Chapter One

Inventory

Inventory

The initial step in the preparation of the airport master plan for H.A. Clark Memorial Field (CMR) is the collection of information pertaining to the airport and the area it serves. The information summarized in this chapter will be used in subsequent analyses in this study. It includes:

- Physical inventories and descriptions of the facilities and services currently provided at the airport, including the regional airspace, air traffic control, and aircraft operating procedures.

- Background information pertaining to Coconino County and the Williams community, including descriptions of the regional climate, surface transportation systems, H.A. Clark Memorial Field's role in the regional, state, and national aviation systems, and development that has taken place recently at the airport.

- Population and other significant socioeconomic data which can provide an indication of future trends that could influence aviation activity at the airport.

- A review of existing local and regional plans and studies to determine their potential influence on the development and implementation of the airport master plan.

The information in this chapter was obtained from several sources, including on-site inspections, interviews with City staff and airport tenants, airport records, related studies, the Federal Aviation Administration (FAA) and a number of internet sites.

A complete listing of the data sources is provided at the end of this chapter.

AIRPORT SETTING

The City of Williams, founded in 1880, is located in the north central portion of Arizona, approximately 35 miles west of Flagstaff and 110 miles east of Kingman. Williams is easily accessible off Interstate 40, which crosses northern Arizona. H.A. Clark Memorial Field is located approximately three miles north of the City on approximately 303 acres in the Kaibab National Forest in west-central Coconino County. **Exhibit 1A** illustrates the location of H.A. Clark Memorial Field in its regional setting. The airport is accessible via Airport Road.

REGIONAL ACCESS

Interstate 40 provides automobile access to the City of Williams. Amtrak currently provides rail service to the City of Williams. The Amtrak platform has been in operation since its construction near the Fray Marcos Hotel in 1999. The platform is located approximately two miles south of H.A. Clark Memorial Field. There are currently no bus services to the City of Williams.

OWNERSHIP AND MANAGEMENT

H.A. Clark Memorial Field is owned, operated, and maintained by the City of Williams. An Airport Advisory Committee provides recommendations to the City Council on the administration and development of the airport. The Airport Advisory Committee is made up of ten members and is headed by the Chairman who is appointed by the Mayor and serves a term of one year. The City of Williams currently employs a part-time airport manager. The airport manager handles the administrative duties at the airport.

AIRPORT DEVELOPMENT HISTORY

To assist in funding capital improvements, the FAA has provided funding assistance to H.A. Clark Memorial Field through the Airport Improvement Program (AIP). The AIP is funded through the Aviation Trust Fund, which was established in 1970 to provide funding for aviation capital investment programs (aviation development, facilities and equipment, and research and development). The Trust Fund also finances a portion of the operation of the FAA. It is funded by user fees, taxes on airline tickets, aviation fuel, and various aircraft parts.

Table 1A summarizes FAA AIP grants received by H.A. Clark Memorial Field since 1999. The FAA has provided more than $5.7 million for airport improvements at H.A. Clark Memorial Field over the past seven years.

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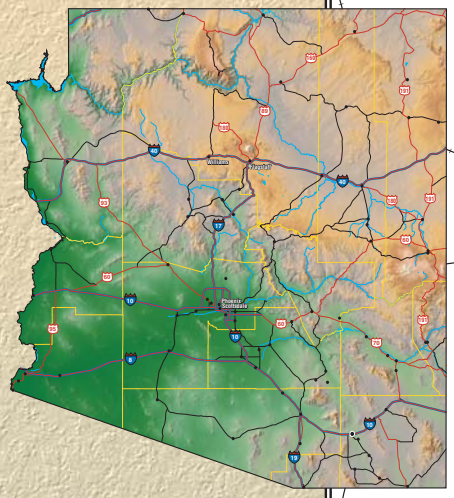
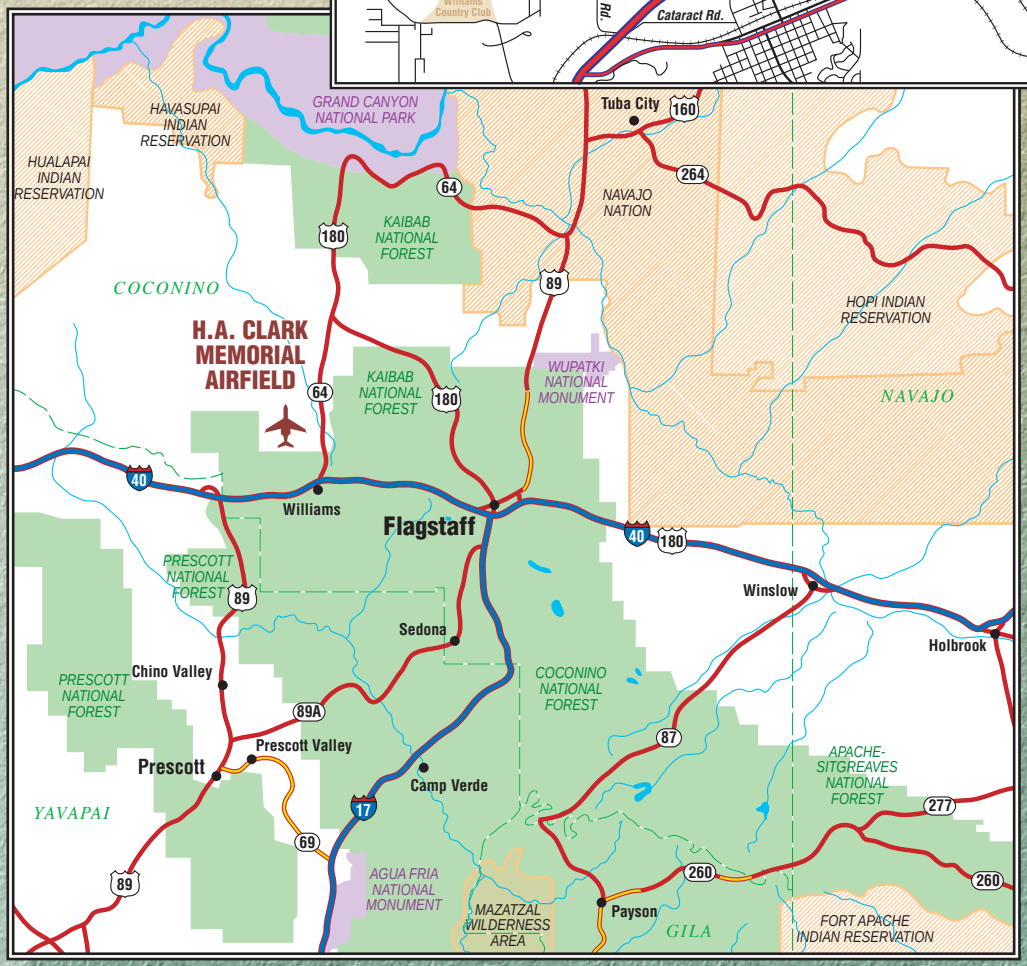
VINICITY MAP



LOCATION MAP



NORTH

NOT TO SCALE

H.A. CLARK MEMORIAL FIELD

Exhibit 1A
LOCATION MAP

TABLE 1A
AIP Grants Offered to City of Williams

Fiscal Year	AIP Grant Number	Project Description	Total Grant Funds
1999	AIP-10	Rehabilitate Runway 18-36; Runway Gradient Modifications and Widening (Phase I)	$779,492
2000	AIP-11	Rehabilitate Runway 18-36; Runway Gradient Modifications and Widening (Phase II); Install Wildlife Fence	$1,932,839
2001	AIP-12	Airport Rescue Fire Fighting Equipment	$227,650
2002	AIP-13	Airport Apron Expansion (Phase I)	$292,056
2002	AIP-14	Airport Apron Expansion (Phase II)	$590,000
2003	AIP-15	Airport Rescue Fire Fighting Building (Phase I)	$150,000
2004	AIP-16	Airport Rescue Fire Fighting Building (Phase II); PAPI; REILs Runway 18-36	$364,240
2004	AIP-17	Update Airport Master Plan	$122,931
2005	AIP-18	Airport Apron Expansion (Phase III)	$1,187,500
2006	AIP-19	Environmental Assessment – Land Acquisition	$150,000
Total Grant Funds			$5,796,708

Source: Airport Records
PAPI – Precision Approach Path Indicator
REIL – Runway End Identifier Lights

Between 1994 and 2005, the Arizona Department of Transportation (ADOT), Aeronautics Division, invested $3.3 million in improvements at H.A. Clark Memorial Field. **Table 1B** summarizes these projects and their total expenditures over this period.

THE AIRPORT'S SYSTEM ROLE

Airport planning exists on many levels: local, regional, and national. Each level has a different emphasis and purpose. This master plan is the primary local airport planning document.

The previous H.A. Clark Memorial Field Airport Master Plan was completed in 1995. The primary recommendations from this master plan were to extend Runway 18-36 to 8,000 feet, to develop an airport terminal facility and apron, to develop a general aviation apron for aircraft parking, and the development of T-hangar and fixed base operator (FBO) facilities. Since the last master plan, the terminal facility has been constructed, a general aviation apron is currently in the process of being constructed, and an FBO conventional hangar was constructed.

