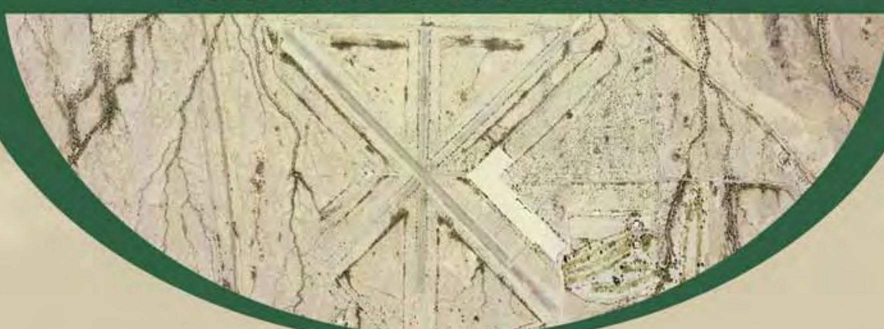
Eric Marcus Municipal Airport

AJO, ARIZONA

AIRPORT MASTER PLAN



PIMA COUNTY DOT

AIRPORT MASTER PLAN

for

ERIC MARCUS MUNICIPAL AIRPORT
Ajo, Arizona

Prepared for

PIMA COUNTY

by

Coffman Associates, Inc.

August 2010

"The contents of this plan do not necessarily reflect the official views or policy of the FAA or ADOT Aeronautics. Acceptance of this document by the FAA and ADOT Aeronautics does not in any way constitute a commitment on the part of the United States or the State of Arizona to participate in any development depicted herein nor does it indicate that the proposed development is environmentally acceptable in accordance with the appropriate public laws."

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ERIC MARCUS MUNICIPAL AIRPORT

AJO, ARIZONA

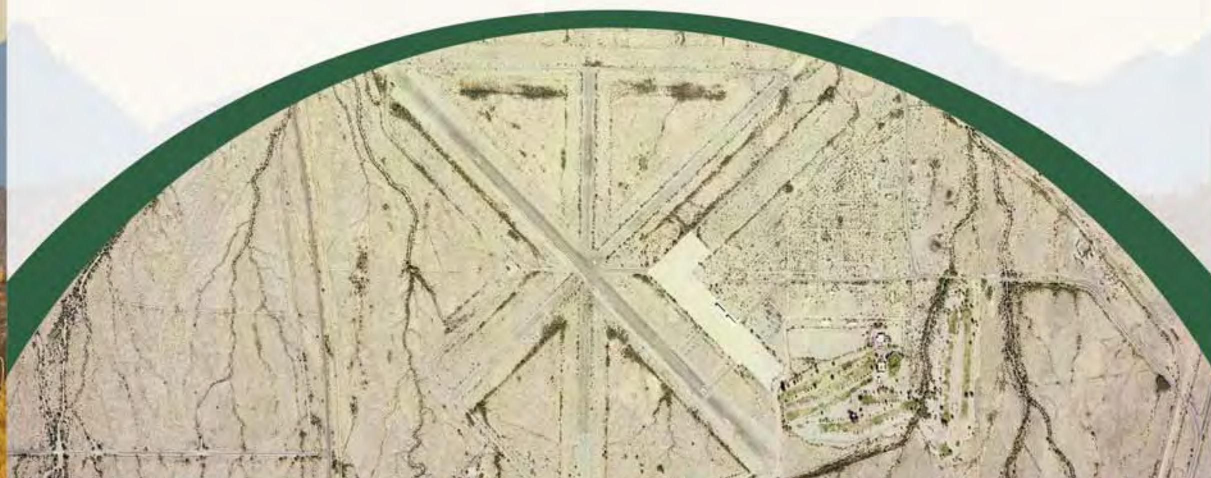
AIRPORT MASTER PLAN

INTRODUCTION

This update of the Eric Marcus Municipal Airport (P01) Master Plan has been undertaken to evaluate the airport's capabilities and role, to review forecasts of future aviation demand, and to plan for the timely development of new or expanded facilities that may be required to meet that demand. The ultimate goal of the master plan is to provide systematic guidelines for the airport's overall development, operation, and ownership.

The master plan is intended to be a proactive document which identifies and then plans for future facility needs well in advance of the actual need for the facilities. This is done to ensure that Pima County, Arizona Department of Transportation (ADOT), and the Federal Aviation Administration (FAA) can coordinate project approvals, design, financing, and construction to avoid experiencing detrimental effects due to inadequate facilities.

The preparation of this master plan is evidence that Pima County recognizes the importance of air transportation to its region and the associated challenges inherent in providing for its unique operating and improvement needs. The cost of maintaining an airport is an investment which can yield impressive benefits to the community and the county. With a sound and realistic master plan, Eric Marcus Municipal Airport can maintain its role in the national air transportation system and maintain the existing public and private investments in its facilities.



MASTER PLAN GOALS AND OBJECTIVES

The primary objective of the master plan is to provide the community and public officials with proper guidance for future development which will address aviation demands and be wholly compatible with the environment. The accomplishment of this objective requires the evaluation of the existing airport and determination of what actions should be taken to maintain an adequate, safe, and reliable airport facility in support of those long term goals. This master plan will provide an outline of necessary development and give those responsible an advance notice of future airport funding needs so that appropriate steps can be taken to ensure that adequate funds are budgeted and planned.

Specific goals for the airport are:

- To preserve and protect public and private investments in existing airport facilities;
- To enhance the safety of aircraft operations;
- To be reflective of community and regional goals, needs, and plans;
- To ensure that future development is environmentally compatible;
- To develop a plan that is responsive to air transportation demands;
- To develop an orderly plan for use of the airport, and;
- To coordinate this master plan with local, county, state, and federal agencies.

Specific objectives of this master plan designed to help in attaining these goals include:

- Examining the projected aviation demand and identifying the facilities necessary to accommodate the demand.
- Recommending improvements that will enhance the airport's safety and capacity to the maximum extent possible.
- Evaluating the full range of airport development alternatives, including the transfer of airport ownership and/or the privatization (long term lease) of airport operation and development. Airport closure will also be evaluated as will the possibility of operating the airport "as is" with no/minimal improvements.
- Establishing a schedule of development and operation/ownership priorities and a program for the recommendations proposed in the Master Plan Update.
- Prioritizing the airport capital improvement program.
- Preparing a new Airport Layout Plan in accordance with FAA and ADOT guidelines.
- Developing active and productive public involvement throughout the planning process.

The Master Plan provides recommendations from which Pima County may take action to improve the airport and all associated services important to public needs, convenience, and economic growth. The plan benefits all residents of the area by providing a single, comprehensive plan which supports and balances aviation activity with the preservation of the surrounding environs.

BASELINE ASSUMPTIONS

A study such as this requires several baseline assumptions that will be used throughout the analysis. The baseline assumptions for this study are as follows:

- Eric Marcus Municipal Airport's role as a general aviation airport will not change through the planning period.
- The general aviation industry will continue to grow positively through the planning period as forecast by the FAA in its annual Aerospace Forecasts.
- Civil aviation activity will continue to share the Arizona airspace with the military air installations and its training operations.

Both a federal program and state program will be in place through the planning period to assist in funding future capital development needs.

MASTER PLAN ELEMENTS AND PROCESS

The Eric Marcus Municipal Airport Master Plan was prepared in a systematic fashion following FAA guidelines and industry-accepted principles and practices. The master plan has five chapters that are intended to assist in the discovery of future facility needs and provide the supporting rationale for their implementation.

Chapter One - Inventory summarizes the inventory efforts. The inventory efforts are focused on collecting and assembling relevant data pertaining to the airport and the area it serves. Information is collected on existing airport facilities and operations. Local economic and demographic data is collected to define the local growth trends. Planning studies which may have relevance to the master plan are also collected.

Chapter Two - Forecasts examines the potential aviation demand for aviation activity at the airport. This analysis reviews and updates the Eric Marcus Municipal Airport demand forecasts previously prepared for Pima County in the 1999 *Ajo Municipal Airport Master Plan*. The forecast effort takes into account local socioeconomic information, as well as national air transportation trends to quantify the levels of aviation activity which can reasonably be expected to occur at Eric Marcus Municipal Airport through the year 2028. The results of this effort are used to determine the types and sizes of facilities which will be required to meet the projected aviation demands on the airport through the planning period.

Chapter Three - Facility Requirements comprises the demand/capacity and facility requirements analyses. The intent of these analyses is to compare the existing facility capacities to forecast aviation demand and determine where deficiencies in capacities (as well as excess capacities) may exist. Where deficiencies are identified, the size and type of new facilities to accommodate the demand are identified. The airfield analysis focuses on improvements needed to serve the type of aircraft expected to operate at the airport in the future, as well as navigational aids to increase the safety and efficiency of operations. This element also examines general aviation facilities and support needs.

Chapter Four - Alternatives considers a variety of solutions to accommodate the projected facility needs. This element proposes various development alternatives, including transfer of ownership, minimal improvement, and facility and site plan configurations which can meet the projected facility needs. An analysis is completed to identify the strengths and weaknesses of each proposed development alternative, with the intention of determining a conceptual direction for development.

Chapter Five – Airport Plans provides both a graphic and narrative description of the recommended plan for the use, development, and operation of the airport. An environmental overview is also provided. The master plan also supports the official Airport Layout Plan (ALP) and detailed technical drawings depicting related airspace, land use, and property data. These drawings are used by the FAA in determining grant eligibility and funding. A financial plan is included, which establishes the capital needs program. The capital needs program defines the schedules and costs for the recommended development projects. The plan then evaluates the potential funding sources to analyze financial strategies for successful implementation of the plan.

Appendices – Appendices will be included in the final Master Plan report. This includes a glossary of aviation terms used in the study, the ALP, as well as other pertinent supplements to the main report.

COORDINATION

The Eric Marcus Municipal Airport Master Plan is of interest to many within the local community. This includes local citizens, community organizations, airport users, county and state planning agencies, and aviation organizations. As the airport is a strategic component of the state and national aviation systems, the Eric Marcus Municipal Airport Master Plan is of importance to both state and federal agencies responsible for overseeing air transportation.

To assist in the development of the master plan, Pima County identified a group of community members and aviation interest groups to act in an advisory role in the development of the master plan. Members of the Planning Advisory Committee (PAC) reviewed phase reports and provided comments throughout the study to help ensure that a realistic, viable plan was developed.

To assist in the review process, phase reports were prepared at various milestones in the planning process. The phase report process allows for timely input and review during each step within the master plan to ensure that all master plan issues are fully addressed as the recommended program develops.

A public information workshop was held as part of the plan coordination. The public information workshop is designed to allow any and all interested persons to become informed and provide input concerning the master plan. Notices of the workshop meeting time and location were advertised through the media as well as local neighborhood associations.

SUMMARY AND RECOMMENDATIONS

The proper planning of a facility of any type must consider the demand that may occur in the future. For Eric Marcus Municipal Airport, this involved updating forecasts to identify potential future aviation demand. Due to the airport's isolated location and its proximity to heavy-use military operating airspace, the airport's operational growth potential is seriously inhibited. Analysis of socioeconomic factors in the local area also indicates limited support for based aircraft and operational growth. The airport is currently used occasionally by recreational aircraft users and can serve as a valuable resource for air ambulance and emergency services operations. It is for these uses that the airport will be maintained to serve into the future. The forecast planning horizons are summarized in **Table A**.

TABLE A
Aviation Demand Planning Horizons
Eric Marcus Municipal Airport

	2008	Short Term	Intermediate Term	Long Term
ANNUAL OPERATIONS				
General Aviation				
Itinerant	240	240	480	800
Local	60	60	120	200
Total Operations	300	300	600	1,000
Based Aircraft	3	3	4	5

The Airport Layout Plan set has been updated to act as a blueprint for everyday use by management, planners, programmers, and designers. These plans were prepared on computer to help ensure their continued use as an everyday working tool for airport management.

This Master Plan is an update of the previous Eric Marcus Municipal Airport Master Plan completed in 1999. Since the completion of that plan Pima County has installed PAPI-2 approach lighting systems at both ends of the runway. At the time of the previous master plan update, it was anticipated that the open-pit mine located in Ajo would resume operations. This would have reinvigorated the local economy and brought increased activity to the airport. The mine was never reopened and activities at the airport failed to grow resulting in a lack of demand to justify many of the recommended projects. The updated Master Plan essentially maintains the existing core airport facilities "as-is" and recommends a number of improvements to enhance the safety and security of airport facilities and operations. **Exhibit IA** depicts the updated plan.

The construction of a full-length parallel taxiway is recommended to make taxiing safer and to prevent runway incursions. The installation of airfield signage is recommended to offer pilots a better sense of their location on the airfield. Perimeter security fencing is planned to be installed to serve as a physical barrier as well as a psychological deterrent to prevent airport facilities from being accessed by unauthorized individuals. Remaining recommendations involve the regular maintenance of existing airport pavements and facilities to ensure their continued safe use and to satisfy state and federal grant assurances.

Detailed costs were prepared for each development item included in the program. As shown in **Table B**, complete implementation of the plan will require a total financial commitment of approximately $2.0 million dollars. Much of the recommended program funding could be funded through state or federal grant-in-aid programs. The source for federal monies is through the Airport Improvement Program (AIP) administered by the Federal Aviation Administration (FAA) established to maintain the integrity of the air transportation system. Federal monies could come from the Aviation Trust Fund which is the depository for federal aviation taxes such as those from airline tickets, aviation fuel, aircraft registrations, and other aviation-related fees. Federal AIP funding of 95 percent can be received from the FAA for eligible projects.

The Arizona Department of Transportation (ADOT) also provides a separate state funding mechanism which receives annual funding appropriation from collection of statewide aviation related taxes. Eligible projects can receive up to 90 percent funding from ADOT for non-federally funded projects, and one-half (2.5 percent) of the local share for projects receiving federal AIP funding.

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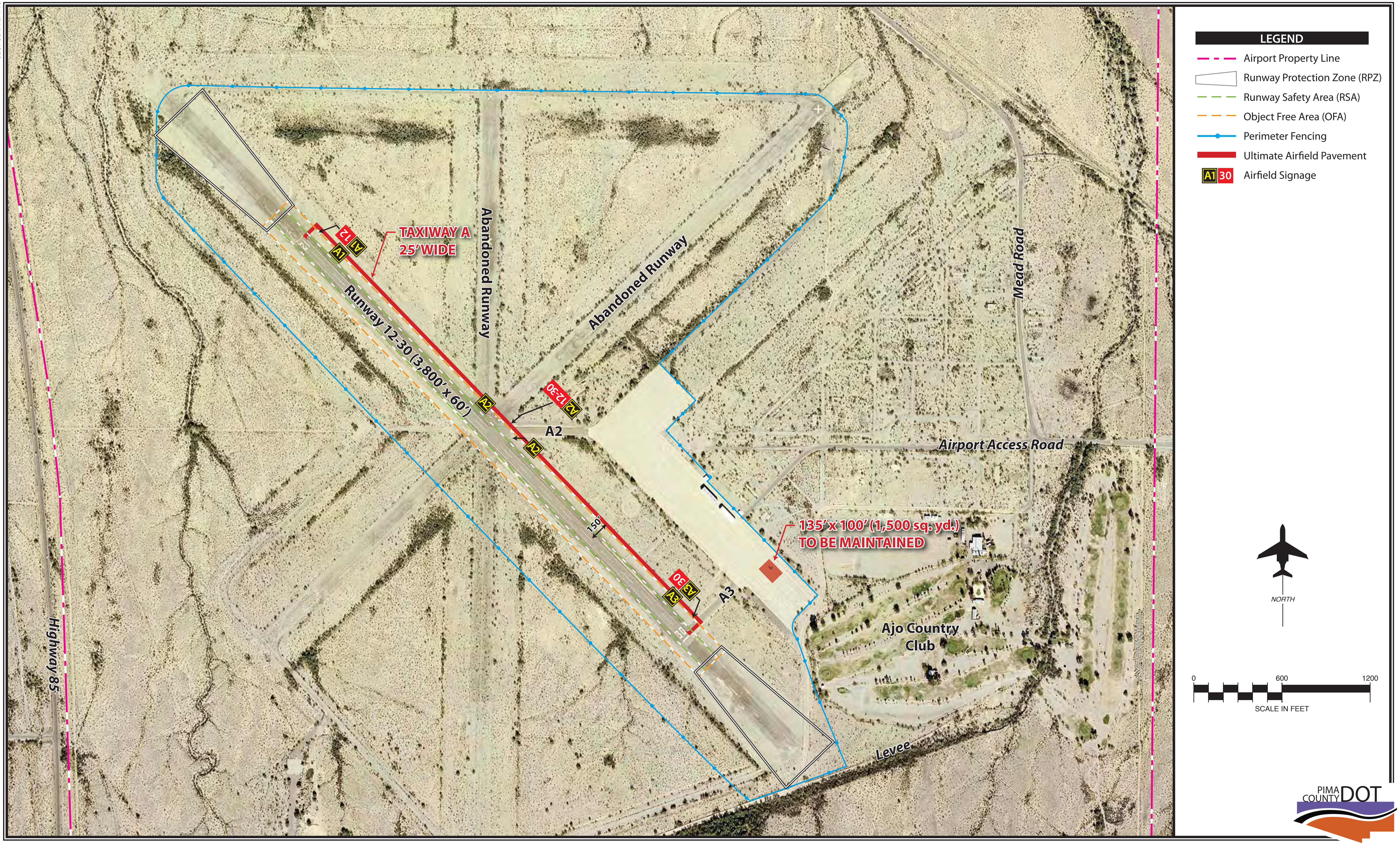

Exhibit IA
RECOMMENDED AIRFIELD DEVELOPMENT

TABLE B Recommended Project Cost Summary Eric Marcus Municipal Airport	
Project	**Estimated Costs**
Runway/Taxiway Crack Seal Repair/Seal Coat	$175,000
Install Perimeter Fencing	$862,655
Apron Joint Seal Repair	$25,000
Install Airfield Signage	$39,062
Construct Parallel Taxiway	$850,000
TOTAL COSTS	**$1,951,717**

With the airport master plan completed, the most important challenge is implementation. The cost of developing and maintaining aviation facilities is an investment which yields impressive benefits for the community. This plan and associated development program provides the tools that Pima County will require to meet the challenges of the future. By providing a safe and efficient facility, Eric Marcus Municipal Airport will continue to be a valuable asset to Ajo and the surrounding region.

Chapter One

Inventory

ERIC MARCUS MUNICIPAL AIRPORT

AJO, ARIZONA

AIRPORT MASTER PLAN

Chapter One

INVENTORY

The initial step in the preparation of the airport master plan for Eric Marcus Municipal Airport (P01) 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 Pima County and the Ajo community, including descriptions of the regional climate, surface transportation systems, Eric Marcus Municipal Airport'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 County 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

Eric Marcus Municipal Airport is located approximately five miles north of downtown Ajo on Arizona Highway 85, as illustrated on **Exhibit 1A**. Eric Marcus Municipal Airport is situated on 1,375 acres at 1,458 feet above mean sea level (MSL) and serves as one of four general aviation public-use airport facilities in Pima County. Tucson International Airport, Ryan Airfield, and Marana Regional Airport all serve the Tucson metropolitan area and eastern Pima County, while Eric Marcus Municipal Airport serves the western portion of the County.

Pima County encompasses approximately 9,189 square miles of southern Arizona. The western portion of the county is sparsely populated with the largest communities including Sells and Ajo. The most recent census of the unincorporated Ajo community is from the 2000 U.S. Census Report, which indicated a total population of 3,705. Ajo is located approximately 43 miles north of the Mexican border and 18 miles north of the Organ Pipe Cactus National Monument. The 517 square mile national monument area features a variety of cacti and other Sonoran Desert vegetation and wildlife. Annual visitation of the national monument in 2007 totaled 338,603. Pima County contains the San Xavier Indian Reservation and the majority of the Tohono O'odham National Native American Reservation.

OWNERSHIP AND MANAGEMENT

Eric Marcus Municipal Airport is owned, operated, and maintained by Pima County Department of Transportation, Real Property Division. Administrative duties and management of the airport is conducted off-site at the Department of Real Property offices in downtown Tucson. Airport maintenance duties are conducted by Pima County Department of Transportation personnel.

AIRPORT DEVELOPMENT HISTORY

Eric Marcus Municipal Airport began as the Ajo Army Air Field during World War II. Throughout the war it served as a flying and fixed gunnery training facility for American fighter pilots. Between 1942 and 1946, jurisdiction of the base fluctuated between Williams Field and Luke Field, two larger Army Air Fields located near Phoenix. The Air Field remained a sub-base of Williams Field until 1949 when it was acquired by Pima County through quitclaim deed from the U.S. government. The original base layout, including runway configuration as well as building pads and access roads, are still in existence today. Of the three original runways, only the northwest/southeast runway (Runway 12-30) remains active. The Air Field included approximately 85,000 square yards of aircraft parking apron, of which only a small portion is currently used. During its peak wartime opera-

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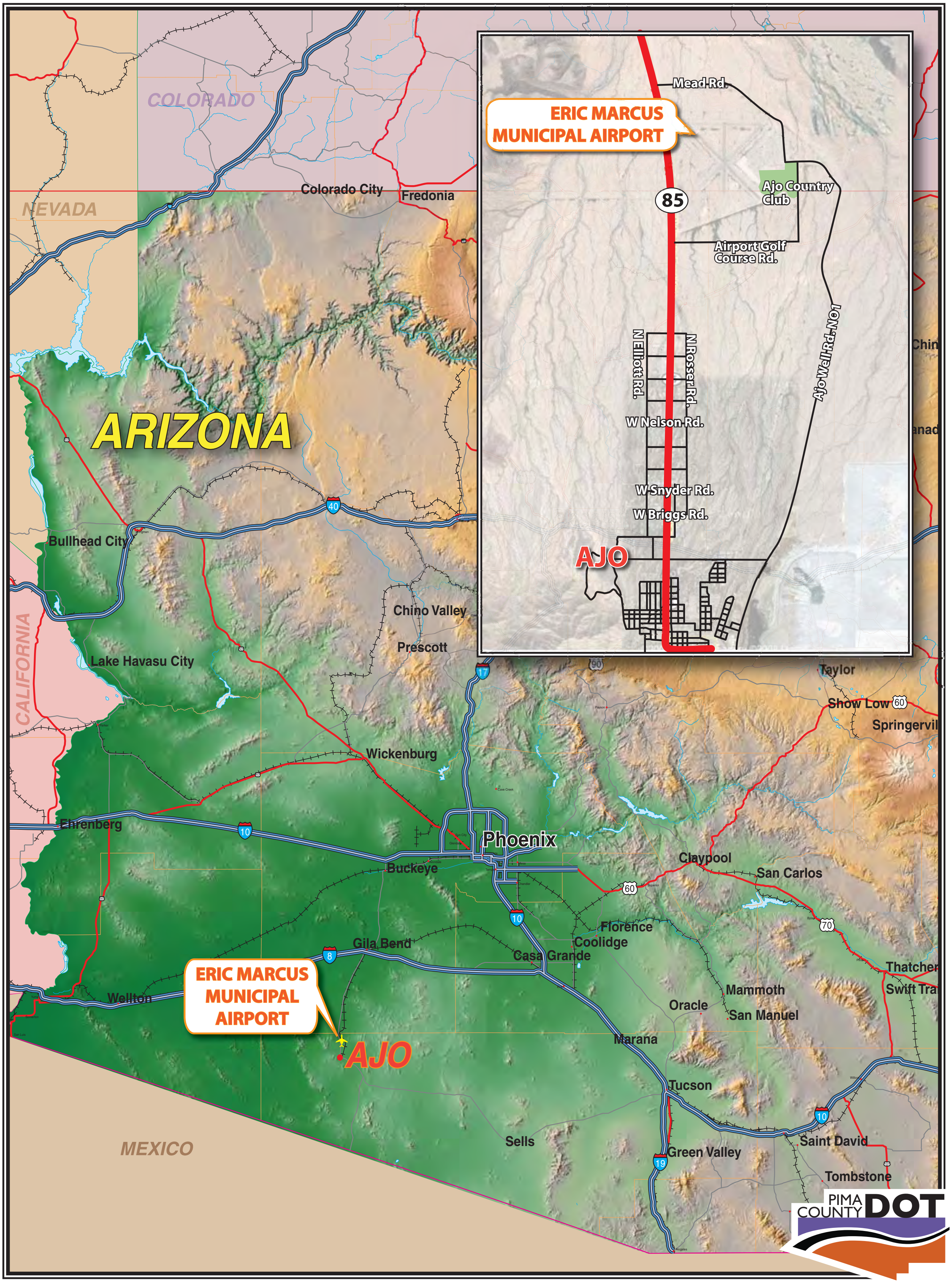

Exhibit 1A
AIRPORT LOCATION

tions, the base had 117 buildings, of which all but those used for the neighboring golf course clubhouse have been removed. Utility systems such as water, sewer, and electrical were initially left in place; however, little is known as to their present existence, condition, and location.

GRANT HISTORY

To assist in funding capital improvements, the FAA has provided funding assistance to Eric Marcus Municipal Airport 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 more than $564,000 in FAA AIP and ADOT grants received by Pima County for use on projects at Eric Marcus Municipal Airport in recent years.

TABLE 1A
Recent AIP & ADOT Grants for Eric Marcus Municipal Airport

AIP Grant Number	ADOT Grant Number	Project Description	Total Grant Funds
03-04-0001-01	2F45	Install Perimeter Fencing	$157,363
03-04-0001-02	4F34	Rehabilitate Taxiway, Install Apron Lighting, Improve Access Road	$272,595
N/A	7S28	Master Plan Update	$135,000
Total Grant Funds			$564,958

Source: Airport Records

THE AIRPORT'S SYSTEM ROLE

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

The previous *Ajo Municipal Airport Master Plan* was approved in 1999. Primary recommendations included a 1,700-foot extension to Runway 12-30 for a total length of 5,500 and a new full-length parallel taxiway for Runway 12-30. Additionally, it was recommended that deactivated Runway 5-23 be reactivated and repaved for use as a crosswind runway. A full-length parallel taxiway was also recommended for Runway 5-23. Airfield lighting recommendations included the installation of medium intensity taxiway lights (MITL) to all existing and future taxiways and the installation of precision approach path indicator (PAPI) approach lighting systems to all runway ends. Landside development recommendations included a general aviation terminal building, fixed base operator (FBO) and hangar development sites, fuel-storage farm, and expansion of aircraft aprons and auto parking facilities. Since the last master plan, PAPI-2 approach lighting systems were installed on both runway ends.

At the regional level, Eric Marcus Municipal Airport (Ajo Municipal Airport) was included in the Pima County Association of Governments (PAG) *Regional Aviation System Plan* (RASP), which was prepared in 2002. The purpose of the RASP is to provide a 30-year outlook for the airport, aviation, and air transportation needs of Pima County. The RASP provides a general assessment of aviation needs within the System and serves as a blueprint for future airport master planning undertaken for airports in the Regional System. According to the RASP, Eric Marcus Municipal Airport is classified as a Level II, or support airport in the region. Eric Marcus Municipal Airport was rated as the second least important airport in regards to meeting general aviation needs in the region.

At the state level, Eric Marcus Municipal Airport 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 airports' capital improvement needs, and identify resources and strategies to implement the plan. Eric Marcus Municipal Airport (then known as Ajo Municipal Airport) is one of 112 airports 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 Eric Marcus Municipal Airport as a general aviation community airport.

At the national level, Eric Marcus Municipal Airport is a part of the FAA's *National Plan of Integrated Airport Systems* (NPIAS). Inclusion within the NPIAS is required to be eligible for Federal Airport Improvement Program (AIP) funding. Eric Marcus Municipal Airport is classified as a general aviation (GA) airport in the NPIAS. There are 3,489 existing and proposed airports included in the NPIAS. Eric Marcus Municipal Airport is one of 59 NPIAS Arizona airports, and one of 39 of the State's airports with a GA classification.

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 1B** summarizes airside facility data.

Runway

Eric Marcus Municipal Airport is served by a single asphalt Runway 12-30 that measures 3,800 feet long and 60 feet wide. Runway 12-30 is oriented northwest-southeast and has a strength rating of 12,000 pounds single wheel loading (SWL). SWL refers to aircraft with a single wheel on each main landing gear. The runway slopes from its low point at 1,411 feet MSL on the northwest end, to its 1,445 feet MSL high point on the southeast end. Thus, the runway gradient (elevation difference between runway high and low points divided by the length of the runway) is 0.9 percent.

TABLE 1B
Airside Facility Data
Eric Marcus Municipal Airport

	Runway 12-30	
Length (ft.)	3,800	
Width (ft.)	60	
Surface Material	Asphalt	
Load Bearing Strength (lbs.) Single Wheel Loading (SWL)	12,000	
Instrument Approach Procedures	None	
Runway Edge Lighting	Medium Intensity	
Pavement Markings	Basic	
Taxiway Edge Lighting	Delineators	
Approach Aids	**Rwy 12**	**Rwy 30**
Global Positioning System (GPS)	Yes	Yes
Precision Approach Path Indicators (PAPI)	Yes	Yes
Runway End Identifier Lights	No	No
Approach Lighting System	No	No
End Elevation (ft.)	1,411	1,445
Fixed-Wing Aircraft Traffic Pattern	Left	Left
Weather or Navigational Aids	Segmented Circle; Lighted Wind Cone; Rotating Beacon	

Source: 5010 Airport Master Record

Taxiways

The runway is served by two entrance/exit taxiways (A1 and A2) that connect to the aircraft parking apron. Taxiway A1, which connects at the midpoint of Runway 12-30, has a width of 40 feet. Taxiway A2, which connects to the end of Runway 30, has a width of 30 feet. The runway does

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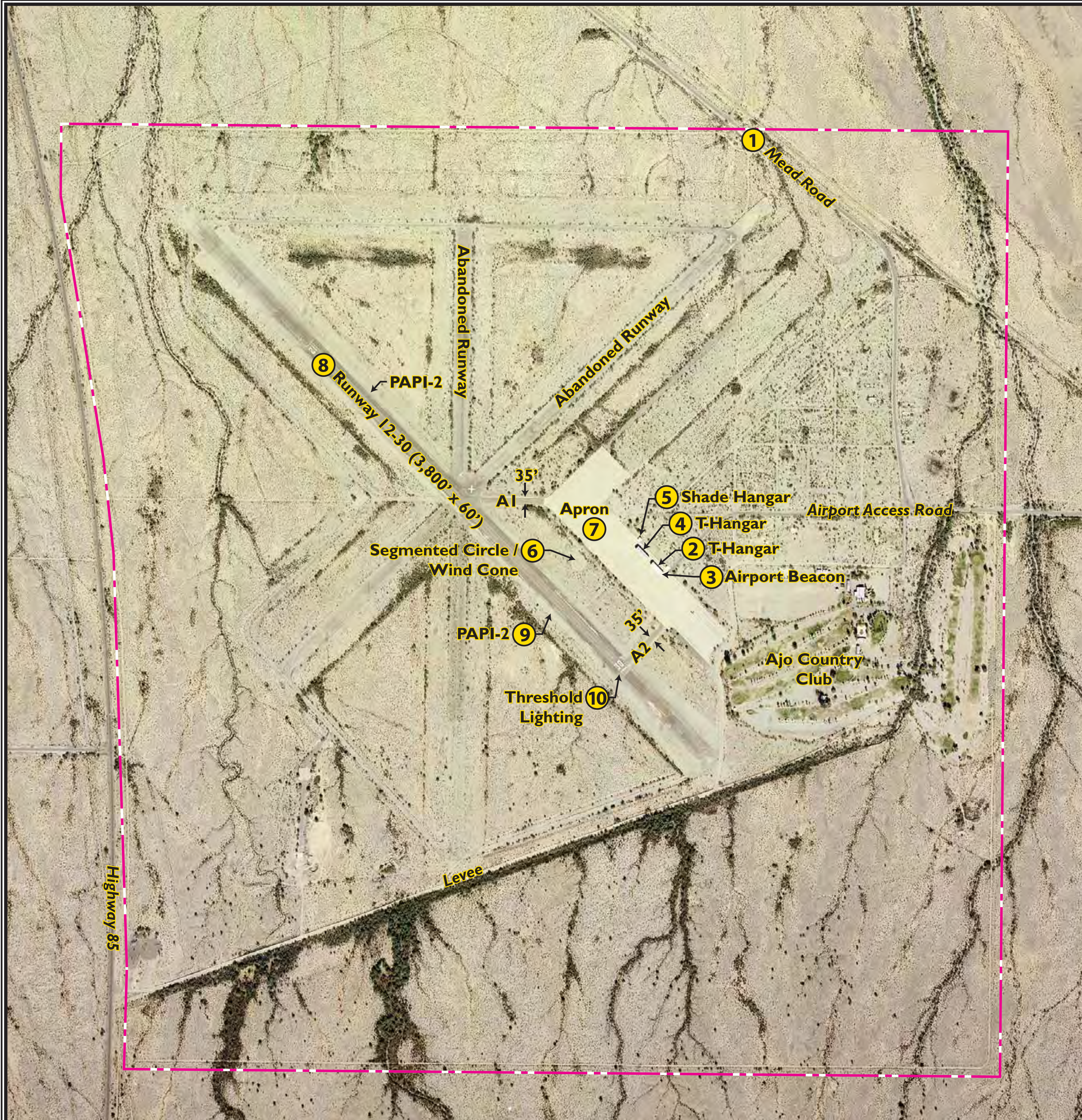
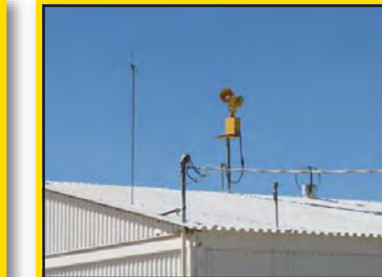



① Mead Road


② T-Hangar

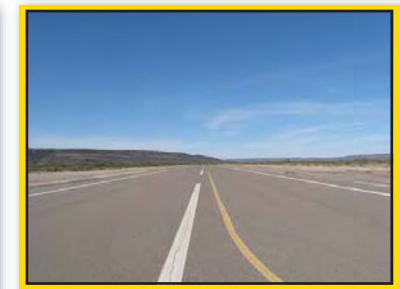

③ Airport Beacon


④ T-Hangar


⑤ Shade Hangar


⑥ Segmented Circle/Wind Cone


⑦ Apron


⑧ Runway


⑨ PAPI-2


⑩ Threshold Lighting


Taxiway Edge Delineator

LEGEND

Airport Property Line

0 1000 2000
SCALE IN FEET

NORTH

PIMA COUNTY DOT

Exhibit 1B
AIRPORT FACILITIES

not have a full-length parallel taxiway; therefore, aircraft must back-taxi when departing on Runway 12. The taxiway edges on both taxiways are identified at night by delineators. Delineators are colored reflective markers resembling taxiway lighting. These reflective markers serve the same purpose as taxiway lights, but are illuminated by the landing lights of the aircraft.

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 to 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 April 2006, a pavement inspection was conducted at Eric Marcus Municipal Airport by the Arizona Department of Transportation. Runway 12-30 received a PCI rating of 85 out of a possible 100. The runway was found to have light to moderate levels of longitudinal and transverse cracking. Taxiway A1 had a PCI rating of 77, Taxiway A2 had a PCI rating of 98, and the aircraft parking apron had a PCI rating of 58.

The Arizona Pavement Preservation Program (APPP), which provides pavement repair recommendations, lists Eric Marcus Municipal Airport as planned to receive funds to seal coat Runway 12-30, thin overlay Taxiway A1, and seal coat Taxiway A2 sometime between 2012 and 2015. It also lists the aircraft parking apron as pavement needing major rehabilitation.

Airfield Lighting

Airfield lighting systems extend an airport's usefulness into periods of darkness and/or poor visibility. A variety of lighting systems are installed at the airport and 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. Eric Marcus Municipal Airport's beacon is located on top of the southerly T-hangar facility, as shown on **Exhibit 1B**.

Pavement Edge Lighting: Pavement edge lighting utilizes light fixtures placed to define the lateral limits of the pavement. This lighting is essential for safe operations at 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 12-30 is equipped with medium intensity runway lighting (MIRL).

Visual Approach Lighting: Two-unit precision approach path indicators (PAPI-2s) are available for both runway approaches. The PAPIs provide approach path guidance by giving the pilot an indication of whether their approach is above, below, or on-path, through a pattern of red and white lights visible from the light units.

Pilot-Controlled Lighting: Airfield lighting systems can be controlled through a pilot-controlled lighting system (PCL). 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 12-30 MIRL and the PAPIs are connected to the PCL system at Eric Marcus Municipal Airport.

Airfield Signs: Airfield identification signs assist pilots in identifying their location on the airfield and directing them to their desired location. Eric Marcus Municipal Airport is not currently equipped with airfield signage.

Pavement Markings

Pavement markings aid in the movement of aircraft along airport surfaces and identify closed or hazardous areas on the airport. Runway 12-30 is equipped with basic markings that identify the runway centerline, designation, 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.

Aircraft hold positions are marked at each runway/taxiway intersection. All hold position markings are located 125 feet from the runway centerline.

Weather Reporting

Eric Marcus Municipal Airport is not equipped with a weather reporting system. Local weather information can be attained by contacting the Prescott Flight Service Station.

Eric Marcus Municipal Airport 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. This equipment is located between the runway and the aircraft parking 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 requirements for positive air traffic control. Airspace in the vicinity of Eric Marcus Municipal Airport 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 instrument flight rules (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 Eric Marcus Municipal Airport 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

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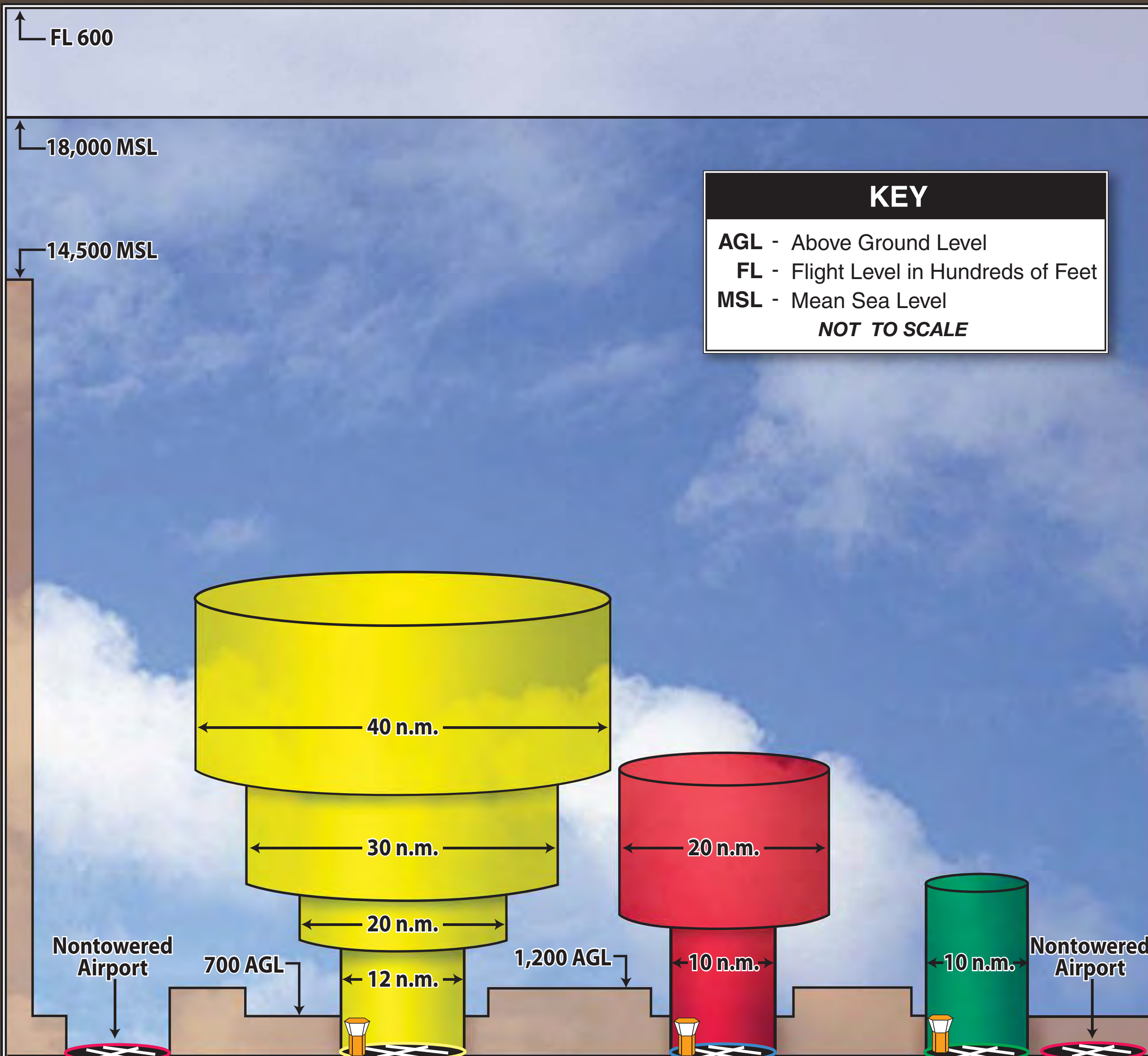


CLASSIFICATION	DEFINITION
CLASS A	Generally airspace above 18,000 feet MSL up to and including FL 600.
CLASS B	Generally multi-layered airspace from the surface up to 10,000 feet MSL surrounding the nation's busiest airports.
CLASS C	Generally airspace from the surface to 4,000 feet AGL surrounding towered 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.

