infinite number of equipped users anywhere on or near the Earth. The typical GPS integrated system will provide: position, velocity, time, altitude, groundspeed and ground track error, heading and variation. The GPS measures distance, which it uses to fix position, by timing a radio signal that starts at the satellite and ends at the GPS receiver. The signal carries with it, data that discloses satellite position and time of transmission and synchronizes the aircraft GPS system with satellite clocks.
Hazard to Air Navigation	An object which, as a result of an aeronautical study, the FAA determines will have a substantial adverse effect upon the safe and efficient use of navigable airspace by aircraft, operation of air navigation facilities or existing or potential airport capacity.
Horizontal Surface	A horizontal plane 150 feet above the established airport elevation, the perimeter which is constructed by swinging arcs of specified radii form the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs.

Imaginary Surfaces	Surfaces established in relation to the end of each runway or designated takeoff and landing areas, as defined in paragraphs 77.25, 77.28 and 77.29 of FAR Part 77, *Objects Affecting Navigable Airspace*. Such surfaces include the approach, horizontal, conical, transitional, primary and other surfaces.
Itinerant Operations	All operations at an airport, which are not local operations.
Jet Noise	The noise generated externally to a jet engine in the turbulent jet exhaust.
Knots	Nautical miles per hour, equal 1.15 statute miles per hour.
Large Airplane	An airplane of more than 12,500 pounds maximum certified takeoff weight.
Local Operations	Operations by aircraft flying in the traffic pattern or within sight of the control tower, aircraft known to be arriving or departing from flight in local practice areas, or aircraft executing practice instrument approaches at the airport.
Location Identifier	A three-letter or other code, suggesting where practicable, the location name that it represents.
Maneuvering Area	That part of an airport to be used for the takeoff and landing of aircraft and for the movement of aircraft associated with takeoff and landing, excluding aprons.
Master Plan	A planning document prepared for an airport, which outlines directions and developments in detail for 5 years and less specifically for 20 years. The primary component of which is the Airport Layout Plan.
Mean/Maximum Temperature	The average of all the maximum temperatures usually for a given period of time.
Mean Sea Level (MSL)	Height above sea level.
Medium Intensity Runway Lights (MIRL)	For use on VFR runways or runway showing a nonprecision instrument flight rule (IFR) procedure for either circling or straight-in approach.
Minimum Altitude	That designated altitude below which an IFR pilot is not allowed to fly unless arriving or departing an airport or for specific allowable flight operations.

National Airspace System	The common network of United States airspace, navigation aids, communications facilities and equipment, air traffic control equipment and facilities, aeronautical charts and information, rules, regulations, procedures, technical information and FAA manpower and material.
National Plan of Integrated Airport Systems (NPIAS)	A plan prepared annually by the FAA which identifies, for the public, the composition of a national system of airports together with the airport development necessary to anticipate and meet the present and future needs of civil aeronautics, to meet requirements in support of the national defense and to meet the special needs of the Postal Service. The plan includes both new and qualitative improvements to existing airports to increase their capacity, safety, technological capability, etc.
NAVAID	A ground based visual or electronic device used to provide course or altitude information to pilots.
Noise	Defined subjectively as unwanted sound. The measurement of noise involve understanding three characteristics of sound: intensity, frequency and duration.
Noise Contours	Lines drawn about a noise source indicating constant energy levels of noise exposure. DNL is the measure used to describe community exposure to noise.
Noise Exposure Level	The integrated value, over a given period of time of a number of different events of equal or different noise levels and durations.
Non-Precision Instrument	A runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance for which a straight-in nonprecision instrument approach procedure has been approved.
Notice to Airmen (NOTAM)	A notice containing information (not known sufficiently in advance to publicize by other means concerning the establishment, condition or change in any component (facility, service, or procedure) of or hazard in the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.
Object	Includes, but is not limited to, above ground structures, NAVAIDs, people, equipment, vehicles, natural growth, terrain and parked aircraft.
Object Free Area (OFA)	A two-dimensional ground area-surrounding runways, taxiways and taxilanes which is clear of objects except for object whose location is fixed by function.

Obstacle Free Zone (OFZ)	The airspace defined by the runway OFZ and, as appropriate, the inner-approach OFZ and the inner-transitional OFZ, which is clear of object penetrations other than frangible NAVAIDs.
Obstruction	An object which penetrates an imaginary surface described in the FAA's Federal Aviation Regulations (FAR), Part 77.
Parking Apron	An apron intended to accommodate parked aircraft.
Pattern	The configuration or form of a flight path flown by an aircraft or prescribed to be flown, as in making an approach to a landing
Precision Approach Path Indicators (PAPI)	The visual approach slope indicator system furnishes the pilot visual slope information to provide safe descent guidance. It provides vertical visual guidance to aircraft during approach and landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that they are "on path" if they see red/white, "above path" if they see white/white and "below path" if they see red/red.
Primary Surface	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, but when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway.
Rotating Beacon	A visual navaid operated at many airports. At civil airports, alternating white and green flashes indicate the location of the airport.
Runway	A defined rectangular surface on an airport prepared or suitable for the landing or takeoff of airplanes.
Runway End Identifier Lights (REIL)	REILs are flashing strobe lights which aid the pilot in identifying the runway end at night or in bad weather conditions.
Runway Gradient	The average gradient consisting of the difference in elevation of the two ends of the runway divided by the runway length may be used provided that no intervening point on the runway profile lies more than five feet above or below a straight line joining the two ends of the runway. In excess of five feet the runway profile will be segmented and aircraft data will be applied for each segment separately.
Runway Lighting System	A system of lights running the length of a system that may be either high intensity (HIRL), medium intensity (MIRL), or low intensity (LIRL).
Runway Orientation	The magnetic bearing of the centerline of the runway.

Runway Protection Zone (RPZ)	An area off the runway end used to enhance the protection of people and property on the ground.
Runway Safety Area (RSA)	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 form the runway.
Segmented Circle	A basic marking device used to aid pilots in locating airports and which provides a central location for such indicators and signal devices as may be required.
Small Aircraft	An airplane of 12,500 pounds or less maximum certified takeoff weight.
Taxiway	A defined path established for the taxiing of aircraft from one part of an airport to another.
Terminal Area	The area used or intended to be used for such facilities as terminal and cargo buildings, gates, hangars, shops and other service buildings, automobile parking, airport motels, restaurants, garages and automobile services and a specific geographical area within which control of air traffic is exercised.
Threshold	The beginning of that portion of the runway available for landing.
Touch and Go Operations	Practice flight performed by a landing touch down and continuous takeoff without stopping.
Traffic Pattern	The traffic flow that is prescribed for aircraft landing at, taxiing on or taking off form an airport. The usual components are the departure, crosswind, downwind, and base legs; and the final approach.
Transitional Surface	These surfaces extend outward and upward at right angles to runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces.
Universal Communications (UNICOM)	A private aeronautical advisory communications facility for purpose other than air traffic control. Only one such station is authorized in any landing area. Service available are advisory in nature primarily concerning the airport services and airport utilization. Locations and frequencies of UNICOMs are listed on aeronautical charts and publications.
Visual Flight Rules (VFR)	Rules that govern flight procedures under visual conditions.
Visual Runway	A runway intended for visual approaches only with no straight-in instrument approach procedure either existing or planned for that runway.

Appendix E
Rates and Charges Study

Springerville Municipal Airport
Airport Master Plan

Springerville Municipal Airport
Rates and Charges Analysis

August 4, 2006

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ARMSTRONG CONSULTANTS, Inc.
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INTRODUCTION

The rates and charges analysis is designed to provide the Town of Springerville with an assessment of the Airport's current rates and charges structure and to make recommendations for changes, where warranted. These changes would be primarily directed toward the Town's ability to generate additional revenue to meet projected deficits from the airport's operational costs over the forecast period. The rates and charges analysis is detailed in nature however changing economic conditions, activity demand levels and new policy directives from the Town may impact the actual rates and charges from year to year. Therefore periodic updating of this document is recommended.

FAA Order 5190.6A "Airport Compliance Requirements" says that at an airport that receives Federal Airport Improvement Program (AIP) funds, "the obligation of airport management to make an airport available for public use does not preclude the owner from recovering the cost of providing the facility through fair and reasonable fees, rentals or other user charges which will make the airport as self-sustaining as possible under the circumstances existing at the particular airport." The Grant Assurances state "all revenue generated by the airport and any local taxes on aviation fuel established after December 30, 1987, will be expended by it for the capital or operating costs of the airport".

To determine the present rates and charges for the airport, the following topics were reviewed:

- Inventory and review of existing financial data and agreements
- Comparative analysis of other airports
- Recommended rates and charges
- Summary

TYPICAL GENERAL AVIATION AIRPORT FEES

Land Leases: Property on the airport that is not devoted to airfield use, vehicle parking or contained within areas required to be cleared of structures may be leased to individual airport users or aviation related businesses. Typically, the individual is provided a long-term lease on which to construct a hangar, business or other facility. At the termination of the lease, the lessee has the option to renew the lease, sell or lease the buildings or to remove the buildings.

Hangar Leases: Hangars on the airport owned by the airport sponsor can be leased to private aircraft operators or businesses. Typically, as with land leases, the individual or business is provided a long-term lease of the hangar. At the termination of the lease, the lessee has the option to renew the lease or cease use of the hangar.

Hangar Rental: The FBO Hangar is available for monthly or nightly rental. The fees are usually established on a nightly basis for transient aircraft or monthly basis for based aircraft. Rent is currently charged by the FBO.

Tie-Down Fees: A fee is typically established for the use of fixed ramp tiedowns on paved apron areas. The fees are usually established on a monthly or annual basis for based aircraft and on an overnight basis for transient aircraft.

Through-the-Fence Fees: A fee is typically charged to adjacent landowners who are provided access directly from their private parcel to the public use airport facilities. This fee ensures that the level of rates and charges assessed to on-airport users is equitable to off-airport users and that there is not an unfair economic advantage to operating "through-the-fence". Additionally, through-the-fence operators are required to maintain a secure airport perimeter with fencing and/or gates and to construct paved access taxiways to the airport operating areas. However, the FAA generally discourages through-the-fence operations. Therefore, it is anticipated that all aircraft operations will be conducted from on airport and therefore will not generate through-the-fence fees. In lieu of through-the-fence fees, these aircraft would generate tie-down fees or land lease revenue from hangars.

Fuel Flowage Fee: This fee is typically imposed on all aircraft fuels delivered to the airport and would include all fuels used by aircraft including AvGas, Jet-A and MoGas. The fee would apply to fixed base operators, self-fueling (if authorized) and through-the-fence operators who conduct self-fueling.

Airport Usage Fee: This fee is imposed on all charter aircraft and can be waived if the operator purchases a minimum of 50 gallons of fuel. The airport usage fee is charged by the FBO.

Call Out Fee: This fee is imposed on all users who require after hours fuel service from the FBO.

Vehicle Storage Fee: The FBO currently leases land to people for storage of cars, trucks and mobile homes. The fee imposed is monthly.

Commercial Activity Fee: This fee is imposed on commercial activities operating "for profit" at the airport. Typical commercial activities may include fixed base operators, maintenance services, air taxi or charter services, automobile rental, restaurants, retail or other goods and services which may be provided at the airport. The fee is in addition to land lease rates which may be charged for their facilities.

INVENTORY AND REVIEW OF FINANCIAL DATA AND AGREEMENTS

The inventory of financial data and agreements involved the collection and review of the existing rates and charges for the airport. Rates and charges at the Springerville Municipal Airport are set by the Fixed Base Operator (FBO) at the airport and are approved by the Springerville Town Council. Table 1.1 presents the current rates and charges at the Springerville Airport.

Table 1.1 Current Airport Rates and Charges (2006)

	Existing Rates
Land Leases	$0.10/sq.ft/year
Hangar Leases Monthly	Approximately $0.05-$0.10/sq.ft/year
Hangar Rental Fee Overnight	$15-$100
Tie-Down Fees Monthly	$20-$75
Transient Overnight Tie-Down Fees	$3-$25
Through the Fence Fees	-
Fuel Flowage Fees	-
Airport Usage Fee (Charter Aircraft)	$25
Call Out Fee	$25
Vehicle Storage Fee Monthly	$20-$50
Commercial Activity Fee	-

SOURCE: CITY OF SPRINGERVILLE AND KESTREL AVIATION 2006

COMPARATIVE ANALYSIS

During the study information was gathered from other similar sized airports within the regional proximity to Springerville Municipal Airport. These facilities are similar General Aviation (GA) airports. Most of the information gathered was obtained from mail surveys sent to the airports. The following is a list of the airports from which information was gathered. Five airports responded to the survey. In order to protect sensitive information, individual airport data is not provided.