At the state level, H.A. Clark Memorial Field is included in the *Arizona State Aviation System Plan* (SASP). The purpose of the SASP is to ensure that the State has an adequate and efficient system of airports to serve its aviation needs. The SASP defines the specific role of each airport in the State's aviation system and establishes funding needs. Through the State's continuous aviation system

planning process, the SASP is updated every five years. The most recent update to the SASP was in 2000, when the State Aviation Needs Study (SANS) was prepared. The SANS provides policy guidelines that promote and maintain a safe aviation system in the State, assess the State's airport's capital improvement needs, and identify resources and strategies to implement the plan. H.A. Clark Memorial Field is one of 112 airports included in the 2000 SANS, which includes all airports and heliports in Arizona that are open to the public, including American Indian and recreational airports. The SANS classifies H.A. Clark Memorial Field as a general aviation airport.

TABLE 1B
State Grants Offered to City of Williams

Fiscal Year	ADOT Grant Number	Project Description	Total Grant Funds
1994	N439	Grade, Drain & Surface Parallel Taxiway; Fire Protection	$44,179
1995	N542	Grade, Drain & Surface Runway 18/36; AWOS; Environmental Assessment	$472,200
1995	N562	Grade, Drain & Surface Runway 18/36 Width & Extension & Taxiway; MIRL; AWOS	$54,534
1998	EN854	Terminal	$315,000
1998	EN874	Grade, Drain & Surface Runway, Apron, Access Road; Taxiway Signage; Security Fence; Utilities	$270,000
1999	E9031	Grade, Drain & Surface Apron; Fencing; AWOS	$591,750
2000	E0126	Runway Construction; Runway Structural Upgrade; Terminal; AWOS	$760,000
2001	E1134	Widen & Overlay Runway 18/36; Runway Gradient Modifications; Install Taxiway Guidance Signs; Construct General Aviation Parking Apron; Wildlife Fence	$94,880
2002	E3F36	Airport Rescue Fire Fighting Equipment	$11,175
2002	E3F37	Airport Apron Expansion (Phase I)	$14,337
2002	E3F78	Airport Apron Expansion (Phase II)	$28,962
2003	E4F50	Airport Rescue Fire Fighting Building (Phase I)	$7,363
2004	E5F74	Airport Rescue Fire Fighting Building (Phase II); PAPI; REIL Runway 18-36	$9,585
2004	E5F75	Update Airport Master Plan	$90,000
2004	E5S22	Pave Terminal Parking Lot	$90,000
2004	E5S23	Drainage/Fire Protection Upgrade Study	$90,000
2005	E6S09	Construct Helicopter Parking Apron; Fire Protection Facilities & ARFF Building; Runway Drainage and Erosion Control; Parallel Taxiway Extension;	$405,000
Total State Grant Funds			$3,348,965

Source: Airport Records

AWOS – Automated Weather Observation System
PAPI – Precision Approach Path Indicator
REIL – Runway End Identifier Lights

At the national level, H.A. Clark Memorial Field is designated within the FAA's *National Plan of Integrated Airport Systems* (NPIAS). Inclusion within the NPIAS allows the airport to be eligible for Federal Airport Improvement Program (AIP) funding. H.A. Clark Memorial Field is classified as a general aviation airport in the NPIAS. A total of 3,489 airports across the country are included in the NPIAS. This number includes existing and proposed airports. H.A. Clark Memorial Field is one of 59 airports in the State of Arizona that are included in the NPIAS and one of 37 airports in Arizona classified as a General Aviation Airport.

AIRPORT FACILITIES

Airport facilities can be functionally classified into two broad categories: airside and landside. The airside category includes those facilities directly associated with aircraft operations. The landside category includes those facilities necessary to provide a safe transition from surface to air transportation and support aircraft servicing, storage, maintenance, and operational safety.

AIRSIDE FACILITIES

Airside facilities include runways, taxiways, airfield lighting, and navigational aids. Airside facilities are identified on **Exhibit 1B. Table 1C** summarizes airside facility data.

TABLE 1C
Airside Facility Data
H.A. Clark Memorial Field

	Runway 18-36	
Length (ft.)	6,000	
Width (ft.)	100	
Surface Material	Asphalt	
Load Bearing Strength (SWL)	15,000	
Instrument Approach Procedures	None	
Runway Edge Lighting	Medium Intensity	
Pavement Markings	Nonprecision	
Taxiway Edge Lighting	None	
Approach Aids	**Rwy 18**	**Rwy 36**
Global Positioning System (GPS)	No	No
Precision Approach Path Indicators (PAPI)	Yes	Yes
Runway End Identifier Lights	Yes	Yes
Elevation	6,624.5	6,684.7
Fixed Wing Aircraft Traffic Pattern	Left	Left
Weather or Navigational Aids	AWOS-III; Segmented Circle Lighted Wind Cone; Rotating Beacon	

Source: 1996 Airport ALP, 5010 Airport Master Record
AWOS – Automated Weather Observing System

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8 Conventional Hangars

Equipment Building

Water Tank

10

Airport Road

Threemile Lake

Fence Line

7 Conventional Hangar
T-Hangar

4 Rotating Beacon

9 Conventional Hangar

1 Terminal

Gas Line

5 Williams Air Adventure

3 Fuel Storage

6 Conventional Hangar

35′

Taxiway A

C

400′

D

E

F

50′

G

Runway 18-36 (6,000′ x 100′)

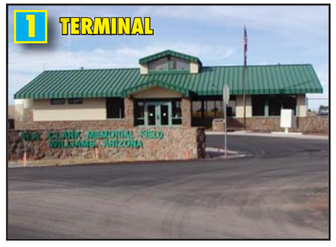
18

36

2 Segmented Circle/Wind Sock

AWOS

Airport Property Line



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SCALE IN FEET

NORTH

H. A. CLARK MEMORIAL FIELD

Exhibit 1B
EXISTING FACILITIES

Runway

H.A. Clark Memorial Field is served by a single asphalt runway. Runway 18-36 is 6,000 feet long and 100 feet wide. Runway 18-36 is oriented in a north-south manner and has a load bearing strength of 15,000 pounds single wheel loading (SWL). SWL refers to the design of certain aircraft landing gears having a single wheel on each main landing gear. The runway slopes upward from south to north. The Runway 36 elevation is 60.6 feet higher than the Runway 18 end. This equates to a runway gradient (difference in runway elevations divided by the length of the runway) of 1.0 percent.

Taxiways

The existing taxiway system at H.A. Clark Memorial Field is shown on **Exhibit 1B**. Taxiway A is the full-length parallel taxiway located on the east side of Runway 18-36 and connects to the main public apron areas. Taxiway A is located 400 feet from the Runway 18-36 centerline. Taxiway A has an additional five exit taxiways serving Runway 18-36 (Taxiways C, D, E, F and G); all are 35 feet wide. The taxiway system at H.A. Clark Memorial Field is not currently equipped with any type of lighting.

Pavement Condition

As a condition of receiving federal funds for the development of the airport, the Federal Aviation Administration requires the airport sponsor receiving and/or requesting federal funds for pavement improvement projects implement a pavement maintenance management program.

Part of the pavement maintenance management program is to develop a Pavement Condition Index (PCI) rating. The rating is based on the guidelines contained in FAA Advisory Circular 150/5380-6, *Guidelines and Procedures for Maintenance of Airport Pavements.*

The PCI procedure was developed to collect data that would provide engineers and managers with a numerical value indicating overall pavement conditions and that would reflect both pavement structural integrity and operational surface condition. A PCI survey is performed by measuring the amount and severity of certain distresses (defects) observed within a pavement sample unit.

In July 2000, a pavement inspection was conducted at H.A. Clark Memorial Field by the Arizona Department of Transportation. Runway 18-36 was found to have a PCI rating of 69 out of a possible 100. The runway had cracking, weathering/raveling distress. Taxiway A was found to have a PCI rating of 99 out of a possible 100. The terminal apron was found to have a PCI rating of 100, and the hangar apron area was found to have a PCI rating of 76 out of a possible 100 with cracking distress.

Airfield Lighting

Airfield lighting systems extend an airport's usefulness into periods of darkness and/or poor visibility. A va-

riety of lighting systems are installed at the airport for this purpose. These lighting systems, categorized by function, are summarized as follows.

Identification Lighting: The location of an airport at night is universally identified by a rotating beacon. A rotating beacon projects two beams of light, one white and one green, 180 degrees apart. The rotating beacon at H.A. Clark Memorial Field is located on the east end of the field adjacent to Airport Road and the equipment building as shown on **Exhibit 1B**.

Pavement Edge Lighting: Pavement edge lighting utilizes light fixtures placed near the edge of the pavement to define the lateral limits of the pavement. This lighting is essential for safe operations during night and/or times of low visibility in order to maintain safe and efficient access to and from the runway and aircraft parking areas. Runway 18-36 is equipped with medium intensity runway lighting (MIRL).