Source: "Airspace Reclassification and Charting Changes for VFR Products," National Oceanic and Atmospheric Administration, National Ocean Service. Chart adapted by Coffman Associates from AOPA Pilot, January 1993.

Exhibit 1C
AIRSPACE CLASSIFICATION

08MP06-1D-9/9/09

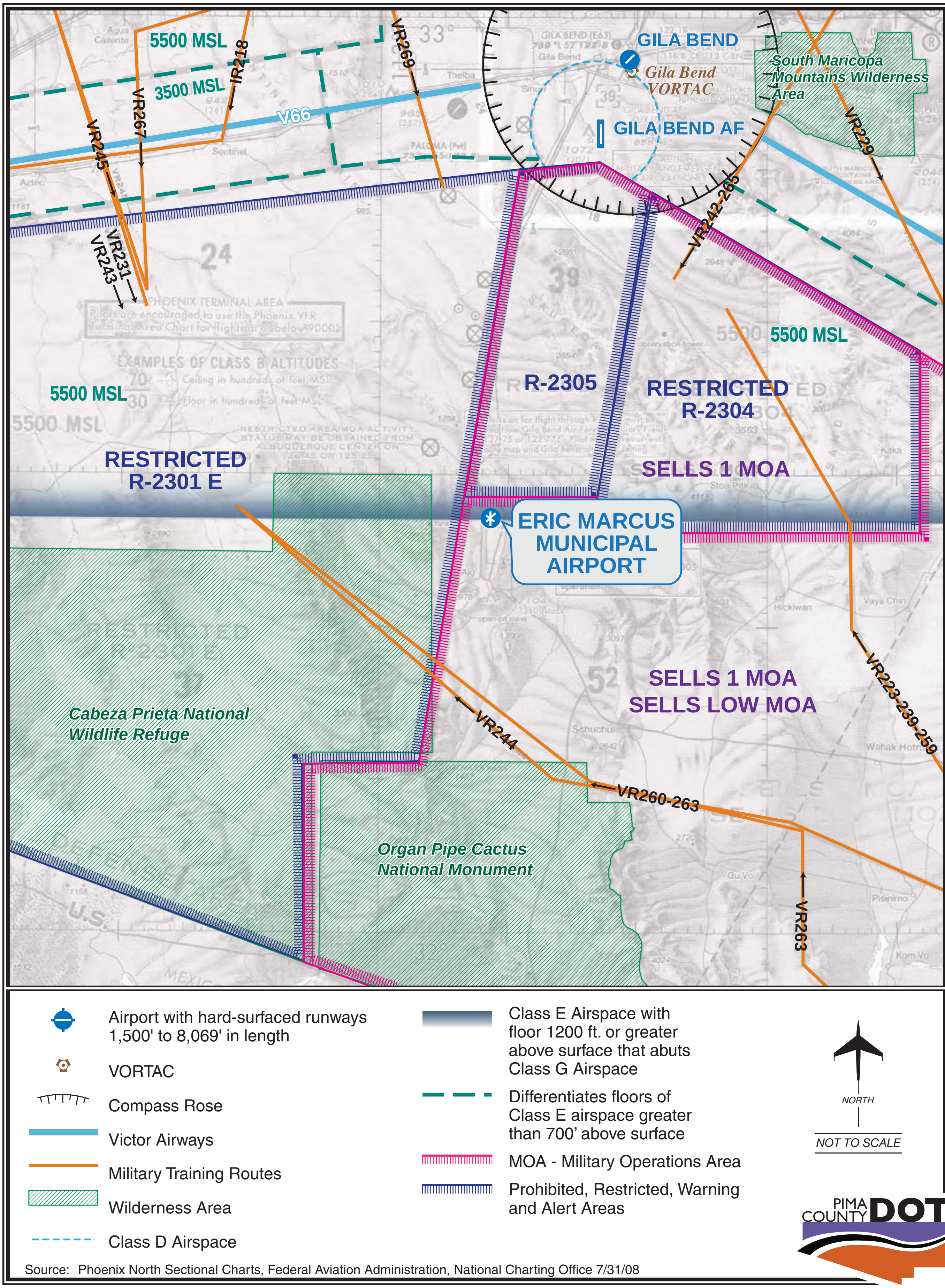


Exhibit 1D
AIRPORT VICINITY AIRSPACE

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 communication with ATC. There is no Class C airspace in the vicinity of Eric Marcus Municipal Airport.

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. The Gila Bend Air Force Auxiliary Airport located approximately 26 nautical miles north of the Eric Marcus Municipal Airport is a Class D airspace airport.

Class E Airspace: Class E airspace consists of controlled airspace designed to contain 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 communication with air traffic control facilities, visual flight can only be conducted if minimum visibility and cloud ceilings exist.

A boundary of Class E airspace with a floor of 5,500 feet MSL bisects Eric Marcus Municipal Airport. This airspace continues north, encompassing several restricted airspace areas. The south half of Eric Marcus Municipal Airport is in an area of Class E airspace with a floor of 700 feet MSL.

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 at Eric Marcus Municipal Airport.

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 pink-hatched lines, as well as with the use of green shading.

Military Operating Areas: Military Operating Areas (MOAs) are depicted in **Exhibit 1D** with pink-hatched lines. Eric Marcus Municipal Airport is located within the boundaries of the Sells 1 and Sells Low MOA. The Sells 1 MOA has an operational altitude of 10,000 feet MSL and is active from 6:00 a.m. to 7:00 p.m. Monday through Friday. The Sells Low MOA has an operational altitude range from 3,000 feet AGL up to but not including 10,000 feet MSL and is active from 6:00 a.m. to 7:00 p.m. Monday through Friday. The Albuquerque Air Route Traffic Control Center (ARTCC) is the controlling agency for these MOAs.

Military Training Routes: Military training routes near Eric Marcus Municipal Airport 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**, several wilderness areas exist around the Ajo area. These include the Organ Pipe Cactus National Monument and the Cabeza Prieta National Wildlife Refuge south and southwest of the airport, and the South Maricopa Mountains Wilderness Area northeast of the airport. 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**.

Restricted/Alert Areas: Restricted and alert areas are depicted on **Exhibit 1D** with blue-hatched lines. Restricted airspace is off-limits for public-use unless granted permission from the controlling agency. The restricted areas in the vicinity of Eric Marcus Municipal Airport are used by the military for training purposes. The controlling agency for each of these restricted areas is the Albuquerque ARTCC.

Restricted area R-2301E, located west of Ajo, is used up to flight level (FL) 800 (80,000 feet MSL) from 6:30 a.m. to 10:30 p.m. Monday through Friday. Restricted area R-2305, located north of Ajo, is used up to FL 240 (24,000 feet MSL) from 7:00 a.m. to 11:00 p.m. daily. Restricted area R-2304, located northeast of Ajo, is used up to FL 240 from 7:00 a.m. to 10:00 p.m. daily.

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 Eric Marcus Municipal Airport 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 Eric Marcus Municipal Airport include the Loran-C, VOR, and GPS.

Loran-C is a ground-based enroute navigational aid, which utilizes a system of transmitters located in various places 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 airport in the United States using Loran-C.

The very-high frequency omnidirectional range (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 Gila Bend VORTAC, located 32 nautical miles north of the airport, is the only VORTAC within close range to Eric Marcus Municipal Airport.

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. Eric Marcus Municipal Airport does not have published instrument approach procedures.

Visual Flight Procedures

Without instrument approach capabilities, flights into and out of Eric Marcus Municipal Airport are conducted exclusively under visual flight rules (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.

Eric Marcus Municipal Airport is a particularly difficult airport to access due to its location within an MOA and its close proximity to restricted airspace. Heavy military jet aircraft traffic within the local airspace of the airport makes communication with the Albuquerque ARTCC vital.

When the MOAs and restricted airspace are active, aircraft departing Eric Marcus Municipal Airport will typically depart to the south to avoid entering restricted airspace and remain below the MOA floor altitude of 3,000 feet AGL. Communication with the Albuquerque ARTCC will provide pilots with course and collision avoidance guidance as they arrive or depart from local airspace.

Aircraft arriving to Eric Marcus Municipal Airport follow 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 Eric Marcus Municipal Airport, both Runways 12 and 30 have established left-hand traffic patterns resulting in aircraft making a left turn from base leg to final for landing.

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 AGL (2,458 feet MSL) when on the downwind leg. The traffic pattern altitude (TPA) is established so that aircraft have a predictable descent profile on base leg to final for landing.

Area Airports

A review of airports within the vicinity of Eric Marcus Municipal Airport 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.

Gila Bend Air Force Auxiliary Airport (GBN), located approximately 26 nautical miles north of Eric Marcus Municipal Airport, is privately owned by the United States Air Force and managed by Base Operations at Luke Air Force Base. GBN has a single asphalt runway that measures 8,500 feet long and 150 feet wide. GBN is an auxiliary airport to Luke Air Force Base and is only used in cases of emergency. It is closed to public use.

Gila Bend Municipal Airport (E63), located approximately 31 nautical miles north of Eric Marcus Municipal Airport, is owned and managed by the Town of Gila Bend. E63 is equipped with a single asphalt runway measuring 5,200 feet long and 75 feet wide. E63 currently experiences approximately 3,550 operations annually with no aircraft based at the airport. The airport is unattended with no general aviation services available.

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 are identified on **Exhibit 1B** and consist of three aircraft storage facilities and an aircraft parking apron. The airport is currently without a fixed base operator (FBO), fuel storage, and aircraft refueling equipment.

Hangars & Apron

The airport has two four-unit T-hangar facilities totaling approximately 9,100 square feet. Each storage unit has the capability of holding a single aircraft. These storage units are 100 percent occupied and are leased by the County on a monthly basis. A portable sun shade unit is located immediately northwest of the T-hangar facilities. This unit is privately owned; however, a monthly fee is charged for use of the land.

Eric Marcus Municipal Airport is equipped with 82,000 square yards of aircraft parking apron. As it was discussed in the pavement condition section, much of the pavement is in fair to bad condition with cracking and weeds growing through seams in the pavement. The apron is rarely utilized; however, there are nine designated aircraft tie-down positions available south of the T-hangar facilities.

Utilities

The airport is currently supplied with electricity for the operation of the runway lighting units as well as the T-hangar facilities. The apron is also equipped with lighting fixtures along its easternmost perimeter adjacent to the hangar facilities. Water, sanitary sewer, telecommunications, or natural gas utilities are not currently available.

Security Fencing

Portions of the airport's perimeter are currently equipped with cattle fencing. This fencing type does not provide for the security of the airfield and its facilities. The hangar facilities and the apron are not equipped with any perimeter fencing.

ACCESS AND CIRCULATION

The airport is located immediately east of Arizona Highway 85 (Ajo Gila Bend Highway), a paved two-lane roadway. Highway 85, which runs north to south, extends from the airport entrance approximately six statute miles south to downtown Ajo. It continues approximately 45 statute miles south to Lukeville at the Mexican border. Highway 85 extends approximately 35 statute miles north from the airport entrance to Gila Bend where it intersects with Interstate Highway 8.

Mead Road serves as the airport entrance road. The unmarked asphalt roadway intersects with Highway 85 and extends to a gravel airport automobile parking area adjacent to the T-hangar facilities and the Ajo Country Club located immediately east of the airport. These roadways are identified on **Exhibit 1B**.

SOCIOECONOMIC PROFILE

The socioeconomic profile provides a general look at the socioeconomic makeup of the community that utilizes Eric Marcus Municipal Airport. 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 and the United States Department of Commerce.

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 in recent history. **Table 1C** shows the total population growth since 1960 for the State of Arizona, Pima County, and the Ajo census-designated place (CDP). Since 1960, Pima County has grown steadily along with the State, while Ajo CDP has experienced a decline in total population. The vast majority of the County's population and population growth is centered in the Tucson metropolitan area at the east side of the County. Ajo's population dropped significantly after the 1985 closing of the Phelps Dodge open pit mine. The mine is not expected to reopen in the foreseeable future; therefore, no significant changes to the recent population trends in Ajo are anticipated.

TABLE 1C
Population Trends

Year	State of Arizona	Avg. Annual % Change	Pima County	Avg. Annual% Change	Ajo CDP	Avg. Annual % Change
1960	1,302,161	--	265,660	--	7,049	--
1970	1,770,900	3.1%	351,667	2.8%	5,881	-1.8%
1980	2,718,215	4.4%	531,896	4.2%	5,189	-1.2%
1990	3,665,228	3.0%	668,500	2.3%	2,919	-5.6%
2000	5,130,632	3.4%	843,746	2.4%	3,705	2.4%
2008	6,629,455	2.6%	1,014,023	1.9%	N/A	N/A

Sources: U.S. Census Bureau (1960-2000)
Arizona Department of Economic Security (2008)

EMPLOYMENT

Employment opportunities affect migration to the area and population growth. As shown in **Table 1D**, the Ajo CDP unemployment rate has been significantly higher than national, State, and County unemployment rates. This indicates a weak local job market, which can slow or even reverse population growth.

TABLE 1D
Historical Unemployment Rate
United States, State of Arizona, Pima County, Ajo CDP

Year	United States	State of Arizona	Pima County	Ajo CDP
2000	4.0%	4.0%	3.7%	7.0%
2001	4.7%	4.7%	4.3%	8.0%
2002	5.8%	6.0%	5.7%	10.4%
2003	6.0%	5.7%	5.3%	9.8%
2004	5.5%	4.9%	4.6%	8.5%
2005	5.1%	4.6%	4.4%	8.2%
2006	4.6%	4.1%	3.9%	7.3%
2007	4.6%	3.7%	3.7%	6.8%
2008	5.8%	5.1%	4.9%	9.0%

Source: Arizona Department of Economic Security

Table 1E summarizes total employment by sector for Pima County from 1970 to 2008. As shown in the table, total employment in the County has experienced steady growth over this timeframe with an average annual growth rate of 3.4 percent. The sectors that experienced the greatest growth were the Real Estate, Rental, Lease sector (4.7 percent); Services sector (4.4 percent); and the Wholesale Trade sector (4.0 percent). While the average annual growth rate over the past 38 years for all sectors has been positive, several sectors have seen employment declines since 2000, including Agricultural Services, Other; Mining; Manufacturing; and Information.

TABLE 1E
Pima County Employment by Sector

Sector	1970	1980	1990	2000	2008	Avg. Annual % Growth
Farm Employment	1,087	931	1,044	992	1,155	0.2%
Agricultural Services, Other	119	224	385	566	294	2.4%
Mining	1,183	2,039	2,119	2,536	2,320	1.8%
Utilities	707	1,042	1,144	1,636	2,282	3.1%
Construction	12,676	18,506	20,279	29,592	36,069	2.8%
Manufacturing	10,049	23,071	28,708	35,205	30,589	3.0%
Wholesale Trade	2,616	4,410	6,184	8,755	11,702	4.0%
Retail Trade	18,068	28,148	40,532	49,139	57,334	3.1%
Transportation and Warehousing	4,001	5,901	6,477	9,259	10,056	2.5%
Information	2,274	4,200	6,381	9,140	8,907	3.7%
Finance and Insurance	4,511	8,365	9,595	13,909	18,084	3.7%
Real Estate, Rental, Lease	6,678	12,384	14,205	20,593	37,571	4.7%
Services	43,538	76,191	125,204	182,914	219,970	4.4%
Government	36,751	49,342	59,452	80,130	85,431	2.2%
Total	144,258	234,754	321,709	444,366	521,764	3.4%

Source: Woods & Poole CEDDS 2008

PER CAPITA PERSONAL INCOME

Per capita personal income (PCPI) for the United States, the State of Arizona, and Pima County is summarized in **Table 1F**. 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 average annual growth in Pima County (1.3 percent) has been on pace with the State (1.3 percent) and only slightly behind the national growth rate (1.5 percent).

TABLE 1F
Historical Per Capita Personal Income (2004 $)
United States, State of Arizona, Pima County

Year	United States	Arizona	Pima County
1970	$19,810	$18,505	$18,632
1980	$23,038	$21,384	$20,930
1990	$28,150	$24,577	$23,128
2000	$32,737	$28,144	$26,515
2006	$34,401	$29,924	$29,440
Average Annual Growth Rate	1.5%	1.3%	1.3%

Source: United States Department of Commerce, Bureau of Economic Analysis

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. Cloudy days can determine whether visual flight rule (VFR) conditions or instrument flight rule (IFR) conditions may be in affect.

Temperatures typically range from 71 to 103 degrees Fahrenheit (F) during the summer months. The hottest month is typically July with an average high of 103.0 degrees. August is the wettest month averaging 1.92 inches of precipitation annually. January is the coldest month with average minimum temperatures around 41.5 degrees.

Ajo typically experiences ideal flying conditions year round with only 23 percent cloudy days during the year and below average annual precipitation. **Table 1G** summarizes typical weather conditions for the Ajo region.

TABLE 1G
Temperature and Precipitation Data
Ajo, Arizona

	Temperature (Fahrenheit)			
	Mean Maximum	**Mean Minimum**	**Precipitation (Inches)**	**% Cloudy Days**
January	64.0	41.5	0.71	31%
February	68.9	45.4	0.62	31%
March	73.8	49.2	0.77	30%
April	81.9	55.6	0.28	29%
May	90.3	63.0	0.10	21%
June	99.6	71.8	0.07	10%
July	103.0	77.7	1.18	15%
August	100.8	76.0	1.92	24%
September	97.2	71.9	0.84	20%
October	87.0	61.5	0.54	17%
November	74.3	49.8	0.56	19%
December	65.9	43.5	0.82	30%
Annual	83.9	58.9	8.41	23%

Source: Western Regional Climate Center

ENVIRONMENTAL INVENTORY

The purpose of this inventory is to disclose potential environmental sensitivities that might affect future improvements at the airport. Available information about the existing environmental conditions at Eric Marcus Municipal Airport has been derived from internet resources, agency maps, and existing literature.

Research was done for each of the 23 environmental impact categories described within the FAA's *Environmental Desk Reference for Airport Actions*. It was determined that the following resources are not present within the airport environs or cannot be inventoried:

- Coastal Barriers
- Coastal Zone Management Areas
- Construction Impacts
- Energy Supply, Natural Resources, and Sustainable Design
- Induced Socioeconomic Impacts
- Noise
- Social Impacts
- Wild and Scenic Rivers

Air Quality

The U.S. 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_2), Nitrogen Oxide (NO), Particulate matter (PM_{10} and $PM_{2.5}$), and Lead (Pb). Various levels of review apply within both NEPA and permitting requirements. Potentially significant air quality impacts, associated with an FAA project or action, would be demonstrated by the project or action exceeding one or more of the NAAQS for any of the time periods analyzed.

The airport is located in Pima County which has been classified by the EPA as being in non-attainment for Particulate Matter (PM_{10}). A nonattainment classification indicates that the area has pollution levels which consistently exceed the NAAQS.

Fish, Wildlife, and Plants

The Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) are charged with overseeing the requirements contained within Section 7 of the *Endangered Species Act*. This Act was put into place to protect animal or plant species whose populations are threatened by human activities. Along with the FAA, the FWS and the NFMS review projects to determine if a significant impact to these protected species will result with implementation of a proposed project. Significant impacts occur when the proposed action could jeopardize the continued existence of a protected species, or would result in the destruction or adverse modification of federally designated critical habitat in the area.

In a similar manner, states are allowed to prepare statewide wildlife conservation plans through authorizations contained within the *Sikes Act*. Airport improvement projects should be checked for consistency with the State or Department of Defense (DOD) Wildlife Conservation Plans where such plans exist.

The native vegetation in the area is described as Lower Colorado Sonoran Desert Scrub. A search of the Arizona Heritage Data Management System online environmental review tool did not indicate any occurrences of special status species or critical habitat within three miles of the Airport.

According to the U.S. Fish and Wildlife Service, numerous threatened, endangered, and candidate species have suitable habitat within Pima County. These species are identified in **Table 1H**.

TABLE 1H Federally listed Threatened, Endangered, and Candidate Species with Habitat in Pima County			
Common Name	**Scientific Name**	**Habitat**	**Status**
Arizona Hedgehog	Echinocereus triglochidiatus var. arizonicus	Ecotone between interior chapparal and madrean evergreen woodland.	Endangered
Brown Pelican	Pelecanus occidentalis	Coastal land and islands; species found around many Arizona lakes and rivers.	Endangered
Desert Pupfish	Cyprinodon macularius	Shallow springs, small streams, and marshes. Tolerates saline and warm water.	Endangered
Gila Chub	Gila intermedia	Pools, springs, cienegas, and streams.	Endangered
Gila Topminnow	Poeciliopsis occidentalis occidentalis	Small streams, springs, and cienegas, vegetated shallows.	Endangered
Huachuca Water-Umbel	Lilaeopsis schaffneriana var. recurva	Between 4,000 and 6,500 feet in cienegas, springs, and other healthy riverine systems.	Endangered
Jaguar	Panthera onca	Found in thornscrub, desertscrub, and grasslands.	Endangered
Kearney's Blue-Star	Amsonia kearneyana	Partially shaded coarse alluvium along dry washes under deciduous riparian trees and shubs in Sonoran desertscrub or desertscrub-grassland ecotone.	Endangered
Lesser Long-nosed Bat	Leptonycteris curasoae yerbabuenae	Desert scrub habitat with agave and columnar cacti present as food plants.	Endangered
Masked Bobwhite	Colinus virginianus ridgwayi	Savannah grasslands where grass and shrubs provide sufficient ground cover.	Endangered
Mexican Spotted Owl	Strix occidentalis lucida	Nests in canyons and dense forests with multi-layered foliage structure.	Threatened
Nichol Turk's Head Cactus	Echinocactus horizonthalonius var. nicholii	Sonoran desert scrub.	Endangered
Northern Mexican Gartersnake	Thamnophis eques megalops	Source-area wetlands.	Candidate
Southwestern Willow Flycatcher	Empidonax traillii extimus	Cottonwood/willow and tasmarisk vegetation communities along rivers and streams.	Endangered
Ocelot	Leopardus paradalis	Brushlands.	Endangered
Pima Pineapple Cactus	Coryphantha scheeri var. robustispina	Alluvial basins and hillsides in semidesert grasslands, desert scrub, and the transition area between the two.	Endangered
Sonoran Pronghorn	Antilocapra Americana sonoriensis	Found in broad, alluvial valleys separated by granite mountains and mesas.	Endangered
Sonoyta Mud Turtle	Kinosternon sonoriense longifemorale	Springs, creeks, ponds and waterholes of intermittent streams.	Candidate
Yellow-billed Cuckoo	Coccyzus americanus	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries).	Candidate
Source: U.S. Fish and Wildlife Service, Pima County Species List, January 2009			

Floodplains

Floodplains are defined in Executive Order 11988, *Floodplain Management*, as "the lowland and relatively flat areas adjoining inland and coastal waters…including at a minimum, that area subject to a one percent or greater chance of flooding in any given year" (i.e., that area would be inundated by a 100-year flood). Federal agencies, including the FAA, are directed to "reduce the risk of loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains." According to the Federal Emergency Management System (FEMA) Federal Insurance Rate Map (FIRM) panel number 04019C0675K, the airport is not located within a 100-year floodplain.

Wetlands and Waters of the U.S.

The U.S. Army Corps of Engineers regulates the discharge of dredged and/or fill material into waters of the United States, including adjacent wetlands, under Section 404 of the *Clean Water Act*. Wetlands are defined in 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 seasonably saturated soil conditions for growth and reproduction." Categories of wetlands include swamps, marshes, bogs, sloughs, potholes, wet meadows, river overflows, mud flats, natural ponds, estuarine areas, 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.

According to the United States Geologic Survey (USGS) topographic map, there are two waters (washes) that enter airport property from the north. Both washes run north to south, one is parallel to the western border of airport property, the other runs along the eastern border of airport property. These waters branch off from the Tenmile Wash which originates near the Palomas Mountains northwest of the airport. The Tenmile Wash flows to the southeast where it ends east of Ajo near the Batamote Mountains.

Historical, Architectural, and Cultural Resources

Determination of a project's impact to historical and cultural resources is made in compliance with the *National Historic Preservation Act* (NHPA) *of 1966*, as amended for federal undertakings. Two State acts also require consideration of cultural resources. The NHPA requires that an initial review be made of an undertaking's *Area of Potential Effect* (APE) to determine if any properties in or eligible for inclusion in the National Register of Historic Places are present in the area.

During the preparation of the previous *Ajo Municipal Airport Master Plan* approved in 1999, the Arizona State Historic Preservation Officer (SHPO) was contacted regarding the potential presence of cultural resources within the airport vicinity. The response dated January 5, 1999 indicated that the area had not been surveyed and that other cultural resources had been identified during surveys in connection with other projects in the area. It was also recommended that a survey of the site be conducted to determine whether any significant resources are present prior to any implementation of development.

Department of Transportation Act: Section 4(f)

Section 4(f) properties include publicly owned land from a public park, recreational area, or wildlife and waterfowl refuge of national, state, or local significance; or any land from a historic site of national, state, or local significance. There are no Section 4(f) resources located on airport property. The nearest Section 4(f) land is the Cabeza Prieta National Wildlife Refuge, which is located approximately 3.5 miles west of Eric Marcus Municipal Airport.

LAND USE

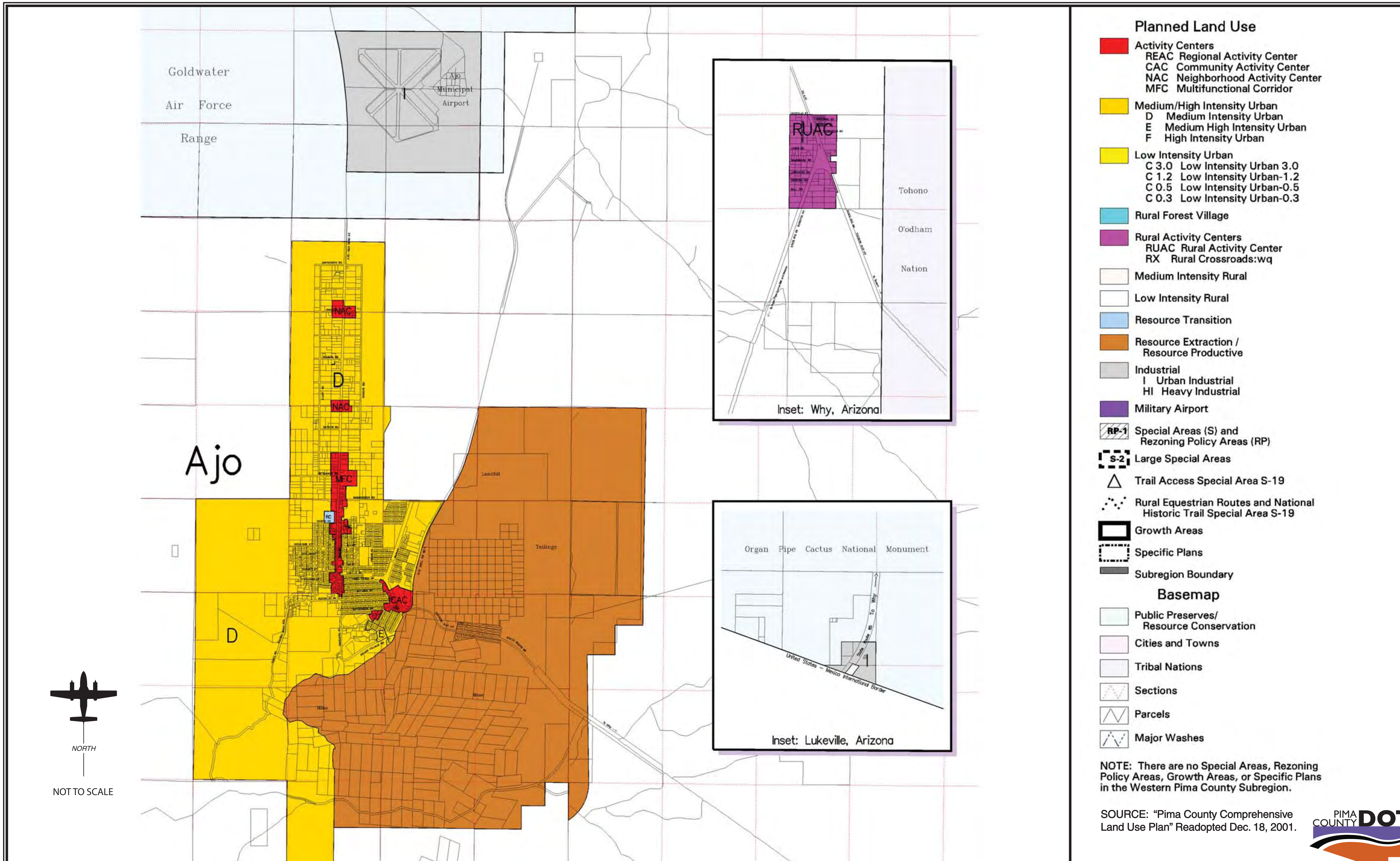
Exhibit 1E depicts the planned land use of the local Ajo area from the *Pima County Comprehensive Land Use Plan*, which was readopted on December 18, 2001. This map shows the Eric Marcus Municipal Airport as Urban Industrial land use encompassed by the Goldwater Air Force Range. The only other land use shown in the vicinity of the airport is Low Intensity Rural. Ajo to the south is shown to have areas of Low Intensity Urban and Activity Centers focused along Arizona Highway 85. The southeast side of Ajo is identified as a Resource Extraction area due to the location of the open-pit mine in this area.

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 a 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. The disclosure map is recorded with the county. As part of this Master Plan, a Public Airport Disclosure Map has been prepared and is included in **Appendix B**. The Public Airport Disclosure Map was filed with Pima County on June 2, 2010.

SUMMARY

The information discussed on the previous pages provides a foundation upon which the remaining elements of



08MP05-1E-1/29/09

Exhibit 1E
PLANNED LAND USE

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

AirNAV Airport information, website: http://www.airnav.com

Airport/Facility Directory, Southwest U.S., U.S. Department of Transportation, Federal Aviation Administration, National Aeronautical Charting Office, January 15, 2009 Edition

Arizona Department of Economic Security; 2009

Arizona Department of Transportation

Ajo Municipal Airport, Airport Master Plan; 1999

FAA 5010 Form, Airport Master Record; 2009

National Plan of Integrated Airport Systems (NPIAS), U.S. Department of Transportation, Federal Aviation Administration, 2009-2013

U.S. Census Bureau

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

U.S. Fish and Wildlife Service, *Pima County Species List*, December 2009

Western Regional Climate Center; 2009

Woods & Poole Economics, *The Complete Economic and Demographic Data Source; 2008*

Aviation Demand Forecasts

Chapter Two

AVIATION DEMAND FORECASTS

An important factor in facility planning involves a definition of demand that may reasonably be expected to occur during the useful life of the facility's key components. In airport master planning, this involves projecting potential aviation activity over at least a 20-year timeframe. For general aviation airports such as Eric Marcus Municipal Airport, forecasts of based aircraft and general aviation operations (takeoffs and landings) serve as a basis for facility planning.

The Federal Aviation Administration (FAA) has a responsibility to review aviation forecasts that are submitted to the agency in conjunction with airport planning, including master plans, 14 CFR Part 150 studies, and environmental studies. The FAA reviews such forecasts with the objective of including them in its *Terminal Area Forecasts* (TAF) and the *National Plan of Integrated Airport Systems* (NPIAS). In addition, aviation activity forecasts are an important input to the benefit-cost analyses associated with airport development, and the FAA reviews these analyses when federal funding requests are submitted.

As stated in FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems* (NPIAS), dated December 4, 2004, forecasts should:

- Be realistic.
- Be based on the latest available data.
- Reflect current conditions at the airport.

- Be supported by information in the study.
- Provide adequate justification for airport planning and development.

The forecast process for an airport master plan consists of a series of basic steps that can vary depending upon the issues to be addressed and the level of effort required to develop the forecast. The steps include a review of previous forecasts, determination of data needs, identification of data sources, collection of data, selection of forecast methods, preparation of the forecasts, and evaluation and documentation of the results.

The following forecast analysis for Eric Marcus Municipal Airport was produced following these basic guidelines. Other forecasts dating back to the previous master plan were examined and compared against current and historic activity. The historical aviation activity was then examined along with other factors and trends that could affect demand. The intent is to provide an updated set of aviation demand projections for Eric Marcus Municipal Airport that will permit Pima County to make planning adjustments for the future management of the facility.

NATIONAL AVIATION TRENDS

Each year, the FAA updates and publishes a national aviation forecast. Included in this publication are forecasts for passengers, airlines, air cargo, general aviation, and FAA workload measures. The forecasts are prepared to meet the budget and planning needs of the constituent units of the FAA and to provide information that can be used by state and local authorities, the aviation industry, and the general public.

The current edition when this chapter was prepared was FAA *Aerospace Forecasts - Fiscal Years 2008-2025*, published in March 2008. The forecasts use the economic performance of the United States as an indicator of future aviation industry growth. Similar economic analyses are applied to the outlook for aviation growth in international markets.

Following more than a decade of decline, the general aviation industry was revitalized with the passage of the *General Aviation Revitalization Act* in 1994, which limits the liability on general aviation aircraft to 18 years from the date of manufacture. This legislation sparked an interest to renew the manufacture of general aviation aircraft due to the reduction in product liability, as well as renewed optimism for the industry. The high cost of product liability insurance had been a major factor in the decision by many American aircraft manufacturers to slow or discontinue the production of general aviation aircraft.

In the seven years prior to the events of September 11, 2001, the U.S. civil aviation industry experienced unprecedented growth in demand and profits. The impacts to the economy and aviation industry from the events of 9/11 were immediate and significant. Thousands of general aviation aircraft were grounded for weeks due to no-fly zone restrictions imposed on operations of aircraft in security-sensitive areas. This, in addition to the economic recession that began in early 2001, had a negative impact on the general aviation industry. General aviation shipments by U.S. manufacturers declined for three straight years from 2001 through 2003.

Stimulated by an expanding U.S. economy as well as accelerated depreciation allowances for operators of new aircraft, general aviation staged a relatively strong recovery with over ten percent growth in each of the last three years. The economic climate and aviation industry had been recovering until early 2008 when it became clear that an economic downturn was underway. High oil prices and an economic recession have put airlines and aircraft manufacturers on the brink of bankruptcy.

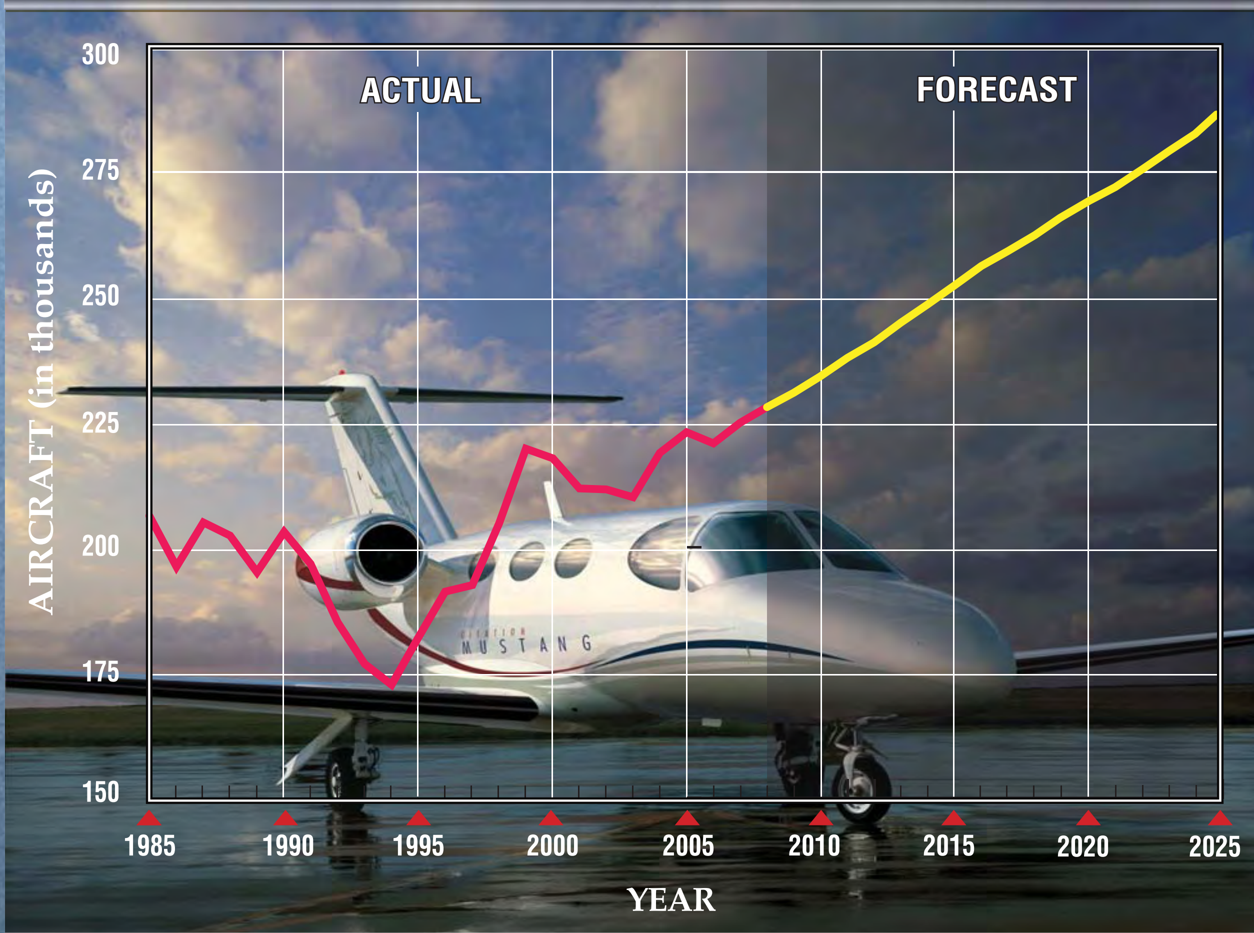
Despite the current recession, the Office of Management and Budget (OMB) expect the U.S. economy to rebound in the short term and continue to grow moderately in terms of Gross Domestic Product (GDP) at an average annual rate of 2.7 percent through 2025. The world GDP is forecast to grow at an even faster rate of 3.2 percent over the same period. This will positively influence the aviation industry, leading to passenger, air cargo, and general aviation growth throughout the forecast period (assuming there will be no new successful terrorist incidents against either U.S. or world aviation).

Resilience being demonstrated in the piston aircraft market offers hope that the new aircraft models are attracting interest in the low-end market of general aviation. The introduction of new, light sport aircraft is expected to provide further stimulation in the coming years.

New models of business jets are also stimulating interest for the high-end market. The FAA still expects the business segment to expand at a faster rate than personal/sport flying. Safety and security concerns combined with increased processing time at commercial terminals make business/corporate flying an attractive alternative. In addition, the bonus depreciation provision of President Bush's economic stimulus package began to help business jet sales late in 2004.

In 2008, there were an estimated 228,155 active general aviation aircraft in the United States. **Exhibit 2A** depicts the FAA forecast for active general aviation aircraft. The FAA projects an average annual increase of 1.4 percent through 2025, resulting in 286,500 active aircraft. Piston-powered aircraft are expected to grow at an average annual rate of 0.3 percent. This is driven primarily by a 4.7 percent annual increase in piston-powered rotorcraft and growth in experimental and sport aircraft, as single engine fixed-wing piston aircraft are projected to increase at just 0.5 percent annually, and multi-engine fixed-wing piston aircraft are projected to decrease by 0.9 percent per year. This is due, in part, to declining numbers of multi-engine piston aircraft and the attrition of approximately 1,500 older piston aircraft annually. In addition, it is expected that the new, light sport aircraft and the relatively inexpensive microjets will dilute

U.S. ACTIVE GENERAL AVIATION AIRCRAFT



U.S. ACTIVE GENERAL AVIATION AIRCRAFT (in thousands)

Year	FIXED WING				ROTORCRAFT					
	PISTON		TURBINE							
	Single Engine	Multi-Engine	Turboprop	Turbojet	Piston	Turbine	Experimental	Sport Aircraft	Other	Total
2008 (Est.)	144.2	18.4	8.3	12.0	4.0	6.2	24.8	3.8	6.5	228.2
2015	145.6	17.2	9.3	19.8	6.2	7.3	29.7	10.5	6.5	252.3
2020	150.0	16.5	10.1	24.9	7.3	7.9	32.6	13.2	6.4	268.9
2025	157.4	15.6	10.8	29.5	8.3	8.6	35.2	14.7	6.4	286.5

Source: FAA Aerospace Forecasts, Fiscal Years 2008-2025.

Notes: An active aircraft is one that has a current registration and was flown at least one hour during the calendar year.

PIMA COUNTY DOT

Exhibit 2A
U.S. ACTIVE GENERAL AVIATION
AIRCRAFT FORECASTS

or weaken the replacement market for piston aircraft.

Owners of ultralight aircraft began registering their aircraft as "light sport" aircraft in 2005. At the end of 2006, a total of 1,273 aircraft were estimated to be in this category. The FAA estimates there will be a registration of 5,600 aircraft by 2010, and it will grow to 14,700 aircraft by 2025.

