

PETER PRINCE AIRPORT MASTER PLAN UPDATE

FINAL REPORT

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SANTA ROSA COUNTY

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CHAPTER 1 INTRODUCTION

Peter Prince Airport

1.1 PURPOSE

The purpose of this Master Plan is to provide Santa Rosa County with a clear and concise planning guide for future development at Peter Prince Airport (2R4). It will help ensure that Airport facilities are improved in conjunction with the forecasted demand for aviation services, thus accommodating both short-term and long-range requirements. Ultimately, this document will serve as a management tool for the implementation of necessary Airport improvements to accommodate expected growth in aviation demand over the next 20 years.

Funding for the 2001 Peter Prince Airport Master Plan Update is shared by the Florida Department of Transportation (FDOT) and Santa Rosa County. Coordination with the local and regional offices of these agencies has occurred in phases throughout the preparation of this Master Plan Update. Public input has been obtained through public meetings with the Airport Advisory Committee at key points in the planning process, and continuously by the Airport management and associated consultants in preparing information for this study.

The Peter Prince Airport Master Plan Update has been prepared in accordance with the guidelines and standards set forth in the Federal Aviation Administration (FAA) Advisory Circulars AC 150/5370-6A, "Airport Master Plans," and AC 150/5300-13, "Airport Design," and the *Florida Department of Transportation, Guidebook for Airport Master Planning*. Additionally, guidance from the FAA Airport District Office (Orlando), FDOT Aviation Office, Santa Rosa County staff, and Airport Advisory Committee has been included in the development of this study.

1.2 OBJECTIVES AND GOALS

The overall objectives of the Airport Master Plan Update are multifaceted. In general, the Airport Master Plan Update provides a guideline for future development of the Airport in an effort to satisfy anticipated demand, helps ensure compatibility with the environment surrounding the Airport, provides a detailed report that can be understood by the community that the Airport serves, and is consistent with the developmental requirements of local agencies.

Funding for the 2000 Peter Prince Airport Master Plan Update is shared by the Florida Department of Transportation and Santa Rosa County.

In addition, specific objectives have been identified for this study:

- Develop a detailed inventory of current landside and airside Airport facilities.
- Review public forecasts of aviation activity and identify a realistic forecast of estimated aviation demand.
- Assess and prioritize the need for additional development.
- Provide a plan, including cost estimates and financial analysis, for additional development or rehabilitation at the Airport.

These objectives are used throughout the master planning process in an effort to achieve desired end goals. In this instance, these goals include development of the Airport to serve existing and future aviation needs, attainment of compatible land uses within the vicinity of the airfield, and provision of the highest possible public benefit from the investment represented by the Airport.

The Master Plan is a written articulation and graphical representation of the ultimate conceptual development of the Airport over the course of the planning period. Though many changes are likely to take place before facilities are designed, approved, and constructed, an approved Airport Layout Plan is essential for an airport to qualify for and receive federal and/or state assistance, and will prove as an invaluable guide for management decisions. The steps that will be followed during the development of the Airport Master Plan are illustrated in **Figure 1-1, Steps in the Master Planning Process**.

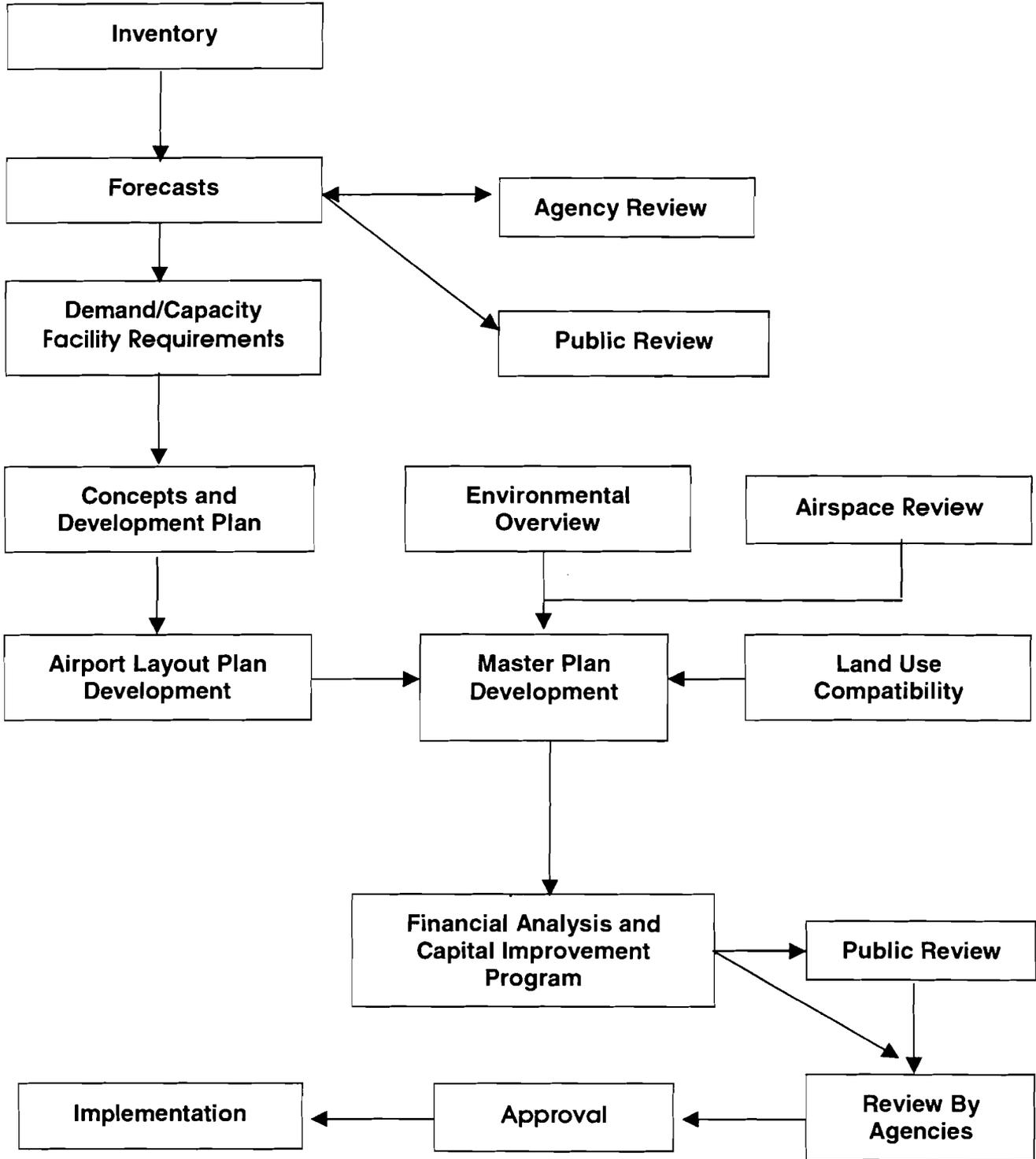
The Master Plan is a written articulation and graphical representation of the ultimate conceptual development of the Airport over the course of the planning period.

1.3 PRIOR PLANNING STUDIES

In the development of this Master Plan Update, prior studies and reports on 2R4 within the past 15 years were identified and used as supporting material. The information derived from these materials has been updated and included in this Master Plan Update. These studies are as follows:

- **Peter Prince Airport Layout Plans, 1992** – prepared by Greiner, Inc. – issued in July 1992.
- **Peter Prince Airport Master Plan Update, 1992** – prepared by Greiner, Inc. – issued in July 1992.
- **Milton T. Master Plan Update, 1987** – prepared by Baskerville Donovan Engineers, Inc. – issued in December 1987.

Figure 1-1
Peter Prince Airport Master Plan Update
Steps in the Master Planning Process



CHAPTER 2 EXISTING AIRPORT FACILITIES, STATISTICS, AND ENVIRONS

Peter Prince Airport

2.1 AIRPORT DESCRIPTION LOCATION

Peter Prince Airport (2R4) is located in central Santa Rosa County in the Northwest region of Florida between Mobile, Alabama and Ft. Walton, Florida. The Airport is located approximately 20 statute miles northeast of Pensacola, Florida, and approximately 3 statute miles east-northeast of the City of Milton central business district.

Peter Prince is owned and operated by Santa Rosa County and provides several general aviation (GA) services to the surrounding community. Of the 235 acres of Airport property approximately ten acres are county controlled easements and right-of-ways.

Santa Rosa County, the 16th largest county in the state, is comprised of 1,032 square miles of land, the majority of which is in timber. Latest estimates show that 85 percent of the county's population live in unincorporated areas. The largest incorporated area is the City of Milton, which has a population of approximately 7,045. Topographical features of Santa Rosa vary from sea level to about 280 feet above sea level. **Figure 2-1** illustrates the Airport vicinity in relation to the surrounding communities, and **Figure 2-2** depicts a location map showing the Airport and the City of Milton in relation to the state of Florida.

The City of Milton has a population of approximately 7,045 and is the largest incorporated area in Santa Rosa County.

2.2 HISTORY

Peter Prince Airport, previously Milton "T", has been in use as an "aircraft land facility" since the early 1930's. At that time, a rotating beacon was installed by the Civil Aeronautics Administration (CAA) to identify an emergency landing strip to be used with their night navigation network. The advent of radio beam navigation was cause for the CAA to abandon the facility and for Santa Rosa County to obtain title to the property on August 23, 1934.

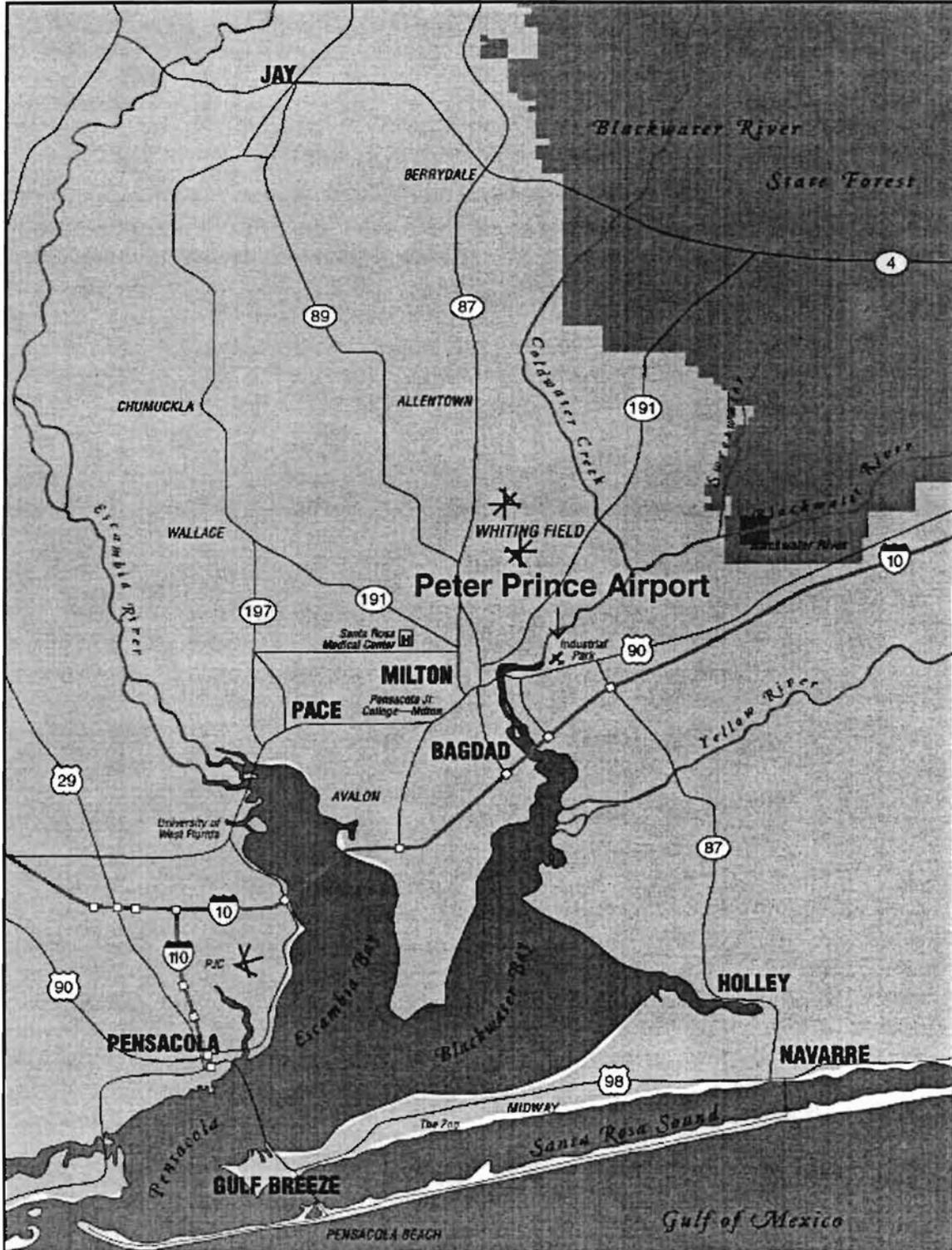


SNJ

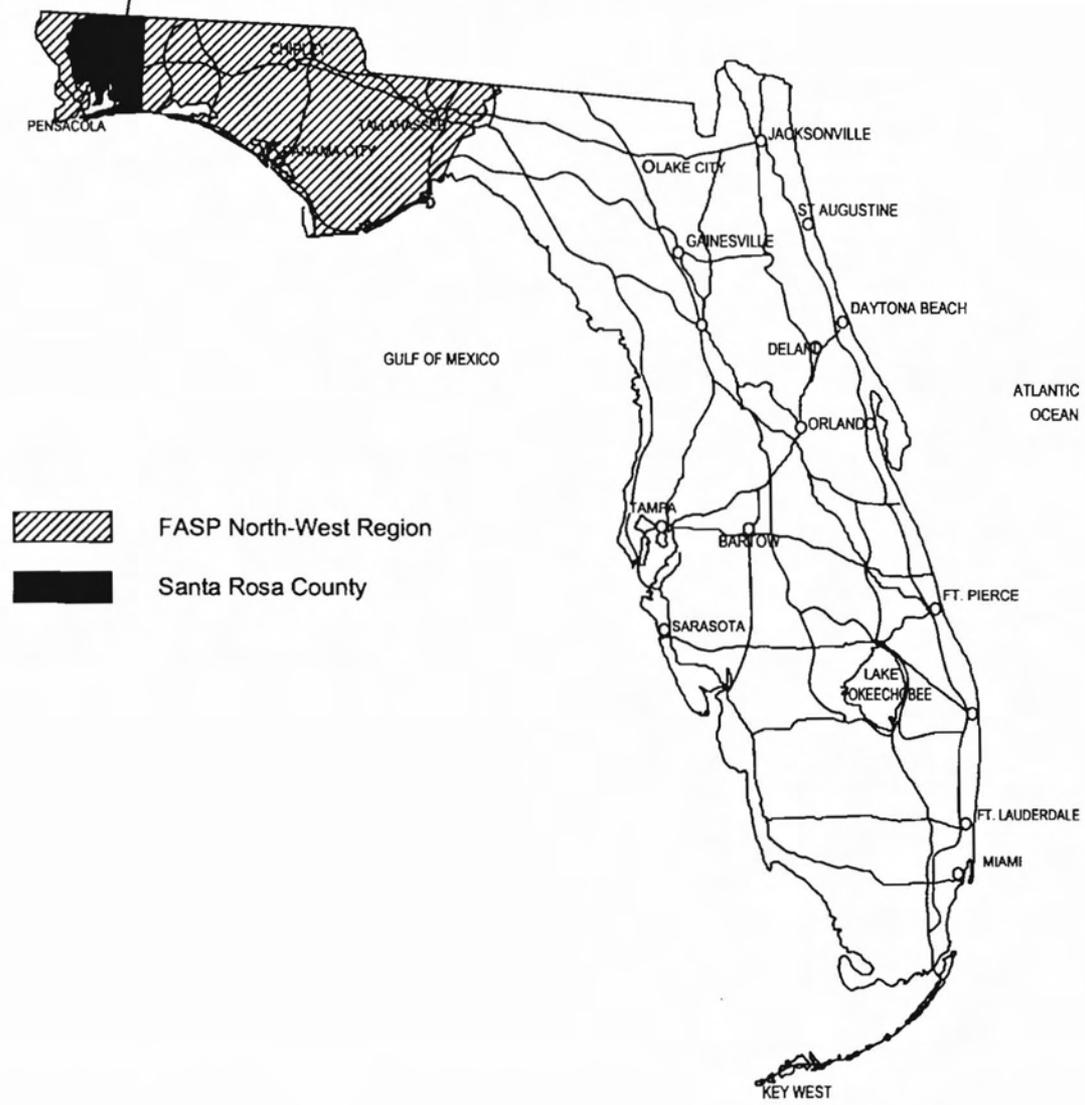
<http://www.arizonawingcaf.org/snj.asp>

During World War II, the site of Peter Prince Airport was used as an auxiliary field by the Navy, with SNJ's, the Navy's version of the T-6, doing touch and go operations on the turf runway.

Figure 2-1
Peter Prince Airport Master Plan Update
Vicinity Map



Peter Prince Airport Santa Rosa County, FL



From 1946-1947 Mr. Donald R. Dobbins operated Milton "T" with based aircraft consisting of 13 Aeronca Champs, three multi-engine aircraft, and numerous other aircraft. From 1949-1955 the field served crop dusting operations and was jointly used by the Navy for primary flight training in SNJ's. At one time there was also a parachute loft located on the southwest corner, where the Civil Air Patrol (CAP) is now located, and parachute repacking was done there for Eglin Air Force Base. There were also extensive skydiving operations at the field in the 1950's. In 1956, the U. S. Air Force (USAF) conducted C-130 feasibility testing from the short field turf runway. The aircraft were loaded with lead to determine how much weight they could safely handle on the relatively short, turf runway. Numerous ruts in the runway resulted from a total of approximately 20 take-offs and landings. When testing was complete, the USAF restored the field with a 400-foot by 4,200-foot north-south turf runway.

During his tenure at the fixed based operator (FBO), Mr. Dobbins constructed a hangar that measured 40 feet by 60 feet. In 1948, Mr. Peter Prince became the FBO and added a 90-foot by 70-foot extension to the hangar, along with the parachute loft that was about 40 feet high, for hanging and drying parachutes prior to repacking. A tornado demolished all of these buildings in the late 1960's and they were replaced with a metal office/hangar building along the western side of Runway 18-36 in 1970.

In 1968, at the instruction of the Santa Rosa County Board of County Commissioners, Runway 18-36 was designed, paved, and lighted and a rotating beacon and wind tee were installed. At about this time Mr. Bill Weaver became the FBO.

In 1974, the FBO passed to Mr. Earl Butts, who built a shade hangar capable of holding 15 aircraft. It was demolished by a hurricane in 1995.

In 1984, Mr. Bill Smathers, Mr. George Brewer, and Ms. Sandy Rowden formed a partnership and assumed the FBO function.

In 1990, three six-unit T-hangars, and one four-unit T-hangar for twin engine aircraft were constructed, together with a full-length parallel taxiway on the east side of Runway 18-36, and an apron with 21 tie-down spaces. The Airport was then renamed Peter Prince Airport in 1991, in honor of Mr. Peter Prince.

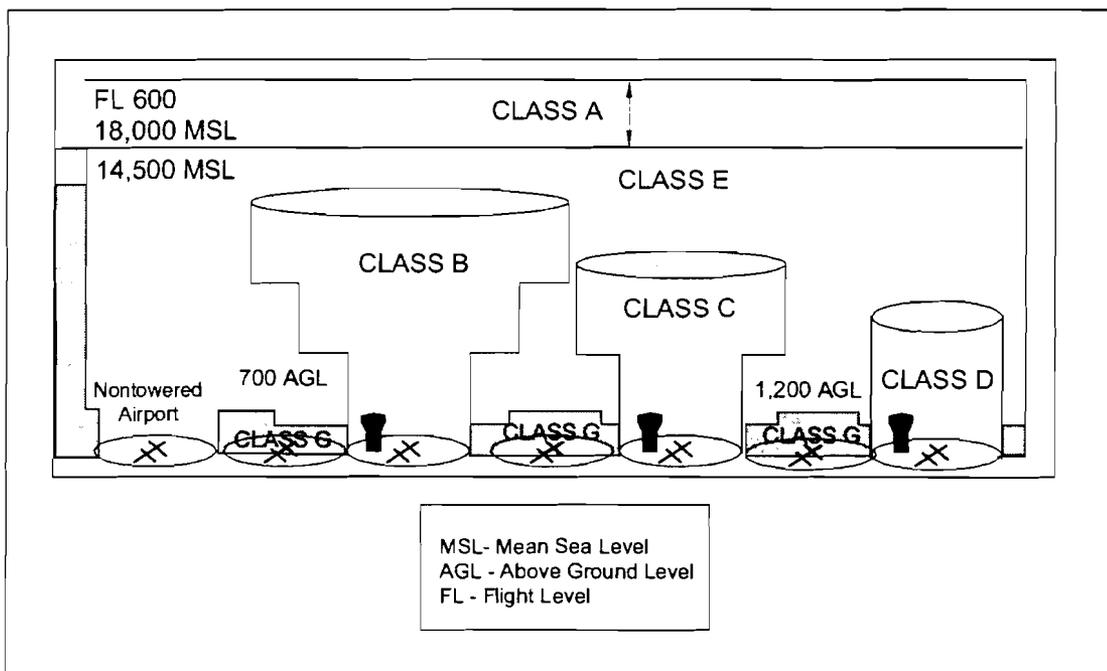
In 1993, three additional six-unit T-hangars were built. During that same year, a new partnership consisting of Mr. Davis Glass and Mr. Carlos Diaz took over the FBO function at the Airport, and in November of that year an aboveground fuel storage system containing two 10,000-gallon storage tanks was installed on the north side of the FBO apron. The system contained one tank for 100LL and one for Jet-A.

In 1996, five more six-unit T-hangars were built, plus a large three-unit corporate hangar facility. In addition, a taxiway was installed from the midfield to the approach end of Runway 18 on the west side of Runway 18-36.

2.3 AIRSPACE AND APPROACH PROCEDURES

2R4 is located within class E airspace, and does not have an Air Traffic Control Tower (ATCT) in operation. The airfield is therefore considered 'uncontrolled'. The class E airspace surrounding 2R4 has a floor of 700 feet mean sea level (MSL) and extends upward to 18,000 feet MSL. **Figure 2-3** depicts an example of standard Class E airspace in relation to all other airspace.

Figure 2-3
Peter Prince Airport Master Plan Update
Airspace Classes



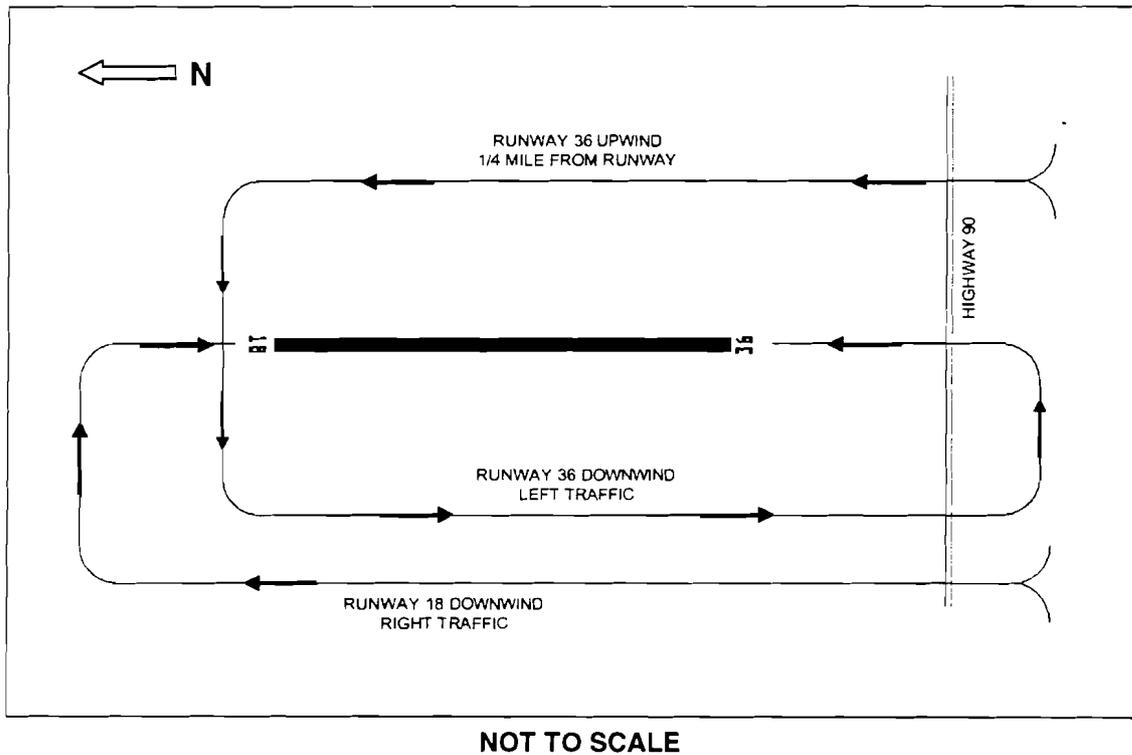
2.3.1 TRAFFIC PATTERN

The pattern elevation for Peter Prince is 900 feet above mean sea level (AMSL), with a field elevation of 82 feet MSL. Departures for Runway 18 must climb straight ahead until south of Highway 90 (approximately one-quarter mile south of the departure end of Runway 18) prior to turning on-course. Additionally, Departures for Runway 36 turn west within one-quarter mile of the departure end

of Runway 36, to a heading of 180 until south of Highway 90, prior to turning on-course.

Arrivals to Runway 18 typically maintain right-hand traffic on the west side of the Airport, and enter downwind south of Highway 90 (approximately one-quarter mile south of the departure end of Runway 18). Aircraft maintain the downwind leg within one-half mile of the runway, and keep the base leg within one-half mile of the runway. Arrivals to Runway 36 enter the traffic pattern south of Highway 90 and make an upwind leg on the east side of the Airport. Pilots typically stay within one-half mile of the runway and cross over the north end of the runway for a left-hand downwind for Runway 36. The traffic pattern for Peter Prince is illustrated in **Figure 2-4**.

Figure 2-4
Peter Prince Airport Master Plan Update
Airport Traffic Pattern



2.3.2 GENERAL AIRPORT INFORMATION

Use of a close-in traffic pattern and strict adherence to this pattern at the Airport is important. The airspace at 2R4 is essentially a one-mile cutout of Naval Air Station (NAS) Whiting Field's Class C airspace. Pilots and aircraft that wish to use instrument procedures at 2R4 may utilize a straight-in or circling GPS approach to Runway 36. To aid this procedure, precision approach path

indicators (PAPI's) are located on the left sides of Runways 18 and 36, providing adequate clearance of existing obstructions.

The Airport facilities directory reports that pilots may expect turbulence below the tree line on approach and landing to Runways 18 and 36 in the presence of a moderate crosswind component (especially east). Additionally, pilots must be particularly aware of R-2915 A, a restricted flight area located approximately 4 miles east of 2R4. This airspace encompasses surface to unlimited altitudes in an area bound by Highway 87 on the west, the railroad track north of Highway 90 on the north, and the Gulf of Mexico on the south. Furthermore, it is recommended that pilots remain north of the railroad tracks located north of Highway 90 in order to avoid Restricted Area 2915A.

Aircraft en route to, or in the vicinity of, 2R4 may receive pertinent information about the Airport, weather, and current traffic patterns, through Unicom frequency 122.8 (CTAF). Local air traffic should be monitored through this frequency while conducting operations at the Airport.

2.4 FAR PART 77 SURFACES – OBSTRUCTIONS TO NAVIGABLE AIRSPACE

Federal Aviation Regulations (FAR) Part 77 Obstructions to Navigable Airspace establishes standards for determining obstructions in navigable airspace. An obstruction is defined as any object of natural growth, terrain, or permanent or temporary construction and/or alteration, including related equipment and materials used therein, which penetrates any portion of the "imaginary surfaces". FAR Part 77 defines "imaginary surfaces" which govern the vertical height of obstacles within the vicinity of airports. These surfaces will vary in size and slope depending on the aircraft operating along with the available approaches at each runway end.

By superimposing these "imaginary surfaces" over the airport, it is possible to determine the severity of existing obstructions. The Part 77 Surfaces also provide vertical boundaries for existing construction alterations as well as new construction. Once objects have been identified as obstructions, the Federal Aviation Administration (FAA) must review them to determine if they pose a "hazard to air navigation". If determined as such, the obstacle must be removed or altered to eliminate the penetration. If the obstruction were to remain, dramatic changes to the airfield and/or approach procedures may be required. An example of such changes may be a displaced runway threshold or increasing approach minimums to provide obstruction clearance. **Figure 2-5** illustrates typical FAR Part 77 surfaces.

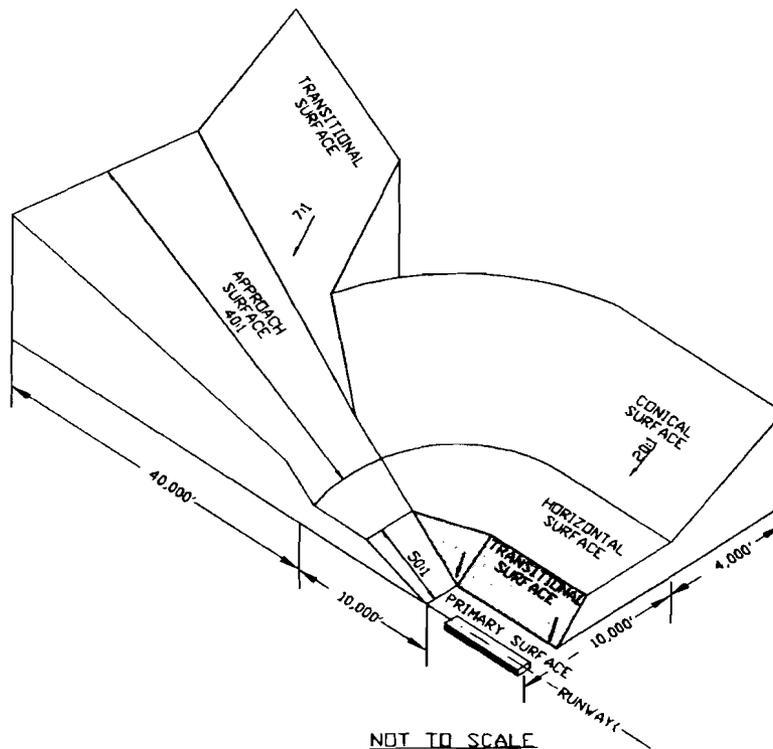
2.5 EXISTING AIRSIDE FACILITIES

2.5.1 APPROACH & NAVIGATIONAL AIDS

The Airport currently utilizes several visual navigational aids (NAVAIDS). PAPIs are located at both runway ends. PAPIs consist of a light array, situated perpendicular to the runway, that serves as a visual reference to guide pilots. A typical four light array will display two white lights and two red lights when the aircraft is flying 'on' the glide slope. Aircraft flying below glide slope will see the PAPI's as all red and to those flying above the glide slope the PAPI's will appear all white.

The Runway at 2R4 is equipped with medium intensity runway lighting (MIRL). Runway edge lights are used to outline the edge of the runway during periods of darkness or restricted visibility conditions. Pilots must use the Unicom/CTAF frequency 122.8 in order to activate the MIRL and PAPI's at 2R4.

Figure 2-5
Peter Prince Airport Master Plan Update
Typical Part 77 Surfaces



Pilots en route to or from the Airport may use a Very High Frequency Omnidirectional Range/Tactical Air Navigation (VORTAC) at Crestview, frequency 115.9, channel 106, located approximately 20 nautical miles northeast of 2R4. Additionally, a global positioning system (GPS) approach to Runway 36 is available for approaches in less than visual flight rules (VFR) conditions. Weather minimums must be at least one-mile visibility and 500-foot ceilings to use this approach. The Unicom frequency 122.8 and/or Notice To Airmen (NOTAM) announcements are also available for Airport information.

2.5.2 RUNWAYS

Currently, there is one north-south runway at 2R4, Runway 18-36. This asphalt runway, reported to be in good condition, has a usable length of 3,700 feet and a width of 75 feet. The runway can accommodate most small GA aircraft weighing less than 12,500 lbs. with wingspans less than 79 feet. Its visual markings are denoted by threshold designators, centerlines, and aiming points. It also has a load bearing weight of 22,000 lb single wheel load (SW) and provides 12-knot crosswind coverage of 96.77 percent, all complying with the standards specified in AC 5300/13 for Aircraft Reference Code (ARC) B-II. **Figure 2-6** illustrates the orientation of Runway 18-36.

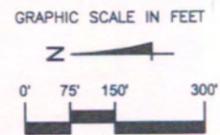
2.5.1 Runway Safety Area (RSA) Evaluation

A RSA evaluation, per FAA request, was completed to determine if the Runway 18 and 36 RSAs meet the dimensional, obstruction clearing and gradient requirements as set forth in FAA Advisory Circular (AC) 150/5300-13, *Airport Design*. Based on the information available the existing Runway 36 RSA meets all of the requirements for gradient, obstruction clearance and dimensional design standards for the existing critical aircraft as set forth in AC 150/5300-13.

The existing Runway 18 RSA was also evaluated for deficiencies. Based on the information available, the existing Runway 18 RSA meets FAA requirements for obstruction clearance and dimensional standards based on the existing critical aircraft. However, the Runway 18 RSA does not comply with the FAA surface gradient standards set forth in AC 150/5300-13, paragraph 502(b). Thus, a field survey to determine the existing slope and a subsequent fill and grading project completed to bring the slope into compliance with FAA standards.

2.5.3 TAXIWAYS

The Airport has two full-length parallel taxiways, one on each side of Runway 18-36. Taxiway B is located on the east side of the runway. Taxiway A is located to the west and is adjacent to the GA T-hangars located on the northwest side of the Airport. Both taxiways are 25 feet, designating them as Design Group I taxiways, and must be widened to 35 feet for reclassification to ARC B-II in order to match the existing runway ARC. **Figure 2-6** illustrates the taxiway orientation.



Peter Prince Airport
Master Plan Update

Runway and Taxiway
Orientation

Figure
2-6

2.5.4 AIRCRAFT PARKING APRON

The main aircraft parking apron is located on the west side of the Airport, centrally located to Runway 18-36. The apron has 15 aircraft tie-down parking positions, 13 of which are currently being used for flight school aircraft. The apron is asphalt and is approximately 9,797 square yards in area. Due to the deteriorating pavement, the apron was recently resurfaced, and increased by approximately 1,500 square yards, including five new tie-down locations and a marked helipad.

A smaller aircraft parking apron exists on the east side of the airfield about midway the length of Runway 18-36. This apron consists of 6,686 square yards of asphalt with approximately 21 aircraft tie-down parking positions. The apron was a recent improvement to the Airport and is, therefore, in good condition.

2.6 EXISTING LANDSIDE FACILITIES

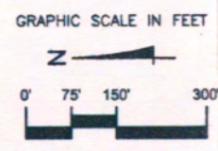
2.6.1 FBO TERMINAL BUILDING

The existing FBO/terminal building is located on the west side of the Airport on the northern portion of the aircraft apron. It currently encompasses approximately 5,000 square feet of building area consisting of office space, a pilot lounge, and an aircraft maintenance facility. The FBO is the sole occupant of the building. **Figure 2-8** depicts the location of the existing terminal building.



MIDFIELD APRON
(TIE DOWN AREA)

FBO WEST APRON
(TIE DOWN AREAS)



Peter Prince Airport
Master Plan Update

Aircraft Parking and
Tie - Down Areas

Figure
2-7



HANGAR AREA

2.6.2 AIRCRAFT HANGARS

There are currently 13 aircraft hangars located at the Airport. Twelve of these are T-hangars, which can accommodate six small general aviation (GA) aircraft per building. The other (Hangar H) is a corporate hangar with three large bays that can accommodate larger single or multi-engine GA aircraft. All hangars are owned and operated by the county and are operating at 100 percent capacity. **Figure 2-8** depicts the location of the existing hangars.

2.6.3 FIXED BASE OPERATOR (FBO)

The current FBO is Santa Rosa Aviation, which is owned and operated by Davis Glass, Carlos Diaz, and Earl Caudell. The FBO employs six people on staff - three full-time and three part-time contract employees. Services offered by the FBO include:

- Aviation fuel (100LL and Jet A)
- Tie-down space
- Flight instruction
- Aircraft rental
- Phones and restrooms
- Aircraft maintenance (airframe and engine)
- Pilot supplies

The flight school that the FBO has operated since 1993 currently owns and operates 13 small GA aircraft. And the hangar attached to the FBO/terminal office building houses the aircraft maintenance services.

2.6.4 FUEL FACILITIES

The fuel facilities at 2R4 are currently operated and maintained by Santa Rosa Aviation and are located to the north of the FBO building. The fuel farm consists of two 10,000 gallon above-ground storage tanks, one containing Jet A and the other containing 100 Low Lead (LL) fuel. Fuel is accessible 24 hours a day, seven days a week through a self-serve unit, and can be retrieved using a credit card. No fuel trucks for remote delivery of fuel currently exist at the Airport.