Pilot-Controlled Lighting: Airfield lighting systems can be controlled through a pilot-controlled lighting system (PCL). A PCL allows pilots to turn on or increase the intensity of the airfield lighting systems from the aircraft with the use of the aircraft's radio transmitter. The Runway 18-36 MIRL is connected to the PCL system at H.A. Clark Memorial Field.

Visual Approach Lighting: A precision approach path indicator (PAPI-2) is available for Runways 18 and 36. The PAPIs provide approach path guidance with a series of light units. The two-unit PAPIs give the pilot an indication of whether their approach is above, below, or on-path, through a pattern of red and white light visible from the light units.

Airfield Signs: Airfield identification signs assist pilots in identifying their location on the airfield and directing them to their desired location. Current airfield signage includes a mixture of lighted and unlighted signs installed at all taxiway and runway intersections.

Runway Threshold Lighting: Runway threshold lights identify the runway end. Runway threshold lights have specially designed lights that are green on one side and red on the other. The green side is oriented towards the landing aircraft. There are eight threshold lights at each runway end.

Runway End Identification Lighting: Runway end identifier lights (REILs) provide rapid and positive identification of the approach end of a runway. REILs are typically used on runways without more sophisticated approach lighting systems. The REIL system consists of two synchronized flashing lights, located laterally on each side of the runway facing the approaching aircraft. REILs are installed at each runway end.

Pavement Markings

Pavement markings aid in the movement of aircraft along airport surfaces and identify closed or hazardous areas on the airport. The nonprecision markings on Runway 18-36 identify the runway centerline, threshold, des-

ignation, touchdown point, and aircraft holding positions.

Taxiway and apron taxilane centerline markings are provided to assist aircraft using these airport surfaces. Centerline markings assist pilots in maintaining proper clearance from pavement edges and objects near the taxilane/taxiway edges. Pavement markings also identify aircraft parking positions.

Weather Reporting

H.A. Clark Memorial Field is equipped with an Automated Weather Observing System (AWOS). The AWOS-III provides automated aviation weather observations 24 hours per day. The system updates weather observations every minute, continuously reporting significant weather changes as they occur. The AWOS system reports cloud ceiling, visibility, temperature, dew point, wind direction, wind speed, altimeter setting (barometric pressure), and density altitude (airfield elevation corrected for temperature). The AWOS is located west of the segmented circle and wind cone.

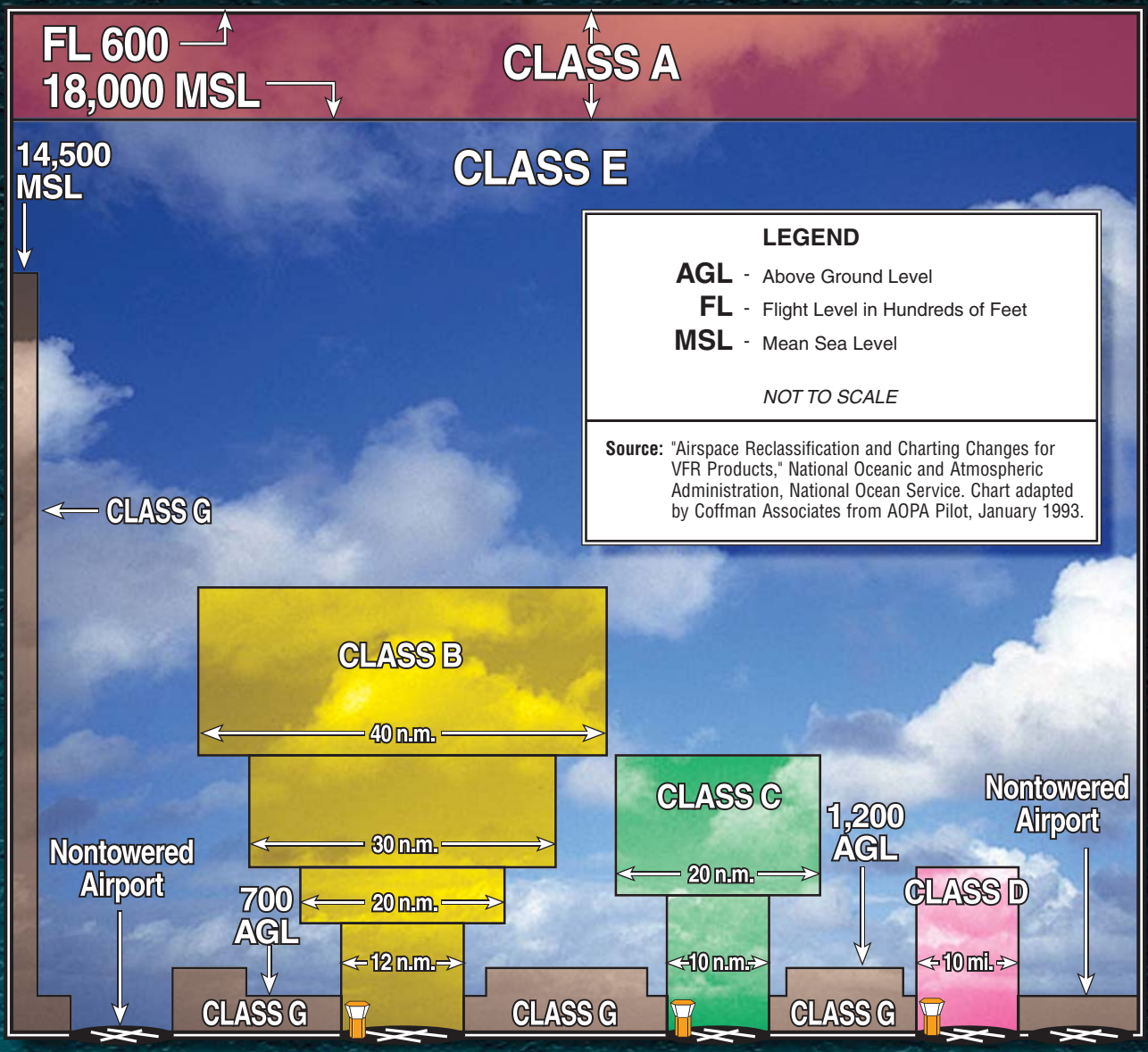
H.A. Clark Memorial Field is equipped with a lighted wind cone and segmented circle. The wind cone provides wind direction and speed information to pilots. The segmented circle provides aircraft traffic pattern information. All this equipment is located west of the runway and apron.

Area Airspace and Air Traffic Control

The *Federal Aviation Administration (FAA) Act of 1958* established the FAA as the responsible agency for the control and use of navigable airspace within the United States. The FAA has established the National Airspace System (NAS) to protect persons and property on the ground and to establish a safe and efficient airspace environment for civil, commercial, and military aviation. The NAS covers the common network of U.S. airspace, including air navigation facilities; airports and landing areas; aeronautical charts; associated rules, regulations, and procedures; technical information; and personnel and material. The system also includes components shared jointly with the military.

Airspace Structure

Airspace within the United States is broadly classified as either "controlled" or "uncontrolled." The difference between controlled and uncontrolled airspace relates primarily to requirements for pilot qualifications, ground-to-air communications, navigation and air traffic services, and weather conditions. Six classes of airspace have been designated in the United States as shown on **Exhibit 1C**. Airspace designated as Class A, B, C, D, or E is considered controlled airspace. Aircraft operating within controlled airspace are subject to varying require-



CLASSIFICATION	DEFINITION
CLASS A	Generally airspace above 18,000 feet MSL up to and including FL 600 .
CLASS B	Generally multi-layered airspace from the surface up to 10,000 feet MSL surrounding the nation's busiest airports.
CLASS C	Generally airspace from the surface to 4,000 feet AGL surrounding towered airports with service by radar approach control.
CLASS D	Generally airspace from the surface to 2,500 feet AGL surrounding towered airports.
CLASS E	Generally controlled airspace that is not Class A, Class B, Class C, or Class D.
CLASS G	Generally uncontrolled airspace that is not Class A, Class B, Class C, Class D, or Class E.

H.A. CLARK MEMORIAL FIELD

Exhibit 1C
AIRSPACE CLASSIFICATION

ments for positive air traffic control. Airspace in the vicinity of H.A. Clark Memorial Field is depicted on **Exhibit 1D**.

Class A Airspace: Class A airspace includes all airspace from 18,000 feet mean sea level (MSL) to flight level (FL) 600 (approximately 60,000 feet MSL). This airspace is designated in Federal Aviation Regulation (F.A.R.) Part 71.193 for positive control of aircraft. The Positive Control Area (PCA) allows flights governed only under IFR operations. The aircraft must have special radio and navigation equipment, and the pilot must obtain clearance from an air traffic control (ATC) facility to enter Class A airspace. In addition, the pilot must possess an instrument rating.