Turbine-powered aircraft (turboprop and jet) are expected to grow at an average annual rate of 4.2 percent over the forecast period. Even more significantly, the jet portion of this fleet is expected to almost double in size in 10 years, with an average annual growth rate of 5.6 percent. The total number of jets in the general aviation fleet is projected to grow from 10,997 in 2007, to 29,515 by 2025.

A significant portion of the turbine aircraft growth is anticipated to occur within the very light jet (VLJ), or microjet aircraft, market. Microjets entered the active fleet in 2007, with the delivery of 143 new aircraft. VLJs are commonly defined as a jet aircraft that weighs less than 10,000 pounds and include aircraft such as the Eclipse 500 and Adams 700 jets. While not categorized by Cessna Aircraft as a VLJ, the Cessna Mustang is a competing aircraft to many of the VLJs expected to reach the market. These jets cost between $1 and $2 million, can takeoff on runways less than 3,000 feet, and cruise at 41,000 feet at speeds in excess of 300 knots. The VLJ manufacturing industry has fallen on hard times in 2008 due to the global economic crisis with both Adams Aircraft and Eclipse Aviation filing for bankruptcy and halting manufacturing. It is unclear at this point if or when either of these companies will resume aircraft manufacturing operations. Despite these hardships, the VLJ is still expected to redefine the business jet segment by expanding business jet flying and offering operational costs that can support on-demand air taxi point-to-point service. They are forecast to grow by 400 to 500 aircraft per year, contributing a total of 8,145 aircraft to the jet forecast by 2025.

FORECASTING APPROACH

The development of aviation forecasts proceeds through both analytical and judgmental processes. A series of mathematical relationships are tested to establish statistical logic and rationale for projected growth. However, the judgment of the forecast analyst, based upon professional experience, knowledge of the aviation industry, and their assessment of the local situation, is important in the final determination of the preferred forecast.

However, it is important to use forecasts which do not overestimate revenue-generating capabilities or understate demand for facilities needed to meet public (user) needs.

A wide range of factors are known to influence the aviation industry and can have significant impacts on the extent and nature of air service provided in both the local and national markets. Technological advances in aviation have historically altered and will continue to change the growth rates in aviation demand over time. The most obvious example is the impact of jet aircraft on the aviation industry, which resulted in a growth rate that far exceeded expectations. Such changes are difficult, if not impossible, to predict, and there is simply no mathematical way to estimate their impacts. Using a broad spectrum of local, regional, and national socioeconomic and aviation information, and analyzing the most current aviation trends, forecasts are presented in the following sections.

To determine the types and sizes of facilities that should be planned to accommodate general aviation activity, certain elements of this activity must be forecast. Indicators of general aviation demand include:

- Based aircraft
- Based aircraft fleet mix
- General aviation operations

The remainder of this chapter will examine historical trends with regard to these areas of general aviation and project future demand for these segments of general aviation activity at the airport.

BASED AIRCRAFT

The number of aircraft based at an airport is, to some degree, dependent upon the nature and magnitude of aircraft ownership in the local service area. Therefore, the process of developing a projection of based aircraft for Eric Marcus Municipal Airport begins with a review of historical aircraft registrations in Pima County.

REGISTERED AIRCRAFT FORECASTS

Historical records of aircraft ownership in Pima County, presented on **Table 2A**, were obtained from the U.S. Census of Civil Aircraft, Aviation Goldmine, and Avantext, Inc. Since 1988, registered general aviation aircraft in the county have grown from 919 to 1,446, for an annual average growth rate of 2.3 percent. A check of registered aircraft growth from 1993 to 2008 showed that registered aircraft within a 30-mile radius of Eric Marcus Municipal Airport has remained static at three during this time frame. This illustrates that all the registered aircraft growth has taken place in the eastern portion of the county and reflects the limited amount of general aviation activity in the region.

Table 2A also compares registered aircraft to active general aviation aircraft in the United States. The Pima County share of the U.S. market of general aviation aircraft in 2008 was 0.634 percent. **Table 2A** presents a projection of registered aircraft in Pima County based upon maintaining the 2008 percentage as a constant share of projected U.S. active aircraft in the future. This forecast results in almost 1,900 registered aircraft by 2028 at an average annual growth rate of 1.36 percent. Due to the 20-year history of an increasing market share, a forecast was prepared to reflect this trend. The resulting forecast reached 1,988 registered aircraft by 2028 with a growth rate that matched the projected population growth rate of 1.61 percent annually.

TABLE 2A
Registered Aircraft and Independent Variables
Pima County

Year	Registered Aircraft	U.S. Active Aircraft	% of U.S. Market	Population	PCPI (2004 $)
1988	919	N/A	N/A	664,400	23,305
1989	949	N/A	N/A	675,300	23,693
1990	918	N/A	N/A	668,500	23,128
1991	909	N/A	N/A	682,875	23,006
1992	932	185,650	0.502%	700,250	22,988
1993	1,033	177,120	0.583%	712,600	23,446
1994	1,074	172,935	0.621%	728,425	23,968
1995	1,102	182,605	0.603%	758,050	23,891
1996	1,101	187,312	0.588%	780,750	24,224
1997	1,131	189,328	0.597%	789,650	24,495
1998	1,127	205,700	0.548%	823,900	25,650
1999	1,165	219,500	0.531%	845,775	26,073
2000	1,260	217,533	0.579%	843,746	26,517
2001	1,279	211,446	0.605%	870,610	26,481
2002	1,284	211,244	0.608%	890,545	26,236
2003	1,298	209,606	0.619%	910,950	26,302
2004	1,301	219,319	0.593%	931,210	27,467
2005	1,337	224,262	0.596%	957,635	27,923
2006	1,341	221,942	0.604%	981,280	28,020
2007	1,448	225,007	0.644%	1,003,235	28,277
2008	1,446	228,155	0.634%	1,026,506	28,613
Constant Share of U.S. Active Aircraft					
2013	1,553	245,090	0.634%	1,134,853	30,405
2018	1,663	262,460	0.634%	1,234,697	32,357
2028	1,893	298,702	0.634%	1,410,235	36,770
Increasing Share of U.S. Active Aircraft					
2013	1,600	245,090	0.653%	1,134,853	30,405
2018	1,741	262,460	0.663%	1,234,697	32,357
2028	1,988	298,702	0.666%	1,410,235	36,770

Sources:
Registered Aircraft – U.S. Census of Civil Aircraft (1988-1992), Aviation Goldmine (1993-2000), Avantext, Inc., Aircraft & Airmen (2001-2008).
U.S. Active Aircraft – *FAA Aerospace Forecasts 2008-2025*
Population – Arizona Department of Economic Security (1988-2006), Arizona Department of Commerce (2007-2028)
PCPI – U.S. Department of Commerce, Bureau of Economic Analysis (1988-2006), Woods & Poole *CEDDS*, 2008 (2007-2008, 2013-2028).

A time-series extrapolation of registered aircraft was developed based upon the period from 1988 to 2008. The correlation coefficient, (r^2), was determined to be 0.966 for this time-series extrapolation. The correlation coefficient (Pearson's "r") measures the association between changes in the dependent variable (registered aircraft) and the independent variable(s). An r^2 greater than 0.900 generally indicates good predictive reliability. A lower value may be used with the understanding that the predictive reliability is lower.

Several regression analyses were prepared to determine the association between U.S. active aircraft, socioeconomic indicators (population and PCPI), and registered aircraft growth. This association is represented by the correlation coefficient. **Table 2B** and **Exhibit 2B** present the resulting projections for comparison with the market share projections.

Each of the regression analyses were found to have high correlation coefficient numbers indicating a strong association. As a result, a narrow range of forecasts were generated with a high end of 2,042 and a low end of 1,994 county registered aircraft by 2028. The selected forecast is an approximate average of these four regression forecasts with a resulting growth rate of 1.67 percent annually. The selected forecast reflects a reasonable amount of growth, which can be associated with the socioeconomic expansion anticipated in the county over the course of the next 20 years. The selected forecast yields 1,603 by 2013, 1,750 by 2018, and 2,012 by 2028. **Table 2B** summarizes the registered aircraft forecasts developed for Pima County as well as the selected forecast.

TABLE 2B
Registered Aircraft Projections
Pima County

	r^2	2008	2013	2018	2028	Avg. Annual Growth Rate
Market Share Projection						
U.S. Active Aircraft		228,155	245,090	262,460	298,702	1.36%
Constant Share of U.S. Active Aircraft		1,446	1,553	1,663	1,893	1.36%
Increasing Share of U.S. Active Aircraft		1,446	1,600	1,741	1,988	1.61%
Regression Analysis Projections						
Time-Series 1988-2008	0.966	1,446	1,577	1,716	1,994	1.62%
Population & PCPI 1988-2008	0.961	1,446	1,617	1,765	2,032	1.72%
Population 1988-2008	0.960	1,446	1,617	1,763	2,019	1.68%
U.S. Active Aircraft, Population & PCPI 1992-2008	0.953	1,446	1,598	1,745	2,042	1.74%
Selected Forecast		**1,446**	**1,603**	**1,750**	**2,012**	**1.67%**

BASED AIRCRAFT FORECAST

Before preparing new forecasts for based aircraft, previous based aircraft projections were reviewed for current validity. These included the FAA *Terminal Area Forecast* (TAF) 2008; Pima Association of Governments (PAG) *Regional Aviation System Plan* (RASP) 2002; Arizona *State Aviation Needs Study* (SANS) 2000; and the previous *Ajo Municipal Airport Master*

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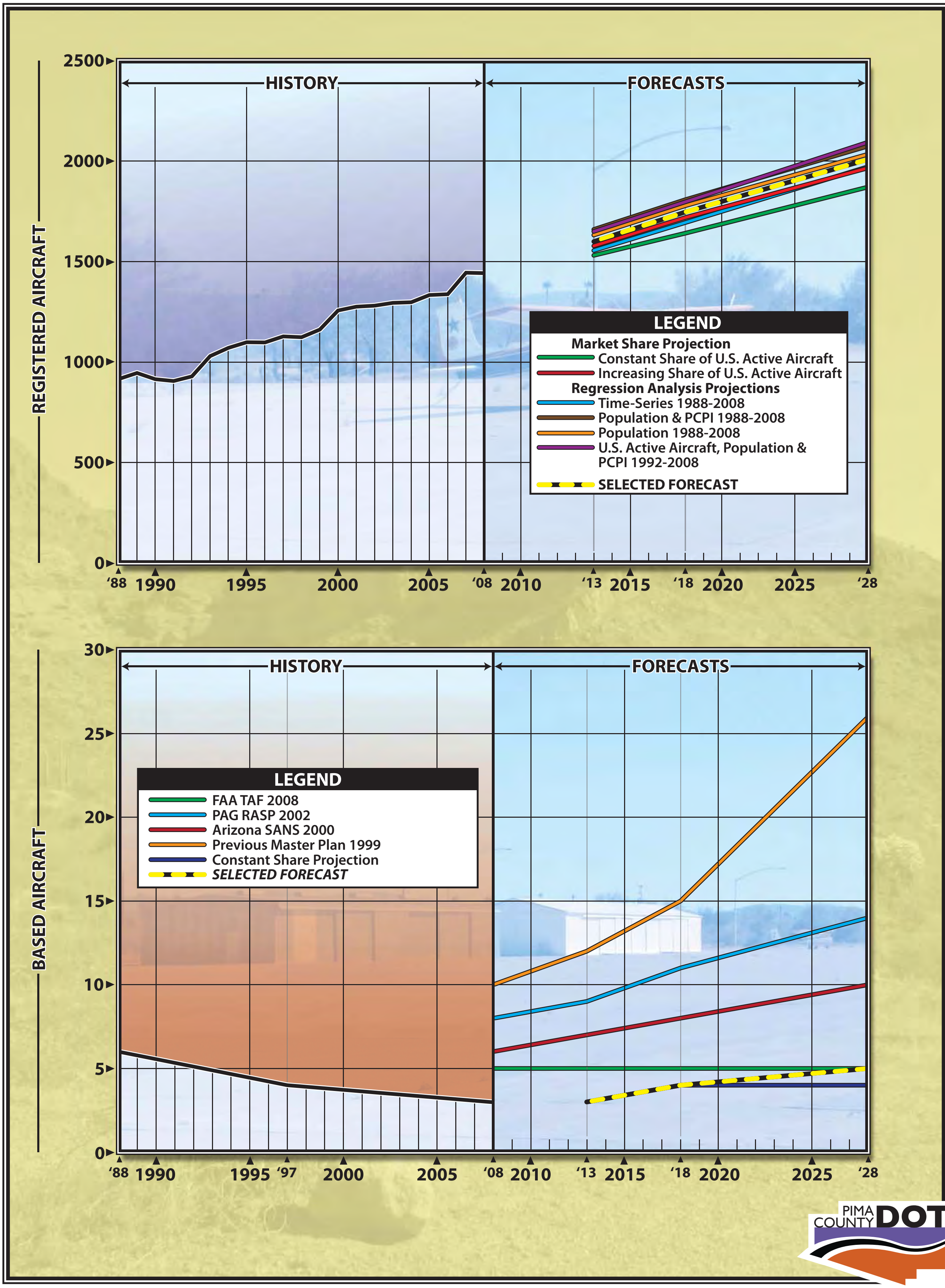

Exhibit 2B
REGISTERED & BASED AIRCRAFT

Plan from 1999. Each of the previous forecasts use different base years as well as projection years. For comparison purposes, the forecasts were interpolated and extrapolated to correlate with this Master Plan's projection years. Each of these previous based aircraft forecasts are presented in **Table 2C**.

TABLE 2C Previous Based Aircraft Projections Eric Marcus Municipal Airport	Current	2008	2013	2018	2028
Airport Master Record	3				
FAA TAF 2008		5	5	5	5
PAG RASP 2002		8	9	11	14
Arizona SANS 2000		6	7	8	10
Previous Master Plan 1999		10	12	15	26

Since each of these previous studies was prepared at different times, it is expected that they may not match recent historical counts. According to the airport's FAA Form 5010, *Airport Master Record*, the current based aircraft count is three. The interpolated 2008 projections for these previous studies are all higher than the current based aircraft record. The long range forecast in the FAA TAF shows zero growth in based aircraft. No explanation was given for the based aircraft growth at Eric Marcus Municipal Airport in the PAG RASP or the Arizona SANS studies. The previous Master Plan based its projection on the possibility that the open-pit mine in Ajo would become operational in the short term, which could trigger socioeconomic growth and revitalize aviation activities in the local area. The mine never resumed operations and, presently, there are no plans for the mine to reopen in the future.

Having forecast the aircraft ownership demand in Pima County, historic based aircraft figures at Eric Marcus Municipal Airport were reviewed to examine the change in market share over the years. **Table 2D** examines Eric Marcus Municipal Airport's historical share of County registered aircraft.

Between 1988 and 2008, Eric Marcus Municipal Airport based aircraft has decreased by three at a rate of -3.4 percent annually, and the airport's market share has shrunk from 0.65 percent to 0.21 percent. As it was discussed earlier, the vast majority of the County's registered aircraft growth since 1993 has taken place in the eastern portion of the county near the Tucson metropolitan area.

An updated based aircraft projection was prepared based on the airport's market share of registered aircraft in the county. The constant market share projection maintains the airport's current share of registered aircraft through the planning period resulting in four based aircraft by 2028 with an average annual growth rate of 1.7 percent.

TABLE 2D
Updated Based Aircraft Projections
Eric Marcus Municipal Airport

Year	County Registered Aircraft	Eric Marcus Based Aircraft	% of Registered
1988	919	6	0.65%
1997	1,131	4	0.35%
2008	1,446	3	0.21%
Average Annual Growth Rate		-3.4%	
Constant Share Projection			
2013	1,603	3	0.21%
2018	1,750	4	0.21%
2028	2,012	4	0.21%
Average Annual Growth Rate		1.7%	
Selected Forecast			
2013	1,603	3	0.19%
2018	1,750	4	0.23%
2028	2,012	5	0.25%
Average Annual Growth Rate		2.6%	

Source: Based Aircraft – FAA *Terminal Area Forecast* (1988); *Ajo Municipal Airport Master Plan* (1997); FAA Form 5010, *Airport Master Record*, (2008)

Although economic activity and population growth in Ajo is essentially static, the selected based aircraft forecast takes into account the potential for two new based aircraft through the long term. While this projected based aircraft growth may not occur at the airport, it is important to plan for at least the possibility of new based aircraft at Eric Marcus Municipal Airport. This will allow the County to be prepared for any facility demands that may come from based aircraft growth. The selected based aircraft forecast is shown on **Exhibit 2B** compared to the previous projections as well as the updated projections.

BASED AIRCRAFT FLEET MIX

The based aircraft fleet mix at Eric Marcus Municipal Airport currently consists of three single-engine piston aircraft. The selected based aircraft forecast projects the potential of two new based aircraft in the long term. It is anticipated that the fleet mix at the airport will continue to be made up of single-engine piston aircraft throughout the planning period.

GENERAL AVIATION OPERATIONS

General aviation (GA) operations are classified as either local or itinerant. A local operation is a take-off or landing performed by an aircraft that operates within sight of the airport, or which executes simulated approaches or touch-and-go operations at the airport. Itinerant operations are those performed by aircraft with a specific origin or destination away from the airport. Generally, local operations are characterized by training operations. Typically, itinerant operations increase with business and commercial use, since business aircraft are operated on a higher frequency.

Eric Marcus Municipal Airport operations are comprised of entirely GA operations. Since Eric Marcus Municipal Airport is not a towered airport, precise operations records are not available. The FAA Form 5010, *Airport Master Record*, for Eric Marcus Municipal Airport reports an estimated 300 annual general aviation operations. To confirm the accuracy of this figure, an FAA approved statistical methodology for estimating general aviation operations using local variables was utilized.

This method, the *Model for Estimating General Aviation Operations at Non-Towered Airports*, was prepared for the FAA Statistics and Forecast Branch in July 2001. This report develops and presents a regression model for estimating general aviation operations at non-towered airports. The model was derived using a combined data set for small towered and non-towered general aviation airports and incorporates a dummy variable to distinguish the two airport types. In addition, the report applies the model to estimate activity at 2,789 non-towered general aviation airports contained in the FAA *Terminal Area Forecast*. The forecasts of annual operations at Eric Marcus Municipal Airport were computed using the recommended equation (#15) for non-towered airports. Independent variables used in the equation include airport characteristics (i.e., number of based aircraft, number of flight schools), population totals, and geographic location. The result of this equation confirms the Form 5010 annual operations estimate. Local and itinerant operation percentages for 2008 were derived from the Form 5010 estimates for 2008 (20 percent and 80 percent, respectively).

ITINERANT OPERATIONS

Table 2E depicts estimated GA itinerant operations at Eric Marcus Municipal Airport for 2008. This data shows a market share of 0.0013 percent of all GA itinerant operations reported at airports with an airport traffic control tower. This also equates to 80 itinerant operations per based aircraft, which is considerably lower than most other GA airports in the State of Arizona. The low number of itinerant operations can be attributed to the airport's accessibility issues due to its location within a military operating area (MOA) and abutting restricted airspace. The airport also does not provide GA services that might attract pilots to the airport.

In *Aerospace Forecasts Fiscal Years 2008-2025*, the FAA projects itinerant GA operations at towered airports. **Table 2E** presents this forecast, as well as a projection for Eric Marcus Municipal Airport, based upon maintaining its current share of the itinerant GA operations market. This forecast has itinerant operations reaching 338 by 2028.

TABLE 2E General Aviation Itinerant Operations Forecast Eric Marcus Municipal Airport					
Year	Itinerant Operations	U.S. ATCT GA Itinerant (millions)	Eric Marcus Market Share	Eric Marcus Based Aircraft	Itinerant Ops Per Based Aircraft
2008	240	18.64	0.0013%	3	80
Constant Market Share Projection					
2013	261	20.26	0.0013%	3	87
2018	284	22.04	0.0013%	4	71
2028	338	26.25	0.0013%	5	68
Operations Per Based Aircraft Projection (Selected Forecast)					
2013	240	20.26	0.0012%	3	80
2018	480	22.04	0.0022%	4	120
2028	800	26.25	0.0030%	5	160
FAA-TAF Projection					
2013	196	20.26	0.0010%	3	65
2018	196	22.04	0.0009%	4	49
2028	196	26.25	0.0007%	5	39

The table also displays the findings of an analysis that examined the relationship of annual operations to based aircraft. The second projection in **Table 2E** reflects the itinerant operational levels that could be expected if the operations per based aircraft ratio were to increase to levels more common at general aviation airports. This forecast results in 800 itinerant GA operations by 2028.

The itinerant operations per based aircraft forecast was chosen as the selected master plan forecast. Due to the airport's constrained airspace and limited growth, it is anticipated that the itinerant operations per based aircraft ratio will remain low through the planning period; however, some growth is planned to account for an increase in based aircraft. The selected master plan forecast, shown at the bottom of **Table 2E**, has itinerant GA operations at Eric Marcus Municipal Airport growing to 800 by 2028.

LOCAL OPERATIONS

A similar methodology was utilized to forecast local GA operations. **Table 2F** depicts estimated local operations at Eric Marcus Municipal Airport in 2008 and examines its market share of GA local operations at towered airports in the United States. In 2008, Eric Marcus Municipal Airport is estimated to have experienced 0.0004 percent of all local GA operations at towered airports. This equates to 20 local GA operations per based aircraft, which like itinerant GA operations is much lower than most general aviation airports in the state. With only three based aircraft, limited GA services, and no flight training operations, a small local GA operations figure can be expected.

Table 2F presents a market share projection based upon carrying forward a constant share of 0.0004 percent. This projection results in 70 local GA operations by 2028.

The second projection in **Table 2F** examines local operations by increasing the operations per based aircraft up to 40 by 2028 resulting in 200 local operations.

TABLE 2F
General Aviation Local Operations Forecast
Eric Marcus Municipal Airport

Year	Local Operations	U.S. ATCT GA Local (millions)	Eric Marcus Market Share	Eric Marcus Based Aircraft	Local Ops Per Based Aircraft
2008	60	14.78	0.0004%	3	20
Constant Market Share Projection					
2013	62	15.25	0.0004%	3	21
2018	64	15.65	0.0004%	4	16
2028	70	17.16	0.0004%	5	14
Operations Per Based Aircraft Projection (Selected Forecast)					
2013	60	15.25	0.0004%	3	20
2018	120	15.65	0.0008%	4	30
2028	200	17.16	0.0012%	5	40
FAA-TAF Projection					
2013	1,470	15.25	0.0096%	3	490
2018	1,470	15.65	0.0094%	4	368
2028	1,470	17.16	0.0086%	5	294

The operations per based aircraft projection was selected as the local GA forecast for this Master Plan. Without training operations and GA services, the airport can expect its local operations per based aircraft ratio to remain low throughout the planning period. However, as based aircraft growth occurs, local operations can potentially increase.

GENERAL AVIATION OPERATIONS SUMMARY

Table 2G depicts estimated 2008 GA operations at Eric Marcus Municipal Airport, as well as the updated Master Plan projections. Total GA operations are projected to increase to 1,000 annually by 2028. This is a growth rate of 6.2 percent annually through the planning period.

TABLE 2G
General Aviation Operations Forecast Summary
Eric Marcus Municipal Airport

Year	Total Operations	Itinerant Operations	Local Operations	Based Aircraft	Itinerant Ops/BA	Local Ops/BA
2008	300	240	60	3	80	20
Forecast						
2013	300	240	60	3	80	20
2018	600	480	120	4	120	30
2028	1,000	800	200	5	160	40

SUMMARY

This chapter has outlined the various activity levels that might reasonably be anticipated over the planning period. The airport's isolated location in the state and its proximity to heavy-use MOAs and restricted airspace impair the airport's growth possibilities. In addition, socioeconomic factors in the local area do not support significant based aircraft or operational growth at the airport through the planning period. The affect the forecasts will have on the airport's existing facilities will be analyzed in the Facility Requirements chapter.

Facility Requirements

ERIC MARCUS MUNICIPAL AIRPORT

AJO, ARIZONA

AIRPORT MASTER PLAN

Chapter Three

FACILITY REQUIREMENTS

To properly plan for the future of Eric Marcus Municipal Airport, it is necessary to translate forecast aviation demand into the specific types and quantities of facilities that can adequately serve projected demand levels. This chapter uses the results of the forecasts prepared in Chapter Two, as well as established planning criteria, to determine the airfield (i.e., runways, taxiways, navigational aids, marking and lighting) and landside (i.e., hangars, aircraft parking apron, fueling, automobile parking and access) facility requirements.

The objective of this effort is to identify, in general terms, the adequacy of the existing airport facilities and outline what new facilities, if any, may be needed as well as when they may be needed to accommodate forecast demands. Having established these facility requirements, alternatives for the future direction of the airport will be evaluated in Chapter Four to determine the most cost-effective and efficient use of the airport over the course of the planning period.

PLANNING HORIZONS

The cost-effective, safe, efficient, and orderly development of an airport should rely more upon actual demand at an airport than a time-based forecast figure. Thus, in order to develop a master plan that is demand-based rather than time-based, a series of planning horizon milestones have been established that take into consideration the reasonable range of aviation demand projections. Over time, the actual activity at the airport may be higher or lower than the an-

nualized forecast portrays. By planning according to activity milestones, the resultant plan can accommodate unexpected shifts or changes in the aviation demand in a timely fashion. The demand-based schedule provides flexibility in development, as the schedule can be slowed or expedited according to actual demand at any given time over the planning period. The resultant plan provides airport officials with a financially responsible and needs-based program. **Table 3A** presents the planning horizon milestones for each activity demand category.

TABLE 3A
Aviation Demand Planning Horizons
Eric Marcus Municipal Airport

	2008	Short Term (± 5 Years)	Intermediate Term (± 10 Years)	Long Term (± 20 Years)
ANNUAL OPERATIONS				
Itinerant	240	240	480	800
Local	60	60	120	200
Total Operations	300	300	600	1,000
Based Aircraft	3	3	4	5

PEAKING CHARACTERISTICS

Airport capacity and facility needs analyses typically relate to the levels of activity during a peak or design period. The periods used in developing the capacity analyses and facility requirements in this study are as follows:

- **Peak Month** - The calendar month when peak volumes of aircraft operations occur.
- **Design Day** - The average day in the peak month. This indicator is easily derived by dividing the peak month operations by the number of days in a month.
- **Busy Day** - The busy day of a typical week in the peak month. This descriptor is used primarily to determine general aviation transient ramp space requirements.

It is important to note that only the peak month is an absolute peak within a given year. All other peak periods will be exceeded at various times during the year. However, they do represent reasonable planning standards that can be applied without overbuilding or being too restrictive.

General Aviation Itinerant Operations Peak Periods

General aviation itinerant peak operational characteristics were also included in this analysis. Based on activity at towered general aviation airports in the region, it has been determined that the peak month typically ranges between 10 and 15 percent of annual operations. Therefore, the current peak month for itinerant operations was estimated to be 15 percent of the annual itinerant operations. This ratio was kept constant through the planning period. Busy day operations were calculated at 1.5 times design day operations. **Table 3B** summarizes the peak operations forecast for the airport.

TABLE 3B
Peaking Characteristics
Eric Marcus Municipal Airport

	2008	Short Term (± 5 Years)	Intermediate Term (± 10 Years)	Long Term (± 20 Years)
OPERATIONS				
Total Operations				
Annual	300	300	600	1,000
Peak Month	45	45	90	150
Design Day	1	1	3	5
Busy Day	2	2	4	7
Itinerant Operations				
Annual	240	240	480	800
Peak Month	36	36	72	120
Design Day	1	1	2	4
Busy Day	2	2	3	6

AIRFIELD CAPACITY

A demand/capacity analysis measures the capacity of the airfield facilities (i.e., runways and taxiways) in order to identify a plan for additional development needs. The capacity of the airfield is affected by several factors, including airfield layout, meteorological conditions, aircraft mix, runway use, aircraft arrivals, aircraft touch-and-go activity, and exit taxiway locations. An airport's airfield capacity is expressed in terms of its annual service volume (ASV). Annual service volume is a reasonable estimate of the maximum level of aircraft operations that can be accommodated in a year.

Pursuant to FAA guidelines detailed in the FAA Advisory Circular (AC 150/5060-5, *Airport Capacity and Delay*, the annual service volume of a single runway configuration is approximately 230,000 operations at general aviation airports similar to Eric Marcus Municipal Airport. Since the forecasts for the airport indicate that activity throughout the planning period will remain well below 230,000 annual operations, the capacity of the existing airfield system will not be reached and the airfield is expected to accommodate the forecasted operational demands. Therefore, no additional runways or taxiways are needed for capacity reasons.

CRITICAL AIRCRAFT

The selection of appropriate FAA design standards for the development and location of airport facilities is based primarily upon the characteristics of the aircraft which are currently using or are expected to use the airport. The critical design aircraft is defined as the most demanding category of aircraft, or family of aircraft, which conducts at least 500 itinerant operations per year at the airport.

The FAA has established a coding system to relate airport design criteria to the operational and physical characteristics of aircraft expected to use the airport. This airport reference code (ARC) has two components. The first component, depicted by a letter, is the aircraft approach category and relates to aircraft approach speed (operational characteristic). The second component, depicted by a Roman numeral, is the airplane design group and relates to aircraft wingspan (physical characteristic). Generally, aircraft approach speed applies to runways and runway-related facilities, while airplane wingspan primarily relates to separation criteria involving taxiways, taxilanes, and landside facilities.

According to FAA Advisory Circular (AC) 150/5300-13, *Airport Design*, an aircraft's approach category is based upon 1.3 times its stall speed in landing configuration at that aircraft's maximum certificated weight. The five approach categories used in airport planning are as follows:

Category A: Speed less than 91 knots.

Category B: Speed 91 knots or more, but less than 121 knots.

Category C: Speed 121 knots or more, but less than 141 knots.

Category D: Speed 141 knots or more, but less than 166 knots.

Category E: Speed greater than 166 knots.

The airplane design group (ADG) is based upon the aircraft's wingspan. The six ADGs used in airport planning are as follows:

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 or greater.

Exhibit 3A summarizes representative aircraft by ARC.

The FAA advises designing airfield facilities to meet the requirements of the airport's most demanding aircraft, or critical aircraft. An aircraft or group of aircraft within a particular Approach Category or ADG must conduct more than 500 itinerant operations annually to be considered the critical design aircraft. In order to determine facility requirements, an ARC should first be determined, and then appropriate airport design criteria can be applied.

Eric Marcus Municipal Airport currently experiences less than 500 annual operations; therefore, a specific design aircraft cannot be identified. Currently, the airport has three based single-engine piston aircraft, each within ARC A-I and weighing less than 12,500 pounds. A review of com-

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A-I

- Beech Baron 55
- **Beech Bonanza**
- Cessna 150
- Cessna 172
- Cessna Citation Mustang
- Eclipse 500
- Piper Archer
- Piper Seneca

C-I, D-I

- Beech 400
- **Lear 25, 31, 35, 45, 55, 60**
- Israeli Westwind
- HS 125-400, 700

B-I *less than 12,500 lbs.*

- Beech Baron 58
- Beech King Air 100
- Cessna 402
- **Cessna 421**
- Piper Navajo
- Piper Cheyenne
- Swearingen Metroliner
- Cessna Citation I

C-II, D-II

- Cessna Citation III, VI, VIII, X
- **Gulfstream II, III, IV**
- Canadair 600
- ERJ-135, 140, 145
- CRJ-200, 700, 900
- Embraer Regional Jet
- Lockheed JetStar

B-II *less than 12,500 lbs.*

- **Super King Air 200**
- Cessna 441
- DHC Twin Otter

C-III, D-III

- ERJ-170, 190
- Boeing Business Jet
- B 727-200
- **B 737-300 Series**
- MD-80, DC-9
- Fokker 70, 100
- A319, A320
- Gulfstream V
- Global Express

B-I, B-II *over 12,500 lbs.*

- Super King Air 350
- Beech 1900
- Jetstream 31
- Falcon 10, 20, 50
- Falcon 200, 900
- **Citation II**, III, IV, V
- Saab 340
- Embraer 120

C-IV, D-IV

- **B-757**
- B-767
- C-130
- DC-8-70
- DC-10
- MD-11
- L1011

A-III, B-III

- DHC Dash 7
- **DHC Dash 8**
- DC-3
- Convair 580
- Fairchild F-27
- ATR 72
- ATP

D-V

- **B-747** Series
- B-777

Note: Aircraft pictured is identified in bold type.

Exhibit 3A
AIRPORT REFERENCE CODES

pleted instrument flight plans for all aircraft types since 2004 revealed only 10 operations originating from or arriving to Eric Marcus Municipal Airport. The aviation demand forecasts projected a minimal increase in based aircraft and operations through the planning period.

The previous master plan established ultimate ARC B-II design standards for the airport to accommodate potential business jet and turboprop aircraft operations. This potential demand was based on the reopening of the open-pit mine in Ajo, which would stimulate economic activity and, as a result, aviation activities in the local area. However, the mine did not reopen, causing this potential demand to go unrealized.

The current airfield is designed to ARC B-I small airplane exclusive standards. It is anticipated that the airport will continue to be used exclusively by aircraft within ARC A-I and B-I categories through the planning period. Therefore, Eric Marcus Municipal Airport should maintain ARC B-I small airplane exclusive design standards through the planning period.

AIRFIELD REQUIREMENTS

The analyses of the operational capacity and the critical design aircraft are used to determine airfield needs. This includes runway configuration, dimensional standards, and pavement strength, as well as navigational aids and lighting.

RUNWAY CONFIGURATION

Key considerations in the runway configuration of an airport involve the orientation for wind coverage and the operational capacity of the runway system. FAA Advisory Circular 150/5300-13, *Airport Design,* recommends that a crosswind runway should be made available when the primary runway orientation provides less than 95 percent wind coverage for any aircraft forecast to use the airport on a regular basis. The 95 percent wind coverage is computed on the basis of the crosswind component not exceeding 10.5 knots (12 mph) for ARC A-I and B-I; 13 knots (15 mph) for ARC A-II and B-II; 16 knots (18 mph) for ARC A-III, B-III, and C-I through B-I; and 20 knots (23 mph) for ARC C-III through D-IV.

Wind data at Eric Marcus Municipal Airport is not available. The nearest weather observation system to Ajo is at Gila Bend Municipal Airport, located approximately 31 nautical miles north of Eric Marcus Municipal Airport. While this wind data may not exactly represent wind conditions at Eric Marcus Municipal Airport due to differences in topography, it gives a generalized summary of prevailing winds in the region. 18 years (1990-2008) of accumulated wind data was collected from Gila Bend Municipal Airport by the National Oceanic and Atmospheric Administration (NOAA). This information has been used to produce a wind rose for Eric Marcus Municipal Airport. This data is graphically depicted on the wind rose in **Exhibit 3B**.

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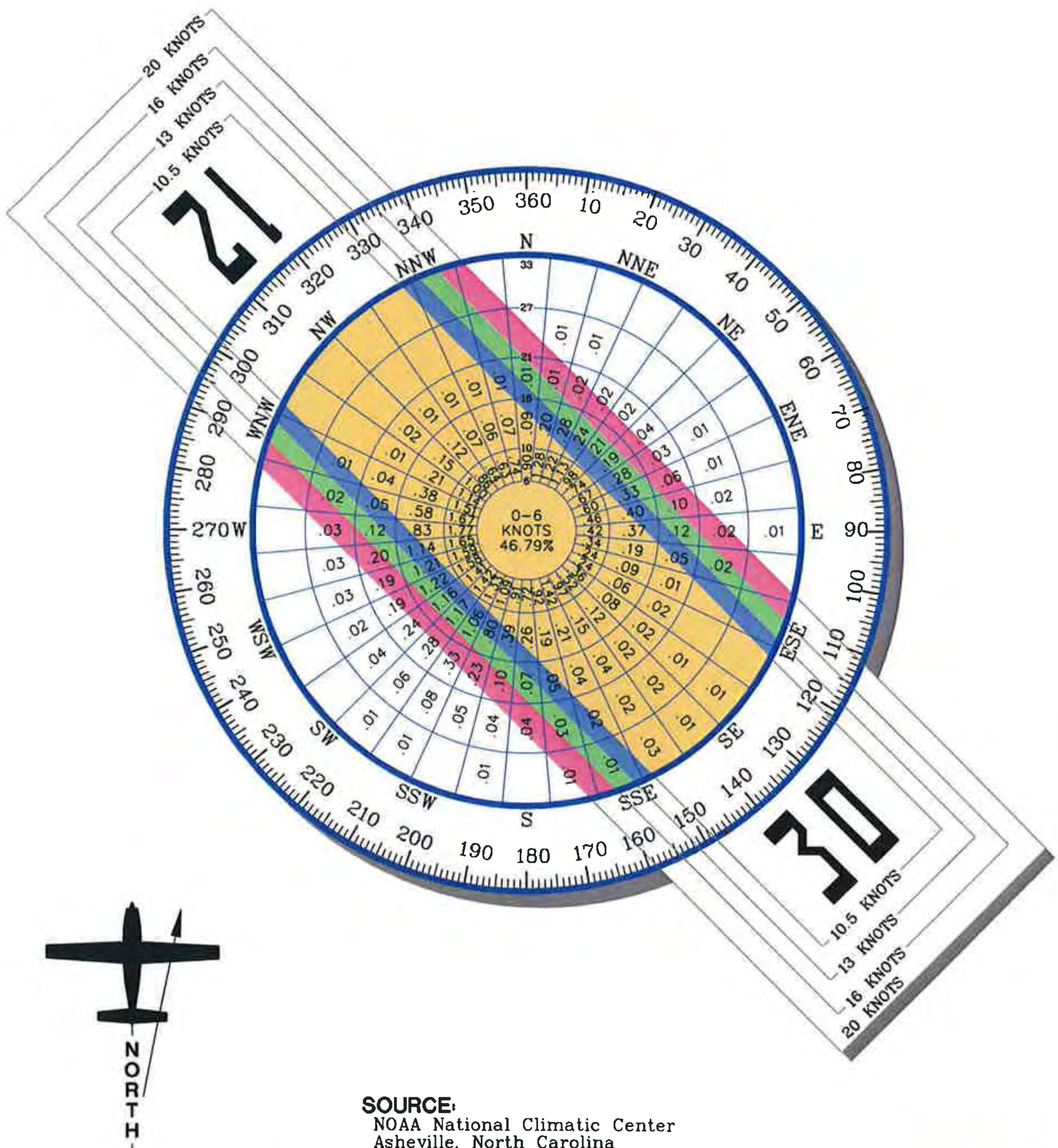
ALL WEATHER WIND COVERAGE

Runway	10.5 Knots	13 Knots	16 Knots	20 Knots
Runway 12-30	*87.40%*	*92.52%*	*97.49%*	*99.30%*



Magnetic Variance
11° 17' East (January 2009)
Annual Rate of Change
00° 05' West (January 2009)

SOURCE:
NOAA National Climatic Center
Asheville, North Carolina
Gila Bend Municipal Airport (E63)
Gila, Arizona

OBSERVATIONS:
71,024 All Weather Observations
12/1990-09/2008

PIMA COUNTY DOT

Exhibit 3B
WIND ROSE

Runway 12-30 provides 87.4 percent coverage for 10.5 knot crosswinds, 92.5 percent coverage for 13 knot crosswinds, 97.5 percent coverage for 16 knot crosswinds, and 99.3 percent coverage for 20 knot crosswinds. Based on this data, Runway 12-30 does not meet the 95 percent wind coverage design standard. The previous master plan recommended reactivating Runway 5-23 as a crosswind runway. However, due to the extremely low level of activity at the airport, maintaining a dual runway system would not be feasible.

RUNWAY DIMENSIONAL REQUIREMENTS

Runway dimensional standards include the length and width of the runway, as well as the dimensions associated with runway safety areas and other clearances. These requirements are based upon the design aircraft, or group of aircraft. The runway length must consider the performance characteristics of individual aircraft types, while the other dimensional standards are generally based upon the most critical airport reference code expected to use the runway. Dimensional standards are outlined for the planning period for Runway 12-30.

Runway Length

The aircraft performance capability is a key factor in determining the runway length needed for takeoff and landing. The performance capability and, subsequently, the runway length requirement of a given aircraft type can be affected by the elevation of the airport, the air temperature, and the operating weight of the aircraft.

The airport elevation at Eric Marcus Municipal Airport is 1,458 feet above mean sea level (MSL). The mean maximum daily temperature during the hottest month is 103.0 degrees Fahrenheit.

For Eric Marcus Municipal Airport, due to the low level of activity, a runway length that will meet the needs of exclusively small aircraft weighing 12,500 pounds or less will be sufficient. According to runway length adjustment charts in AC 150/5325-4B, *Runway Length Requirements for Airport Design*, when adjusting for the elevation and ambient temperature of Eric Marcus Municipal Airport, 95 percent of small aircraft can operate on a 3,800-foot long runway. Runway 12-30 meets this length recommendation. This runway length will meet aircraft demands through the planning period and therefore should be maintained through the long range planning horizon.

Pavement Strength

An important feature of airfield pavement is the ability to withstand repeated use by aircraft of significant weight. Runway 12-30 is strength-rated at 12,000 pounds single wheel loading (SWL). This pavement strength can accommodate aircraft such as the Beech King Air 100. All existing based aircraft weigh less than 12,000 pounds SWL, and the airport is not anticipated to base aircraft weighing more than 12,000 pounds SWL throughout the planning period.