- Tombstone, Arizona
- Casa Grande, Arizona
- Show Low, Arizona
- St. Johns, Arizona
- Taylor, Arizona
- Holbrook, Arizona
- Payson, Arizona
- Safford, Arizona
- Winslow, Arizona
- Kanab, Utah
- Socorro, New Mexico

Table 1.2 presents the results of this comparison for the average rates and charges from the surveyed airports.

Table 1.2 Average Rates and Charges	
	Survey Rates
Land Leases	$0.10-$0.24/sq.ft/year
Hangar Leases Monthly	$0.40-$0.55/sq.ft/year
Hangar Rental Fee Overnight	-
Tie-Down Fees Monthly	$25-$45/month/aircraft
Transient Overnight Tie-Down Fees	$0-$15/night/aircraft
Through the Fence Fees	$150-$450/aircraft/year
Fuel Flowage Fees	$0.05-$0.25/gallon/year
Airport Usage Fee (Charter Aircraft)	-
Call Out Fee	$25-$75
Vehicle Storage Fee Monthly	-
Commercial Activity Fees	$0-$500/activity/year

RECOMMENDED RATES AND CHARGES

The recommendation for new rates and charges was developed after consideration of the current rate structure and the comparison to the regional averages and the financial needs of the airport as shown in the Financial Chapter of the Airport Master Plan. Recommendations for the future are presented below.

Fuel Flowage Fee
Springerville Municipal Airport does not currently charge a fuel flowage fee. Because of the need to close the gap between expenses and revenues, it is recommended that the Town of Springerville charge $.10/gallon of fuel pumped at the airport.

Tiedown Fee
Tiedown fees are currently charged by the FBO, the rates are currently $20-$75/month and $3-$25/nightly. The existing rate is competitive for the most price sensitive single-engine aircraft and is reasonable for twins and turbine aircraft. Overnight tiedown should be increased to $5 per night for singles up to $25 maximum per month.

Land Lease Rates
The only revenue the Town of Springerville currently generates from the airport is from land leases. The existing land lease rate is approximately $.10/sq.ft/year. It is recommended that the Town increase the lease rate to $.15/sq.ft/year for T-hangar and small hangar sites and to $.22/sq.ft/year for premium frontage locations or improved sites to increase the revenue and bring the airport closer to what other airports are currently charging. It is also recommended that the Town of Springerville not implement reversion of hangars after the lease expires.

Commercial Activity Fee
This fee is usually imposed on commercial activities operating "for profit" at the airport. Currently the airport does not charge a commercial activity fee. It is recommended that the Town implement a commercial activity fee of $200/activity to help offset administrative costs.

SUMMARY

The recommendations contained in this analysis, if implemented will help reduce operating deficits at the Springerville Municipal Airport. Implementing these recommendations would result in increased annual revenue of approximately $13,106 the first year (based on 2005 activity) and projected increased annual revenue of approximately $23,583 in 2025. Table 1.3 presents a summary of the rates and charges including the existing, surveyed and recommended rates.

Table 1.3 Rates and Charges

	Survey Rates	Current Rates	Recommended Rates
Land Leases	$.10-$.24/sq.ft/year	$.10/sq.ft/year	$.15-.22/sq.ft/year
Hangar Leases Monthly	$.05-$.10/sq.ft/month	$.05-.10/sq.ft/month	$.05-$.10/sq.ft/month
Hangar Rental Fee Overnight	-	$15-$100	$15-$100
Tie-Down Fees Monthly	$25-$45/month/aircraft	$20-$75	$25-$75
Transient Overnight Tie-Down Fees	$0-$15/night/aircraft	$3-$25	$5-$25
Through-the-Fence Fees	$150-$450/aircraft/year	-	-
Fuel Flowage Fees	$.05-$.25/gallon	$0	$.10/gallon
Airport Usage Fee (Charter Aircraft)	-	$25	$25
Call Out Fee	$25-$75	$25	$25
Vehicle Storage Fee Monthly	-	$20-$50	$20-$50
Commercial Activity Fees	$0-$500/activity/year	-	$200/activity/year

Appendix F
Survey Information

Springerville Municipal Airport
Airport Master Plan

TOWN OF SPRINGERVILLE MUNICIPAL AIRPORT
END OF RUNWAY COORDINATE VALUES

Point Name	Latitude	Longitude	Ellipsoid Height	Elevation	CODE
Q35B	34°08'02.66673"N	109°18'21.82821"W	2119.191m	2141.789m	PACS
S408	34°07'45.14247"N	109°18'31.00213"W	2122.859m	2145.449m	SACS & BM
D68A	34°07'31.71605"N	109°18'54.36208"W	2125.812m	2148.394m	SACS
SJND	34°31'13.40156"N	109°22'39.07372"W	1723.726m	1747.037m	HARN
N408	34°06'38.98308"N	109°16'26.40790"W	2138.734m	2161.266m	BM
EOR 03	34°07'19.12012"N	109°19'14.74648"W	2127.882m	2150.460m	
EOR 21	34°08'19.25722"N	109°18'05.38324"W	2114.514m	2137.151m	
EOR 11	34°07'53.89579"N	109°18'59.06652"W	2121.079m	2143.683m	
EOR 29	34°07'26.18422"N	109°18'15.65796"W	2123.849m	2146.454m	

Field Survey and Report by

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Appendix G
Public Involvement

Springerville Municipal Airport
Airport Master Plan

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Springerville Airport Master Plan
PAC/Kickoff Meeting, 1/23/06
Meeting Summary

The Springerville Municipal Airport Advisory Committee (SMAAC) meets once a month and the members of the Committee have been assigned by the Town to serve as the Planning Advisory Committee (PAC) for this Airport Master Plan project.

PAC members, Town representatives and the consultants present at the meeting included the following

Candy Cook, local pilot, EAA chapter president
Phil Hanson, helicopter pilot and nearby resident
Scott Garms, Springerville Town Manager
James Hamblin, Springerville, Town Finance Director, charged with oversight of the airport
Chuck Corey, former ATC, commercial pilot, and Boeing employee
Ron Brice, local pilot, local golf course/subdivision owner
Tim Alder, local pilot, local golf course/subdivision owner
Mike Galley, Apache Sitgraves Helitack manager for US Forest service
Quenton Howe, local resident
Brian Martin, Airport Manager, Kestrel Aviation representative
Albert Lassen, Eagar resident
Ryan Hayes, ACI
Dennis Corsi, ACI

The following is an outline of the meeting presentation by ACI:

- A) Dennis: Introduction, master plan goals, PAC role, process, future of aviation, exciting times in aviation, economic impact slides
- B) Ryan: Existing Airside Facilities
  - a. Explanation of Inventory Process
- C) Existing Landside Facilities
- D) Operations and Based Aircraft Forecasts
  - a. Discrepancy between TAF and last AMP
  - b. Existing actual aircraft and ops
- E) ARC
  - a. Based on approach speed and wingspan
  - b. FAA's categorization of airport, airport design standards based on ARC
- F) Aircraft and ARCs
  - a. Springerville currently B-II
  - b. May need to consider an upgrade to C-II based on current and forecast traffic
- G) FAA Airport Design Standards for Runway 3/21
  - a. Non-standard conditions include RSA and ROFA off RW 3 end, TW Alpha width, TOFA penetrated by apron, RVZ penetrated by terminal/FBO
- H) Sample Air Tanker Base Layout
- I) Factors Influencing Aviation Demand at Springerville
- J) Planning Considerations
- K) Public Involvement Program
  - a. Many options on how to involve the public

Discussion took place during and after presentation by ACI. Question was asked about the consideration of air force deployment of resources should a nearby base be attacked. These types of operations are beyond the scope of the study, but certainly possible, although likely limited due to the weight bearing capacity of the runways. Following the ACI presentation an air force C-130 shot the approach to Runway 21 and made a low pass over the airport, so while infrequent, military operations must be considered in the master plan.

Additional questions were asked about the noted design standard deficiencies such as the fences of the ends of Runways 3 and 21. Discussion took place about relocating the threshold vs. acquiring additional property and relocating the fences. The Hangar/FBO's location within the RVZ was discussed, as was the potential to relocate the hangar or shift/extend the crosswind to change the RVZ.

A discussion about the instrument approach minimums at the airport took place. The impact of the minimums (particularly the potential visibility minimums of ¾ or ½ mile) on design standards, set back and land required was discussed. The airport currently has a straight in approach procedure to Runway 21 with 323' ceiling and 1-mile visibility. Brian Martin reported that no aircraft operators have inquired about lower minimums, in fact, the air medivac/ambulance operators will not takeoff or land when the airport is at the minimums due to the surrounding terrain, but he did not know what minimums they used for making a go/no go decision. Dennis explained the potential for a future GPS WAAS approach and the vertical guidance capability vs. having only horizontal guidance.

Discussion took place about needed Forest Service Facilities and potential funding sources. Forest service operations at the airport include single engine air tankers (SEATs), helicopter and helitack, and aerial reconnaissance and air attack.

James Hamblin noted that the Town has applied for FEMA funding to complete perimeter fencing. Apparently, the justification involves the air ambulance operator who struck a dog with a propeller a few months ago.

Discussion took place about needed hangars at airport. James Hamblin is working on a hangar wait list of individuals wishing to construct their own hangars and individuals interested in leasing hangars. Brian Martin added that every weekend Kestrel's hangar is full and they usually have to deny overnight hangar storage to two to three aircraft per weekend. The need for shaded tie downs was also discussed.

AWOS is high on the priority list. Tucson Electric is a possible source of wind data. We had planned to use St. Johns wind data, but it was decided that the St. Johns wind data was not applicable to Springerville. As a side note, Brian Martin reported that Tucson Electric operates a King Air twice per week into the airport.

An in depth discussion took place about the economic development and growth potential of the area and the airport's role is this growth. A new library with conference facilities has been built and a visitor/convention center is being planned. New subdivisions are being constructed in both Springerville and Eagar, some including $1 Million plus homes. The golf course has been redeveloped with residential lots. The proximity of the golf course lots to the airport was discussed and the land use compatibility process to be included in the airport master plan was discussed. The prison, big game hunting and ski resort (new snow making capabilities) were discussed as additional factors influencing aviation demand at Springerville.

The meeting closed and PAC members were told to expect Working Paper 1, the Introduction and Inventory chapters of the Master Plan in about one month.

ARMSTRONG CONSULTANTS, INC.

PROJECT:	SPRINGERVILLE AMP
TITLE:	PAC KICKOFF MEETING
PROJECT NUMBER	
SHEET NO.	OF
DATE:	JAN 23RD 2006
PREPARED BY:	

PLEASE SIGN IN

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Springerville Municipal Airport Master Plan
Alternatives Meeting Minutes
May 3, 2006 10:00 AM Road Inn

Attendees:

Margie Drilling – FAA Aviation Planner
Ray Boucher – ADOT Aeronautics Division Airport Planner
Kay Dyson – Springerville Mayor
Scott Garms – Springerville Town Manager
James Hamblin – Springerville Town Financial Director
Brian Martin – Kestrel Aviation Airport Manager
Mike Gowey – Forest Service Helitack Operations
Bill Jackson – Forest Service Assistant Fire Manager
Phil Hanson – Airport Advisory Committee Chairman
Ron Bryce – Airport Advisory Committee Member
Candy Cook – Airport Advisory Committee Member
Chuck Corey – Airport Advisory Committee Member
Albert Lassen – Airport Advisory Committee Member
Dennis Corsi – Armstrong Consultants
Kevin King – Armstrong Consultants
Justin Pietz – Armstrong Consultants

A Planning Advisory Committee (PAC) meeting was held on May 3, 2006 to present the proposed alternatives for Springerville Municipal Airport to the Town of Springerville, airport advisory committee, FAA and ADOT.