Class B Airspace: Class B airspace has been designated around some of the country's major airports to separate arriving and departing aircraft. Class B airspace is designed to regulate the flow of uncontrolled traffic, above, around, and below the arrival and departure airspace required for high-performance, passenger-carrying aircraft at major airports. This airspace is the most restrictive controlled airspace routinely encountered by pilots operating under visual flight rules (VFR) in an uncontrolled environment. The nearest Class B airspace to H.A. Clark Memorial Field is located at Phoenix Sky Harbor International Airport.

In order to fly within Class B airspace, an aircraft must be equipped with special radio and navigational equipment and must obtain clearance from air traffic control. To operate within the Class B airspace of Phoenix Sky Harbor International Airport, a pilot must have at least a private pilot's certificate or be a student pilot who has met the requirements of F.A.R. Part 61.95, which requires special ground and flight training for the Class B airspace. Helicopters do not need special navigation equipment or a transponder if they operate at or below 1,000 feet and have made prior arrangements in the form of a Letter of Agreement with the FAA controlling agency. Aircraft are also required to have and utilize a Mode C transponder within a 30-nautical-mile (NM) range of the center of the Class B airspace. A Mode C transponder allows the ATCT to track the location of the aircraft.

The Phoenix Terminal Radar Approach Control Facility (TRACON) controls all aircraft operating within the Phoenix Class B airspace. The TRACON operates 24 hours per day.

Class C Airspace: The FAA has established Class C airspace at 120 airports around the country as a means of regulating air traffic in these areas. Class C airspace is designed to regulate the flow of uncontrolled traffic above, around, and below the arrival and departure airspace required for high-performance, passenger-carrying aircraft at major airports. In order to fly inside Class C airspace, the aircraft must have a two-way radio, an encoding transponder, and have established communication with ATC. Aircraft may fly below the floor of the Class C airspace or above the Class C airspace ceiling without establishing communi-

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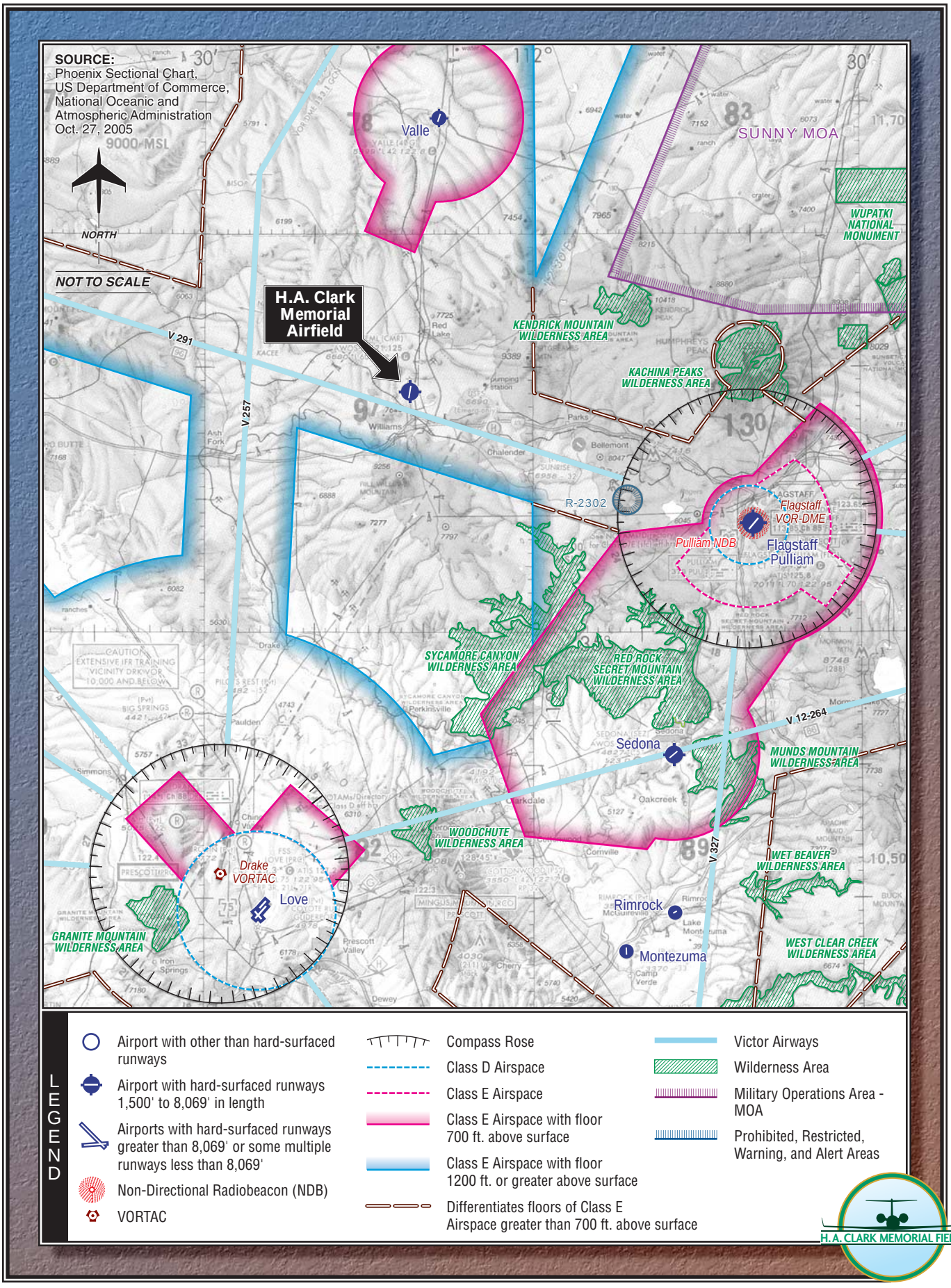


Exhibit 1D
VICINITY AIRSPACE

cation with ATC. There is no Class C airspace in the vicinity of H.A. Clark Memorial Field.

Class D Airspace: Class D airspace is controlled airspace surrounding airports with an airport traffic control tower (ATCT). The Class D airspace typically constitutes a cylinder with a horizontal radius of four or five nautical miles (NM) from the airport, extending from the surface up to a designated vertical limit, typically set at approximately 2,500 feet above the airport elevation. If an airport has an instrument approach or departure, the Class D airspace sometimes extends along the approach or departure path.

Flagstaff Pulliam Airport is the nearest Class D airspace airport to H.A. Clark Memorial Field. The Class D airspace extends for approximately three nautical miles around the airport, from the surface to 9,500 feet MSL. The Flagstaff Pulliam Airport Class D airspace is effective between April 1st and September 30th starting at 6:00 a.m. to 9:00 p.m. October 1st to March 31st, it is effective between 7:00 a.m. to 7:00 p.m. At all other times, the airport is in Class E airspace.

Class E Airspace: Class E airspace consists of controlled airspace designed to contain instrument flight rules (IFR) operations near an airport and while aircraft are transitioning between the airport and enroute environments. Unless otherwise specified, Class E airspace terminates at the base of the overlying airspace. Only aircraft operating under IFR are required to be in contact with air traffic control when operating in Class E airspace. While aircraft conducting visual flights in Class E airspace are not required to be in radio communications with air traffic control facilities, visual flight can only be conducted if minimum visibility and cloud ceilings exist.

H.A. Clark Memorial Field is in Class E airspace. This area of controlled airspace has a floor of 1,200 feet above the surface and extends to Class A airspace. This transition area is intended to provide protection for aircraft transitioning from enroute flights to the airport for landing.

Class G Airspace: Airspace not designated as Class A, B, C, D, or E is considered uncontrolled, or Class G, airspace. Air traffic control does not have the authority or responsibility to exercise control over air traffic within this airspace. Class G airspace lies between the surface and the overlaying Class E airspace (700 to 1,200 feet above ground level [AGL]). Class G airspace extends below the floor of the Class E airspace transition area in the H.A. Clark Memorial Field area.

While aircraft may technically operate within Class G airspace without any contact with ATC, it is unlikely that many aircraft will operate this low to the ground. Furthermore, federal regulations specify minimum altitudes for flight. F.A.R. Part 91.119, *Minimum Safe Altitudes*, generally states that except when necessary for takeoff or landing, pilots must not operate an aircraft over any congested area of a city, town, or settlement, or over any open air assembly of persons, at an altitude of less than 1,000 feet above

the highest obstacle within a horizontal radius of 2,000 feet of the aircraft. Over less congested areas, pilots must maintain an altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure. Finally, this section states that helicopters may be operated at less than the minimums prescribed above if the operation is conducted without hazard to persons or property on the surface. In addition, each person operating a helicopter shall comply with any routes or altitudes specifically prescribed for helicopters by the FAA.

Special Use Airspace

Special use airspace is defined as airspace where activities must be confined because of their nature or where limitations are imposed on aircraft not taking part in those activities. These areas are depicted on **Exhibit 1D** by blue and purple-hatched lines, as well as with the use of green shading.