Therefore, this pavement strength should be maintained through the long term planning horizon.

Dimensional Design Standards

Runway dimensional design standards define the widths and clearances required to optimize safe operations in the landing and takeoff areas. These dimensional standards vary depending upon the ARC for the runway. **Table 3C** outlines key dimensional standards for the airport reference codes most applicable to Eric Marcus Municipal Airport, both now and in the future.

TABLE 3C
Airfield Design Standards
Eric Marcus Municipal Airport

Airport Reference Code	Current Runway 12-30 (ft.)	ARC B-I Small Airplanes Exclusive (ft.)
Runway Width	60	60
Runway Safety Area		
Width	120	120
Length Beyond End	240	240
Runway Object Free Area		
Width	250	250
Length Beyond End	240	240
Runway Centerline to:		
Holding Position	125	125
Parallel Taxiway	N/A	150
Parallel Runway	N/A	700
Taxiway Width	35	25
Taxiway Centerline to:		
Fixed or Movable Object	44.5	44.5
Parallel Taxiway	N/A	69
Taxilane Centerline to:		
Fixed or Movable Object	39.5	39.5
Parallel Taxilane	N/A	64
Runway Protection Zones - One mile or greater visibility		
Inner Width	250	250
Length	1,000	1,000
Outer Width	450	450

Runway 12-30 currently meets all ARC B-I small airplane exclusive design requirements and should be planned to maintain these design standards through the long-range planning horizon. A brief description of the FAA design standards is provided below.

Runway Width – The existing runway pavement width of 60 feet meets the ARC B-I small airplane exclusive design standard.

Runway Safety Area – The runway safety area (RSA) is defined in FAA Advisory Circular 150/5300-13, *Airport Design*, as a surface surrounding the runway, prepared or suitable for reducing the risk of damage to airplanes in the event of an overshoot, undershoot, or excursion from the runway. The RSA is centered on the runway and extends beyond either end. The FAA requires the RSA to be cleared and graded, drained by grading or storm sewers, capable of accommodating fire and rescue vehicles, and free of obstacles not fixed by navigational purposes. The RSA standard for Category B-I small airplane exclusive is 120 feet wide and extends 240 feet beyond each runway end.

Runway Object Free Area – The object free area (OFA) is an area centered on the runway to enhance the safety of aircraft operations by having an area free of objects, except for objects that need to be located in the OFA for air navigation or ground maneuvering purposes. The OFA must provide clearance of all ground-based objects protruding above the RSA edge elevation, unless the object is fixed by a function serving air or ground navigation. OFA design standards for ARC B-I extend 240 feet beyond the runway end and 250 feet in width.

Aircraft Holding Positions – Hold-lines identify the location where a pilot should assure there is adequate separation with other aircraft before proceeding onto the runway. The current hold positions for Runway 12-30 are marked 125 feet from the runway centerline on each connecting taxiway. This 125-foot separation meets the standard for ARC B-I runways.

Runway Protection Zone – The runway protection zone (RPZ) is an area off the runway end that enhances the protection of people and property on the ground. This is best achieved through airport owner control over the RPZs. Such control includes maintaining RPZ areas clear of incompatible objects and activities.

The RPZ is trapezoidal in shape and is centered on the extended runway centerline. The dimensions of the RPZ are a function of the critical aircraft and the approach visibility minimums associated with the runway. The existing RPZs on each end of Runway 12-30 meet design requirements for small airplane exclusive runways and fall entirely on airport property.

Taxiways - Taxiways are constructed primarily to facilitate aircraft movements to and from the runway system. Some taxiways are necessary simply to provide access between the aprons and runways, whereas other taxiways become necessary as activity increases at an airport to provide safe and efficient use of the airfield.

As detailed in Chapter One, Runway 12-30 is served by two entrance/exit taxiways (A1 and A2) with widths of 35 feet. This width exceeds the ARC B-I small airplane exclusive design standard of 25 feet. To improve safety conditions at the airport, it is recommended that a turnaround be constructed at the end of Runway 12. When aircraft back-taxi, it becomes necessary to make 180 degree turns at the runway end. A turnaround will allow aircraft to make these turns safely. Dimensional and clearance standards for the taxiways are depicted on **Table 3C**.

NAVIGATIONAL AIDS AND INSTRUMENT APPROACH PROCEDURES

Navigational Aids

Navigational aids are electronic devices that transmit radio frequencies, which properly equipped aircraft and pilots translate into point-to-point guidance and position information. The very high frequency omnidirectional range (VOR), Global Positioning System (GPS), and LORAN-C are available for pilots to navigate to and from Eric Marcus Municipal Airport. These systems are sufficient for navigation to and from the airport; therefore, no other navigational aids are needed at the airport.

Instrument Approach Procedures

Instrument approach procedures consist of a series of predetermined maneuvers established by the FAA for navigation during inclement weather conditions. Currently, Eric Marcus Municipal Airport is not equipped with instrument approach procedures. The airport experiences very limited amounts of inclement weather conditions during the year, and with the airport's low activity level, the implementation of an instrument approach procedure would be economically infeasible. Eric Marcus Municipal Airport should remain exclusively a visual approach airport through the planning period.

AIRFIELD LIGHTING, MARKING, AND SIGNAGE

There are a number of lighting and pavement marking aids serving pilots using Eric Marcus Municipal Airport. These lighting and marking aids assist pilots in locating the airport during night or poor weather conditions, as well as assist in the ground movement of aircraft.

Identification Lighting

The location of an airport at night is universally indicated by a rotating beacon. The rotating beacon at the airport is located at the top of the southernmost T-hangar facility. This is sufficient and should be maintained through the planning period.

Runway and Taxiway Lighting

The medium intensity runway edge lighting (MIRL) currently available on Runway 12-30 will be adequate for the planning period. Taxiways A1 and A2 are equipped with taxiway edge reflective delineators, which will be adequate through the planning period.

Airfield Signs

Airfield signage assists pilots in identifying their location on the airport. Eric Marcus Municipal Airport is not equipped with airfield signage. Signs located at intersections of taxiways can provide crucial information to avoid conflicts between moving aircraft and potential runway incursions. Airfield signage should be incorporated at the airport.

Visual Approach Lighting

The landing phase of any flight at Eric Marcus Municipal Airport must be conducted in visual conditions. To provide pilots with visual guidance information during landings to the runway, electronic visual approach aids are commonly provided at airports. Both runway ends are currently equipped with precision approach path indicators (PAPI-2s). These lighting systems should be maintained through the planning period.

Threshold Lighting

Runway threshold lighting identifies the runway end for aircraft on approach and departure. Each runway end has three elevated green/red lights on each side of the threshold. Threshold lights are green in the direction of landing and are red in the opposite direction. These threshold lights should be maintained through the planning period.

Pilot-Controlled Lighting

Eric Marcus Municipal Airport is equipped with pilot-controlled lighting (PCL). PCL allows pilots to control the intensity of the runway lighting using the radio transmitter in the aircraft. PCL also provides for more efficient use of airfield lighting energy. A PCL system turns the airfield lights off or to a lower intensity when not in use. Similar to changing the intensity of the lights, pilots can turn up the lights using the radio transmitter in the aircraft. This system should be maintained through the planning period.

Pavement Markings

In order to facilitate the safe movement of aircraft about the field, airports use pavement markings, lighting, and signage to direct pilots to their destinations. Runway markings are designed according to the type of instrument approach available on the runway. FAA Advisory Circular 150/5340-1H, *Marking of Paved Areas on Airports*, provides the guidance necessary to design airport markings.

Runway 12-30 currently has basic (visual) markings, which identify the runway centerline, designation, and side strips. These basic markings will be adequate through the planning period.

Holdlines need to be marked on all taxiways connecting to the runway.

The holdlines for Runway 12-30 are currently placed 125 feet from the runway centerline, which meets ARC B-I small airplane exclusive standards. These markings assist in reducing runway incursions as aircraft must remain behind the holdline until taking the active runway for departure.

Taxiway and apron areas also require marking to assure that aircraft remain on the pavement and clear of any objects located along the taxiway/taxilane. Yellow centerline stripes are currently painted on both taxiway surfaces at the airport to provide assistance to pilots in taxiing along these surfaces at the airport. Besides routine maintenance, these markings will be sufficient through the planning period.

LANDSIDE FACILITIES

Landside facilities are those necessary for handling general aviation aircraft while on the ground. This section is devoted to identifying landside facility needs during the planning period for the following types of facilities normally associated with general aviation terminal areas:

- Hangars
- Aircraft Parking Apron
- Support Facilities

HANGARS & APRON

Existing hangars on the airport include two T-hangar facilities and a single portable shade hangar facility. These facilities provide a combined nine aircraft storage units. The airport currently has three based aircraft with a possibility of an additional two based through the planning period. Therefore, the existing hangar facilities will be sufficient to accommodate potential hangar demands. The hangar requirements summary is presented in **Table 3D**.

TABLE 3D
Landside Facilities Requirements
Eric Marcus Municipal Airport

	Available	Current Need	Short Term	Intermediate Term	Long Term
HANGAR REQUIREMENTS					
Based Aircraft		3	3	4	5
Hangar Positions	9	3	3	4	5
APRON REQUIREMENTS					
Transient/Based Tie-down Positions	9	2	2	2	3
Transient/Based Apron Area (s.y.)	82,000	1,000	1,000	1,000	1,500

Apron space at Eric Marcus Municipal Airport is in abundance. However, a significant portion of the apron is in very poor condition and would need to be reconstructed for regular use. Presently the apron has nine aircraft tie-down spaces which are used on an infrequent basis. Based on the airport's forecasted peak busy day itinerant operations, long term demand for apron parking positions is three, as shown in **Table 3D**. A planning criterion of 500 square yards per tiedown space was used to estimate future apron area demand. The existing apron will be adequate through the planning period.

SUPPORT FACILITIES

Various facilities that do not logically fall within classifications of airfield or general aviation facilities have been identified for inclusion in this Master Plan. Facility requirements have been identified for these remaining facilities:

- Airport Access
- Aviation Fuel Storage
- Perimeter Fencing

Airport Access

In airport facility planning, both on- and off-airport vehicle access is important. For the convenience of the user (and to provide maximum capacity), access to the airport should include (to the extent practical) connections to the major arterial roadways near the airport.

Access to Eric Marcus Municipal Airport is available from State Highway 85. State Route 85 is a two-lane highway that runs parallel to the airport's western property line border. Mead Road, a paved two-lane roadway, intersects with Highway 85 northwest of the airport and extends to an airport access road east of the airport's unpaved automobile parking lot. These roadways and the unpaved parking lot should be adequate to meet the airport's needs through the planning period.

Aviation Fuel Storage

The airport does not currently have fuel storage capabilities. With the current and forecast demand levels, fuel storage will not be needed at Eric Marcus Municipal Airport through the planning period.

Perimeter Fencing

Perimeter fencing is used at airports to primarily secure the aircraft operations area. The physical barrier of perimeter fencing provides the following functions:

- Gives notice of the legal boundary of the outermost limits of a facility or security-sensitive area.

- Assists in controlling and screening authorized entries into a secured area by deterring entry elsewhere along the boundary.

- Deters casual intruders from penetrating a secured area by presenting a barrier that requires an overt action to enter.

- Demonstrates the intent of an intruder by their overt action of gaining entry.

- Causes a delay to obtain access to a facility, thereby increasing the possibility of detection.

- Creates a psychological deterrent.

- Optimizes the use of security personnel while enhancing the capabilities for detection and apprehension of unauthorized individuals.

- Demonstrates a corporate concern for facility security.

- Provides a cost-effective method of protecting facilities.

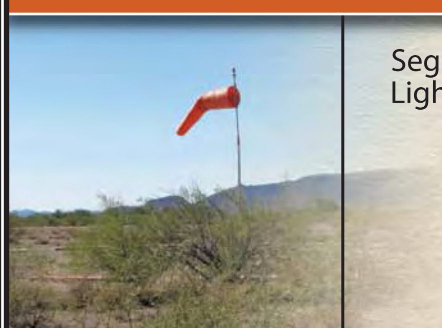
- Limits inadvertent access to the aircraft operations area by wildlife.

The airport perimeter is equipped with cattle fencing, which provides no added security for the airfield or hangar facilities. Six-foot chain-link fencing with three-strand barbed wire security fencing should be constructed on the airport's perimeter during the planning period. This will include manual access gates near the hangar facilities and at various locations around the airport's perimeter to control access to the airfield and hangar facilities.

SUMMARY

The intent of this chapter has been to outline the facilities required to meet aviation demands projected for Eric Marcus Municipal Airport through the long term planning horizon. A summary of these facility requirements is depicted on **Exhibit 3C**. Following the facility requirements determination, the next step is to develop alternatives that analyze the future direction of the airport. The remainder of the Master Plan will be devoted to outlining this direction, its schedule, and its costs.

08MP05-3C-12/7/09

	Available	Short Term Need	Long Term Need
RUNWAYS			
	**Runway 12-30** 3,800' x 60' ARC B-I Small Airplane Exclusive 12,000# SWL PAPI-2 Visual Marking	**Runway 12-30** 3,800' x 60' ARC B-I Small Airplane Exclusive 12,000# SWL PAPI-2 Visual Marking	**Runway 12-30** 3,800' x 60' ARC B-I Small Airplane Exclusive 12,000# SWL PAPI-2 Visual Marking
TAXIWAYS			
	Entrance/Exit Taxiways A1 & A2 35' Wide Delineators	Entrance/Exit Taxiways A1 & A2 35' Wide Delineators Airfield Signs	Entrance/Exit Taxiways A1 & A2 35' Wide Delineators Airfield Signs Taxiway Turnaround Runway 12 End
HANGARS AND APRON			
	Hangar Positions (9) Transient / Based Apron Positions (9) Apron Area (s.y.) 82,000	Hangar Positions (3) Transient / Based Apron Positions (2) Apron Area (s.y.) 1,000	Hangar Positions (5) Transient / Based Apron Positions (3) Apron Area (s.y.) 1,500
OTHER			
	Segmented Circle/ Lighted Wind Sock	Perimeter Fencing Segmented Circle/ Lighted Wind Sock	Perimeter Fencing Segmented Circle/ Lighted Wind Sock

KEY:

ARC - Airport Reference Code
PAPI - Precision Approach Path Indicator
SWL - Single Wheel Loading

PIMA COUNTY DOT

Exhibit 3C
FACILITY REQUIREMENTS

PIMA COUNTY DOT

CHAPTER FOUR

AIRPORT DEVELOPMENT ALTERNATIVES

Eric Marcus Municipal Airport

AJO, ARIZONA

AIRPORT MASTER PLAN

Chapter Four

Airport Development Alternatives

The future improvement and operation of Eric Marcus Municipal Airport will need to consider development potential and constraints at the airport. The purpose of this chapter is to consider future management alternatives of the airport and facility considerations needed to accommodate projected demand and meet the program requirements as previously defined in Chapter Three, Aviation Facility Requirements.

In this chapter, a number of alternatives are considered for the airport. The ultimate goal is to develop the underlying rationale which supports the final recommended master plan development concept. Through this process, an evaluation of the highest and best uses of airport property is made while considering local development goals, physical and environmental constraints, and appropriate federal airport design standards.

The alternatives presented in this chapter have been developed to meet the overall program objectives for the airport in a balanced manner. Through coordination with Pima County, the Planning Advisory Committee (PAC), and the public, the alternatives (or combination thereof) will be refined and modified as necessary to develop the recommended development concept. Therefore, the alternatives presented in this chapter can be considered a beginning point in the development of the recommended concept for the future development of Eric Marcus Municipal Airport.

REVIEW OF PREVIOUS PLANNING DOCUMENTS

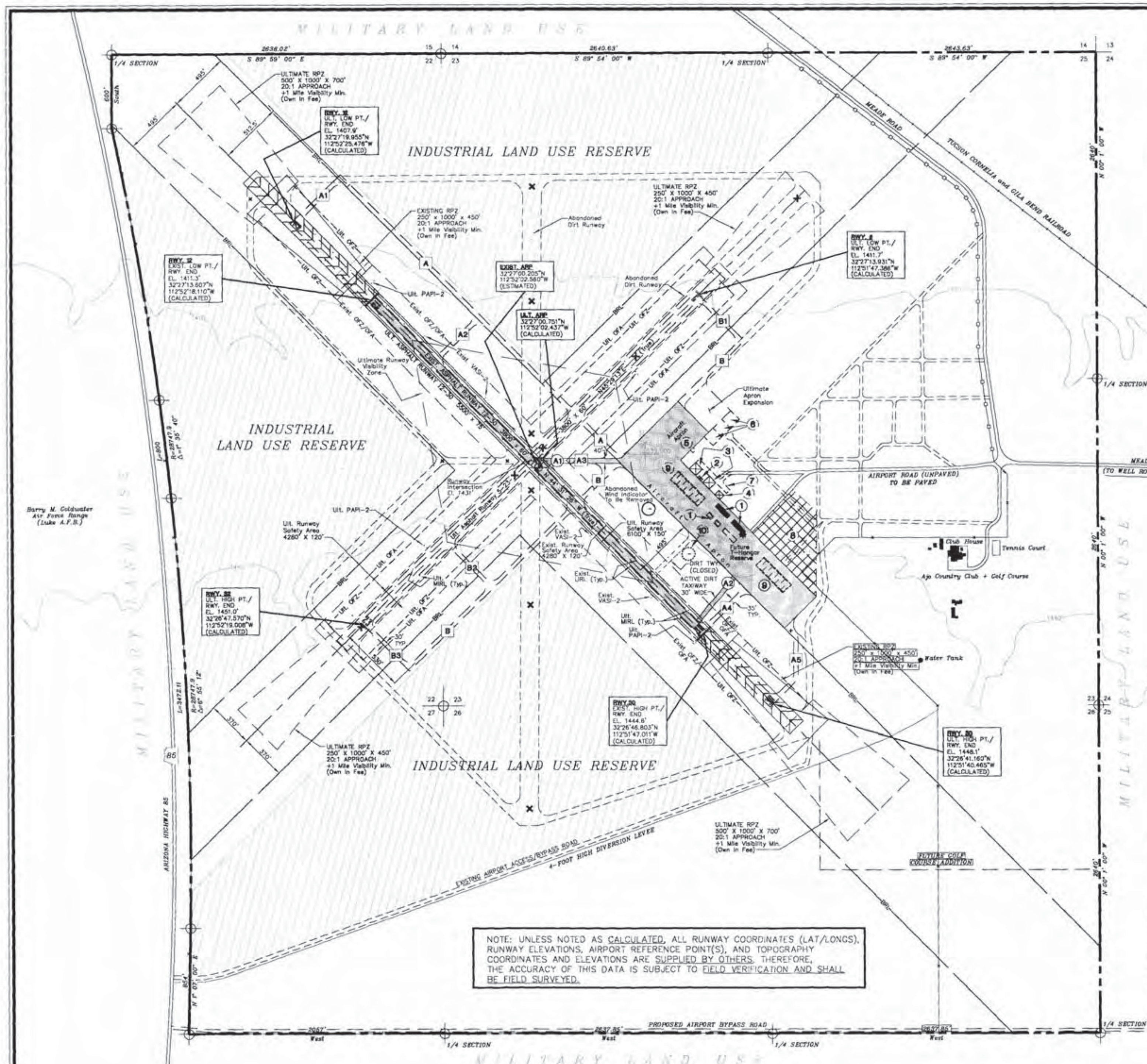
The most recent planning document prepared for Eric Marcus Municipal Airport was the *Ajo Municipal Airport Master Plan* completed in July 1999. The master plan study recommended the continued development of the existing airport into the long-term horizon.

Recommended airfield developments included extending Runway 12-30 to a full length of 5,500 feet to meet increased demand by ARC B-II aircraft. A full-length parallel taxiway was recommended to be constructed for Runway 12-30. The previous master plan also recommended reactivating Runway 5-23 to meet crosswind demands. Landside developments included the construction or rehabilitation of aprons, the construction of hangars and locations for fixed base operator (FBO) hangar development. Since the previous master plan was completed, Pima County has maintained the facility essentially "as-is" without making any of the recommended improvements. This is due to a decrease in activity and a lack of demand on the airfield. The airport layout plan (ALP) drawing shown on **Exhibit 4A** depicts the airside and landside improvements recommended in the previous master plan.

NON-DEVELOPMENT ALTERNATIVES

Non-development alternatives include closing the airport and transferring service to an existing airport, the transfer of airport ownership to an eligible entity for continued use as a public-use airport, transfer administrative responsibilities to a private entity, and the "No Action" or "Do Nothing" alternative. Several previous planning efforts have also considered these alternatives. All have resulted in the same conclusion: to continue to develop the existing airport site to meet the general aviation needs of the Ajo region.

Before these non-development alternatives can be considered, Pima County's obligations to the Federal government must be summarized. Pima County acquired what is now Eric Marcus Municipal Airport in 1949 through quitclaim deed from the U.S. government. Under this conveyance of property, Pima County is obligated to operate and maintain the entire airport in a safe and serviceable condition. Facilities to be maintained include all airport facilities shown on a current Airport Layout Plan (ALP). Pima County has also accepted funds from the FAA's Airport Improvement Program (AIP) for maintenance and improvement projects at Eric Marcus Municipal Airport. Thus, Pima County is obligated to maintain these facilities throughout the useful life of the facility but no longer than 20 years, except for land which is obligated for the life of the airport. If the airport sponsor fails to comply with its obligations, the FAA may declare a default and exercise the Government's option to revert the property. Pima County will need to comply with all guidelines set forth in FAA Order 5190.6A *Airports Compliance Handbook* when moving forward with the following non-development alternatives.



RUNWAY END COORDINATES (NAD 83)

		EXISTING	ULTIMATE
RUNWAY 12	Latitude	32°27'13.607" N	32°27'19.955" N
	Longitude	112°52'18.110" W	112°52'25.476" W
RUNWAY 30	Latitude	32°26'46.803" N	32°26'41.160" N
	Longitude	112°51'47.011" W	112°51'40.465" W
RUNWAY 5	Latitude	--	32°27'13.931" N
	Longitude	--	112°51'47.386" W
RUNWAY 23	Latitude	--	32°26'47.570" N
	Longitude	--	112°52'19.008" W

AIRPORT DATA

AJO MUNICIPAL AIRPORT (P01)

TOWN: AJO, ARIZONA (UNINCORPORATED) — COUNTY: PIMA COUNTY, ARIZONA (OWNER)

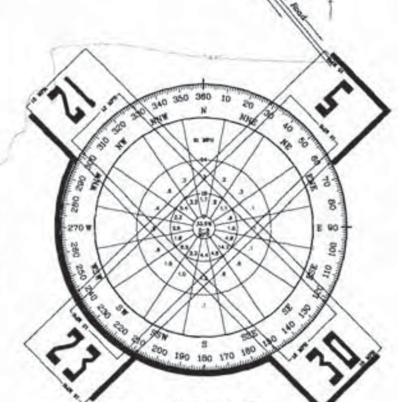
RANGE: R. 5 W. — TOWNSHIP: T. 11 S. — CIVIL TOWNSHIP: N/A

		EXISTING	ULTIMATE
NATIONAL PLAN of INTEGRATED AIRPORT SYSTEMS (NPIAS) SERVICE LEVEL		GENERAL AVIATION	SAME
DESIGN AIRCRAFT		CESSNA 421	BEECHCRAFT SUPER KING AIR
AIRPORT REFERENCE CODE (ARC): RUNWAY CATEGORY/DESIGN GROUP		B-I	B-II
AIRPORT ELEVATION (ABOVE MEAN SEA LEVEL)		1458' MSL	SAME
MEAN MAXIMUM TEMPERATURE OF HOTTEST MONTH		103.2°F (July)	SAME
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	Latitude	32°27'00.205" N	32°27'00.751" N
	Longitude	112°52'02.560" W	112°52'02.437" W
AIRPORT and TERMINAL NAVIGATIONAL AIDS		ROTATING BEACON VASI-2	SAME PAPI-2
GPS APPROACH		NO	YES

RUNWAY DATA

RUNWAY DATA	RUNWAY 12-30 EXISTING	RUNWAY 12-30 ULTIMATE	RUNWAY 5-23 EXISTING	RUNWAY 5-23 ULTIMATE
RUNWAY CATEGORY/AIRCRAFT DESIGN GROUP	B-I	B-II	N/A	B-I
RUNWAY AZIMUTH	314.5239	SAME		45.4869
RUNWAY BEARING	N44°31'26" W	SAME		N45°29'13" E
RUNWAY DIMENSIONS	3800' X 60'	5500' X 75'		3800' X 60'
MAXIMUM RUNWAY ELEVATION (above MSL)	1444.60'	1446.1'		1451.0'
WIND COVERAGE (in %)	12 MPH 94.90%/15 MPH 96.50%	SAME		12 MPH 96.65%/15 MPH 97.05%
APPROACH VISIBILITY MINIMUMS (ERE)	+1 MILE/+1 MILE	SAME/SAME		+1 MILE/+1 MILE
FAR PART 77 CATEGORY (ERE)	VISUAL/VISUAL	SAME/SAME		VISUAL/VISUAL
RUNWAY INSTRUMENTATION (ERE)	VISUAL/VISUAL	SAME/SAME		VISUAL
RUNWAY APPROACH SURFACES (ERE)	20:1/20:1	SAME/SAME		20:1/20:1
RUNWAY THRESHOLD DISPLACEMENT	NONE	SAME		NONE
RUNWAY STOPWAY	1400'/1065'[2]	NONE		NONE
RUNWAY SAFETY AREA (RSA)	4280' X 120'	6100' X 150'		4280' X 120'
RSA DISTANCE BEYOND EACH RUNWAY END	240'	300'		240'
RUNWAY OBJECT FREE AREA (OFA)	4280' X 250'	6100' X 500'		4280' X 250'
RUNWAY OBSTACLE FREE ZONE (OFZ)	4200' X 400'	5900' X 400'		4200' X 400'
TAKEOFF RUN AVAILABLE (TORA)	3800'/3800'	5500'/5500'		3800'/3800'
TAKEOFF DISTANCE AVAILABLE (TODA)	3800'/3800'	5500'/5500'		3800'/3800'
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	3800'/3800'	5500'/5500'		3800'/3800'
LANDING DISTANCE AVAILABLE (LDA)	3800'/3800'	5500'/5500'		3800'/3800'
RUNWAY PAVEMENT MATERIAL	ASPHALT	SAME		ASPHALT
PAVEMENT SURFACE TREATMENT	NONE	SAME		NONE
PAVEMENT STRENGTH (in thousand lbs.)[1]	12(S)	30 (D)		12.5(S)
RUNWAY EFFECTIVE GRADIENT (in %)	0.868	.731		1.03
RUNWAY LIGHTING	MIRL	SAME		MIRL
RUNWAY MARKING (ERE)	VISUAL/VISUAL	SAME		VISUAL/VISUAL
RUNWAY APPROACH LIGHTING	NONE	SAME		NONE
TAXIWAY PAVEMENT MATERIAL	ASPHALT AND DIRT[3]	ASPHALT		ASPHALT
TAXIWAY LIGHTING	NONE	MITL		MITL
TAXIWAY MARKING (PAVED TAXIWAY ONLY)	CENTERLINE/EDGE	CENTERLINE, EDGE		CENTERLINE, EDGE
NAVIGATIONAL AIDS	NONE --	GPS (RWY. 30) --		NONE --
VISUAL AIDS	VASI-2 (ERE) --	PAPI-2 (ERE) --		PAPI-2 (ERE) --

[1] Pavement strengths are expressed in Single(S) wheel loading capacities.
[2] Asphalt stopways at each end of Runway 12-30 are broken up and have brush growing on stopways.
[3] Midfield taxiway is asphalt, while the taxiway at the Runway 30 end is dirt.



WIND ROSE

WIND DATA

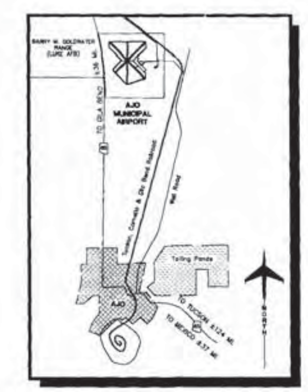
	12 MPH (10.5 Knots)	15 MPH (13 Knots)
Runway 12-30	94.90%	96.50%
Runway 5-23	96.65%	97.05%
Combined Coverage	99.44%	99.85%

SOURCE:
NOAA National Climatic Data Center
Asheville, N.C.

DATA STATION:
AJO ARMY AIR FIELD
Ajo, Arizona
Jan. 1942 - Jan. 1946

Number of Observations:
Unknown

Note: Wind data reflected in the above wind rose is the most current data available. The nearest National Climatic Data Center (NCDC) reporting station is Yuma, Arizona, located approximately 89 nautical miles west. A minimum one year onsite wind observation study may be necessary in order to verify or update this historic wind data for Ajo Municipal Airport.



VICINITY MAP
Not To Scale

LOCATION MAP
Not To Scale

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		BUILDING CONSTRUCTION
—BRL—		BUILDING RESTRICTION LINE (BRL)
		FACILITY CONSTRUCTION
		FENCING
VASI	PAPI	NAVIGATIONAL AID INSTALLATION
		RUNWAY EDGE LIGHTING (LIRL)
		RUNWAY THRESHOLD LIGHTS
34 35 / 3 2		SECTION CORNER
		SEGMENTED CIRCLE/WIND INDICATOR
—1080—		TOPOGRAPHIC CONTOURS (BY OTHERS)
X		CLOSED OR ABANDONED TAXIWAY/RUNWAY

BUILDINGS/FACILITIES

EXISTING	ULTIMATE	DESCRIPTION
(1)	(1)	T-HANGARS (4-UNIT)
--	(2)	TEMINAL BUILDING SITE
--	(3)	FBO/CONVENTIONAL HANGAR SITE
--	(4)	AIRCRAFT WASH RACK SITE
--	(5)	FUEL STORAGE SITE
--	(6)	CORPORATE PARCEL
--	(7)	AUTO PARKING
--	(8)	RECREATIONAL AREA ("FLY-IN CAMPGROUND")
--	(9)	AIRCRAFT TIE-DOWN AREA
--	(10)	SEGMENTED CIRCLE/LIGHT WIND INDICATOR

GENERAL NOTES:

1. The nearest public use airport is GILA BEND MUNICIPAL AIRPORT 35 nautical miles north.
2. This drawing is a composite based on aerial photography as flown on 5-11-1998, and the the previously FAA approved AIRPORT LAYOUT PLAN dated March 22, 1989 as well as additional drawings and information supplied by various government and military agencies.
3. Depiction of features and objects, including related elevations within the runway protection zones are depicted on the APPROACH PROFILES AND RUNWAY PROTECTION ZONES PLANS.
4. Details concerning terminal improvements are depicted on the TERMINAL AREA PLAN.
5. Building Restriction Lines (BRL) are established to provide Part 77 clearance for a 35-foot object at the BRL. The BRL may be reduced to the limits of the Runway Object Free Area and Runway Protection Zone.
6. Topographic contours are supplied by others, and were the only topographic data available at the time this ALP was created. Therefore, a field survey is recommended before beginning any new Airport construction.

TAXIWAY DESIGNATION LEGEND:

(A1) EXIST. TAXIWAY DESIGNATION

[A1] ULT. TAXIWAY DESIGNATION

DEVIATIONS FROM FAA AIRPORT DESIGN STANDARDS

DEVIATION DESCRIPTION	EFFECTED DESIGN STANDARD	STANDARD	EXISTING	PROPOSED DISPOSITION
—	—	—	—	—

FAA APPROVAL STAMP

Approved conditionally JUL 29 1999
Subject to comments contained in our letter dated: JUL 29 1999
FEDERAL AVIATION ADMINISTRATION
Western-Pacific Region
By [signature]
Supervisor, Standards Section

SUBMITTED BY: Coffman Associates — ON THE DATE OF:
FOR APPROVAL BY:
PIMA COUNTY, ARIZONA
APPROVED BY: [signature] — ON THE DATE OF: 7/2/99
Becky Sayre Pearson, P.E., R.L.S.
Interim Airport Manager

No.	REVISIONS	DATE	BY	APP'D.
2	UPDATE AIRPORT MASTER PLAN			
1	PREVIOUSLY FAA APPROVED ALP	1/31/92	JMH	FAA

"THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS DOCUMENT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH THE APPROPRIATE PUBLIC LAWS."

AJO MUNICIPAL AIRPORT

AIRPORT LAYOUT PLAN

AJO, ARIZONA

PLANNED BY: W.E. Holland/James M. Harris, P.E.
DETAILED BY: W.E. Holland
APPROVED BY: James M. Harris, P.E.
June 28, 1999 — SHEET 1 OF 6

Coffman Associates
Airport Consultants

Exhibit 4A
1999 AJO MUNICIPAL AIRPORT ALP

AIRPORT CLOSURE

To close the airport, the airport sponsor would need to request the release of surplus airport property from the FAA. According to 14 C.F.R. Part 155 *Release of Airport Property from Surplus Property Disposal Restrictions*, "a request for release must be submitted to the District Airport Engineer in whose district the airport is located. Each request for a release must include the following information, if applicable and available:

1. Identification of the instruments of disposal to which the property concerned is subject.

2. A description of the property concerned.

3. The condition of the property concerned.

4. The purpose for which the property was transferred, such as for use as a part of, or in connection with, operating the airport or for producing revenues from non-aviation business.

5. The kind of release requested.

6. The purpose of the release.

7. A statement of the circumstances justifying the release on the basis set forth in 14 C.F.R. Part 155.3(a) (1) or (2) with supporting documents.

8. Maps, photographs, plans, or similar material of the airport and the property concerned that are appropriate to determining whether the release is justified under 14 C.F.R. Part 155.9.

9. The proposed use or disposition of the property, including the terms and conditions of any proposed sale or lease and the status of negotiations therefore.

10. If the release would allow sale of any part of the property, a certified copy of a resolution or ordinance of the governing body of the public agency that owns the airport obligating itself to use the proceeds of the sale exclusively for developing, improving, operating, or maintaining a public airport.

11. A suggested letter or other instrument of release that would meet the requirements of State and local law for the release requested.

12. The sponsor's environmental assessment prepared in conformance with Appendix 6 of FAA Order 1050.1C, *Policies and Procedures for Considering Environmental Impacts*, and FAA Order 5050.4, *Airport Environmental Handbook*, if an assessment is required by Order 5050.4."

If the FAA's Associate Administrator for Airports concurs with the airport sponsor's request to release an entire airport, the FAA would declare the airport facility and land to be surplus property and release the airport sponsor from its obligations and agreements. According to FAA Order 5190.6A *Airports Compliance Handbook*, "a total release, permitting the sale and disposal of real property acquired for airport purposes under the Surplus Property Act, shall not be granted unless it can clearly be shown that the sale of such property will benefit civil aviation." The following guidelines are provided:

1. "If any such property is no longer needed to directly support an airport purpose or activity it may be released for sale or disposal upon a demonstration that such disposal will produce an equal or greater benefit (to the airport or another public airport) than the continued retention of the land."

2. "In cases where an airport has a large amount of revenue production property that has remained undeveloped due to the lack of demand for this kind of property and where there appears to be no prospect for future development, FAA should fully evaluate the merits of either reversion or complete release for sale."

The closure of Eric Marcus Municipal Airport would require existing operators to either transfer to another airport or discontinue all flying activity. The closest general aviation airport with similar facilities is the Gila Bend Municipal Airport (E63) in Gila Bend, Arizona, located approximately 31 nautical miles north of Eric Marcus Municipal Airport. The low level of activity makes transferring based aircraft and operations to Gila Bend Municipal Airport a feasible alternative to be considered.

TRANSFER OWNERSHIP OBLIGATIONS

Pima County has the alternative to transfer ownership obligations to another eligible entity. The entity would be responsible for the maintenance and continued operation of the airport as a public-use airport. According to the FAA Order 5190.6A *Airports Compliance Handbook*, Pima County would be able to transfer airport property to another eligible recipient under three conditions:

1. "Grant agreements provide that the owner/operator will not enter into any transaction which would deprive it of any of the rights and powers necessary to perform all of the conditions in the agreement unless the obligation to perform all such conditions is assumed by another recipient. In the case of grant agreements, the recipient must specifically be found eligible by the FAA.

2. Surplus property instruments of disposal permit conveyance of the property but only to another transferee who assumes all of the obligations imposed on the original grantee. The airport owner must obtain FAA approval of all such transfers of obligations.

3. Deeds of Conveyance under Section 16, 23, or 516 are made to

public agencies only, but do not specifically restrict reassignments or retransfers of the property conveyed. The original donor (Federal agency) may reassign or retransfer the property to another public agency for continued airport use. The FAA should assume the lead in coordination between the affected parties."

Another option for airport sponsors wishing to release conveyed airport property under the Surplus Property Act of 1944 is to transfer the property to a Federal agency. This type of conveyance would not place the airport owner in default of any obligation to the United States. The FAA would be responsible, in this case, to make any objections to the conveyance known to the airport sponsor and the Federal agency involved so that a satisfactory solution to the objection can be obtained.

A local airport authority could be established to take over ownership of Eric Marcus Municipal Airport. Airport authorities are independent entities charged with the operation and oversight of an airport or a group of airports. Authorities are often governed by a board of directors who are appointed to lead the authority by a governmental official. Authorities are usually created to own and manage larger commercial service airports, but there are some small general aviation airports operating under an authority. In Arizona, airport authorities must be not-for-profit organizations.

In the central Arizona region, Phoenix-Mesa Gateway Airport is owned and operated by the Williams Gateway Airport Authority. The authority is a Joint Powers Airport Authority comprised of the Cities of Mesa and Phoenix, the Towns of Queen Creek and Gilbert, and the Gila River Indian Community. In southern Arizona, the Tucson Airport Authority operates Tucson International Airport and the general aviation airport, Ryan Airfield.

TRANSFER ADMINISTRATIVE RESPONSIBILITIES

Some general aviation airport owners will enter into a lease management arrangement with a private entity to manage the daily operations. This private entity could be a professional airport operations company or simply the local airport fixed base operator (FBO). This arrangement benefits the airport owner because they do not have to employ dedicated airport management.

In this management arrangement, the airport owner will be responsible for all airport development and grant matching funds. This includes determining project priorities, applying for financial grants from the FAA, and providing matching funding.

An example of this management arrangement is Addison Airport in the Dallas, Texas area. The Town contracts with a professional airport operator who manages daily activity including building and land leasing for the Town. This is a for-profit company that benefits from efficient management of the airport.

Another form of airport management is a master lease arrangement. In this scenario, the airport sponsor (Pima County) would contract with a separate entity, often a private company or a separate airport authority, for operation of the airport. The leasing organization is responsible for all airport operations including leasing, capital project priority development, and grant matching. Grant applications are made through the airport sponsor.

Examples of this airport management arrangement include Laughlin/Bullhead International Airport in Bullhead City, Arizona, and Kingman Airport in Kingman, Arizona. Both of these airports are owned (sponsored) by their respective cities and counties but are operated under an airport authority with full responsibility for the airport, including project prioritization and grant matching.

NO ACTION

In analyzing and comparing the advantages and disadvantages of various development alternatives, it is important to consider the consequences of no future development at Eric Marcus Municipal Airport. The "no-build" or "Do Nothing" alternative essentially considers keeping the airport in its present condition and not providing for any type of expansion or improvement to the existing facilities (other than general airfield and pavement maintenance projects).

The "no-build" alternative has essentially been adopted by Pima County in recent history due to a decline in activity and demand at the airport. Population and economic growth in the Ajo region declined after the closure of the Phelps Dodge open pit mine in 1985. Since that time, socioeconomic indicators have reflected minimal economic growth in the region. Interviews with Pima County and Pima County Association of Governments (PAG) staff have indicated no future plans in the Ajo region that might generate future economic growth. While aviation activity in Pima County is expected to increase in the future, the vast majority of this activity will occur in the eastern portion of the county with little impact on Eric Marcus Municipal Airport.

The 2008 Arizona State Aviation System Plan (SASP) has identified Eric Marcus Municipal Airport as a General Aviation – Rural (GA-Rural) airport and established facility needs for this airport classification. Eric Marcus currently meets these facility needs. It was determined in the Facility Requirements chapter of this master plan that minimal improvements to Eric Marcus Municipal Airport facilities are needed over the course of the planning period to meet long term demand. Airfield facilities are recommended to be designed to meet airport reference code (ARC) B-I (small airplane exclusive) design standards. The critical aircraft of this design code is the Beechcraft King Air 100. These design standards would also be acceptable for regular use by some smaller business jet aircraft and new very light jet (VLJ) aircraft types that have entered the active general aviation fleet recently.

By owning and operating Eric Marcus Municipal Airport, Pima County is charged with the responsibility of maintaining aviation facilities necessary to accommodate aviation demand and to minimize operational constraints. Maintaining the existing core airport facilities will accommodate aviation demand through the planning period of this master plan and will meet the long-term facility needs identified in the Arizona SASP.

AIRPORT DEVELOPMENT CONSIDERATIONS

Should Eric Marcus Municipal Airport continue to be operated and maintained by Pima County, several minor airport developments should be considered to improve overall safety and security of the airport. The purpose of this section is to identify and evaluate these development considerations at Eric Marcus Municipal Airport to meet program requirements set forth in Chapter Three.