James Hamblin gave an update on what is happening in the local area with continued development including new homes, new business and the increase in total land development. James indicated that Springerville and the surrounding communities are going through significant growth and that this trend is expected to continue.

An introduction was given on the status of the Airport Master Plan followed by discussion on what types of aircraft are currently operating at the airport and what the future fleet mix may be. The plan for remaining B-II during the planning period was agreed upon; however, new construction will be configured to accommodate an upgrade to C-II where feasible. For example: future buildings will be set back a minimum of 400 feet from the runway and the parallel taxiway will be set at 300 feet separation versus 240 feet.

The development alternatives were presented giving the attendees a chance for questions and comments. The improvements to the airport were discussed along with the discussion of the nonstandard conditions including the RVZ and the potential solutions to removing fixed objects out of the RVZ. Several concerns were raised including the cost of correcting the RVZ problems. The costs for each alternative was presented. Alternative option 1 was determined to be too expensive for the Town and that it should be removed from further evaluation. During the discussion the length of the future crosswind was discussed. Several individuals, including airport users, advised that shortening the length of the crosswind runway was not a good idea. The length of the crosswind runway is primarily needed for stopping distance and that if it were shortened safety would be decreased. Ray Boucher advised a possible solution to the

crosswind was to increase the width of the primary Runway 3/21 to 100 feet. The final determination was to select Alternative Option 3B to be the preferred alternative for the airport which includes shifting Runway 11/29 to the north 1,200 feet which removes the FBO building and majority of the apron outside of the RVZ. The consensus also included preventing further incompatible development inside the existing RVZ line. The timing of implementing the corrective action will be weighed against other needed improvements, including runway and taxiway pavement and lighting rehabilitation, based on the results of the upcoming Pavement Condition Index (PCI) survey from the State.

Landside development was also discussed, several areas of the airport were shown for future development and what use would be included for each area. The preferred layout includes increasing the apron area to the north with some hangar development adjacent to the apron. T-hangar and box hangar development to the southeast adjacent to Taxiway B, apron expansion adjacent to the future T-hangar development area. Then placing corporate and industrial development on the southwest side of Runway 11/29 along with a Forest Service Tanker Base.

The Town Mayor also brought up the fact that a buffer between the edge of the Mesa that the airport sits on and the town would be favorable and to limit hangar development on the edge of the property on the southeast end to prevent hangar development from being seen from Town.

The next steps will be to proceed with the completion of the Airport Layout Plans, Financial Plan, CIP and Environmental Overview.

Meeting Sign-In Sheet

Project:	**Springerville Alternatives Meeting**	**Meeting Date:**	**5/3/06**

Name	Title	Company	Phone	Fax	E-Mail
Dennis Corsi	Director of Planning	Armstrong Consultants, Inc.	(970) 242-0101	(970) 241-1769	dennis@armstrongconsultants.com
Justin Pietz	Airport Planner	Armstrong Consultants, Inc.	(970) 242-0101	(970) 241-1769	justin@armstrongconsultants.com
Margie Drilling	Aviation Planner	FAA-Airports Div.	310-7253628	3107256849	margie.drilling@faa.gov
RAY Boucher	Airport Planner	ADOT Aeronautics Div	602-294-9144	-9141	rboucher@azdot.gov
SCOTT GARMS	TOWN MANAGER	TOWN OF SPRINGERVILLE	928-333-2656	333-3056	manager@springerville.com
MIKE GOWEY	HELITACK-FOREST SERVICE	APACHE-SITGREAVES N.F.	928-333-4629	928-333-4630	JGOWEY@FS.FED.US
BILL JACKSON	ASSISTANT FIRE Mgt.	APACHE-SITGREAVES NF	928-333-6315	"	WJACKSON@FS.FED.US
JAMES HAMBLIN	FINANCE DIRECTOR	TOWN OF SPRINGERVILLE	928-333-2656	928-333-5598	JHAMBLIN@SPRINGERVILLE.COM
PHIL HANSON	SMACC/CHAIRPERSON	AZ DEPT OF CORRECTIONS	928-333-2618		PHANSON@AZCORRECTIONS.GOV
RON BRYCE	SMACC/MEMBER	Country Wide Investments	928-333-3177	928-333-3034	Agaibio@AOL.COM
[illegible]	SMACC member	[illegible] Valley Unified School	928 339 4027		philrowbook@frontiernet.net
CHUCK COREY	SMACC MEMBER	RETIRED	928 339 4359		chuckcorey@eagertrails.com
Brian Martin	Airport Manager	Kestrel Aviation	928-333-5746	"	n6309w@frontiernet.net

Meeting Sign-In Sheet

Project:	Springerville Alternatives Meeting	Meeting Date:	5/3/06

Name	Title	Company	Phone	Fax	E-Mail
Kay Dyson	Mayor	Town of Springerville	333-2809	333-3056	vkdyson@cybertrails.com
Kevin King	Design Engineer	Armstrong Consultants Inc	970 242 0101	970 241 1769	KevinK@armstrongconsultants.com
ALBERT LASSEN	MEM. COMM.	ASM/SPVL	928-333-0851	333-0860	Clstreet@Cybertrails.com

Appendix H
Agency Coordination

Springerville Municipal Airport
Airport Master Plan

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

May 16, 2006 ACI# 045720

Mr. John Keever
U.S. Army Corps of Engineers
3636 N. Central Ave. Suite 900
Phoenix, AZ 85012-193

RE: Springerville Airport Master Plan

Dear Mr. Keever:

Armstrong Consultants has been retained to prepare an updated Airport Master Plan for the Springerville Municipal Airport in Springerville, Arizona. To assist us in preparing this Airport Master Plan, and to comply with the requirements of NEPA and the Federal Aviation Administration, we request your comments concerning the possibility of the proposed development actions impacting any wetlands or waters of the U.S.

Enclosed for your reference are a location map, a vicinity map and a drawing of the proposed improvements to the Springerville Municipal Airport. Please forward any comment at your earliest convenience and please contact me at (970) 242-0101 if you have any questions regarding this project. Thank you for your assistance.

Sincerely,

ARMSTRONG CONSULTANTS, INC.

Justin Pietz
Airport Planner

Enclosures

861 Rood Avenue • Grand Junction, Colorado 81501 • **tel** 970.242.0101 • **fax** 970.241.1769 • **e-mail** aci@armstrongconsultants.com

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

May 16, 2006 ACI# 045720

Mr. Doug McKenna
U.S. Fish and Wildlife Service
2450 West Broadway Road Suite 113
Mesa, AZ 85202

RE: Springerville Municipal Airport Master Plan

Dear Mr. McKenna:

Armstrong Consultants has been retained to prepare an updated Airport Master Plan for the Springerville Municipal Airport in Springerville, Arizona. To assist us in preparing this Airport Master Plan, and to comply with the requirements of NEPA and the Federal Aviation Administration, we request your comments concerning the possibility of the proposed development actions impacting any area threatened or endangred species.

Enclosed for your reference are a location map, a vicinity map and a drawing of the proposed improvements to the Springerville Municipal Airport. Please forward any comment at your earliest convenience and please contact me at (970) 242-0101 if you have any questions regarding this project. Thank you for your assistance.

Sincerely,

ARMSTRONG CONSULTANTS, INC.

Justin Pietz

Justin Pietz
Airport Planner

Enclosures

861 Rood Avenue • Grand Junction, Colorado 81501 • **tel** 970.242.0101 • **fax** 970.241.1769 • **e-mail** aci@armstrongconsultants.com

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

May 16, 2006 ACI# 045720

Mr. James Garrison, SHPO
Arizona State Parks
1300 West Washington
Phoenix, AZ 85007

RE: Springerville Airport Master Plan

Dear Mr. Garrison:

Armstrong Consultants has been retained to prepare an updated Airport Master Plan for the Springerville Municipal Airport in Springerville, Arizona. To assist us in preparing this Airport Master Plan, and to comply with the requirements of NEPA and the Federal Aviation Administration, we request your comments concerning the possibility of the proposed development actions impacting any historical, cultural and archeological resources.

Enclosed for your reference are a location map, a vicinity map and a drawing of the proposed improvements to the Springerville Municipal Airport. Please forward any comment at your earliest convenience and please contact me at (970) 242-0101 if you have any questions regarding this project. Thank you for your assistance.

Sincerely,

ARMSTRONG CONSULTANTS, INC.

Justin Pietz
Airport Planner

Enclosures

861 Rood Avenue • Grand Junction, Colorado 81501 • **tel** 970.242.0101 • **fax** 970.241.1769 • **e-mail** aci@armstrongconsultants.com

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

May 16, 2006

ACI# 045720

Chris Varga
Arizona Department of Enviromental Quality
Water Quality
1110 West Washington Street 3415
Phoenix, AZ 85007

RE: Springerville Airport Master Plan

Dear Mr. Varga:

Armstrong Consultants has been retained to prepare an updated Airport Master Plan for the Springerville Municipal Airport in Springerville, Arizona. To assist us in preparing this Airport Master Plan, and to comply with the requirements of NEPA and the Federal Aviation Administration, we request your comments concerning the possibility of the proposed development actions impacting water quality.

Enclosed for your reference are a location map, a vicinity map and drawing of the proposed improvements to the Springerville Municipal Airport. Please forward any comment at your earliest convenience and please contact me at (970) 242-0101 if you have any questions regarding this project. Thank you for your assistance.

Sincerely,

ARMSTRONG CONSULTANTS, INC.

Justin Pietz
Airport Planner

Enclosures

861 Rood Avenue • Grand Junction, Colorado 81501 • **tel** 970.242.0101 • **fax** 970.241.1769 • **e-mail** aci@armstrongconsultants.com

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

May 16, 2006

ACI# 045720

Ms. Diane Arnst
Arizona Department of Environmental Quality
Air Quality Division
1110 West Washington Street 3415 A-3
Phoenix, AZ 85007-2935

RE: Springerville Airport Master Plan

Dear Ms. Arnst:

Armstrong Consultants has been retained to prepare an updated Airport Master Plan for the Springerville Municipal Airport in Springerville, AZ. To assist us in preparing this Master Plan, and to comply with the requirements of NEPA and the Federal Aviation Administration, we request your comments concerning the potential impacts to air quality and any permitting requirements.

Enclosed for your reference are a location map, a vicinity map and a drawing of the proposed improvements to the Springerville Municipal Airport. Please forward any comment at your earliest convenience and please contact me at (970) 242-0101 if you have any questions regarding this project. Thank you for your assistance.

Sincerely,

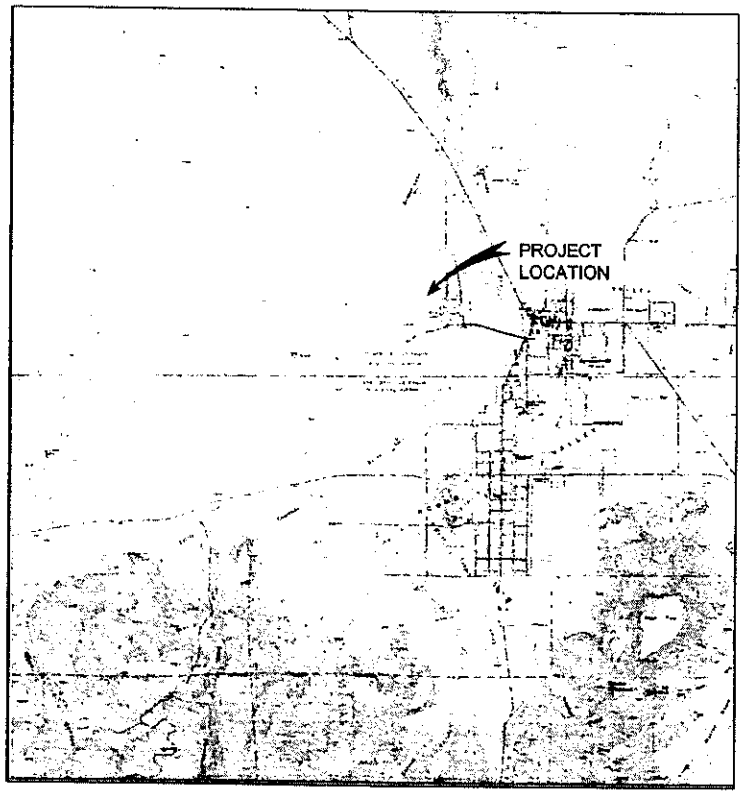
ARMSTRONG CONSULTANTS, INC.