2.6.5 AIRCRAFT RESCUE AND FIREFIGHTING (ARFF)

The East Milton Volunteer Fire Department, Station Number 15, provides Aircraft Rescue and Fire Fighting (ARFF) services at the Airport. Station 15 has two locations, one on Ward Basin Road, and the other on Highway 87. Both stations can easily access Airport property and are located within a two-mile radius of the Airport. Station 15 employs approximately 13 people and has two fire engines, a

brush truck, and a tanker truck. In the event of a disaster, emergency vehicles can access the airfield via one of two gates located adjacent to Airport Boulevard. The first gate is located by the FBO and the other is located near Hangar I.

2.6.6 AUTOMOBILE PARKING AND GROUND ACCESS

An automobile parking lot is located to the west of the FBO hangar and office building. The lot has recently been resurfaced and expanded by approximately 24 spaces, to a total of 55 parking spaces, with one space designated for handicap parking. According to FBO management the parking lot has adequate capacity for their current operations. This is likely due, in part, to hangar tenants regularly driving their vehicles directly onto the airfield and parking near their respective hangar locations.

Ground access to the Airport is achieved through several transportation routes, which are listed below in **Table 2-1**. Overall, the ground transportation routes in the vicinity of the Airport are considered sufficient for the current level of operations and aviation demand.

Table 2-1
Peter Prince Airport Master Plan Update
Ground Access

Road Name	Direction of Travel	Number of Traffic Lanes
Interstate 10	East/West	Four Lanes
Highway 90	East/West	Two Lanes
Route 87	North/South	Two Lanes
Airport Boulevard	North/South	Two Lanes

2.7 PUBLIC UTILITIES

Santa Rosa County provides water and sewer services. Water service is delivered to the Airport through a water main that accesses Airport property along Airport Boulevard on the west side of the field near the FBO hangar and office building. Wastewater and sewer are handled through the use of the County's sewer and waste treatment system. Additionally, water and sewer lines run to each of the hangar locations from Airport Boulevard.

Electrical service is provided to the Airport by Santa Rosa County Utilities. Tenants may request installation of an electric meter at individual hangars for an additional expense.



FBO TERMINAL

AUTO PARKING

2.8 STORMWATER DRAINAGE

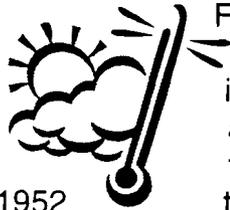
A system of ditches, culverts, swales, and retention basins comprises the existing drainage system at 2R4. This system diverts stormwater from the runways, taxiways, aprons, and other paved surfaces, and along with the existing topography, essentially splits the airfield in half. The south half of the field drains into a depressed area located to the south of the Runway 36 approach end, with the north side of the airfield sloping northward and draining downward toward the Blackwater River. Although the soil found on Airport property has moderate permeable characteristics, water is often found in the retention basins following heavy rains during severe thunderstorms or tropical systems. **Figure 2-10** depicts the existing stormwater retention basins on the airfield.

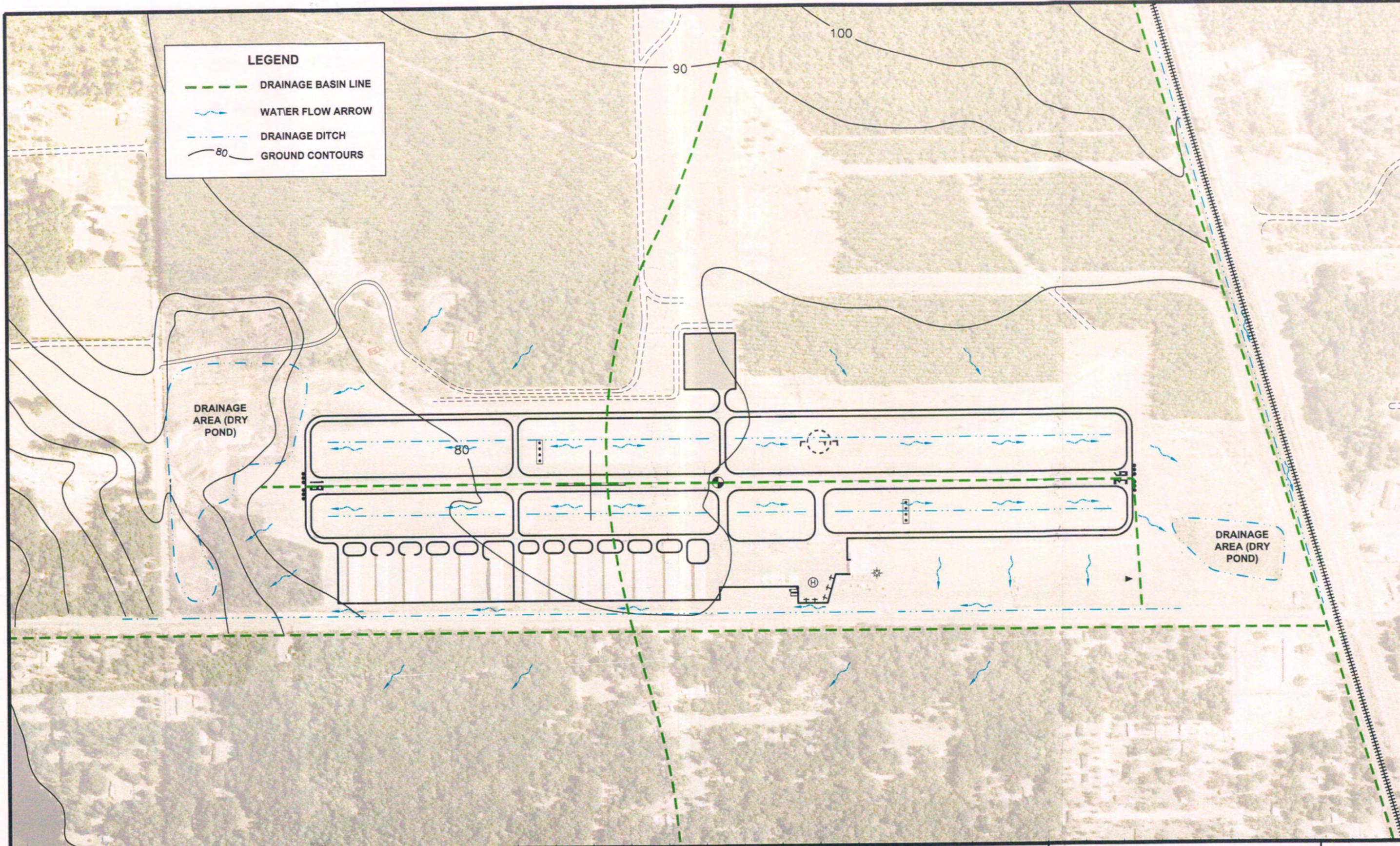
2.9 METEOROLOGICAL CONDITIONS

Operations at airports are dramatically affected by weather patterns and associated regional meteorological conditions. The amount of rainfall, prevailing winds, and average amount of inclement weather all help to determine runway orientation, instrument approach types, and proposed NAVAIDS required to achieve the safest and most efficient operations possible.

2.9.1 CLIMATE

Milton, Florida is positioned 30.63 degrees north of the equator and 87.04 degrees west of the prime meridian, and is geographically located in the Florida panhandle. Hot summers and moderate winters are typical in the area's tropical Florida climate. Temperature lows in January seldom dip below freezing, with a mean average of 49 degrees Fahrenheit. However, a record low of 3 degrees Fahrenheit was recorded for Milton in January 1985. High temperatures in the low to mid 90s, with the average hottest month (July) producing a mean average temperature of 81 degrees Fahrenheit. Nonetheless, in July of 1952 the city had a record high of 104 degrees Fahrenheit. During summer months afternoon showers are fairly regular, the wettest month, July, providing 7.70 inches of precipitation. The average annual rainfall for Santa Rosa County is 58.85 inches, surpassing the state average of 53 inches (135 cm) of rainfall per year. Occasionally, severe weather will occur in the form of hail in the earlier months (January-March), and flooding, tropical storms, and high winds in the later months (August-November).



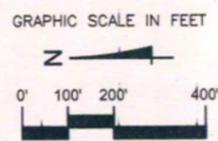


LEGEND

- DRAINAGE BASIN LINE
- ~> WATER FLOW ARROW
- DRAINAGE DITCH
- GROUND CONTOURS

DRAINAGE AREA (DRY POND)

DRAINAGE AREA (DRY POND)



Peter Prince Airport
Master Plan Update

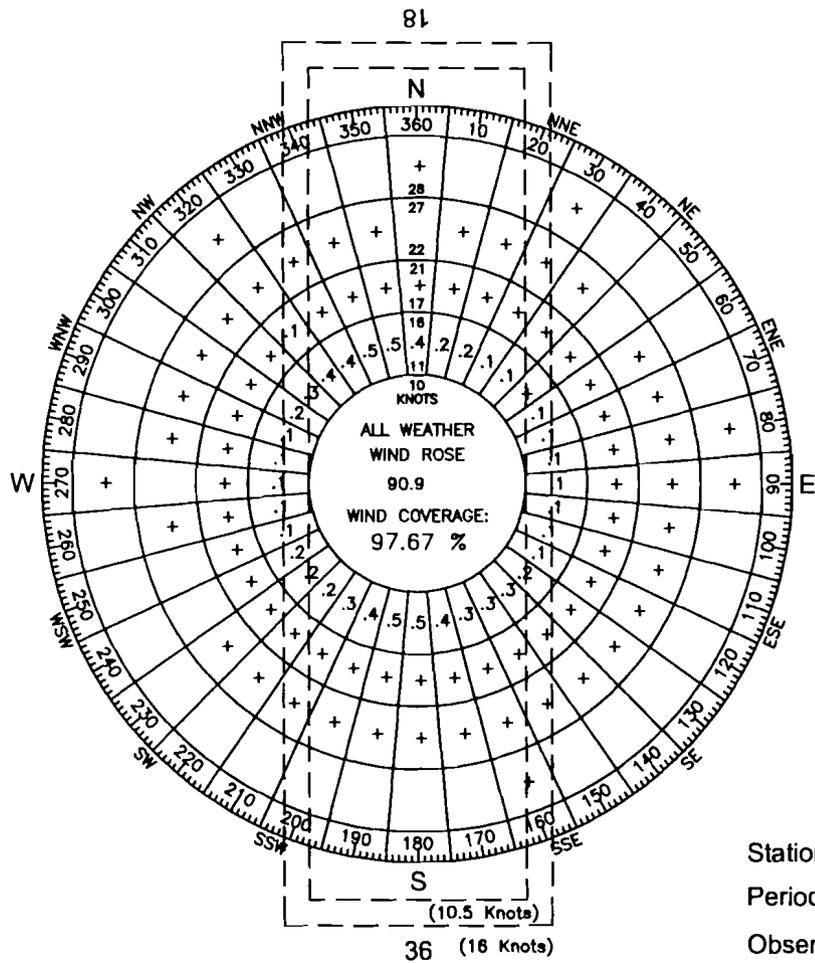
Existing Stormwater Drainage
& Retention Basins

Figure
2-10

2.9.2 WIND

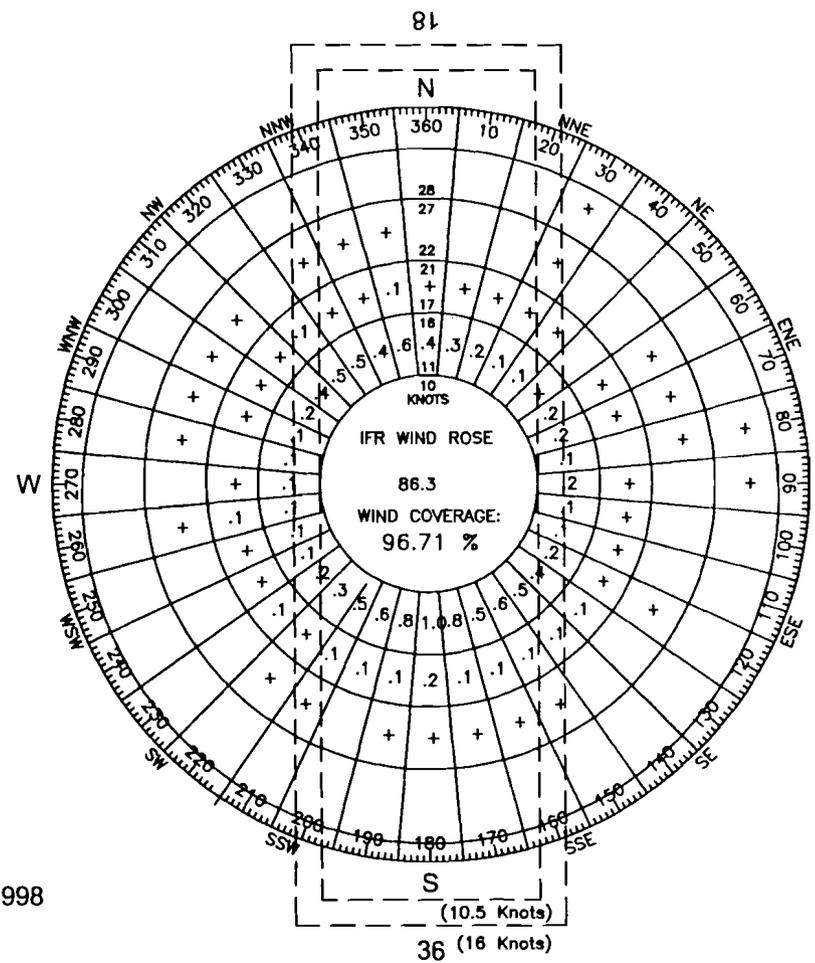
The main criterion for Runway orientation is wind coverage. The Runways should provide the maximum opportunity for operations into the wind. Wind data is filed in a database at the National Climatic Data Center in Asheville, North Carolina. Wind conditions specific to 2R4 were gathered and studied to determine the crosswind coverage afforded by Runway 18-36.

The prevailing wind patterns at 2R4 run primarily north and south in alignment with the 18-36 Runway. Predominately, the wind direction travels from the south to the north varying approximately 30 degrees east and west of a due north direction. Through the duration of the summer months – beginning with June, the winds shift to a more southerly to southwesterly direction. The winds shift back to their normal pattern as the winter months approach. A wind analysis was conducted using version 4.2D of the FAA computer program “Airport Design for Microcomputers,” with crosswind components of 10.5, 13, 16, and 20 knots. A 10.5-knot crosswind for Runway 18-36 was applied according to the existing ARC for this runway. This analysis yielded 97.67 percent coverage for all weather conditions and 96.71 percent coverage for IFR conditions. Wind data for the 2R4 is illustrated in the wind rose shown in **Figure 2-11**.



Station: Whiting NAS
 Period of Record: 1989-1998
 Observations: 82,306

CROSSWIND (KTS)	18/36 RUNWAY COVERAGE (%)
10.5 KTS	97.76 %
13.0 KTS	98.92%



CROSSWIND (KTS)	18/36 RUNWAY COVERAGE (%)
10.5 KTS	96.71%
13.0 KTS	98.4%

2.10 LAND USE

The land surrounding the Airport consists of four basic land use types: residential, agricultural, industrial, and commercial. **Table 2-2** lists in detail the specific districts within each land use.

Table 2-2
Peter Prince Airport Master Plan Update
Land Uses in the Vicinity of Peter Prince Airport

Land Use	Districts within Land Use
Residential	Rural (RR-1) Single Family (R-1) Single Family (R-1A)
Agricultural	Agricultural (AG) Agricultural (AG-2)
Industrial	Restricted Industrial (M-1) General Industrial (M-2)
Commercial	Neighborhood Commercial (NC) Highway Commercial Dev. (HCD)

The land in the vicinity of 2R4 is located in unincorporated Santa Rosa County and is regulated by Article 11 of the Santa Rosa County Comprehensive Plan. The regulations and ordinances set forth in this document establish height limitations, land use restrictions, obstruction lighting and marking requirements, and permit requirements, and establish general regulations on the height of structures, objects of natural growth, and land use in the vicinity of 2R4. Additionally, these ordinances execute the right empowered to local government by Florida Statutes, Section 333.03, to restrict and regulate the use of land in the vicinity of public use airports.

By implementing these restrictions, land use compatibility between the airport and the surrounding community is addressed, therefore, providing the maximum benefit and growth possible. The existing land uses and their relation to the Airport can be seen in **Figure 2-12**.

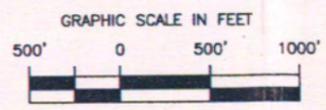
2.11 AREA-WIDE PLANS

The presence and operation of any airport has an affect on every other airport in the National Airspace System Plan (NASP) and the Nation's multi-modal transportation network in general. Therefore, regional, state, and national plans are developed in an effort to create a common goal and vision for the air transportation system. The three plans that must be considered in developing the Peter Prince Airport Master Plan Update are the Santa Rosa County Comprehensive Plan, Florida Aviation System Plan (FASP), and the National Plan of Integrated Airports Systems (NPIAS).



ELU Legend

WATER	COUNTY	MILITARY	SCHOOL	AIRFIELD
CITY	FEDERAL	MIX	STATE	
AG	IND	PARK/REC	UTIFAC	
COMM	INST	RES	VACANT	
CONS	MH	ROADS	WASTE	



Peter Prince Airport
Master Plan Update

Existing Land Use

Figure
2-12



2.11.1 SANTA ROSA COUNTY COMPREHENSIVE PLAN

The Santa Rosa County Comprehensive Plan acts as a guide for all planning and development within unincorporated Santa Rosa County. Article 11 of the county's comprehensive plan specifically addresses the Airport environs. The plan identifies regulations for land use that are applicable to all lands within the vicinity of the Airport. Acceptable types of development and specific areas where such development might occur are also identified. Therefore, coordination with county officials to establish a clear vision for the future development of 2R4 is a necessary and vital element in the development of this Master Plan. The goal of this coordination is to incorporate the Master Plan as an integral part of the county comprehensive plan.

Additionally, as a result of 2002 legislation, an airport master plan and any subsequent amendments to the airport master plan prepared by a licensed publicly owned and operated airport may be incorporated into the local governments comprehensive plan by the local government having jurisdiction for the area in which the airport is located. The amendment that adopts the airport master plan into the comprehensive plan must address land use compatibility consistent with chapter 333, provisions for regional transportation facilities and the efficient use of the transportation system and airport, consistency with the local government transportation element and MPO long-range planning goals, execution of the any necessary inter-local agreements in order to maintain the adopted level of service standards and airport and aviation related development. Once these areas have been addressed, any development or expansion of an airport or airport and aviation related development that is consistent with the adopted airport master plan and the local government comprehensive plan will not be considered a development of regional impact (DRI) and thus, will, not be subject to the DRI review process.

Therefore, it is important that an airport and local government work together to incorporate the airport master plan into the local comprehensive plan in order to facilitate the expansion and overall development of the airport. By reducing the need for DRI reviews an airport can expedite the implementation of an incorporated development plan and realize the economic benefits to the airport and surrounding community much sooner than in the past.

2.11.2 FLORIDA AVIATION SYSTEM PLANS (FASP) – 1992-2010

2R4 is located in the Northwest Florida region, which consists of the 15 counties listed below. Of these counties, those marked with a star are within the West Florida Regional Planning Council (WFRPC).

- Bay*
- Calhoun
- Jefferson
- Leon

- Escambia*
- Franklin
- Gadsden
- Gulf
- Holmes*
- Jackson
- Liberty
- Okaloosa*
- Santa Rosa*
- Walkulla
- Walton*
- Washington*

A graphical depiction of the Northwest Florida Region can be seen in **Figure 2-2**.

The Airport accommodates over 14 percent of total aircraft operations and affords storage for nearly 12 percent of the region's based aircraft. The study recommends that primary development concerns should be directed to expanding the runways, taxiways, apron areas, and hangars.

The Airport accommodates over 14 percent of total aircraft operations and affords storage for nearly 12 percent of the region's based aircraft.

2.11.3 NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS (NPIAS) 1998-2002

The NPIAS is a federal plan, developed by the FAA biannually for the U.S. Congress or as required by the Airport and Airway Improvement Act of 1982. It is a congressionally mandated program for development of a national system approach in planning for new airports, and expansions and improvements at existing airports. NPIAS identifies the estimated airport development and planning costs necessary to expand and improve the national system of airports. It also provides a list of all airports that are eligible to receive federal grants under the Airport Improvement Program (AIP). Under this plan, 2R4 is eligible for federal development grants totaling \$2,784,000 dollars over the next five years.

Peter Prince is eligible for federal development grants totaling \$2,784,000 dollars over the next five years.

2.12 SPECIAL USE AIRSPACE AND AIRPORTS IN THE REGION

Military operation areas and airports located in the surrounding region are of considerable importance when evaluating sources of competition for airspace and aviation services. 2R4 has many neighboring aviation facilities consisting of public, private, and military operated installations. A number of airports within a 25-mile radius of 2R4 have been examined and are discussed in this section.

The private use GA airports within the region can be seen in **Figure 2-13** and are listed below in **Table 2-3**.

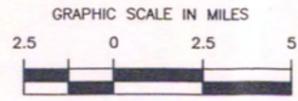
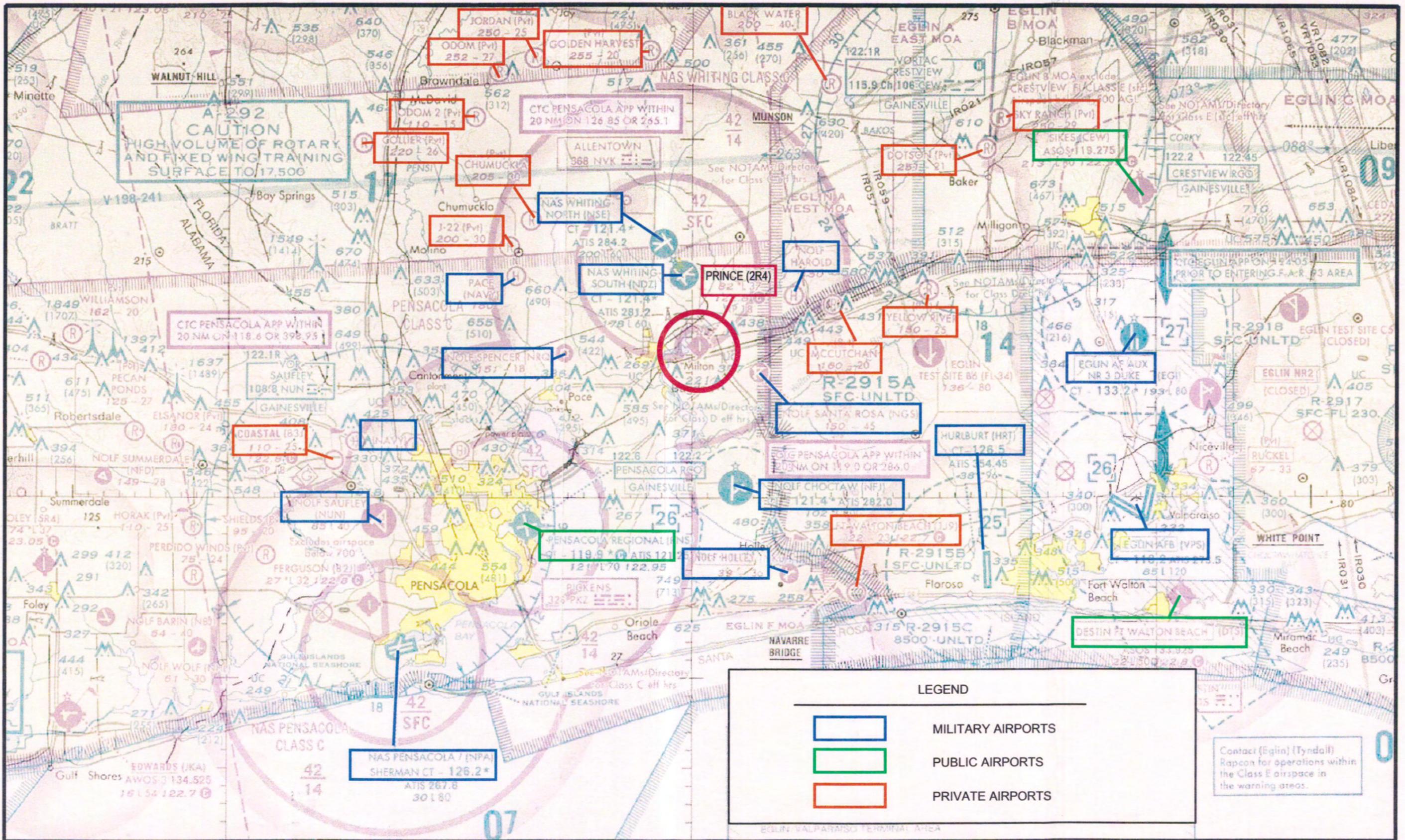
Table 2-3
Peter Prince Airport Master Plan Update
Private Use GA Airports In The Region

<ul style="list-style-type: none"> • Golden Harvest • Odom • Odom 2 • Yellow River • McCutchan 	<ul style="list-style-type: none"> • Blackwater • Dotson • Sky Ranch • Collier • Jordan 	<ul style="list-style-type: none"> • Jay • Chumuckla • J22 • Coastal • Ft. Walton Beach
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2.12.1 SPECIAL USE AIRSPACE

In respect to aviation, the military has a significant presence in the Florida Panhandle Region. Pensacola Naval Air Station (NAS Pensacola) houses one of the Navy's largest aviation training facilities. Many training exercises take place in the numerous special use airspace areas surrounding 2R4. These Special Use Airspace areas include Alert Areas, Military Operating Areas (MOAs), and Restricted Areas, and extend from Mobile, Alabama eastward to Tallahassee, FL. Civilian pilots near military operation areas are required to adhere to all applicable NOTAMS and contact the appropriate controlling agency for clearance. The special use airspace areas have a high volume of rotary and high-speed fixed-wing activities and can have ceilings as high as 17,500 feet.

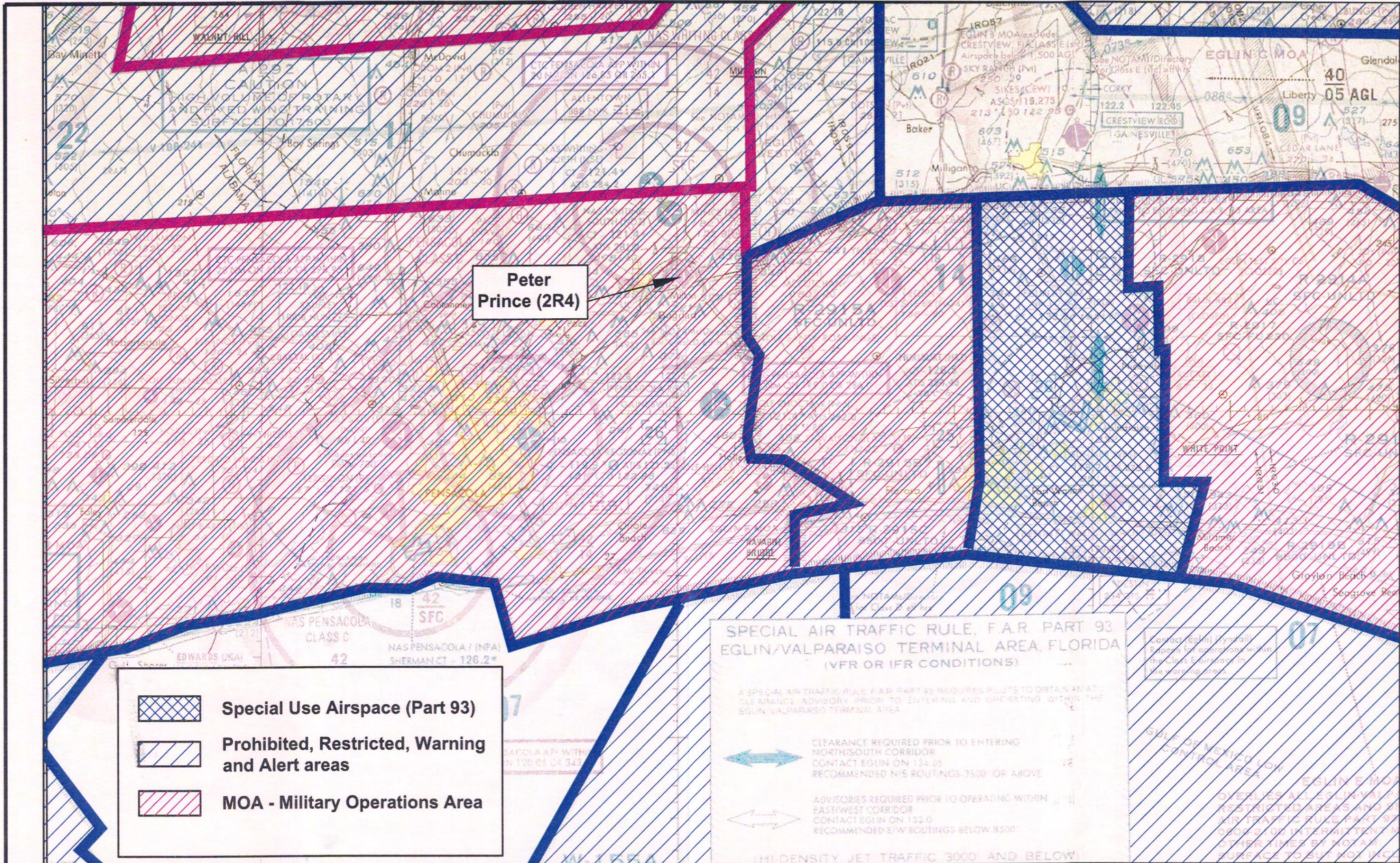
2R4 is located within Alert Area 292 (A-292) and below the Pensacola South MOA. The Pensacola North MOA is located approximately 19 miles due north of 2R4, and Eglin's A and B MOAs are located approximately five miles northeast of 2R4. The location of these alert areas makes it virtually impossible to access 2R4 without contacting the appropriate air traffic authorities. The special use airspace areas in the vicinity of the Airport are illustrated in **Figure 2-14**.



Peter Prince Airport
Master Plan Update

Airports in the Region

Figure
2-13



2.12.2 EGLIN AIR FORCE BASE/FT. WALTON BEACH (VPS)

Eglin Air Force Base (VPS) is the only active military/commercial joint use airport in the United States today. It is approximately 25 miles east-southeast of 2R4 and has two runways in a split 'V' configuration. Runway 01-19 is 10,012 feet long by 300 feet wide and Runway 12-30 is 12,005 feet long by 300 feet wide. VPS has rental car facilities within the commercial terminal that service several airlines, and an airfield that is lighted from dusk to dawn and has an ATCT. VPS conducted approximately 118,000 operations in the year 2000, with 5,156 Air Carrier operations, 13,267 commuter operations, and 100,000 military operations. GA activity is excluded from VPS. The location of VPS can be seen in **Figure 2-13**.

2.12.3 NAS WHITING FIELD (NSE/NDZ)

NAS Whiting Field is located approximately 4 miles north of Peter Prince Field. Whiting Field is a Naval training facility and a major employer for the area with approximately 2,700 military and civilian personnel working on the 4,000 acre main complex. Additionally, the complex consists of 14 Navy Outlying Landing Fields (NOLFs) covering 7,600 acres. There are currently two airfields located within NAS Whiting with similar configurations. The two fields are commonly referred to as Whiting Field North (NSE) and Whiting Field South (NDZ). Runway configurations are identical on both fields with configurations of 5-23 and 14-32. Runway 5-32 and Runway 14-32 are both 6,000 feet by 200 feet. The airspace at 2R4 is essentially a cutout of Whiting field's airspace, aircraft typically travel within a one-half mile radius north of the airfield in order to avoid entering the military airspace. Approximately 152,000 flight operations are split between the North and South fields; 78,000 and 72,000 respectively. The North field has 141 T-34C aircraft, while the South field has 117 H-57 B/C aircraft. The NAS Whiting Field complex includes the NOLFs (Barin, Brewton, Choctaw, Evergreen, Saufley, Silverhill, Summerdale, and Wolf). The H-57 helicopters conduct their training at NOLFs Harold, Pace, Santa Rosa, Site 8, and Spencer. Additionally, the T-34C and H57 aircraft routinely conduct training at Crestview, Duke Field, and VPS. The air station's effect on retail sales, real estate, and payroll contributes to the economic stability of the entire county. The location of NSE and NDZ can be seen in **Figure 2-13**.

2.12.4 NAS PENSACOLA – FORREST SHERMAN FIELD (NPA)

NAS Pensacola is located approximately 25 miles southwest of 2R4. NAS Pensacola has a parallel Runway configuration 7L-25R and 7R-25L with a perpendicular Runway 01-19. Runway 7L-25R and Runway 7R-25L are both 8,000 feet long and 200 feet wide, and Runway 01-19 has an overall length of 7,137 feet and is 200 feet wide. NAS Pensacola conducted



F/A-18
<http://www.navy.mil/>

over 100,000 operations in 2000. The 131 based aircraft include 62 T-34C, 35 T-39, 6 T-1, 14 T-2, and 3 H-3 aircraft. Additionally, NAS Pensacola is home to the United States Navy's Flight Demonstration Team. The Blue Angels have 10 F/A-18 and one C-130 aircraft. All military fields within a 25-mile radius of 2R4 are listed in **Table 2-4**.

**Table 2-4
Peter Prince Airport Master Plan Update
Military Airports In The Region**

Airport Name Description	Distance/ Direction from 2R4	Runway(s)/Length(s)	Air Traffic Control Tower (ATCT)	Notes
Eglin Air Force Base/Ft. Walton Beach	30 mi SE	1-19/10,012', 12-30/ 12,005'	Yes	Joint Use Military/ Commercial Facility
NOLF Holley	16 mi SSE	09-27/3,600', 17-35/ 3,600'	No	Fixed Wing Navy Outer Lying Field
NOLF Saufley	24 mi WSW	05-23/4,000', 14-32/ 4,000'	No	Fixed Wing Navy Outer Lying Field
Pensacola NAS	25 mi SW	01-19/7,137', 07L-25R/ 8,000', 07R-25L/8,000'	Yes	NAS Training Facility
Hurlburt Field USAF	24 mi SE	18/36 – 9,600'	Yes	USAF
NOLF Santa Rosa	4 mi ESE	Courses Flown: 9/27, 18/36	No	Navy Outlying Landing Field
NOLF Choctaw	10 mi SSE	18-36/8,000'	Yes	Fixed Wing Navy Outlying Landing Field
NAS Whiting Field (North)	5 mi NNW	05-23/6,000', 14-32/ 6,000'	Yes	NAS Training Facility
NAS Whiting Field (South)	4 mi NNW	05-23/6,000', 14-32/ 6,000'	Yes	NAS Training Facility
NOLF Harold	7 mi E	Courses Flown: 9/27, 18/36 (turf)	No	Helicopter Navy Outlying Landing Field
NOLF Spencer	9 mi W	Courses Flown: 9/27, 18/36 (turf)	No	Helicopter Navy Outlying Landing Field
NOLF Pace	13mi WNW	Courses Flown: 9/27, 18/36 (turf)	No	Helicopter Navy Outlying Landing Field
NOLF Site 8	24 mi WSW	Courses Flown: 9/27, 18/36 (turf)	No	Helicopter Navy Outlying Landing Field
Duke Field	25 mi E	18/36 – 8,000' x 150' 180/360 – 3,500 X 60'	Yes	USAF

2.12.5 BREWTON MUNICIPAL AIRPORT (12J)

Brewton Municipal Airport (12J) is located approximately 25 miles due north of 2R4, just north of the Florida border into the state of Alabama. Brewton's three runways are in a triangular configuration, with the designations: 06/24, 12/30, and 18/36. Runway 06/24 is 150 feet wide and has a total length of 5,135 feet. Runway 12/30 is 150 feet wide and has a total length of 5,000 feet. Runway 18/36 is 150 feet wide and has a total length of 4,100 feet. Brewton has a total of 12 single-engine based aircraft and 6 helicopters. Brewton Municipal reported 165,500 annual operations during the year 2000. These operations consisted of 1,500 air taxi ops, 7,000 GA local ops, 7,000 GA itinerant ops, and 150,000 military operations. NAS Whiting Field leases Brewton as a NOLF for flight training.

2.12.6 PENSACOLA REGIONAL (PNS)

Pensacola Regional (PNS) is located approximately 15 miles southeast of 2R4. PNS has a cross configuration with Runways 8-26 and 17-35. Runway 8-26 has a length of 5,999 feet and is 150 feet wide. Runway 17-35 has a length of 7,004 feet with a width of 150 feet. Both runways, made of asphalt, are reported to be in good condition.

Services and facilities are provided by Pensacola Aviation and include 100LL fuel, oxygen, aircraft parking, pilot lounge, flight school, aircraft rentals, charters, and aircraft maintenance and parts. PNS currently houses 63 aircraft, which include 41 single-engine, 19 multi-engine, and 3 business jets. Year 2000 annual operations for PNS totaled 117,817. Operational activity for Pensacola Regional was comprised of 12,842 air carrier ops, 19,730 air taxi ops, 20,981 GA local ops, 35,805 GA itinerant ops, and 28,459 military operations.