The issues to be considered in this analysis are depicted on **Exhibit 4B**. These issues are the result of the findings of the Aviation Demand Forecasts and Aviation Facility Requirements evaluations, and they include input from the PAC and Pima County staff.

RUNWAY 12 TAXIWAY TURNAROUND

Aircraft operating on Runway 12 are currently required to back-taxi on the runway and make a 180-degree turn on the runway to depart to the southeast. Constructing a taxiway turnaround at the Runway 12 end would improve the safety of operations, making it easier for aircraft to turn around and reduce the potential for runway incursions. This taxiway turnaround is planned to a pavement width of 35 feet to match the existing taxiway system.

AIRFIELD SIGNAGE

Airfield signage gives pilots an indication of their location on the airport. These signs are typically located near intersections of the runway and taxiways so that pilots are aware of upcoming intersections. This improves the overall safety of the airfield. It is recommended that airfield signage be added at Eric Marcus Municipal Airport where identified on **Exhibit 4B**.

AIRCRAFT PARKING APRON

Aircraft parking needs were examined in the Facility Requirements chapter of this master plan. Eric Marcus Municipal Airport has apron space totaling approximately 82,000 square yards; however, only a small portion is in useable condition. Over the course of the planning period, Pima County will need to maintain approximately 1,500 square yards of apron to meet aircraft parking space demands. This apron space is identified on **Exhibit 4B**.

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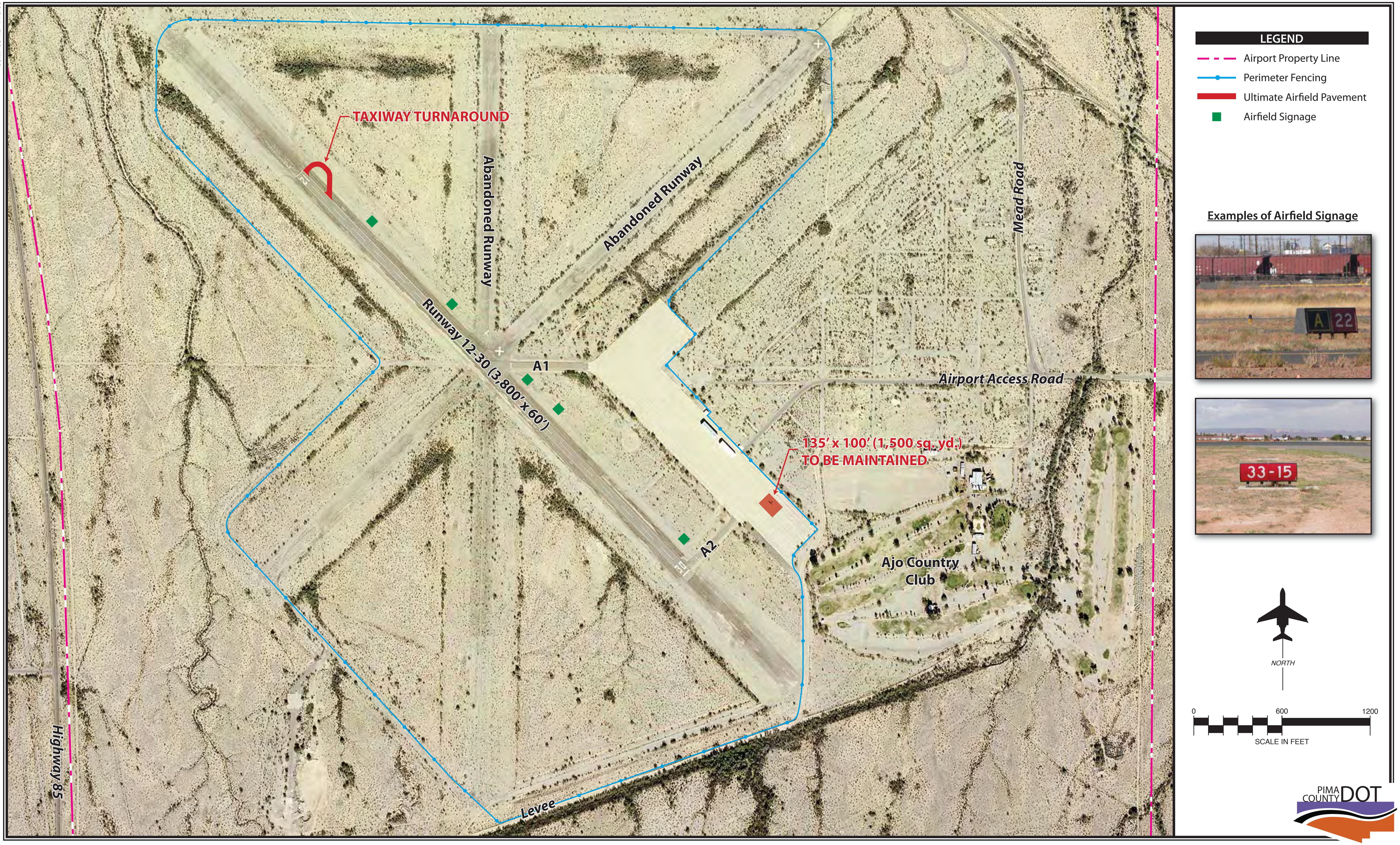

Exhibit 4B
AIRFIELD DEVELOPMENT CONSIDERATIONS

PERIMETER FENCING

The airport perimeter is currently equipped with cattle fencing, which provides no added security for the airfield or hangar facilities. Six-foot chain-link fencing with three-strand barbed wire security fencing should be considered to be constructed at the airport. Perimeter fencing would provide a physical barrier to prevent airport facilities from being accessed by unauthorized individuals. Secured manual access gates should be provided at various locations in the fenceline to allow access for maintenance and emergency purposes. An access gate near the hangar facilities would also be needed. The proposed fenceline is depicted on **Exhibit 4B**.

SUMMARY

The process utilized in assessing airport development alternatives involved a detailed analysis of possible airport management considerations. These management considerations included closing Eric Marcus Municipal airport and transferring aviation services to an already-existing airport, transferring ownership of the airport to an eligible entity, transferring administrative responsibilities to a private entity, and maintaining the airport "as-is" with a no-build alternative. Before any decisions can be made on airfield development alternatives, Pima County will need to determine the management direction it wants to take with Eric Marcus Municipal Airport into the future.

Depending upon Pima County's management decision, several airport improvement considerations were presented. These considerations, while minor, will improve overall safety and security of the airport should it continue to operate into the future. The next phase of the Master Plan will define a reasonable phasing program to implement a preferred master plan development concept over time.

Upon review of this chapter by Pima County, the PAC, and the public, a final Master Plan concept can be formed. The resultant plan will represent an airport facility that fulfills safety and design standards, and a landside complex that can be developed as demand dictates.

The remaining chapters will be dedicated to refining these basic alternatives into a final development concept with recommendations to ensure proper implementation and timing for a demand-based program.

Chapter Five

Airport Plans

ERIC MARCUS MUNICIPAL AIRPORT

AJO, ARIZONA

AIRPORT MASTER PLAN

Chapter Five

AIRPORT PLANS

The planning process for the Eric Marcus Municipal Airport Master Plan Update has included several analytic efforts in the previous chapters intended to project potential aviation demand, establish airside and landside facility needs, evaluate options for the future management of the airport, and recommend improvements to enhance airport safety and security. A plan for the use of Eric Marcus Municipal Airport has evolved considering input from County staff as well as the members of a Planning Advisory Committee (PAC). The PAC is made up of local stakeholders as well as members from state and federal government agencies and aviation advocacy groups. The purpose of this chapter is to describe, in narrative and graphic form, the plan for the future use of Eric Marcus Municipal Airport.

AIRPORT MANAGEMENT

Due to the low volume of activity at Eric Marcus Municipal Airport and minimal growth anticipated over the course of the planning period of this master plan, several non-development alternatives were examined in Chapter Four. These non-development alternatives included transferring ownership obligations, a "no action" alternative, and airport closure. The direction of the management of Eric Marcus Municipal Airport weighs heavily on existing obligations to the Federal government as well as future roles the airport may play in the regional airport system.

SPONSOR OBLIGATIONS

What is now Eric Marcus Municipal Airport was acquired by Pima County on August 4th, 1949 through quitclaim deed from the United States government as a part of the Federal Property and Administrative Services Act of 1949 and Surplus Property Act of 1944. This conveyance of property obligated Pima County to maintain the entire airport in a safe and serviceable condition open to public use.

In addition, Pima County has accepted funds from the FAA's Airport Improvement Program (AIP) and the state's Grant Program for the maintenance and improvement of facilities at Eric Marcus Municipal Airport. These AIP and state grant funds come with assurances obligating the airport sponsor to operate and maintain its facilities throughout the useful life of the facility, but no longer than 20 years. Records show that the most recent AIP and state grant accepted by Pima County for use at Eric Marcus Municipal Airport occurred in 2004 for the rehabilitation of airfield surfaces, installation of apron lighting, and access road improvements. Pima County is therefore obligated to maintain the airport and its facilities at least through 2024.

AIRPORT SYSTEM ROLE

The airport sponsor must take into consideration the airport's role in the regional and statewide aviation system prior to taking action that would affect the airport's future public usefulness. Pima County currently serves a few based aircraft and experiences low operational activity. Despite the limited activity level, Eric Marcus Municipal Airport is viewed as an important airport in the regional airport system. The 2008 Arizona State Aviation System Plan (SASP) identified Eric Marcus Municipal Airport as a General Aviation – Rural airport. As such, the SASP recommends maintaining the airport's existing facilities to accommodate projected demand which includes primarily smaller business, recreational, and personal flying.

The nearest public-use airport to the local Ajo area is the Gila Bend Municipal Airport, which is located 31 nautical miles north of Ajo. Local airport users would be required to drive approximately 50 minutes to utilize the Gila Bend Municipal Airport. This is longer than the standards established by the FAA and the Arizona Department of Transportation for their systems of airports. In addition, due to its relative isolation, Eric Marcus Municipal Airport is viewed as a valuable resource for law enforcement and emergency medical services for the local and regional area.

AIRPORT MANAGEMENT SUMMARY

Pima County will continue to be obligated to maintain Eric Marcus Municipal Airport through 2024 due to its AIP and state grant obligations. Any costs associated with the regular maintenance of the airport facilities would need to be incurred by Pima

County if the decision was made to close the airport after all grant obligations had been satisfied. If additional grants are received in the future, Pima County's obligation to maintain the airport facilities will be extended.

Pima County does have the option to discontinue regular maintenance of the airport and close it to public-use at any time. If this were to occur, the federal government could reclaim the airport property from the county and the FAA and the State of Arizona could require Pima County to repay any grant monies that have been expended for airport improvements. This option could ultimately be more costly to the county than simply maintaining the airport as-is until the grant obligations have expired. This course of action would also eliminate the airport as a useful resource for emergency medical services and law enforcement agencies.

Upon satisfying the grant obligations, Pima County should reassess the airport's facilities, system role, and the direction it may take with its management. If Pima County is able to identify another entity wishing to take on the responsibility of maintenance and continued operation of the airport as a public-use airport, a transfer of ownership obligations could take place. This entity would be subject to an FAA approval process, which will ensure that the entity would be capable of meeting AIP grant obligations. If this course of action is pursued, Pima County would need to comply with all conditions set forth in FAA Order 5190.6A *Airports Compliance Handbook*, as well as coordinate with the Arizona Department of Transportation (ADOT) and the FAA.

AIRFIELD PLAN

Existing airfield facilities (runway, taxiways) at Eric Marcus Municipal Airport generally meet long range facility requirements as described in Chapter Three. These existing facilities also meet facility recommendations set forth in the Arizona SASP for General Aviation – Rural airports. Therefore, recommended airfield developments are limited to projects designed to maintain and enhance the overall safety and security of the airport. These improvements include the construction of perimeter fencing, a full-length parallel taxiway, and the installation of airfield signage. **Exhibit 5A** graphically depicts the recommended airfield improvements. The following text summarizes the elements of the airfield plan.

AIRFIELD DESIGN STANDARDS

The FAA has established a variety of design criterion to define the physical dimensions of runways and taxiways and the surrounding imaginary surfaces that protect the safe operation of aircraft at the airport. FAA design standards also define the separation criteria for the placement of landside facilities. As discussed previously in Chapter Three, FAA design criteria are a function of the critical design aircraft's (the most demanding aircraft or "family" of aircraft which will conduct 500 or more take-offs and landings per year at the airport) wingspan

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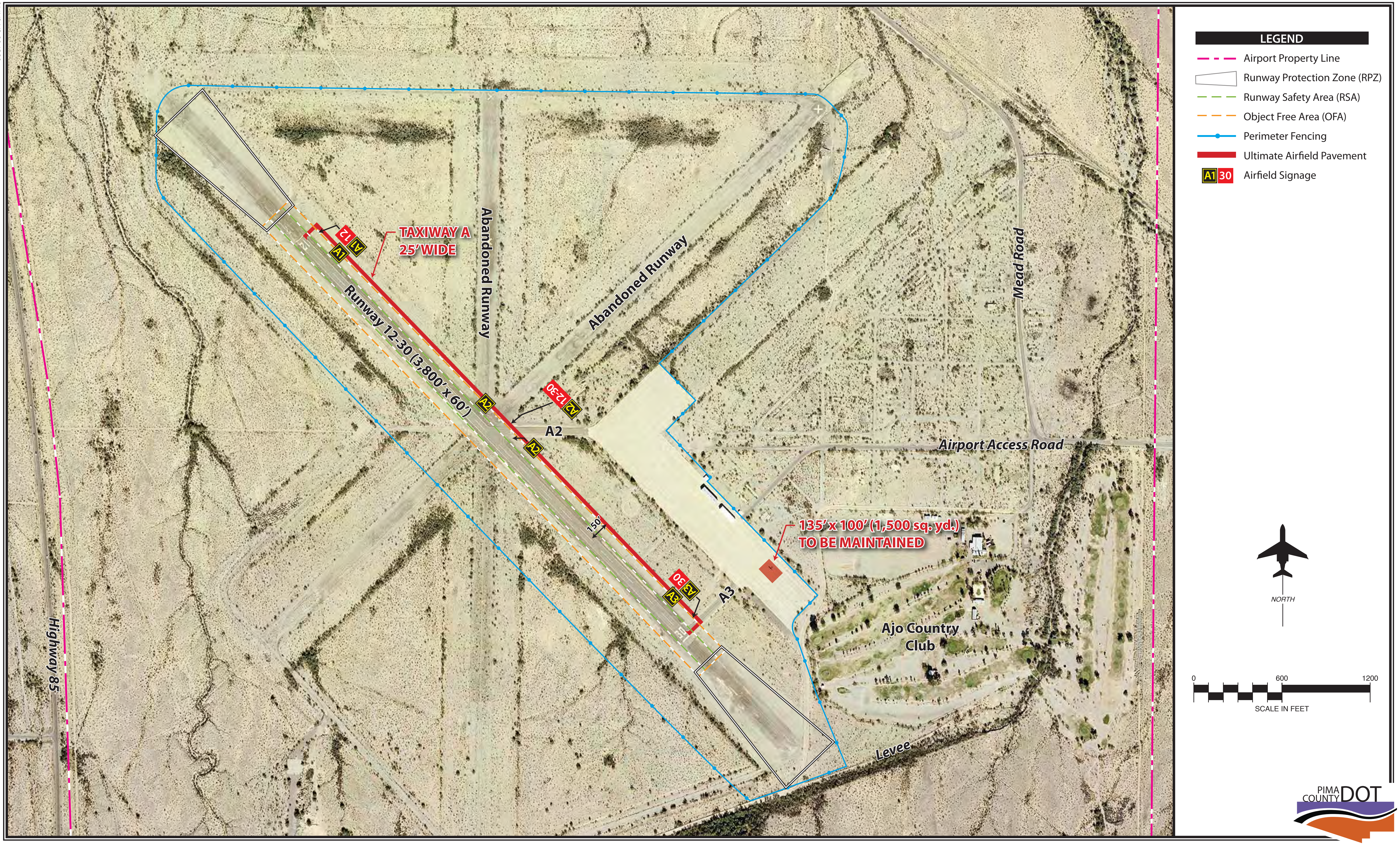


Exhibit 5A
RECOMMENDED AIRFIELD DEVELOPMENT

and approach speed, and in some cases, the runway approach visibility minimums. The FAA has established the Airport Reference Code (ARC) to relate these factors to airfield design standards.

Eric Marcus Municipal Airport is currently used by single-engine piston general aviation aircraft weighing less than 12,500 pounds such as a Cessna 172. The existing airfield is designed to ARC B-I small airplane standards, which meets existing aircraft demands. It was determined in Chapter Three that ARC B-I small airplane exclusive design standards will be adequate through the long range planning horizon of this master plan. **Table 5A** summarizes the ARC B-I small airplane exclusive airfield safety and facility dimensions to be maintained at Eric Marcus Municipal Airport.

TABLE 5A
Airfield Design Standards
Eric Marcus Municipal Airport

	Runway 12-30	
Airport Reference Code (ARC)	**Available (ft.)**	**B-I Small Airplane Exclusive (ft.)**
Runway Width	60	60
Runway Safety Area		
Width	120	120
Length Beyond End	240	240
Runway Object Free Area		
Width	250	250
Length Beyond End	240	240
Runway Centerline to:		
Holding Position	125	125
Parallel Taxiway	N/A	150
Taxiway Width	35	25
Taxiway Centerline to:		
Fixed or Moveable Object	44.5	44.5
Parallel Taxilane	N/A	69
Taxilane Centerline to:		
Fixed or Moveable Object	39.5	39.5
Parallel Taxilane	N/A	64
Runway Protection Zones - One mile or Greater Visibility		
Inner Width	250	250
Length	1,000	1,000
Outer Width	450	450

N/A – Not Applicable.

RECOMMENDED AIRFIELD DEVELOPMENT

The components of the planned airfield development are summarized below. These recommended projects are intended to maintain or enhance the overall safety and security of airport operations and facilities. Along with the project description, a cost estimate has been prepared for each project. The cost estimates presented in this chapter include an allowance for design, construction inspection, and contingencies related to the project. Capital costs presented here should be viewed only as estimates subject to further refinement during design. Nevertheless, these estimates are considered sufficiently accurate for planning purposes. Cost estimates for each project are listed in current (2009) dollars.

- **Construct Parallel Taxiway**

Aircraft operating on Runway 12 are currently required to back-taxi on the runway to depart to the southeast. Previously, a taxiway turnaround was considered for the end of Runway 12. However, based on a recommendation by the FAA, a full-length parallel taxiway is planned to eliminate the need to back taxi on the active runway. A parallel taxiway will make operations safer, reducing the potential for runway incursions. The parallel taxiway is planned to a pavement width of 25 feet to meet ARC B-I (small airplane exclusive) design standards. The estimated construction cost of the parallel taxiway is $850,000.

- **Airfield Signage**

The installation of airfield signage will improve operational safety by providing pilots a better sense of their location on the airfield. Recommended signage includes holding position signs at the intersection of taxiways and runways as shown on **Exhibit 5A**. These signs help identify the hold positions on taxiways, which aircraft can proceed through only after appropriate precautions are taken. Lighted airfield signage should be installed at both runway/taxiway intersections at Eric Marcus Municipal Airport. The installation of airfield signage has an estimated cost of $39,062.

- **Perimeter Fencing**

A project to construct six-foot chain-link security fencing with three-strand barbed wire is proposed to provide added security for the airfield and hangar facilities. Perimeter fencing provides a physical barrier as well as a psychological deterrent to prevent airport facilities from being accessed by unauthorized individuals. Secured access gates should be provided near the hangar facilities and at various locations along the perimeter to allow access for emergency service vehicles and maintenance personnel. The alignment for the perimeter fencing is shown on **Exhibit 5A**. The installation of this perimeter fencing is estimated to cost $862,655.

- **Regular Facility & Pavement Maintenance**

Even if the airport sponsor decides to forgo further development projects at Eric Marcus Municipal Airport, it will still be responsible for the regular maintenance and upkeep of the airport facilities and pavements, including the lighting systems, navigational aids, entrance roadways, and utilities. On an annual basis, Pima County estimates a total budget of $7,000 for labor costs to maintain the airport. This includes the replacement of airfield lighting bulbs, weed management, and various other maintenance expenditures. This funding level should be maintained so that regular maintenance can be continued.

Over time, due to weathering and regular use, runway, taxiway, and apron pavement will need to be repaired. Regular pavement maintenance projects could potentially include joint seal repair of the apron and crack seal and seal coating of the runway and taxiways. It was recommended in Chapter Three that at least 1,500 square yards of apron be maintained to provide adequate parking spaces for itinerant aircraft. The cost estimate to provide joint seal repair to 1,500 square yards of apron and taxilane leading to the parking position area is approximately $25,000. Crack sealing and seal coating the runway and taxiways is estimated to cost $175,000. However, if projects to maintain and/or repair airport pavements are not undertaken early on, maintenance costs increase dramatically with the potential of needing to reconstruct pavements that have fallen into disrepair. To be eligible for pavement reconstruction grants, Pima County must conduct proper pavement maintenance projects.

CAPITAL IMPROVEMENTS FUNDING

If Pima County chooses to seek funding for the recommended capital improvement projects and pavement maintenance, it can be acquired from varying sources. Capital improvement funding is available through various grants-in-aid programs at both the federal and state levels. If the airport sponsor chooses to receive federal funding aid for airport improvement projects, Pima County will be required to renew its obligation to maintain the airport and its facilities for a period of 20 years. An alternative to grants-in-aid programs is to fund projects locally, taking on the full cost burden. The following discussion outlines the key sources for capital improvement funding.

FEDERAL GRANTS

The United States Congress has long recognized the need to develop and maintain a system of aviation facilities across the nation for the purpose of national defense and promotion of interstate commerce. Various grants-in-aid programs to public airports have been established over the years for this purpose. The most recent legislation is the *Airport Improvement Program* (AIP) of 1982. The AIP has been reauthorized several times, with the most recent legislation enacted in 2003 and entitled the *Vision 100 – Century of Aviation Reauthorization Act.*

Fiscal year 2007 was the last year of the four-year program. That bill presented similar funding levels to the previous reauthorization – *AIR-21*. Funding was authorized at $3.7 billion in 2007. *Vision 100* expired in September 2007, and since this time, Congress has not passed reauthorization legislation. However, Congress passed the FAA *Extension Act of 2008, Part II*, which is a continuation of funds through March 6, 2009. Funds available from October 1, 2008 to March 6, 2009 totaled $1.5 billion. On

March 30th, 2009, the President signed another bill extending the AIP program through the end of September 2009. Funds made available by this bill total $3.5 billion.

The source for AIP funds is the Aviation Trust Fund. The Aviation Trust Fund 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 the operation of the FAA. It is funded by user fees, taxes on airline tickets, aviation fuel, and various aircraft parts. Funds are distributed each year by the FAA from appropriations by Congress. A portion of the annual distribution is to primary commercial service airports based upon enplanement levels. General aviation airports such as Eric Marcus Municipal Airport, however, also received entitlements under the last reauthorization in the amount of $150,000 annually. After all specific funding mechanisms are distributed; the remaining AIP funds are disbursed by the FAA, based upon the priority of the project for which they have requested federal assistance through discretionary apportionments. A national priority system is used to evaluate and rank each airport project. Those projects with the highest priority are given preference in funding.

Under the AIP program, examples of eligible development projects include the airfield, aprons, access roads, and occasionally hangars. Improvements such as fueling facilities and utilities (with the exception of water supply for fire prevention) are not typically eligible for AIP funds.

Under *Vision 100*, Eric Marcus Municipal Airport has been eligible for 95 percent funding assistance from AIP grants, as opposed to the previous *AIR-21* level of 90 percent. While similar programs have been in place for over 50 years, it will be up to Congress to either extend or draft new legislation authorizing and appropriating future federal funding.

STATE AID TO AIRPORTS

In support of the state airport system, the State of Arizona also participates in airport improvement projects. The source for state airport improvement funds is the Arizona Aviation Fund. Taxes levied by the state on aviation fuel, flight property, aircraft registration tax, and registration fees (as well as interest on these funds) are deposited in the Arizona Aviation Fund. The state transportation board (STB) establishes the policies for distribution of these state funds. To ensure proper project planning and eligibility of state funded projects, the STB requires airports to submit a five-year airport capital improvement program (ACIP). The ACIP is reviewed and approved annually by the STB so that funds are allocated appropriately to maintain safe and orderly development of the Arizona airport system. Eric Marcus Municipal Airport's current ACIP plan is shown in **Table 5B**. The projects listed in the ACIP assume state and federal funding will be sought. Grant funds for the listed projects have not yet been acquired by Pima County.

TABLE 5B Current Arizona Airport Capital Improvement Program Eric Marcus Municipal Airport					
Project Year	Project Description	Total Project	Federal Share	State Share	Local Share
2010	Crack seal repair Taxiway A-3 (approx. 24,000 s.f.)	$65,000	$61,750	$1,625	$1,625
2011	Crack seal and seal coat Runway (approx. 228,000 s.f.)	$250,000	$237,500	$6,250	$6,250
2012	Re-paint non-precision Rwy markings, add fixed distance markers.	$25,000	$0	$22,500	$2,500
2013	Replace eight Rwy threshold lights.	$20,000	$0	$18,000	$2,000
Total		$360,000	$299,250	$48,375	$12,375

Under the State of Arizona grant program, an airport can receive funding for one-half (2.5 percent) of the local share of projects receiving federal AIP funding. The state also provides 90 percent funding for projects which are typically not eligible for federal AIP funding or have not received federal funding. Due to the current economic crisis and Arizona State budget issues, the availability of airport capital improvement funds is limited and will likely remain limited over the next few years.

State Airport Loan Program

The Arizona Department of Transportation - Aeronautics Division (ADOT) Airport Loan Program was established to enhance the utilization of state funds and provide a flexible funding mechanism to assist airports in funding improvement projects. Eligible projects include runway, taxiway, and apron improvements; land acquisition; planning studies; and the preparation of plans and specifications for airport construction projects; as well as revenue-generating improvements such as hangars and fuel storage facilities. Projects which are not currently eligible for the State Airport Loan Program are considered if the project would enhance the airport's ability to be financially self-sufficient.

There are two ways in which the loan funds can be used: Matching Funds or Revenue Generating Projects. The Matching Funds are provided to meet the local matching fund requirement for securing federal airport improvement grants or other federal or state grants. The Revenue Generating Projects' funds are provided for airport-related construction projects that are not eligible for funding under another program.

Pavement Maintenance Program

The airport system in Arizona is a multi-million dollar investment of public and private funds that must be protected and preserved. State aviation fund dollars are limited and the State Transportation Board recognizes the need to protect and extend to the maximum amount the useful life of the airport system's pavement. This program, the Arizona Pavement Preservation Program (APPP), is established to assist in the preservation of the Arizona airport system infrastructure.

Public Law 103-305 requires that airports requesting federal AIP funding for pavement rehabilitation or reconstruction have an effective pavement maintenance management system. To this end, ADOT-Aeronautics has completed and is maintaining an Airport Pavement Management System (APMS) which, coupled with monthly pavement evaluations by the airport sponsors, fulfills this requirement.

The Arizona Airport Pavement Management System uses the Army Corps of Engineers' "Micropaver" program as a basis for generating a Five-Year Airport Pavement Preservation Program (APPP). The APMS consists of visual inspections of all airport pavements. Evaluations are made of the types and severities observed and entered into a computer program database. Pavement Condition Index (PCI) values are determined through the visual assessment of pavement condition in accordance with the most recent FAA Advisory Circular 150/5380-6, and range from 0 (failed) to 100 (excellent). Every three years, a complete database update with new visual observations is conducted. Individual airport reports from the update are shared with all participating system airports. The Aeronautics Division ensures that the APMS database is kept current, in compliance with FAA requirements.

Every year, the Aeronautics Division, utilizing the APMS, will identify airport pavement maintenance projects eligible for funding for the upcoming five years. These projects will appear in the State's Five-Year Airport Capital Improvement Program. Once a project has been identified and approved for funding by the State Transportation Board, the airport sponsor may elect to accept a state grant for the project and not participate in the Airport Pavement Preservation Program (APPP), or the airport sponsor may sign an Inter-Government Agreement (IGA) with the Aeronautics Division to participate in the APPP.

LOCAL FUNDING

The balance of project costs, after consideration has been given to grants, must be funded through airport sponsor resources. Assuming federal funding, this essentially equates to 2.5 percent of the project costs if all eligible FAA and state funds are available. If only ADOT grants are available, the sponsor share would be 10 percent of the project. If the sponsor chooses to proceed without federal or state funding, Pima County would be responsible for 100 percent of the project cost.

Several alternatives exist for local finance options as well, including direct funding from the County, issuing bonds, and leasehold financing. These strategies could be used to fund the local matching share or complete project if grant funding cannot be arranged or is not pursued.

There are several bonding options available to Pima County, including general obligation bonds, limited obligation bonds, and revenue bonds. General obligation bonds are a common form of municipal bond which is issued by voter approval and is secured by the full faith and credit of the County. County tax revenues are pledged to retire the debt. As instruments of credit, and because the county secures the bonds, general obligation bonds reduce the available debt level of the county. Due to the county pledge to secure and pay general obligation bonds, they are the most secure type of municipal bond and are generally issued at lower interest rates and carry lower costs of issuance. The primary disadvantage of general obligation bonds is that they require voter approval and are subject to statutory debt limits. This requires that they be used for projects that have broad support among the voters, and that they are reserved for projects that have the highest public priorities.

In contrast to general obligation bonds, limited obligation bonds (sometimes referred to as Self-Liquidating Bonds) are secured by revenues from a local source. While neither general fund revenues nor the taxing power of the local community is pledged to pay the debt service, these sources may be required to retire the debt if pledged revenues are insufficient to make interest and principal payments on the bonds. These bonds still carry the full faith and credit pledge of the county and, therefore, are considered as part of the debt burden of the county for the purpose of financial analysis. The overall debt burden of the county is a factor in determining interest rates on municipal bonds.

There are several types of revenue bonds, but in general, they are a form of municipal bond which is payable solely from the revenue derived from the operation of a facility that was constructed or acquired with the proceeds of the bonds. For example, a Lease Revenue Bond is secured with the income from a lease assigned to the repayment of the bonds. Revenue bonds have become a common form of financing airport improvements. Revenue bonds present the opportunity to provide those improvements without direct burden to the taxpayer. Revenue bonds normally carry a higher interest rate because they lack the guarantees of general and limited obligation bonds.

Leasehold financing refers to a developer or tenant financing improvements under a long term (typically 20+ years with options to extend) ground lease. The obvious advantage of such an arrangement is that it relieves the county of all responsibility for raising the capital funds for improvements. However, the private development of facilities on a ground lease, particularly on property owned by the county, produces a unique set of problems. In particular, it is more difficult to obtain private financing as only the improvements and the right to continue the lease can be claimed in the event of a default. Ground leases normally provide for the reversion of improvements to the lessor at the end of the lease term, which reduces their potential value to a lender taking possession. Also, companies that want to own their property as a matter of financial policy may not locate where land is only available for lease.

Airport funding will be needed over the course of the planning horizon of this Master Plan for at least the maintenance of the existing facilities and pavements. An estimated $7,000 should be allocated annually for this regular maintenance. The estimated costs associated with the recommended airport improvements are summarized in **Table 5C**.

TABLE 5C
Recommended Project Cost Summary
Eric Marcus Municipal Airport

Project	Estimated Cost
Runway/Taxiway Crack Seal Repair/Seal Coat	$175,000
Install Perimeter Fencing	$862,655
Apron Joint Seal Repair	$25,000
Install Airfield Signage	$39,062
Construct Parallel Taxiway	$850,000
Total	**$1,951,717**

ENVIRONMENTAL EVALUATION

A review of the potential environmental impacts associated with proposed airport projects is an essential consideration in the Airport Master Plan process. The primary purpose of this section is to review the proposed improvement program at Eric Marcus Municipal Airport to determine whether the proposed actions could, individually or collectively, have the potential to significantly affect the quality of the environment. The information contained in this section was obtained from previous studies, various internet websites, and analysis by the consultant.

Construction of the improvements depicted on the Airport Layout Plan will require compliance with the *National Environmental Policy Act* (NEPA) *of 1969*, as amended, to receive federal financial assistance. For projects not "categorically excluded" under FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, compliance with NEPA is generally satisfied through the preparation of an Environmental Assessment (EA). In instances in which significant environmental impacts are expected, an Environmental Impact Statement (EIS) may be required. While this portion of the Master Plan is not designed to satisfy the NEPA requirements for a categorical exclusion, EA, or EIS, it is intended to supply a preliminary review of environmental issues that would need to be analyzed in more detail within the NEPA process. This evaluation considers all environmental categories required for the NEPA process as outlined in FAA Order 1050.1E and Order 5050.4B, *National Environmental Policy Act* (NEPA) *Implementation Instructions for Airport Actions.*

ENVIRONMENTAL ANALYSIS

FAA Orders 1050.1E and 5050.4B contain a list of the environmental categories to be evaluated for airport projects. Of the 20 plus environmental categories, the following resources are not found within the airport environs, cannot be inventoried, or will not be impacted by proposed airport improvement projects:

- Coastal Resources
- Coastal Zone Management Areas
- Induced Socioeconomic Impacts
- Environmental Justice Areas and Children's Environmental Health Risks
- Farmlands
- Floodplains
- Natural Resources and Energy Supply
- Secondary (Induced) Impacts
- Social Impacts
- Socioeconomic Impacts
- Wild and Scenic Rivers

The following sections describe potential impacts to resources present within the airport environs. These resources were described in detail within Chapter One of this study.

Air Quality

According to the most recent update contained on the Environmental Protection Agency's (EPA's) Greenbook website, Pima County is currently in nonattainment for Particulate Matter (PM_{10}).

To determine the significance of potential air quality impacts of the construction of the parallel taxiway, the installation of perimeter fencing, the installation of airfield signage or the airport pavement maintenance projects, an emissions inventory will be needed to determine if the project meets general conformity as outlined within the *State Implementation Plan* (SIP).

Each recommended project at the airport could have temporary air quality impacts during construction. Emissions from the operation of construction vehicles and fugitive dust from pavement removal are common air pollutants during construction. However, with the use of best management practices (BMPs) during construction, these air quality impacts can be significantly lessened. Local construction permits will need to be acquired prior to the commencing of any construction project.

Compatible Land Use

According to the Planned Land Use Map included within the *Pima County Comprehensive Land Use Plan* (December 2001), the area surrounding the airport is designated for continued use by the US Air Force as a training range. This land use designation is considered to be compatible with airport operations. Due to the nature and proximity of Air Force training operations to Eric Marcus Municipal Airport, it is recommended that Pima County and the Air Force continue to communicate on any future plans impacting Eric Marcus Municipal Airport. Proposed improvement projects in this Master Plan do not involve the acquisition of property beyond existing airport property boundaries.

Construction Impacts

Construction impacts typically relate to the effects on specific impact categories, such as air quality or noise, during construction. The use of BMPs during construction is typically a requirement of construction-related permits such as a National Pollution Discharge Elimination System (NPDES) (AZDES) permit. Use of these measures typically alleviates potential resource impacts.

Construction-related noise impacts should be minimal as land immediately adjacent to the airport is primarily vacant. Also, these impacts typically do not arise unless construction is being undertaken during early morning, evening, or nighttime hours.

Construction-related air quality impacts should be limited due to the minor nature of the proposed airport improvement projects. Air emissions related to construction of the parallel taxiway, the pavement maintenance projects, and the installation of perimeter fencing and airfield signage will be short-term in nature and will be included in air emissions inventories prepared prior to project implementation as requested by the FAA.

Department Of Transportation Act Section 4(f) Properties

A significant impact would occur when a proposed action involves more than a minimal physical use of a Section 4(f) property (publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or any land from a historic site of national, state, or local significance) or is deemed a "constructive use" substantially impairing the Section 4(f) property where mitigation measures do not reduce or eliminate the impacts. Substantial impairment would occur when impacts to Section 4(f) lands are sufficiently serious that the value of the site in terms of its prior significance and enjoyment are substantially reduced or lost.

As it was mentioned in Chapter One, the nearest Section 4(f) land is the Cabeza Prieta National Wildlife Refuge, located approximately 3.5 miles west of Eric Marcus Municipal Airport. Airport operations are not anticipated to grow significantly over the course of the master planning period and there are no proposed airport improvement projects that would impact this Section 4(f) property.

Fish, Wildlife, and Plants

Table 5D lists the threatened, endangered, and candidate species with the potential to occur in Pima County.

TABLE 5D
Federally listed Threatened, Endangered, and Candidate Species with Habitat in Pima County

Common Name	Scientific Name	Habitat	Status
Arizona Hedgehog	Echinocereus triglochidiatus var. arizonicus	Ecotone between interior chapparal and madrean evergreen woodland.	Endangered
Brown Pelican	Pelecanus occidentalis	Coastal land and islands; species found around many Arizona lakes and rivers.	Endangered
Desert Pupfish	Cyprinodon macularius	Shallow springs, small streams, and marshes. Tolerates saline and warm water.	Endangered
Gila Chub	Gila intermedia	Pools, springs, cienegas, and streams.	Endangered
Gila Topminnow	Poeciliopsis occidentalis occidentalis	Small streams, springs, and cienegas, vegetated shallows.	Endangered
Huachuca Water-Umbel	Lilaeopsis schaffneriana var. recurva	Between 4,000 and 6,500 feet in cienegas, springs, and other healthy riverine systems.	Endangered
Jaguar	Panthera onca	Found in thornscrub, desertscrub, and grasslands.	Endangered
Kearney's Blue-Star	Amsonia kearneyana	Partially shaded coarse alluvium along dry washes under deciduous riparian trees and shubs in Sonoran desertscrub or desertscrub-grassland ecotone.	Endangered
Lesser Long-nosed Bat	Leptonycteris curasoae yerbabuenae	Desert scrub habitat with agave and columnar cacti present as food plants.	Endangered
Masked Bobwhite	Colinus virginianus ridgwayi	Savannah grasslands where grass and shrubs provide sufficient ground cover.	Endangered
Mexican Spotted Owl	Strix occidentalis lucida	Nests in canyons and dense forests with multi-layered foliage structure.	Threatened
Nichol Turk's Head Cactus	Echinocactus horizonthalonius var. nicholii	Sonoran desert scrub.	Endangered
Northern Mexican Gartersnake	Thamnophis eques megalops	Source-area wetlands.	Candidate
Southwestern Willow Flycatcher	Empidonax traillii extimus	Cottonwood/willow and tasmarisk vegetation communities along rivers and streams.	Endangered
Ocelot	Leopardus paradalis	Brushlands.	Endangered
Pima Pineapple Cactus	Coryphantha scheeri var. robustispina	Alluvial basins and hillsides in semi-desert grasslands, desert scrub, and the transition area between the two.	Endangered
Sonoran Pronghorn	Antilocapra Americana sonoriensis	Found in broad, alluvial valleys separated by granite mountains and mesas.	Endangered
Sonoyta Mud Turtle	Kinosternon sonoriense longifemorale	Springs, creeks, ponds and waterholes of intermittent streams.	Candidate
Yellow-billed Cuckoo	Coccyzus americanus	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries).	Candidate

Source: U.S. Fish and Wildlife Service, Pima County Species List, January 2009

As discussed in Chapter One, the Arizona Heritage Data Management System on-line environmental review tool indicates that there are no occurrences of special status species or critical habitats within three miles of the airport. However, prior to the construction of the parallel taxiway and the installation of perimeter fencing, field surveys will likely be needed to confirm a lack of critical habitat for protected species. Survey results should be communicated to the U.S. Fish and Wildlife Service and the Arizona Fish and Game Department.

Hazardous Materials, Pollution Prevention, And Solid Waste

According to the EPA's National Priorities List (NPL), there are no active Superfund sites located in the vicinity of the airport.

The airport will need to continue to comply with a NPDES permit, which will ensure that pollution control measures are in place at the airport. If the airport sponsor decides to construct the parallel taxiway, the permit will need to be modified to reflect the additional impervious surfaces and stormwater retention facilities. The addition and removal of impervious surfaces may require modifications to this permit should drainage patterns be modified.

Solid waste at the airport is not anticipated to increase significantly over the course of the master planning period.

Historical, Architectural, Archaeological, and Cultural Resources

It is currently not known if any cultural or historic resources are located on airport property. Field surveys will be needed for previously undisturbed areas prior to construction of the parallel taxiway and the installation of perimeter fencing. These surveys would typically be undertaken during the NEPA documentation processes and the results coordinated with the State Historic Preservation Office (SHPO).

Light Emissions and Visual Impacts

Recommended airside projects include the construction of a parallel taxiway, installation of lighted airfield signage, and the construction of perimeter fencing. The installation of lighted airfield signage will introduce new light emissions, resulting in an increase of light emissions from the airport. However, the land immediately surrounding the airport is primarily vacant, which provides a buffer between the airport and any surrounding residential development. This buffer should prevent light and visual impacts.

Noise

An airport's compatibility with surrounding land uses is usually associated with the extent of the airport's noise contours. Airport projects such as those needed to accommodate fleet mix changes, an increase in operations at the airport, or air traffic changes are examples of activities which can alter noise impacts and affect surrounding land uses. The 2008 noise exposure contours for Eric Marcus Municipal Airport are shown on **Exhibit 5B**. As shown on the exhibit, the DNL noise contours remain entirely on airport property.