Justin Pietz
Airport Planner

Enclosures

861 Rood Avenue • Grand Junction, Colorado 81501 • **tel** 970.242.0101 • **fax** 970.241.1769 • **e-mail** aci@armstrongconsultants.com

SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA



VICINITY MAP

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services
861 Rood Avenue
Grand Junction, CO 81501
ph. 970.242.0101 fax. 970.241.1769

500-1501

LEGEND

EXISTING	FUTURE/ULTIMATE	DESCRIPTION	EXISTING	FUTURE	
		AIRFIELD DEVELOPMENT (ASPHALT)		0000 0000	THRESHOLD LIGHTS
		STRUCTURE/FACILITIES (BUILDING)			REIL
		AIRPORT PROPERTY LINE (APL)			VASI/PAPI
RSA(E)	RSA(F)(U)	RUNWAY SAFETY AREA (RSA)			AIRPORT REFERENCE POINT (ARP)
OFZ(E)	OFZ(F)(U)	OBSTACLE FREE ZONE (OFZ)			AIRPORT BEACON
ROFA(E)	ROFA(F)(U)	RUNWAY OBJECT FREE AREA (ROFA)			WIND CONE & SEGMENTED CIRCLE
RPZ(E)	RPZ(F)(U)	RUNWAY PROTECTION ZONE (RPZ)		N/A	SECTION CORNER
RVZ(E)	RVZ(F)(U)	RUNWAY VIZIBILITY ZONE (RVZ)			AWOS
BRL(E)	(BRL)(F)(U)	BUILDING RESTRICTION LINE (BRL)			DRAINAGE/ CULVERT
TSA(E)	TSA(F)(U)	TAXIWAY SAFETY AREA (RSA)	4125	N/A	CONTOURS
TOFA(E)	TOFA(F)(U)	TAXIWAY OBJECT FREE AREA (ROFA)			ROADS
		FENCING			MARKINGS

AIRPORT PROPERTY LINE (F)

AIRPORT PROPERTY LINE

AIRPORT PROPERTY LINE (F)

AIRPORT PROPERTY LINE (E) TO FOLLOW (F) RPZ

TO BE REMOVED

10°43'

MAGNETIC DECLINATION = 9° 6' East

MAGNETIC NORTH SOURCE: NOAA GEOPHYSICAL DATA CENTER 03.31.06 RATE OF CHANGE 0°6' W/YEAR

0 500 1000

SCALE IN FEET

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

861 Rood Avenue
Grand Junction, CO 81501
ph: 970.242.0101 fax: 970.241.1769

SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

No.	Revision	Date	By

Project No: 045720
Date: 5.18.06
File Name: ALT. 2

Drawn: GK
Checked: JP
Approved: DC

SPRINGERVILLE PROPOSED ACTION

Sheet: 1 of: 1

Appendix I
Agency Response

Springerville Municipal Airport
Airport Master Plan

XC Letter: JC
Keith
Dennis
Kevin
Jd
orig: Justin

RECEIVED MAY 2 6 2006

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
ARIZONA-NEVADA AREA OFFICE
3636 NORTH CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

REPLY TO
ATTENTION OF:

May 22, 2006

Office of the Chief
Regulatory Branch

Town of Springerville
C/O Justin Pietz
Armstrong Consultants, Inc.
861 Rood Avenue
Grand Junction, Colorado 81501

File Number: 2006-01185-RWF

Dear Mr. Pietz:

It has come to our attention that you plan to implement various improvement to the Springerville Municipal Airport in and/or adjacent to the Little Colorado River and unnamed washes at (Section 5 and 6, 31 and 32, T8N, T9N, R29E, R29E), in the Town of Springerville, Apache County, Arizona.

This activity may require a Department of the Army permit issued under Section 404 of the Clean Water Act. A Section 404 permit is required for the discharge of dredged or fill material into the "waters of the United States," including adjacent wetlands. Examples of activities requiring a permit are placing bank protection, temporary or permanent stock-piling of excavated material, grading roads, grading (including vegetative clearing operations) that involves the filling of low areas or leveling the land, constructing weirs or diversion dikes, constructing approach fills, and discharging dredged or fill material as part of any other activity.

Enclosed you will find a permit application form and a pamphlet that describes our regulatory program. If you have questions, please contact Ron Fowler at (602) 640-5385 x 226. Please refer to file number 2006-01185-RWF in your reply.

Sincerely,

Cindy Lester

Cindy Lester P.E.
Chief, Arizona Section
Regulatory Branch

Enclosure(s)

Arizona® State Parks

xc: JC
Dennis
Keith
Jud
orig: Justin

May 31, 2006

RECEIVED JUN 0 5 2006

Justin Pietz
Environmental/Airport Planner
Armstrong Consultants, Inc.
861 Rood Avenue
Grand Junction, Colorado 81501

RE: Updated Master Plan
Springerville Municipal Airport;
SHPO-2006-1029 (29164)

Dear Mr. Pietz:

Thank you for consulting with the State Historic Preservation Office (SHPO) regarding the above project. We appreciate your cooperation with this office in considering the impacts of development on cultural resources situated in Arizona. We have reviewed the submitted materials and offer the following comments.

Your May 16th letter has been interpreted as a NEPA submittal, and does not constitute consultation under Section 106 of the National Historic Preservation Act. Provisions at 36 CFR Part 800.8 must be followed in order for this office to accept NEPA documentation as Section 106 compliance consultation.

A search of our records indicates the vast majority of the area of the Springerville Municipal Airport has not been assessed for cultural resources, the exception being a small corridor northwest of the north end of the runway. It was inspected in 1993 and sponsored by the town of Springerville; no historic properties were identified within the study area. The areas to the east of the airport along the Little Colorado River were inspected in the late 1940s by the Peabody Museum [Harvard University], but the area of the airport and to the west have not been assessed. We recommend the airport areas be inspected for cultural resources by a qualified cultural resources specialist.

If you have any questions or comments, please contact me at (602) 542-7140 or electronically via djacobs@pr.state.az.us.

Sincerely,

David Jacobs
Compliance Specialist/Archaeologist
State Historic Preservation Office

Arizona State Parks
1300 W. Washington
Phoenix, AZ 85007

Tel & TTY: 602.542.4174
www.azstateparks.com

800.285.3703 from
(520 & 928) area codes

General Fax:
602.542.4180

Director's Office Fax:
602.542.4188

ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janet Napolitano
Governor

Stephen A. Owens
Director

May 25, 2006

RS306:022

RECEIVED AUG 2 4 2006

Armstrong Consultants, Inc.
Justin Pietz, Airport Planner
861 Rood Avenue
Grand Junction, Colorado 81501

Re: Springerville Airport Master Plan; ACI# 045720; May 16, 2006
ADEQ Comments Regarding Water Quality Impacts; CWA 404/401 Program

Dear Mr. Pietz:

I have studied Armstrong Consultants' drawing (file: "ALT.2") of the existing and proposed actions for the Springerville Municipal Airport (Arizona). Based upon this, it appears the proposed activities may require a Clean Water Act section 404 permit and 401 certification of the same as the new construction intersects what appear to be streams and washes on the underlying aerial photograph.

Therefore, I recommend that both a delineation of the jursidictional waters of the U.S. (WUS) in accordance with the requirements of the U.S. Army Corps of Engineers (CoE) and calculation of the actual amount of affected WUS be completed in order to determine the need for a 404 permit.

Should you have any questions in this matter, please contact me at (602) 771-4502 or email: *scalamera.robert@azdeq.gov*

Sincerely,

Robert J. Scalamera, Hydrologist
Surface Water Section, 401 Certifications, mailstop 5415A-1

cc: Chris Varga, Manager, Surface Water Section

Northern Regional Office
1515 East Cedar Avenue • Suite F • Flagstaff, AZ 86004
(928) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

Appendix J
Storm Water Pollution Prevention Plan (SWPPP)

Springerville Municipal Airport
Airport Master Plan

SPRINGERVILLE MUNICIPAL AIRPORT

Stormwater Pollution Prevention Plan (SWPPP)

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

SPRINGERVILLE MUNICIPAL AIRPORT

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Prepared For
The Town of Springerville, Arizona
April 25, 2007

By
Armstrong Consultants, Inc.
861 Rood Avenue
Grand Junction, Colorado 81501
Phone: 970.242.0101
Fax: 970.241.1769
www.armstrongconsultants.com

TABLE OF CONTENTS

FIGURES

APPENDICES

FIGURE 1 VICINITY MAP

GENERAL INFORMATION

The Springerville Municipal Airport is a Public-Use general aviation airport facility located in Apache County, Arizona, approximately two miles west; southwest of the Town of Springerville. The Springerville Municipal Airport provides a vital service to the residents of Springerville, Eagar and Apache County. Springerville and the neighboring Town of Eagar both reside in the Round Valley just north of the White Mountains. Combined with a mild climate and proximity to a wealth of outdoor recreation year round, ranging from hunting and fishing to winter skiing, Springerville is a haven for recreational enthusiasts in Arizona and New Mexico. The airport is owned and operated by the Town of Springerville.

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared by the Springerville Municipal Airport with assistance from Armstrong Consultants, Inc. The Plan has been prepared and will be implemented in accordance with requirements of the Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) Stormwater Multi-Sector Permit for Stormwater Discharges Associated with Industrial Activity (Airports). The Arizona Department of Environmental Quality (ADEQ) Notice of Intent (NOI) Form can be found in Appendix B.

The Springerville Municipal Airport is located on approximately 558 acres in the eastern portion of Arizona, approximately two miles west; southwest of Springerville, at an elevation of 7,051

feet Mean Sea Level (MSL). The area receives an average of 12 to 16 inches of precipitation annually and an average of 19.5 inches of snowfall annually.

The following activities occur at the airport:

- Aircraft fueling (100LL and Jet A), flight instruction, hangar and tie-down space for local transient aircraft.
- Air ambulance services provide essential emergency medical transport in life threatening situations and patient transfers from clinics to higher level care facilities throughout the Springerville-Eagar area.
- U.S. Forest Service utilizes the airport for wildfire control and suppression.

Annual fuel sales in 2005 totaled 60,000 gallons and no deicing occurs at the airport.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: _____ Date: _____