Military Operating Areas: Military Operations Areas (MOAs) are depicted in **Exhibit 1D** with the purple-hatched lines. The MOA in the vicinity of H.A. Clark Memorial Field is the Sunny MOA to the northeast. A Notice to Airmen (NOTAM) will be posted 24 hours prior to the MOA's use. The Sunny MOA has operations at an altitude of 12,000 feet MSL.

Military Training Routes: Military training routes near H.A. Clark Memorial Field are identified with the letters VR and a four digit number or with IR and a three digit number. The arrows on the route show the direction of travel. Military aircraft travel on these routes below 10,000 feet MSL and at speeds in excess of 250 knots.

Wilderness Areas: As depicted on **Exhibit 1D**, a number of wilderness areas are located in the Williams area. Aircraft are requested to maintain a minimum altitude of 2,000 feet above the surface of designated National Park areas, which includes wilderness areas and designated breeding grounds. FAA Advisory Circular 91-36C defines the "surface" as the highest terrain within 2,000 feet laterally of the route of flight or the uppermost rim of a canyon or valley.

Victor Airways: For aircraft arriving or departing the regional area using very high frequency omnidirectional range (VOR) facilities, a system of Federal Airways, referred to as Victor Airways, has been established. Victor Airways are corridors of airspace eight miles wide that extend upward from 1,200 feet AGL to 18,000 feet MSL and extend between VOR navigational facilities. Victor Airways are shown with solid blue lines on **Exhibit 1D**. V291 passes to the south of H.A. Clark Memorial Field and extends from the Flagstaff VOR/DME to the west. V257 passes to the west of H.A. Clark Memorial Field and extends from the Drake very high frequency omnidirectional range facility with military tactical air navigation aid (VORTAC) to the north.

Restricted Areas: Restricted areas are depicted on **Exhibit 1D** with blue-

hatched lines. There is one restricted area to the southeast of H.A. Clark Memorial Field near Flagstaff. Restricted airspace is off-limits for public use unless granted permission from the controlling agency. These restricted areas are used by the military for training purposes.

Restricted area R-2302 includes altitudes from the surface to 10,000 feet MSL and is operational Monday through Saturday from 8:00 a.m. to 12:00 a.m. The controlling agency for this restricted area is the Albuquerque Air Route Traffic Control Center (ARTCC).

Airspace Control

The FAA is responsible for the control of aircraft within the Class A, Class C, Class D, and Class E airspace described above. The Albuquerque ARTCC controls aircraft operating in Class A airspace. The Albuquerque ARTCC located in Albuquerque, New Mexico, controls IFR aircraft entering or leaving the H.A. Clark Memorial Field area. The area of jurisdiction for the Albuquerque center includes most of the states of New Mexico and Arizona, and portions of Texas, Colorado, and Oklahoma.

Navigational Aids

Navigational aids are electronic devices that transmit radio frequencies which pilots of properly equipped aircraft translate into point-to-point guidance and position information. The types of electronic navigational aids available for aircraft flying to or from H.A. Clark Memorial Field include the VOR, the nondirectional beacon (NDB), global positioning system (GPS), and Loran-C.

The VOR provides azimuth readings to pilots of properly equipped aircraft by transmitting a radio signal at every degree to provide 360 individual navigational courses. Frequently, distance measuring equipment (DME) is combined with a VOR facility to provide distance as well as direction information to the pilot. Military tactical air navigation aids (TACANs) and civil VORs are commonly combined to form a VORTAC. A VORTAC provides distance and direction information to civil and military pilots.

The Flagstaff VOR/DME, located approximately 27 nautical miles east of the field, serves H.A. Clark Memorial Field area. This facility is identified on **Exhibit 1D**.

The NDB transmits nondirectional radio signals, whereby the pilot of a properly equipped aircraft can determine the bearing to or from the NDB facility and then “home” or track to or from the station. The nearest NDB to H.A. Clark Memorial Field is the Pulliam NDB, located approximately 27 nautical miles east of the field.

Loran-C is a ground-based enroute navigational aid which utilizes a system of transmitters located in various locations across the continental United States. Loran-C allows pilots to navigate without using a specific facility. With a properly equipped aircraft, pilots can navigate to any air-

port in the United States using Loran-C.

GPS was initially developed by the United States Department of Defense for military navigation around the world. However, GPS is now used extensively for a wide variety of civilian uses, including the civil aircraft navigation.

GPS uses satellites placed in orbit around the globe to transmit electronic signals, which pilots of properly equipped aircraft use to determine altitude, speed, and navigational information. This provides more freedom in flight planning and allows for more direct routing to the final destination.

Instrument Approach Procedures

Instrument approach procedures are a series of predetermined maneuvers established by the FAA, using electronic navigational aids that assist pilots in locating and landing at an airport, especially during instrument flight conditions. H.A. Clark Memorial Field currently does not have any published instrument approach procedures.

Visual Flight Procedures

All flights into and out of H.A. Clark Memorial Field are currently conducted under VFR. Under VFR flight, the pilot is responsible for collision avoidance. Typically, the pilot will make radio calls announcing his/her intentions and the position of the aircraft relative to the airport.

In most situations, under VFR and basic radar services, the pilot is responsible for navigation and choosing the arrival and departure flight paths to and from the airport. The results of individual pilot navigation for sequencing and collision avoidance are that aircraft do not fly a precise flight path to and from the airport. Therefore, aircraft can be found flying over a wide area around the airport for sequencing and safety reasons.

While aircraft can be expected to operate over most areas of the airport, the density of aircraft operations is higher near the airport. This is the result of aircraft following the established traffic patterns for the airport. The traffic pattern is the traffic flow that is prescribed for aircraft landing or taking off from an airport. The components of a typical traffic pattern are upwind leg, crosswind leg, downwind leg, base leg, and final approach.

a. Upwind Leg - A flight path parallel to the landing runway in the direction of landing.

b. Crosswind Leg - A flight path at right angles to the landing runway off its upwind end.

c. Downwind Leg - A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg.

d. Base Leg - A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind

leg to the intersection of the extended runway centerline.

e. Final Approach - A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway.

Essentially, the traffic pattern defines the side of the runway on which aircraft will operate. For example, at H.A. Clark Memorial Field, Runway 18 and Runway 36 have an established left-hand traffic pattern. For these runways, aircraft make a left turn from base leg to final for landing. Therefore, aircraft operating to Runway 18 remain east of the runway. For Runway 36, aircraft remain west of the runway.

While the traffic pattern defines the direction of turns that an aircraft will follow on landing or departure, it does not define how far from the runway an aircraft will operate. The distance laterally from the runway centerline an aircraft operates or the distance from the end of the runway is at the discretion of the pilot, based on the operating characteristics of the aircraft, number of aircraft in the traffic pattern, and meteorological conditions. The actual ground location of each leg of the traffic pattern varies from operation to operation for the reasons of safety, navigation, and sequencing, as described above. The distance that the downwind leg is located laterally from the runway will vary based mostly on the speed of the aircraft. Slower aircraft can operate closer to the runway as their turn radius is smaller.

The FAA has established that piston-powered aircraft operating in the traffic pattern fly at 1,000 feet above the ground (or 7,700 feet MSL) when on the downwind leg. Turbine-powered aircraft fly the downwind leg at 8,800 feet MSL. The traffic pattern altitude is established so that aircraft have a predictable descent profile on base leg to final for landing.

Area Airports

A review of public-use airports within the vicinity of H.A. Clark Memorial Field has been made to identify and distinguish the type of air service provided in the area surrounding the airport. Information pertaining to each airport was obtained from FAA records.

Valle Airport is located approximately 21 nautical miles north of H.A. Clark Memorial Field. Valle Airport is privately owned and operated by the Grand Canyon Valle Corporation; however, it is open to the public. There is a single runway available for use. Runway 1-19 is 4,199 feet long and 45 feet wide. Valle Airport does not have an operating ATCT. There are two published GPS instrument approaches and a single VOR/DME instrument approach into Valle Airport. There are five based aircraft at Valle Airport. A full range of general aviation services are available at the airport.

Flagstaff Pulliam Airport is located approximately 27 miles southeast of H.A. Clark Memorial Field. Flagstaff Pulliam Airport is owned and operated by the City of Flagstaff. A single run-

way 6,999 feet long by 150 feet wide is available for use. The Flagstaff Pulliam ATCT is in operation from 6:00 a.m. to 9:00 p.m. between April 1st and September 30th, and from 7:00 a.m. to 7:00 p.m. between October 1st and March 31st. There are 134 based aircraft at Flagstaff Pulliam Airport. A full range of general aviation services are available at the airport.

LANDSIDE FACILITIES

Landside facilities are the ground-based facilities that support the aircraft and pilot/passenger handling functions. These facilities typically include aircraft storage/maintenance hangars, aircraft parking aprons, and support facilities such as fuel storage, automobile parking, and roadway access. Landside facilities were previously identified on **Exhibit 1B.**

Terminal Building

The existing terminal building is located on the southeast side of the airport, adjacent to Airport Road. The terminal building was constructed in 2000 and encompasses approximately 3,000 square feet. It contains office space, restrooms, and waiting areas for passengers. There are no tenants in the building; however, the City of Williams Airport Manager's office is located in the terminal.