Exhibit 5B depicts the 2028 noise exposure contours for the airport, which considers slight growth in airport activity and increased use by rotorcraft. Again, the DNL contours do not extend beyond airport property. The limited operational activity anticipated through the planning period of this Master Plan should result in minimal noise impacts on the surrounding area.

Water Quality

The airport will need to continue to comply with an AZPDES operations permit. With regard to the construction of the parallel taxiway, the installation of perimeter fencing, and the pavement maintenance projects, the airport and all applicable contractors will need to obtain and comply with the requirements and procedures of the construction-related AZPDES General Permit number AZG2003-001, including the preparation of a *Notice of Intent* and a *Stormwater Pollution Prevention Plan,* prior to the initiation of product construction activities.

Once the parallel taxiway construction project is completed, the AZPDES permit will need to be modified to reflect the additional impervious surfaces and any stormwater retention facilities. The addition and removal of impervious surfaces may require modifications to this permit should drainage patterns be modified.

A review of the United States Geologic Survey (USGS) topographic map and the aerial photography for the airport indicates the presence of a number of washes within the airport property boundary. Additional study will need to be undertaken during the preliminary design phase to determine the impact of the installation of perimeter fencing on the existing washes. Disturbance of these areas may require the issuance of a Section 404 Permit from the U.S. Army Corps of Engineers. Prior to the installation of perimeter fencing, field surveys should be undertaken to delineate potential jurisdictional areas.

Wetlands

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.

The USGS topographic map indicated there are two waters (washes) that enter airport property from the north. Impacts on these washes by the installation of perimeter fencing are not anticipated.

08MP05-5B-7/21/09

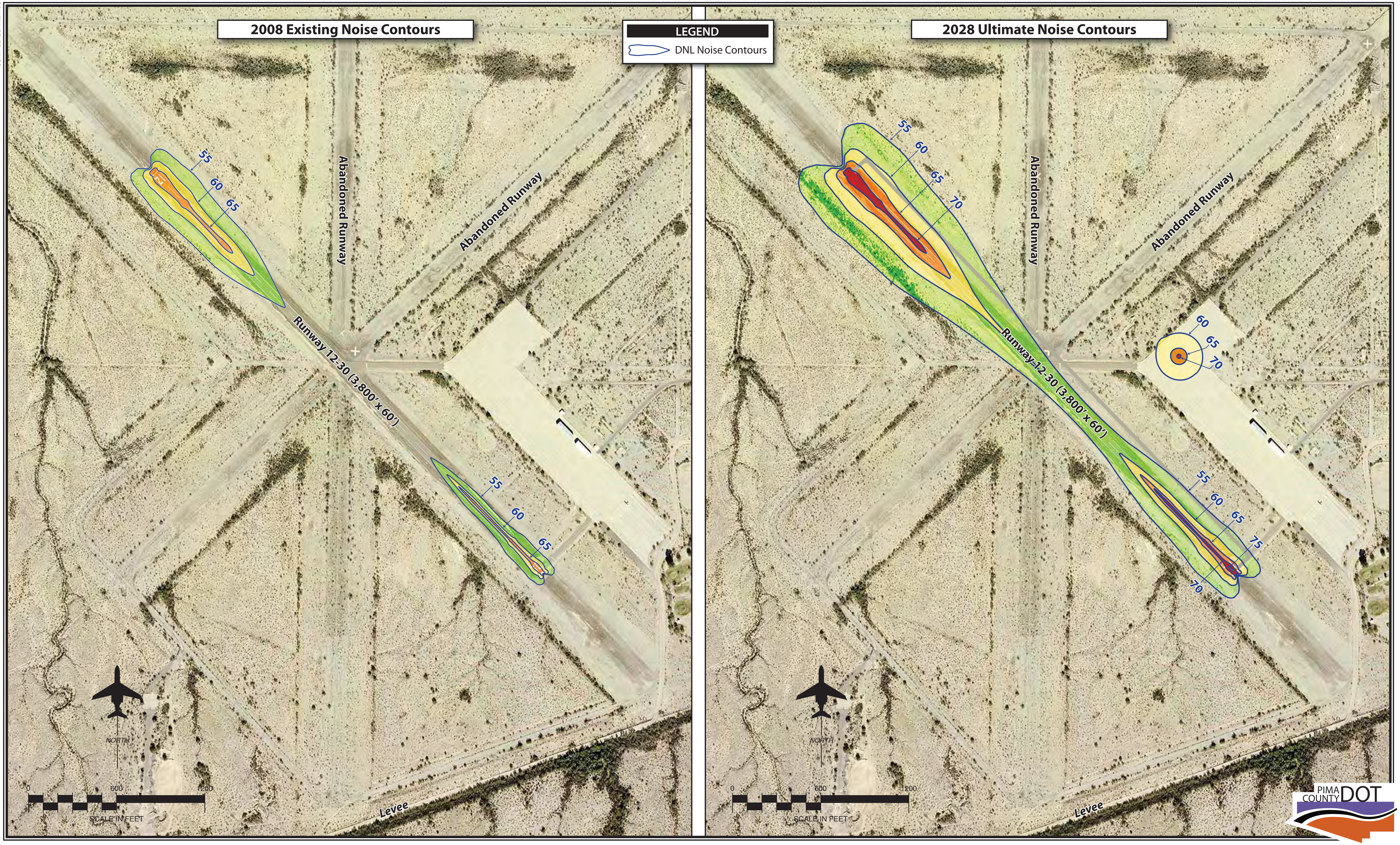


Exhibit 5B
EXISTING AND ULTIMATE NOISE CONTOURS

AIRPORT LAYOUT PLAN DRAWINGS

Per FAA and Arizona Department of Transportation (ADOT) requirements, an official Airport Layout Plan (ALP) has been developed for Eric Marcus Municipal Airport. The ALP drawing set (Sheets 1 through 8) can be found at the end of this chapter. The airport layout plan (**Sheet 1**) graphically presents the existing and ultimate airport layout. The ALP is used, in part by the FAA and ADOT, to determine funding eligibility for future development projects. The ALP was prepared on a computer-aided drafting system for future ease of use. The computerized plan set provides detailed information of existing and future facility layout on multiple layers that permits the user to focus in on any section of the airport at a desirable scale. The plan can be used as base information for design and can be easily updated in the future to reflect new development and more detail concerning existing conditions as made available through design surveys.

A number of related drawings, which depict the ultimate airspace and landside development, are included with the ALP. The following provides a brief discussion of the additional drawings included with the ALP:

Terminal Area Plan (Sheet 2) – The terminal area drawing provides greater detail concerning landside areas at a larger scale than on the ALP.

Airport Airspace Drawing (Sheet 3) – The Airport Airspace Drawing is a graphic depiction of the Title 14 Code of Federal Regulations (CFR) Part 77, *Objects Affecting Navigable Airspace*, regulatory criterion. The Airport Airspace Drawing is intended to aid local authorities in determining if proposed development could present a hazard to the airport and obstruct the approach path to a runway end. This plan should be coordinated with local land use planners.

Inner Portion of the Approach Surface Drawings (Sheet 4) – The Inner Portion of the Approach Surface Drawing is a scaled drawing of the runway protection zone (RPZ) for each runway end. A plan and profile view of each RPZ is provided to facilitate identification of obstructions that lie within these safety areas. Detailed obstruction and facility data is provided to identify planned improvements and the disposition of obstructions (as appropriate).

Runway Approach Zone Profiles (Sheet 5) – This drawing provides both plan and profile views of the 14 CFR Part 77 approach surfaces for each runway end. A composite profile of the extended ground line is depicted with obstructions identified where they exist.

Departure Surface Drawing (Sheet 6) – The departure surface drawing depicts the 14 CFR 77 departure surfaces for each runway end. A composite profile of the extended ground line is depicted. Obstructions are shown where appropriate.

On-Airport Land Use Drawing (Sheet 7) – The Airport Land Use Drawing is a graphic depiction of the land use recommendations. When development is proposed, it should be directed to the appropriate land use area depicted on this plan.

Exhibit "A" Property Map (Sheet 8) – The Airport Property Map provides information on the acquisition and identification of all land tracts under the control of the airport. Both existing and future property holdings are identified on the "Exhibit A" Property Map.

The ALP set has been developed in accordance with accepted FAA and Arizona Department of Transportation (ADOT) – Aeronautics Division standards. The ALP set has not been approved by the FAA and is subject to FAA airspace review. Land use and other changes may result.

PLAN IMPLEMENTATION

The best means to begin implementation of the recommendations in this master plan is to first recognize that planning is a continuous process that does not end with completion and approval of this document. Rather, the ability to continuously monitor the status of airport activity must be provided and maintained. The issues upon which this master plan is based will remain valid for a number of years. The primary goal is to maintain the existing core airport facilities, while serving regional aviation system needs.

In summary, the real value of a usable master plan is in keeping the issues and objectives in the minds of the managers and decision-makers so that they are better able to recognize change and its effect. Airport management will need to make decisions on which improvement projects to undertake and what funding sources to utilize for ongoing airport maintenance and improvement projects, while making decisions on the future management of the airport.

AIRPORT MASTER PLAN

ERIC MARCUS MUNICIPAL AIRPORT

AJO, ARIZONA

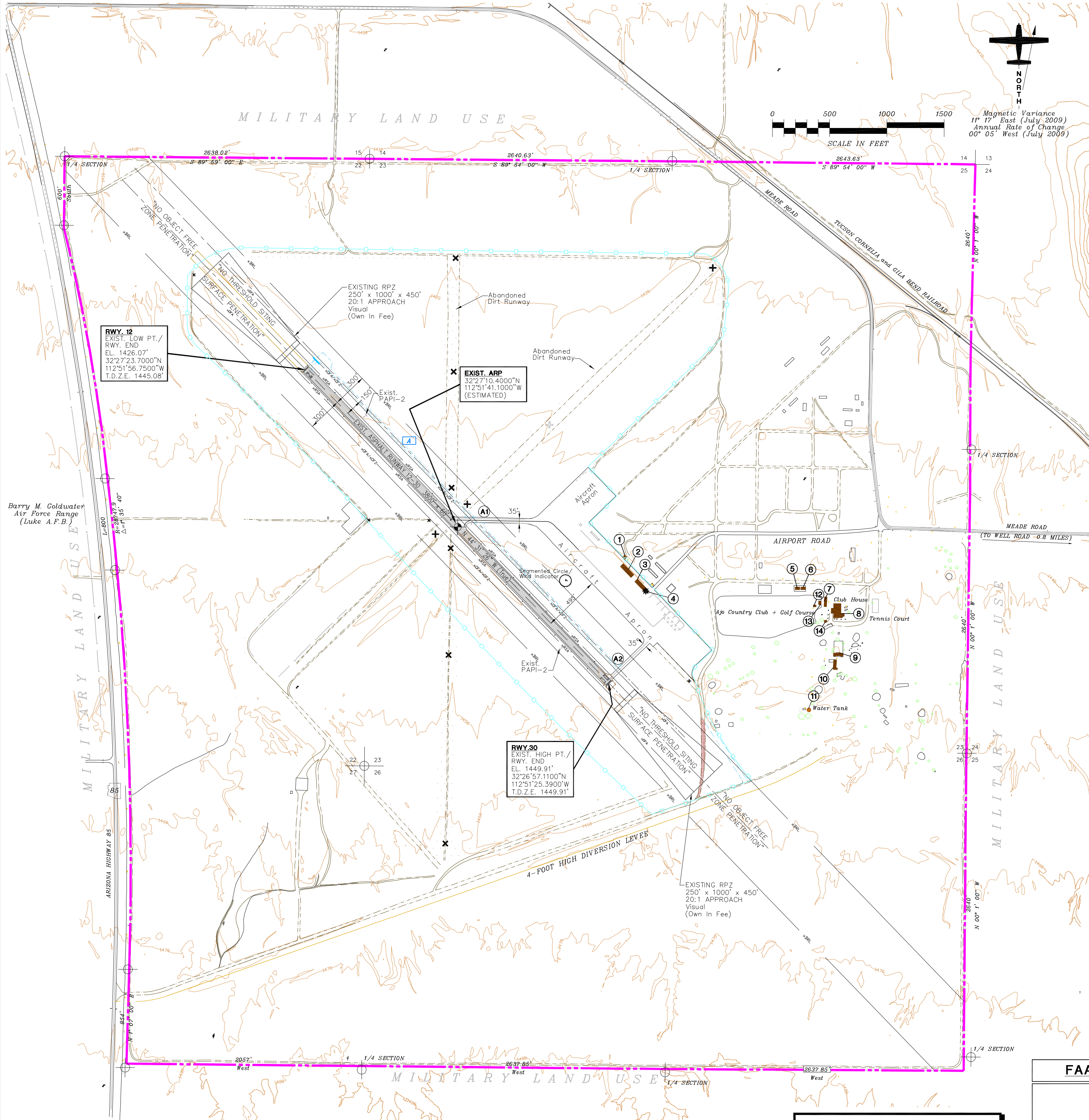
AIRPORT LAYOUT PLAN SET

DRAFT

INDEX OF DRAWINGS

PREPARED FOR
PIMA COUNTY, ARIZONA

Coffman Associates
Airport Consultants



RUNWAY END COORDINATES (NAD 83)			
RUNWAY		EXISTING	ULTIMATE
Runway 12	Latitude	32°27'23.7000"N	SAME
	Longitude	112°51'56.7500"W	SAME
Runway 30	Latitude	32°26'57.1100"N	SAME
	Longitude	112°51'25.3900"W	SAME

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		BUILDING AND FACILITIES
xBRL		BUILDING RESTRICTION LINE (BRL)
xOFA/xOFZ		OBJECT FREE AREA (OFA)
xRSA		RUNWAY SAFETY AREA (RSA)
xOFA/xOFZ		OBSTACLE FREE ZONE (OFZ)
		FACILITY CONSTRUCTION
		FENCING
PAPI-2	PAPI-2	NAVIGATIONAL AID INSTALLATION
		RUNWAY THRESHOLD LIGHTS
		RUNWAY PROTECTION ZONE (RPZ)
		SEGMENTED CIRCLE/LIGHTED WINDCONE
		WIND INDICATOR (Lighted)
1080		TOPOGRAPHIC CONTOURS
34 35 3 2		SECTION CORNER
B	B	TAXIWAY DESIGNATION
		HOLD POSITION MARKINGS
		CLOSED OR ABANDONED TAXIWAY/RUNWAY

BUILDINGS/FACILITIES

EXISTING	DESCRIPTION	TOP EL.
1	PORTABLE HANGAR	1442.10'
2	T-HANGAR	1456.09'
3	T-HANGAR	1457.51'
4	AIRPORT BEACON	1451.32'
5	GOLF CART BARNS	1456.10'
6	GOLF CART BARNS	1456.10'
7	STORAGE	1458.00'
8	CLUBHOUSE	1461.00'
9	POOL BUILDING	1466.00'
10	MAINTENANCE BARN	1467.00'
11	WATER TANK	1466.00'
12	STORAGE	1461.00'
13	STORAGE	1461.00'
14	STORAGE	1461.00'

RUNWAY DATA

RUNWAY DATA	RUNWAY 12-30			
	EXISTING		ULTIMATE	
	12	30	12	30
AIRCRAFT APPROACH CATEGORY-DESIGN GROUP	B-I*		B-I*	
FAR PART 77 CATEGORY	VISUAL	VISUAL	SAME	SAME
APPROACH VISIBILITY MINIMUMS	NONE	NONE	NONE	NONE
DESIGN CRITICAL AIRCRAFT	BEACH BARON 58		SAME	
WINGSPAN OF DESIGN AIRCRAFT	37'		SAME	
UNDERCARRIAGE WIDTH OF DESIGN AIRCRAFT	9'3"		SAME	
APPROACH SPEED (KNOTS) OF DESIGN AIRCRAFT	96		SAME	
MAXIMUM CERTIFIED TAKEOFF WEIGHT (LBS) OF DESIGN AIRCRAFT	5,500		SAME	
RUNWAY EFFECTIVE GRADIENT	0.62%		SAME	
RUNWAY MAXIMUM GRADIENT	0.9%		SAME	
PAVEMENT DESIGN STRENGTH (in thousand lbs.)[1]	12,000(S)		SAME	
APPROACH SLOPE	20:1	20:1	SAME	SAME
RUNWAY END ELEVATION (MSL)	1426.07'	1449.91'	SAME	SAME
RUNWAY TOUCHDOWN ZONE ELEVATION (MSL)	1445.08'	1449.91'	SAME	SAME
RUNWAY HIGH POINT ELEVATION (MSL)	1449.91'		SAME	
RUNWAY LOW POINT ELEVATION (MSL)	1426.07'		SAME	
LINE OF SIGHT REQUIREMENT MET	YES		SAME	
RUNWAY LENGTH	3800'		SAME	
RUNWAY WIDTH	60'		SAME	
RUNWAY BEARING (TRUE)	N 44°31'26" W		SAME	SAME
RUNWAY SAFETY AREA LENGTH BEYOND STOP END OF RUNWAY	240'	240'	SAME	SAME
RUNWAY SAFETY AREA WIDTH	120'		SAME	
RUNWAY OBJECT FREE AREA LENGTH BEYOND STOP END OF RUNWAY	240'	240'	SAME	SAME
RUNWAY OBJECT FREE AREA WIDTH	250'		SAME	
RUNWAY OBSTACLE FREE ZONE LENGTH BEYOND RUNWAY END	200'	200'	SAME	SAME
RUNWAY OBSTACLE FREE ZONE WIDTH	250'		SAME	
DISTANCE FROM RUNWAY CENTERLINE TO HOLD BARS AND SIGNS	125'		SAME	
RUNWAY MARKING	BASIC	BASIC	BASIC	BASIC
STANDARD SEPARATION - RUNWAY CL TO PARALLEL TAXIWAY CL	150'		SAME	
STANDARD SEPARATION - TAXIWAY CL TO FIXED OR MOVABLE OBJECT	45'		SAME	
RUNWAY SURFACE/PAVEMENT MATERIAL	Asphalt		SAME	
RUNWAY LIGHTING	MIRL		SAME	
TAXIWAY WIDTH	35'		SAME	
TAXIWAY SURFACE MATERIAL	Asphalt		SAME	
TAXIWAY OBJECT FREE AREA WIDTH	89'		SAME	
TAXIWAY SAFETY AREA WIDTH	49'		SAME	
TAXIWAY WINGTIP CLEARANCE	20'		SAME	
TAXIWAY MARKING	HOLD/CENTER		SAME	
TAXIWAY LIGHTING	MITL (entry/exit)		SAME	
RUNWAY NAVIGATIONAL AIDS	NONE		SAME	
RUNWAY VISUAL AIDS	Airport Beacon PAPI-2 Segmented Circle Wind Cone		SAME SAME SAME SAME	

[1] Pavement strengths are expressed in Single(S), Dual(D), and Dual Tandem (DT) wheel loading capacities.
* Small Airplane Exclusive

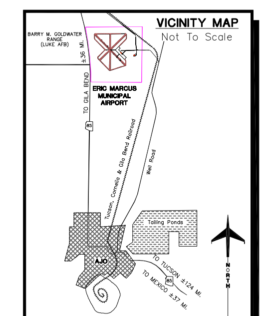
AIRPORT DATA

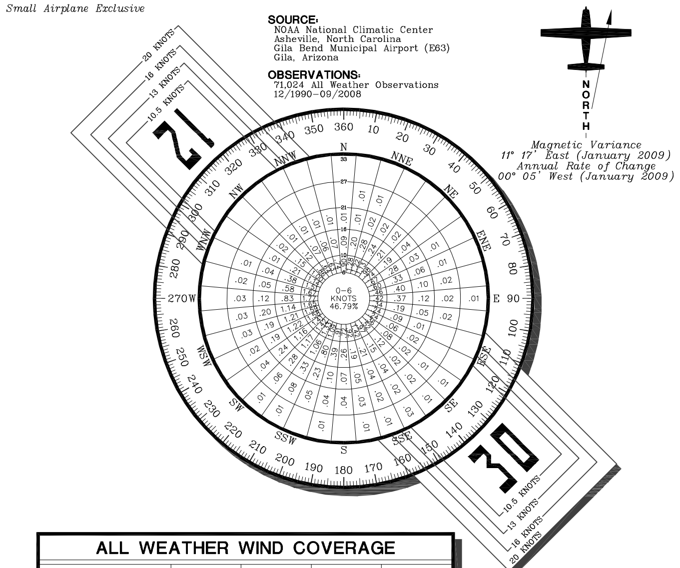
ERIC MARCUS MUNICIPAL AIRPORT (P01)

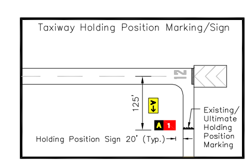
OWNER: PIMA COUNTY ARIZONA	AIRPORT NPIAS CODE: GENERAL AVIATION
CITY: AJO, ARIZONA	COUNTY: PIMA COUNTY
RANGE: R 5 W	TOWNSHIP: T 11 S

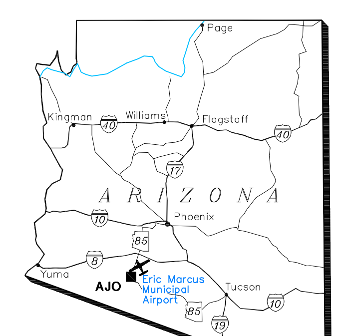
		EXISTING	ULTIMATE
AIRPORT REFERENCE CODE		B-I*	SAME
AIRPORT ELEVATION (MSL)		1449.91' MSL	SAME
MEAN MAXIMUM TEMPERATURE OF HOTTEST MONTH		103.2° F (July)	SAME
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	Latitude	32° 27' 10.4000" N	SAME
	Longitude	112° 51' 41.1000" W	SAME
AIRPORT NAVAIDS		Airport Beacon PAPI-2 Segmented Circle Wind Cone	SAME SAME SAME SAME
GPS AT AIRPORT		--	--

* Small Airplane Exclusive









LOCATION MAP
Not To Scale

ALL WEATHER WIND COVERAGE				
Runway	10.5 Knots	13 Knots	16 Knots	20 Knots
Runway 12-30	87.40%	92.52%	97.49%	99.30%

SUBMITTED BY:
Coffman Associates
FOR APPROVAL BY:

APPROVED BY: ON THE DATE OF:

Airport Manager

FAA APPROVAL STAMP

GENERAL NOTES:

1. Depiction of features and objects, including related elevations within the runway protection zones are depicted on the INNER APPROACH SURFACE DRAWING.
2. Details concerning terminal improvements are depicted on the TERMINAL AREA PLANS.
3. Recommended land uses within the airport environs are depicted on the AIRPORT LAND USE PLAN.
4. Detail concerning airport property are depicted on the AIRPORT PROPERTY MAP.
5. Building Restriction Line (BRL) is established in accordance with F.A.R. Part 77 criteria. Building Restriction Line location may be reduced in accordance to Part 77 to limits of the Runway Object Free Area, Runway Safety Area, and/or Runway Protection Zone criteria.
6. Base Map and Contours derived from 2/5/09 aerial photography and planametric mapping, surveyed by Stactec Inc.
7. Source for existing airport reference point coordinates and airport elevations: Airport Master Record at http://gcr1.com/5010web/airport.cfm?site=P01.
8. All elevations are in NAVD 88 and all horizontal coordinates are in NAD 83.
9. No threshold sitng surface object penetrations.
10. All survey monuments enclosed in concrete casings.
11. Rental proceeds from non-aeronatical uses are reinvested into the airport fund.
12. No survey monuments exist based opon the standards listed in the FAA Advisory Circulars 150/5300-16, 150/5300-17 and 150/5300-18.

No.	REVISIONS	DATE	BY	APP'D.
2	-	-	-	-
1	ALP UPDATE	08-31-09	CA	EP

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ERIC MARCUS MUNICIPAL AIRPORT

AIRPORT LAYOUT PLAN

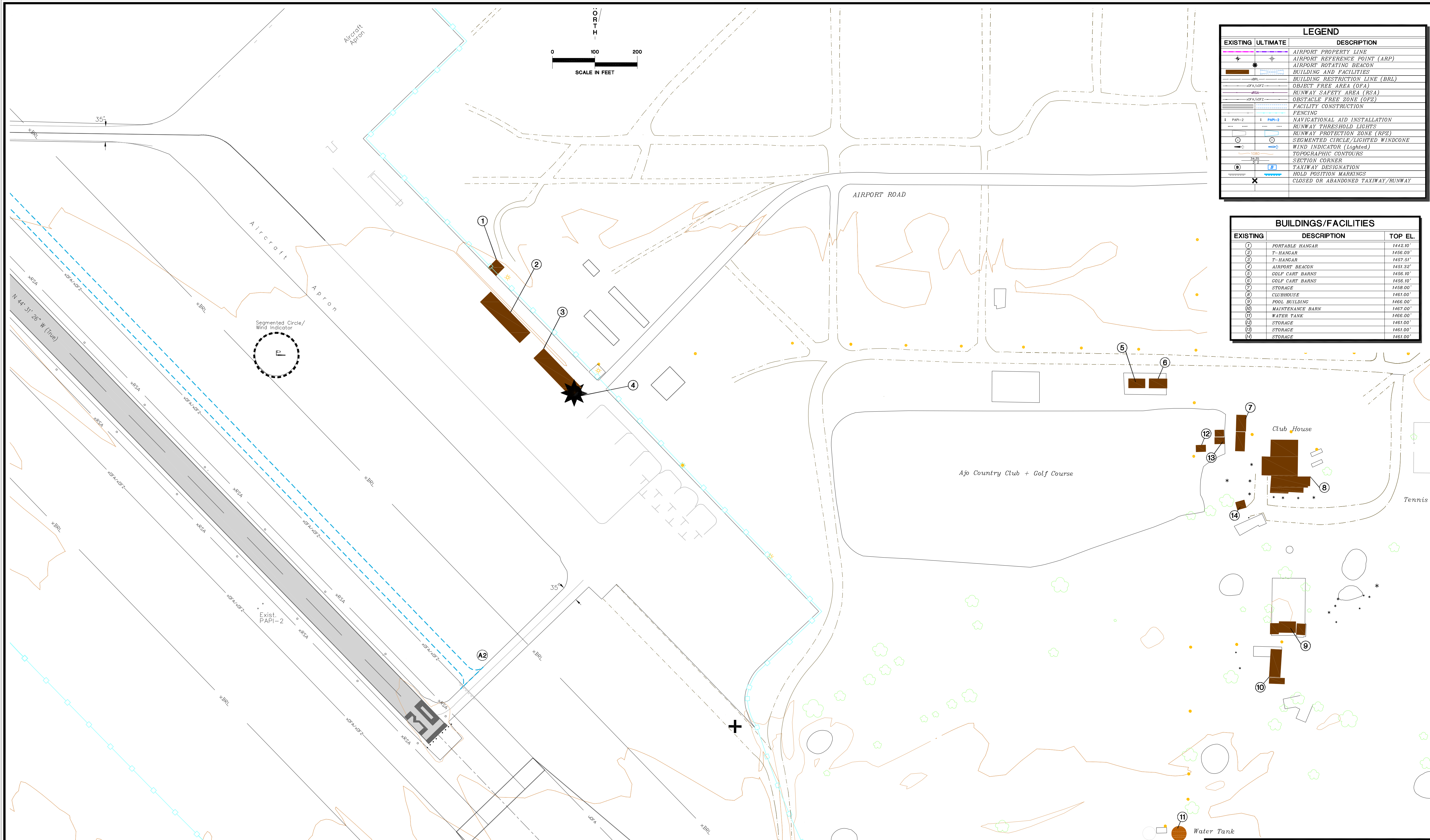
DRAFT

AJO, ARIZONA

PLANNED BY: Eric Pfeifer
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris, P. E.
July 9, 2010 SHEET 1 OF 8

Coffman Associates
Airport Consultants
www.coffmanassociates.com

Coffman Associates D:\Cad\CAD\AJO\2009\01 AJO ALP 7 9 10.dwg Printed Date: 8-17-10 10:02:52 AM Margaret Beaver



LEGEND

EXISTING	ULTIMATE	DESCRIPTION
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		AIRPORT ROTATING BEACON
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xOFA/xOFZ		OBSTACLE FREE ZONE (OFZ)
		FACILITY CONSTRUCTION
		FENCING
PAPI-2	PAPI-2	NAVIGATIONAL AID INSTALLATION
		RUNWAY THRESHOLD LIGHTS
		RUNWAY PROTECTION ZONE (RPZ)
		SEGMENTED CIRCLE/LIGHTED WINDCONE
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1080		TOPOGRAPHIC CONTOURS
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		CLOSED OR ABANDONED TAXIWAY/RUNWAY

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ERIC MARCUS MUNICIPAL AIRPORT

TERMINAL AREA PLAN

DRAFT

AJO, ARIZONA

PLANNED BY: Eric Pfeifer
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris, P. E.

July 9, 2010 SHEET 2 OF 8

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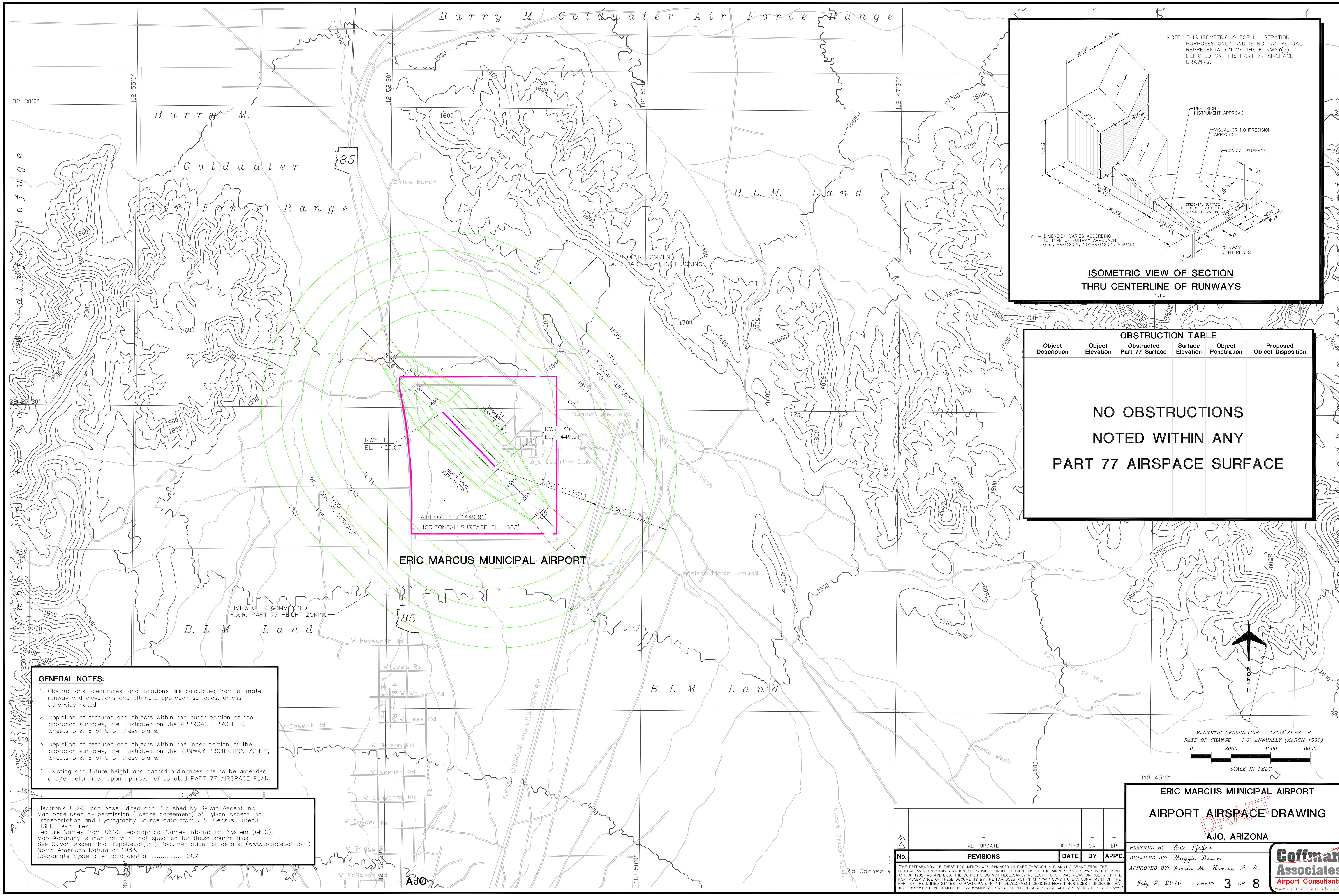

OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition

NO OBSTRUCTIONS NOTED WITHIN ANY PART 77 AIRSPACE SURFACE

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the outer portion of the approach surfaces, are illustrated on the APPROACH PROFILES, Sheets 5 & 6 of 9 of these plans.
3. Depiction of features and objects within the inner portion of the approach surfaces, are illustrated on the RUNWAY PROTECTION ZONES, Sheets 5 & 6 of 9 of these plans.
4. Existing and future height and hazard ordinances are to be amended and/or referenced upon approval of updated PART 77 AIRSPACE PLAN.

Electronic USGS Map base Edited and Published by Sylvan Ascent Inc.
Map base used by permission (license agreement) of Sylvan Ascent Inc.
Transportation and Hydrography Source data from U.S. Census Bureau TIGER 1995 Files.
Feature Names from USGS Geographical Names Information System (GNIS).
Map Accuracy is identical with that specified for these source files.
See Sylvan Ascent Inc. TopoDepot(tm) Documentation for details. (www.topodepot.com)
North American Datum of 1983.
Coordinate System: Arizona central 202

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ERIC MARCUS MUNICIPAL AIRPORT

AIRPORT AIRSPACE DRAWING

DRAFT

AJO, ARIZONA

PLANNED BY: Eric Pfeifer
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris, P. E.

July 9, 2010 — SHEET 3 OF 8

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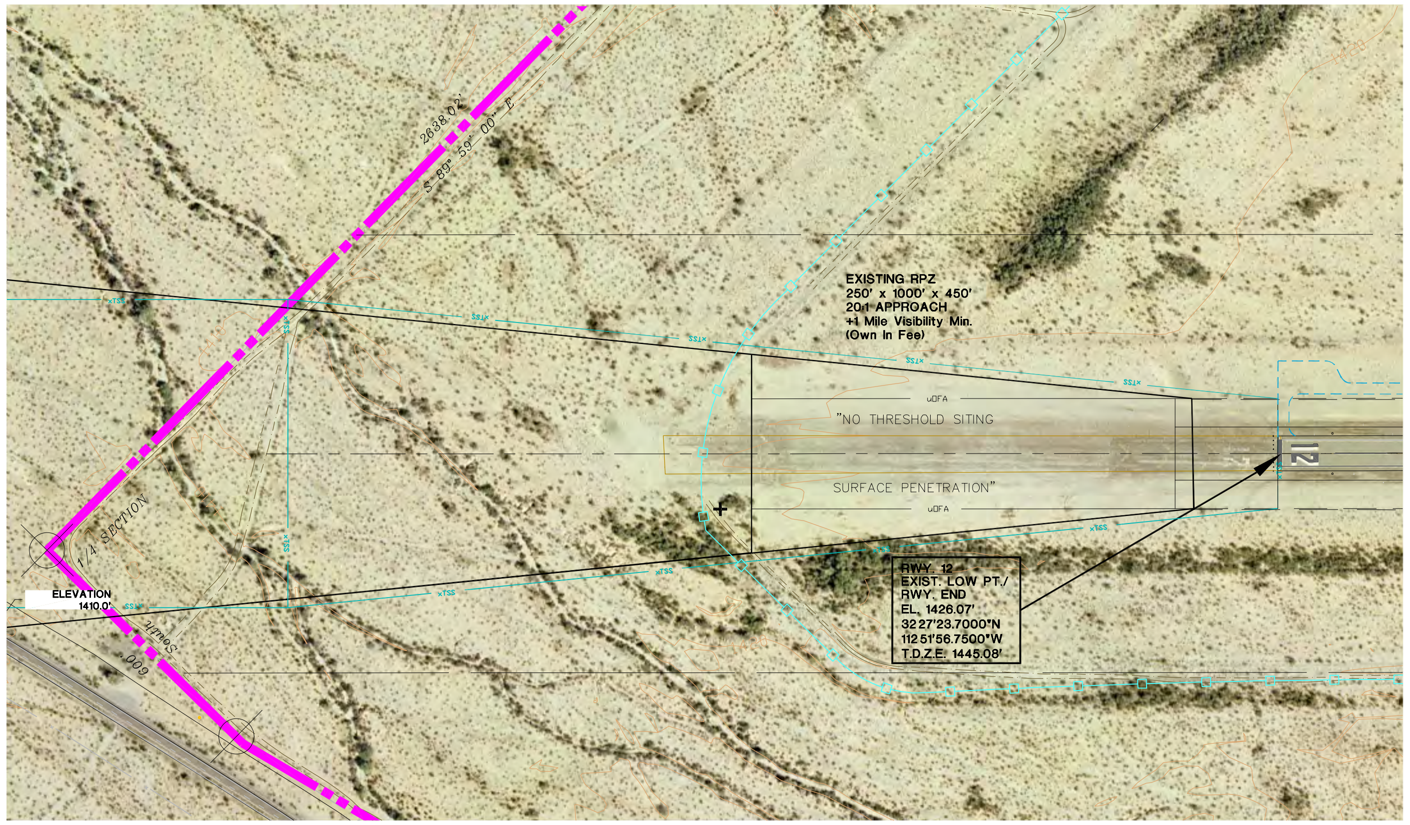
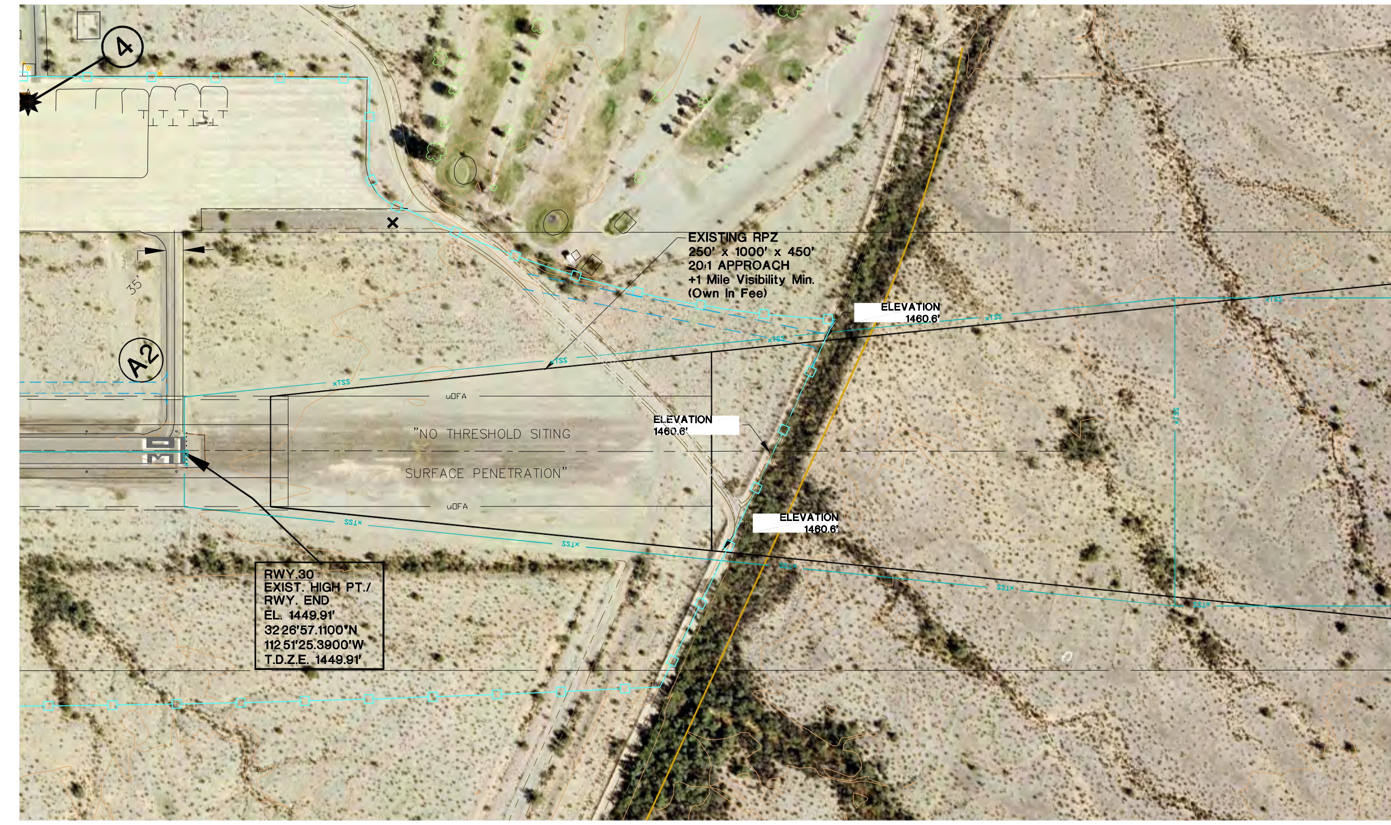
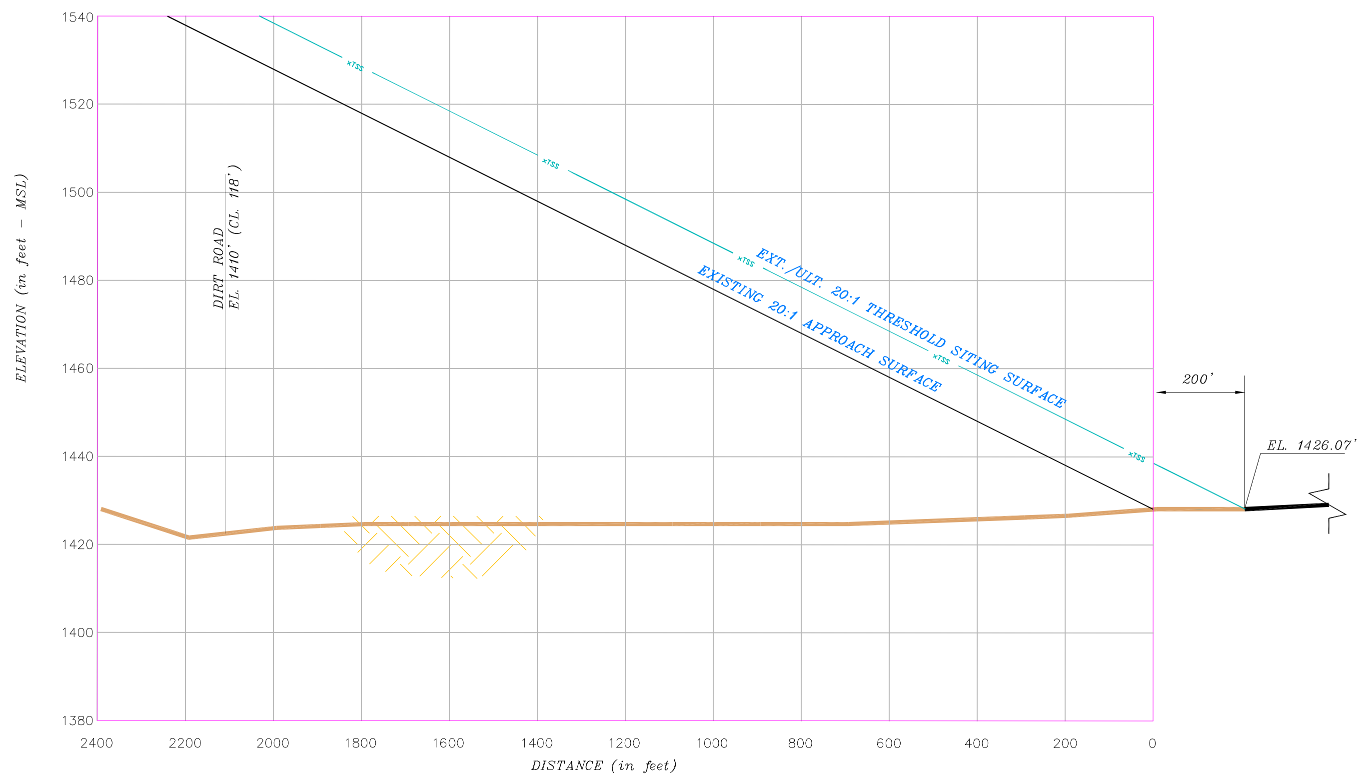
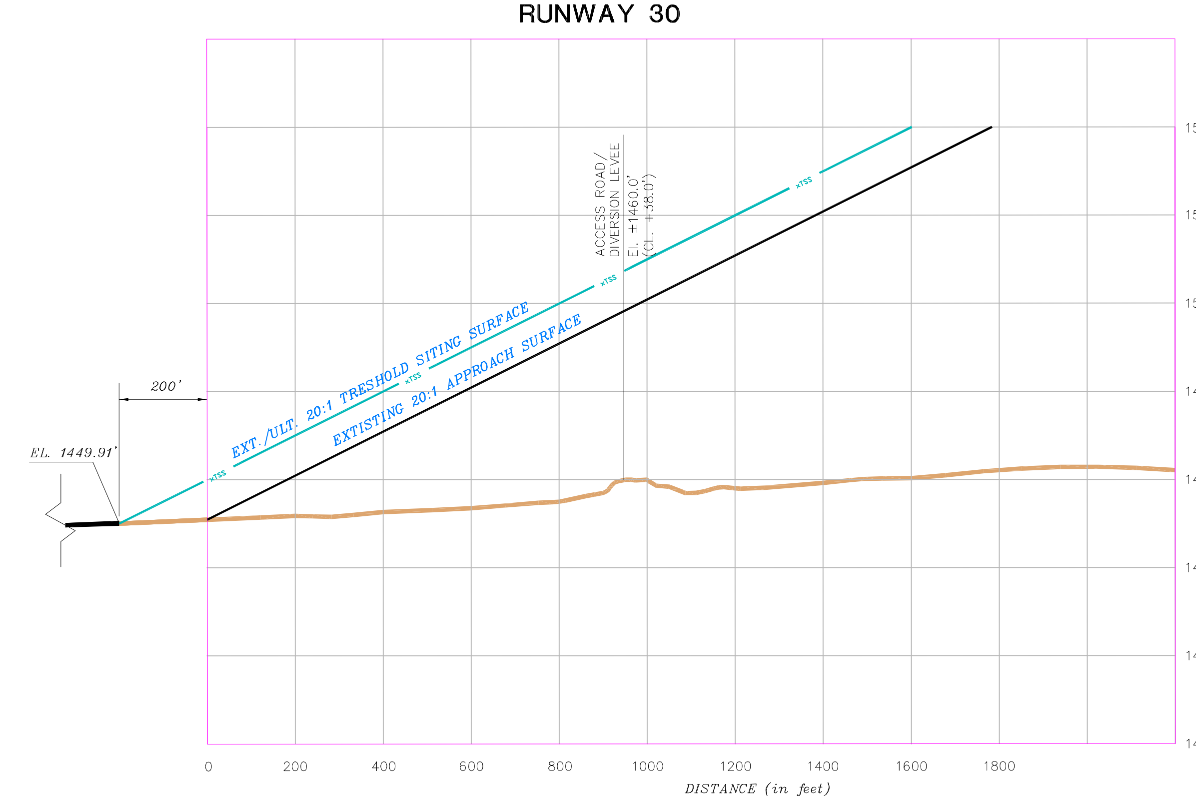