Signature: _____

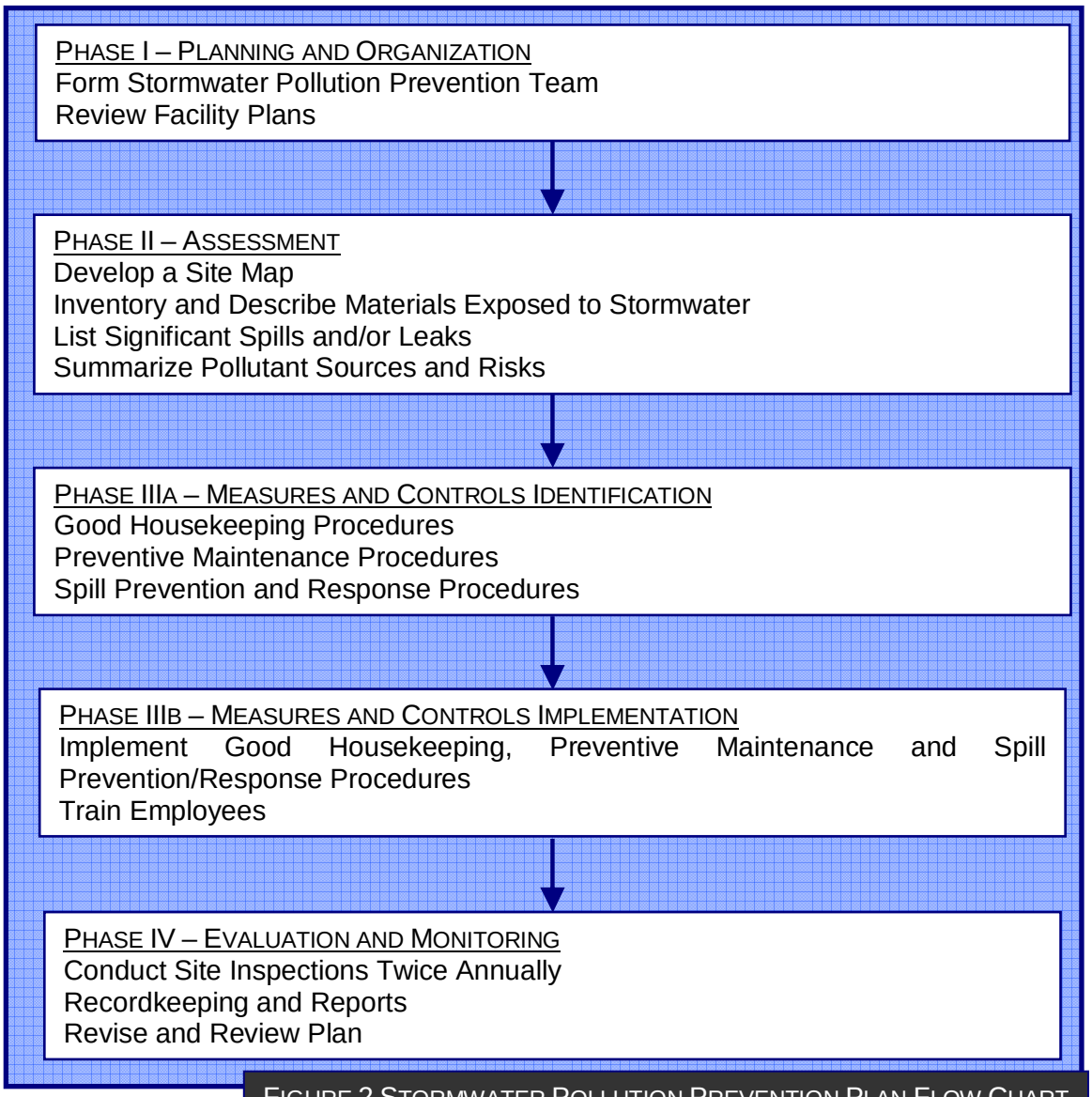


FIGURE 2 STORMWATER POLLUTION PREVENTION PLAN FLOW CHART

PHASE I – PLANNING AND ORGANIZATION

The Stormwater Pollution Prevention Team (member roster shown on the next page) has the responsibility to define and agree upon a clear and reasonable set of goals for the airport's overall Stormwater Management Program. The team is responsible for periodic site assessment, identification of pollutant sources and risks, decision making on appropriate best management practices (BMP), directing the actual implementation of the BMPs and regular evaluations to measure the effectiveness of the plan. Additionally, the member roster lists the chain of command and specific jobs for each team member. This team will assure good channels of communication at the airport and with the surrounding community. The team member roster designates with a (*) the on-site person who will be accountable for spill prevention at the airport. The designated person is responsible for setting up necessary spill emergency procedures, notifying the team leader and appropriate members and reporting requirements to isolate, contain and clean up spills and emergency releases.

If a new or revised facility plan is developed for the airport, the revised facility plan will be reviewed by the airport's Stormwater Pollution Prevention Team for consistency and possible revisions to the facility plan, the SWPPP or both plans.

IN CASE OF A FUEL OR SUBSTANCE SPILL – CONTACT:

POLLUTION PREVENTION TEAM

Completed By: _____
Title: _____

Airport: Springerville Municipal Airport

MEMBER ROSTER

Team Leader: _____ Title: _____
Office Phone: _____

Responsibilities: Coordination and documentation of any fuel or other substance spills. Keeps pollution prevention team and plan manual current concerning airport facilities and procedures. Reviews construction Stormwater Pollution Prevention Plans. Contacts person with State and/or Environmental Protection Agency.

MEMBERS:

(1) _____ Title: _____
Office Phone: _____

Responsibilities: Assistant Team Leader who will, in the absence of the Team Leader, assume Team Leader's duties, and will also assist the Team Leader in implementation, review and monitoring the Stormwater Pollution Prevention plan.

(2) _____ Title: _____
Office Phone: _____

Responsibilities: Team Member – on-site, and is the immediate contact person. Will be authorized to take immediate appropriate action on spills and getting information to the Team Leader. *Accountable for spill prevention.

(3) _____ Title: _____
Office Phone: _____

Responsibilities: Will assist Team Member in appropriate action on spills and monitoring.

TO BE POSTED AT APPROPRIATE LOCATIONS IN THE FUELING AREAS, FBOs AND TERMINAL BUILDING.

(A copy of this form for posting at the above locations is available in Appendix C.)

PHASE II – ASSESSMENT

DESCRIPTION OF POTENTIAL POLLUTANT SOURCES

Airport Site Maps, which include Stormwater outfalls, activities locations and prediction of pollution flow routes, are included in Appendix A of this report.

POLLUTANT SOURCES

Aircraft are refueled anywhere on the aircraft apron or in the hangar areas by fuel trucks which are normally parked near the southeast corner of the terminal building on the apron. Normal refueling and fuel storage methods aim to prevent contact of fuels with stormwater; however, small amounts (generally less than 200 milliliters) may be spilled on the aircraft apron during flight safety checks by pilots to determine if fuel tanks contain water. Fuel is stored in two above ground tanks and one fuel truck. Both tanks are located on the northeast side of the aircraft parking apron. Refer to Appendix E for a Terminal Area Drawing.

Aircraft are washed outdoors by private owners and the FBO. No aerial applicators of agricultural chemicals are based at the airport.

POLLUTANT RISK ASSESSMENT

There is a potential for minor oil and grease deposits from the apron surface during the entire year, as well as suspended solids once stormwater reaches the earthen ditches.

STORAGE FACILITIES

Fuel is stored in the fuel areas described above. Both above ground storage tanks are epoxy coated. One tanks contains 10,000 gallons of 100 Low-lead (LL) aviation gas and the other contains 5,000 gallons of Jet-A aviation gas. Both tanks are checked daily for fuel quantity to ensure that there are no leaks. During fueling of the tanks the fuel is pumped into the tanks.

WASTE DISPOSAL PRACTICES

Wastes generated at the airport are limited to used oils, solvents and general refuse. Used oil is stored prior to disposal off-site. Solvents for cleaning of engine parts are stored and used indoors. General refuse is disposed of in storage containers equipped with lids which prevent any contamination with stormwater. Therefore, there is very little opportunity of contamination of stormwater from waste disposal.

INVENTORY OF MATERIAL EXPOSED TO STORMWATER

The following site checklist should be used to help identify materials that have been exposed to stormwater and current measures that the airport, FBO and private hangar owners have taken to prevent the contact of these materials with stormwater.

SITE CHECKLIST

- ☐ Does your facility show signs of poor housekeeping (cluttered walkways, un-swept floors, uncovered materials, etc.)?
- ☐ Are there spots, pools, puddles or other traces of oil, grease or other chemicals on the ground?
- ☐ Is there discoloration, residue or corrosion on the roof or around vents or pipes that ventilate or drain work areas?
- ☐ Do you see leaking equipment, pipes, containers or lines?
- ☐ Are there areas where absorbent materials (kitty litter, saw dust, etc.) are regularly used?
- ☐ Do you notice signs such as smoke, dirt or fumes that indicate material losses?
- ☐ Do you smell strange odors or experience eye, nose, or throat irritation when you first enter the work area? These are indications of equipment leaks.
- ☐ Do storage containers show signs of corrosion or leaks?
- ☐ Are there open containers, stacked drums, shelving too small to properly handle inventory or other indications of poor storage procedures?
- ☐ Are containers properly labeled?

An inspection should focus on areas where the airport, FBO and private hangar owners store fluids, any maintenance hangars, the apron areas and fuel storage and dispensing areas. The inspection should also include spills that may have occurred during loading or unloading operations. The following “Material Inventory” and “List of Significant Spills and Leaks” worksheets should be used in conducting the inventory and recording any previous spills in accordance with this Stormwater Pollution Prevention Plan. Results of inspections should be discussed with the Town of Springerville, the Airport Manager and owners of the FBO and private hangars.

Material Inventory

Completed By: _____
Title: _____
Date: _____

Instructions: List all materials used, stored or produced on site. Assess and evaluate these materials for their potential to contribute pollutants to stormwater runoff.

Material	Purpose/Location	Quantity (units)			Quantity Exposed to storm water in Last 3 Years	Likelihood of contact with storm water. If yes, describe reason.	Past Significant Spill or Leak	
		Used	Produced	Stored			Yes	No

FIGURE 3 MATERIAL INVENTORY WORKSHEET

List of Significant Spills or Leaks

Completed By: _____
Title: _____
Date: _____

Directions: Record below all significant spills and/or leaks of toxic or hazardous pollutants that have occurred at the facility in the three years prior to the effective date of the permit.

Definitions: Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of reportable quantities.

1st Year Prior

Date (Month/Day/Year)	Spill	Leak	Location (as indicated on site map)	Description				Response Procedure		Preventive Measures Taken
				Types of Material	Quantity	Source If Known	Reason	Amount of Material Recovered	Material No Longer Exposed to storm water (True/False)	

2nd Year Prior

Date (Month/Day/Year)	Spill	Leak	Location (as indicated on site map)	Description				Response Procedure		Preventive Measures Taken
				Types of Material	Quantity	Source, If Known	Reason	Amount of Material Recovered	Material No Longer Exposed to storm water (True/False)	

3rd Year Prior

Date (Month/Day/Year)	Spill	Leak	Location (as indicated on site map)	Description				Response Procedure		Preventive Measures Taken
				Types of Material	Quantity	Source, If Known	Reason	Amount of Material Recovered	Material No Longer Exposed to storm water (True/False)	

FIGURE 4 SPILLS AND LEAKS WORKSHEET

PHASE III – MEASURES AND CONTROLS

The following is a description of all Stormwater Pollution Control Measures that will be implemented under the Airport Stormwater Pollution Prevention Plan:

GOOD HOUSEKEEPING:

The airport will require that the FBO, private hangar owners and/or all other tenants on the airport maintain their areas and store potential pollutants in a manner to eliminate the discharge of pollutants onto a surface which eventually drains into a stormwater system. The Stormwater Pollution Prevention Team Leader will make periodic unannounced site inspections, (at least two per year), to assure that all activities on the airport comply with these regulations.

PREVENTIVE MAINTENANCE:

The airport will require that the FBO, private hangar owners and/or all other tenants on the airport regularly inspect their areas or facilities to uncover conditions such as cracks or slow leaks in fuel systems or stored fluids, which may cause spills, leaks or other situations that could lead to stormwater runoff contamination. The inspections will include looking at sources of potential stormwater contamination. Examples may be pipes, storage tanks and bins, fuel storage areas and dispensers and waste storage containers and dumpsters. The airport will require that the FBO, private hangar owners and all other tenants that are engaged in activities that may cause contamination on the airport maintain suitable records documenting inspections and noting their preventive maintenance schedule. The records of these inspections (at least two per year) must be submitted to the Town of Springerville and kept with the Stormwater Pollution Prevention Plan. The following checklist is an example of what shall be inspected.

VISUAL INSPECTION CHECKLIST

Do you see:

- ☐ Corroded drums or drums without plugs or covers?
- ☐ Corroded or damaged tanks, tank supports or tank drain valves?
- ☐ Torn chemical bags or chemical bags exposed to rainwater?
- ☐ Corroded or leaking pipes?
- ☐ Leaking or improperly closed valves or valve fittings?
- ☐ Leaking fuel pumps and/or hose connections?
- ☐ Broken or cracked dikes, walls or other physical barriers designed to prevent Stormwater from reaching stored materials?
- ☐ Uncovered trash dumpsters or other outdoor trash containers?
- ☐ Leaking and/or open fluid containers stored outside?
- ☐ Noticeable cracks or slow leaks in fuel systems or stored fluids?

The following “Visual Inspection Checklist” should be used in conducting unannounced site inspections and for a minimum of bi-annual inspections by FBO and airport tenants.