Aircraft Hangar Facilities

There are nine separate hangar buildings at H.A. Clark Memorial Field, totaling approximately 21,400 square feet. Seven of the hangar facilities are open conventional hangars, with the remaining two hangars configured as T-hangars. The two T-hangars are able to house a single aircraft. All of the hangar facilities are located off Taxiway E on the east side of the airport.

Fixed Base Operators (FBOs)

Aviation Services of Northern Arizona serves as the airport's full-service FBO. Aviation Services of Northern Arizona currently occupies the 5,530 square foot conventional hangar north of the fuel storage facility. The following is a list of services provided by Aviation Services of Northern Arizona.

- Aviation Fuel (100LL)
- Line Services
- Aircraft Parking (Ramp or Tie-down)
- Aircraft Maintenance
- Courtesy Transportation
- Pilots Lounge
- Public Telephone

Apron and Aircraft Parking

The aircraft parking aprons at H.A. Clark Memorial Field are located east of Runway 18-36. The general aviation apron area encompasses approximately 10,200 square yards, including 15 tiedown spaces and access to the hangar facilities. A new section of apron is currently being constructed and will encompass approximately 19,500 square yards. This new apron will have locations for future T-hangar development and aircraft parking. The main apron adjacent to the termi-

nal facility encompasses approximately 11,000 square yards and provides approximately 16 transient tie-down spaces.

Fueling Facilities

Fuel storage tanks at H.A. Clark Memorial Field are located above ground on the main apron, as previously shown on **Exhibit 1B**. The fuel island consists of one self-serve storage tank, which holds 8,000 gallons of 100LL fuel. The fuel island is privately owned by Aviation Services of Northern Arizona.

Maintenance and Aircraft Rescue and Fire Fighting

Maintenance at H.A. Clark Memorial Field is performed by the City of Williams. City-owned equipment is used to perform maintenance when needed. This equipment is maintained off the airport.

There are no aircraft rescue and fire fighting (ARFF) facilities located on the airport. An ARFF vehicle was recently purchased and personnel are currently in the process of being trained to respond to on-airport emergencies using the ARFF equipment. The local fire station located two miles from the airport in Williams responds to on-airport emergencies. A new ARFF facility is planned to be constructed adjacent to the north hangars.

Utilities

The availability of utilities at the airport is an important factor in determining the development potential of the airport property. Of primary concern in the inventory investigation is the availability of water, sanitary sewer, and electricity. Some, if not all, of these utilities will be necessary for any future development. Water is provided by the City of Williams via a water storage tank located at the terminus of Airport Road. This tank is replenished by trucks as a dedicated water line is not available to the airport. Sanitary sewer is provided utilizing individual septic tank systems. Electrical power is supplied to the City of Williams by Arizona Public Service. Telephone service is provided by Qwest. A natural gas pipeline runs east to west through the airport property, approximately 300 feet south of the Runway 36 end. This gas line is owned by El Paso Gas Corporation.

Security Fencing and Gates

The airport perimeter and apron areas are equipped with 8-foot chain-link fencing with three strands of barbed-wire. An automated access gate is located near the Aviation Services of Northern Arizona hangar at the terminus of Airport Road. In addition to the automated access gate, there are five manual lock gates around the airport.

ACCESS & CIRCULATION

GENERAL ACCESS TO H.A. CLARK MEMORIAL FIELD - SURROUNDING ROADS

The airport is located approximately three miles north of Interstate Highway 40, and is accessible via Airport Road. Airport Road is a rural two-lane road in good condition, which runs from north to south and approaches the airport from the southeast.

A designated paved vehicle parking lot providing 25 vehicle parking spaces is located east of the airport terminal building.

SOCIOECONOMIC PROFILE

The socioeconomic profile provides a general look at the socioeconomic makeup of the community that utilizes H.A. Clark Memorial Field. It also provides an understanding of the dynamics for growth and the potential changes that may affect aviation demand. Aviation demand forecasts are often directly related to the population base, economic strength of the region, and the ability of the region to sustain a strong economic base over an extended period of time. Current demographic and economic information was collected from the Arizona Department of Economic Security, the City of Williams, and the 1990 and 2000 census reports.

POPULATION

Population is a basic demographic element to consider when planning for future needs of the airport. The State of Arizona has been one of the fastest growing states in the country. **Table 1D** shows the total population growth since 1990 for the State of Arizona, Coconino County, and the City of Williams. Arizona has grown at an annual average rate of 3.4 percent since 1990. Since 1990, the State of Arizona population has increased by 2.3 million. The population of the City of Williams grew at an average annual rate of 1.5 percent between 1990 and 2005, increasing by more than 600 residents. During the same period, Coconino County's population grew by more than 33,600 and at an average annual rate of 2.0 percent.

Population growth in Williams has been behind Coconino County and the State of Arizona, historically. Between 1990 and 2005, the state population grew by 64.2 percent and the county population grew by 34.7 percent, whereas the Williams population grew by 24.3 percent.

EMPLOYMENT

Employment opportunities affect migration to the area and population growth. As shown in **Table 1E,** the City of Williams' unemployment rate has been well below county, state, and national levels over the last 14 years. Williams' unemployment rate for 2005 was not available at the time of this study.

TABLE 1D
Total Population
State of Arizona, Coconino County, City of Williams

Year	State of Arizona	Percent Change	Coconino County	Percent Change	City of Williams	Percent Change
1990	3,680,800	N/A	96,900	N/A	2,530	N/A
1991	3,767,000	2.3%	99,150	2.3%	2,620	3.6%
1992	3,858,825	2.4%	101,350	2.2%	2,625	0.2%
1993	3,958,875	2.6%	104,700	3.3%	2,635	0.4%
1994	4,071,650	2.8%	107,500	2.7%	2,680	1.7%
1995	4,228,900	3.9%	109,400	1.8%	2,690	0.4%
1996	4,462,300	5.5%	113,475	3.7%	2,705	0.6%
1997	4,600,275	3.1%	117,475	3.5%	2,735	1.1%
1998	4,764,025	3.6%	121,625	3.5%	2,800	2.4%
1999	4,924,350	3.4%	122,825	1.0%	2,845	1.6%
2000	5,130,632	4.2%	116,320	-5.3%	2,842	-0.1%
2001	5,319,895	3.7%	122,770	5.5%	2,885	1.5%
2002	5,472,750	2.9%	125,420	2.2%	2,910	0.9%
2003	5,629,780	2.9%	128,925	2.8%	2,910	0.0%
2004	5,833,685	3.6%	129,570	0.5%	2,940	1.0%
2005	6,044,985	3.6%	130,530	0.7%	3,145	7.0%

Arizona Population Growth Rates	
1990 – 2005 Change in Total Population	**1990 – 2005 Average Annual Population Growth Rate**
2,364,185	**3.4%**
Coconino County Population Growth Rates	
1990 – 2005 Change in Total Population	**1990 – 2005 Average Annual Population Growth Rate**
33,630	**2.0%**
Williams Population Growth Rates	
1990 – 2005 Change in Total Population	**1990 – 2005 Average Annual Population Growth Rate**
615	**1.5%**

Source: Arizona Department of Economic Security, 2005

TABLE 1E
Unemployment Rates
City of Williams, Coconino County, State of Arizona, The United States

Year	City of Williams	Coconino County	State of Arizona	United States
1990	3.5%	7.8%	5.5%	5.6%
1991	3.5%	7.3%	5.8%	6.8%
1992	4.5%	9.4%	7.6%	7.5%
1993	4.1%	8.7%	6.3%	6.9%
1994	4.4%	9.2%	6.4%	6.1%
1995	3.6%	7.8%	5.1%	5.6%
1996	4.1%	8.7%	5.5%	5.4%
1997	4.0%	8.4%	4.6%	4.9%
1998	3.4%	7.3%	4.1%	4.5%
1999	3.2%	6.7%	4.4%	4.2%
2000	2.7%	5.8%	4.0%	4.0%
2001	2.5%	5.4%	4.7%	4.7%
2002	2.7%	5.9%	6.2%	5.8%
2003	3.0%	6.4%	5.6%	6.0%
2004	2.8%	6.1%	4.8%	5.5%
2005	N/A	5.1%	4.7%	5.1%

Source: Arizona Department of Economic Security, 2005

Table 1F summarizes total employment by sector for Coconino County from 2001 to 2005. As shown in the table, with the exception of 2003, Coconino County recorded growth in total employment each year. Over the four-year period, total employment grew by 4,500, a 7.7 percent increase. The sectors that experienced the greatest average annual growth rate were the mining and construction sector (9.6 percent annually), manufacturing (7.2 percent annually), and services and miscellaneous (3.5 percent annually). The only sector experiencing a negative growth rate was the government sector, which declined 1.6 percent annually over the same four-year time period.