RUNWAY 12

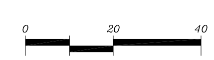


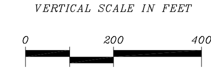
RUNWAY 30



OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1. NONE	NONE	NONE	NONE	NONE	--
2. NONE	NONE	NONE	NONE	NONE	--
--	--	--	--	--	--
--	--	--	--	--	--





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ERIC MARCUS MUNICIPAL AIRPORT
INNER PORTION OF THE RUNWAY 12-30 APPROACH SURFACE DRAWING

DRAFT

AJO, ARIZONA

PLANNED BY: Eric Pfeifer
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris, P. E.

July 9, 2010

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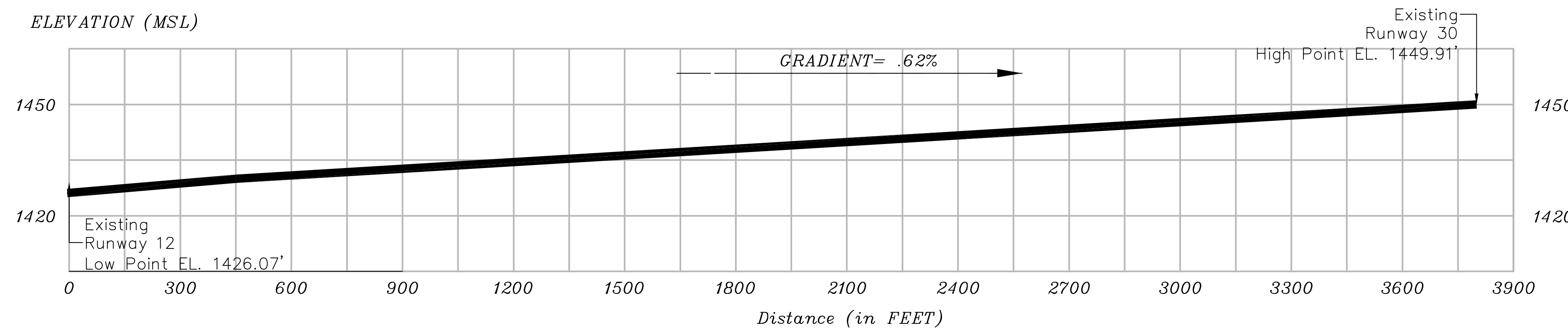
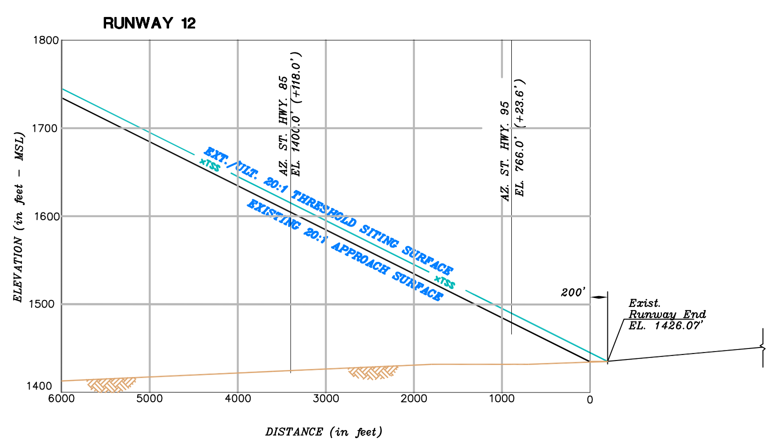
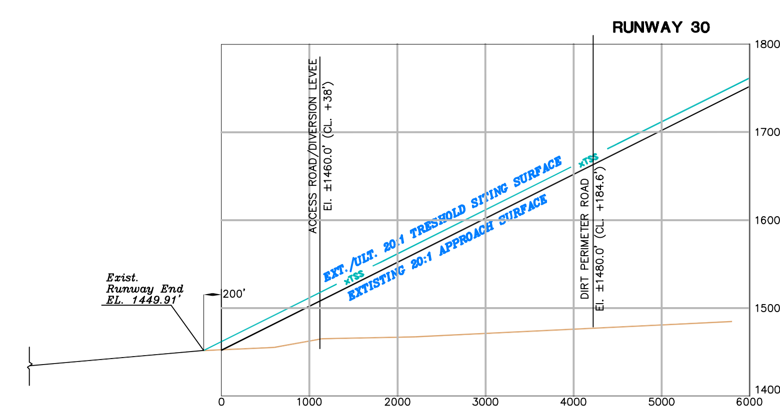
EXISTING RUNWAY 12-30 PROFILE



VERTICAL SCALE IN FEET (0, 30, 60)

HORIZONTAL SCALE IN FEET (0, 300, 600)





VERTICAL SCALE IN FEET (0, 100, 200)

HORIZONTAL SCALE IN FEET (0, 1000, 2000)

OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1. NONE	NONE	NONE	NONE	NONE	NONE
2. NONE	NONE	NONE	NONE	NONE	NONE
--	--	--	--	--	--
--	--	--	--	--	--

No.	REVISIONS	DATE	BY	APP'D.
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ERIC MARCUS MUNICIPAL AIRPORT
RUNWAY 12-30 PROFILE & OUTER APPROACH SURFACE PROFILE DRAWING
AJO, ARIZONA

DRAFT

PLANNED BY: Eric Pfeifer
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris, P. E.

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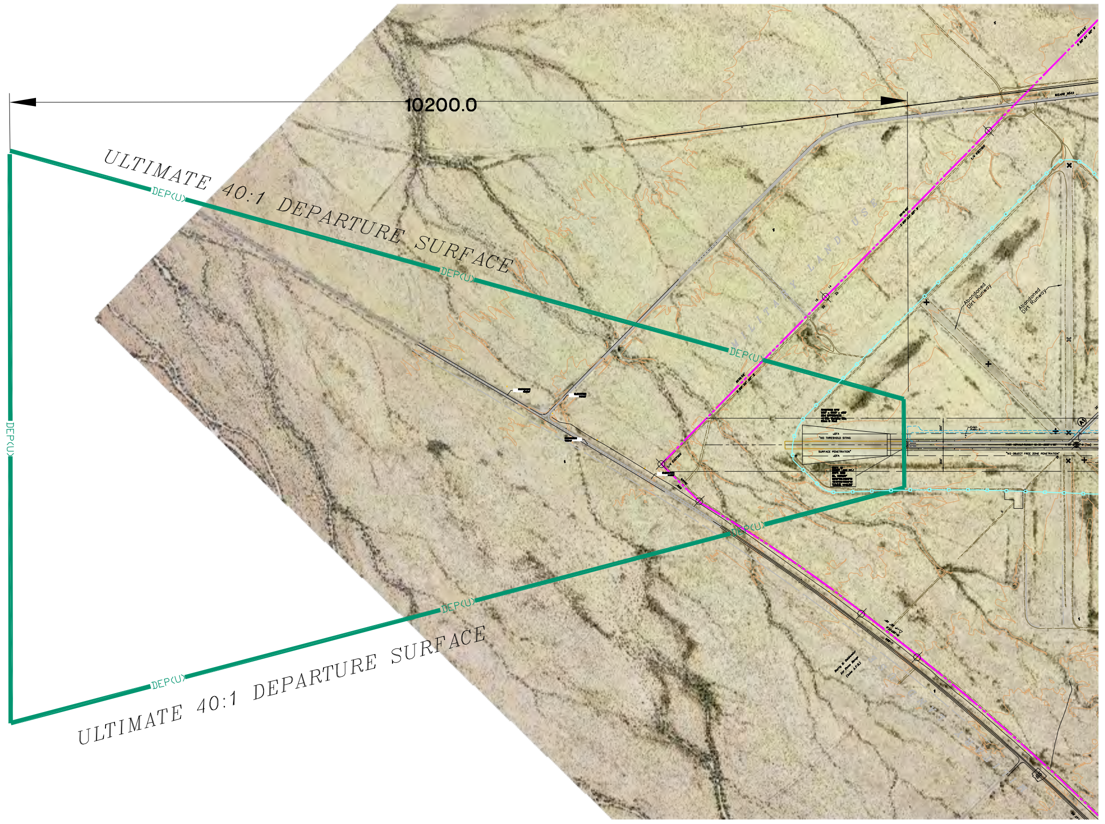

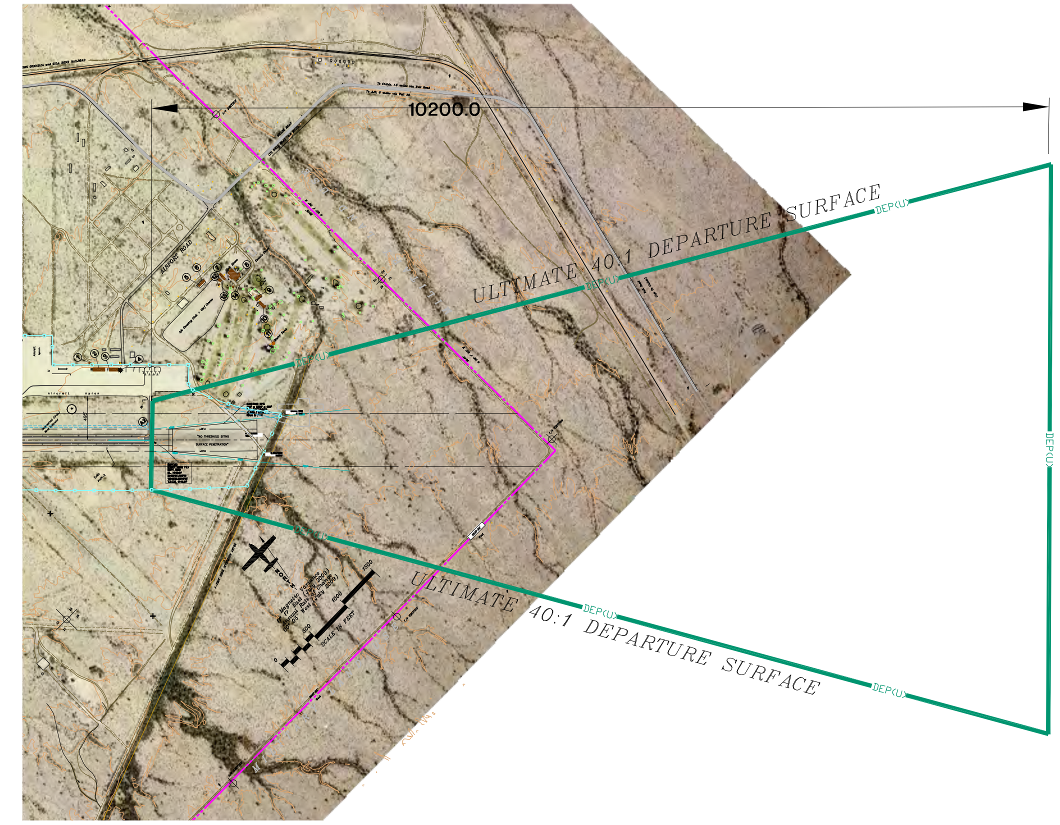

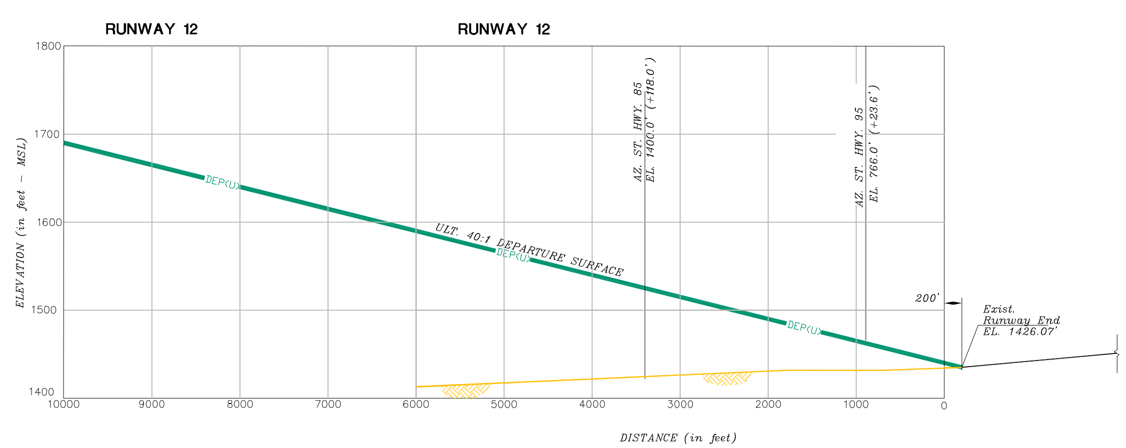

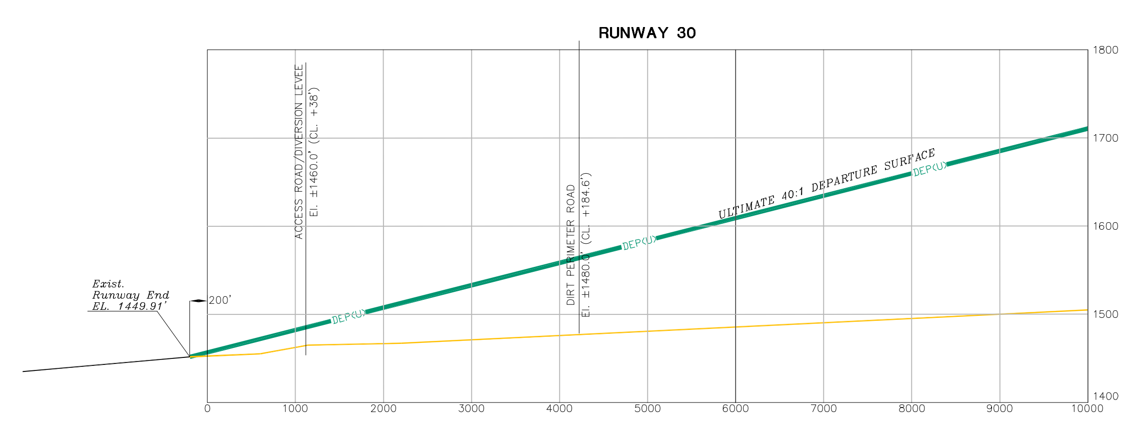

OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1. NONE	NONE	NONE	NONE	NONE	--
2. NONE	NONE	NONE	NONE	NONE	--
--	--	--	--	--	--
--	--	--	--	--	--

0 20 40
VERTICAL SCALE IN FEET

0 200 400
HORIZONTAL SCALE IN FEET

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ERIC MARCUS MUNICIPAL AIRPORT

DEPARTURE SURFACE DRAWING

DRAFT

AJO, ARIZONA

PLANNED BY: Eric Pfeifer
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris, P. E.
July 9, 2010 SHEET 6 OF 8

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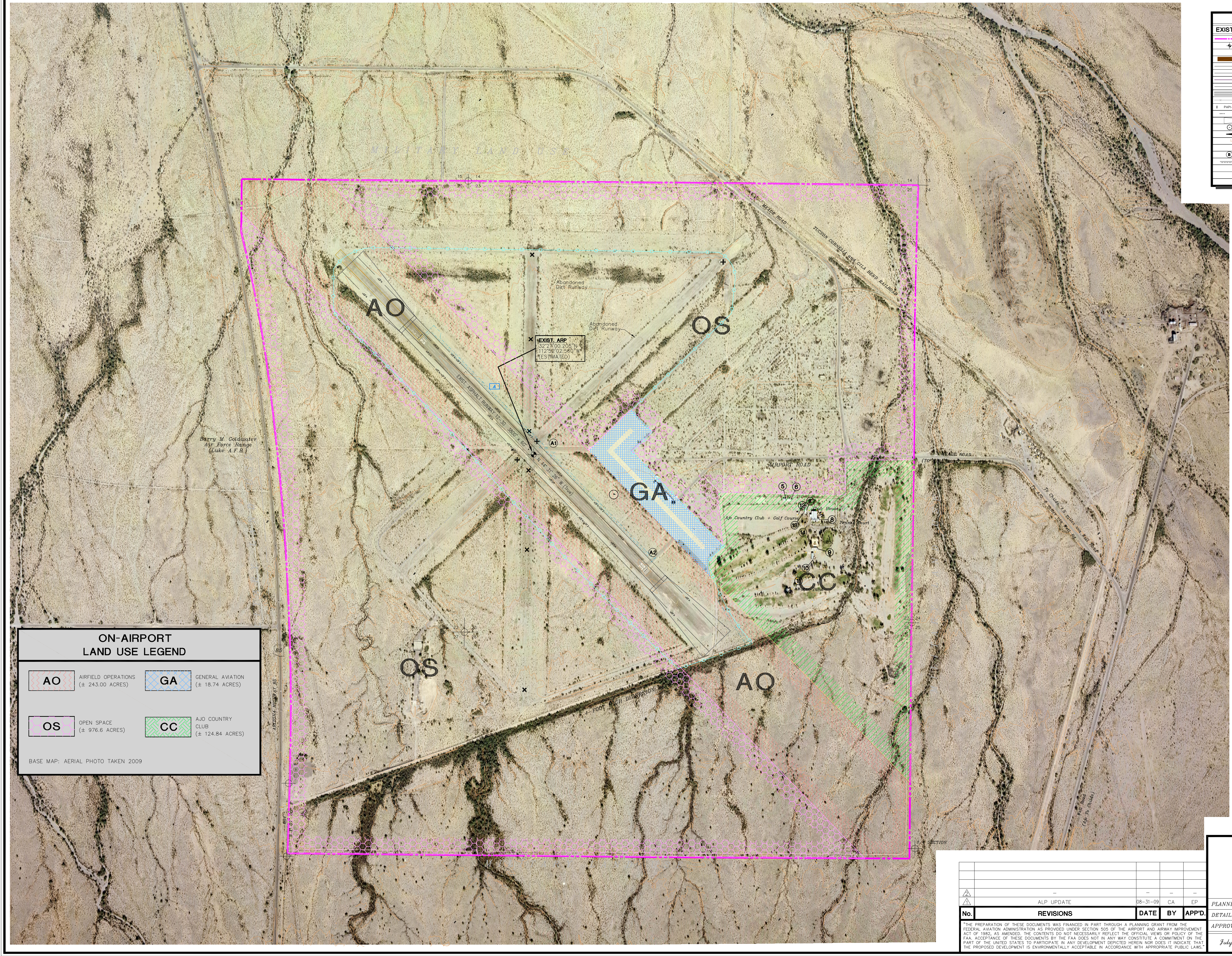

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		BUILDING AND FACILITIES
xBRL		BUILDING RESTRICTION LINE (BRL)
xOFA/xOFZ		OBJECT FREE AREA (OFA)
xRSA		RUNWAY SAFETY AREA (RSA)
xOFA/xOFZ		OBSTACLE FREE ZONE (OFZ)
		FACILITY CONSTRUCTION
		FENCING
PAPI-2	PAPI-2	NAVIGATIONAL AID INSTALLATION
		RUNWAY THRESHOLD LIGHTS
		RUNWAY PROTECTION ZONE (RPZ)
		SEGMENTED CIRCLE/LIGHTED WINDCONE
		WIND INDICATOR (Lighted)
1080		TOPOGRAPHIC CONTOURS
34 35 / 3 2		SECTION CORNER
B	B	TAXIWAY DESIGNATION
		HOLD POSITION MARKINGS
X		CLOSED OR ABANDONED TAXIWAY/RUNWAY

ON-AIRPORT LAND USE LEGEND

AO — AIRFIELD OPERATIONS (± 243.00 ACRES)	GA — GENERAL AVIATION (± 18.74 ACRES)
OS — OPEN SPACE (± 976.6 ACRES)	CC — AJO COUNTRY CLUB (± 124.84 ACRES)

BASE MAP: AERIAL PHOTO TAKEN 2009

NORTH

Magnetic Variance
11° 17' East (July 2009)
Annual Rate of Change
00° 05' West (July 2009)

0 500 1000 1500
SCALE IN FEET

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ERIC MARCUS MUNICIPAL AIRPORT

ON-AIRPORT LAND USE DRAWING

DRAFT

AJO, ARIZONA

PLANNED BY: Eric Pfeifer
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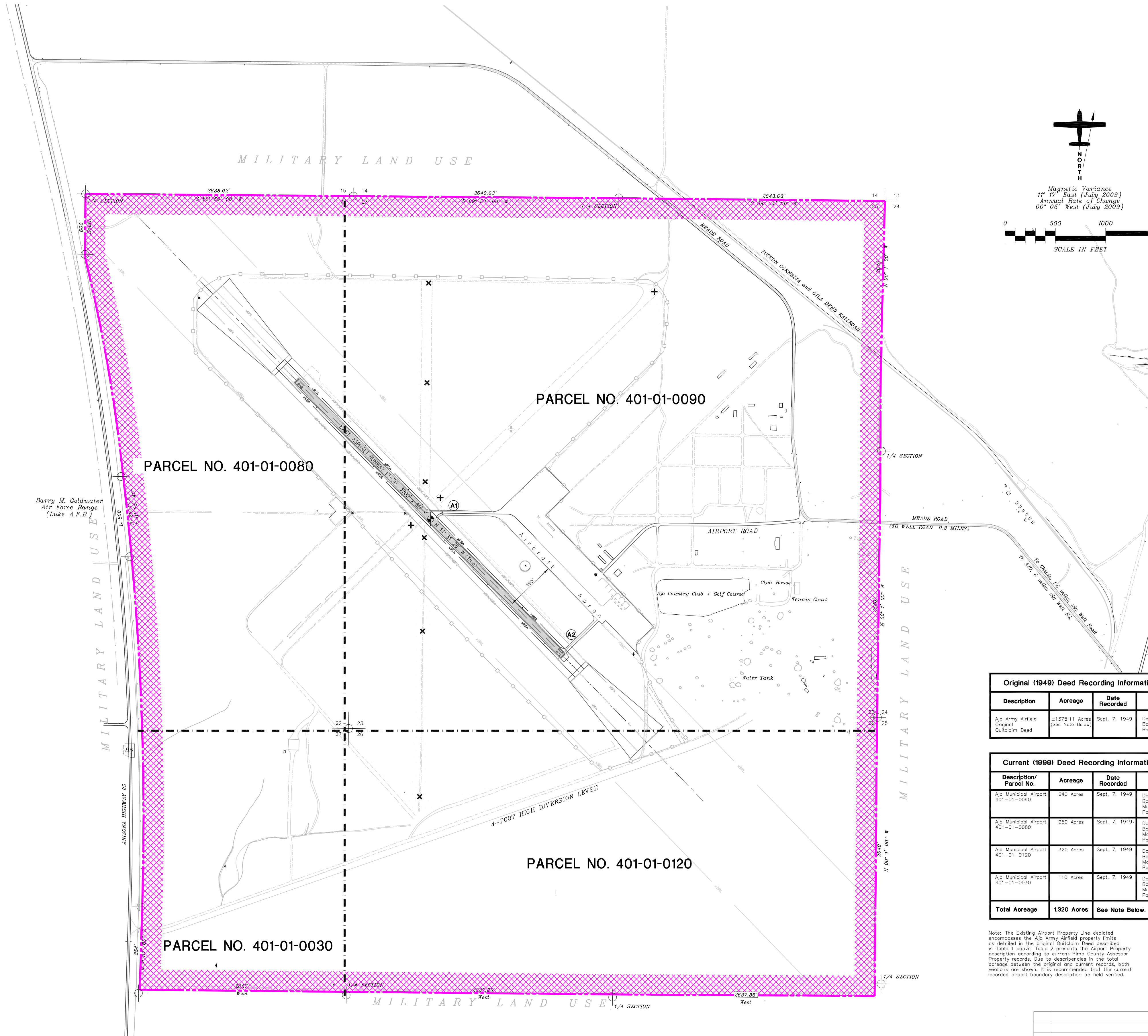

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		BUILDING AND FACILITIES
		BUILDING RESTRICTION LINE (BRL)
		OBJECT FREE AREA (OFA)
		RUNWAY SAFETY AREA (RSA)
		OBSTACLE FREE ZONE (OFZ)
		FACILITY CONSTRUCTION
		FENCING
		NAVIGATIONAL AID INSTALLATION
		RUNWAY THRESHOLD LIGHTS
		RUNWAY PROTECTION ZONE (RPZ)
		SEGMENTED CIRCLE/LIGHTED WINDCONE
		WIND INDICATOR (Lighted)
		TOPOGRAPHIC CONTOURS
		SECTION CORNER
		TAXIWAY DESIGNATION
		HOLD POSITION MARKINGS
		CLOSED OR ABANDONED TAXIWAY/RUNWAY

KEY:

- EXISTING AIRPORT PROPERTY (ORIGINAL QUITCLAIM DEED)
- PARCEL BOUNDARY

Original (1949) Deed Recording Information (County Recorder - Pima County, AZ)

Description	Acreage	Date Recorded	Recording Information	Grantor
Ajo Army Airfield Original Quitclaim Deed	±1375.11 Acres (See Note Below)	Sept. 7, 1949	Deed No. 27482 Book: 194 Page(s): 144 – 152	United States of America General Services Administration War Assets

Current (1999) Deed Recording Information (County Assessor - Pima County, AZ)

Description/ Parcel No.	Acreage	Date Recorded	Recording Information	Grantor
Ajo Municipal Airport 401–01–0090	640 Acres	Sept. 7, 1949	Docket No.: 194 Page: 144 Book No.: 401 Map: 01 Parcel: 0090	United States of America General Services Administration War Assets
Ajo Municipal Airport 401–01–0080	250 Acres	Sept. 7, 1949	Docket No.: 194 Page: 144 Book No.: 401 Map: 01 Parcel: 0080	United States of America General Services Administration War Assets
Ajo Municipal Airport 401–01–0120	320 Acres	Sept. 7, 1949	Docket No.: 194 Page: 144 Book No.: 401 Map: 01 Parcel: 0120	United States of America General Services Administration War Assets
Ajo Municipal Airport 401–01–0030	110 Acres	Sept. 7, 1949	Docket No.: 194 Page: 144 Book No.: 401 Map: 01 Parcel: 0030	United States of America General Services Administration War Assets
Total Acreage	**1,320 Acres**	**See Note Below.**		

Note: The Existing Airport Property Line depicted encompasses the Ajo Army Airfield property limits as detailed in the original Quitclaim Deed described in Table 1 above. Table 2 presents the Airport Property description according to current Pima County Assessor Property records. Due to descripencies in the total acreage between the original and current records, both versions are shown. It is recommended that the current recorded airport boundary description be field verified.

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2	–	–	–	–
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ERIC MARCUS MUNICIPAL AIRPORT

EXHIBIT "A" AIRPORT PROPERTY MAP

DRAFT

AJO, ARIZONA

PLANNED BY: Eric Pfeifer
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris, P. E.

July 9, 2010

Appendix A

Glossary of Terms

Glossary of Terms

A

ABOVE GROUND LEVEL: The elevation of a point or surface above the ground.

ACCELERATE-STOP DISTANCE AVAILABLE (ASDA): See declared distances.

ADVISORY CIRCULAR: External publications issued by the FAA consisting of nonregulatory material providing for the recommendations relative to a policy, guidance and information relative to a specific aviation subject.

AIR CARRIER: An operator which: (1) performs at least five round trips per week between two or more points and publishes flight schedules which specify the times, days of the week, and places between which such flights are performed; or (2) transports mail by air pursuant to a current contract with the U.S. Postal Service. Certified in accordance with Federal Aviation Regulation (FAR) Parts 121 and 127.

AIRCRAFT: A transportation vehicle that is used or intended for use for flight.

AIRCRAFT APPROACH CATEGORY: A grouping of aircraft based on 1.3 times the stall speed in their landing configuration at their maximum certificated landing weight. The categories are as follows:

- Category A: Speed less than 91 knots.
- Category B: Speed 91 knots or more, but less than 121 knots.
- Category C: Speed 121 knots or more, but less than 141 knots.
- Category D: Speed 141 knots or more, but less than 166 knots.
- Category E: Speed greater than 166 knots.

AIRCRAFT OPERATION: The landing, takeoff, or touch-and-go procedure by an aircraft on a runway at an airport.

AIRCRAFT OPERATIONS AREA (AOA): A restricted and secure area on the airport property designed to protect all aspects related to aircraft operations.

AIRCRAFT OWNERS AND PILOTS ASSOCIATION: A private organization serving the interests and needs of general aviation pilots and aircraft owners.

AIRCRAFT RESCUE AND FIRE FIGHTING: A facility located at an airport that provides emergency vehicles, extinguishing agents, and personnel responsible for minimizing the impacts of an aircraft accident or incident.

AIRFIELD: The portion of an airport which contains the facilities necessary for the operation of aircraft.

AIRLINE HUB: An airport at which an airline concentrates a significant portion of its activity and which often has a significant amount of connecting traffic.

AIRPLANE DESIGN GROUP (ADG): A grouping of aircraft based upon wingspan. The groups are as follows:

- 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 or greater.

AIRPORT AUTHORITY: A quasi-governmental public organization responsible for setting the policies governing the management and operation of an airport or system of airports under its jurisdiction.

AIRPORT BEACON: A navigational aid located at an airport which displays a rotating light beam to identify whether an airport is lighted.

AIRPORT CAPITAL IMPROVEMENT PLAN: The planning program used by the Federal Aviation Administration to identify, prioritize, and distribute funds for airport development and the needs of the National Airspace System to meet specified national goals and objectives.

AIRPORT ELEVATION: The highest point on the runway system at an airport expressed in feet above mean sea level (MSL).

AIRPORT IMPROVEMENT PROGRAM: A program authorized by the Airport and Airway

Improvement Act of 1982 that provides funding for airport planning and development.

AIRPORT LAYOUT DRAWING (ALD): The drawing of the airport showing the layout of existing and proposed airport facilities.

AIRPORT LAYOUT PLAN (ALP): A scaled drawing of the existing and planned land and facilities necessary for the operation and development of the airport.

AIRPORT LAYOUT PLAN DRAWING SET: A set of technical drawings depicting the current and future airport conditions. The individual sheets comprising the set can vary with the complexities of the airport, but the FAA-required drawings include the Airport Layout Plan (sometimes referred to as the Airport Layout Drawing (ALD), the Airport Airspace Drawing, and the Inner Portion of the Approach Surface Drawing, On-Airport Land Use Drawing, and Property Map.

AIRPORT MASTER PLAN: The planner's concept of the long-term development of an airport.

AIRPORT MOVEMENT AREA SAFETY SYSTEM: A system that provides automated alerts and warnings of potential runway incursions or other hazardous aircraft movement events.

AIRPORT OBSTRUCTION CHART: A scaled drawing depicting the Federal Aviation Regulation (FAR) Part 77 surfaces, a representation of objects that penetrate these surfaces, runway, taxiway, and ramp areas, navigational aids, buildings, roads and other detail in the vicinity of an airport.

AIRPORT REFERENCE CODE (ARC): A coding system used to relate airport design criteria to the operational (Aircraft Approach Category) to the physical characteristics (Airplane Design Group) of the airplanes intended to operate at the airport.

AIRPORT REFERENCE POINT (ARP): The latitude and longitude of the approximate center of the airport.

AIRPORT SPONSOR: The entity that is legally responsible for the management and operation of an airport, including the fulfillment of the requirements of laws and regulations related thereto.

AIRPORT SURFACE DETECTION EQUIPMENT: A radar system that provides air traffic controllers with a visual representation of the movement of aircraft and other vehicles on the ground on the airfield at an airport.

AIRPORT SURVEILLANCE RADAR: The primary radar located at an airport or in an air traffic control terminal area that receives a signal at an antenna and transmits the signal to air traffic control display equipment defining the location of aircraft in the air. The signal provides only the azimuth and range of aircraft from the location of the antenna.

AIRPORT TRAFFIC CONTROL TOWER (ATCT): A central operations facility in the terminal air traffic control system, consisting of a tower, including an associated instrument flight rule (IFR) room if radar equipped, using air/ground communications and/or radar, visual signaling and other devices to provide safe and expeditious movement of terminal air traffic.

AIR ROUTE TRAFFIC CONTROL CENTER: A facility which provides en route air traffic control service to aircraft operating on an IFR flight plan within controlled airspace over a large, multi-state region.

AIRSIDE: The portion of an airport that contains the facilities necessary for the operation of aircraft.

AIRSPACE: The volume of space above the surface of the ground that is provided for the operation of aircraft.

AIR TAXI: An air carrier certificated in accordance with FAR Part 121 and FAR Part 135 and authorized to provide, on demand, public transportation of persons and property by aircraft. Generally operates small aircraft "for hire" for specific trips.

AIR TRAFFIC CONTROL: A service operated by an appropriate organization for the purpose of providing for the safe, orderly, and expeditious flow of air traffic.

AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC): A facility established to provide air traffic control service to aircraft operating on an IFR flight plan within controlled airspace and principally during the en route phase of flight.

AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER: A facility operated by the FAA which is responsible for the central flow control, the central altitude reservation system, the airport reservation position system, and the air traffic service contingency command for the air traffic control system.

AIR TRAFFIC HUB: A categorization of commercial service airports or group of commercial service airports in a metropolitan or urban area based upon the proportion of annual national enplanements existing at the airport or airports. The categories are large hub, medium hub, small hub, or non-hub. It forms the basis for the apportionment of entitlement funds.

AIR TRANSPORT ASSOCIATION OF AMERICA: An organization consisting of the principal U.S. airlines that represents the interests of the airline industry on major aviation issues before federal, state, and local government bodies. It promotes air transportation safety by coordinating industry and governmental safety programs and it serves as a focal point for industry efforts to standardize practices and enhance the efficiency of the air transportation system.

ALERT AREA: See special-use airspace.

ALTITUDE: The vertical distance measured in feet above mean sea level.

ANNUAL INSTRUMENT APPROACH (AIA): An approach to an airport with the intent to land by an aircraft in accordance with an IFR flight plan when visibility is less than three miles and/or when the ceiling is at or below the minimum initial approach altitude.

APPROACH LIGHTING SYSTEM (ALS): An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams by which the pilot aligns the aircraft with the extended centerline of the runway on his final approach and landing.

APPROACH MINIMUMS: The altitude below which an aircraft may not descend while on an IFR approach unless the pilot has the runway in sight.

APPROACH SURFACE: An imaginary obstruction limiting surface defined in FAR Part 77 which is longitudinally centered on an extended runway centerline and extends outward and upward from the primary surface at each end of a runway at a designated slope and distance based upon the type of available or planned approach by aircraft to a runway.

APRON: A specified portion of the airfield used for passenger, cargo or freight loading and unloading, aircraft parking, and the refueling, maintenance and servicing of aircraft.

AREA NAVIGATION: The air navigation procedure that provides the capability to establish and maintain a flight path on an arbitrary course that remains within the coverage area of navigational sources being used.

AUTOMATED TERMINAL INFORMATION SERVICE (ATIS): The continuous broadcast of recorded non-control information at towered airports. Information typically includes wind speed, direction, and runway in use.

AUTOMATED SURFACE OBSERVATION SYSTEM (ASOS): A reporting system that provides frequent airport ground surface weather observation data through digitized voice broadcasts and printed reports.

AUTOMATED WEATHER OBSERVATION STATION (AWOS): Equipment used to automatically record weather conditions (i.e. cloud height, visibility, wind speed and direction, temperature, dew point, etc.)