Visual Inspection Checklist

To be given to tenants and FBOs twice a year (minimum)

To be used by Team Leader for unannounced site inspections

Completed By: _____

Title: _____

Date: _____

Instructions: Inspect each item below, and check the appropriate box to the left. List the type and location of material if the answer to any question is YES. Check whether there is any evidence of a significant spill since the last inspection

Check the Appropriate Box		Inspection Item	If Yes, Type of Material	If Yes, Location of Material	Any Evidence of a Significant Spill or Leak	
Yes	No				Yes	No
		Corroded drums or drums without plugs or covers				
		Corroded or damaged tanks, tank supports or tank drain valves				
		Torn Chemical bags or chemical bags exposed to rainwater				
		Corroded or leaking pipes				
		Leaking or improperly closed valves or valve fittings				
		Broken or cracked dikes, walls or other physical barriers designed to prevent stormwater from reaching stored materials				
		Uncovered trash dumpsters or other trash containers				
		Leaking and/or open fluid containers stored outside				
		Any noticeable cracks or slow leaks in fuel systems or stored fluids				

FIGURE 5 VISUAL INSPECTION CHECKLIST

SPILL PREVENTION AND RESPONSE PROCEDURES:

The Airport Site Map in Appendix A shows the location of fuel storage, truck parking and aircraft apron areas where fueling and/or aircraft maintenance may occur. These items are the major areas of concern regarding spills or leaks. Fluids stored inside buildings are a lesser concern since they are easier to contain inside a building. Fuel dispensers have automatic shutoff mechanisms to prevent a spill or leak.

Tenants at the Airport should adopt effective housekeeping practices: perform regular visual inspections, perform preventive maintenance on equipment and use proper procedures when filling tanks to minimize spills and ensure appropriate security.

In the event that spill prevention measures fail, the following spill response procedures will be swiftly executed in an effort to prevent contamination of stormwater.

DETAILS OF THE SPILL RESPONSE PLAN:

_____ (Telephone # _____) is the on-site member of the Stormwater Pollution Prevention Team who is the immediate contact person and who is authorized to take immediate action on spills, get assistance from other team members and notify the Team Leader.

Since fuel is the main concern of contaminations, if a spill or leak occurs, all safety measures regarding fire, explosion, etc. will be observed and directed by members of the Stormwater Pollution Prevention Team. The notification of appropriate authorities will be by the Stormwater Pollution Prevention Team Leader after notification by the on-site Team member.

As shown on the Apron Drainage Map in Appendix A, a fuel spill from either the fuel tanks or the fuel trucks would flow east and south across the apron pavements towards the edge of the aircraft parking apron. If a major spill occurred on the apron, absorbent booms could be utilized to contain the spill and prevent it from entering drainage ditches. If a major spill somehow got outside the fuel farm area, it could then be contained by using absorbent booms to prevent the spill from entering nearby drainage ditches.

Spill containment isolation and/or cleanup will be addressed according to the magnitude of the spill initially and immediately by the on-site Team member and ultimately by the Team Leader. Any un-reportable spill (under 25 gallons) may be handled in-house by the Stormwater Pollution Prevention Team. Any spill over 25 gallons involving fuels, hydraulic fluids, motor oils, turbine oil, alcohol, caustics or other potential pollutants must be reported to the State or Environmental Protection Agency and the appropriate authorities.

Small quantities of dry chemicals and dry soils will be cleaned from areas exposed to precipitation or Stormwater runoff using brooms, shovels, vacuums, squeegees or other mechanical devices.

Small quantities of liquid materials will be cleaned up using wet/dry vacuums, squeegees, rags or sorbent materials. Sorbents include “Universal Sorbent Material,” which is a silicate glass foam consisting of rounded particles to be used on acids, alkalis, alcohols, aldehydes, arsenate, ketones, petroleum products, chlorinated solvents and glycol products. Manufacturer’s instructions must be followed. Sorbents must not be washed into the storm drainage system or into the sanitary sewer system via flood drains.

Following any spill, the Stormwater Pollution Prevention Team will evaluate how the Prevention Plan was successful or unsuccessful in responding, and how it can be improved.

INSPECTIONS:

The Stormwater Pollution Prevention Team Leader will make periodic unannounced site inspections (at least two per year) to ensure that all activities and facilities comply with the Plan requirements. A set of follow-up procedures will be used to ensure that appropriate actions are taken in response to inspection deficiencies. Records of inspections will be maintained for a minimum of three years.

EMPLOYEE TRAINING:

On an annual basis the FBO and private hangar owners will train all employees working at the airport, as well as invite airport tenants to a training session on Stormwater Pollution Prevention. Training should address each component of the airport's Stormwater Pollution Prevention Plan; including how and why tasks are to be implemented. An "Employee Training" worksheet as shown in Figure 6 should be used to organize topics and attendance in the training program.

Topics for training will include the following:

- Spill Prevention and Responses:
  - Spill prevention and response procedures are discussed in a previous section. Discuss these procedures or plans in the training program in order to ensure all employees, not just those on the spill response teams, are aware of what to do if a spill occurs. Specifically, all employees involved in the aircraft fueling/maintenance activities at the airport should be trained about the following measures:

    - ✈ Identifying potential spill areas and drainage routes, including information on past spills and causes.
    - ✈ Reporting spills to appropriate individuals, without penalty (e.g., employees should be provided "amnesty" when they report such instances).
    - ✈ Specifying material handling procedures and storage requirements.
    - ✈ Implementing spill response procedures.

- Good Housekeeping:
  - Teach airport fueling and maintenance personnel how to maintain a clean and orderly work environment. Emphasize these points in the good housekeeping portion of the training programs;

    - ✈ Require regular vacuuming and/or sweeping.
    - ✈ Require regular pickup and disposal of garbage and waste materials.
    - ✈ Promptly clean up spilled materials to prevent polluted runoff.
    - ✈ Identify places where brooms, vacuums, foams, neutralizing agents and other good housekeeping and spill response equipment are located.
    - ✈ Display signs at appropriate locations saying where to dispose of and not to dispose of waste oils and refuse.
    - ✈ Discuss updated procedures and report on the progress of practicing good housekeeping at every meeting.
    - ✈ Provide instruction on securing drums and containers and frequently checking for leaks and spills.

- Outline a regular schedule for housekeeping activities to allow you to determine that the job is being done.

- Materials Management Practices:

  - Neatly organize and label stored materials and keep exterior storage covered.
  - Identify all toxic and hazardous substances stored, handled and produced on-site.
  - Discuss handling procedures for all materials which are potential pollutants.

- Tools for a Successful Training Program:

  - Employee handbooks
  - Films and slide presentations
  - Drills
  - Routine employee meetings
  - Bulletin boards
  - Suggestion boxes
  - Newsletters
  - Environmental excellence awards or other employee incentive programs

Employee Training

Completed by: _____
Title: _____
Date: _____

Instructions:	Describe the employee training program for your facility below. The program should, at a miniumum, address spill prevention and response, good housekeeping and material management practices. Provide a schedule for the training program and list the employees who attend training sessions.		
Training Topics	Brief Description of Training Program/Materials (e.g., film, newsletter course)	Schedule (list dates)	Attendees
Spill Prevention and Response			
Good Housekeeping			
Material Management Practices			
Other Topics:			

FIGURE 6 EMPLOYEE TRAINING WORKSHEET

EROSION CONTROL

All construction activities on the airport which disturb existing ground will require re-seeding and mulching to control erosion and re-establish vegetation. These are ongoing requirements on airport construction projects. Contractors performing grading which disturbs one (1) acre or more of area are required to prepare and implement Stormwater Permits for Construction Activities, which include Stormwater Pollution Prevention Plans for the Construction projects.

MANAGEMENT OF RUNOFF

The airport is utilizing traditional stormwater practices and training of all personnel to reduce pollutants in stormwater discharge from the site. The primary physical components to be used to react to spills are drain cover mats, pipe plugs and absorbent booms to detain and clean up the contaminant.

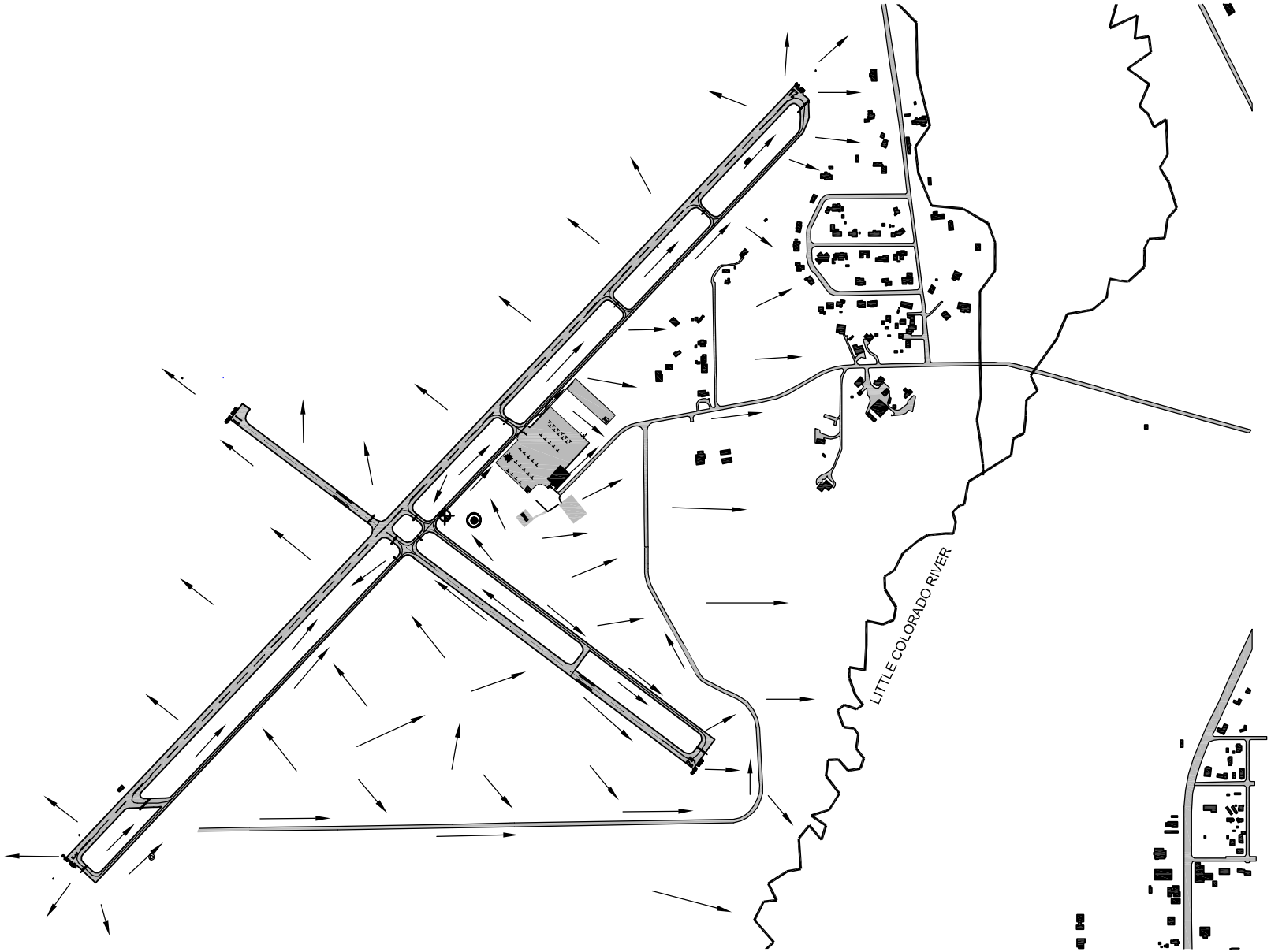
PHASE IV – EVALUATION AND MONITORING

EVALUATION

As stated in the Phase III Measures and Controls section, inspections will be performed at least two times per year. Phase IV of the Stormwater Pollution Prevention Plan involves the evaluation of the data collected from the inspections, major observations relating to the implementation of the Stormwater Pollution Prevention Plan, actions taken and preparing a report. The report will summarize the scope of the inspection, list personnel performing the inspection, list the date(s) of the inspections, state major observations relating to the implementation of the Stormwater Pollution Prevention Plan and state the action taken. If the inspection report describes deficiencies, such deficiencies will be corrected immediately and the Plan will be immediately modified to reflect the required changes. These reports will be signed by the Stormwater Pollution Prevention Team Leader and will be retained as part of the Plan for at least three years. An “Inspection Report” form for use following an inspection or series of inspections is included in Appendix D of this Plan.