2.12.7 BOB SIKES AIRPORT (CEW)

Bob Sikes Airport (CEW) is located approximately 30 miles east/northeast of 2R4. CEW has a single asphalt Runway (17-35) with a length of 8,005 feet and a width of 150 feet. Fuel, oxygen, aircraft parking, flight school training, aircraft rentals, maintenance, charters, car rentals, pilot lounge, restrooms, and other services are offered through Ideal Aviation and Sunshine Aero Industries. Annual operations at CEW totaled 48,600 in the year 2000 with 200 air taxi ops, 15,400 GA ops, 29,000 GA itinerant ops, and 4,000 military operations. CEW has 49 based aircraft consisting of 35 single-engine aircraft, 13 multi-engine aircraft, and 1 jet.

2.12.8 DESTIN – FORT WALTON BEACH AIRPORT (DTS)

Destin – Fort Walton Beach Airport (DTS) is located approximately 35 miles southeast of 2R4. Destin has a single runway configuration with the designation 14-32, which is 4,999 feet long and 100 feet wide. Services and facilities are offered by Miracle Strip Aviation and include 100LL fuel, oxygen, aircraft parking, passenger and pilot lounges, flight school, aircraft rentals, charters, parts, and other aviation supplies. In the year 2000 Destin had 63,000 operations, 600 Air taxi ops, 15,400 GA local ops, 46,700 GA itinerant ops, and 300 military operations. DTS has 73 based aircraft consisting of 50 single-engine, 18 multi-engine, and 5 jets.

CHAPTER 3 HISTORICAL AVIATION ACTIVITY STATISTICS

Peter Prince Airport

This chapter presents historical aviation statistics for Peter Prince Airport (2R4) 1990-2000. The statistics include based aircraft, annual operations, peaking characteristics, itinerant aircraft parking, general aviation (GA) passengers, automobile parking, fuel sales, and other pertinent historical trends. This information will be used to assist in the determination of future aviation demand and activity forecasts as they relate to future development.

3.1 BASED AIRCRAFT

The operating environment at an airport, including everything from facilities to the cost of fuel and other services, affects the number of based aircraft. The number of based aircraft at 2R4, compared to other airports, will give Airport management and local, regional, and state planning officials an idea of how well the Airport is performing. **Table 3-1** lists the number of based aircraft, by type, over the past ten years at 2R4.

3.2 ANNUAL AIRCRAFT OPERATIONS

3.2.1 LOCAL GENERAL AVIATION (GA) OPERATIONS

According to Federal Aviation Administration (FAA) Advisory Circular 150/5070-6A, local operations are "arrivals and departures of aircraft which operate in the local traffic pattern or within sight of the tower and are known to be departing for, or arriving from, flights in local practice areas within a 20-mile radius of the airport and/or tower." Local GA operations will be discussed in this section on a historical basis. Future projections of aviation activity will be discussed in a later section.

During 1999, 2R4 experienced a significant increase (100 percent) in the amount of local GA operations. This increase is a direct result of the growing number of the Airport's flight school activities. Operational increase is attributed to the purchase and rental of multi-engine aircraft as well as the overall gain in the number of flight school enrollments. The number of local operations is often elevated at GA airports with active flight schools.

The information on local operations at 2R4 was gathered from the FAA's Airport Master Record (Form 5010) data and Terminal Area Forecast (TAF) and the

During 1999, Peter Prince Airport experienced a significant increase (100 percent) in the amount of local general aviation operations.

Florida Department of Transportation (FDOT) Aviation Forecasts. Local GA operations are represented in **Table 3-2**.

Table 3-1
Peter Prince Airport Master Plan Update
Based Aircraft (1990-2000)

Year	Single-Engine (1)	Multi-Engine (1)(2)	Jet (2)	Helicopter (1&2)	Total
1990	50	3	0	0	53
1991	44	7	0	0	51
1992	52	7	0	0	59
1993	52	7	0	0	59
1994	50	4	0	0	54
1995	50	4	0	0	54
1996	50	5	0	0	55
1997	70	9	0	0	79
1998	72	9	0	0	81
1999	80	10	0	0	90
2000	80	10	0	0	90

Note: (1) Piston

(2) Turbine

Source: FAA TAF Data & FAA Form 5010.

Table 3-2
Peter Prince Airport Master Plan Update
Local GA Operations (1990-2000)

Year	Local GA Operations
1990	15,000 (1)(2)
1991	15,000 (1)(2)
1992	16,200 (2)
1993	16,200 (1)(2)
1994	16,200 (1)(2)
1995	16,200 (1)(2)
1996	42,500(1)
1997	42,500 (1)(2)
1998	42,500 (1)(2)(3)
1999	86,400 (1)(3)
2000	86,400 (1)(3)

Note: (1) FAA Airport Master Record 5010

(2) FAA TAF

(3) FDOT

3.2.2 MILITARY OPERATIONS

Military operations at 2R4 are considered itinerant. These operations are extremely minimal in frequency and do not have much impact on the direction of aviation demand at the Airport. Still, military operations are included in the total number of operations at the Airport and, therefore, must be mentioned. **Table 3-3** presents the military operations data from FAA Form 5010 and the TAF.

Table 3-3
Peter Prince Airport Master Plan Update
Military Operations (1990-2000)

Year	Military Operations
1990	50 (1,2)
1991	50 (1,2)
1992	50 (1)
1993	50 (1)(2)
1994	50 (1)(2)
1995	50 (1)(2)
1996	50 (1)(2)
1997	50 (1)(2)
1998	50 (1)(2)
1999	50 (1)(2)
2000	50 (1)(2)

Note: (1) FAA Airport Master Record 5010
(2) FAA TAF

3.2.3 ITINERANT GA OPERATIONS

All operations other than local are considered itinerant, and information on such operations was gathered from FAA 5010 forms and the TAF. GA itinerant operations are presented in **Table 3-4**.

Table 3-4
Peter Prince Airport Master Plan Update
Itinerant GA Operations (1990-2000)

Year	Itinerant GA Operations
1990	15,000 (1)
1991	15,000 (1)
1992	15,000 (1)
1993	19,800 (1)(2)
1994	19,800 (1)(2)
1995	19,800 (1)(2)
1996	19,800 (1)(2)
1997	7,500 (1)(2)
1998	7,500 (1)(2)
1999	7,500(1)(2)
2000	7,500 (1)(2)

Note: (1) FAA Airport Master Record 5010
(2) FAA TAF

3.2.4 INSTRUMENT OPERATIONS

2R4 currently has a global positioning system (GPS) approach to Runway 36. The approach is published in the U.S. Government Flight Information Publication – U.S. Terminal Procedures Southeast (SE) Volume 3 of 4. Current FAA TAF data reports instrument flight 1,000 operations annually. However, National Oceanic and Atmospheric Administration (NOAA) climatic data shows approximately 9.4 percent of occurrences will be used to forecast instrument operations through the planning period.

FAA rules (IFR) activity to be less than and is thus reported as zero. NOAA and Atmospheric Administration that IFR weather occurs the time. This percentage of IFR forecast instrument operations



The current GPS approach can accommodate Category A & B aircraft with one-mile visibility minimums, and Category C aircraft with one and a quarter mile visibility minimums (straight-in approach). The ceiling for all categories of aircraft must be at least 500 feet. During occasions when visibility is less than one mile and the ceiling is less than 500 feet, the Airport may be considered closed. The current non-precision approach is adequate for the existing number of IFR operations that occur at 2R4; however, future development of the Airport may necessitate additional instrument approach procedures.

3.3 PEAK OPERATIONS

Aircraft operations and the number of based aircraft have periods of heightened activity. These peak periods occur on a fairly regular basis and are caused by external influences in the region and market area. One such influence is favorable weather conditions, which often creates peak periods of operations.

Due to the lack of an air traffic control tower (ATCT) on the airfield, peak operations have been determined through the most reliable methods possible, namely fuel records. Through discussions with the fixed base operator (FBO) and analysis of fuel receipts, the peak period of aircraft activity at 2R4 was determined to be August. By utilizing the peak percentage of fuel sales for this month, peak operations have been calculated to be 15 percent higher than that of a normal month during the year. This equates to a total of 9,003 operations during the peak month in 2000. The average day is then obtained by dividing the peak month by the average days in a month (30.42). The peak hour is then calculated at 15 percent of the average day of the peak month. By utilizing this formula, the peak hour at 2R4 for 2000 is 44 operations. Peak operations will be forecast through the planning period and discussed in greater detail in a later section.

3.4 AIRCRAFT PARKING

2R4 has a total of 16,483 square yards of aircraft parking apron, located in two separate locations. The main apron is located on the west side of the airfield between the FBO hangar/office building and T-hangars. A smaller apron exists on the east side of the airfield about midway the length of Runway 18-36, with approximately 21 aircraft tie-down parking positions. Based and itinerant aircraft jointly share the aircraft parking apron. Based on current conditions, it is estimated that 15 percent of based aircraft and one half of the busy-hour itinerant aircraft will require tie-down space at any one time. By applying this formula, approximately 14 based aircraft and two itinerant aircraft currently require parking space. This information will be forecast for the planning period in a later section.

3.5 GENERAL AVIATION PASSENGERS & AUTOMOBILE PARKING

3.5.1 GA PASSENGERS

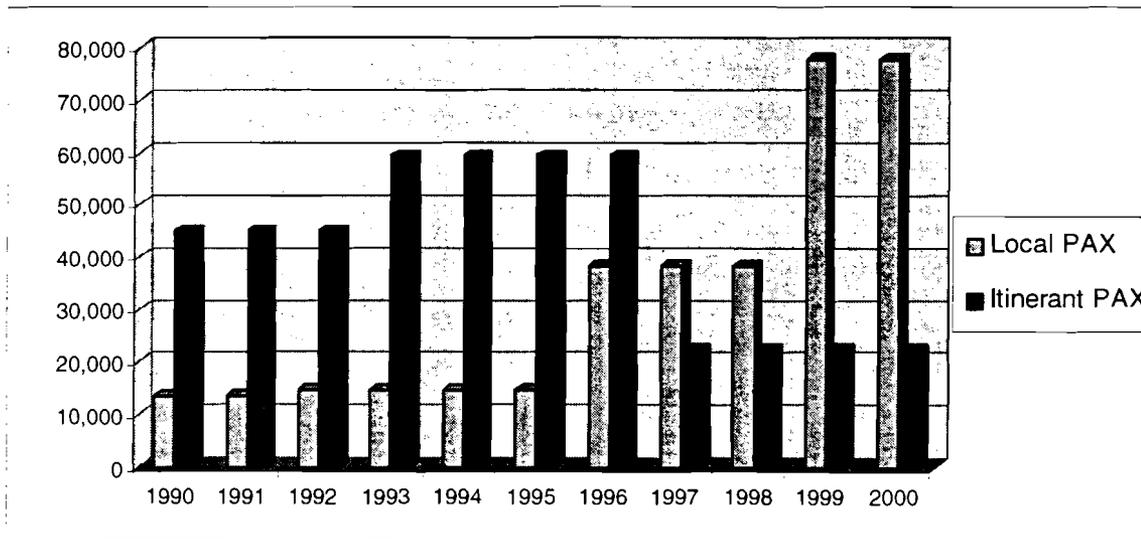
A record of GA passengers for 2R4 does not exist, and therefore, required an estimation of the current level of passengers based on the level of operations. This was accomplished utilizing the typical load carried by the GA fleet as published in the aviation economic guidelines by the FAA's "Estimating the Economic Impact of Airports." Standards set forth in this document establish an estimate of three passengers per itinerant operation and 0.9 passengers per local operation in addition to the pilot. **Table 3-5** and **Figure 3-1** illustrate the level of GA passengers from 1990 to 2000 using this formula.

Table 3-5
Peter Prince Airport Master Plan Update
General Aviation Passengers

Year	Local Operations	Local Passengers	Itinerant Operations	Itinerant Passengers	Total Passengers
1990	15,000	13,500	15,000	45,000	58,500
1991	15,000	13,500	15,000	45,000	58,500
1992	16,200	14,580	15,000	45,000	59,580
1993	16,200	14,580	19,800	59,400	73,980
1994	16,200	14,580	19,800	59,400	73,980
1995	16,200	14,580	9,800	59,400	73,980
1996	42,500	38,250	19,800	59,400	97,650
1997	42,500	38,250	7,500	22,500	60,750
1998	42,500	38,250	7,500	22,500	60,750
1999	86,400	77,760	7,500	22,500	100,260
2000	86,400	77,760	7,500	22,500	100,260

Source: FAA TAF & 5010 and PBS&J (2001)

Figure 3-1
Peter Prince Airport Master Plan Update
General Aviation Passengers



3.5.2 AUTO PARKING

Auto parking, as described previously, is located west of the FBO terminal building and north of the T-hangars. The lot has 55 paved parking spaces that are used for public parking. Access to the lot is provided from Airport Boulevard. Additionally, hangar tenants often park outside of their leased hangar space. Discussions with the FBO have revealed that the parking lot nears capacity during peak periods of demand and future improvements to the area may be required.



From the annual GA passenger data previously discussed and a planning factor of 1.5 parking spaces per busy-hour passenger, it was estimated that a total of 71 parking spaces were required to meet demand in 2000. The forecast auto parking and necessary facility improvements will be discussed further in later sections.

3.6 FUEL SALES

Santa Rosa Aviation sells fuel to based and itinerant aircraft at 2R4. Fuel sales have been increasing over the past few years, peaking during the months of February and August, with August being the most active. **Table 3-6** below depicts the historical fuel delivered by gallons as reported by the FBO.

Table 3-6
Peter Prince Airport Master Plan Update
Monthly Fuel Sales

Month	1997 Gallons*	1998 Gallons*	1999 Gallons*	2000 Gallons*	Total Gallons
Jan	6,200	6,500	7,000	7,400	27,100
Feb	6,800	7,200	7,900	7,900	29,800
Mar	6,400	6,700	7,000	7,900	28,000
Apr	6,500	6,850	7,200	8,100	28,650
May	6,300	6,700	7,000	7,900	27,900
Jun	6,200	6,800	7,100	8,200	28,300
Jul	6,400	6,900	7,300	8,700	29,300
Aug	7,300	7,700	8,600	9,600	33,200
Sep	7,000	6,850	7,300	8,000	29,150
Oct	6,500	6,800	7,100	7,900	28,300
Nov	6,500	6,600	6,800	7,800	27,700
Dec	6,100	5,900	6,200	6,600	24,800
Total	78,200	81,500	86,500	96,000	342,200

Source: Santa Rosa Aviation (FBO), 2001.

Note: * AVGAS & Jet A specific detail by type was unavailable.

3.7 STATISTICAL SUMMARY

Since 1990, 2R4 has continually seen increases in the number of based aircraft and operations. The construction of new hangars has allowed for the housing of new tenants, which has increased the number of based aircraft and operations dramatically at 2R4, nearly doubling in the past ten years and continuing to grow. Additionally, Santa Rosa County has recognized the economic benefits of the Airport and promotes it as a valuable transportation source as well as a source of income for the region.

Overall, 2R4 has followed the general trend of the U.S. aviation industry and the national economy over the past ten years. With this in mind, the growth trend is expected to continue, thus requiring the need for Airport development and capacity enhancements. **Table 3-7** shows the historical statistics summary for 2R4.

Table 3-7
Peter Prince Airport Master Plan Update
Historical Statistics Summary

Activity	1998	1999	2000
Based Aircraft			
Single-engine	72	80	80
Multi-engine	9	10	10
Jet Engine	0	0	0
Helicopter	0	0	0
Other	<u>0</u>	<u>0</u>	<u>0</u>
Total	81	90	90
Aircraft Operations			
Local GA	42,500	86,400	86,400
Itinerant GA	7,500	7,500	7,500
Military	50	50	50
Air Taxi	<u>0</u>	<u>0</u>	<u>0</u>
Total	50,050	93,950	93,950
Instrument Operations	0	0	0
Peak Operations			
Month	4,171	9,003	9,003
Day	137	296	296
Hour	24	44	44
Aircraft Parking			
Based Aircraft	12	14	14
Itinerant Aircraft	<u>2</u>	<u>2</u>	<u>2</u>
Total	14	16	16
GA Passengers	60,750	100,260	100,260
Automobile Parking	43	71	71
Fuel Sales (Gal.)	81,500	86,500	96,000

Source: PBS&J, 2001

CHAPTER 4

AVIATION ACTIVITY FORECASTS

Peter Prince Airport

4.1 GENERAL

This chapter presents forecast aviation activity for Peter Prince Airport (2R4). The forecasted items include based aircraft, annual aircraft operations, peak month, day, and hour operations, fuel sales, instrument approach activity, itinerant aircraft parking, general aviation (GA) passengers, and auto parking. The forecast information will be used to determine facility requirements at 2R4 through an aviation demand and capacity analysis of the forecasted demand in comparison to the existing airfield conditions and services. This analysis and facility recommendations will be discussed in a later section.

4.1.1 OBJECTIVE

The overall objective of activity forecasts is to estimate the Airport's growth and future aviation activity. This provides a guide for the development of Airport facilities to meet that demand and ensure that safety and operational capacity are achieved efficiently. These forecasts are based on current and historical Airport data acquired through previous aviation forecasts and databases, and use objective as well as subjective techniques to assess the growth potential of the Airport and the regional market.

The forecasts will present information in five-year intervals from the base year of 2001 to the end of the forecast period (2021). Although these forecasts will cover an extended timeframe, aviation, social, and economic trends can only be reasonably projected for the first five years. Unexpected events in any of the above trends, which cannot be factored into the assumptions of the forecast, can cause dramatic changes to the 20-year period. Therefore, aviation activity forecasts and Master Plans themselves must continually be evaluated and updated on a regular basis, approximately every five years.

4.1.2 METHODOLOGY

Various methods of forecasting aviation demand exist and are widely used throughout the industry. 2R4 does not have a control tower to record activity and provide an accurate history of aircraft operations; therefore, projections were based on historical data taken from the FAA Airport Master Record (5010's) and Terminal Area Forecast (TAF) data.

Previous forecasts and their accuracy over time will also be considered in identifying historical trends and their relation to national, state, and local socioeconomic and aviation activities. These methods have been applied to develop the most accurate forecasts possible at 2R4, and will be discussed in greater detail throughout this chapter.

Additionally, the activity forecasts in this section have been developed in accordance with the standards and guidelines set forth in Federal Aviation Administration (FAA) Advisory Circulars 150/5070-6A, 150/5300-13, the *Florida Department of Transportation (FDOT) Guidebook for Airport Master Planning*, and other applicable federal and state publications.

4.2 FORECAST OF BASED AIRCRAFT

In developing the forecast of based aircraft at 2R4 the following existing forecasts were evaluated:

- 1998-2020 Florida Aviation System Plan (FASP)
- 1992 Airport Master Plan
- 1999 FAA TAF
- 1999 FDOT Aviation Forecast

The historical information presented in the above forecast documents was gathered and verified through the use of FAA TAF and 5010's. These documents represent based aircraft numbers at 2R4, as reported to the FAA, from 1980 to present.

After evaluating all the available based aircraft forecasts, it was determined that the FAA TAF, 1992 Master Plan, 5010's, and FASP all provide a reasonable level of historic data. Forecast projections of based aircraft activity at 2R4 will be used as supporting material for the development of a new based-aircraft forecast.

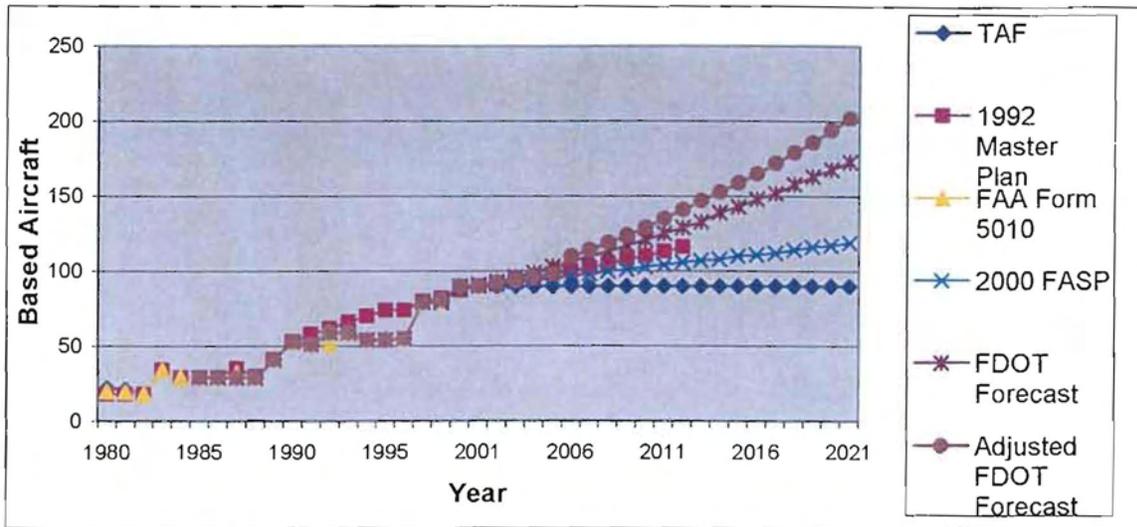
An estimated 90 based aircraft for 2001, which have been verified through Airport tenant lists, will be the starting point for projections. **Table 4-1** and **Figure 4-1**, present the historical and forecasted based aircraft information reported by all the available existing forecasts.

Table 4-1
Peter Prince Airport Master Plan Update
Existing Based Aircraft Forecasts

	YEAR	TAF (1)	92 MP (2)	5010 (3)	FASP (4)	FDOT (5)	Adjusted FDOT
	1980	22	18	20			
	1981	21	18	20			
	1982	18	18	18			
	1983	34	34	34			
	1984	29	29	29			
	1985	29	29	29		29	29
	1986	29	29	29		29	29
	1987	29	35	32		29	29
	1988	29	30	30	29	29	29
	1989	41	41	41	41	41	41
	1990	53	53	53	53	53	53
	1991	51	58	51	51	51	51
	1992	59	62	51	59	59	59
	1993	59	66	59	59	59	59
	1994	54	70	54	54	54	54
	1995	54	74	55	54	54	54
	1996	55	74	55	55	55	55
	1997	79	80	79	79	79	79
	1998	79	82	79	79	81	81
Historical	2000	90	87	90	90	88	90
Forecast	2001	90	90	90	91	90	90
	2002	90	91		92	93	92
	2003	90	93		93	96	94
	2004	90	95		94	99	96
	2005	90	98		95	103	98
	2006	90	100		97	106	110
	2007	90	102		98	110	114
	2008	90	105		100	113	119
	2009	90	108		101	117	124
	2010	90	110		103	121	129
	2011	90	113		104	125	135
	2012	90	116		106	129	141
	2013	90			107	133	147
	2014	90			108	139	153
	2015	90			110	143	159
	2016	90			111	148	165
	2017	90			112	152	172
	2018	90			114	158	179
	2019	90			116	163	186
	2020	90			117	168	194
	2021	90			119	173	202

Sources: (1) FAA Terminal Area Forecast (TAF), 2000
(2) 1992 Master Plan by Greiner Inc. (Scenario 1)
(3) FAA Airport Master Record 5010, 2001
(4) Florida Aviation System Plan Forecast (2000)
(5) Florida Department of Transportation Forecast
XX Data interpolated by PBSJ

Figure 4-1
Peter Prince Airport Master Plan Update
Existing Based Aircraft Forecasts



4.2.1 FAA TERMINAL AREA FORECAST (TAF)

The FAA TAF (see **Table 4-1**) depicts historical data from 1980 to 1999 and estimates based aircraft forecasts through the year 2021. However, the TAF forecast shows no growth after 1999, the last year of available data. Therefore, the TAF was used neither primarily as an indication of the historical trend of the past 20 years, nor as a viable forecast of based aircraft.

4.2.2 FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) AVIATION FORECAST AND ADJUSTED FDOT FORECAST

The 2000 FDOT Aviation Forecast predicts an increase in based aircraft at 2R4 from 90 in the year 2001 to 173 aircraft by 2021. This is an overall increase of 92.2 percent, 3.3 percent average annual growth per year, representing a moderate growth rate. The growth rate shown in the FDOT forecast is considered a viable factor in developing the based aircraft forecast at 2R4.

The FDOT forecast does not, however, depict an accurate number of based aircraft totals for the current year; therefore, an adjusted FDOT forecast was developed in order to reflect aircraft operations at their current level. **Table 4-1** depicts the FDOT and adjusted FDOT forecasts of based aircraft.

4.2.3 FLORIDA AVIATION SYSTEM PLAN (FASP) FORECAST

The 1992-2010 FASP reported 90 based aircraft in 2001, and predicted minimal growth to a total of 119 aircraft by 2021, a total increase of 32 percent, or one percent per year. This growth rate is considerably lower than those forecasted by FDOT and the 1992 Master Plan. As a result, the 1992-2010 FASP was not used as a forecast tool due to the unrealistically low growth rate. **Table 4-1** depicts the 1992 FASP forecast for based aircraft.

4.2.4 1992 AIRPORT MASTER PLAN

The 1992 Master Plan produced several forecast scenarios based upon prior forecasted growth rates. Most of these forecasts predicted a significantly lower number of based aircraft compared to the current totals taken from the 5010's and the TAF and subsequently field verified totals. The scenario that most closely resembled the actual based aircraft growth at the Airport since 1992 was selected. Thus, the selected 1992 Master Plan forecast predicted 90 total based aircraft for the year 2001, increasing to 116 for the year 2012, a total overall growth of 28.8 percent or 2.4 percent per year. This growth rate fell within the forecasted growth rate of the FASP and the FDOT and was thereby selected as an analysis tool for forecasting future based aircraft. **Table 4-1** depicts the 1992 Master Plan forecast for based aircraft.

4.2.5 DEMAND BASED AIRCRAFT FORECAST

Currently, 2R4 has a waiting list with over 70 potential tenants that are located off-Airport and cannot be accommodated due to the lack of available hangar space. The based aircraft forecast incorporates a demand-based forecast that utilizes the existing hangar waiting list as a forecasted growth factor. In order to develop this forecast, it was assumed that development of new hangar space would accommodate 60 percent of the current waiting list within the next five years. Assuming that each tenant will house one aircraft, the current number of based aircraft (90) will increase by 42, bringing the total to 132 based aircraft by the year 2006. An average annual growth rate of 1.6 percent was applied to the next 15 years, resulting in a total of 182 based aircraft by 2021.

Currently, Peter Prince Airport has a waiting list with over 70 potential tenants that are located off-Airport and cannot be accommodated due to the lack of available hangar space.

4.2.6 SELECTED BASED AIRCRAFT FORECAST

Each of the methods described previously was analyzed to identify which method(s) best reflected past historical trends and reasonable future projections of based aircraft at 2R4.

Recent economic prosperity has contributed to an increased affordability of aircraft, thus allowing more small businesses and individuals to purchase or lease aircraft. This is reflected by the backlogged demand represented by the current hangar waiting list at 2R4.

The 1992 Master Plan and FASP forecasts predicted based aircraft of 123, and 119 respectively, by the end of the 20-year period. These numbers indicate that 60 percent of the current hangar waiting list will not be accommodated by the year 2021, and are therefore, considered to be too low to utilize in choosing a selected forecast. The FDOT forecast demonstrates a reasonable growth rate to the year 2021, but is currently lacking in the amount of existing based aircraft totals. Adjusting the FDOT forecast to the current totals produced an accurate based aircraft number along with a reasonable growth rate and was consequently considered. However, the demand-based forecast numbers denote a moderate growth rate and fell within the existing FDOT forecast and the adjusted FDOT forecast numbers, and as a result, the demand-based forecast was chosen as the selected based aircraft forecast.

The selected based aircraft forecast and supporting forecasts can be seen in **Table 4-2, Figure 4-2, and Figure 4-3**. The selected forecast shows an average annual growth rate of 3.6 percent or 102 percent overall, which will increase the number of based aircraft from 90 in the year 2001 to a total of 182 by the year 2021. These numbers will be used to help determine future Airport facility requirements based on the type and number of based aircraft.

4.2.7 BASED AIRCRAFT BY TYPE

The type of based aircraft expected at 2R4 will in part determine the future Airport requirements. The FAA divides based aircraft into the following categories: single-engine piston, multi-engine piston, turbo prop, jet, rotorcraft, and other. Aircraft by type and cardinal forecast year are presented in **Table 4-3**. All aircraft types are expected to increase at 2R4 during the forecast period.

Table 4-2
Peter Prince Airport Master Plan Update
Based Aircraft Forecasts

Year	TAF (1)	92 MP (2)	FDOT (3)	Adjusted FDOT (4)	FASP (5)	Demand Based (6)	Selected Forecast
1997	79	80	79	79	79	79	79
1998	79	82	81	90	79	90	90
1999	90	84	84	90	90	90	90
2000	90	87	88	90	90	90	90
2006	90	100	106	110	97	132	132
2011	90	113	135	135	104	147	147
2016	90	118	148	165	111	164	164
2021	90	123	173	202	119	182	182

- Sources: (1) Terminal Area Forecast
(2) 1992 Master Plan by Greiner Inc.
(3) Florida Dept. of Transportation Forecast
(4) FDOT Forecast Adjusted in year 2000 and continuing growth rate @ 4.5%
(5) Florida Aviation System Plan Forecast
(6) 60% of current hangar wait list accommodated by 2005
- XX Data interpolated by PBSJ
XX Data extrapolated by PBSJ

Figure 4-2
Peter Prince Airport Master Plan Update
Based Aircraft Forecast Distribution

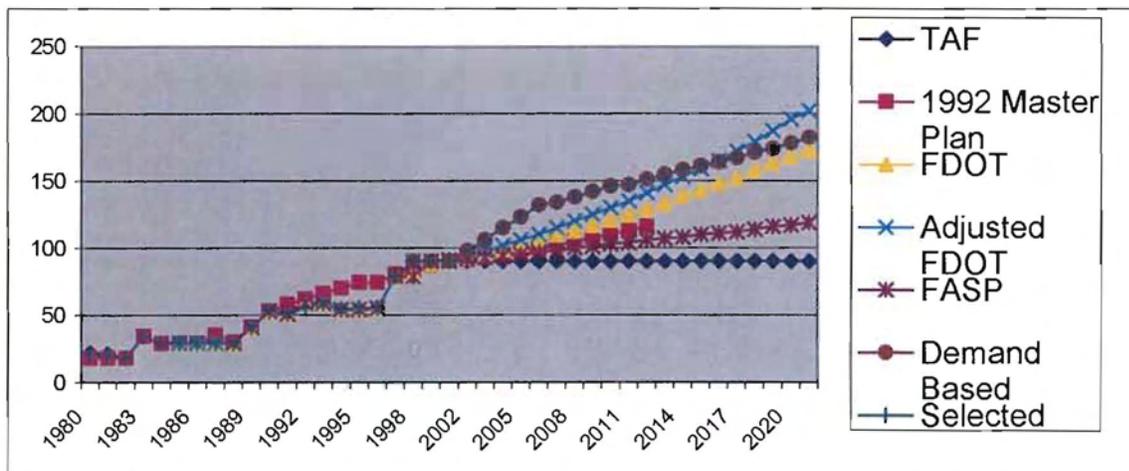


Figure 4-3
Peter Prince Airport Master Plan Update
Selected & Supporting Based Aircraft Forecasts

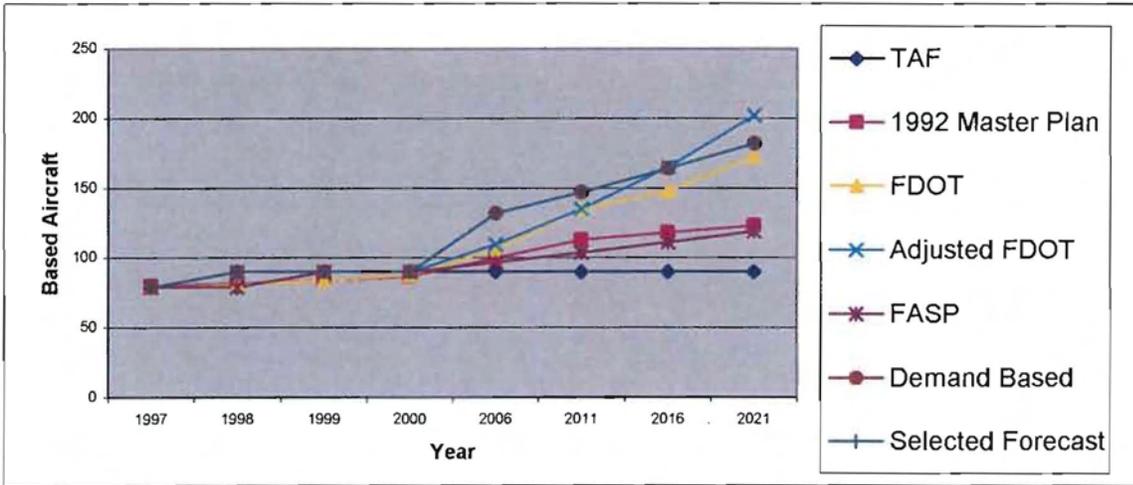


Table 4-3
Peter Prince Airport Master Plan Update
Based Aircraft Forecasted by Type

Year	Total	Single-Engine Piston	Multi-Engine Piston	Turbo Prop	Jet Engine	Rotorcraft	Other
1997	79	70	9	0	0	0	0
1998	90	80	10	0	0	0	0
1999	90	80	10	0	0	0	0
2000	90	80	10	0	0	0	0
2006	132	115	15	1	0	1	0
2011	147	128	16	1	0	2	0
2016	164	142	18	2	0	2	0
2021	182	157	20	2	1	2	0
2000-2021 Average Annual Growth	3.60%						

Source: PBSJ 2002

4.3 FORECAST OF ANNUAL AIRCRAFT OPERATIONS

Many sources of forecast information were available for projecting future aircraft operations at 2R4. These include the 1998-2020 FASP, 1992 Master Plan, 1999 FDOT Aviation Forecast, and 1980 to present FAA 5010s and TAFs. A methodology similar to that used in the based aircraft forecast was employed, taking advantage of all of these resources in order to provide data in developing the preferred aircraft operations forecast for this study. **Table 4-4** and **Figure 4-4** illustrate the existing aircraft operations forecasts.

4.3.1 1999 FAA TERMINAL AREA FORECAST (TAF)

Historical aircraft operations at 2R4, as reported by the FAA TAF (**Table 4-4**), have followed the trends of the Nation's economy and aviation industry. Annual operations have steadily increased since 1989, with a reported 30,050 operations in that year. In 2001, the TAF reported 50,050 operations, reflecting a total increase of 60 percent. The current number of aircraft operations as reported by the TAF is less than those reported by the FAA Form 5010, FASP, FDOT, and 1992 Master Plan, and therefore, is suspect when developing a selected forecast. As a result, the operations reported by the TAF, 50,050 in 2001, will not be used as the base figure for the operations forecasts.

4.3.2 FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) AVIATION FORECAST AND ADJUSTED FDOT FORECAST

The 1999 FDOT Aviation Forecast predicts aircraft operations to increase at an average annual growth rate of 3.3 percent over the 20-year planning period. This forecast shows a continual increase in operations from 1989 through 2021. FDOT forecasted operations for 2001 were much lower than the actual operations denoted in the FAA 5010's, which indicates 93,950 annual operations in 2001. The FDOT forecast estimated that 2R4 would perform 57,012 operations in 2001 and 93,721 operations by the year 2016. As a result, the FDOT forecast was not used as a historical benchmark since current operations exceed the 2016 forecasts.

However, the growth rate shown in the FDOT forecast is considered a viable factor in developing the aircraft forecasts at 2R4, as previously demonstrated. Thus, the FDOT operations forecast was modified to reflect current operational activity for 2001, adjusting 2016 accordingly. **Table 4-4** depicts the existing FDOT forecast and adjusted FDOT forecast of aircraft operations.

The 1999 Florida Department of Transportation Aviation Forecast predicts aircraft operations to increase at an average annual growth rate of 3.3 percent over the 20-year planning period.