AUTOMATIC DIRECTION FINDER (ADF): An aircraft radio navigation system which senses and indicates the direction to a non-directional radio beacon (NDB) ground transmitter.

AVIGATION EASEMENT: A contractual right or a property interest in land over which a right of unobstructed flight in the airspace is established.

AZIMUTH: Horizontal direction expressed as the angular distance between true north and the direction of a fixed point (as the observer's heading).

B

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. See "traffic pattern."

BASED AIRCRAFT: The general aviation aircraft that use a specific airport as a home base.

BEARING: The horizontal direction to or from any point, usually measured clockwise from true north or magnetic north.

BLAST FENCE: A barrier used to divert or dissipate jet blast or propeller wash.

BLAST PAD: A prepared surface adjacent to the end of a runway for the purpose of eliminating the erosion of the ground surface by the wind forces produced by airplanes at the initiation of takeoff operations.

BUILDING RESTRICTION LINE (BRL): A line which identifies suitable building area locations on the airport.

C

CAPITAL IMPROVEMENT PLAN: The planning program used by the Federal Aviation Administration to identify, prioritize, and distribute Airport Improvement Program funds for airport development and the needs of the National Airspace System to meet specified national goals and objectives.

CARGO SERVICE AIRPORT: An airport served by aircraft providing air transportation of property only, including mail, with an annual aggregate landed weight of at least 100,000,000 pounds.

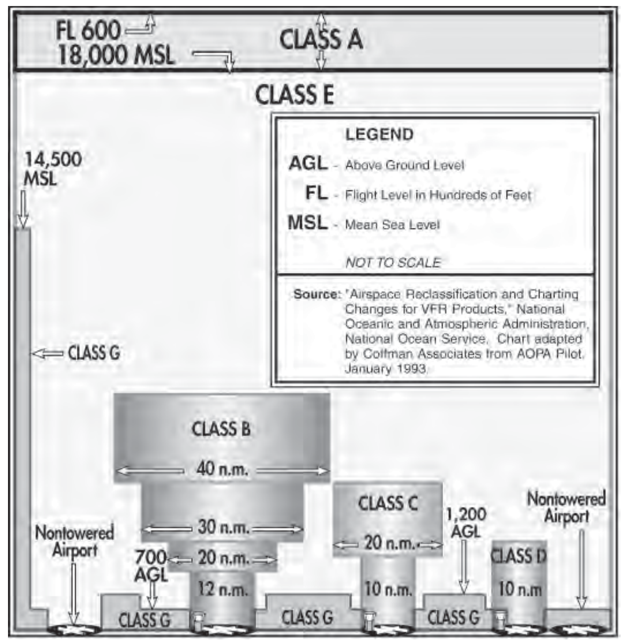
CATEGORY I: An Instrument Landing System (ILS) that provides acceptable guidance information to an aircraft from the coverage limits of the ILS to the point at which the localizer course line intersects the glide path at a decision height of 100 feet above the horizontal plane containing the runway threshold.

CATEGORY II: An ILS that provides acceptable guidance information to an aircraft from the coverage limits of the ILS to the point at which the localizer course line intersects the glide path at a decision height of 50 feet above the horizontal plane containing the runway threshold.

CATEGORY III: An ILS that provides acceptable guidance information to a pilot from the coverage limits of the ILS with no decision height specified above the horizontal plane containing the runway threshold.

CEILING: The height above the ground surface to the location of the lowest layer of clouds which is reported as either broken or overcast.

CIRCLING APPROACH: A maneuver initiated by the pilot to align the aircraft with the runway for landing when flying a predetermined circling instrument approach under IFR.



CLASS A AIRSPACE: See Controlled Airspace.

CLASS B AIRSPACE: See Controlled Airspace.

CLASS C AIRSPACE: See Controlled Airspace.

CLASS D AIRSPACE: See Controlled Airspace.

CLASS E AIRSPACE: See Controlled Airspace.

CLASS G AIRSPACE: See Controlled Airspace.

CLEAR ZONE: See Runway Protection Zone.

COMMERCIAL SERVICE AIRPORT: A public airport providing scheduled passenger service that enplanes at least 2,500 annual passengers.

COMMON TRAFFIC ADVISORY FREQUENCY: A radio frequency identified in the appropriate aeronautical chart which is designated for the purpose of transmitting airport advisory information and procedures while operating to or from an uncontrolled airport.

COMPASS LOCATOR (LOM): A low power, low/medium frequency radio-beacon installed in conjunction with the instrument landing system at one or two of the marker sites.

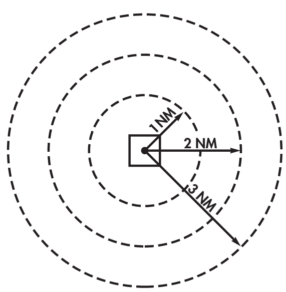
CONICAL SURFACE: An imaginary obstruction-limiting surface defined in FAR Part 77 that extends from the edge of the horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

CONTROLLED AIRPORT: An airport that has an operating airport traffic control tower.

CONTROLLED AIRSPACE: Airspace of defined dimensions within which air traffic control services are provided to instrument flight rules (IFR) and visual flight rules (VFR) flights in accordance with the airspace classification. Controlled airspace in the United States is designated as follows:

- **CLASS A**: Generally, the airspace from 18,000 feet mean sea level (MSL) up to but not including flight level FL600. All persons must operate their aircraft under IFR.

- **CLASS B**: Generally, the airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports. The configuration of Class B airspace is unique to each airport, but typically consists of two or more layers of air space and is designed to contain all published instrument approach procedures to the airport. An air traffic control clearance is required for all aircraft to operate in the area.



- **CLASS C**: Generally, the airspace from the surface to 4,000 feet above the airport elevation (charted as MSL) surrounding those airports that have an operational control tower and radar approach control and are served by a qualifying number of IFR operations or passenger enplanements. Although individually tailored for each airport, Class C airspace typically consists of a surface area with a five nautical mile (nm) radius and an outer area with a 10 nautical mile radius that extends from 1,200 feet to 4,000 feet above the airport elevation. Two-way radio communication is required for all aircraft.

- **CLASS D**: Generally, that airspace from the surface to 2,500 feet above the air port elevation (charted as MSL) surrounding those airports that have an operational control tower. Class D airspace is individually tailored and configured to encompass published instrument approach procedure . Unless otherwise authorized, all persons must establish two-way radio communication.

- **CLASS E**: Generally, controlled airspace that is not classified as Class A, B, C, or D. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Class E airspace encompasses all Victor Airways. Only aircraft following instrument flight rules are required to establish two-way radio communication with air traffic control.

- **CLASS G**: Generally, that airspace not classified as Class A, B, C, D, or E. Class G airspace is uncontrolled for all aircraft. Class G airspace extends from the surface to the overlying Class E airspace.

CONTROLLED FIRING AREA: See special-use airspace.

CROSSWIND: A wind that is not parallel to a runway centerline or to the intended flight path of an aircraft.

CROSSWIND COMPONENT: The component of wind that is at a right angle to the runway centerline or the intended flight path of an aircraft.

CROSSWIND LEG: A flight path at right angles to the landing runway off its upwind end. See "traffic pattern."

D

DECIBEL: A unit of noise representing a level relative to a reference of a sound pressure 20 micro newtons per square meter.

DECISION HEIGHT: The height above the end of the runway surface at which a decision must be made by a pilot during the ILS or Precision Approach Radar approach to either continue the approach or to execute a missed approach.

DECLARED DISTANCES: The distances declared available for the airplane's takeoff runway, takeoff distance, accelerate-stop distance, and landing distance requirements. The distances are:

- **TAKEOFF RUNWAY AVAILABLE (TORA)**: The runway length declared available and suitable for the ground run of an airplane taking off.

- **TAKEOFF DISTANCE AVAILABLE (TODA)**: The TORA plus the length of any remaining runway and/or clear way beyond the far end of the TORA.

- **ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)**: The runway plus stopway length declared available for the acceleration and deceleration of an aircraft aborting a takeoff.

- **LANDING DISTANCE AVAILABLE (LDA)**: The runway length declared available and suitable for landing.

DEPARTMENT OF TRANSPORTATION: The cabinet level federal government organization consisting of modal operating agencies, such as the Federal Aviation Administration, which was established to promote the coordination of federal transportation programs and to act as a focal point for research and development efforts in transportation.

DISCRETIONARY FUNDS: Federal grant funds that may be appropriated to an airport based upon designation by the Secretary of Transportation or Congress to meet a specified national priority such as enhancing capacity, safety, and security, or mitigating noise.

DISPLACED THRESHOLD: A threshold that is located at a point on the runway other than the designated beginning of the runway.

DISTANCE MEASURING EQUIPMENT (DME): Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.

DNL: The 24-hour average sound level, in Aweighted decibels, obtained after the addition of ten decibels to sound levels for the periods between 10 p.m. and 7 a.m. as averaged over a span of one year. It is the FAA standard metric for determining the cumulative exposure of individuals to noise.

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. Also see "traffic pattern."

E

EASEMENT: The legal right of one party to use a portion of the total rights in real estate owned by another party. This may include the right of passage over, on, or below the property; certain air rights above the property, including view rights; and the rights to any specified form of development or activity, as well as any other legal rights in the property that may be specified in the easement document.

ELEVATION: The vertical distance measured in feet above mean sea level.

ENPLANED PASSENGERS: The total number of revenue passengers boarding aircraft, including originating, stop-over, and transfer passengers, in scheduled and nonscheduled services.

ENPLANEMENT: The boarding of a passenger, cargo, freight, or mail on an aircraft at an airport.

ENTITLEMENT: Federal funds for which a commercial service airport may be eligible based upon its annual passenger enplanements.

ENVIRONMENTAL ASSESSMENT (EA): An environmental analysis performed pursuant to the National Environmental Policy Act to determine whether an action would significantly affect the environment and thus require a more detailed environmental impact statement.

ENVIRONMENTAL AUDIT: An assessment of the current status of a party's compliance with applicable environmental requirements of a party's environmental compliance policies, practices, and controls.

ENVIRONMENTAL IMPACT STATEMENT (EIS): A document required of federal agencies by the National Environmental Policy Act for major projects are legislative proposals affecting the environment. It is a tool for decision-making describing the positive and negative effects of a proposed action and citing alternative actions.

ESSENTIAL AIR SERVICE: A federal program which guarantees air carrier service to selected small cities by providing subsidies as needed to prevent these cities from such service.

F

FEDERAL AVIATION REGULATIONS: The general and permanent rules established by the executive departments and agencies of the Federal Government for aviation, which are published in the Federal Register. These are the aviation subset of the Code of Federal Regulations.

FEDERAL INSPECTION SERVICES: The provision of customs and immigration services including passport inspection, inspection of baggage, the collection of duties on certain imported items, and the inspections for agricultural products, illegal drugs, or other restricted items.

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. See "traffic pattern."

FINAL APPROACH AND TAKEOFF AREA (FATO). A defined area over which the final phase of the helicopter approach to a hover, or a landing is completed and from which the takeoff is initiated.

FINAL APPROACH FIX: The designated point at which the final approach segment for an aircraft landing on a runway begins for a non-precision approach.

FINDING OF NO SIGNIFICANT IMPACT (FONSI): A public document prepared by a Federal agency that presents the rationale why a proposed action will not have a significant effect on the environment and for which an environmental impact statement will not be prepared.

FIXED BASE OPERATOR (FBO): A provider of services to users of an airport. Such services include, but are not limited to, hangaring, fueling, flight training, repair, and maintenance.

FLIGHT LEVEL: A designation for altitude within controlled airspace.

FLIGHT SERVICE STATION: An operations facility in the national flight advisory system which utilizes data interchange facilities for the collection and dissemination of Notices to Airmen, weather, and administrative data and which provides pre-flight and in-flight advisory services to pilots through air and ground based communication facilities.

FRANGIBLE NAVAID: A navigational aid which retains its structural integrity and stiffness up to a designated maximum load, but on impact from a greater load, breaks, distorts, or yields in such a manner as to present the minimum hazard to aircraft.

G

GENERAL AVIATION: That portion of civil aviation which encompasses all facets of aviation except air carriers holding a certificate of convenience and necessity, and large aircraft commercial operators.

GENERAL AVIATION AIRPORT: An airport that provides air service to only general aviation.

GLIDESLOPE (GS): Provides vertical guidance for aircraft during approach and landing. The glideslope consists of the following:

1. Electronic components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as ILS; or

2. Visual ground aids, such as VASI, which provide vertical guidance for VFR approach or for the visual portion of an instrument approach and landing.

GLOBAL POSITIONING SYSTEM (GPS): A system of 24 satellites used as reference points to enable navigators equipped with GPS receivers to determine their latitude, longitude, and altitude.

GROUND ACCESS: The transportation system on and around the airport that provides access to and from the airport by ground transportation vehicles for passengers, employees, cargo, freight, and airport services.

H

HELIPAD: A designated area for the takeoff, landing, and parking of helicopters.

HIGH INTENSITY RUNWAY LIGHTS: The highest classification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.

HIGH-SPEED EXIT TAXIWAY: A long radius taxiway designed to expedite aircraft turning off the runway after landing (at speeds to 60 knots), thus reducing runway occupancy time.

HORIZONTAL SURFACE: An imaginary obstruction- limiting surface defined in FAR Part 77 that is specified as a portion of a horizontal plane surrounding a runway located 150 feet above the established airport elevation. The specific horizontal dimensions of this surface are a function of the types of approaches existing or planned for the runway.

I

INITIAL APPROACH FIX: The designated point at which the initial approach segment begins for an instrument approach to a runway.

INSTRUMENT APPROACH PROCEDURE: A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually.

INSTRUMENT FLIGHT RULES (IFR): Procedures for the conduct of flight in weather conditions below Visual Flight Rules weather minimums. The term IFR is often also used to define weather conditions and the type of flight plan under which an aircraft is operating.

INSTRUMENT LANDING SYSTEM (ILS): A precision instrument approach system which normally consists of the following electronic components and visual aids:

1. Localizer.
2. Glide Slope.
3. Outer Marker.
4. Middle Marker.
5. Approach Lights.

INSTRUMENT METEOROLOGICAL CONDITIONS: Meteorological conditions expressed in terms of specific visibility and ceiling conditions that are less than the minimums specified for visual meteorological conditions.

ITINERANT OPERATIONS: Operations by aircraft that are not based at a specified airport.

K

KNOTS: A unit of speed length used in navigation that is equivalent to the number of nautical miles traveled in one hour.

L

LANDSIDE: The portion of an airport that provides the facilities necessary for the processing of passengers, cargo, freight, and ground transportation vehicles.

LANDING DISTANCE AVAILABLE (LDA): See declared distances.

LARGE AIRPLANE: An airplane that has a maximum certified takeoff weight in excess of 12,500 pounds.

LOCAL AREA AUGMENTATION SYSTEM: A differential GPS system that provides localized measurement correction signals to the basic GPS signals to improve navigational accuracy integrity, continuity, and availability.

LOCAL OPERATIONS: Aircraft operations performed by aircraft that are based at the airport and that operate in the local traffic pattern or within sight of the airport, that are known to be departing for or arriving from flights in local practice areas within a prescribed distance from the airport, or that execute simulated instrument approaches at the airport.

LOCAL TRAFFIC: Aircraft operating in the traffic pattern or within sight of the tower, or aircraft known to be departing or arriving from the local practice areas, or aircraft executing practice instrument approach procedures. Typically, this includes touch and-go training operations.

LOCALIZER: The component of an ILS which provides course guidance to the runway.

LOCALIZER TYPE DIRECTIONAL AID (LDA): A facility of comparable utility and accuracy to a localizer, but is not part of a complete ILS and is not aligned with the runway.

LONG RANGE NAVIGATION SYSTEM (LORAN): Long range navigation is an electronic navigational aid which determines aircraft position and speed by measuring the difference in the time of reception of synchronized pulse signals from two fixed transmitters. Loran is used for en route navigation.

LOW INTENSITY RUNWAY LIGHTS: The lowest clas- sification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.

M

MEDIUM INTENSITY RUNWAY LIGHTS: The middle classification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.

MICROWAVE LANDING SYSTEM (MLS): An instrument approach and landing system that provides precision guidance in azimuth, elevation, and distance measurement.

MILITARY OPERATIONS: Aircraft operations that are performed in military aircraft.

MILITARY OPERATIONS AREA (MOA): See special-use airspace

MILITARY TRAINING ROUTE: An air route depicted on aeronautical charts for the conduct of military flight training at speeds above 250 knots.

MISSED APPROACH COURSE (MAC): The flight route to be followed if, after an instrument approach, a landing is not affected, and occurring normally:

1. When the aircraft has descended to the decision height and has not established visual contact; or

2. When directed by air traffic control to pull up or to go around again.

MOVEMENT AREA: The runways, taxiways, and other areas of an airport which are utilized for taxiing/hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports with a tower, air traffic control clearance is required for entry onto the movement area.

N

NATIONAL AIRSPACE SYSTEM: The network of air traffic control facilities, air traffic control areas, and navigational facilities through the U.S.

NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS: The national airport system plan developed by the Secretary of Transportation on a biannual basis for the development of public use airports to meet national air transportation needs.

NATIONAL TRANSPORTATION SAFETY BOARD: A federal government organization established to investigate and determine the probable cause of transportation accidents, to recommend equipment and procedures to enhance transportation safety, and to review on appeal the suspension or revocation of any certificates or licenses issued by the Secretary of Transportation.

NAUTICAL MILE: A unit of length used in navigation which is equivalent to the distance spanned by one minute of arc in latitude, that is, 1,852 meters or 6,076 feet. It is equivalent to approximately 1.15 statute mile.

NAVAID: A term used to describe any electrical or visual air navigational aids, lights, signs, and associated supporting equipment (i.e. PAPI, VASI, ILS, etc.)

NAVIGATIONAL AID: A facility used as, available for use as, or designed for use as an aid to air navigation.

NOISE CONTOUR: A continuous line on a map of the airport vicinity connecting all points of the same noise exposure level.

NON-DIRECTIONAL BEACON (NDB): A beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine his or her bearing to and from the radio beacon and home on, or track to, the station. When the radio beacon is installed in conjunction with the Instrument Landing System marker, it is normally called a Compass Locator.

NON-PRECISION APPROACH PROCEDURE: A standard instrument approach procedure in which no electronic glide slope is provided, such as VOR, TACAN, NDB, or LOC.

NOTICE TO AIRMEN: A notice containing information concerning the establishment, condition, or change in any component of or hazard in the National Airspace System, the timely knowledge of which is considered essential to personnel concerned with flight operations.

O

OBJECT FREE AREA (OFA): An area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

OBSTACLE FREE ZONE (OFZ): The airspace below 150 feet above the established airport elevation and along the runway and extended runway centerline that is required to be kept clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance for aircraft landing or taking off from the runway, and for missed approaches.

ONE-ENGINE INOPERABLE SURFACE: A surface emanating from the runway end at a slope ratio of 62.5:1. Air carrier airports are required to maintain a technical drawing of this surface depicting any object penetrations by January 1, 2010.

OPERATION: The take-off, landing, or touch-and-go procedure by an aircraft on a runway at an airport.

OUTER MARKER (OM): An ILS navigation facility in the terminal area navigation system located four to seven miles from the runway edge on the extended centerline, indicating to the pilot that he/she is passing over the facility and can begin final approach.

P

PILOT CONTROLLED LIGHTING: Runway lighting systems at an airport that are controlled by activating the microphone of a pilot on a specified radio frequency.

PRECISION APPROACH: A standard instrument approach procedure which provides runway alignment and glide slope (descent) information. It is categorized as follows:

- **CATEGORY I (CAT I)**: A precision approach which provides for approaches with a decision height of not less than 200 feet and visibility not less than 1/2 mile or Runway Visual Range (RVR) 2400 (RVR 1800) with operative touchdown zone and runway centerline lights.

- **CATEGORY II (CAT II)**: A precision approach which provides for approaches with a decision height of not less than 100 feet and visibility not less than 1200 feet RVR.

- **CATEGORY III (CAT III)**: A precision approach which provides for approaches with minima less than Category II.

PRECISION APPROACH PATH INDICATOR (PAPI): A lighting system providing visual approach slope guidance to aircraft during a landing approach. It is similar to a VASI but provides a sharper transition between the colored indicator lights.

PRECISION APPROACH RADAR: A radar facility in the terminal air traffic control system used to detect and display with a high degree of accuracy the direction, range, and elevation of an aircraft on the final approach to a runway.

PRECISION OBJECT FREE AREA (POFA): An area centered on the extended runway centerline, beginning at the runway threshold and extending behind the runway threshold that is 200 feet long by 800 feet wide. The POFA is a clearing standard which requires the POFA to be kept clear of above ground objects protruding above the runway safety area edge elevation (except for frangible NAVAIDS). The POFA applies to all new authorized instrument approach procedures with less than 3/4 mile visibility.

PRIMARY AIRPORT: A commercial service airport that enplanes at least 10,000 annual passengers.

PRIMARY SURFACE: An imaginary obstruction limiting surface defined in FAR Part 77 that is specified as a rectangular surface longitudinally centered about a runway. The specific dimensions of this surface are a function of the types of approaches existing or planned for the runway.

PROHIBITED AREA: See special-use airspace.

PVC: Poor visibility and ceiling. Used in determining Annual Service Volume. PVC conditions exist when the cloud ceiling is less than 500 feet and visibility is less than one mile.

R

RADIAL: A navigational signal generated by a Very High Frequency Omni-directional Range or VORTAC station that is measured as an azimuth from the station.

REGRESSION ANALYSIS: A statistical technique that seeks to identify and quantify the relationships between factors associated with a forecast.

REMOTE COMMUNICATIONS OUTLET (RCO): An unstaffed transmitter receiver/facility remotely controlled by air traffic personnel. RCOs serve flight service stations (FSSs). RCOs were established to provide ground-to-ground communications between air traffic control specialists and pilots at satellite airports for delivering en route clearances, issuing departure authorizations, and acknowledging instrument flight rules cancellations or departure/landing times.

REMOTE TRANSMITTER/RECEIVER (RTR): See remote communications outlet. RTRs serve ARTCCs.

RELIEVER AIRPORT: An airport to serve general aviation aircraft which might otherwise use a congested air-carrier served airport.

RESTRICTED AREA: See special-use airspace.

RNAV: Area navigation - airborne equipment which permits flights over determined tracks within prescribed accuracy tolerances without the need to overfly ground-based navigation facilities. Used en route and for approaches to an airport.

RUNWAY: A defined rectangular area on an airport prepared for aircraft landing and takeoff. Runways are normally numbered in relation to their magnetic direction, rounded off to the nearest 10 degrees. For example, a runway with a magnetic heading of 180 would be designated Runway 18. The runway heading on the opposite end of the runway is 180 degrees from that runway end. For example, the opposite runway heading for Runway 18 would be Runway 36 (magnetic heading of 360). Aircraft can takeoff or land from either end of a runway, depending upon wind direction.

RUNWAY ALIGNMENT INDICATOR LIGHT: A series of high intensity sequentially flashing lights installed on the extended centerline of the runway usually in conjunction with an approach lighting system.

RUNWAY END IDENTIFIER LIGHTS (REIL): Two synchronized flashing lights, one on each side of the runway threshold, which provide rapid and positive identification of the approach end of a particular runway.

RUNWAY GRADIENT: The average slope, measured in percent, between the two ends of a runway.

RUNWAY PROTECTION ZONE (RPZ): An area off the runway end to enhance the protection of people and property on the ground. The RPZ is trapezoidal in shape. Its dimensions are determined by the aircraft approach speed and runway approach type and minima.

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 from the runway.

RUNWAY VISIBILITY ZONE (RVZ): An area on the airport to be kept clear of permanent objects so that there is an unobstructed line of- site from any point five feet above the runway centerline to any point five feet above an intersecting runway centerline.

RUNWAY VISUAL RANGE (RVR): An instrumentally derived value, in feet, representing the horizontal distance a pilot can see down the runway from the runway end.

S

SCOPE: The document that identifies and defines the tasks, emphasis, and level of effort associated with a project or study.

SEGMENTED CIRCLE: A system of visual indicators designed to provide traffic pattern information at airports without operating control towers.

SHOULDER: An area adjacent to the edge of paved runways, taxiways, or aprons providing a transition between the pavement and the adjacent surface; support for aircraft running off the pavement; enhanced drainage; and blast protection. The shoulder does not necessarily need to be paved.

SLANT-RANGE DISTANCE: The straight line distance between an aircraft and a point on the ground.

SMALL AIRPLANE: An airplane that has a maximum certified takeoff weight of up to 12,500 pounds.

SPECIAL-USE AIRSPACE: Airspace of defined dimensions identified by a surface area wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Special-use airspace classifications include:

- **ALERT AREA**: Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft.
- **CONTROLLED FIRING AREA**: Airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to nonparticipating aircraft and to ensure the safety of persons or property on the ground.
- **MILITARY OPERATIONS AREA (MOA)**: Designated airspace with defined vertical and lateral dimensions established outside Class A airspace to separate/segregate certain military activities from instrument flight rule (IFR) traffic and to identify for visual flight rule (VFR) traffic where these activities are conducted.
- **PROHIBITED AREA**: Designated airspace within which the flight of aircraft is prohibited.
- **RESTRICTED AREA**: Airspace designated under Federal Aviation Regulation (FAR) 73, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Most restricted areas are designated joint use. When not in use by the using agency, IFR/VFR operations can be authorized by the controlling air traffic control facility.
- **WARNING AREA**: Airspace which may contain hazards to nonparticipating aircraft.

STANDARD INSTRUMENT DEPARTURE (SID): A preplanned coded air traffic control IFR departure routing, preprinted for pilot use in graphic and textual form only.

STANDARD INSTRUMENT DEPARTURE PROCEDURES: A published standard flight procedure to be utilized following takeoff to provide a transition between the airport and the terminal area or en route airspace.

STANDARD TERMINAL ARRIVAL ROUTE (STAR): A preplanned coded air traffic control IFR arrival routing, preprinted for pilot use in graphic and textual or textual form only.

STOP-AND-GO: A procedure wherein an aircraft will land, make a complete stop on the runway, and then commence a takeoff from that point. A stop-and-go is recorded as two operations: one operation for the landing and one operation for the takeoff.

STOPWAY: An area beyond the end of a takeoff runway that is designed to support an aircraft during an aborted takeoff without causing structural damage to the aircraft. It is not to be used for takeoff, landing, or taxiing by aircraft.

STRAIGHT-IN LANDING/APPROACH: A landing made on a runway aligned within 30 degrees of the final approach course following completion of an instrument approach.

T

TACTICAL AIR NAVIGATION (TACAN): An ultrahigh frequency electronic air navigation system which provides suitably-equipped aircraft a continuous indication of bearing and distance to the TACAN station.

TAKEOFF RUNWAY AVAILABLE (TORA): See declared distances.

TAKEOFF DISTANCE AVAILABLE (TODA): See declared distances.

TAXILANE: The portion of the aircraft parking area used for access between taxiways and aircraft parking positions.

TAXIWAY: A defined path established for the taxiing of aircraft from one part of an airport to another.

TAXIWAY SAFETY AREA (TSA): A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway.

TERMINAL INSTRUMENT PROCEDURES: Published flight procedures for conducting instrument approaches to runways under instrument meteorological conditions.

TERMINAL RADAR APPROACH CONTROL: An element of the air traffic control system responsible for monitoring the en-route and terminal segment of air traffic in the airspace surrounding airports with moderate to high levels of air traffic.

TETRAHEDRON: A device used as a landing direction indicator. The small end of the tetrahedron points in the direction of landing.

THRESHOLD: The beginning of that portion of the runway available for landing. In some instances the landing threshold may be displaced.

TOUCH-AND-GO: An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway. A touch-and go is recorded as two operations: one operation for the landing and one operation for the takeoff.

TOUCHDOWN: The point at which a landing aircraft makes contact with the runway surface.

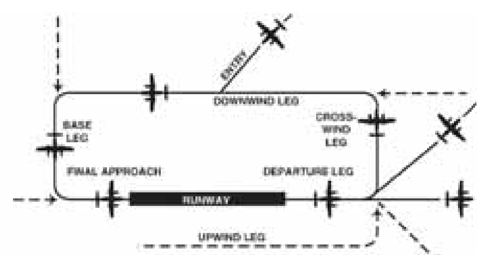
TOUCHDOWN AND LIFT-OFF AREA (TLOF): A load bearing, generally paved area, normally centered in the FATO, on which the helicopter lands or takes off.

TOUCHDOWN ZONE (TDZ): The first 3,000 feet of the runway beginning at the threshold.

TOUCHDOWN ZONE ELEVATION (TDZE): The highest elevation in the touchdown zone.

TOUCHDOWN ZONE (TDZ) LIGHTING: Two rows of transverse light bars located symmetrically about the runway centerline normally at 100- foot intervals. The basic system extends 3,000 feet along the runway.

TRAFFIC PATTERN: The traffic flow that is prescribed for aircraft landing at or taking off from an airport. The components of a typical traffic pattern are the upwind leg, crosswind leg, downwind leg, base leg, and final approach.



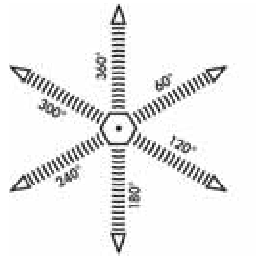
U

UNCONTROLLED AIRPORT: An airport without an air traffic control tower at which the control of Visual Flight Rules traffic is not exercised.

UNCONTROLLED AIRSPACE: Airspace within which aircraft are not subject to air traffic control.

UNIVERSAL COMMUNICATION (UNICOM): A nongovernment communication facility which may provide airport information at certain airports. Locations and frequencies of UNICOM's are shown on aeronautical charts and publications.

UPWIND LEG: A flight path parallel to the landing runway in the direction of landing. See "traffic pattern."



V

VECTOR: A heading issued to an aircraft to provide navigational guidance by radar.

VERY HIGH FREQUENCY/ OMNIDIRECTIONAL RANGE (VOR): A ground-based electronic navigation aid transmitting very high frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the national airspace system. The VOR periodically identifies itself by Morse Code and may have an additional voice identification feature.

VERY HIGH FREQUENCY OMNI-DIRECTIONAL RANGE/ TACTICAL AIR NAVIGATION (VORTAC): A navigation aid providing VOR azimuth, TACAN azimuth, and TACAN distance-measuring equipment (DME) at one site.

VICTOR AIRWAY: A control area or portion thereof established in the form of a corridor, the centerline of which is defined by radio navigational aids.

VISUAL APPROACH: An approach wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of an air traffic control facility and having an air traffic control authorization, may proceed to the airport of destination in VFR conditions.

VISUAL APPROACH SLOPE INDICATOR (VASI): An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he is on path if he sees red/white, above path if white/white, and below path if red/red. Some airports serving large aircraft have three-bar VASI's which provide two visual guide paths to the same runway.

VISUAL FLIGHT RULES (VFR): Rules that govern the procedures for conducting flight under visual conditions. The term VFR is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

VISUAL METEOROLOGICAL CONDITIONS: Meteorological conditions expressed in terms of specific visibility and ceiling conditions which are equal to or greater than the threshold values for instrument meteorological conditions.

VOR: See "Very High Frequency Omnidirectional Range Station."

VORTAC: See "Very High Frequency Omnidirectional Range Station/Tactical Air Navigation."

W

WARNING AREA: See special-use airspace.

WIDE AREA AUGMENTATION SYSTEM: An enhancement of the Global Positioning System that includes integrity broadcasts, differential corrections, and additional ranging signals for the purpose of providing the accuracy, integrity, availability, and continuity required to support all phases of flight.

AC: advisory circular

ADF: automatic direction finder

ADG: airplane design group

AFSS: automated flight service station

AGL: above ground level

AIA: annual instrument approach

AIP: Airport Improvement Program

AIR-21: Wendell H. Ford Aviation Investment and Reform Act for the 21st Century

ALS: approach lighting system

ALSF-1: standard 2,400-foot high intensity approach lighting system with sequenced flashers (CAT I configuration)

ALSF-2: standard 2,400-foot high intensity approach lighting system with sequenced flashers (CAT II configuration)

AOA: Aircraft Operation Area

APV: instrument approach procedure with vertical guidance

ARC: airport reference code

ARFF: aircraft rescue and fire fighting

ARP: airport reference point

ARTCC: air route traffic control center

ASDA: accelerate-stop distance available

ASR: airport surveillance radar

ASOS: automated surface observation station

ATCT: airport traffic control tower

ATIS: automated terminal information service

AVGAS: aviation gasoline - typically 100 low lead (100L)

AWOS: automated weather observation station

BRL: building restriction line

CFR: Code of Federal Regulation

CIP: capital improvement program

DME: distance measuring equipment

DNL: day-night noise level

DWL: runway weight bearing capacity of aircraft with dual-wheel type landing gear

DTWL: runway weight bearing capacity of aircraft with dual-tandem type landing gear

FAA: Federal Aviation Administration

FAR: Federal Aviation Regulation

FBO: fixed base operator

FY: fiscal year

GPS: global positioning system

GS: glide slope

HIRL: high intensity runway edge lighting

IFR: instrument flight rules (FAR Part 91)

ILS: instrument landing system

IM: inner marker

LDA: localizer type directional aid

LDA: landing distance available

LIRL: low intensity runway edge lighting

LMM: compass locator at ILS outer marker

LORAN: long range navigation

MALS: midium intensity approach lighting system with indicator lights

MIRL: medium intensity runway edge lighting

MITL: medium intensity taxiway edge lighting

MLS: microwave landing system

MM: middle marker

MOA: military operations area

MSL: mean sea level

NAVAID: navigational aid

NDB: nondirectional radio beacon

NM: nautical mile (6,076.1 feet)

NPES: National Pollutant Discharge Elimination System

NPIAS: National Plan of Integrated Airport Systems

NPRM: notice of proposed rule making

ODALS: omnidirectional approach lighting system

OFA: object free area

OFZ: obstacle free zone

OM: outer marker

PAC: planning advisory committee

PAPI: precision approach path indicator

PFC: porous friction course

PFC: passenger facility charge

PCL: pilot-controlled lighting

PIW public information workshop

PLASI: pulsating visual approach slope indicator

POFA: precision object free area

PVASI: pulsating/steady visual approach slope indicator

PVC: poor visibility and ceiling

RCO: remote communications outlet

REIL: runway end identifier lighting

RNAV: area navigation

RPZ: runway protection zone

RSA: runway safety area

RTR: remote transmitter/receiver

RVR: runway visibility range

RVZ: runway visibility zone

SALS: short approach lighting system

SASP: state aviation system plan

SEL: sound exposure level

SID: standard instrument departure

SM: statute mile (5,280 feet)

SRE: snow removal equipment

SSALF: simplified short approach lighting system with runway alignment indicator lights

STAR: standard terminal arrival route

SWL: runway weight bearing capacity for aircraft with single-wheel tandem type landing gear

TACAN: tactical air navigational aid

TAF: Federal Aviation Administration (FAA) Terminal Area Forecast

TLOF: Touchdown and lift-off

TDZ: touchdown zone

TDZE: touchdown zone elevation

TODA: takeoff distance available

TORA: takeoff runway available

TRACON: terminal radar approach control

VASI: visual approach slope indicator

VFR: visual flight rules (FAR Part 91)

VHF: very high frequency

VOR: very high frequency omni-directional range

VORTAC: VOR and TACAN collocated

Appendix B

Public Airport Disclosure Map

F. ANN RODRIGUEZ, RECORDER
RECORDED BY: RJL
DEPUTY RECORDER
9544 PE-1

P1600
PIMA CO DEPT TRANSPORTATION
PICK UP

DOCKET: 13821
PAGE: 62
NO. OF PAGES: 2
SEQUENCE: 20101050014
06/02/2010
MISC 10:06

PICKUP
AMOUNT PAID $ 0.00

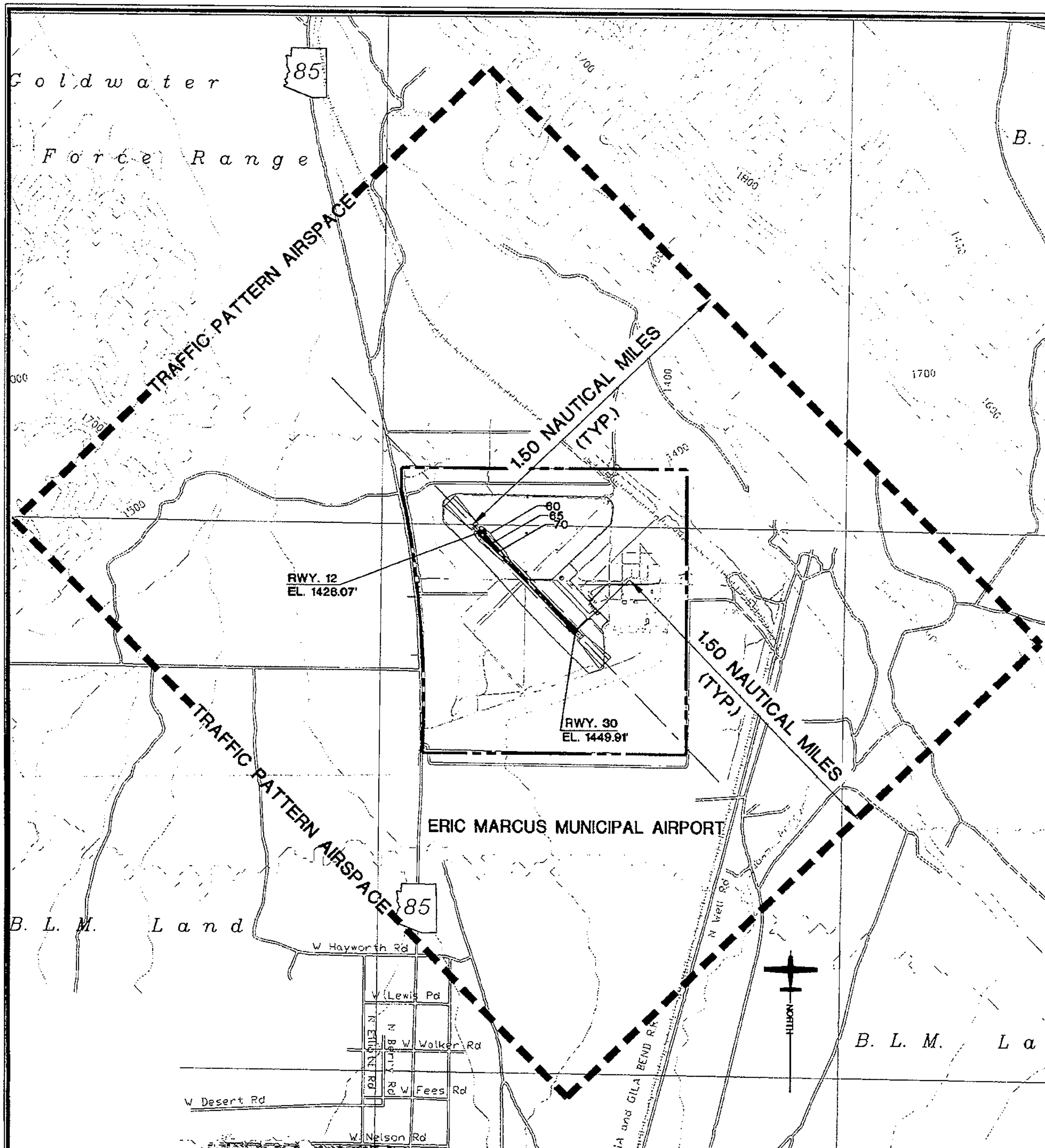
Eric Marcus Municipal Airport

PUBLIC AIRPORT DISCLOSURE MAP

AJO, ARIZONA

Created by: Coffman Associates

April 13, 2010



NOTES:

1. This map has been prepared in accordance with the Arizona Revised Statutes, Section 28-8486, relating to Public Airport Disclosure.
2. Traffic Pattern Airspace Boundaries have been established in accordance with the guidelines provided in Federal Aviation Administration (FAA) order 7400.2G.
3. The Airport Noise Contours have been developed with the Integrated Noise Model (Version 6.0) and are based on Total Annual Operations (Take-offs and Landings) of 1,000.
4. 1 Nautical mile = 6,080 feet or 1.1516 statute miles.

LEGEND:

- TRAFFIC PATTERN AIRSPACE
- EXISTING AIRPORT PROPERTY LINE
- EXTENDED RUNWAY CENTERLINE
- 65 NOISE CONTOURS DAY NIGHT LEVEL (DNL)

Electronic USGS Map base Edited and Published by Sylvan Ascent Inc. Map base used by permission (license agreement) of Sylvan Ascent Inc. Transportation and Hydrography Source data from U.S. Census Bureau

Feature Names from USGS Geographical Names Information System (GNIS). Map Accuracy is identical with that specified for these source files. See Sylvan Ascent Inc. TopoDepot(tm) Documentation or details. (www.topodepot.com)

Coordinate System: Arizona central 202

0 4000 8000

SCALE IN FEET

Eric Marcus Municipal Airport

PUBLIC AIRPORT DISCLOSURE MAP

AJO, ARIZONA

PLANNED BY: Eric Pfeifer
DETAILED BY: Maggie Beaver
APPROVED BY: James M. Harris, P.E.

April 13, 2010 SHEET 1 OF 1

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