TABLE 1F
Employment By Sector (Non-Farm)
Coconino County

Sector	2001	2002	2003	2004	2005	Average Annual Growth Rate
Manufacturing	2,800	2,800	3,000	3,200	3,700	7.2%
Mining and Construction	2,700	2,800	2,900	3,400	3,900	9.6%
Trade, Transportation, and Utilities	9,100	9,400	9,200	9,200	9,500	1.1%
Information	500	500	500	500	500	0.0%
Financial Activities	1,500	1,500	1,500	1,600	1,600	1.6%
Services and Miscellaneous	21,800	21,900	22,500	23,700	25,000	3.5%
Government	20,200	20,000	18,600	18,400	18,900	-1.6%
Total Employment*	**58,600**	**58,900**	**58,200**	**60,000**	**63,100**	**1.9%**

Source: Arizona Department of Economic Security, 2005

PER CAPITA PERSONAL INCOME

Per capita personal income (PCPI) for Coconino County is summarized in **Table 1G.** PCPI is determined by dividing total income by population. For PCPI to grow significantly, income growth must outpace population growth. As shown in the table, PCPI has grown significantly in Coconino County since 1990, growing at an average annual rate of 4.8 percent between 1990 and 2003. The State of Arizona has also seen an increase in PCPI, at 3.7 percent annually over the same time period.

CLIMATE

Weather plays an important role in the operational capabilities of an airport. Temperature is an important factor in determining runway length required for aircraft operations. The percentage of time that visibility is impaired due to cloud coverage is a major factor in determining the use of instrument approach aids.

Temperatures typically range from 46 to 83 degrees Fahrenheit (F) during the summer months. The hottest month is typically July with an average high of 83 degrees. August is the

wettest month averaging 3.21 inches of precipitation annually. January is the coldest month with average minimum temperatures around 19 degrees. Williams averages 12.5 inches of snowfall annually. **Table 1H** summarizes typical temperature and precipitation data for the region.

TABLE 1G
Per Capita Personal Income
Coconino County and Arizona

Year	Coconino County	Arizona
1990	$13,847	$17,005
1991	$14,386	$17,260
1992	$15,314	$17,777
1993	$15,573	$18,293
1994	$16,422	$19,212
1995	$17,034	$19,929
1996	$17,975	$20,823
1997	$18,883	$21,861
1998	$20,191	$23,216
1999	$21,232	$24,057
2000	$22,814	$25,660
2001	$23,710	$26,214
2002	$24,331	$26,680
2003	$25,345	$27,232
Average Annual Growth Rate		
1990-2003	4.8%	3.7%

Source: U.S. Department of Commerce, Bureau of Economic Analysis

TABLE 1H
Temperature and Precipitation Data
Williams, Arizona

	Temperature (Fahrenheit)			
	Mean Maximum	Mean Minimum	Precipitation (Inches)	Snow Fall (Inches)
January	45.1	19.6	2.03	16.2
February	47.5	21.8	2.21	13.6
March	52.2	25.4	2.10	13.6
April	61.0	31.4	1.32	5.8
May	70.0	38.5	0.71	1.3
June	80.4	46.2	0.47	0.0
July	83.7	53.0	2.84	0.0
August	80.9	52.0	3.21	0.0
September	75.8	46.0	1.75	0.0
October	66.3	35.6	1.47	0.9
November	55.0	26.1	1.44	5.4
December	47.1	20.6	2.05	12.5
Annual	63.7	34.7	21.58	69.3

Source: Western Regional Climate Center

ENVIRONMENTAL INVENTORY

Available information about the existing environmental conditions at H.A. Clark Memorial Field has been derived from the 1997 *Environmental Assessment for Proposed Development*, as well as from internet resources, agency maps, and existing literature. The intent of this task is to inventory potential environmental sensitivities that might affect future improvements at the airport.

HISTORIC AND CULTURAL RESOURCES

Previous coordination with the State Historic Preservation Office (SHPO) and the Hopi Tribe indicated that potential presence of cultural resources in the area is highly likely. As part of the 1997 Environmental Assessment (EA), a cultural resource assessment was conducted on portions of airport property proposed for development, as well as land proposed for acquisition. Results of the study identified three historic archaeological sites, one isolated feature, and 15 isolated occurrences. None of these sites were determined to be to be potentially eligible for inclusion to the National Register. A copy of this report was forwarded to the Forest Service, SHPO, and the Hopi Tribe. The SHPO and the Forest Service concurred with the findings; no response was received from the Hopi Tribe.

WETLANDS

The U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredge and/or fill material into waters of the United States, including adjacent wetlands, under Section 404 of the Clean Water Act.

Wetlands are defined by *Executive Order 11990, Protection of Wetlands*, as "those areas that are inundated by surface or groundwater 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." Categories of wetlands includes swamps, marshes, bogs, sloughs, potholes, wet meadows, river overflows, mud flats, natural ponds, estuarine area, tidal overflows, and shallow lakes and ponds with emergent vegetation. Wetlands exhibit three characteristics: hydrology, hydrophytes (plants able to tolerate various degrees of flooding or frequent saturation), and poorly drained soils.

Correspondence included in the 1997 EA received from the Arizona Game and Fish Department and the Northern Arizona Council of Governments indicated that Threemile Lake is a naturally occurring wetland. No other wetland areas are known.

FLOODPLAINS

As defined in the *FAA Order 5050.4A*, floodplains consist of "lowland and

relatively flat areas adjoining inland and coastal water including flood prone areas of offshore islands, including at a minimum, that area subject to one percent or greater chance of flooding in any given year." Federal agencies are directed to take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health and welfare, and restore and preserve the natural and beneficial values served by floodplains. Floodplains have natural and beneficial values, such as providing ground water recharge, water quality maintenance, fish, wildlife, plants, open space, natural beauty, outdoor recreation, agriculture and forestry. *FAA Order 5050.4A (12) (*c) indicates that "if the proposed action and reasonable alternatives are not within the limits of a base floodplain (100-year flood area)," that it may be assumed that there are no floodplain impacts. The limits of base floodplains are determined by Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency (FEMA). As the airport is surrounded by land which is managed by the Forest Service, floodplain mapping has not been completed. Within the 1997 EA, it was determined through conversations with the Forest Service that the airport does not fall within a 100-year floodplain.

WATER SUPPLY AND QUALITY

The airport has an on-airport tank which holds 250,000 gallons of water. This tank is used as both fire protection and potable water.

Domestic sewage is currently handled by one individual sewage disposal system which is connected to the general aviation terminal facility.

The airport is considered an industrial facility and therefore is required to be covered under a National Pollutant Discharge Elimination System (NPDES) general permit. Previous concerns expressed by the Arizona Department of Environmental Quality (ADEQ) indicated that a surface hydraulic connection exists between the Colorado River and the airport via Havasu Creek, Cataract Creek, and other unnamed washes. The ADEQ has submitted recommendations for the airport to lessen water quality impacts to these tributaries.

BIOTIC RESOURCES

Biotic resources refer to those flora and fauna (i.e., vegetation and wildlife) habitats which are present in an area. Impacts to biotic communities are determined based on whether a proposal would cause a minor permanent alteration of existing habitat or whether it would involve the removal of a sizable amount of habitat, habitat which supports a rare species, or a small, sensitive tract.

A search of the U.S. Fish and Wildlife Service website indicated 20 species that are listed as threatened or endangered or as a candidate species. An initial review of the habitat of these species indicated that four species have habitat in close vicinity of the airport. **Table 1J** summarizes these species.

TABLE 1J
Listed Threatened and Endangered Species in Coconino County

Common Name	*Status*	*Habitat*
Bald eagle	Threatened	Large trees or cliffs near water
Black-footed ferret	Endangered	Grassland Plains; usually associated with prairie dogs
Mexican spotted owl	Threatened	Nests in canyons and dense forests with multi-layered foliage structure.
Yellow-billed cuckoo	Candidate	Large blocks of riparian woodlands

Source: U.S. Fish and Wildlife Service

AIR QUALITY

The Environmental Protection Agency (EPA) has adopted air quality standards that specify the maximum permissible short-term and long-term concentrations of various air contaminants. The National Ambient Air Quality Standards (NAAQS) consist of primary and secondary standards for six criteria pollutants which include: Ozone (O_3), Carbon Monoxide (CO), Sulfur Dioxide (SO_x), Nitrogen Oxide (NO_x), Particulate Matter (PM_{10}), and Lead (Pb).

Primary air quality standards are established at levels to protect the public health and welfare from any known or anticipated adverse effects of a pollutant. All areas of the country are required to demonstrate attainment with NAAQS. Arizona has adopted the federal ambient air quality standards.

Air contaminants increase the aggravation and the production of respiratory and cardiopulmonary diseases. The standards also establish the level of air quality which is necessary to protect the public health and welfare, including among other things, affects on crops, vegetation, wildlife, visibility, and climate, as well as affects on materials, economic values, and on personnel comfort and well-being.

According to the EPA 'Greenbook' website, Coconino County is in attainment for all criteria pollutants.