Table 4-4
Peter Prince Airport Master Plan Update
Existing Operations Forecasts

YEAR	TAF (1)	92 MP (2)	5010 (3)	FASP (4)	FDOT (5)	Adjusted FDOT	
1980	24,200						
1981	8,150	8,150					
1982	8,150	8,150					
1983	7,750	7,750					
1984	7,750	7,750					
1985	7,750	7,750			7,750	7,750	
1986	7,750	8,020			7,750	7,750	
1987	8,020	19,035			8,020	8,020	
1988	8,260	30,050		8,260	8,260	8,260	
1989	30,050	30,154	30,050	30,050	30,050	30,050	
1990	30,050	30,050	30,050	30,050	30,050	30,050	
1991	30,050	34,000	30,050	30,050	30,050	30,050	
1992	36,050	37,133	31,250	36,050	36,050	36,050	
1993	36,050	40,266	36,050	36,050	36,050	36,050	
1994	36,050	43,399	36,050	36,050	36,050	36,050	
1995	36,050	46,533	36,050	36,050	36,050	36,050	
1996	36,050	49,667	62,350	36,050	36,050	36,050	
1997	50,050	52,800	50,050	50,050	50,050	50,050	
1998	50,050	54,240	50,050	50,050	51,316	51,316	Historical
1999	50,050	55,680	93,950	58,500	53,215	53,215	Forecast
2000	50,050	57,120	93,950	59,248	55,746	93,950	
2001	50,050	58,560	93,950	59,995	57,012	93,950	
2002	50,050	60,000		60,742	58,911	96,393	
2003	50,050	61,800		61,490	60,810	98,347	
2004	50,050	63,600		62,237	62,708	99,910	
2005	50,050	65,400		62,985	65,239	106,164	
2006	50,050	67,200		63,050	67,138	108,607	
2007	50,050	69,000		64,791	67,138	110,561	
2008	50,050	70,920		65,694	69,670	112,124	
2009	50,050	72,840		66,597	74,101	113,375	
2010	50,050	74,760		67,500	76,632	118,377	
2011	50,050	76,680		67,000	79,164	120,820	
2012	50,050	78,600		69,356	81,696	123,263	
2013	50,050	80,400		70,284	84,228	125,705	
2014	50,050	82,200		71,212	88,024	128,148	
2015	50,050	84,000		72,140	90,556	130,591	
2016	50,050	85,800		73,068	93,721	133,304	
2017	50,050	87,600		73,996	96,252	136,016	
2018	50,050	89,400		74,924	100,050	138,729	
2019	50,050	91,200		75,852	103,215	141,441	
2020	50,050	93,000		76,780	106,379	142,804	
2021	50,050	95,300		77,350	109,782	144,154	

Sources: (1) FAA Terminal Area Forecast (TAF), 2000
(2) 1992 Master Plan by Greiner Inc. (Scenario 2 - Rate C)
(3) FAA Airport Master Record 5010, 2001
(4) Florida Aviation System Plan Forecast (2000)
(5) Florida Department of Transportation Forecast
XX Data interpolated by PBSJ

4.3.3 FAA AIRPORT MASTER RECORD – FORM 5010

The FAA 5010 documents airport operations, based aircraft, airport facilities, and airport services on an annual basis. The 5010's show a steady increase in operations over the last 10 years, with 30,050 annual operations in 1990 and 93,950 for the year 2001, illustrating an average annual growth rate of 12 percent per year.

FAA 5010 data for 2R4 was considered a reasonable source of information for developing annual operations forecasts based upon past activity and information provided by county staff and the resident fixed base operator (FBO). FAA 5010 information dated before 1998 will be used as supporting data to help establish the accuracy of the FAA TAF and other existing forecasts regarding historical activity. However, it should be noted that such data may be inaccurate without the benefit of a control tower at the Airport, and may need to be modified based on subjective factors.

4.3.4 FLORIDA AVIATION SYSTEM PLAN (FASP)

The FASP predicted an average annual growth rate of 1.4 percent per year in aircraft operations over the period 2001 to 2021. Aircraft operations are projected to increase from 58,500 in 1999 to 76,780 in the year 2021. The FASP projected operational activity is much lower than the estimated current amount of activity (93,950) documented in the FAA 5010's, and is, therefore, questionable. FASP data will be used as supporting data to help establish accuracy of other historical forecasts, but will not be used in forming a selected forecast.

4.3.5 1992 AIRPORT MASTER PLAN

The existing Master Plan forecast, (see **Table 4-4**), predicts annual aircraft operations to increase 2.47 percent per year and 62.82 percent overall from 57,120 in 2000 to 93,000 by the year 2021. The current operations (93,950) denoted in the 5010's is much higher than the old Master Plan projection of 57,120 operations for the year 2001. Though the 1992 Master Plan forecast presents a steady growth rate over the planning period, historical performance has exceeded the forecast projections. Still, since the 1992 Master Plan presents a moderate growth rate in comparison to existing forecasts and FAA data, it will be considered in developing a new operations forecast.

4.3.6 BASED AIRCRAFT RATIO

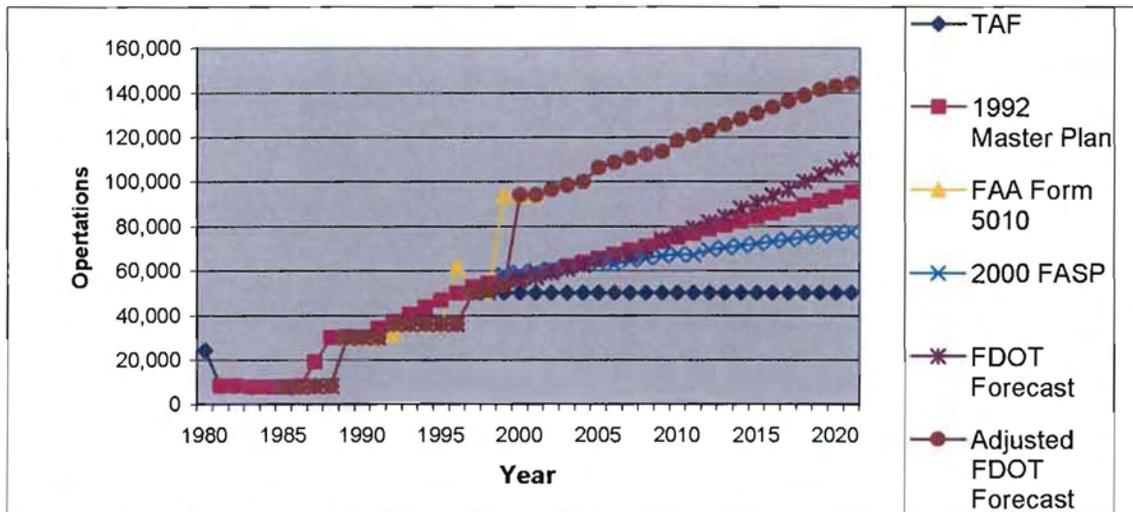
Though operations at GA airports include those conducted by itinerant aircraft, annual operations often correspond with the number of based aircraft located at the airport. This ratio of operations to based aircraft can be used as a forecasting method to estimate future operations to future based aircraft. Further

guidance is provided by FAA Advisory Circular 150/5300-13, *Airport Design*, which establishes standard ratios for each airport category.

Under the federal classification system 2R4 is a GA Airport with a suggested ratio of 637 operations per aircraft¹. Applying this ratio results in an increase of aircraft operations from 57,330 in 2001 to 115,934 by the year 2021. In order to determine a based aircraft to operations integer, the number of operations per year was divided by the number of based aircraft and then averaged over the last five years. This calculation is shown in **Table 4-5**. 2R4 currently averages 898 operations per based aircraft, which is considerably more than the FAA ratio; this is in part due to the high percentage of flight school activity, along with the large amount of based aircraft operations.

In the previously developed based aircraft forecast, it was projected that 60 percent of the hangar waiting list was to be accommodated by the year 2006. This would add 42 aircraft to the current based aircraft totals, which will directly reflect on the number of operations at 2R4. The growth rate beyond this accommodation has been projected at 2.5 percent over the next 20 years, reflecting a modest growth considering past growth trends and the large amount of perspective hangar tenants. **Table 4-6** depicts the FAA suggested and current based aircraft ratio forecasts.

Figure 4-4
Peter Prince Airport Master Plan Update
Existing Aircraft Operations Forecast



¹ FAA Advisory Circular 150/5300-13, Appendix 5

Table 4-5
Peter Prince Airport Master Plan Update
Operations to Based A/C Average (Last 5 Years)

Year	Based A/C	Operations	Ops/Based A/C
1997	79	50,050	634
1998	79	50,050	634
1999	90	93,950	1,044
2000	90	93,950	1,044
2001	90	93,950	1,044
Average			880

Source: FAA Forms 5010 and PBS&J, 2002

Table 4-6
Peter Prince Airport Master Plan Update
Operations Per Based Aircraft Forecasts

Year	Based Aircraft	Operations	Total Operations per based A/C	FAA Ops to Based A/C Ratio	Total Operations per FAA Ratio
1980	20	24,200	1,210	637	12,740
1981	20	8,150	408	637	12,740
1982	18	8,150	453	637	11,466
1983	34	7,750	228	637	21,658
1984	29	7,750	267	637	18,473
1985	29	7,750	267	637	18,473
1986	29	8,020	277	637	18,473
1987	29	19,035	656	637	18,473
1988	29	30,050	1,036	637	18,473
1989	41	30,050	733	637	26,117
1990	53	30,050	567	637	33,761
1991	51	30,050	589	637	32,487
1992	55	31,250	568	637	35,035
1993	59	36,050	611	637	37,583
1994	54	36,050	668	637	34,398
1995	55	36,050	655	637	35,035
1996	55	62,350	1,134	637	35,035
1997	79	50,050	634	637	50,323
1998	90	50,050	556	637	57,330
1999	90	93,950	1,044	637	57,330
2000	90	93,950	1,044	637	57,330
2001	90	93,950	1,044	637	57,330
2006	132	116,160	880	637	84,084
2011	147	129,360	880	637	93,639
2016	164	144,320	880	637	104,468
2021	182	160,160	880	637	115,934

Source: FAA 150/5300-13 "Airport Design" and PBS&J, 2002.

4.3.7 SELECTED AIRCRAFT OPERATIONS FORECAST RANGE

The FDOT and the FASP forecasts were extremely low in their projection of aircraft operations, and were, therefore, deemed unrealistic. These forecasts are shown purely as a comparison to more practical projections. Additionally, the FAA's estimate of operations to based aircraft number, 637, is significantly lower than the average operations to based aircraft (880) over the last five years. Thus, a new forecast was developed using the based aircraft forecast multiplied by the average number of operations per based aircraft over the last five years. Additionally, the adjusted FDOT forecast produced a more realistic forecast by incorporating the moderate FDOT growth rate while updating the number of operations performed during the year 2001 to reflect information as reported by the FAA 5010.

Peter Prince currently averages 880 operations per based aircraft, which is considerably more than the Federal Aviation Administration ratio.

The adjusted FDOT and the average operations per based aircraft forecast were averaged together to form a "high number" forecast. This forecast has an annual growth rate of 2.47 percent per year with an increase in operations from 93,950 in the year 2001 to 144,154 in the year 2021. This is a 53.4 percent increase over the next 20-year forecast period, and is considered moderate based upon the current data available. An additional "low-number" forecast was developed based on coordination with the FAA regarding concerns over base year operations and the overall accuracy of the FAA Form 5010 data. This forecast produced a base year (2001) number of 58,500 operations, which is founded on an average of 650 operations per based aircraft and is tied to the regional average operations per based aircraft in North Florida. The base year was then projected over the planning period at an average annual growth rate of 2.47 percent resulting in an increase to 95,105 operations by 2021.

Since 2R4 does not have a control tower to record flight activity and since base year data is suspect, a forecast range was selected that represents the low and high base year numbers and projects operations over the planning period at a constant growth rate (2.47 percent). This range projects the high-number forecast discussed previously as the upper range and the FAA suggested base year forecast (low-number) as the lower range. The supporting forecasts and selected forecast range are illustrated in **Table 4-7**, **Figure 4-5**, and **Figure 4-6**.

It should be noted, at the time of this writing the aviation industry was severely impacted by terrorist attacks on the U.S., using commercial aircraft. As a result, the national airspace system was shut down for several days and airports nationwide were closed. 2R4 was affected, to a certain degree, by the fallout of these terrorist attacks that occurred on September 11, 2001.

Specifically, the Airport saw a decrease in the number of operations by light-twin aircraft during the months immediately following September 11, as reported by the resident flight school. This decrease in light-twin operations was largely due to a reduction in military pilots, scheduled for retirement from the military, who

needed to log multi-engine hours in preparation for airline careers. Also, military pilots in general had less free time outside of their regular duties to fly because of increases in active military personnel responsibilities. However, it should be noted that the decrease in multi-engine operations was only a small percentage of the total aircraft operations performed at 2R4. Additionally, the flight school is presently in the process of obtaining FAA Part 141 certification and is beginning to see increases in students and overall operations. Overall, the number of aircraft operations at 2R4 have remained relatively constant through the restrictions associated with the events of September 11th. Thus, no significant changes to the operations forecast are required.

The selected operations forecast range is believed to be a realistic projection considering available data, the present conditions at 2R4, and the condition of the aviation industry as a whole. **Tables 4-8 and 4-9** illustrate the high and low range forecast operations by type (local, itinerant, air taxi, and military) and by the cardinal years 2001, 2006, 2011, 2016, and 2021.

Table 4-7
Peter Prince Field Master Plan Update
Comparison of Aircraft Operations Forecasts

Year	Ops per Based A/C Forecast	FDOT	Adjusted FDOT	1992 Master Plan	FASP	FAA Ops Per Based A/C Ratio	Low-Range FAA Suggested Forecast	High - Range Forecast
2001	93,950	57,012	93,950	55,560	59,595	57,330	58,500	93,950
2006	116,160	67,138	108,607	67,200	63,050	84,084	66,091	111,162
2011	129,360	79,164	120,820	76,680	67,000	93,639	74,666	123,869
2016	144,320	93,721	133,304	85,800	73,068	104,468	82,324	137,456
2021	160,160	109,782	144,154	95,300	77,350	115,934	95,105	151,482

Source: *FDOT Aviation Forecast*
1992 Master Plan by Greiner Inc. Forecasts
Florida Aviation System Plan Forecasts
FAA Aviation Forecasts Manual
FAA Washington APP Comments

Figure 4-5
Peter Prince Airport Master Plan Update
Distribution of Operations Forecast

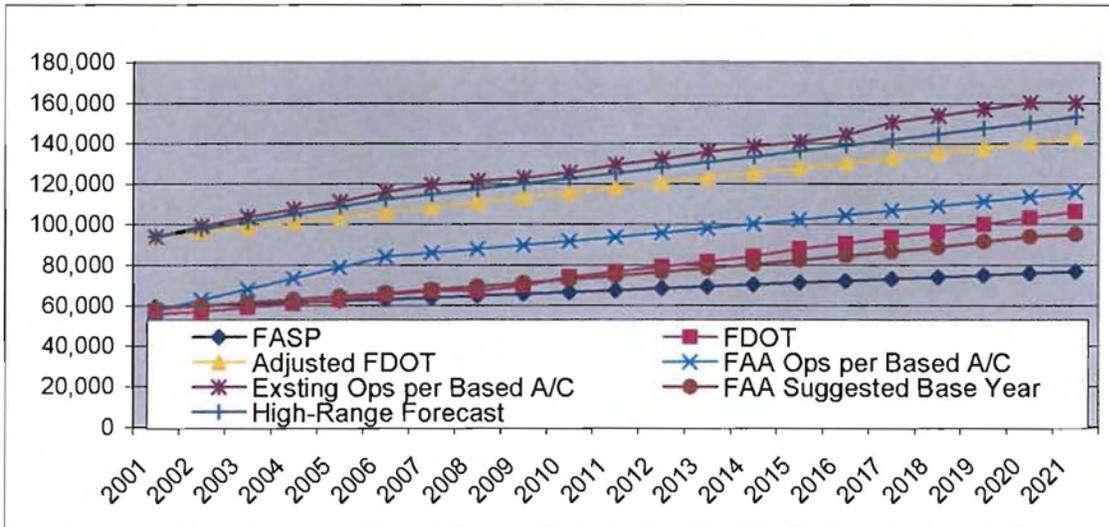


Figure 4-6
Peter Prince Airport Master Plan Update
Selected Forecast Range

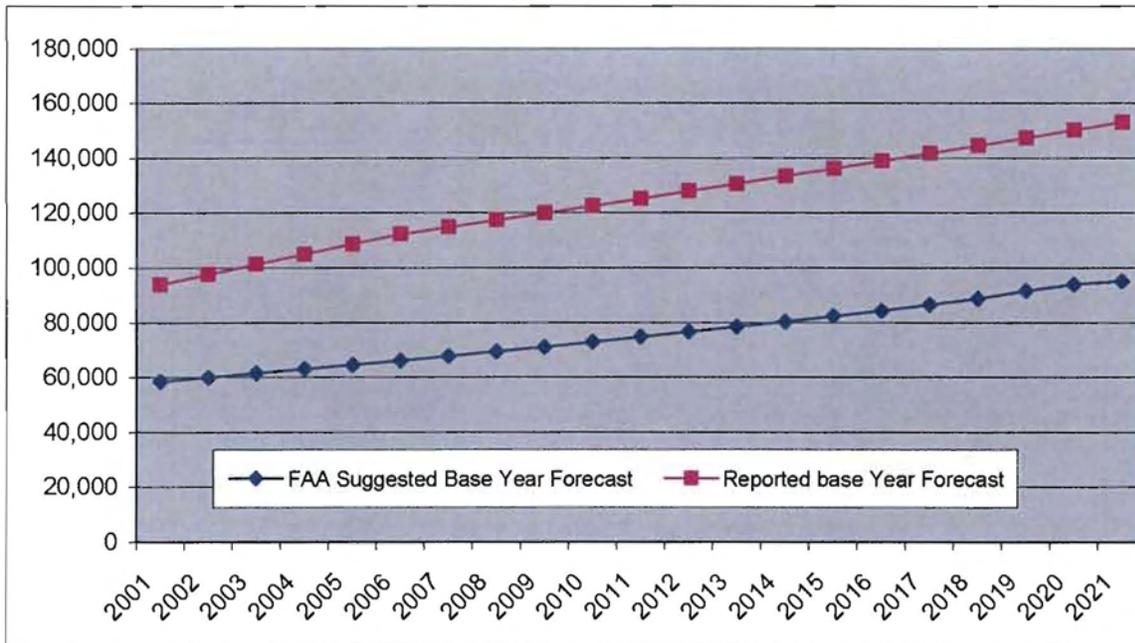


Table 4-8
Peter Prince Field Master Plan Update
High-Range Aircraft Operations Forecasted by Type

Year	Local GA	Itinerant GA	Air Taxi	Military	Total
2001	86,400	7,500	0	50	93,950
2006	102,229	8,874	0	59	111,162
2011	113,914	9,888	0	66	123,869
2016	126,409	10,973	0	73	137,456
2021	139,309	12,093	0	81	151,482

Source: FAA TAF & 5010
 PBSJ, 2002

Table 4-9
Peter Prince Field Master Plan Update
Low-Range Aircraft Operations Forecasted by Type

Year	Local GA	Itinerant GA	Air Taxi	Military	Total
2001	53,799	4,670	0	0	58,500
2006	60,780	5,276	0	35	66,091
2011	68,666	5,961	0	40	74,666
2016	75,708	6,572	0	44	82,324
2021	87,462	9,349	0	51	95,105

Source: PBSJ, 2002

4.4 ANNUAL OPERATIONS BY AIRCRAFT TYPE

An estimation of annual GA operations by type of aircraft was conducted to support the demand/capacity and facility requirements analyses. Due to the absence of an air traffic control tower (ATCT), annual aircraft operations were calculated based on the FAA national estimate of operations per aircraft type. This information was then adjusted to reflect the selected forecast range projected through 2021. According to these calculations 89 percent of operations in the year 2001 were conducted by single-engine piston aircraft and 11 percent by multi-engine piston aircraft. FAA forecasts indicate that the highest average annual growth rate over the forecast period will occur in jet aircraft, at 4.1 percent a year, followed by turboprop aircraft at 1.30 percent, single-engine at 1.03 percent a year, rotorcraft at 0.70 percent per year, and multi-engine piston aircraft, estimated to increase at the slowest rate, at 0.40 percent annually over the forecast period. In spite of this, 2R4 does not have the necessary runway length required to support jet engine and most turbo prop aircraft; therefore, growth will occur only in the aircraft currently operating at 2R4 until adequate runway facilities are provided to accommodate the larger turboprop and jet aircraft. **Tables 4-10 and 4-11** illustrate the forecast annual aircraft operations by type.

Table 4-10
Peter Prince Field - Airport Master Plan Update
Forecasted Operations by Aircraft Type (High-Range)

	<u>Year 2001</u>		<u>Year 2006</u>		<u>Year 2011</u>		<u>Year 2016</u>		<u>Year 2021</u>	
	Percent Total Operations	Ops By Type								
Single-Engine Piston	88.89%	83,511	87.12%	96,846	87.1%	107,858	86.5%	118,899	83.0%	125,730
Multi-Engine Piston	11.11%	10,439	11.51%	12,795	11.5%	14,245	12.3%	16,907	12.7%	19,238
Turbo Prop	0.00%	0	0.60%	667	0.7%	843	2.1%	2,887	2.4%	3,636
Jet Engine	0.00%	0	0.0%	0	0.0%	0	0.1%	137	0.2%	303
Rotorcraft	0.00%	0	0.76%	842	0.76%	941	1.5%	2,062	1.7%	2,575
Other	0.00%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	100.0%	93,950	100.0%	111,162	100.0%	123,869	102.5%	137,456	100.0%	151,482

Source: FAA Aerospace Forecasts - Fiscal Years 1999-2010 and PBS&J, 2002

Table 4-11
Peter Prince Field - Airport Master Plan Update
Forecasted Operations by Aircraft Type (Low-Range)

	<u>Year 2001</u>		<u>Year 2006</u>		<u>Year 2011</u>		<u>Year 2016</u>		<u>Year 2021</u>	
	Percent Total Ops	Ops By Type								
Single-Engine Piston	88.89%	52,001	87.12%	57,578	87.1%	65,034	86.5%	71,210	83.0%	78,937
Multi-Engine Piston	11.11%	6,499	11.51%	7,607	11.5%	8,587	12.3%	10,126	12.7%	12,078
Turbo Prop	0.00%	0	0.60%	397	0.70%	523	2.1%	1,729	2.4%	2,283
Jet Engine	0.00%	0	0.0%	0	0.0%	0	0.1%	82	0.2%	190
Rotorcraft	0.00%	0	0.76%	502	0.76%	567	1.5%	1,235	1.7%	1,617
Other	0.00%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	100.0%	58,500	100.0%	66,091	100.1%	74,666	102.5%	82,324	100.0%	95,105

Source: FAA Aerospace Forecasts - Fiscal Years 1999-2010 and PBS&J, 2002.

4.5 FUEL FLOWAGE

Fuel storage and capacity are prime concerns for Airport operators and FBOs. Because of increasing operations, fuel sales are expected to increase as well. A correlation of historical fuel sales and the relation to historic operations was established and applied to the selected forecast range to determine if additional fuel capacities will be required.

Total fuel projections were developed using an average ratio of gallons of fuel sold to the number of operations. This analysis resulted in an average of 1.28 gallons of fuel per operation for the high-range forecast and 1.44 gallons per operation for the low-range forecast. The fuel volumes include Avgas for piston-powered aircraft and Jet A grade fuel for turbine-powered aircraft. By applying these ratios to the selected operational forecast range, it is forecast that between 137,841 and 187,838 gallons of fuel will be sold annually by 2021. **Tables 4-12 and 4-13** illustrate the fuel volume projected for 2R4.

It should be noted that specific forecasts for each 100LL and Jet-A were not feasible since the FBO does not keep such records; only total combined fuel sales were available.

4.6 PEAK ACTIVITY

Peak hour activity tests an airport's ability to accommodate demand represented by an increased level of activity that occurs with predictable frequency. The determination of peak activity will aid in the development and sizing of airport facilities to meet heightened demand. The FAA defines the theoretical "peak-hour operations" as the total number of aircraft operations or enplanements expected to occur at an airport, averaged for two adjacent peak hours of a typical peak time or busiest hour on record. Peaking characteristics are determined by estimating the peak monthly and daily activity and then determining the peak hourly activity. The most common method of converting the forecasts to an hourly demand baseline is Average Day/Peak Month (AD/PM). To determine the AD/PM, the peak month must first be identified. Since there is no ATCT to record movements at 2R4, fuel sales from the resident FBO were used to determine periods of peak activity. The operations for the peak month are then divided by 30.42 days, which is the average number of days per month, to obtain the average day of the peak month.

The peak-hour activity is then determined to establish airport facility requirements such as the spatial requirements of the terminal building and apron size and capacity. Peak-hour activity typically ranges from 12 to 20 percent of the average day of the peak month. For the purposes of this study, 15 percent was used to calculate the peak-hour demand. This percentage represents a close approximation of the peak-hour activity at GA airports without a control tower in

operation. **Tables 4-14 and 4-15** depict the peaking characteristics at 2R4 based on the selected forecast range.

Table 4-12
Peter Prince Airport Master Plan Update
Forecast of Fuel Flowage (High-Range)

Year	Operations	Fuel Sales (Gallons)	Gallons per Op
1997	50,050	78,200	1.56
1998	50,050	81,500	1.63
1999	93,950	86,500	0.92
2000	93,950	96,000	1.02
Average Gallons per Op:			
2006	111,162	137,841	1.28
2011	123,869	153,597	1.28
2016	137,456	170,445	1.28
2021	151,482	187,838	1.28

Source: Source: Santa Rosa Aviation (FBO) and PBS&J, 2002

Table 4-13
Peter Prince Airport Master Plan Update
Forecast of Fuel Flowage (Low-Range)

Year	Operations	Fuel Sales (Gallons)	Gallons per Op
1997	50,050	78,200	1.56
1998	50,050	81,500	1.63
1999	93,950	86,500	0.92
2000	58,500	96,000	1.64
Average Gallons per Op:			
2006	66,091	95,171	1.44
2011	74,666	107,519	1.44
2016	82,324	118,547	1.44
2021	95,105	136,951	1.44

Source: Source: Santa Rosa Aviation (FBO) and PBS&J, 2002

Table 4-14
Peter Prince Airport Master Plan Update
Forecast of Peaking Characteristics (High-Range)

Year	Annual Ops	Peak Month	Peak Day	Peak Hour
1998*	50,050	4,796	158	24
1999*	93,950	9,004	296	44
2000*	93,950	9,004	296	44
2006	111,162	10,653	350	53
2011	123,869	11,871	390	59
2016	137,456	13,173	433	65
2021	151,482	14,517	477	72

Note: * Based on FAA 5010
Source: FAA 5010, Santa Rosa Aviation and PBS&J, 2002

Table 4-15
Peter Prince Airport Master Plan Update
Forecast of Peaking Characteristics (Low-Range)

Year	Annual Ops	Peak Month	Peak Day	Peak Hour
1998*	50,050	4,796	158	24
1999*	93,950	9,004	296	44
2000*	58,500	5,606	184	28
2006	66,091	6,334	208	31
2011	74,666	7,156	235	35
2016	82,324	7,889	260	39
2021	95,105	9,114	300	45

Note: * Based on FAA 5010
Source: Santa Rosa Aviation and PBS&J, 2002

4.7 INSTRUMENT APPROACH ACTIVITY

An instrument approach to an airport is an actual instrument flight rules (IFR) approach conducted in IFR weather and differs from an instrument operation, which may be conducted in either visual flight rules (VFR) or IFR weather. Instrument approaches available at 2R4 include a non-precision global positioning system (GPS) approach.

Instrument approach activity at 2R4 is controlled by Pensacola Approach Control, and 2R4 weather conditions are reported on the local Unicom frequency. National Oceanic and Atmospheric Administration (NOAA) climatic data shows that IFR conditions occur 9.4 percent of the year. It is estimated from the NOAA data that weather that is considered IFR, but not less than the published minimums for the existing GPS approach, occurs only 4 percent of the year. This

percentage was then used to forecast historical and projected instrument activity at the Airport.

Through this analysis, instrument operations are forecast to increase from a minimum of 2,340 (low-range) in 2001 to a maximum of 6,059 (high-range) by 2021. **Tables 4-16 and 4-17** depict the forecasted instrument activity for 2R4.

4.8 AIRCRAFT PARKING

The forecast of aircraft parking will help identify the need for improved and/or expanded apron facilities to accommodate aviation parking. As previously discussed in Chapter 3, aircraft parking by means of tie-downs, has been forecast using a formula of 15 percent of the based aircraft and one half of the peak itinerant aircraft. Therefore, aircraft parking requirements are forecast to increase from 14 based aircraft and 2 itinerant aircraft in 2001 to 27 based aircraft and 3 itinerant aircraft by 2021 under the high-range forecast. The low-range forecast projects an increase in aircraft parking from 14 based aircraft and 1 itinerant aircraft in 2001 to 27 based aircraft and 3 itinerant aircraft by 2021. **Tables 4-18 and 4-19** illustrate the aircraft parking forecast according to cardinal year.

4.9 GENERAL AVIATION (GA) PASSENGERS AND AUTOMOBILE PARKING

4.9.1 GA PASSENGERS

Passenger forecasts will be used to determine the required capacity and improvements for facilities such as the terminal building. GA passengers were forecast using a formula of 0.9 passengers per local operation and three passengers per itinerant operation as indicated by the FAA's *Estimating the Economic Impact of Airports*. Thus, by multiplying the number of operations by the correct passenger coefficient, the number of GA passengers per cardinal forecast year was determined and is represented in **Tables 4-20 and 4-21** based on the selected forecast range.

Table 4-16
Peter Prince Airport Master Plan Update
Forecast Instrument Operations (High-Range)

Year	Annual Operations	Instrument Operations	Percent Instrument Operations
1995	36,050	1,442	4.00%
1996	62,350	2,494	4.00%
1997	50,050	2,002	4.00%
1998	50,050	2,002	4.00%
1999	93,950	3,758	4.00%
2000	93,950	3,758	4.00%
2006	111,162	4,447	4.00%
2011	123,869	4,955	4.00%
2016	137,456	5,498	4.00%
2021	151,482	6,059	4.00%

Source: PBS&J, 2002

Table 4-17
Peter Prince Airport Master Plan Update
Forecast Instrument Operations (Low-Range)

Year	Annual Operations	Instrument Operations	Percent Instrument Operations
1995	36,050	1,442	4.00%
1996	62,350	2,494	4.00%
1997	50,050	2,002	4.00%
1998	50,050	2,002	4.00%
1999	93,950	3,758	4.00%
2000	58,500	2,340	4.00%
2006	66,091	2,644	4.00%
2011	74,666	2,987	4.00%
2016	82,324	3,293	4.00%
2021	95,105	3,804	4.00%

Source: PBS&J, 2002

Table 4-18
Peter Prince Airport Master Plan Update
Forecasted Aircraft Parking (High-Range)

Itinerant Aircraft Parking				
Year	Itinerant Operations	Local Operations	Peak Hour	Itinerant Tie-Down Aircraft
2001	7,500	86,400	4	2
2006	8,874	102,229	4	2
2011	9,888	113,914	5	3
2016	10,973	126,909	5	3
2021	12,093	139,309	6	3

Source: PBS&J, 2002

Based Aircraft Parking			
Year	Based Aircraft	Hangared Aircraft	Based Tie-Down Aircraft
2001	90	76	14
2006	132	112	20
2011	147	125	22
2016	164	139	25
2021	182	155	27

Source: PBS&J, 2002

Table 4-19
Peter Prince Airport Master Plan Update
Forecasted Aircraft Parking (Low-Range)

Itinerant Aircraft Parking				
Year	Itinerant Operations	Local Operations	Peak Hour	Itinerant Tie-Down Aircraft
2001	4,670	53,799	2	1
2006	5,276	60,780	2	1
2011	5,961	68,666	3	2
2016	6,572	75,708	4	2
2021	9,349	87,462	5	3

Source: PBS&J, 2002

Based Aircraft Parking			
Year	Based Aircraft	Hangared Aircraft	Based Tie-Down Aircraft
2001	90	76	14
2006	132	112	20
2011	147	125	22
2016	164	139	25
2021	182	155	27

Source: PBS&J, 2002

Table 4-20
Peter Prince Airport Master Plan Update
Forecast of General Aviation Passengers (High-Range)

Year	2001	2006	2011	2016	2021
Passengers	100,260	118,868	132,187	147,137	161,657

Table 4-21
Peter Prince Airport Master Plan Update
Forecast of General Aviation Passengers (Low-Range)

Year	2001	2006	2011	2016	2021
Passengers	62,429	70,530	79,682	87,853	106,763

4.9.2 AUTOMOBILE PARKING

Automobile parking forecasts have been developed using a factor of 1.5 parking spaces per busy-hour passenger as suggested in the Transportation Research Board publication, *Measuring Airport Landside Capacity*. These forecasts will be used in a later section to determine the facility requirements and the extent of

any necessary improvements to the parking areas. **Tables 4-22 and 4-23** illustrate the forecast parking spaces according to cardinal year and selected forecast range.

Table 4-22
Peter Prince Airport Master Plan Update
Forecast of Automobile Parking Requirements (High-Range)

Year	Total Passengers	Peak-Hour Passengers	Parking Spaces
2001	100,260	47	71
2006	118,868	56	84
2011	132,187	63	95
2016	147,137	70	105
2021	161,657	76	115

Source: PBS&J, 2002

Table 4-23
Peter Prince Airport Master Plan Update
Forecast of Automobile Parking Requirements (Low-Range)

Year	Total Passengers	Peak-Hour Passengers	Parking Spaces
2001	62,429	30	44
2006	70,530	33	50
2011	79,682	38	57
2016	87,853	42	62
2021	106,763	50	76

Source: PBS&J, 2002

4.10 FORECAST SUMMARY

The aviation forecasts developed in this section reflect reasonable and acceptable methods of forecasting. **Table 4-24** presents a summary of the GA forecasts developed in this chapter. These forecasts will be used in later sections to develop demand/capacity analysis and facility requirements over the forecast period. However, it should be noted that the forecasts should be primarily used as a guide for planning purposes only and projects should be constructed as a function of demand and not forecast period.

Table 4-24
Peter Prince Airport Master Plan Update
General Aviation Forecast Summary

Activity	2001		2006		2011		2016		2021	
Based Aircraft										
Single-engine Piston	80		115		128		142		158	
Multi-engine Piston	10		15		16		18		20	
Jet Engine	0		0		0		0		0	
Turbo Prop	0		1		1		2		2	
Rotorcraft	0		1		2		2		2	
Other	0		0		0		0		0	
Total	90		132		147		164		182	
	High-Range	Low-Range								
Aircraft Operations										
Local GA	86,400	53,799	102,229	60,780	113,914	68,666	126,409	75,708	139,309	87,462
Itinerant GA	7,500	4,670	8,874	5,276	9,888	5,961	10,973	6,572	12,093	9,349
Military	50	0	59	35	66	40	73	44	81	51
Air Taxi	0	0	0	0	0	0	0	0	0	0
Total	93,950	58,500	111,162	66,091	123,869	74,666	137,456	82,324	151,482	95,105
Instrument Operations (1)	3,758	2,340	4,447	2,644	4,955	2,987	5,498	3,293	6,059	3,804
Peak Operations										
Month	9,004	5,606	10,653	6,334	11,871	7,156	13,173	7,889	14,517	9,114
Day	296	184	350	208	390	235	433	260	477	300
Hour	44	28	53	31	59	35	65	39	72	45
Peak Aircraft Parking										
Based Aircraft	14	14	20	20	22	22	25	25	27	27
Itinerant Aircraft	2	1	2	1	3	2	3	2	3	3
Total	16	15	22	21	25	24	28	27	30	30
GA Passengers	100,260	62,429	118,868	70,530	132,187	79,682	147,137	87,853	161,657	106,763
Automobile Parking	71	44	84	50	95	57	105	62	115	76
Fuel Sales (Gal.)	96,000	96,000	137,841	95,171	153,597	107,519	170,445	118,547	187,838	136,951

Note: (1) Calculated as a percentage of total operations based on NOAA climatic data.
Source: PBS&J, 2002

CHAPTER 5

DESIGN CRITERIA

Peter Prince Airport

This chapter presents the design criteria as the basis for the demand/capacity analysis and facility requirements analysis at Peter Prince Airport (2R4). All design standards presented in this section are established by the Federal Aviation Administration (FAA) for developing airport facilities to meet existing and forecast levels of activity.

5.1 AIRPORT REFERENCE CODE (ARC) AND CRITICAL AIRCRAFT DETERMINATION

The airport reference code (ARC) is an airport specific operational and physical design-criteria coding system that is based on aircraft operating characteristics. The ARC is made up of two components, which are derived from the airport's design aircraft. The first component, depicted by an alpha character, is the aircraft approach category, which indicates the approach speed (operational characteristic). The second component, depicted by a Roman numeral, is the airplane design group, which indicates the wingspan (physical characteristic). Generally, runway design standards are aircraft approach speed specific, whereas, taxiways, taxilanes, and aprons are wingspan specific. The aircraft approach category and airplane design group classifications, as defined by FAA Advisory Circular AC 150/5300-13, "Airport Design," follow.

Table 5-1
Peter Prince Airport Master Plan Update
Aircraft Approach Categories

(Based on 1.3 times aircraft stall speed in landing configuration at maximum landing weight.)

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 166 knots or more.

Table 5-2
Peter Prince Airport Master Plan Update
Airplane Design Group
 (Based on wingspan length.)

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

Typically, the critical aircraft (primarily based on the aircraft with the longest wingspan and the highest approach speeds), that consistently makes substantial use of the Airport, determine the ARC. FAA Order 5090.3B, *Field Formation of the NPIAS*, defines substantial use as, 500 or more annual aircraft operations or scheduled commercial service.