APPENDIX A

AIRPORT SITE MAPS WITH DRAINAGE AREAS



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DIRECTION OF FLOW

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

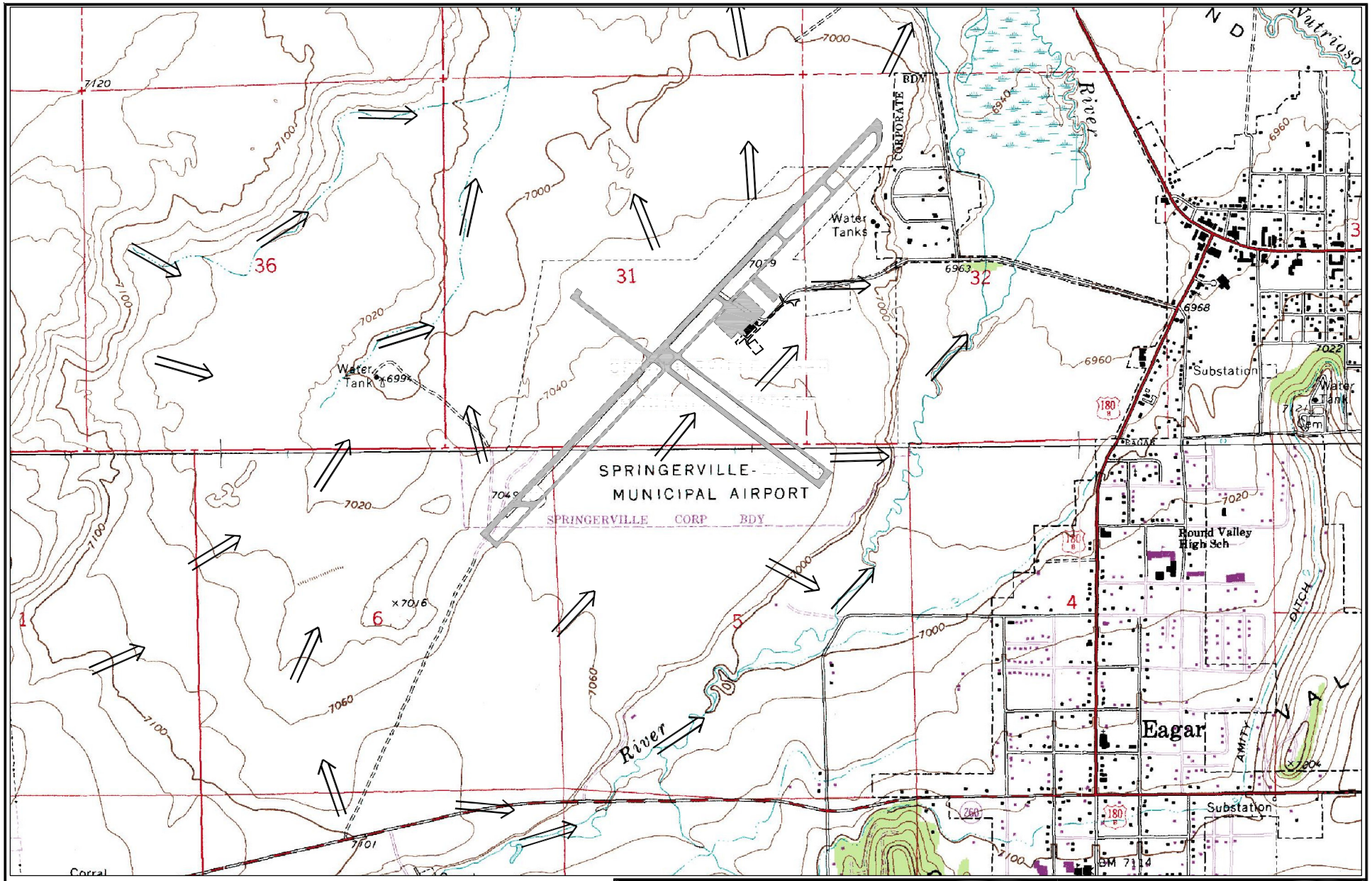
861 Rood Avenue
Grand Junction, CO 81501
ph: 970.242.0101 fax: 970.241.1769

www.armstrongconsultants.com

SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

AIRPORT DRAINAGE MAP

SCALE:	PER BAR SCALE	DATE:	11.30.06
DRAWN:	GWK	FILE:	5720602
CHK'D:	JZP	JOB NO.:	045720



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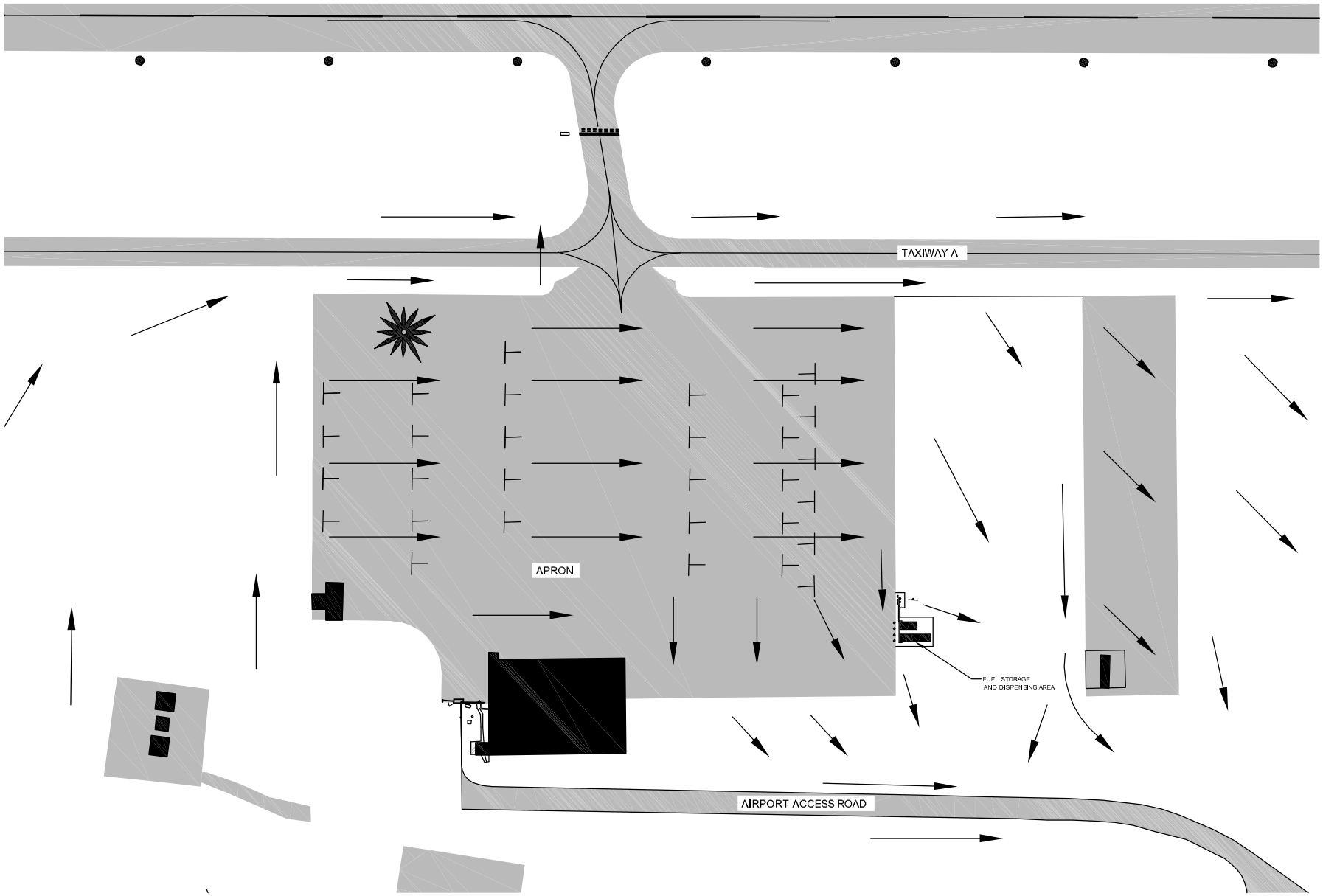
Grand Junction, CO 81501
ph: 970.242.0101 fax: 970.241.1769

www.armstrongconsultants.com

SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

AREA DRAINAGE MAP

SCALE:	PER BAR SCALE	DATE:	11.30.06
DRAWN:	GWK	FILE:	5720601
CHK'D:	JZP	JOB NO.:	045720



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SCALE IN FEET

DIRECTION OF FLOW

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www.armstrongconsultants.com

SPRINGERVILLE MUNICIPAL AIRPORT
SPRINGERVILLE, ARIZONA

APRON DRAINAGE MAP

SCALE:	PER BAR SCALE	DATE:	11.30.06
DRAWN:	GWK	FILE:	5720603
CHK'D:	JZP	JOB NO.:	045720

APPENDIX B

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY NOTICE OF INTENT FORM

NOTICE OF INTENT (NOI)

For Coverage Under NPDES MSGP 2000 for

MULTI SECTOR Discharges to Waters of the United States

FOR COVERAGE, A COMPLETE AND ACCURATE NOI MUST BE SUBMITTED TO:

Arizona Department of Environmental Quality
Water Permits Section — Stormwater Program / NOI
1110 West Washington, 5415B-3; Phoenix, Arizona 85007
FAX: (602) 771-4674

Is this NOI a revision to one previously filed under EPA's 2000 Multi-Sector General Permit?
____ YES ✔ NO If yes, provide your current authorization No. _____

Is the Site Located on Indian Country Lands?
____ YES ✔ NO

I. APPLICANT (Owner / Operator) INFORMATION

Operator Name: Town of Springerville, Arizona Phone: (928) 333-2656

Operator's Business Name Town of Springerville, Arizona

Operator's Mailing Address: 418 E. Main Street

City: Springerville State: | AZ | Zip Code: 85938

APPLICANT STATUS: Federal ____ State ____ Other Public ✔ Private ____ Tribal ____

II. FACILITY / SITE INFORMATION

Facility/Site Name: Springerville Municipal Airport Phone: (928) 333-5746

Physical Address/location: 905 W. Airport Road

City: Springerville County: Apache Zip Code: 85938

Provide the latitude/longitude of the facility at the point nearest the receiving water:

Latitude: | 34 | | 07 | | 26.18 | (Degrees, minutes, seconds)

Longitude: | 109 | | 18 | | 15.66 | (Degrees, minutes, seconds)

III. DISCHARGE LOCATION / SECTOR CLASSIFICATION

Does the facility discharge stormwater into a receiving water? ✔ YES ____ NO

If yes, Identify the closest receiving water(s), if any, to site: (including dry washes, named waterbodies, and unnamed tributaries): The Little Colorado River is located approximately 2,800 feet southeast of the airport.

Is there a potential for any discharges from the site to enter a municipal storm sewer system (MS4), canal, or a privately-owned conveyance? ____ YES ✔ NO

If yes, enter name of MS4 or conveyance owner: _____

Provide the 4-digit Standard Industrial Classification (SIC) codes that best represent the principal products produced or services rendered by your facility and major co-located activities:

Primary: 4581 Secondary (if applicable): _____

III. DISCHARGE LOCATION / SECTOR CLASSIFICATION (Continued)

What is the applicable sector(s) of industrial activity, as designated in Table 1-1, Part I.2.1 of the MSGP, that includes associated discharges that you seek to have covered under this permit (choose up to four):

___ Sector A	___ Sector F	___ Sector K	___ Sector P	___ Sector U	___ Sector Z
___ Sector B	___ Sector G	___ Sector L	___ Sector Q	___ Sector V	___ Sector AA
___ Sector C	___ Sector H	___ Sector M	___ Sector R	___ Sector W	___ Sector AB
___ Sector D	___ Sector I	___ Sector N	✔ Sector S	___ Sector X	___ Sector AC
___ Sector E	___ Sector J	___ Sector O	___ Sector T	___ Sector Y	___ Sector AD

IV. CERTIFICATION BY AUTHORIZED SIGNATORY (PER PART V OF THE PERMIT)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or those persons direction responsible for gathering the information, I believe the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition I certify that the operator will comply with all terms and conditions stipulated in EPA's 2000 Multi-Sector General Permit."