Public Airport Disclosure Map

Arizona Revised Statutes (ARS) 28-8486, *Public Airport Disclosure*, provides for a public airport owner to publish a map depicting the "territory in the vicinity of the airport." The territory in the vicinity of the airport is defined as the traffic pattern airspace and the property that experiences 60 day-night noise level (DNL) or higher in counties with a population of more than 500,000, and 65 DNL or higher in counties with less than 500,000 residents. The DNL is calculated for the 20-year forecast condition. ARS 28-8486 provides for the State Real Estate Office to prepare a disclosure map in conjunction with the airport owner. H.A. Clark Memorial Field does not have a public airport disclosure map on file.

Storm Water Pollution Prevention Plan (SWPPP)

Stormwater runoff is simply rainwater or snowmelt that runs off the land and into streams, rivers, and lakes. When stormwater runs through sites of industrial or construction activity it may pick up pollutants and transport them into national waterways and affect water quality.

Mandated by Congress under the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the NPDES permitting mechanism to require the implementation of controls designed to prevent harmful pollutants from being washed by stormwater runoff into local water bodies.

The State of Arizona has been delegated the authority to administer the NPDES program. Administratively, this is the responsibility of the Arizona Department of Environmental Quality (ADEQ). The ADEQ's Arizona Pollutant Discharge Elimination System (AZDES) program now has regulatory authority over discharges of pollutants to Arizona surface water.

Under the regulations, separate permits are required for construction activities that disturb one or more acres of land and for general stormwater permits. H.A. Clark Memorial Field does not currently have a SWPPP plan.

Spill Prevention Control and Countermeasure (SPCC) Plan

Title 40 of the Code of Federal Regulations (CFR) Part 112, defines the EPA's *Oil Pollution Prevention Rule.* The purpose of the rule is to prevent the discharge of oil into the navigable waters of the United States or adjoining shorelines as opposed to response and cleanup after a spill occurs. The EPA revised these prevention rules on July 17, 2002, to establish the Spill Prevention, Control and Countermeasure (SPCC) Plan to meet the purpose of this rule. All SPCC Plans were to be completed by August 18, 2003.

Before a facility is subject to the SPCC rule, it must meet the following three criterions:

1) It must be non-transportation-related,

2) It must have an aggregate above-ground storage capacity greater than 1,320 gallons or a completely buried storage capacity greater than 42,000 gallons, and

3) There must be a reasonable expectation of a discharge into or upon navigable waters of the United State or adjoining shorelines.

H.A. Clark Memorial Field does not currently have an SPCC plan.

Table 1K provides a summary of the status of the various regulatory and administrative plans and studies discussed above.

TABLE 1K
Summary of Regulatory and Administrative Plans, Studies, and Facility Improvements

Description	Status
Storm Water Pollution and Prevention Plan (SWPPP)	No plan currently in place.
Spill Prevention, Control and Countermeasure (SPCC) Plan	No plan currently in place.
Minimum Standards	No minimum standards in place.
Airport Rules and Regulations	No published airport rules and regulations.
Height Zoning Ordinance	There is currently no height zoning ordinance in place for the airport.
Public Airport Disclosure Map	There is currently no public airport disclosure map.
Aircraft Wash Rack	There is no aircraft wash rack at the airport.

LAND USE

Exhibit 1E depicts the existing land use around the airport as derived from the 2003 *Williams General Plan*. The majority of the land surrounding the airport is designated as national forest land. Most of the developed areas of Williams are located south of the airport. Future land use is also depicted on **Exhibit 1E**; however, land use in the vicinity of the airport is shown to continue to be reserved as national forest land.

HEIGHT AND HAZARD ZONING

Height and hazard zoning establishes height limits for new construction near an airport and within the runway approaches. Height and hazard zoning ordinances are typically based on Federal Aviation Regulation (FAR) Part 77, which defines imaginary surfaces surrounding the airport that are to remain free of obstructions for the purpose of safe air navigation. Currently, the City of Williams has no height and hazard zoning restrictions specific to new construction near the airport or within the runway approaches.

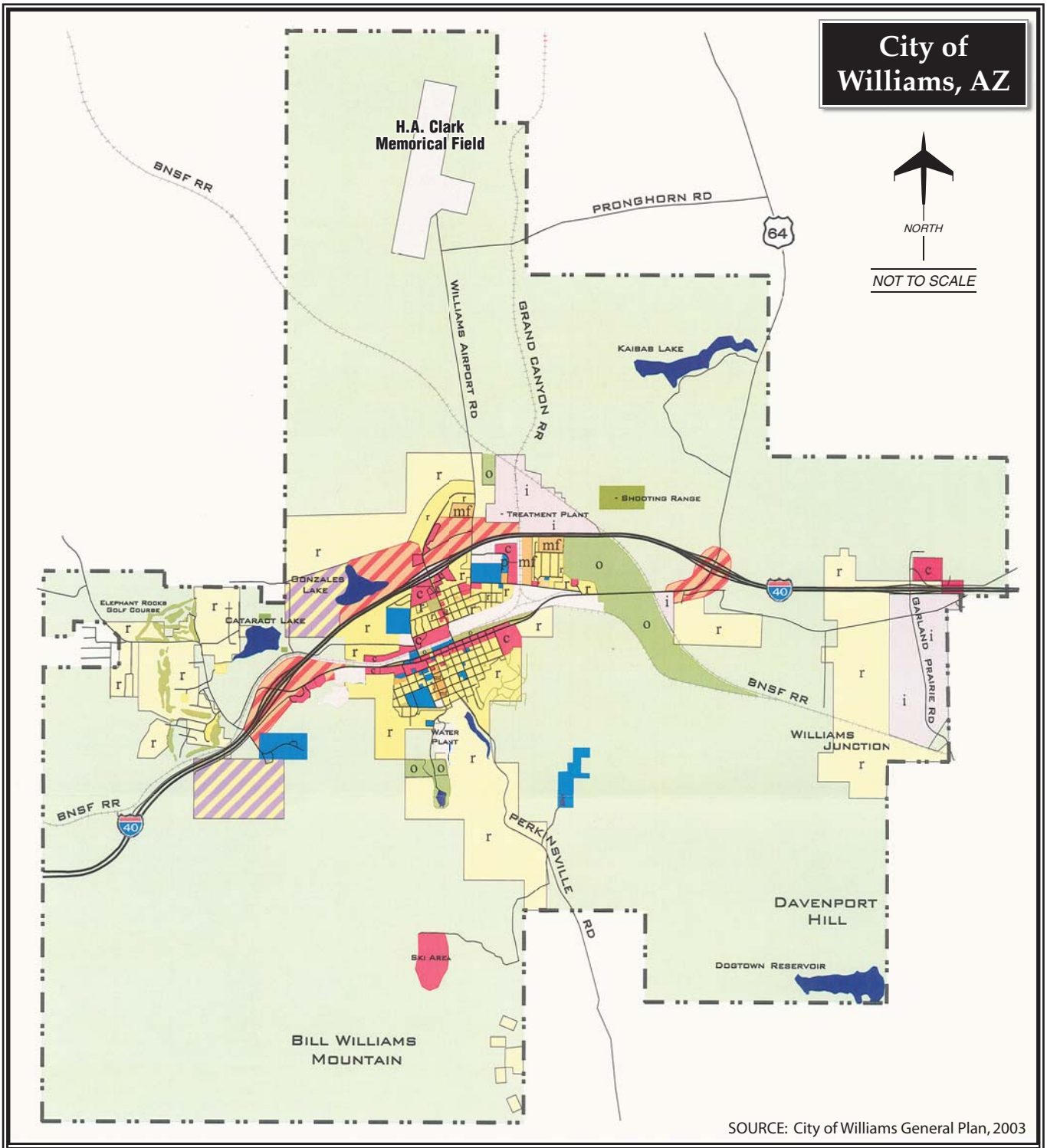
SUMMARY

The information discussed on the previous pages provides a foundation upon which the remaining elements of the planning process will be constructed. Information on current airport facilities and utilization will serve as a basis, with additional analysis and data collection, for the development of forecasts of aviation activity and facility requirement determinations. The inventory of existing conditions is the first step in the process of determining those factors which will meet projected aviation demand in the community and the region.

DOCUMENT SOURCES

A variety of sources were used in the inventory of existing facilities. The following listing presents a partial list of reference documents. The list does

04MP12-1E-3/31/06



LEGEND

EXISTING LAND USE

- Residential
- Multi-Family
- Commercial
- Public/Industrial
- Recreational/Open Space
- Industrial
- Lakes/Reservoirs
- National Forest Land
- City Limits
- Roads
- Trails
- Railroad

FUTURE LAND USE

- Rural Residential (0-2 du/ac)
- Residential (3-5 du/ac)
- Multi-Family (6-15 du/ac)
- Commerical
- Public/Institutional
- Recreational/Open Space
- Industrial
- Mixed Resort/Residential
- Mixed Use/Commercial

H.A. CLARK MEMORIAL FIELD

Exhibit 1E
EXISTING & FUTURE LAND USE

not reflect some information collected by airport staff or through interviews with airport personnel.

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