5.1.1 CRITICAL AIRCRAFT

The current critical aircraft for 2R4 is the Cessna 310, which requires an ARC of B-I. However, the runway can accommodate aircraft with ARC's of B-II, such as the KingAir 200. The previous Master Plan included plans for a new runway with an ARC of D-II to accommodate business aircraft such as the Gulfstream IV. During the time of this writing, the new runway, Runway 02-20, was removed from consideration in this Master Plan Update, and is no longer a viable alternative for Santa Rosa County. Nevertheless, the forecasts presented in Chapter 4 show a future demand (2011-2021) for small business and corporate aircraft. These types of aircraft can be predominately found in the B-II, C-II, or D-II categories. Significant improvements and modifications would be necessary in order to accommodate C-II or D-II aircraft at 2R4. However, minimal changes could be made to the existing airfield configuration in order to accommodate aircraft within the B-II design classification. Some of the small business and corporate aircraft forecast in Chapter 4 currently fall within the B-II ARC, but their use will be limited by the existing Airport facility due to a lack of sufficient runway length. Runway improvements and other enhancements will be discussed further in Chapter 6.

The current critical aircraft for 2R4 is the Cessna 310, which requires an ARC of B-I.

5.2 FACILITY DESIGN CRITERIA

Airfield improvements are developed according to the established ARC for the Airport, and then for each particular runway. **Tables 5-3 and 5-4** depict the design criteria required for ARC B-I and B-II, while **Table 5-5** depicts the existing runway protection zone (RPZ) dimensions for ARC B-I and B-II.

**Table 5-3
Peter Prince Airport Master Plan Update
Design Standards**

SEPERATION REQUIREMENTS

Geometrical Design Standards (RW 18-36)	ARC B-I	ARC B-II
Runway width	60 feet	75 feet
Runway shoulder width	10 feet	10 feet
Runway blast pad width	80 feet	95 feet
Runway blast pad length	100 feet	150 feet
Runway safety area width	120 feet	150 feet
Runway safety area length beyond runway end	240 feet	300 feet
Obstacle free zone width	400 feet	400 feet
Obstacle free zone length beyond runway end	200 feet	200 feet
Runway Object free area width	400 feet	500 feet
Object free area length beyond runway end	240 feet	300 feet
Taxiway width	25 feet	35 feet
Taxiway shoulder width	10 feet	10 feet
Taxiway safety area width	49 feet	79 feet
Taxiway object free area width	89 feet	131 feet

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

Table 5-4
Peter Prince Airport Master Plan Update
Separation Standards

SEPERATION REQUIREMENTS

Separation Standards (RW 18-36)	ARC B-I	ARC B-II
Runway centerline to holdline	200 feet	200 feet
Runway centerline to parallel taxiway/taxilane centerline	225 feet	240 feet
Runway centerline to aircraft parking area	200 feet	250 feet
Runway centerline to helicopter touchdown pad	700 feet *	700 feet *
Taxiway centerline to parallel taxiway/taxilane centerline	69 feet	105 feet
Taxiway centerline to fixed or moveable object	44.5 feet	65.5 feet
Taxilane centerline to parallel taxilane centerline	64 feet	97 feet
Taxilane to fixed or moveable object	39.5 feet	57.5 feet

Source: FAA AC 150/5300-13, Airport Design; FAA AC 150/5340-1, Standards for Airport Markings; FAA AC 150/5390-2, Heliport Design

*Note: * - 500 feet for small and medium helicopters, 700 feet for heavy helicopters (over 12,500 lbs)*

Table 5-5
Peter Prince Airport Master Plan Update
Runway Protection Zone Dimensions

RPZ REQUIREMENTS

RPZ Dimensions	ARC B-I	ARC B-II
RW 18 approach (visual):		
Inner width	500 feet	500 feet
Outer width	700 feet	700 feet
Length	1000 feet	1000 feet
RW 36 approach (visual):		
Inner width	500 feet	500 feet
Outer width	700 feet	700 feet
Length	1000 feet	1000 feet

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

5.2.1 EXISTING AIRFIELD FACILITIES VERSUS CURRENT DESIGN STANDARDS

The previous Airport Layout Plan (ALP) set performed in 1993 by Greiner Inc. specifies the Cessna 310 (ARC B-I) as the design aircraft for the Airport. The facility (as is) complies with all FAA guidelines for this type of aircraft. In addition, with exception of the taxiway system, the Airport facilities also comply with all FAA guidelines for the larger winged design group B-II aircraft. The Airport has recently seen growth in these types of aircraft operations, and expects the growth to continue, based upon the forecasts presented in Chapter 4. Hence, information pertaining to both design groups will be illustrated in the following sections.

5.2.1.1 Runways

Runway 18-36 is 3,700 feet long and 75 feet wide. These dimensions meet the current requirements for both B-I and B-II ARC designations. Therefore, no runway improvements are necessary in order to upgrade to B-II. A review of the existing and future critical aircraft and required runway dimensions will be discussed further in Chapter 6.

5.2.1.2 Taxiways and Taxilanes

The existing taxiway system at 2R4 has a common width of 25 feet in compliance with FAA standards for Group I aircraft. However, a 10-foot widening of the existing taxiways (to 35 feet) would be required to bring them into compliance for Group II aircraft. Additionally, the runway centerline to Taxiway A centerline separation is 245 feet, while the separation between the runway centerline and Taxiway B centerline is 300 feet. The parking apron, which is near the FBO facility on the west side of the Airport, has a painted taxilane line for aircraft movements through the apron area. The outer perimeter of this west apron is currently being used as an aircraft parking area. An upgrade from B-I to B-II ARC mandates a larger taxilane object-free area as shown in **Table 5-4**. As a result, this upgrade would eliminate aircraft parking from the surrounding taxilane, in order to meet the object-free area requirements. Otherwise, the existing taxiway separations and safety areas at 2R4 comply with the FAA guidelines for group II aircraft as specified in AC/5300-13 Change 6.

A 10-foot widening of the existing taxiways (to 35 feet) would be required to bring Peter Prince Airport into compliance for Group II aircraft.

5.2.2 APRONS

The positioning of the existing aircraft parking aprons at 2R4 is within the required FAA standards for the B-II ARC designation. The current separation from Runway 18-36 centerline to the west aircraft-parking apron is 275 feet, and 400 feet to the east apron. The separation from Taxiway B centerline to the east apron is 110 feet, and meets FAA standards for B-II ARC designations. The separation from Taxiway A centerline to the west apron is 65.5 feet, and also

meets FAA requirements for a B-II ARC. **Table 5-4** shows the separation requirements for B-I and B-II ARC designations.

5.2.3 RUNWAY PROTECTION ZONE (RPZ) DIMENSIONS

The RPZ is an area of land off of the runway ends, maintained for departing and arriving aircraft, that must be evenly graded and remain clear of objects. The size of the RPZ can also be adversely affected by changes in the ARC code. However, in this case, the ARC change from B-I to B-II is not so significant, and therefore, does not affect the dimensions of the RPZ. **Table 5-5** illustrates the similar RPZ requirements for B-I and B-II aircraft.

5.3 PAVEMENT DESIGN AIRCRAFT DETERMINATION

Aircraft weight characteristics can also affect the design of an airport. Pavement design of the runways, taxiways, and aprons, is based on a design aircraft. The design aircraft is different from the critical aircraft described previously. The design aircraft is determined by landing gear configuration (i.e., single wheel, dual wheels, etc.), and the known or forecasted number of operations of aircraft with the heaviest maximum gross takeoff weights. The single wheel 4,800 pound Cessna 310 is the existing design aircraft at 2R4.

However, the runway and main taxiway pavement strengths at 2R4 can accommodate load-bearing weights up to 22,000 pounds per single wheel. Any future improvements to the runway and taxiway system to accommodate larger aircraft should strengthen the pavement to a minimum of 25,000 pounds single wheel and 50,000 pounds dual wheel load.

5.4 FAR PART 77 SURFACES

Federal Aviation Regulations (FAR) Part 77, *Objects Affecting Navigable Airspace*, defines standards for determining obstructions to navigable airspace. These imaginary surfaces are used to protect operations around airports from high structures that can pose a threat to aircraft landing or departing the airport facility. Obstructions are primarily determined by superimposing the Part 77 "imaginary surfaces" over the airport and surrounding areas. An analysis is performed to determine the elevations of various objects (structures, terrain, towers, etc.). The objects elevation is then compared to the elevation of the associated Part 77 Surface. Objects that are found to be higher than the Part 77 surfaces are considered an obstruction. Within the ALP set developed in conjunction with this Master Plan Update, an Airport airspace sheet will illustrate the various obstructions and objects located within the Part 77 areas. A reduced version of this set can also be located in Chapter 10 of this report.

The runway and main taxiway pavement strengths at Peter Prince Airport can accommodate load-bearing weights up to 22,000 pounds per single wheel.

Dimensions of the "imaginary surfaces" are derived from the type of approach, and the type of aircraft operating at the Airport. Federal regulations require that the Part 77 surfaces of the most demanding approach be applied to the entire runway. Therefore, any future instrument approaches to Runway 18-36 must be designed in conjunction with the imaginary surfaces associated with the most stringent approach to the runway. The existing requirements of the Part 77 surfaces at 2R4 are illustrated in **Table 5-6**.

Figure 5-1
Peter Prince Airport Master Plan Update
FAR Part 77 Imaginary Surfaces

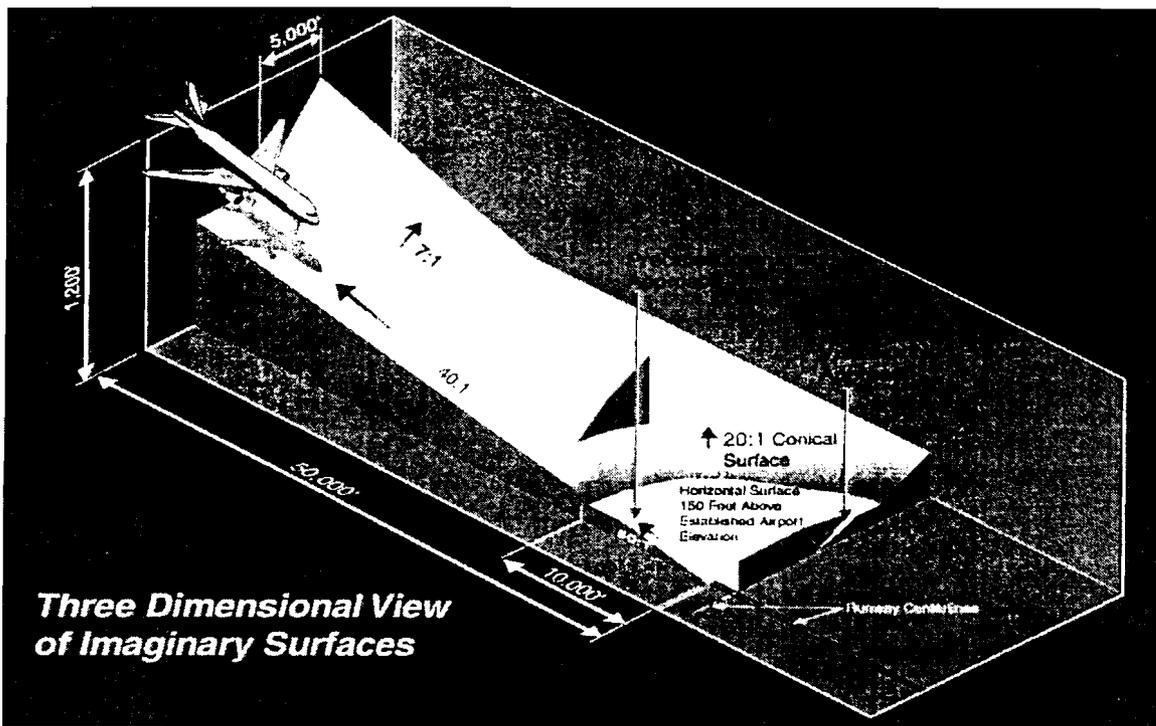


Table 5-6
Peter Prince Airport Master Plan Update
FAR Part 77 Surfaces

Part 77 Imaginary Surface	Existing Dimensions
Primary Surface (Runway 18-36):	
Width	500 feet
Length beyond runway end	200 feet
Approach Surface (Runway 18):	
Inner width	500 feet
Outer width	1,500 feet
Length	5,000 feet
Slope	20:1
Approach Surface (Runway 36):	
Inner width	500 feet
Outer width	1,500 feet
Length	5,000 feet
Slope	20:1

Source: Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace

CHAPTER 6

DEMAND/CAPACITY ANALYSIS AND FACILITY REQUIREMENTS

Peter Prince Airport

Based on the aviation forecasts developed in Chapter 4, this chapter compares the projected aviation demand to the existing capacity of the facilities at Peter Prince Airport (2R4). This comparison will then be used to determine future facility requirements over the 20-year planning period. These facility improvements are directly related to the forecasted aviation activity and will allow the Airport and surrounding community to be adequately prepared for the potential demand over the 20-year planning period.

6.1 AIRSPACE CAPACITY

Airspace capacity at an airport is of concern when the flight paths of traffic at nearby airports, or local navigational aids (NAVAIDS), interact to affect operations at the study airport. Also of concern are altered flight paths to avoid obstructions during approaches.

The region surrounding 2R4 is occupied by a number of small general aviation (GA) airports and military facilities, resulting in both heavily occupied military special use airspace, and unrestricted airspace occupied by a number of GA and commercial airports. Specifically, 2R4 is located within Alert Area 292 (A-292) and under the Pensacola South military operating area (MOA). The Pensacola North MOA is located approximately 19 miles due north of 2R4, and Eglin's A and B MOAs are located approximately five miles northeast of 2R4, making access to 2R4 virtually impossible without contacting the Pensacola Approach Control.

In addition, Eglin Air Force Base, NAS Whiting Field, and NAS Pensacola are located 25 miles east, 4 miles north, and 25 miles southwest of 2R4 respectively. Eglin Air Force Base is a joint-use facility and has regular scheduled commercial service operations in addition to heavy military training. Other airports that are located within the airspace surrounding 2R4 are Pensacola Regional, Brewton Municipal Airport, Bob Sikes Airport, and Destin-Fort Walton Beach Airport. All of the GA airports utilize local visual flight rules (VFR) flyways to traverse the area and avoid the military special-use airspace.

NAS Whiting Field consists of 14 Navy Outlying Landing Fields (NOLFs) covering 7,600 acres, and there are currently two main airfields, located within NAS Whiting, which have similar configurations. The airspace at 2R4 is essentially a cutout of Whiting field's airspace. Aircraft typically travel within a one-half mile radius north of the airfield in order to avoid entering the military airspace. Approximately 152,000 flight operations are split between Whiting's North and South fields and must be carefully coordinated with local air traffic to ensure that conflicts are minimized.

Due to the heavy concentration of military facilities in conjunction with numerous commercial and GA airports surrounding 2R4, the airspace capacity at 2R4 is heavily congested. Thus, limitations on the airspace and general use of instrument approach procedures exist at the Airport and must be considered when calculating the Airport's overall capacity. Currently, only global positioning system (GPS) instrument approach procedures exist at the Airport and 2R4 is considered closed during periods of instrument flight rules (IFR) weather when ceilings are below 500 feet and visibility is less than one mile. This limits the capacity of the Airport under IFR conditions.

Currently, only global positioning system instrument approach procedures exist at the airport and Peter Prince Airport is considered closed during periods of instrument flight rules weather when ceilings are below 500 feet and visibility is less than one mile.

6.2 AIRSIDE CAPACITY AND FACILITY REQUIREMENTS

The major components of the airfield system to be taken into consideration when determining capacity include runway orientation and configuration, runway length, and runway exit location. Additionally, the capacity of a given system is affected by operational characteristics such as fleet mix, climatology, and air traffic control procedures. Each of these components has been examined as part of the airside capacity analysis.

6.2.1 AIRFIELD CAPACITY

A demand and capacity analysis of airfield or airside systems and facilities, such as the Airport's runways and taxiways, results in calculated hourly capacities for VFR and IFR conditions. Additionally, an annual service volume (ASV), which identifies the total number of aircraft operations that may be accommodated at the Airport without excessive delay, is also calculated. The Federal Aviation Administration (FAA) defines total airport capacity as a reasonable estimate of the Airport's annual capacity, which accounts for the differences in runway use, aircraft mix, weather conditions, etc., that would be encountered over a year's time. The parameters, assumptions, and calculations required for this analysis are included in the following sections.

6.2.1.1 Airfield Parameters and Assumptions

Runway Orientation, Utilization, and Wind Coverage

2R4 has one runway (18-36) that was evaluated to determine the overall capacity of the airfield, which is the sum of capacities determined for each operation (takeoff and landing). Each operation is defined by its direction, which is often influenced by wind, available instrument approaches, noise abatement procedures, airspace restrictions, and/or other operating parameters. The runway use configurations used for capacity calculations considered runway orientations of 18 and 36 in VFR conditions. Operations in IFR conditions were evaluated but would require the installation of a precision approach system (i.e. instrument landing system [ILS]) in order to conduct significant operations and accommodate aircraft during IFR weather conditions of less than one-mile visibility and ceilings lower than 500 feet.

Runway use was determined through an analysis of statistical wind data obtained from the National Oceanic and Atmospheric Administration's (NOAA's) National Climatic Data Center (NCDC) in Asheville, North Carolina, in conjunction with information provided by the fixed base operator (FBO) and Santa Rosa County. This information was analyzed to determine the percent of operations that typically utilize each runway, based on the type of aircraft, wind direction, and overall weather conditions. The data shows that Runway 18 is used approximately 32 percent annually, while Runway 36 is used approximately 68 percent of the year.

The single most important criterion for runway orientation is wind coverage. The runways should provide the maximum opportunity for takeoff and landing into the wind. The FAA requires the crosswind coverage of the runway system to be at least 95 percent. As discussed in Chapter 2, a wind analysis was completed using Version 4.2D of the FAA's computer program, "Airport Design for Microcomputers." Crosswind components of 10.5 and 13 knots were applied.

Crosswind coverage and maximum crosswind components are applied to runways based on the overall size of the aircraft utilizing the runway, and the FAA design group (A, B, C, or D) applied. Therefore, a crosswind component of 10.5 knots and 13 knots were applied to Runway 18-36, based on the current aircraft design group for the runway. The wind analysis yielded 97.76 percent coverage for all weather conditions, and 96.71 percent coverage for IFR conditions.

Aircraft Mix Index

The FAA has developed a classification system for aircraft, based on size, weight, and performance. **Table 6-1** illustrates this classification as it is presented in the FAA AC 150/5060-5. This classification is used to develop an

aircraft mix, which is the relative percentage of operations conducted by each of the four classes of aircraft (A, B, C, and D). The aircraft mix is used to calculate a "mix index," which is used in airfield capacity studies. The FAA defines the mix index as a mathematical expression, which represents the percent of Class C aircraft, plus three times the percent of Class D aircraft (C+3D).

The current facilities at the Airport can accommodate aircraft within the A and B classes. A review of base-year operations by each class of aircraft at 2R4 determined that operations were divided across the four classes of aircraft at 88.9, 11.1, 0.0, and 0.0 percent respectively. Utilizing this information, the base year mix index at 2R4, for purposes of airfield capacity calculations, is 0.0 percent. Based on the forecasts presented in Chapter 4, the mix index was calculated for cardinal forecast years of 2006, 2011, 2016, and 2021, resulting in 0.0 percent over the entire planning period. The mix index will be used to determine the ratio of demand to total capacity at each cardinal year. This analysis will be discussed in the capacity calculations section of this chapter.

Table 6-1
Peter Prince Airport Master Plan Update
FAA Aircraft Classifications

Aircraft Class	Max. Cert. Takeoff Weight (lb)	Number of Engines	Wake Turbulence Classification
A	12,500 or less	Single	Small (S)
B		Multi	
C	12,500 – 300,000	Multi	Large (L)
D	Over 300,000	Multi	Heavy (H)

Source: FAA AC 150/5060-5, Airport Capacity and Delay

Percent Arrivals

The percent of arrivals is the ratio of arrivals to total operations. It is typically safe to assume that the total annual arrivals will equal total departures, and that average daily arrivals will equal average daily departures. Therefore, a factor of 50 percent arrivals would be used in the capacity calculations for the Airport. Based on information obtained from the FBO and Airport records, the percent of arrivals for 2R4 were verified to be approximately 50 percent.

Percent Touch and Go

The touch and go percentage is the ratio of landings with an immediate takeoff, to total operations. This type of operation is typically associated with flight training. The number of touch-and-go operations normally decreases as air carrier operations increase, the demand for service and number of total operations approach runway capacity, and/or weather conditions deteriorate.

Typically, touch-and-go operations are assumed to be between zero and 50 percent of total operations.

Since 2R4 has flight training operations conducted by the FBO, a review of touch-and-go activity was completed. An analysis of the available data and information obtained from the FBO and flight school showed that approximately 45 percent of local GA operations were touch-and-go operations. Thus, based on the information available, it is estimated that touch-and-go operations account for approximately 41 percent of total operations at 2R4.

Touch and go operations account for approximately 41 percent of total operations at Peter Prince Airport.

Based on this information, touch-and-go factors of 1.4 for VFR operations and 1.0 for IFR operations were selected as required by the guidelines presented in the FAA Advisory Circular (AC). These factors will be used later in the capacity calculations.

Taxiway Factors

Taxiway entrance and exit locations are an important factor in determining the capacity of an airport's runway system. Runway capacities are highest when full-length, parallel taxiways, ample runway entrance and exit taxiways, and no active runway crossings are available. FAA Advisory Circular 150/5060-5 identifies the criteria for determining taxiway exit factors at an airport. The criteria for exit factors are generally based on the mix index and the distance the taxiways are from the threshold and each other. Because the mix index for 2R4 was calculated to be 0.0 for the base year, and forecast to be 0.0 in 2021, only exit taxiways that are between 2,000 and 4,000 feet from the threshold, spaced at least 750 feet apart, were considered, and contributed to the taxiway exit factor. Taxiways that met these parameters were considered in completing the capacity calculations for all directions and all conditions.

Taxiway exits were evaluated for north and south operations on Runway 18-36. Two full-length parallel taxiways (Taxiway A and Taxiway B) were identified and evaluated. A total of three taxiway exits (Taxiway A-2, A-3, and B-3) that meet the requirements were identified. This results in a taxiway exit factor of 0.94 for VFR operations and 0.99 for IFR operations.

General Airspace Limitations

As discussed in Section 6.1, Airspace Capacity, the airspace surrounding 2R4 is heavily congested and has significant constraints due to the close proximity of a number of public use airports (Pensacola Regional, Destin-Ft. Walton Beach, Okaloosa Regional, etc.) and military facilities with special-use airspace. Additionally, due to its proximity to Whiting Field, 2R4 is limited in the airspace available and use of this airspace. Thus, the high level of activity and general congestion has specific impacts on the airspace in the area, and the overall capacity of the Airport.

The airspace capacity limiting factors that have been identified at 2R4 include restrictions on the airspace available for instrument approaches. Due to existing configuration of military special-use airspace it is anticipated that an instrument approach to Runway 18-36 at 2R4 would be difficult to obtain. This is generally due to the close proximity of military operations at Whiting Field and the unavoidable conflicts that would be encountered. Additionally, the airspace and overall approach requirements for ILS and other instrument approaches are significant, and the addition of a north-south approach to 2R4 would likely cause considerable conflicts with existing military and commercial operations in the area. However, a non-precision approach, such as the existing GPS and/or a localizer or Very-High Frequency Omnidirectional Range (VOR) approach would have minimal impacts on operations in the surrounding airspace and provide an adequate level of IFR approach capability and safety at the Airport. Thus, only the existing non-precision instrument approach to Runway 36, or a future enhancement of this approach, is anticipated at 2R4. The airspace limitations identified in this section are used as a contributing factor in the airfield capacity calculations.

Runway Instrumentation

The primary runway, 18-36, does not have ILS approach capabilities in either direction. However, air traffic control (ATC) facilities, equipment, and services within the region are adequate to carry out operations in a radar environment. Additionally, a GPS approach to Runway 36 does currently exist at the Airport.

Weather Influences

Weather data obtained from the NCDC identified that IFR conditions (ceilings less than 1,000 feet and visibility less than 3 miles) occur approximately 6.7 percent of the time. Since GPS is currently the only approach capability at the Airport, no aircraft can be accommodated during IFR weather conditions when cloud ceilings or visibility are below 500 feet and/or less than 1 mile, respectively.

6.2.1.2 Airfield Capacity Calculations

The airfield capacity calculations in this section were performed using the parameters and assumptions discussed. These calculations also utilize data from the preferred aviation demand forecast, as presented in Chapter 4, for portions of the capacity calculations. The following sections outline the hourly capacities in VFR and IFR conditions, as well as the annual service volume for 2R4.

Hourly VFR Capacity

The hourly VFR capacity for Runway 18-36 was calculated based on the guidance and procedures in FAA AC 150/5060-5, "Airport Capacity and Delay."

The hourly VFR capacity was calculated to be 138 operations per hour. The following equation and calculations present the step-by-step method that was utilized to calculate the hourly VFR capacity, based on the guidance provided in FAA AC 150/5060-5.

Hourly VFR Equation

Hourly Capacity Base (C*) x Touch & Go Factor (T) x Exit Factor (E) = Hourly Capacity

Runway 18-36

$C^* \times T \times E = \text{Hourly Capacity}$

$$105 \times 1.40 \times 0.94 = 138$$

The VFR hourly capacity will be used in the annual service volume calculations for 2R4.

Hourly IFR Capacity

Similar to the VFR hourly capacity discussed, IFR hourly capacity was calculated for Runway 18-36. The hourly IFR capacity for Runway 18-36 would be 69 operations per hour with an ILS approach, however the current capacity of Runway 18-36 to accommodate IFR operations is estimated to be 21 operations utilizing the existing GPS approach. It is estimated that approximately 69 IFR operations per hour could be achieved by adding precision instrument approach capability in at least one direction. However, considering the airspace limitations in the vicinity of 2R4 it is not expected that a precision approach will be obtained. Furthermore, other non-precision approaches, such as VOR and/or Localizer, would not reduce the approach minimums and provide significant improvements in IFR capabilities. Therefore, the hourly IFR capacity equation and calculations, based on the existing GPS approach, are shown below.

Hourly IFR Equation

Hourly Capacity Base (C*) x Touch & Go Factor (T) x Exit Factor (E) = Hourly Capacity

Runway 18-36

$C^* \times T \times E = \text{Hourly Capacity}$

$C^* \times T \times E = \text{Hourly Capacity}$

$$21 \times 1.0 \times 0.98 = 21$$

Annual Service Volume (ASV)

The ASV is the maximum number of annual operations that can occur at the Airport before an assumed maximum operational delay value is encountered. The ASV is calculated based on the existing runway configuration, aircraft mix, and the parameters and assumptions identified herein, and incorporates the hourly VFR and IFR capacities calculated previously. Utilizing this information and the guidance provided in FAA AC 150/5060-5, the ASV for existing conditions at SFB was calculated to be 195,272 operations. It should be noted that the ASV represents the existing airfield capacity in its present configuration, with one north-south runway and GPS approach capabilities. The equation and calculations used to obtain the ASV were taken from the FAA AC, and are presented below.

ASV Equation

Weighted Hourly Capacity (Cw) x Annual/Daily Demand (D) x Daily/Hourly Dem. (H) = Annual Service Volume (ASV)

ASV Calculation

$Cw \times D \times H = ASV$

$88 \times 317 \times 7 = 195,272$

The ASV calculations are based on the previously mentioned parameters and assumptions, and are directly derived from the guidance provided in FAA AC 150/5060-5, "Airport Capacity and Delay." The results of the airfield capacity calculations represent an in-depth airport-specific analysis, and have been deemed appropriate for this level of airport master planning effort.

Furthermore, the current aviation demand in number of aircraft operations for the base year 2001 at the Airport, as presented in Chapter 4 of this document, is 93,950 operations. This equals approximately 48 percent of the present ASV. Additionally, according to the FAA, the following guidelines should be used to determine necessary steps as demand reaches designated levels.

- 60% of ASV: Threshold at which planning for capacity improvements should begin.
- 80% of ASV: Threshold at which planning for improvements should be complete and construction should begin.
- 100% of ASV: Airport has reached the total number of annual operations (demand) that can be accommodated, and capacity-enhancing improvements should be made to avoid extensive delays.

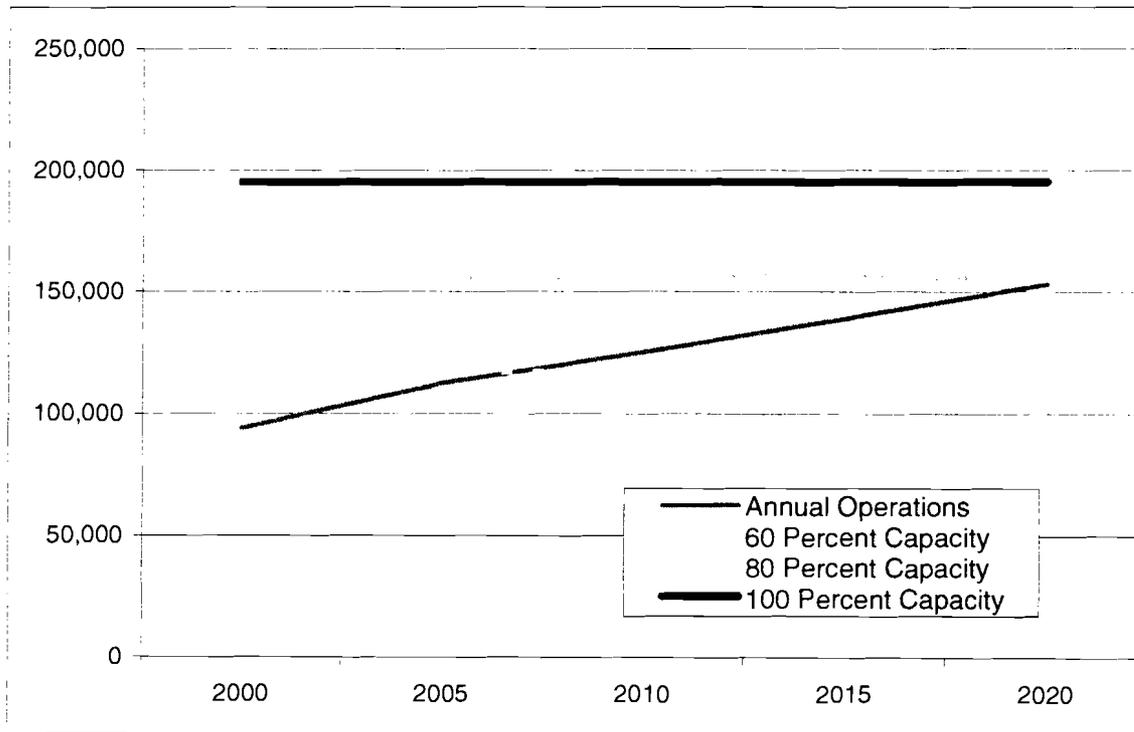
Table 6-2 and **Figure 6-1** illustrate the preferred aviation demand forecast for 2R4, and its relation to the Airport's ASV.

Table 6-2
Peter Prince Airport Master Plan Update
Annual Service Volume (ASV) vs. Annual Demand

Year	Aircraft Mix Index	Annual Operations (High-Range)	Annual Service Volume (ASV)	Percent of ASV
2001	0.0%	93,950	195,272	48%
2006	0.0%	112,330	195,272	58%
2011	0.0%	125,192	195,272	64%
2016	0.0%	138,932	195,272	71%
2021	0.0%	153,120	195,272	78%

Source: FAA AC 150/5060-5, Airport Capacity and Delay and PBS&J, 2001

Figure 6-1
Peter Prince Airport Master Plan Update
Annual Service Volume (ASV) vs. Annual Demand (High-Range)



6.2.2 RUNWAY AND TAXIWAY SYSTEM REQUIREMENTS

As Discussed in Chapter 5, the critical aircraft for the Airport is currently the Cessna 310. However, it should be noted that increased activity and demand by larger business aircraft such as the Jetstream 31 and Citation III are forecast to occur by the mid-phase the planning period. These aircraft would likely support local business and those occupying the industrial park just to the east of the Airport. Operations by this type of aircraft are forecast to increase over the planning period and will require expanded facilities in order to adequately accommodate them. Therefore, a study of the critical aircraft and other larger business aircraft expected to operate at 2R4 must be accomplished to determine the runway lengths that would be required to accommodate the larger aircraft. This analysis was conducted according to the guidelines set forth in FAA AC 150/5325-4A, "Runway Length Requirements for Airport Design."

Increased activity and demand by larger business aircraft such as the Jetstream 31 and Citation III are forecast to occur by the mid phase the planning period.

6.2.2.1 Runway 18-36

The aircraft previously mentioned will operate on Runway 18-36 at 2R4 since it is currently the only runway available. According to FAA Advisory Circular 150/5325-4A, "Runway Length Requirements for Airport Design," the recommended runway length is based on the airplanes forecast to use the runway on a regular basis (500 annual operations). Therefore, in order to determine the possible runway lengths, a list of the most demanding aircraft projected to use the Airport was developed. These aircraft were examined at 100 percent of their usable load to identify a range of runway lengths that are specific to the performance of each aircraft.

As shown in **Table 6-3**, runway length requirements range from approximately 3,800 feet to 5,000 feet for all aircraft considered to be operating at 100 percent of the usable load. The fuel requirements were based on a 1,500 nautical mile stage length. Additionally, based on the forecasts discussed in Chapter 4 it is projected that demand in excess of 500 operations per year by these type of aircraft will occur by 2006 and increase steadily over the remainder of the planning period. Therefore, based on a 100 percent load factor and 1,500 nautical mile stage length, Runway 18-36 would need to be extended to a total length of at least 4,500 feet to accommodate the majority of the projected demand. This would require an extension of approximately 800 feet to the existing 3,700-foot runway. The width of the runway could be maintained at 75 feet.

Demand from other aircraft such as the Citation III and Falcon 900 will likely occur over the planning period and require increased runway length to operate at the Airport. Adequate capacity to meet this demand is essential to promote the economic growth of 2R4 and the local economy. Additionally, a runway length of 4,500 feet is reasonable considering the runway lengths of other GA airports in Florida and the local area.

However, it should be noted that airspace conflicts between operations at the Airport and local military facilities exist and must be considered in the overall development plans for the Airport. Coordination between the Airport, county officials, and local military facilities is imperative to the successful expansion of 2R4. If an extension to the existing runway system at the Airport is not feasible, realization of operations by larger business aircraft, as forecasted in chapter 4, will be limited.

**Table 6-3
Peter Prince Airport Master Plan Update
Required Runway Length**

Aircraft	Maximum T/O Weight (lb)	Usable Load			Stage Length (nm)	Runway Length		
		Existing	Typical	Ultimate		Existing (ft)	Typical (ft)	Ultimate (ft)
Jetstream 31	14,550	80%	90%	100%	1,500	3,700	4,000	4,500
Falcon 900	45,500	75%	90%	100%	1,500	3,700	4,450	4,950
Beech 1900C	16,600	98%	90%	100%	1,500	3,700	3,500	3,737
Fokker F28	65,000	78%	90%	100%	1,500	3,700	4,300	4,800
Cessna Citation III	22,000	74%	90%	100%	1,500	3,700	4,500	5,000

Source: FAA AC 150/5325-4A; PBS&J 2001

6.2.2.2 Taxiway Requirements

Taxiway A has five connector taxiways (Taxiways A-1, A-2, A-3, A-4, and A-5) and is the west parallel taxiway to Runway 18-36. Taxiways A-2 and A-3 have direct access to the apron area. In addition, Taxiway B has four connector taxiways (Taxiways B-1, B-3, B-4, and B-5) and is the east parallel. Taxiway B-3 is also a taxiway-to-apron connector. Design standards for this taxiway currently meet ARC B-I standards; however, improvements would be necessary to meet FAA Group II requirements.

Both Taxiway A and B are currently 25 feet wide. Though the existing taxiway width meets the B-I design standards it does not meet B-II requirements. FAA design standards for taxiways serving Group II aircraft require a minimum width of 35 feet. Therefore, Taxiway A, B, and all associated connector taxiways would need to be widened to 35 feet to accommodate Group II aircraft. The existing taxiway to runway centerline separations for Taxiway A and B are 245 feet and 300 feet respectively, and meet the FAA Group II requirements.

Additionally, holding bays on both parallel taxiways should be included to ensure operational efficiency in accordance with FAA AC 150/5300-13. These improvements will help ensure adequate airfield capacity.

6.3 APPROACH AND NAVIGATIONAL AIDS

As discussed in Chapter 2, 2R4 has several navigational and approach aids. These consist mainly of a very high frequency omnidirectional range/tactical navigation (VORTAC) (for en route navigation), a GPS approach, and precision approach path indicators (PAPIs). The medium intensity runway lighting (MIRL), medium intensity taxiway lighting (MITL), and PAPI systems at 2R4 are pilot activated by keying the microphone with the radio set to the local Unicom frequency (122.8). Additionally, a rotating beacon and wind cone are also located on the Airport.

Future NAVAIDS should be considered to increase operational efficiency and ensure safety. Such improvements may include, runway end identification lights (REILS) and an area surveillance radar (ASR) non-precision approach to Runway 36.

6.4 AIRFIELD LIGHTING, SIGNAGE, AND PAVEMENT MARKINGS

6.4.1 AIRFIELD LIGHTING

Runway 18-36 currently has MIRL and Taxiways A and B both have MITL. Both MIRL and MITL systems should be expanded in conjunction with any runway or taxiway extensions.