Printed Name: _____ Title: _____

Signature: _____ Date: _____

Business Name: _____

Address: _____

Phone: _____

May 2005

MSGP INSTRUCTIONS

Submission of this completed Notice of Intent (NOI) constitutes notice that the entity in Section I intends to be authorized to discharge pollutants to waters of the United States, from the facility or site identified in Section II, under EPA's Stormwater Multi-sector General Permit (MSGP). Submission of the NOI also constitutes notice that the party identified in Section I of this form has read, understands, and meets the eligibility conditions of Part 1 of the MSGP; agrees to comply with all applicable terms and conditions of the MSGP; understands that continued authorization under the MSGP is contingent on maintaining eligibility for coverage, and that implementation of the permittee's pollution prevention plan is required two days after a complete NOI is mailed. In order to be granted coverage, all information required on this form must be completed. Please read and make sure you comply with all permit requirements, including the requirement to prepare and implement a stormwater pollution prevention plan.

Who Must File a Notice of Intent

Under the provisions of section 402(p) of the Clean Water Act (CWA) and regulations 40 CFR 121, federal law prohibits 'point source' discharges of stormwater associated with industrial activity to waters of the US without an Arizona Pollutant Discharge Elimination System (AZPDES) permit. If you operate a facility that is described in Part 1.2.1 of the MSGP or if you have been designated as needing permit coverage for your stormwater discharges by your AZPDES permitting authority and you meet the eligibility requirements in Part 1 of the permit you may satisfy your CWA obligation for permit coverage by submitting a completed NOI to obtain coverage under the MSGP. If you have questions about whether you need a permit under the AZPDES Stormwater Program, contact the Arizona Department of Environmental Quality.

One NOI must be submitted for each facility or site for which you are seeking permit coverage. Only one NOI need be submitted to apply for coverage for any of your activities at each facility (e.g. you do not need to submit a separate NOI for each type of industrial activity located at a facility or industrial complex. provided your stormwater pollution prevention plan covers each area for which you are an operator). Finally, the NOI must be submitted in accordance with the deadlines established in Part 2.1 of the MSGP.

When to file the NOI form

DO NOT FILE the NOI until you have obtained a copy of the Multi-Sector General Permit. You will need it to determine your eligibility, prepare your stormwater pollution prevention plan and correctly answer all questions on the NOI form – all of which must be done before you can sign the certification statement on the NOI in good faith (and without risk of committing perjury).

If you have a new facility or are the new operator of an existing facility, this form must be postmarked at least 5 days before you need permit coverage. If your facility was covered under the 1995 Multi-sector General Permit, or if you are currently operating without a permit, see Part 2.1 of the MSGP for your deadlines.

CAUTION: You must allow enough lead time to gather the information necessary to complete the NOI (especially that related to determining eligibility with regards to endangered species and historic properties) and prepare the pollution prevention plan required by Part 4 of the MSGP prior to submitting your NOI.

Where to file the NOI Form

NOIs must be sent to the following address (do not send Stormwater Pollution Prevention Plans (SWPPPs) to this address):

Arizona Department of Environmental Quality
Surface Water Permits Unit—NOI/Multi-Sector
1110 W. Washington Street, 5415B-3
Phoenix, AZ 85007

Or fax: (602) 771-4674

If your facility discharges through a municipal separate storm sewer system (MS4) that is permitted as a medium or large MS4 under the AZPDES Stormwater Program, you must also submit a signed copy of the NOI to the operator of that MS4, in accordance with the deadlines established in Table 2-1 of the permit.

Completing the NOI Form

To receive coverage under EPA's 2000 MSGP, the NOI form must be COMPLETE and ACCURATE. Refer to Part 2 of the permit for additional information on the NOI requirements. Abbreviate as necessary to stay within the space allowed for each item. Please make sure you have addressed all applicable questions and have made a photocopy for your records before sending the completed form to the address above.

Introductory Information

1. Indicate whether the application is a revision to one previously filed under the EPA's 2000 MSGP. If yes, provide the authorization number of the current permit.

2. Indicate whether the facility is located on Indian Country lands (e.g. a federally recognized reservation. etc.). If located solely on Indian Country lands, submit your NOI to the USEPA for permit coverage. If your site is on both Indian Country lands and private lands, break out each area and submit two NOIs to the applicable entity for Arizona and EPA coverage. For more information, see EPA's Region 9 NPDES Stormwater Information page at http://www.epa.gov/region9/water/npdes/stormwater.html.

Section I. Facility Operator (Applicant) Information

1. Provide the legal name of the permit applicant; i.e., person, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or other legal entity that operates the facility or site described in this application. The name of the operator may or may not be the same as the name of the facility. The responsible party is the legal entity that controls the facility's operation, rather than the plant or site manager.

2. Provide the operator's business name, which may be different than the name of the facility.

3. Provide the telephone number of the facility operator.

4. Provide the mailing address of the facility operator. Include the street address or PO Box, city, state, and zip code. All correspondence regarding the permit will be sent to this address, not the facility address in Section II.

5. Indicate the legal status of the facility operator as a federal, state, tribal, private or other public entity (other than federal or state). This refers only to the operator, not the owner of the land the facility or site is located upon.

Section II. Facility / Site Information

1. Enter the official or legal name of the facility or site.

2. Provide the telephone number of the facility/site.

3. Enter the complete street address of the facility. This may, or may not be the same as the operator's mailing address. Do not use a P.O. Box. Describe the physical location of the site and provide directions for driving with sufficient detail that the site could be reached from the nearest municipality.

4. Enter the latitude and longitude of the approximate center of the facility or site in degrees/ minutes/ seconds. Latitude and longitude can be obtained from US Geological Survey (USGS quadrangle or topographic maps) by using a GPS unit, by calling 1-(888) ASK – USGS, by searching for your facility's address on several commercial 'map' sites on the Internet or by accessing http://www.topozone.com, click on the View Maps tab and enter the site location under Place Name and State.

Section III. Discharge Location / Sector Classification

1. Indicate whether the facility or site discharges stormwater into a receiving water(s) and/or a municipal separate storm sewer system (MS4). Enter the name(s) of the closest receiving water(s) and/or the MS4. An MS4 is defined as a conveyance or system of conveyances (including roads with drainage systems. municipal streets, catch basins, curbs, gutters. ditches. man-made channels, or storm drains) that is owned or operated by a state, city, town, county, district, association, or other public body and is designed or used for collecting or conveying stormwater.

2. Indicate whether the facility has the potential to discharge to a MS4. If yes, send a copy of the completed NOI to the owner/ operator of the MS4 system at the time it is submitted to the Department.

3. List your primary and secondary four 4 digit Standard Industrial Classification (SIC) codes that best describe the principal products of services provided at the facility or site identified in Section II of this Notice of Intent. For industrial activities defined at 40 CFR 122.26(b)(II)(i)-(ix) and (xi) that do not have SIC codes that accurately describe the principal products produced or services provided, use the following 2-character Activity Codes:

HZ Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA (40 CFR 122.26(b)(II)(iv);

LF landfills and application sites, and open dumps that receive or have received any industrial wastes, including those that are subject to regulation under subtitle D of RCRA 140 CFR 122.26(b)(II)(v)J;

SE Steam electric power generating facilities, including coal handling sites 40 CFR 122.26(b)(II)(vii)];

TW Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system used the storage, treatment, recycling and reclamation "of municipal or domestic sewage (40 CFR 122.26(b)(II)(ix)); or alternatively, if your facility or site was specifically designated by your AZPDES permitting authority (ADEQ), enter 'AD.'

4. Indicate the applicable sector(s) of industrial activity, as designated in Table I-1, Part I.2.1 of the MSGP, for which you seek coverage.

Section IV. Certification

Certification Statement and Signature. The operator applying for coverage must sign the certification statement verifying that the information is true and that the operator will comply with the permit. (CAUTION: An unsigned or undated NOI form will prevent the granting of permit coverage.) State statutes and rules provide for severe penalties for submitting false information on this application form. State regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, this means:

(i) A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or

(ii) The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations. and initialing and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can en- sure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipal, state, federal, or other public facility: by either a principal executive or ranking elected official.

APPENDIX C

FUEL SPILL CONTACT LIST FOR POSTING

In Case of Fuel or Substance Spill - Contact:

Completed By: _____

Pollution Prevention Team

Title: _____

Airport: Springerville Municipal Airport

Member Roster:

Team Leader: _____ Title: _____

Office Phone: _____

Responsibilities: Coordination and documentation of any fuel or other substance spills. Keeps pollution prevention team and plan manual current concerning airport facilities and procedures. Reviews construction Stormwater Pollution Prevention Plans. Contacts person with State and/or Environmental Protection Agency.

Members:

(1) _____ Title: _____

Office Phone: _____

Responsibilities: Assistant Team Leader who will, in the absence of the Team Leader, assume Team Leader's duties, and will also assist the Team Leader in implementation, review and monitoring the Stormwater Pollution Prevention plan.

(2) _____ Title: _____

Office Phone: _____

Responsibilities: Team Member – on-site, and is the immediate contact person. Will be authorized to take immediate appropriate action on spills and getting information to the Team Leader. *Accountable for spill prevention.

(3) _____ Title: _____

Office Phone: _____

Responsibilities: Will assist Team Member in appropriate action on spills and monitoring.

POST AT APPROPRIATE LOCATIONS IN ALL FUELING AREAS, FBOs AND TERMINAL BUILDINGS.

Date Posted: _____

Posted By: _____

APPENDIX D

INSPECTION REPORT

INSPECTION REPORT

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Date Completed: _____

Completed By: _____

Check if inspected:

- ☐ Good Housekeeping (cluttered walkways, un-swept floors, uncovered materials, etc.)
- ☐ Any spots, pools, puddles or other traces of oil, grease or other chemicals on the ground.
- ☐ Any discoloration, residue or corrosion on the roof or around vents or pipes that ventilate or drain work areas.
- ☐ Any leaking equipment, pipes, containers or lines.
- ☐ Any areas where absorbent materials (kitty litter, saw dust, etc.) are regularly used.
- ☐ Any signs such as smoke, dirt or fumes that indicate material losses.
- ☐ Any strange odors or eye, nose or throat irritation when first entering the work area.
- ☐ Any storage containers that show signs of corrosion or leaks.
- ☐ Any open containers, stacked drums, shelving too small to properly handle inventory or other indications of poor storage procedures.
- ☐ Properly labeled containers.
- ☐ Any corroded drums or drums without plugs or covers.
- ☐ Any corroded or damaged tank, tank supports or tank drain valves.
- ☐ Any torn chemical bags or chemical bags exposed to rainwater.
- ☐ Any corroded or leaking pipes.
- ☐ Any leaking or improperly closed valves or valve fittings.
- ☐ Any leaking fuel pumps and/or hose connections.
- ☐ Any broken or cracked dikes, walls or other physical barriers designed to prevent stormwater from reaching stored materials.
- ☐ Any uncovered trash dumpsters or other outdoor trash containers.
- ☐ Any leaking and/or open fluid containers stored outside.

Of the above items inspected, the following items were found to be deficient:

Item	Location

(Use the back of this page for additional deficiencies, or attach a separate sheet if necessary.)

The following Corrective actions have been taken as a result of the above deficiencies:

Corrective Action Taken	Location

(Use back of this page for additional deficiencies, or attach a separate sheet if necessary.)

Inspections were performed by the following individuals on the dates listed:

Inspection Performed By:	Date of Inspection:

(Use the back of this page for additional inspections, or attach a separate sheet if necessary.)

Attached to this report are the *Visual Inspection Checklists* used during each inspection.

The following items were observed to have been implemented as part of the SWPPP since the last inspection(s):

Item	Location

(Use the back of this page for additional items implemented, or attach a separate sheet if necessary.)

The following modifications have been made to the SWPPP as a result of the corrective actions taken:

The above report has been prepared by me or under my direct supervision.

Team Leader, Pollution Prevention Team
Springerville Municipal Airport