6.4.2 AIRFIELD SIGNAGE

Existing airfield signage at 2R4 is adequate for the current facilities. However, signage improvements should be considered in conjunction with airfield projects. Projects that are recommended in this study that would require signage updates include: runway extensions, taxiway extensions and/or construction, apron expansion and/or construction, and fueling facilities.

6.4.3 PAVEMENT MARKINGS

Runway markings should be appropriately relocated to coincide with completion of runway and/or taxiway extensions and improvements or construction of additional apron area. Additionally, Runway 18-36 should have non-precision instrument markings in conjunction with the existing GPS approach.

6.5 AIRCRAFT APRONS AND TIE-DOWNS

The existing apron facilities at 2R4 total approximately 16,700 square yards of paved surface, used for aircraft run-up, aircraft parking and tie-down, circulation and aircraft movement, and frontage for the FBO and associated hangar. The west apron, near the FBO, provides approximately 9,800 square yards of aircraft parking, while the east apron has approximately 6,700 square yards of paved area. GA aircraft are parked primarily in the area of the FBO, and the east apron is often used solely for aircraft run-up operations. Thus, the majority of aircraft that require tie-down space are currently being accommodated on the west apron near the FBO. The east apron area should be used for aircraft parking and tie-down in the future as demand warrants. This could be accomplished through minor improvements, such as constructing a road from the industrial park, and providing vehicular access to the east apron area.

As discussed, it has been estimated that 15 percent of based aircraft at 2R4 are not hangared and will require apron space. In addition, it is estimated that one-half of the busy itinerant aircraft will require parking/tie-down space, and all itinerant rotorcraft will require apron space. These calculations result in an occupied apron area, for 2001, of approximately 5,500 square yards or 33 percent of the current apron capacity.

Sizing criteria for tie-down positions vary according to aircraft size, including space for circulation and fueling. FAA AC 150/5300-13 indicates that planning for 300 square yards for each based aircraft and 360 square yards per each busy itinerant aircraft will provide sufficient space for a mix of aircraft. By applying this methodology to the forecasts, it is estimated that a total of 10,180 square yards of apron will be required for parking by based and itinerant aircraft in 2021. Thus, the existing apron area at 2R4 will meet the demand over the planning period. **Table 6-4** illustrates the apron requirements over the planning period.

An estimated 15 percent of based aircraft at Peter Prince Airport are not hangared and will require apron space, while one-half of the busy itinerant aircraft will require parking/tie-down space.

Table 6-4
Peter Prince Airport Master Plan Update
Aircraft Tie-Down/Parking Apron Requirements (sq yd)

Year	Based Aircraft	Itinerant Aircraft	Total
2001	4,050	1,440	5,490
2006	5,940	1,560	7,500
2011	6,615	1,625	8,240
2016	7,380	1,805	9,185
2021	8,190	1,990	10,180

Source: FAA AC 150/5300-13; PBS&J 2001

6.6 AIRCRAFT HANGARS

Approximately 85 percent of all based aircraft at 2R4 are stored in hangars. Additionally, there is a strong demand for more hangar space by based aircraft owners and other aircraft owners who wish to relocate their aircraft to 2R4. Demand for hangars is documented by the lengthy hangar waiting list the county maintains for small corporate and GA aircraft. Currently, there are 72 T-hangar units, 1 corporate hangar with 3 bays, and 1 conventional hangar. The Airport's hangar facilities are currently operating at 100 percent capacity. Additional capacity will be needed to meet the forecast demand.

It is forecast that 182 aircraft will be based at 2R4 in 2021. Additionally, the County has a current waiting list in excess of 70 aircraft owners, both based and off field, who desire hangar space. For future planning, the percentage of hangared aircraft to total based aircraft has been held constant to ensure that adequate demand will exist to fill the hangars provided. T-hangars currently store 92 percent, corporate hangars 5 percent, and conventional hangars store 3 percent of all hangared aircraft at 2R4. Considering the existing conditions, it is estimated that corporate hangars will store one to two aircraft and conventional hangars will store three. By maintaining these percentages to determine future facility requirements, it is forecast that 143 T-hangar units, four corporate hangars, and two conventional hangars will be required by 2021. **Table 6-5** illustrates the complete hangar requirements, by cardinal forecast year, through the planning period.

Table 6-5
Peter Prince Airport Master Plan Update
Hangar Space Requirements*

Year	T-Hangars	Corporate Hangars	Conventional Hangars
2001	72	1	1
2006	104	2	1
2011	115	3	1
2016	129	3	2
2021	143	4	2

Source: PBS&J, 2001

Note: * 2R4 currently has 72 T-hangar units, 1 corporate hangar, and 1 conventional hangar.

6.7 AIRCRAFT FUEL STORAGE

Fuel storage at 2R4 is located on the west side of the Airport, just north of the FBO. This area, known as a fuel farm, consists of two 10,000-gallon above-ground storage tanks. One tank is used for Jet A fuel and the other tank contains

100LL Aviation Gasoline (AVGAS). Fuel is accessible through a self-serve unit. No fuel trucks are currently used to deliver fuel to aircraft.

Fuel consumption information for the Airport was provided by the FBO (Santa Rosa Aviation) and was used to calculate an average ratio of fuel used to the annual number of operations. This analysis yields a ratio of 1.28 gallons of fuel per operation. Since fuel types (Jet A and 100LL) are not specifically identified, separate ratios for each fuel type could not be determined. Therefore, increases in fuel capacity have been determined considering the forecast increase in traffic and the present ratio of fuel. It is estimated that approximately 189,869 gallons of fuel will be sold annually by 2021. The required capacity enhancements are illustrated in **Table 6-6** and have been determined based upon the facilities required to store the average one-month demand. As operations requiring Jet-A fuel increase at 2R4, fuel storage requirements may need to be reviewed to ensure an adequate level of Jet-A capacity is provided.

In addition to increases in storage capacity, the level at which fuel is required to be delivered is expected to increase. This is mainly due to the forecast increase in operations, larger fuel requirements of small business aircraft and anticipated development of the east side of the airfield. To meet this demand, fuel trucks will likely be required. **Table 6-6** illustrates the fuel storage requirements for 2R4, which include additional storage tanks and fuel trucks.

Table 6-6
Peter Prince Airport Master Plan Update
Fuel Storage Requirements

Year	1 Month Demand	Capacity (Gallons)	Fuel Tank Requirement ⁽¹⁾	Fuel Trucks Required	Fuel Farm Area (sq ft) ⁽²⁾
2000	8,800	10,000	1	0	840
2006	11,607	20,000	2	1	1,680
2011	12,936	20,000	2	1	1,680
2016	14,356	20,000	2	1	1,680
2021	16,822	20,000	2	2	1,680

Source: PBS&J, 2001

Note: (1) Based on 110% capacity of forecast demand

(2) Based on average area of 840 sq./ft per tank for safety and operational areas

6.8 FBO TERMINAL BUILDING

Currently one FBO terminal building exists at 2R4 and has approximately 5,000 square feet of space, which consists of office space, a pilot lounge, and adjacent aircraft maintenance facility. The existing office space and pilot lounge area is very old and in need of rehabilitation. Additionally, adequate space for the flight school operations, pilot lounge and services, and the FBO offices is not available in the existing building. Therefore, the Airport would be best served by

constructing a new FBO/GA terminal building and utilizing the old building solely as a maintenance facility.

Appendix 5 of FAA AC 150/5300-13 provides guidelines for small airport buildings, including GA terminals. The primary consideration is that the facility be capable of handling the amount of passengers, pilots, and visitors associated with peak hour operations. GA facility sizing can vary from 50 to 75 square feet per peak hour passenger. Therefore, a planning guide of 62.5 square feet per busy-hour passenger is typically used to size GA terminals.

Utilizing the above referenced sizing criteria and based on the current and forecast level of demand, a 4,875 square foot FBO/GA terminal will be required by 2021. **Table 6-7** shows the FBO/GA terminal building requirements over the planning period.

The Airport would be best served by constructing a new fixed base operators/ general aviation terminal building and utilizing the old building solely as a maintenance facility.

6.9 AUTOMOBILE PARKING

Automobile parking at 2R4 is located west of the FBO building and has a total of approximately 55 parking spaces, with one space designated for handicap parking. Hangar tenants typically drive their vehicles directly onto the airfield and park near their respective hangar locations. Therefore, according to FBO management, adequate capacity is currently provided by the existing FBO parking lot.

Table 6-7
Peter Prince Airport Master Plan Update
FBO/GA Terminal Building Requirements

Year	Total GA Passengers	Busy-Hour Passengers	Required Terminal Space (sq ft)
2000	100,260	48	3,000
2006	119,874	57	3,565
2011	133,600	64	4,000
2016	148,406	71	4,440
2021	163,406	78	4,875

Source: PBS&J, 2001

GA pilots, passengers, and visitors use the parking areas at 2R4. Future GA parking requirements use a planning factor of 1.3 parking spaces per busy-hour GA passenger and 44 square yards per parking space, which accounts for parking and circulation. Thus, approximately 102 parking spaces and 4,490 square yards of pavement area will be required by 2021. The forecast requirements for the FBO parking area over the planning period are listed in **Table 6-8**. The planning factors used in this section for GA parking are based on

suggested ratios from the “FAA Aviation Demand and Airport Facility Requirement Forecasts for Medium Air Transportation Hubs”. The space requirements identified should accommodate the forecast levels of GA pilot, passenger, customer, visitor, and employee parking demand.

**Table 6-8
Peter Prince Airport Master Plan Update
Automobile Parking Requirements**

Year	Busy-Hour Passengers	Required Parking Spaces	Required Parking Area (sq yd)*
2000	48	63	2,775
2006	57	74	3,255
2011	64	83	3,655
2016	71	92	4,050
2021	78	102	4,490

Source: PBS&J, 2001

6.10 GROUND ACCESS

An extensive network of roadways provides access to the Airport. Interstate 10 runs east and west through Santa Rosa County and is a four-lane highway. State Road 87 runs north and south and has interchanges with I-10. State Road 90 provides access from State Road 87 to Airport Boulevard. Direct access is provided by Airport Boulevard, which is two lanes and provides excellent access to the Airport. Although Airport Boulevard currently has adequate capacity, increased demand forecast to occur by 2021 may require additional capacity. Therefore, future improvements by the Airport and/or Santa Rosa County to increase Airport Boulevard to three lanes (two travel lanes and one turning lane) should be considered to accommodate increased traffic. Otherwise, all routes provide adequate capacity for 2R4 considering the forecast level of operations.

6.11 AIRPORT SECURITY AND FENCING

Security fencing at 2R4 should be adjusted to include all of the Airport property, and additional fencing and gates should be added with airfield and facility expansions. In addition, appropriate clearing of foliage should be maintained within the runway visual zone (RVZ) in order to provide adequate visibility across the area.

As additional safety measures, any future property acquired by the Airport should be fenced, any additional buildings or parking areas constructed on Airport property should have adequate security lighting, and a perimeter road inside the property line should provide maintenance access to the fence line.

6.12 AIRPORT RESCUE AND FIREFIGHTING

The East Milton Volunteer Fire Department, Station Number 15, provides Airport Rescue and Firefighting (ARFF) services at the Airport. Station 15 has two separate locations, which are located within a two-mile radius of the Airport. Emergency vehicles access the airfield through two gates along Airport Boulevard.

Since 2R4 is a small GA facility that does not have commercial service and/or a Part 139 certification, ARFF services are not required to be located on the Airport. Therefore, the ARFF services provided by Station 15 are adequate for the existing and forecast level of operations.

6.13 NON-AVIATION USE

Land located on the far east and northeast sides of the Airport, adjacent to the existing Santa Rosa Industrial Park, is not currently suitable for aviation use. Therefore, this land should be developed in conjunction with the industrial park to increase revenue from non-aviation related businesses and provide airside access for the industrial park. These businesses are compatible land uses that benefit the Airport and the local economy.

Additional industrial park buildings with airside access on the east side of the Airport would require the extension of taxiways and the existing roadway serving the industrial park and eastern Airport property. Existing industrial park buildings to the far east would lack access to the airfield, while new buildings on the western side may have access to future apron development and taxiways to Runway 18-36. Utility and drainage infrastructure for this area would also be required. Development plans for this area will be discussed further in Chapter 7.

6.14 STORMWATER DRAINAGE FACILITIES

The existing stormwater drainage facilities at 2R4 consist of a series of ditches, swales, culverts, and retention basins. These facilities are used to divert runoff away from the paved areas of the Airport. The existing topography splits the Airport in half with the south half draining in to a depressed area just south of the Runway 36 end and the north half draining downward toward the Blackwater River. Due to the moderate permeable characteristics of the soil on Airport property, standing water is usually only found following heavy rain. Overall, the existing drainage system has adequate capacity for the level of development currently on the Airport.

Future improvements will likely increase the area of impervious surfaces on the Airport and thus, must also address drainage issues in order to accommodate increased runoff from such construction. Such a plan would likely be developed and constructed in kind with the existing drainage system. However, the existing

drainage basins to the north and south, created from past borrow pit operations, may need to be relocated to accommodate future airfield expansion. Future improvements to the drainage system at 2R4 will be discussed further in Chapter 7.

6.15 LAND ACQUISITION

Airport property currently consists of over 235 acres. If runway extensions and other facility improvements are programmed, additional lands will need to be acquired. These lands will be necessary to gain compliance with FAA directives and avoid the development of incompatible land uses in the vicinity of 2R4. Additionally, land areas that are impacted by aircraft noise may be acquired in order to reduce the number of incompatible land used in the vicinity of the Airport.

6.16 SUMMARY

This section has identified the general facility requirements necessary to meet the 20-year forecast aviation demand. Prior to the actual physical layout of these facilities, specific refinement must be accomplished to enable the Airport to develop in a coherent and logical manner. The facility requirements are based upon the forecast of aviation activity. A summary of the general facility requirements has been compiled in **Table 6-9**.

Table 6-9
Peter Prince Airport Master Plan Update
Summary of Facility Requirements

Item	Existing (2001)	Planning Stage Requirements		
		2006	2011	2021
Airside Facilities				
Runway 18-36:				
- length/width	3,700' x 75'	4,500' x 75'	N/C	N/C
- strength	22,000 SW/44,000 DW	22,000SW/44,000DW	N/C	N/C
- approach aids				
- RW 18	PAPI, MIRL	PAPI, GPS, MIRL, REIL	N/C	N/C
- RW 36	PAPI, GPS, MIRL	PAPI, GPS, ASR, MIRL, REIL	N/C	N/C
- Taxiways length/width	3,700' x 25'	4,500' x 35'	N/C	N/C
Taxiway System				
- Runway 18-36	Full-length parallel (east & west side)	N/C	N/C	N/C
Landside Facilities				
Aircraft Apron Area:				
- Tie-down	9,800 square yards	7,500 square yards	8,240 square yards	10,180 square yards
- Run-Up	6,700 square yards	N/C	N/C	N/C
Aircraft Hangars:				
- T-Hangar units	72	104	115	143
- Corporate hangars	1	2	3	4
- Conventional hangars	1	1	1	2

Note: N/C - No Change
N/A - Not Applicable

Table 6-9 (Continued)
Peter Prince Airport Master Plan Update
Summary of Facility Requirements

Item	Existing (2001)	Planning Stage Requirements		
		2006	2011	2021
- Fuel tanks	2	1	2	2
- Fuel trucks	0	1	1	2
- Self serve	1	1	1	1
Terminal Buildings:				
- FBO terminal	5,000 square feet (old building to be replaced)	3,565 square feet	4,000 square feet	4,875 square feet
Automobile Parking:				
- FBO/GA Spaces	55	74	83	102
- Total Parking Area	3,000 square yards	3,255 square yards	3,655 square yards	4,490 square yards

Note: N/C - No Change
N/A - Not Applicable

CHAPTER 7

ALTERNATIVES IDENTIFICATION & DEVELOPMENT PLANS

Peter Prince Airport

The primary objective of this chapter is to identify an overall development plan for Peter Prince Airport (2R4) that will meet the Airport's long-term aviation needs. Airside and landside facilities satisfying the various elements of the aviation demand forecast for the 20-year planning period drive the alternatives analysis. In general, three major functional areas were considered in identifying the development alternatives. These include the airside (runways, taxiways, and navigational aids [NAVAIDS]), landside (general aviation [GA] and parking), and general airport requirements (ground access and non-aviation land uses).

The alternatives are as follows:

- Alternative 1 – “No Build”/Demand-Based Development
- Alternative 2 – Constrained Development
- Alternative 3 – Unconstrained Development

The first alternative investigates the options and possible repercussions of limited demand-based future development. In Alternative 1, projects underway would be completed and the existing facilities preserved, but future improvements to the Airport would be restricted to those absolutely necessary to meet demand and resolve any identified capacity problems.

Alternative 2 investigates the options available if future development is confined to the existing Airport property and airside facilities. Maximizing the use of existing land at the Airport will likely be required. This approach may exceed the aviation demand, but is being considered due to the Airport's potential for additional revenue.

Finally, Alternative 3 investigates the possibilities available with an unconstrained approach to future development at 2R4. This alternative would maximize utilization of the Airport's available land areas and consider additional airside development and any property acquisition that may be required. This alternative would enable the Airport to accommodate a wider range of aircraft and dramatically increase overall revenue sources.

7.1 DEVELOPMENT CONSIDERATIONS

To meet current and future aviation demands and achieve the overall goals of the Airport, various airside, landside, and general airport requirements were identified in Chapter 6, Demand/Capacity Analysis and Facility Requirements. Prior to determining the final alternatives, these aviation-specific requirements were evaluated. In general, similar criteria were used to measure the effectiveness and the feasibility of the various growth options available, and are grouped into four general categories. These include:

1. Operational – The selected development alternative should be capable of meeting the Airport's facility needs as they have been identified for the planning period. Preferred options should resolve any existing or future deficiencies as indicated by Federal Aviation Administration (FAA) design and safety criteria.
2. Environmental – Airport growth and expansion have the potential to impact the Airport's environs; therefore, the selected plan should seek to minimize impacts in the areas outside the Airport's boundaries. Alternatives should also seek to obtain a reasonable balance between expansion needs and off-site acquisition and relocation needs, being sensitive to environmental features that may be impacted.
3. Cost – Some alternatives may result in excessive costs as a result of expansive construction, acquisition, or other development requirements. In order for a preferred alternative to best serve the Airport and the community, it must satisfy development needs at reasonable costs.
4. Feasibility – The alternatives must be acceptable to the FAA, Florida Department of Transportation (FDOT), city government, and community served by the Airport, and should be economically feasible while meeting diversified objectives.

These evaluation criteria address economic, operational, environmental, and other important issues which are crucial to making strategic long-range planning decisions. The following sections will use these evaluation criteria to determine those alternatives which best meet the Airport's long-term planning goals and development needs.

7.2 ALTERNATIVE 1 – “NO BUILD”/DEMAND-BASED DEVELOPMENT

This alternative, would limit the future development at 2R4 to the existing airfield configuration and those projects necessary to meet forecasted demand, including any projects currently in progress. Additional development, with the exception of tenant-funded projects, would be made on a reactionary basis to meet demand over the 20-year planning period. Overall, the existing Airport facilities would be maintained at their current level until development is absolutely necessary.

Under Alternative 1, essentially a “no build” approach would apply to all future development at the Airport.

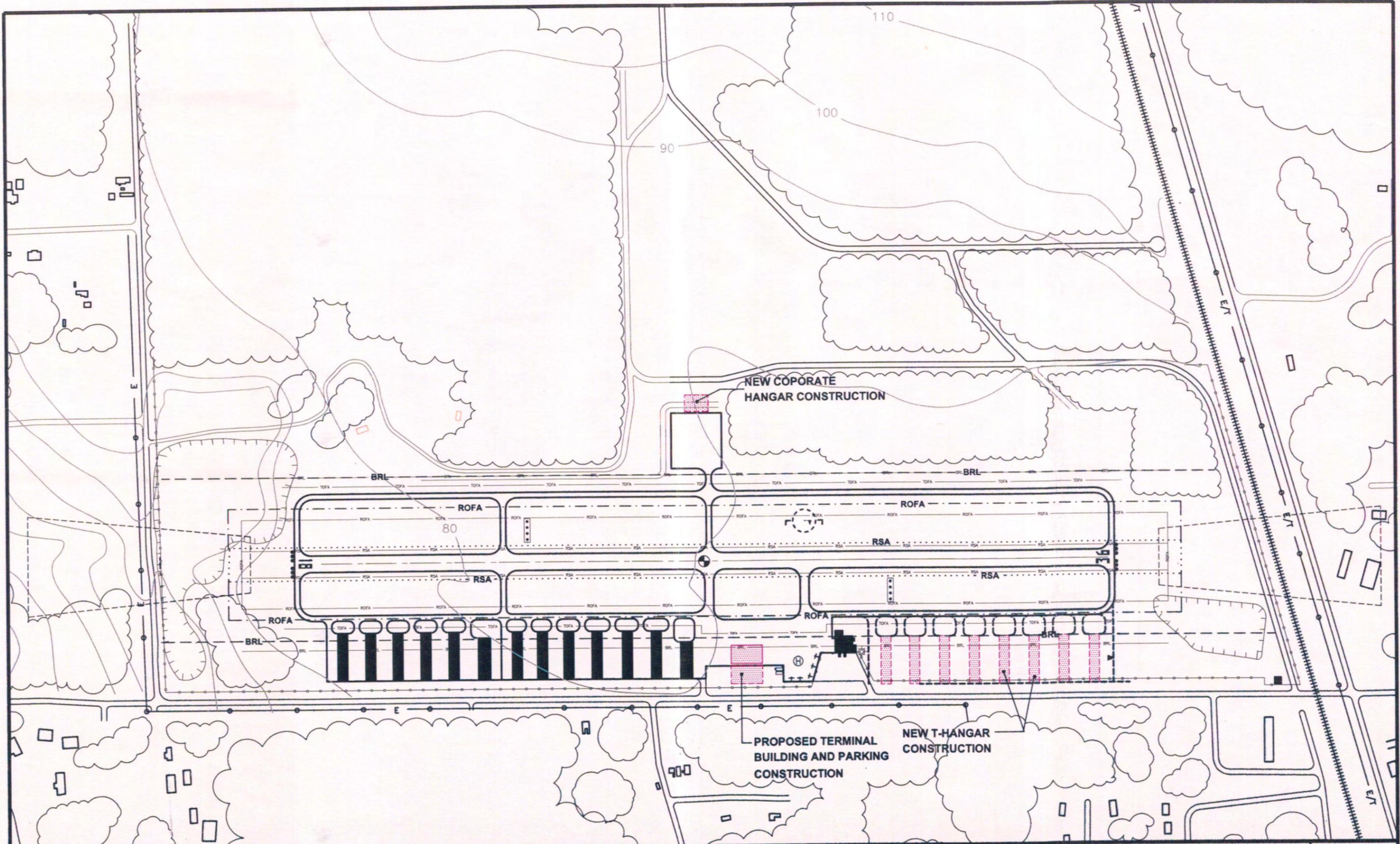
This approach would limit any growth potential of the Airport. Additionally, actual increases in based aircraft may be less than forecast due to a lack of readily available hangar space and the high construction lag times that typically occur with reactive approaches to development.

Under Alternative 1, the Airport would continue to be restricted to small GA aircraft and lack sufficient capacity for small business and corporate (i.e. Jetstream 31 and Citation III) activity. This alternative will fail to completely meet the previously discussed development evaluation criteria and the overall development goals of the Airport. In general, the viability of the Airport as an economic generator for Santa Rosa County and surrounding communities would be stifled by such a development approach. **Table 7-1** lists the development and project phasing included in Alternative 1 to meet the minimum forecasted demand for the 20-year planning period. **Figure 7-1** illustrates the location of the proposed development.

Table 7-1
Peter Prince Airport Master Plan Update
Alternative 1 Phasing

Phase 1 (2002-2006)	Phase 2 (2007-2011)	Phase 3 (2012-2021)
<ul style="list-style-type: none"> • 32 T-Hangar Units • FBO Terminal Building • FBO Parking Expansion (255 sq yd) 	<ul style="list-style-type: none"> • 11 T-Hangar Units • 1 Corporate Hangar • FBO Parking Expansion (400 sq yd) 	<ul style="list-style-type: none"> • 28 T-Hangar Units • Pavement Maintenance • FBO Parking Expansion (835 sq yd)

Source: PBS&J 2001



7.3 ALTERNATIVE 2 – CONSTRAINED DEVELOPMENT

Alternative 2 retains all future Airport development within the existing property line of the airfield, but maximizes utilization of land on both the east and west sides of Runway 18-36. This approach seeks to utilize available, but underdeveloped, land areas, to increase generation of revenues, but will continue to restrict the Airport to the fleet mix it currently serves.

The focus of Alternative 2 is to meet the forecasted demand presented in Chapter 4, and utilize additional development to increase revenue sources for the Airport. While the financial dependency of the Airport would remain associated with aviation activity, an increase in industrial revenue may be obtained. The following sections outline the development proposed in Alternative 2. Phasing of the proposed projects included in Alternative 2 is shown in **Table 7-2**, and the overall development can be seen in **Figure 7-2**.

7.3.1 AIRSIDE DEVELOPMENT

7.3.1.1 Runways

As in Alternative 1, the runway at 2R4 would remain mostly unchanged from its existing configuration. Regular pavement maintenance should be included in the development program to maintain the existing runway. Also, a full runway overlay will likely be scheduled for the long-range phase (2011 to 2021) of the planning period.

7.3.1.2 Taxiways

The existing parallel taxiways (A and B) and all associated connector taxiways would be widened from 25 to 35 feet to meet the FAA Group II requirements and allow the Airport to upgrade their Airport Reference Code (ARC) from B-I to B-II in the future. The existing separation between Runway 18-36 and both Taxiway A and B is adequate to meet the new separation requirements (240 feet). The taxiway safety area (TSA) and object free area (OFA) will increase, requiring that aircraft parking be relocated approximately 20 feet on the west apron. However, widening the taxiway pavement on the runway side of the taxiways will minimize the impact of the increased TSA and OFA on the aircraft-parking apron. With these changes completed, Taxiway A and B will be able to meet current and future operational demand.

7.3.1.3 Airfield Lighting and Marking

The existing medium intensity runway lighting system (MIRL) on Runway 18-36 should be maintained and runway end identifier lights (REIL) installed on both ends. As taxiways are widened, both runway and taxiway lighting will need to be relocated.

All paved surfaces should be painted and marked in accordance with Federal airport marking and lighting standards, as published in FAA advisory circulars. Additionally, non-precision instrument markings are required on Runway 18-36 to coincide with global positioning system (GPS) approach procedures.

7.3.1.4 Aprons

The aviation activity forecasts projected that a total of 10,180 square yards of apron will be required for parking of based and itinerant aircraft by 2020. A total of approximately 16,700 square yards of paved apron area exist at 2R4 and are used for aircraft parking, run-up, and circulation. GA demand would be accommodated by existing apron space for aircraft parking and tie-down, and through construction of new apron area for any new hangar facilities. New apron space will serve new hangar facilities only.

7.3.1.5 Airside Land Requirements

Alternative 2 maximizes use of the Airport's existing land area. Thus, no additional land area or land acquisition is necessary.

7.3.2 LANDSIDE DEVELOPMENT

7.3.2.1 Hangars

The Airport's hangar facilities are currently operating at 100 percent capacity. An additional 100 T-hangar units, four corporate hangars, and one conventional hangar are planned in Alternative 2. One conventional hangar is proposed on the east side of Runway 18-36 adjacent to the existing apron area. Also located on the east side of the airfield are the four corporate hangars, approximately midway along Runway 18-36. The 100 T-hangar units are planned for two areas, south of the existing fixed base operators (FBOs) building and T-hangars, and southeast side of Runway 18-36. While this development slightly exceeds the capacity requirements of the forecast derived in Chapter 4, Alternative 2 seeks to maximize the utilization of land area and increase the Airport's lease revenue. Additionally, the demand for T-hangars in the state of Florida exceeds the ability of the FDOT and Airports to meet the demand. Therefore, if 2R4 were to build T-hangars beyond the forecast amount, they would likely attract new based aircraft tenants.

The Airport's hangar facilities are currently operating at 100 percent capacity.

7.3.2.2 FBO Terminal

Though the existing FBO terminal building meets the space requirements identified in Chapter 6, Demand/Capacity Analysis and Facility Requirements, the current building is extremely old and in disrepair. A new GA/FBO terminal building should be constructed to replace the existing facility and provide the necessary services that are currently lacking at the Airport. The new 5,000

square feet building will need to be completed by 2006 in order to meet classroom space requirements of the flight school at 2R4, which is currently obtaining Part 141 certification. Provisions for such a facility are included in Alternative 2.

7.3.2.3 Automobile Parking

Approximately 25 additional parking spaces and 1,100 additional square yards of parking area will be required to accommodate GA demand through 2021, including GA pilot, passenger, customer, visitor, and employee parking. It is recommended that the existing GA parking area be expanded to meet this demand, and new parking areas added to accompany construction of corporate and conventional hangars. These new hangar-parking areas should be large enough to accommodate the individual tenant's requirements.

Approximately 25 additional parking spaces and 1,100 additional square yards of parking area will be required to accommodate general aviation demand through 2021.

7.3.2.4 Roadways, Ground Access, and Signage

Ground access to the Airport is currently adequate but may need to be improved as demand and overall activity increase over the planning period. New roads entering the east side of the airfield from the Santa Rosa Industrial Park will be required to access the east apron and proposed aviation and non-aviation businesses. This road can be extended from the existing roadway network and may be phased in conjunction with the new facilities on the east side.

Airport signage along Interstate 10, State Road 87, and State Road 90 is minimal. Therefore, it is recommended that signage be improved and/or installed along these routes to facilitate the direction of traffic to the Airport.

7.3.2.5 Security and Fencing

Security fencing should be modified and/or installed to include the entire Airport property. The fencing will provide protection, keeping wildlife away from aircraft and unauthorized individuals from gaining access to the Airport. Security and maintenance access should be provided through perimeter roads inside and along the fence line. Additionally, all future property acquired by the Airport, including buildings and parking areas, should be fenced, gated, and well lit.

7.3.2.6 Fuel Storage

The fuel flowage forecasts in Chapter 4 and associated storage requirements in Chapter 6 determined that 20,000 gallons of fuel capacity would be needed by 2021. The existing facilities at 2R4 are adequate to accommodate the forecast demand; however, the level at which fuel is required to be delivered is expected to increase. This is primarily due to the forecast increase in small business and flight-training operations as well as development of the east side of the airfield.

To meet this demand, fuel trucks will be required. These trucks and other Airport vehicles may require storage facilities to hold 87 octane or automotive gasoline.

7.3.2.7 Non-Aviation Use

Land located to the far east of the airfield and adjacent to the Santa Rosa Industrial Park is currently vacant and will not have access to Runway 18-36. Under Alternative 2, a small portion of this area would be reserved for non-aviation businesses and developed as demand warrants. Roadway access would include an extension of the existing roadway serving the Santa Rosa Industrial Park to also serve the east apron.

Table 7-2
Peter Prince Airport Master Plan Update
Alternative 2 Phasing

Phase 1 (2002-2006)	Phase 2 (2007-2011)	Phase 3 (2012-2021)
<ul style="list-style-type: none"> • Taxiway A & B Widening • 30 T-Hangar Units • 1 Corporate Hangar • FBO Terminal Building • Auto Parking Expansion (300 sq yd) • East Access Road • Perimeter Fencing 	<ul style="list-style-type: none"> • 30 T-Hangar Units • 1 Corporate Hangar • Auto Parking Expansion (300 sq yd) • Airport Signage • 1 Fuel Truck • REILs Runway 18-36 	<ul style="list-style-type: none"> • 40 T-Hangar Units • 2 Corporate Hangars • 1 Conventional Hangar • Auto Parking Expansion (500 sq yd) • 1 Fuel Truck • Automotive Fuel Storage Tank • Commerce Park Roadways

Source: PBS&J 2001

7.4 ALTERNATIVE 3 – UNCONSTRAINED DEVELOPMENT

Alternative 3 includes unconstrained development of all Airport property and acquisition of all required land area. This alternative would not only provide for all the Airport's land requirements for the foreseeable future, but would also provide the necessary development and facility improvements to meet or exceed the forecast demand presented in Chapter 4, and dramatically increase and diversify the revenue sources for the Airport. The following sections outline the development proposed in Alternative 3. Phasing of the proposed projects is shown in **Table 7-3**, and the overall development can be seen in **Figure 7-3**.

7.4.1 AIRSIDE DEVELOPMENT

7.4.1.1 Runways

Alternative 3 recommends design related improvements to the runway system that include extending Runway 18-36 by 200 feet on the south end, 600 feet on the north end, and improving the runway load bearing capabilities to 25,000 pounds single-wheel (SW) load and 50,000 pounds dual-wheel (DW) load. The width of Runway 18-36 should be maintained at 75 feet. These improvements will bring Runway 18-36 up to a standard that is capable of safely and efficiently handling small corporate B-II aircraft and larger GA aircraft. Taxiway improvements will be necessary in conjunction with the proposed runway extension.

7.4.1.2 Taxiways

Taxiways A and B should be extended a total of 800 feet to coincide with the extension of Runway 18-36, as well as widened to 35 feet in order to meet B-II design standards. In addition, the existing connectors will need to be widened to 35 feet. Taxiways A, B, and their connectors will need to be strengthened to accommodate heavier aircraft and match the capability of the runway, and new connector taxiways constructed at appropriate locations in conjunction with the proposed runway and parallel taxiway extensions. Additionally, stub taxiways may need to be constructed in conjunction with new aircraft parking or maneuvering apron, associated aviation facilities, and any related industrial development on the east side of the airfield.

The existing runway to taxiway centerline separations for Taxiways A and B meet B-II design standards and should be maintained, but holding bays should be constructed on both ends of the taxiways. These improvements will help ensure enhanced operational safety and capacity on the airfield.

7.4.1.3 Airfield Lighting and Marking

It is recommended that the existing MIRL system on Runway 18-36 be expanded in conjunction with the runway extension. The existing medium intensity taxiway lights (MITL) on Taxiways A and B should also be maintained, and new lighting installed with any future taxiway construction and/or extensions.

All paved surfaces should be marked in accordance with federal standards, as published in the appropriate FAA Advisory Circulars. Additionally, non-precision instrument markings are required on Runway 18-36 in conjunction with the operation of the GPS approach currently in use. Any future installation of non-precision instrument approaches on Runway 18-36 may require additional markings.

7.4.1.4 Aprons

Based on the aviation activity forecasts and demand/capacity analysis, a total of 10,180 square yards of apron will be required for parking of based and itinerant aircraft by 2020. In addition, consideration must also be given to the parking and maneuvering requirements for corporate and conventional hangars. Alternative 3 accommodates the GA demand for apron space by expanding the existing west apron, maximizing utilization of the east apron for parking and maneuvering, and construction of additional parking apron on the east side of the airfield in conjunction with new hangar facilities.

7.4.1.5 Airside Land Requirements

The extension of Runway 18-36, together with other facility improvements, will require the acquisition of additional land area, necessary to maintain compliance with FAA directives and avoid incompatible land uses in the vicinity of 2R4. A total of 35 additional acres has been identified as necessary over the planning period. Specifically, the Runway 18-36 extension will require 12 acres of land and incompatible land use resulting from the runway extension will require the acquisition of an additional five acres.

7.4.2 LANDSIDE DEVELOPMENT

7.4.2.1 Hangars

Alternative 3 maximizes development on the west side of the Airport for T-hangars and the east side for corporate and conventional hangars. In doing so, the capacity requirements derived from the forecasts in Chapter 4 are met and additional capacity is provided to increase aviation related lease revenue. Total hangar development proposed in Alternative 3 includes an additional 140 T-hangar units, 15 corporate hangars, and 6 conventional hangars. All conventional hangars are proposed on the east side of the airfield, running from

the south portion of the runway to the north. All corporate hangars are proposed for the east side with four corporate T-hangars on the southern portion of Runway 18-36. An additional corporate hangar is proposed near the existing FBO terminal building. The 130 T-hangar units will be developed along the west side of the airfield, just to the north of the existing T-hangar area and to the south of the existing FBO building.

7.4.2.2 FBO Terminal Building

As discussed in Alternative 2, the existing FBO terminal building is extremely old and in disrepair. A new terminal building should be constructed to replace the existing facility and provide the necessary space to accommodate the Part 141 flight school requirements and overall forecast demand. The forecast demand shows that a 5,000 square foot building will be required by the end of the planning period. However, additional space for a small cafeteria or restaurant may be incorporated into the design to serve itinerant passengers, flight school students, and employees, and generate increased lease revenues for the Airport. Thus, Alternative 3 includes provisions for a 6,500 square foot FBO terminal building by 2020.

The forecast demand shows that a 5,000 square foot fixed base operator terminal building will be required by the end of the planning period.

7.4.2.3 Automobile Parking

From the forecasts derived in Chapter 4 and the associated facility requirements in Chapter 6, it was determined that approximately 23 additional parking spaces and 1,020 additional square yards of pavement area will be required to accommodate total GA demand through 2020. However, the increases in development included in Alternative 3 will increase the demand for GA and FBO parking. Therefore, it is estimated that a total of 125 additional parking spaces and 5,500 square yards of pavement will be necessary to accommodate the forecast demand and overall tenant parking requirements.

7.4.2.4 Roadways, Ground Access, and Signage

Ground access to the Airport is currently adequate but will need to be improved as activity increases over the planning period. New roads entering the east side of the airfield from the Santa Rosa Industrial Park will be required to access the east apron and proposed aviation and non-aviation development. This road should be extended from the existing roadway network and be phased in conjunction with the new facilities on the east side. Additionally, new roads to serve the Airport commerce park will be required on the northeast side of the field. These roads should be designed and constructed to a level that meets the needs of the commerce park and associated business that will be located there and can be phased in over the planning period as facilities are constructed. Furthermore, approximately 200 feet of Old Stagecoach Road will need to be relocated 300 feet to the north to accommodate the proposed runway extension.

In addition to improved ground access, signage along primary access roads and Interstate 10 should be improved and/or installed. Currently Airport signage along Interstate 10, State Road 87, and State Road 90 is minimal and will become inadequate as activity increases at 2R4.

7.4.2.5 Security and Fencing

As in Alternative 2, Alternative 3 recommends that additional security fencing be installed at 2R4 to include the entire Airport property. The fencing along the perimeter of the airfield will secure the Airport, keeping wildlife away from aircraft and unauthorized individuals from gaining access to the Airport. Security and maintenance access should be provided through perimeter roads inside and along the fence line. In addition, all future property acquired by the Airport and all new construction should be fenced. Restricted access points should be installed to ensure the security of the airfield, and all airside buildings and/or parking areas should have adequate security fencing, secure access gates, and overhead lighting.

7.4.2.6 Fuel Storage

From fuel consumption forecasts derived in Chapter 4 and associated facility requirements in Chapter 6, it was determined that 20,000 gallons of fuel capacity would be needed by 2020. The existing facilities are adequate to meet the forecast demand; however, the fuel delivery level is expected to increase over the planning period. This is primarily due to the forecast increase in operations of larger aircraft, flight-training activity, and development of the east side of the airfield. To meet this demand, fuel trucks will be required, along with storage facilities for automotive gasoline to facilitate the operation of these fuel trucks and other airport vehicles.

The existing self-serve fueling capability should be maintained for based aircraft owners and other small GA aircraft. This will allow small based and itinerant aircraft to perform "self-fueling" operations and limit the overall number of required fuel trucks.

7.4.2.7 Non-Aviation Use

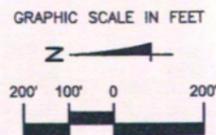
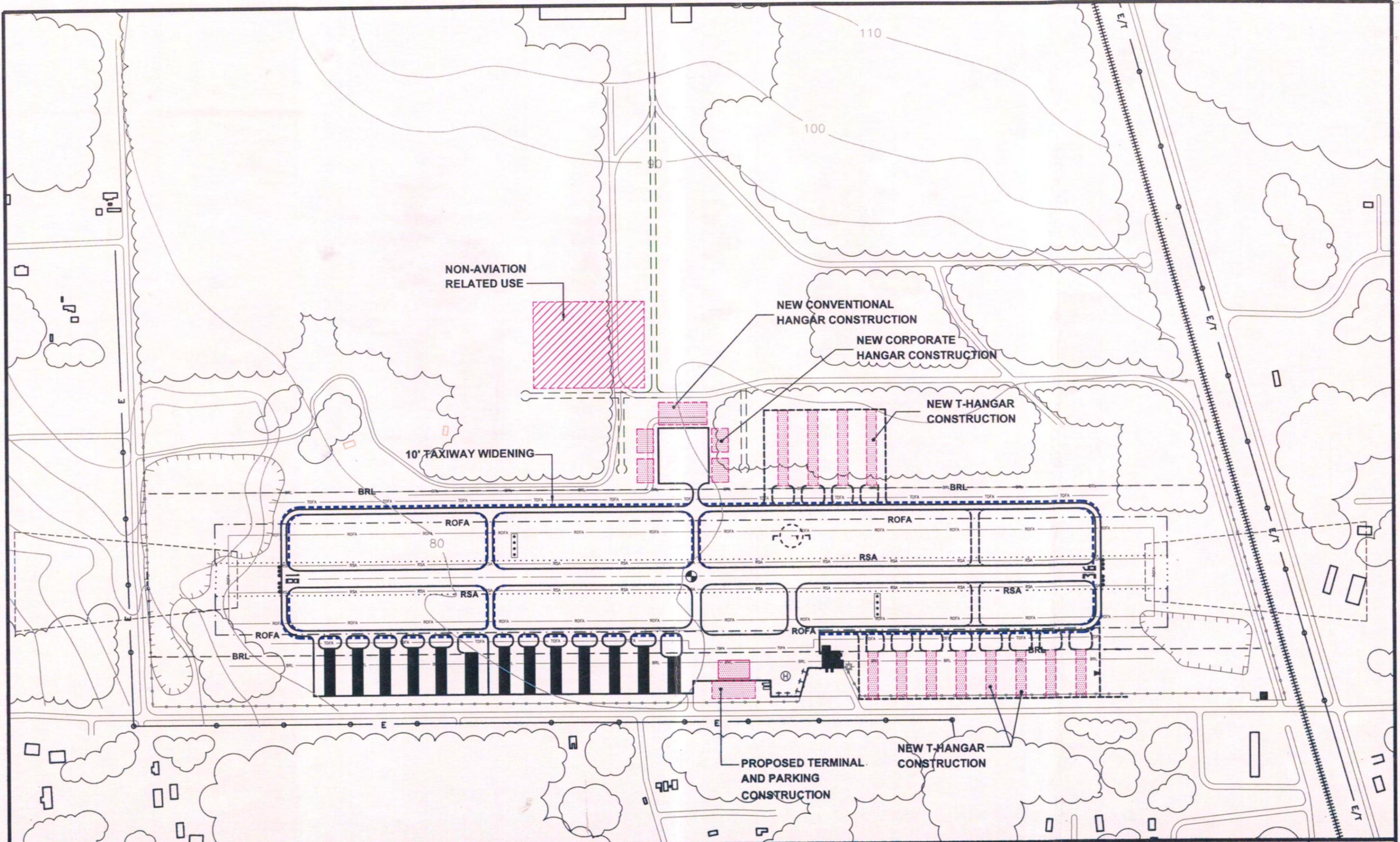
Land located to the far east of the airfield and adjacent to the Santa Rosa Industrial Park is currently vacant and will not have access to Runway 18-36. Therefore, Alternative 3 proposes that this land be developed into a commerce park, to exploit the benefits of the non-aviation industry. By utilizing otherwise vacant and unusable space, the Airport may be able to increase revenue through revenue diversification and additional land leases. This will allow the Airport to increase their overall operating and capital budgets, thus making the Airport more financially attractive.

Under Alternative 3, the commerce park on the west side of the Airport consists of multiple parcels for non-aviation businesses. Roadway access would include an extension of the existing roadway serving the Santa Rosa Industrial Park, which has access from State Road 90 to the south. Full utility and drainage infrastructure for this area will be required. This will include but is not limited to, water and sewer lines, electric power, telephone, and curb and gutter roadways with associated drainage ponds. Further study of business needs and other development considerations will be necessary prior to construction in the designated commerce park areas.

Table 7-3
Peter Prince Airport Master Plan Update
Alternative 3 Phasing

Phase 1 (2002-2006)	Phase 2 (2007-2011)	Phase 3 (2012-2021)
<ul style="list-style-type: none"> • Taxiway A & B Widening • 40 T-Hangar Units • 3 Corporate Hangar • 1 Conventional Hangar • Auto Parking Expansion (1,000 sq yd) • Perimeter Fencing • Terminal Building • Environmental Assessment for RW Ext • Property Acquisition (35 acres) • East Access Road • Airport Signage 	<ul style="list-style-type: none"> • Runway 18-36 Extension • Taxiway A & B Extensions • REILs Runway 18-36 • 40 T-Hangar Units • 3 Corporate Hangar • 1 Conventional Hangar • East Apron Expansion (6,500 sq yd) • Auto Parking Expansion (1,000 sq yd) • 1 Fuel Truck • Commerce Park Roads/Infrastructure - Phase 1 	<ul style="list-style-type: none"> • 60 T-Hangar Units • Corporate Hangars • 4 Conventional Hangar • East Apron Expansion (16,000 sq yd) • West Apron Expansion (4,000 sq yd) • Auto Parking Expansion (3,000 sq yd) • 1 Fuel Truck • Automotive Fuel Storage Tank • Commerce Park Roads/Infrastructure - Phase 2

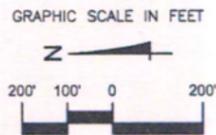
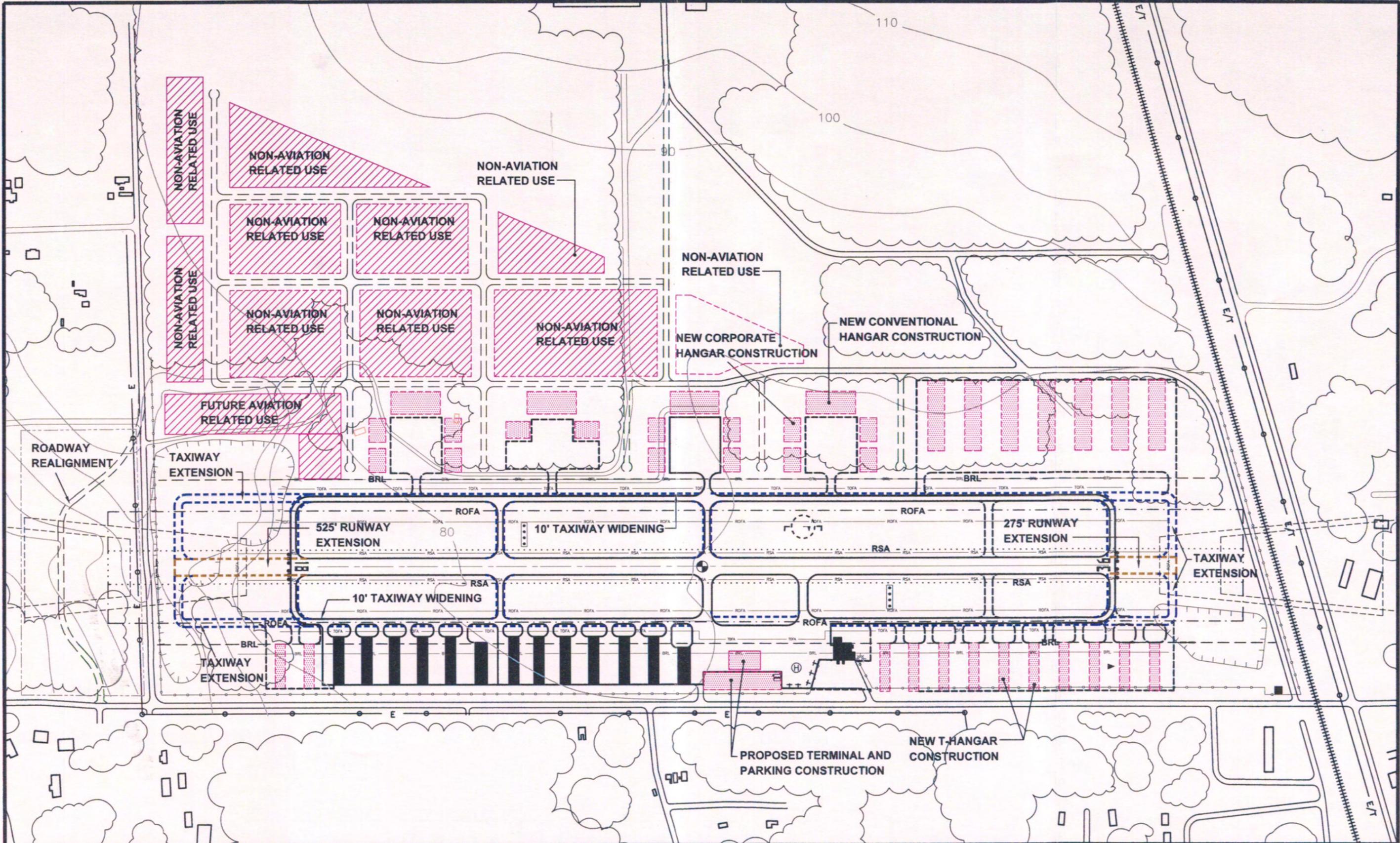
Source: PBS&J 2001



Peter Prince Airport
Master Plan Update

Alternative - 2
Constrained Development

Figure
7-2



Peter Prince Airport
Master Plan Update

Alternative - 3
Unconstrained Development

Figure
7-3

7.5 SELECTED DEVELOPMENT ALTERNATIVE

Though Alternative 3 is the preferred development alternative from a capacity and facility expansion standpoint, existing constraints on the Airport from local military facilities limit the overall expansion of the airfield. During the time of this writing, extensive coordination between the Airport, county officials and representatives of NAS Whiting were conducted to identify the development alternative that is most feasible to implement given the existing environment at and in the general vicinity of 2R4. Based on this coordination, a revised Alternative 2 was identified as the selected development alternative for the Master Plan document.

The selected development alternative calls for enhanced hangar and industrial development over the planning period but eliminates the proposed runway extension to Runway 18-36 due to anticipated airspace conflicts with NAS Whiting. The selected alternative development program outlines the necessary facility improvements to meet the majority of forecast demand presented in Chapter 4, with the exception of operations by larger corporate turbo-prop and jet aircraft, which require the extended runway. Therefore, the actual number of small business aircraft that operate at the Airport over the planning period may be less than forecast due to a lack of adequate facilities to accommodate these operations. However, the enhanced hangar and industrial development included in the selected alternative will ultimately lead to increases in revenue and revenue sources for the Airport and may help offset operational limitations. Phasing of the proposed projects is shown in **Table 7-4**, and the overall development can be seen in **Figure 7-4**.

The selected development alternative was evaluated in the context of the previously discussed development criteria as follows:

1. Operational – The selected alternative will meet or exceed the identified Airport needs through 2021 with the exception of the runway extension necessary to accommodate the forecast increase in small business aircraft. This alternative will enhance operational efficiency and safety at 2R4 greater than that of Alternative 1 and 2.
2. Environmental – Though the selected alternative has potential environmental impacts, these impacts are still considered minimal due to the Airport's environs. Further evaluation of possible environmental impacts and mitigation methods are discussed in Chapter 8.
3. Cost – The development costs of selected alternative can be offset through proper phasing, grants, and tenant agreements. Additionally, this alternative will begin to diversify the Airport's revenue sources and increase overall revenue more than Alternatives 1 and 2. This will prove beneficial to the Airport's economic position and the local community.

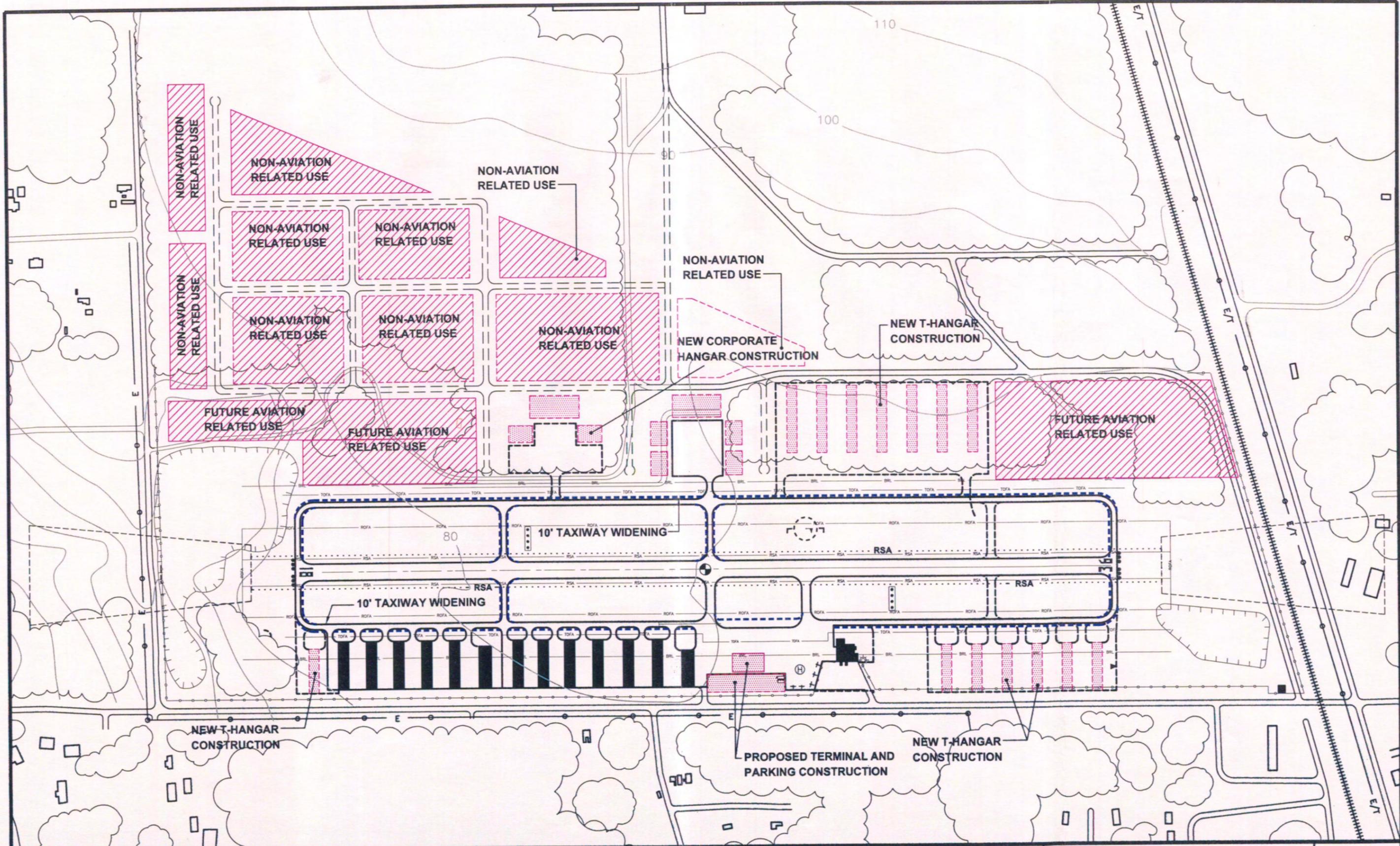
The enhanced hangar and industrial development included in the selected alternative will ultimately lead to increases in revenue and revenue sources for the Airport and may help offset operational limitations.

4. Feasibility – The selected development alternative supports the overall goal of Santa Rosa County, FDOT, and the FAA to promote aviation and economic growth. Full implementation of the development program is possible with proper phasing and financial planning.

Table 7-4
Peter Prince Airport Master Plan Update
Selected Alternative Phasing

Phase 1 (2002-2006)	Phase 2 (2007-2011)	Phase 3 (2012-2021)
<ul style="list-style-type: none"> • 28 T-Hangar Units • FBO Terminal Building • Auto Parking Expansion (300 sq yd) • REILs Runway 18-36 • Perimeter Fencing • Airport Signage • Construct Hold Bays 	<ul style="list-style-type: none"> • Taxiway A & B Widening • 30 T-Hangar Units • 2 Corporate Hangars • Auto Parking Expansion (300 sq yd) • 1 Fuel Truck • East Access Road 	<ul style="list-style-type: none"> • 40 T-Hangar Units • 4 Corporate Hangars and Apron • 2 Conventional Hangars and Apron • Auto Parking Expansion (500 sq yd) • 1 Fuel Truck • Automotive Fuel Storage Tank • Commerce Park Roadways

Source: PBS&J 2002



CHAPTER 8

ENVIRONMENTAL OVERVIEW

Peter Prince Airport

The purpose of this chapter is to present an overview of the existing environmental conditions at Peter Prince Airport (2R4). Such an overview does not constitute an Environmental Assessment (EA), as defined by the Federal Aviation Administration (FAA) Order 5050.4A; however, the analysis in this section is conducted in accordance with the guidelines set forth in the FAA order entitled, "Airport Environmental Handbook." Under this document 20 categories have been determined as possible areas of impact and must be addressed. These categories are:

- Airport Noise
- Land Use
- Social Impacts
- Induced Socio-Economic Impacts
- Air Quality
- Water Quality
- Department of Transportation Act, Section 4(f) lands
- Historical, Architectural, Archeological, and Cultural Resources
- Biotic Communities
- Threatened and Endangered Species of Flora and Fauna
- Wetlands
- Floodplains
- Coastal Zone Management
- Coastal Barriers
- Wild and Scenic Rivers
- Prime Farmland
- Energy Supply and Natural Resources
- Light Emissions
- Solid Waste Impacts
- Construction Impacts

For the purposes of this study, these environmental categories will be addressed only as they apply specifically to 2R4 and will otherwise be noted as not applicable to the Airport. In considering potential environmental impacts within this framework, the following Environmental Overview points out those categories that may warrant more detailed analysis in a formal EA for the preferred development alternative.

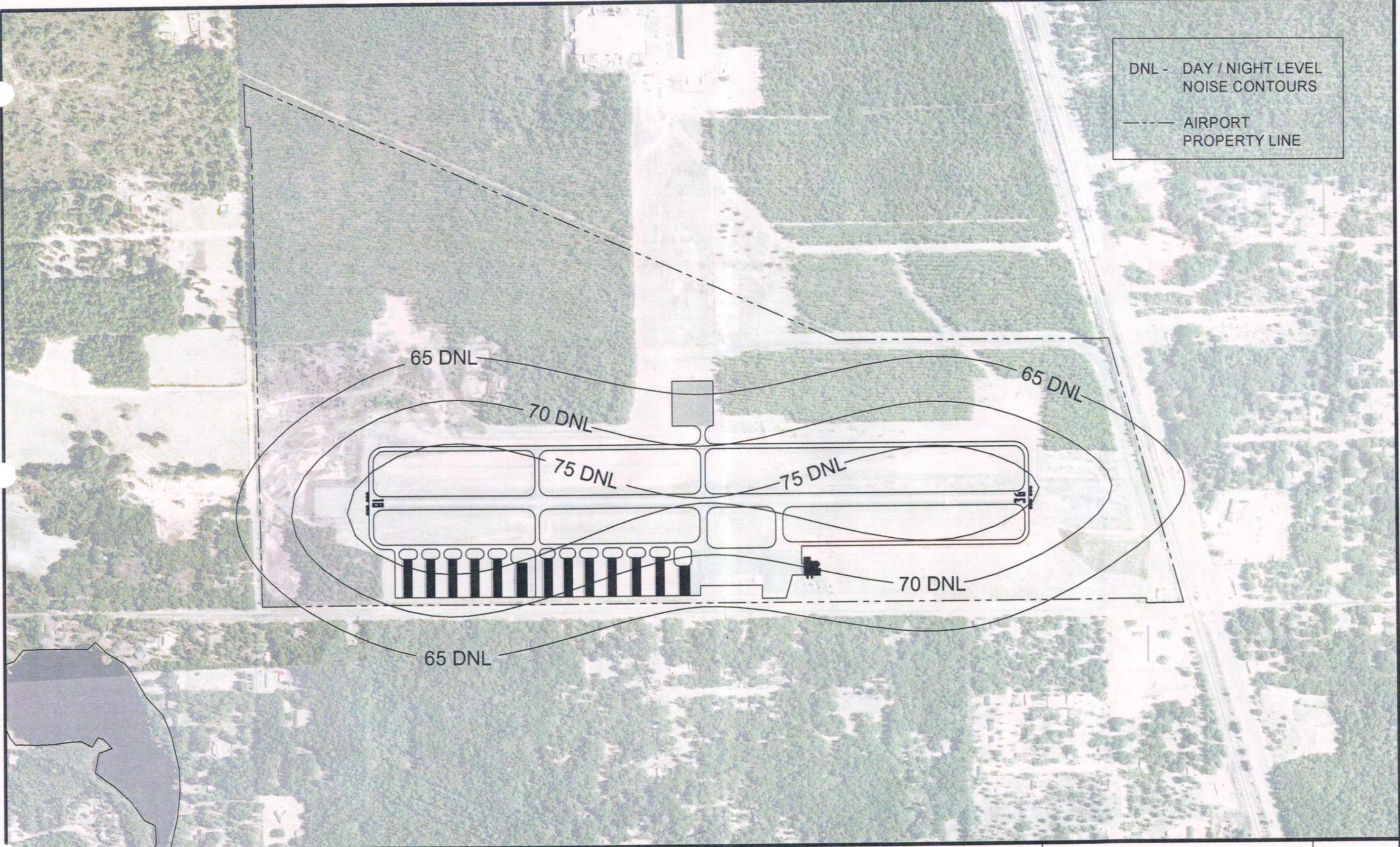
8.1 AIRPORT NOISE

Noise is the most apparent environmental impact from an airport, receiving the majority of complaints from nearby residents, and therefore, the majority of mitigation efforts. The DNL, or average day-night sound level in decibel values, is recommended by the FAA as the national standard for measuring airport noise, with a sound level of 65 DNL or less compatible with most residential land uses. Therefore, noise levels greater than this measurement should be contained within the Airport property lines to the greatest degree possible. In areas around the Airport where noise levels exceed 65 DNL, other methods of mitigation such as land acquisition, zoning requirements, and the purchase of easements may be utilized as possible remedies for incompatible land uses.

The noise analysis conducted in this Master Plan utilizes the FAA Integrated Noise Model (INM) Version 6.0b. In order to establish a national standard for comparing noise impacts, INM analysis of airport noise levels is required by the FAA. The noise analysis completed in this Master Plan does not constitute a Part 150 Noise Study. **Figure 8-1** illustrates the existing (2001) noise contours at the Airport.

8.1.1 MAJOR ASSUMPTIONS

Existing/Future Development Scenarios: Two cases were modeled. The base case contours reflect the airport fleet mix and activity level as they exist in the year 2001. The future case contours reflect changes in the noise footprint as influenced by an increase in annual operations of approximately 53.4 percent. Other significant changes between the existing and future scenarios include the transition to use of Federal Aviation Regulation (FAR) Part 36 Stage III aircraft in the corporate jet segment of the fleet mix. The future scenario assumes aviation activity to be accommodated in the preferred development alternative.



DNL - DAY / NIGHT LEVEL
NOISE CONTOURS

----- AIRPORT
PROPERTY LINE

65 DNL

70 DNL

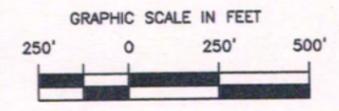
75 DNL

75 DNL

65 DNL

70 DNL

65 DNL



Peter Prince Airport
Master Plan Update

Existing Noise Contours
(2001)

Figure
8-1



Day/Night Operations: The INM computer program computes the impact of night operations by multiplying their perceived sound intensity level by a factor of 10. For the purposes of noise modeling, the FAA defines night operations as those that take place between the hours of 10 p.m. and 7 a.m. Most traffic to 2R4 flies during daytime hours. However, a percentage of operations can reasonably be assumed to take place at night. This day/night split was calculated from historical usage percentages and information provide by Airport staff and the resident FBO. Night operations are assumed to remain the same across the planning period. The percentages for the existing and future cases are listed in **Table 8-1**.

Table 8-1
Peter Prince Airport Master Plan Update
Percentage Night Operations of Total

Aircraft Category	Existing (2001)	Future (2021)
General Aviation, Single-Engine	1.0%	1.0%
General Aviation, Light Twin	0.8%	0.8%
Turboprop	0	0
Corporate Jet	0	0
Helicopter	0	0

Note: The Integrated Noise Model has no separate capability to model helicopter operations. Standard practice for helicopter operations assumes a noise footprint similar to light twin GA aircraft for piston helicopters and twin turboprops for small turbine driven helicopters.

8.1.2 RUNWAY UTILIZATION

The choice of runway is a pilot decision, depending primarily upon prevailing winds, with aircraft generally taking off and landing into the wind. Other considerations include the type or size of aircraft and suitability of the runway for certain types of operations. Small aircraft operations are more sensitive to crosswind conditions than heavier aircraft. The availability of the global positioning system (GPS) approach system on Runway 36 influences the use of this runway by training aircraft and all aircraft during instrument flight rules (IFR) weather. Such aircraft are generally equipped to take advantage of the instrument approach.

A wind analysis was performed in order to determine the approximate percentages of time that conditions favored north or south operational activity. The wind analysis utilized the latest 10-year wind observations available for the Airport, as collected by the National Climatic Data Center of the National Oceanic and Atmospheric Administration (NOAA). The results of this updated wind analysis yield the runway utilization patterns represented in **Table 8-2**.

Table 8-2
Peter Prince Airport Master Plan Update
Peter Prince Airport Runway Utilization

Runway	Favoring Wind
Rwy 18	32 Percent
Rwy 36	68 Percent

Source; PBS&J, 2002

The noise analysis distributes air traffic on the Airport's runway according to these percentages, taking into account the aircraft type, type of operation, and local airspace influences.

8.1.3 FLIGHT TRACKS AND AIR TRAFFIC DISTRIBUTION

Improvements in the FAA INM Version 6.0b, over the earlier version used in the 1992 Master Plan, allowed more precise modeling of flight tracks and the appropriate distribution of the types of activity along these tracks. The prior noise contours assumed all traffic operated on straight-in and straight-out flight procedures.

By contrast, the noise contours resulting from the updated analysis in this report include standard traffic patterns for small and large aircraft, and allocate training and visual flight rules (VFR) traffic to standard VFR pattern approaches, as appropriate. Operations of larger turboprop and small corporate jet aircraft are modeled straight-in, as appropriate, and for the GPS approach. All departures, with the exception of training traffic on touch-and-go flight tracks, are modeled as straight-out. Such departures may be modified to comply with changes in Airport operations procedures or land-use considerations as deemed necessary.

The resulting contours reflect the following assumptions:

- Traffic pattern altitudes are FAA/INM standard for 2R4.
- Light general aviation (GA) twins and singles perform standard VFR pattern entry approaches, or follow the touch-and-go circuit.
- Turboprops and small corporate jets, as appropriate, perform straight-in approaches/departures.
- Stage lengths (or distance to be traveled) affect aircraft weight and the power required for departure; and therefore, the amount of noise generated for take-off and climb-out maneuvers.
- The helicopter fleet is assumed to be evenly divided between small piston and turbine-driven rotorcraft.

- FAA standard approach/departure procedures for all aircraft types, as modeled by INM default parameters, were applied.
- All aircraft types present at the Airport, based on the hangar inventory, were modeled according to standard INM aircraft contained within INM databases, or INM aircraft-equivalents.

8.1.4 EXISTING ACTIVITY LEVELS AND FLEET MIX (BASE CASE)

Day/Night Distribution by Aircraft Category: Modeling of the noise exposure contours requires that known average annual traffic be separated by aircraft category, type of operation, and the time that the operation takes place. **Table 8-3** categorizes operations, based on the existing level of activity as estimated by forecasts of aviation activity in Chapter 4 of this report.

Table 8-3
Peter Prince Airport Master Plan Update
2001 Operations by INM Equivalent Aircraft

2001 Base Case		Yr. 2001 INM Equivalent Aircraft	Average Annual Operations		
			Annual Ops	Day	Night
<i>Day/Night</i>					
d	57.195	GA Piston Single	GASEPV	83,511	
n	0.57	T/O			41,755
		Landing			41,755
General Aviation		GA Piston Twin	BEC58P	10,439	
d	7.149	T/O			5,219
n	0.057	Landing			5,219
Business Aviation		Turboprop	DHC6	0	
d	0.0000	T/O			0
n	0.0000	Landing			0
		Corp. Jet	LR35	0	
d	0.0000	T/O			0
n	0.0000	Landing			0
Rotor		Helicopter			
		Piston	BEC58P	0	
d	0.0	T/O			0
n	0.0	Landing			0
		Turbine	LR35	200	
d	0.136	T/O			100
n	0.0	Landing			100

Source: PBS&J, 2002

Average Daily Operations by Stage Length: The information in **Table 8-3** is then further subdivided to estimate daily operations. The stage length (or distance the aircraft plans to fly on the departure leg) is added since aircraft weight, including fuel and cargo, affects aircraft power requirements on takeoff. The FAA INM program applies the following codes to stage lengths:

- Stage Length 1: 0 to 500 nautical miles
- Stage Length 2: 500 to 1000 nautical miles
- Stage Length 3: 1000 to 1500 nautical miles
- Stage Length 4: 1500 to 2500 nautical miles
- Stage Length 5: 2500 to 3500 nautical miles

The above information for 2R4's operations is displayed in the **Table 8-4**, below. It is assumed that the number of approaches equals the number of departures. Takeoffs are shown in the shaded rows, followed by departures in the succeeding row. This enables the noise model to differentiate the noise characteristics unique to landing and takeoff procedures for each aircraft type.

Table 8-4
Peter Prince Airport Master Plan Update
2001 Average Daily Operations

Runway Utilization	Rwy 36 0.68		Rwy 18 0.32		Departure Stage Length
	Day	Night	Day	Night	
GA Piston Single	38.89	0.388	18.30	0.185	1
	38.89	0.388	18.30	0.185	
GA Piston Twin	4.86	0.039	2.29	0.018	1
	4.86	0.039	2.29	0.018	
Twin Turboprop	0	0	0	0	---
	0	0	0	0	
Corporate Jet	0	0	0	0	---
	0	0	0	0	
	0	0	0	0	
	0	0	0	0	
Helicopters					
Piston	0	0	0	0	---
	0	0	0	0	
Turbine	0.093	0	0.044	0	1
	0.093	0	0.044	0	

Source: PBS&J, 2002

Distribution of Traffic by Flight Tracks: The final step in the analysis involved distributing the derived average daily operations on a series of flight tracks to and from each runway. The flight tracks modeled included:

- A1 - straight-in arrivals
- A2 - standard pattern-entry arrivals
- TGO - touch-and-go circuits, each runway
- D1 - straight-out departures

Air traffic in the preceding table was distributed along the flight tracks as appropriate for each type of operation and aircraft type in accordance with the assumptions outlined in the preceding subsections.

8.1.5 EXISTING NOISE CONTOURS

The noise contours resulting from the aggregated inputs and assumptions detailed in the preceding sections were processed to reveal the average annual noise exposure levels (65, 70, and 75 DNL). This output is represented in the contours shown in **Figure 8-1**. The 65 DNL contour represents the threshold sound exposure level beyond which certain land uses are not compatible with airport operations. In the existing case, the 65 DNL contour extends beyond the Airport property line west of the main runway (Rwy 18-36) on the north and south ends of the Airport. FAA guidelines define incompatible land uses in sound exposures areas above 65 DNL. These include residential uses, schools, hospitals, theaters or other uses, which may attract large concentrations of people. Lands in, and adjacent to, the noise contours emanating from Runway 18-36 are currently vacant with the exception of two small residential areas. Therefore, incompatible land uses near the Airport are currently few in number but will likely increase as aircraft activity and associated sound levels rise over the planning period.

Since the affected lands are adjacent to but not controlled by the Airport, specific measures may be taken to eliminate future incompatible land uses. The FAA recommends that airports acquire a property interest, such as easements or outright ownership of incompatible property. Zoning controls are also effective measures used to control incompatible land use, but are subject to change by local zoning and planning agencies and must be coordinated as such.

8.1.6 FUTURE AIRCRAFT ACTIVITY LEVELS AND FLEET MIX

Future sound exposure levels at 2R4 are influenced by the following key changes to the existing case.

Operations Growth: Moderate growth is projected for aviation activity at 2R4 over the 20-year planning period. This growth by 2021 is estimated to be approximately 53.4 percent over existing (Year 2001) activity levels. The majority of the growth is projected in light GA aircraft traffic, along with an extremely small increase in corporate and other business travel. These types of operations can be expected to have the most significant effect on sound exposure levels in areas on and near the Airport.

Facilities Improvements: The Year 2021 scenario assumes full build-out of the selected development alternative, which includes improvements to the existing taxiway system, including hold bays at each end, but no extension or expansion of the existing runway. Additionally, hangar and apron expansion is programmed over the planning period but will have no affect on the noise modeling.

Fleet Mix: In order to estimate the future sound exposure levels, the existing (base) case was modified to reflect the increased operations in each aircraft type as projected by the forecasts of aviation activity. In addition, certain representative aircraft types in the corporate fleet mix were replaced with new-generation aircraft that are compliant with the more stringent FAR Part 36 Stage III noise emission standards to model corporate aircraft as necessary. Though there is no timetable for GA/corporate aircraft compliance at the time of this analysis, it is estimated that such requirements will begin in the mid- to long-term phases of the planning period. Modifications to the base case are represented in **Tables 8-5 and 8-6**.

Average Daily Operations: As in the existing (base) case, the average annual operations were subdivided to obtain average daily operations by aircraft category, distribution of traffic by runway and departure stage lengths. This information is shown in **Table 8-6**. As in the table for the existing (base) case (**Table 8-4**), takeoffs are listed separately from landings, with takeoffs being represented in the shaded rows. The number of takeoffs (departures) is assumed to equal the number of landings (arrivals).

Moderate growth is projected for aviation activity at Peter Prince Airport over the 20-year planning period. This growth by 2021 is estimated to be approximately 53.4 percent over existing (Year 2001) activity levels.

Table 8-5
Peter Prince Airport Master Plan Update
2021 Operations by INM Equivalent Aircraft

Average Annual Operations		INM Equivalent Aircraft		Annual Ops	Day	Night
<i>Day/Night</i>		GA Piston Single	GASEPV	125,730		
<i>a</i>	85.25		T/O		62,236	629
<i>n</i>	0.862	General Aviation	Landing		62,236	629
		GA Piston Twin	BEC58P	19,328		
<i>a</i>	13.13		T/O		9,586	78
<i>n</i>	0.107		Landing		9,586	78
		Twin Turboprop	DHC6	464		
<i>a</i>	0.318		T/O		232	0
<i>n</i>	0	Business Aviation	Landing		230	0
		Corp. Jet	LR35	0		
<i>a</i>	0		T/O		0	0
<i>n</i>	0		Landing		0	0
		Helo				
		Piston	BEC58P	901		
<i>a</i>	0.616	Rotor	T/O		450	0
<i>n</i>	0		Landing		451	0
		Turbine	LR35	1,674		
<i>a</i>	1.15		T/O		837	0
<i>n</i>	0		Landing		837	0

Source: PBS&J, 2002

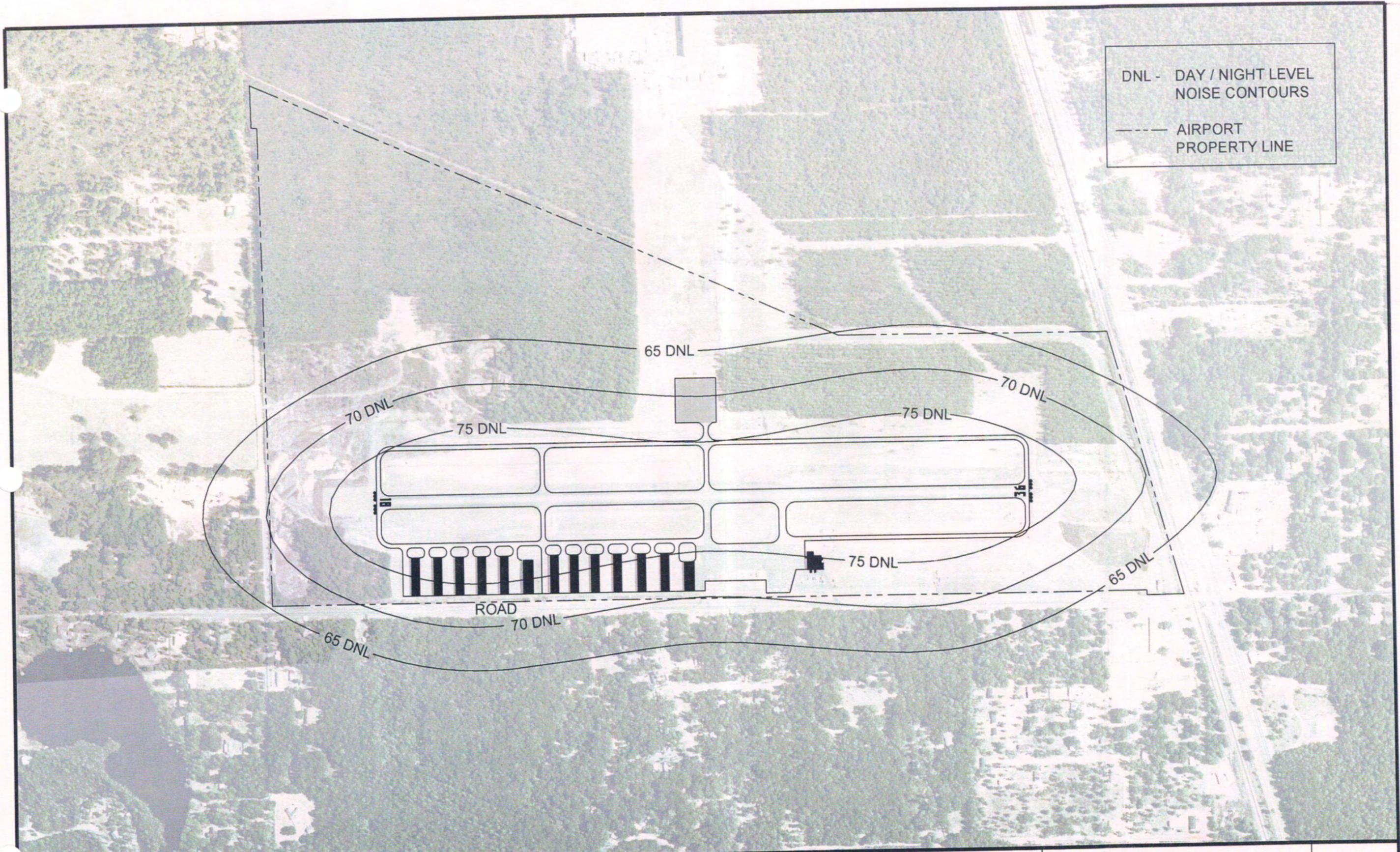
Table 8-6
Peter Prince Airport Master Plan Update
2021 Average Daily Operations

	Rwy 36		Rwy 18		Departure Stage Length
	Day	Night	Day	Night	
Runway Utilization	0.68		0.32		
GA Piston Single	57.97	0.586	27.28	0.276	1
	57.97	0.586	27.28	0.276	
GA Piston Twin	8.93	0.073	4.20	0.034	1
	8.93	0.073	4.20	0.034	
Twin Turboprop	0.216	0	0.102	0	1
	0.216	0	0.102	0	
Corporate Jet	0	0	0	0	---
	0	0	0	0	
Helicopters					
Piston	0.419	0	0.197	0	1
	0.419	0	0.197	0	
Turbine	0.782	0	0.368	0	
	0.782	0	0.368	0	

Source: PBS&J, 2002

8.1.7 FUTURE NOISE CONTOURS

The modifications to the existing case scenario, including growth in aircraft activity and any necessary changes to the fleet mix were processed by the INM computer program to produce sound exposure level contours. The resulting future-case contours are illustrated in **Figure 8-2**. Most noteworthy is an overall increase in the size of the contours, and thus the sound exposure levels on and near the airfield. The total increase in size can be attributed to the forecast increase in aircraft activity at the Airport.



8.1.8 CONCLUSIONS

Table 8-7 documents an increase in size of the noise contours for the future-case scenario. This increase amounts to approximately 57.8 percent of the overall area covered by the contours in the existing (Year 2001) case.

Table 8-7
Peter Prince Airport Master Plan Update
Comparison of Noise Contour Areas (sq mi)

Contour	Existing (2001)	Future (2021)	Expansion/Reduction (+/-)
65 DNL	0.245	0.311	+ 0.066
70 DNL	0.140	0.200	+ 0.060
75 DNL	0.052	0.106	+ 0.054

Source: PBS&J, 2002

Figure 8-2 illustrates that the noise contours on the north, south, and eastern side of Runway 18-36 extend slightly beyond the existing Airport property line. Further, noise exposure levels on the west side of the Airport fall on a platted residential area. Though only a few actual residences currently existing to the west of the Airport, additional noise sensitive areas may be identified if residential development in this area continues. Therefore, it is recommended that careful land use controls be implemented to protect the Airport from incompatible land uses adjacent to the western property line.

8.2 LAND USE

A key goal of the master planning process is to ensure compatible land uses between the Airport and the surrounding community. During the planning period of this Master Plan, compatibility issues such as development on and off Airport, increased aircraft operations, or changes in aircraft type operating at 2R4 could arise. **Table 8-8** presents the future land use designations while **Figure 8-3** illustrates the future land use.

Table 8-8
Peter Prince Airport Master Plan Update
Future Land Use Designations

Land Use Notation	Description of Land Use
AG	Agricultural Use
COM	Commercial Use
CONS	Conservation
HIS	Historical
IND	Industrial Use
MUN	Municipal
RES	Residential
ROAD	Roadways

Source: Santa Rosa County Planning & GIS Department, 2002.

8.2.1 SANTA ROSA COUNTY LAND USE

Lands in the vicinity of 2R4 are under the county's jurisdiction. Aviation/land use issues in this area are subject to Article Eleven of the Land Development Code titled *Airport Environs*. The provisions set forth therein provide guidance and restrictions the height of structures and objects of natural growth, lighting and marking of objects, and regulates the use of land in the vicinity of the Airport. These sections define Airport hazard areas, height restrictions, noise restrictions, land use restrictions, and other control methods. The right to establish such an ordinance is empowered to the county by Section 333.03 Florida Statutes.

8.3 SOCIAL IMPACTS

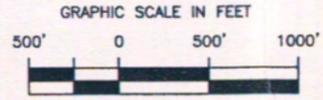
The principal social impacts that must be considered are; the relocation of business and/or residence, alteration of surface transportation patterns, the division or disruption of established communities, disruption of orderly planned development, and the creation of an appreciable change in employment. If any relocation of residential or commercial properties is required, compensation shall be made under the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970, as amended by the Surface Transportation and Uniform Relocation Act of 1987 and its implementing regulations (49 CFR Part 24).

None of the proposed projects included in the selected development alternative require the relocation of businesses and/or residences or will alter or disrupt transportation and existing communities in the vicinity of 2R4.



FLU Legend

	WATER		MUN
	HIS		RES
	AG		IND
	COMM		ROAD
	CONS		AIR FIELD



Peter Prince Airport
Master Plan Update

Future Land Use

Figure
8-3

8.4 INDUCED SOCIO-ECONOMIC IMPACTS

Induced socio-economic impacts are those impacts on surrounding communities that are generally produced by large-scale development projects. The scope of such development may create shifts in population movement and growth patterns, public service and demand, and changes in commercial and economic activity. Development activity on this scale is not anticipated at 2R4 within the term of this study.

8.5 AIR QUALITY

Guidelines for regulating air quality have been established by the Federal Clean Air Act and all implementation and enforcement of these guidelines is the responsibility of the Environmental Protection Agency (EPA). Section 110 of this act requires that states develop a State Implementation Plan (SIP) in an effort to comply with federal air quality standards. National Ambient Air Quality Standards have been established under Section 109 to protect public health. The FAA must ensure that all Federal airport actions, such as financial awards and grants, conform to the state plan for controlling air pollution impacts.

Since the state of Florida does not have indirect source review requirements, compliance with state and federal guidelines is accomplished by reviewing the forecasted operational level of the Airport. No air quality analysis is needed if the projected levels of GA activity are below 180,000 operations and 1.3 million GA passengers. The current and forecast level of GA operations and passengers at 2R4 fall below this level. Therefore, no air quality analysis is required.

Air quality standards at 2R4 and Santa Rosa County as a whole meet those established by the previously mentioned federal and state legislation. However, as initiated by the Airport Act of 1982, an air quality certification from the State of Florida is required prior to any construction to ensure that federal and state air quality standards will be met.

8.6 WATER QUALITY

Water quality at 2R4 is regulated by federal and state legislation. The Federal Water Pollution Control Act, as amended by the Clean Water Act, provides the authority to establish water control standards, control discharges into surface and subsurface waters, develop waste treatment management plans and practices, and issue permits for discharges and for dredged or filled materials into surface waters. The Fish and Wildlife Coordination Act requires consultation with the U.S. Fish and Wildlife Service and appropriate State agency when any alteration and/or impounding of water resources is expected. Additionally, the Federal National Pollution Discharge

Elimination System (NPDES) provides regulations that govern the quality of stormwater discharged into the water resources of the U.S.

Permitting requirements for construction that exceeds five acres are specified by NPDES and are administered by the Florida Department of Environmental Protection (FDEP). Coordination with both the FDEP and the appropriate Florida Water Management District is necessary to ensure water quality. All necessary discharge permits are in place and substandard water quality at 2R4 does not currently exist. However, NPDES permits will be required for the proposed development

8.7 DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F) LANDS

The Department of Transportation Act, Section 4(f) provides that no project which requires the use of any land from a public park or recreational area, wildlife and waterfowl refuge, or historic site be approved by the Secretary of the Interior unless there is no viable alternative and provisions to minimize any possible harm are included in the planning. Enforcement of this legislation is the primary responsibility of the Department of the Interior. Assistance may be received, however, by the U.S. Fish and Wildlife Service and Army Corps of Engineers.

No known section 4(f) lands have been identified within the immediate vicinity of 2R4. Therefore, Airport development is not expected to impact any of the abovementioned lands.

8.8 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

The National Historic Preservation Act of 1966 and the Archeological and Historic Preservation Act of 1974 provide protection against development impacts that would cause change in the historical, architectural, archeological, or cultural qualities of the property. A review of the National Register of Historic Places shows that no significant archeological or historical sites are present or eligible for listing in the vicinity of 2R4.

8.9 BIOTIC COMMUNITIES

The Fish and Wildlife Coordination Act (48 Statute 401 as amended; 16 USC et seq.) requires consideration of possible impacts of airport development projects to habitat and wildlife. Section Two of this act requires consultation with the U.S. Fish and Wildlife Service, the U.S. Department of the Interior, and the state agencies that regulate wildlife and water resources. In the case of water resources, this would particularly apply to such instances where proposed

development by any public or private agency would result in modification of the flow and/or shape or watershed of any stream or body of water.

The U.S. Fish and Wildlife Service has authority under this act to provide comments and recommendations concerning vegetation and wildlife resources. The State Department of Fish and Wildlife also provides comments and recommendations.

The Airport lands can be characterized as a series of generalized vegetative communities, many of which are disturbed from their natural state by Airport or related facilities development, or other human intervention, including agricultural activity for several decades. The character of vegetative communities is significant because the varying classes of vegetative cover provide habitat for wildlife, some of which are identified as species of note or of special concern by the relevant ecological legislation. Soil types, comparative elevation, and drainage characteristics in turn help determine the wetland or upland characteristics, and thereby, the type of dominant vegetation and subsequent habitat provided.

A site survey that can be used to assess specific vegetative community types and the possible presence of threatened and endangered species should be completed during the EA and/or Environmental Impact Statement (EIS) process for each project. It is recommended that a species-specific survey methodology be utilized over the entire Airport property to ascertain the definitive presence, population density, and location of all threatened and endangered species of interest.

8.10 ENDANGERED SPECIES

The Endangered Species Act of 1973 requires each federal agency to ensure that actions authorized, funded, or carried out by that agency not jeopardize continued existence of any endangered or threatened species, or result in destruction or adverse modification of its habitat. Section seven of the act states that federal agencies must review their actions; if those actions will affect a listed species or its habitat, they must consult with the U.S. Fish and Wildlife Service. The State Department of Fish and Wildlife has responsibility for identifying, listing, and protecting endangered and/or threatened species.



During the consultation process, the U.S. Fish and Wildlife Service will determine the significance of potential impacts and methods to mitigate and/or eliminate them so that the involved agency's project may be completed. Prior to the commencement of any development activity, it is recommended that a detailed, site-specific, and species-specific survey be performed in order to establish

actual populations of listed species, and thereby, determine what type and degree of mitigation may be required. The type and degree of any needed mitigation will be determined based on the extent of the disturbance represented by any given development project, as listed in the capital program of this Master Plan.

According to the U.S. Fish and Wildlife and a review of the Florida Natural Areas Inventory (FNAI), the following species of animal and plant life might be expected to occur in the vicinity of the Airport:

<u>Common Name</u>	<u>Scientific Name</u>	<u>Classification Status</u>
Gopher frog	<i>Rana capito</i>	Special Concern
Pine Barrens Treefrog	<i>Hyla andersonii</i>	Special Concern
Florida Bog Frog	<i>Rana okaloosae</i>	Special Concern
American Alligator	<i>Alligator mississippiensis</i>	Special Concern
Gopher Tortoise	<i>Gopheros polyphemus</i>	Special Concern
Alligator Snapping Turtle	<i>Macroclmys temminckii</i>	Special Concern
Florida Pine Snake	<i>Pituophis melanoleucus mugitus</i>	Special Concern
Marian's Marsh Wren	<i>Cistothorus palustris marianae</i>	Special Concern
Little Blue Heron	<i>Egretta caerulea</i>	Special Concern
Snowy Egret	<i>Egretta thula</i>	Special Concern
Tricolored Heron	<i>Egretta tricolor</i>	Special Concern
White Ibis	<i>Eudocimus albus</i>	Special Concern
American Oystercatcher	<i>Haematopus palliatus</i>	Special Concern
Osprey	<i>Pandion haliaetus</i>	Special Concern
Brown Pelican	<i>Pelecanus occidentalis</i>	Special Concern
Black Skimmer	<i>Rynchops niger</i>	Special Concern
Eastern Chipmunk	<i>Tamias striatus</i>	Special Concern
Loggerhead Turtle	<i>Caretta caretta</i>	Threatened
Eastern Indigo Snake	<i>Drymarchon corais couperi</i>	Threatened
Snowy Plover	<i>Charadrius alexandrinus</i>	Threatened
Piping Plover	<i>Charadrius melodus</i>	Threatened
SE American Kestrel	<i>Falco sparverius paulus</i>	Threatened
Cockaded Woodpecker	<i>Picoides borealis</i>	Threatened
Least tern	<i>Sterna antillarum</i>	Threatened
Florida Black Bear	<i>Ursus americanus floridanus</i>	Threatened
Hairy Wild Indigo Plant	<i>Baptisia calycosa var villosa</i>	Threatened
Curtiss' Sandgrass	<i>Calamovilfa curtissii</i>	Threatened
Baltzell's Sedge	<i>Carex baltzelli</i>	Threatened
Spoon-leaved Sundew	<i>Drosera intermedia</i>	Threatened
Heartleaf	<i>Hexastylis arifolia</i>	Threatened
Florida Anise	<i>Illicium floridanum</i>	Threatened
Mountain Laurel	<i>Kalmia latifolia</i>	Threatened
Gulf Coast Lupine	<i>Lupinus westianus</i>	Threatened
Narrowleaf Naiad	<i>Najas filifolia</i>	Threatened

It is recommended that a species-specific survey methodology be utilized over the entire Airport property to ascertain the definitive presence, population density, and location of all threatened and endangered species of interest.

Chapman's Butterwort	<i>Pinguicula planifolia</i>	Threatened
Sweet Pitcherplant	<i>Sarracenia rubra</i>	Threatened
Yellow-Eyed Grass	<i>Xyris scabrifolia</i>	Threatened
Green Turtle	<i>Chelonia mydas</i>	Endangered
Leatherback Turtle	<i>Dermochelys coriacea</i>	Endangered
Kemp's Ridley	<i>Lepidochelys kempii</i>	Endangered
Peregrine Falcon	<i>Falco peregrinus</i>	Endangered
Wood Stork	<i>Mycteria americana</i>	Endangered
Manatee	<i>Trichechus manatus</i>	Endangered
Sweet Shrub	<i>Calycanthus floridus</i>	Endangered
Cruise's Golden Aster	<i>Chrysopsis gossypina cruiseana</i>	Endangered
Trailing Arbutus	<i>Epigaea repens</i>	Endangered
Panhandle Lily	<i>Lilium iridollae</i>	Endangered
Hummingbird Flower	<i>Macranther flammea</i>	Endangered
Ashe's Magnolia	<i>Magnolia ashei</i>	Endangered
Pyramid Magnolia	<i>Magnolia pyramidata</i>	Endangered
Indian Cucumber Root	<i>Medeola virginiana</i>	Endangered
Flowered Butterwort	<i>Pinguicula primulifora</i>	Endangered
Yellow Fringeless Orchid	<i>Platanthera integra</i>	Endangered
Small Meadowbeauty	<i>Rhexia parviflora</i>	Endangered
Orange Aazalea	<i>Rhododendrun austrinum</i>	Endangered
White Top	<i>Sarracenia leucophylla</i>	Endangered
Gopherwood Buckthorn	<i>Sideroxylon lycioides</i>	Endangered
Thorne's Buckthorn	<i>Sideroxylon thornei</i>	Endangered
Silky Camellia	<i>Stewartia malacodendron</i>	Endangered

8.11 WETLANDS

The two important federal laws regulating wetlands are the River and Harbors Act (RHA) of 1899, and the Clean Water Act (CWA). The focus of the RHA is protection of navigation while the focus of the CWA is prevention of water pollution. Additionally, the North American Wetlands Conservation Act of 1989 assigns preservation responsibilities to all federal agencies whose jurisdiction may involve the management or disposal of lands and waters under their control. The U.S. Army Corps of Engineers and Environmental Protection Agency have very broad definitions of navigable waterways and may encompass any wetland contiguous with waters of the U.S.

Other agencies with non-regulatory responsibilities to create or protect wetlands include the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Soil Conservation Service. The Fish and Wildlife Service functions as a resource agency that produces the National Wetlands Inventory Maps for each state. According to these maps, areas that would be considered wetlands do not exist on Airport property. However, the Blackwater River to the north and west of 2R4 is a wetland area and should be considered when conducting project specific wetland impact evaluations.

8.12 FLOODPLAINS

Floodplains are defined in Executive Order 11988, Floodplain Management. They include lowland areas adjoining inland and coastal waters, especially those areas subject to a one percent or greater chance of flooding in any given year.

The Federal Emergency Management Agency (FEMA) has produced flood insurance rate maps for communities participating in the National Flood Insurance Program. Detailed maps illustrate the 100- and 500-year base flood elevations. Descriptions of zones delineated on these maps include, Zone A – areas of 100-year flood, Zone B – areas between limits of 100- and 500-year flood, and Zone C – areas of minimal flooding.

The Flood Insurance Rate Map of Santa Rosa County, Florida (Panel 225 of 375, Community-Panel Number 120274 0225 B, dated 11/01/85) indicates that 2R4 is at an approximate elevation of 82 feet and is not within any base (100 year) floodplain.

8.13 COASTAL ZONE MANAGEMENT

The Coastal Zone Management Act requires that all federal projects occurring in applicable coastal zone areas comply with management guidelines established in the Coastal Zone Management Program. Procedures for determining consistency with approved coastal zone management programs are contained in the NOAA Regulations (15 CFR Part 930).

Santa Rosa County is contiguous with the waters of the Gulf of Mexico. Therefore, the county is likely under the jurisdiction of the coastal zone management program and must obtain a consistency determination for any projects that may impact the coastal zone management plan.

8.14 COASTAL BARRIERS

The Coastal Barriers Act of 1982 prohibits federal financial assistance for development within the coastal barrier resources system, which consists of undeveloped coastal barriers along the Atlantic and Gulf coasts. Maps that identify lands included in this system are available for inspection in the offices of the U.S. Fish and Wildlife Service.

As mentioned in Section 8.13, Santa Rosa County is contiguous with the waters of the Gulf of Mexico. Therefore, a coastal zone management consistency determination must be obtained for any projects that may impact the coastal barriers or coastal barrier resource system.

8.15 WILD AND SCENIC RIVERS

The National Wild and Scenic Rivers Act of 1968 preserves certain rivers with outstanding natural, cultural, or recreational features. Under provisions of this act, federal agencies cannot assist, by loan, grant, license, or otherwise in construction of any water resources project that would have direct and adverse impacts on river values. River segments protected under this legislation are administered by the U.S. Park Service.

The Florida Department of Natural Resources is the state agency charged with oversight of the wild and scenic rivers in the state. According to the official Federal National List of Inventory Rivers, the only two wild and scenic rivers in the State of Florida are the Loxahatchee River located in Palm Beach County and the Wekiva River located in Seminole County. Therefore, the regulations mandated by the abovementioned legislation do not apply to Santa Rosa County, and more specifically, 2R4.

8.16 PRIME FARMLAND

Prime farmland is defined as land best suited for producing food, feed, forage, fiber, and oilseed crops. This land has the quality, growing season, and moisture supply necessary to produce sustained crop yields with minimal energy and economic input. If farmland is to be converted to a nonagricultural use by a federally funded project, consultation with the U.S. Department of Agriculture Soil Conservation Service is necessary to determine whether the farmland is classified as "prime" or "unique". If it is, the Farmland Protection Act requires rating the farmland conversion impacts based on length of time farmed, amounts of farmland remaining in the area, level of local farm support services, and the level of urban land in the area.

The land on and in the immediate vicinity of 2R4 has not been designated as "prime farmland" and is not considered "prime farmland" according to the legislation.

8.17 ENERGY SUPPLY AND NATURAL RESOURCES

Energy supply and natural resources may be affected by increased development at 2R4. Changes could occur in demand for electrical power due to increased electrical requirements from airfield lighting, navigational equipment, and/or tenant facilities and business operations. Proper planning with the appropriate city and county officials will limit and/or eliminate any possible negative impacts associated with increased energy demands.

8.18 LIGHT EMISSIONS

Standards do not exist for light emission impacts on residential areas. However, measures can and should be taken to mitigate any impacts on such incompatible areas within the vicinity of the Airport. Buffer zones consisting of vegetation or earthen berms should be constructed to shield residential areas. Likewise, non-airport light emissions must be prevented from creating misleading and/or dangerous situations for aircraft operating at or in the immediate vicinity of 2R4. This can be accomplished through the use of zoning and land use planning as well as local ordinances.

8.19 SOLID WASTE IMPACT

Laws that control solid waste management include the Resource Conservation and Recovery Act and Federal Aviation Administration Order 5200.5A. The Resource Conservation and Recovery Act provides for safe disposal of discarded materials, regulates hazardous waste, promotes recycling, and establishes criteria for sanitary landfills. FAA Order 5200.5A provides guidance concerning establishment, elimination, or monitoring of landfills, open dumps, or waste disposal facilities on or near airports. Under this order, waste disposal sites within 10,000 feet of any runway end used by turbine-powered aircraft are considered to be incompatible with airport operations. However, the State Department of Environmental Protection has primary responsibility for regulating landfills and overseeing programs associated with solid wastes.

Though increases in solid waste will likely be seen during periods of construction, no facilities are planned for 2R4 that would significantly and permanently increase the production of solid wastes.

8.20 CONSTRUCTION IMPACTS

During periods of development, extensive construction activities may occur. Construction activities may include and are not limited to earthmoving activities, delivery of equipment and materials, and removal of debris associated with runways and taxiways. The potential for impacts to off-airport communities in the vicinity of the Airport is greatest during the initial phases of development. These impacts may consist of increased traffic on local roads, noise, mud, dust, and other effects associated with heavy construction vehicle activity. All possible impacts related to development projects are minor and temporary. Nevertheless, the Airport management will exercise best practices to contain and minimize the impact of construction during building phases of projects proposed in the development plan.

8.21 SUMMARY

This chapter serves as a cursory review of the potential for environmental impacts that may be associated with the proposed development in this document. Further environmental studies, such as an EA or EIS, will be necessary for some of the proposed development within this Master Plan and as required by the National Environmental Policy Act (NEPA). Project specific impacts and any necessary mitigation measures will be determined and identified in these environmental documents.

CHAPTER 9 COST ESTIMATES, CONSTRUCTION PHASING, AND CAPITAL IMPROVEMENT PROGRAM

Peter Prince Airport

The preceding chapters, including the Demand/Capacity Analysis and Facility Requirements (Ch. 6) and Alternatives Identification and Development Plans (Ch. 7) identified the types of projects needed for Peter Prince Airport (2R4) to maintain current and projected levels of service. As discussed in Chapter 7, Alternatives Identification and Development Plans, an enhanced version of Alternative 2 was selected as the preferred development plan. This was due to existing airspace constraints and limitations imposed by NAS Whiting, as well as the alternative's overall ability to continue to meet the goals of the Airport and Santa Rosa County with a constrained expansion program. Therefore, the projects included in the selected alternative are considered to be the Airport capital improvement program (CIP) for the 20-year planning period.

The CIP represents the Airport's needs, such as continuing maintenance, improvement of facilities to comply with federal and state aviation safety regulations, and additional facilities to keep pace with increasing demand for aviation services. Phasing, as discussed in previous chapters, is included in the CIP to manage the costs of the projects.

9.1 COST ESTIMATES

The objective of this section is to identify the development costs associated with the selected development alternative. These costs are based on unit prices and include a 25 percent contingency fee. The cost estimates are based on unadjusted 2001 dollars and are calculated for order-of-magnitude purposes only. Actual construction costs will vary based on inflation, variations in labor, changes in materials and construction cost, and other unforeseeable economic factors. In addition, federal and state grant assistance can vary year to year. Therefore, review of the development costs and overall capital improvement program should be undertaken as economic conditions warrant.

The total cost estimate for the 20-year development program included in the selected alternative is shown in **Table 9-1**.

The projects included in the selected alternative are considered to be the Airport capital improvement program (CIP) for the 20-year planning period.

Table 9-1
Peter Prince Airport Master Plan Update
Selected Alternative – Cost Estimate

	DEVELOPMENT ITEMS	UNITS	UNIT COST	ESTIMATED DEVELOPMENT COST	ELIGIBLE SHARE OF DEVELOPMENT COSTS (1)		
					FEDERAL	STATE	LOCAL
1	West T-Hangar Access Taxiways	3,000 SY	\$75 SY	\$225,000	\$202,500	\$11,250	\$11,250
2	24 T-Hangars Units	24 EA	\$28,000 EA	\$672,000	\$0	\$336,000	\$336,000
3	Airport Entrance Signage	1 LS	\$150,000 LS	\$150,000	\$0	\$75,000	\$75,000
4	ASR Approach Runway 36	1 LS	- LS	-	-	-	-
5	REILs Runway 18-36	1 LS	\$200,000 LS	\$200,000	\$180,000	\$10,000	\$10,000
6	Non-Precision Marking RW 18-36	100,000 SF	\$0.50 SF	\$50,000	\$45,000	\$2,500	\$2,500
7	Hold Bays Runway 18-36	12,500 SY	\$75 SY	\$937,500	\$843,750	\$46,875	\$46,875
8	FBO Terminal Building	6,000 SF	\$60.00 SF	\$360,000	\$0	\$180,000	\$180,000
9	Auto Parking	5,000 SY	\$50 SY	\$250,000	\$0	\$125,000	\$125,000
10	Security/Perimeter Fencing	8,500 LF	\$12 LF	\$102,000	\$91,800	\$5,100	\$5,100
11	East T-Hangar Access Taxiways - Phase I	2,200 SY	\$75 SY	\$165,000	\$148,500	\$8,250	\$8,250
12	30 T-Hangars Units	30 EA	\$28,000 EA	\$840,000	\$0	\$420,000	\$420,000
13	East Access Road	5,500 SY	\$55 SY	\$302,500	\$0	\$151,250	\$151,250
14	East Access Road Utilities	1,980 LF	\$181 LF	\$358,380	\$0	\$179,190	\$179,190
15	2 Corporate Hangars (6,400 SF)	12,800 SF	\$40 SF	\$512,000	\$0	\$256,000	\$256,000
16	EA Taxiway Widening and Construction	1 LS	\$175,000 LS	\$175,000	\$157,500	\$8,750	\$8,750
17	Taxiway A and B Widening	10,000 SY	\$75 SY	\$750,000	\$675,000	\$37,500	\$37,500
18	Fuel Truck	1 LS	\$100,000 LS	\$100,000	\$0	\$50,000	\$50,000
19	Commerce Park Roadways - Phase I	9,300 SY	\$55 SY	\$511,500	\$0	\$255,750	\$255,750
20	Commerce Park Utilities - Phase I	3,360 LF	\$181 LF	\$608,160	\$0	\$304,080	\$304,080
21	South Exit Taxiways	2150 SY	\$75 SY	\$161,250	\$145,125	\$8,063	\$8,063
22	Airfield Signage	1 LS	\$150,000 EA	\$150,000	\$135,000	\$7,500	\$7,500
23	Runway Overlay/Pavement Maintenance	30,850 SY	\$50 SY	\$1,542,500	\$1,388,250	\$77,125	\$77,125
24	East T-Hangar Access Taxiways - Phase II	2,200 SY	\$75 SY	\$165,000	\$148,500	\$8,250	\$8,250
25	40 T-Hangars Units	40 EA	\$28,000 EA	\$1,120,000	\$0	\$560,000	\$560,000

Table 9-1 Continued
Peter Prince Airport Master Plan Update
Selected Alternative – Cost Estimate

	DEVELOPMENT ITEMS	UNITS	UNIT COST	ESTIMATED DEVELOPMENT COST	ELIGIBLE SHARE OF DEVELOPMENT COSTS (1)		
					FEDERAL	STATE	LOCAL
26	2 Corporate Hangars (6,400 SF)	12,800 SF	\$40 SF	\$512,000	\$0	\$256,000	\$256,000
27	East Apron	5,500 SY	\$75 SY	\$412,500	\$371,250	\$20,625	\$20,625
28	2 Conventional Hangar (10,000 SF)	20,000 SF	\$65 SF	\$1,300,000	\$0	\$650,000	\$650,000
29	Fuel Truck	1 LS	\$100,000 LS	\$100,000	\$0	\$50,000	\$50,000
30	Automotive Fuel Storage Tank	1 LS	\$25,000 LS	\$25,000	\$0	\$12,500	\$12,500
31	East Apron Expansion	5,500 SY	\$75 SY	\$412,500	\$371,250	\$20,625	\$20,625
32	2 Corporate Hangars (6,400 SF)	12,800 SF	\$40 SF	\$512,000	\$0	\$256,000	\$256,000
33	Commerce Park Roadways - Phase II	21,000 SY	\$55 SY	\$1,155,000	\$0	\$577,500	\$577,500
34	Commerce Park Utilities - Phase II	7,560 LF	\$181 LF	\$1,368,360	\$0	\$684,180	\$684,180
	Total Program Construction Cost			\$16,205,150	\$4,903,425	\$5,650,863	\$5,650,863
	Engineering Design Fees		6.50%	\$1,053,335	\$318,723	\$367,306	\$367,306
	Field Inspection & Supervision		3.50%	\$567,180	\$171,620	\$197,780	\$197,780
	Testing		5.00%	\$810,258	\$245,171	\$282,543	\$282,543
	Surveying		5.00%	\$810,258	\$245,171	\$282,543	\$282,543
	Total Fees		20.00%	\$3,241,030	\$980,685	\$1,130,173	\$1,130,173
	Contingencies		25.00%	\$4,051,288	\$1,225,856	\$1,412,716	\$1,412,716
	TOTAL DEVELOPMENT COST			\$23,845,468	\$7,109,966	\$8,367,751	\$8,367,751

Notes - (1) Denotes eligibility only and not federal or state agencies commitments

9.2 CONSTRUCTION PHASING

This section applies a general schedule to the proposed Airport development projects. The schedule represents a prioritized Airport development plan to meet federal and state regulatory issues, increases in aviation demand, and/or economic development concerns. Projects that appear in the first phase are of greatest importance and are the least tolerant of delay. Additionally, some projects included in an early phase may be a prerequisite for other planned improvements in the long-term phase. The 20-year planning period is divided into three phases as follows:

- Phase 1: Short-Term (0 to 5 years)
- Phase 2: Mid-Term (6 to 10 years)
- Phase 3: Long-Term (11 to 20 years)

The phasing of individual projects should undergo periodic review to determine the need for changes based on variations in forecast demand, available funding, economic conditions, and/or other factors that influence Airport development. It should be noted that other projects not foreseen in this report may be identified in the future and would likely necessitate changes in the phasing of projects and overall CIP. Phasing for the projects included in the selected development alternative is shown in **Table 9-2**.

Table 9-2
Peter Prince Airport Master Plan Update
20-Year Construction Phasing

Phase 1 (2002-2006)	Phase 2 (2007-2011)	Phase 3 (2012-2021)
<ul style="list-style-type: none"> • T-Hangar Access Taxiways • 24 T-Hangar Units • Airport Signage • ASR Approach Runway 18-36 • Wind Sock and Segmented Circle • Non-Precision Marking Runway 18-36 • Hold Bays Runway 18-36 • FBO Terminal Building • Expanded Auto Parking • Security/Perimeter Fencing 	<ul style="list-style-type: none"> • T-Hangar Access Taxiways • 30 T-Hangar Units • East Access Road • East Access Utilities • 2 Corporate Hangars • EA Taxiway Widening & Construction • Taxiway A and B Widening • Auto Parking Expansion • 1 Fuel Truck • Commerce Park Roadways – Phase 1 • Commerce Park Utilities – Phase 1 • Construct South Exit Taxiways 	<ul style="list-style-type: none"> • Airfield Signage • T-Hangar Access Taxiways • 40 T-Hangar Units • Runway Overlay/Pavement Mntc. • 2 Corporate Hangars • East Apron • 2 Conventional Hangars • Auto Parking/Auto Parking Expansion • 1 Fuel Truck • Automotive Fuel Storage Tank • East Apron Expansion • 2 Corporate Hangars and Apron • Commerce Park Roadway – Phase 2 • Commerce Park Utilities – Phase 2 • FBO Terminal Building Expansion

Source: PBS&J 2002

9.3 CAPITAL IMPROVEMENT PROGRAM

The objective of this section is to outline the CIP for 2R4 for the next 20 years and provide a brief description of the projects included. Special attention has been placed on the first five years, Phase 1, of the CIP. These projects have been identified as the most critical to the Airport in terms of correcting any substandard facilities and attracting new business to the Airport. The following pages will identify the projects included in each phase of the Airport's CIP. Additionally, a graphic representation of the proposed projects (**Figures 9-1 through 9-3**) and associated location on the airfield has been included after each phase of the CIP. The complete 20-year development is shown in **Figure 9-4**.

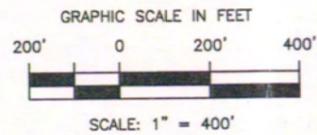
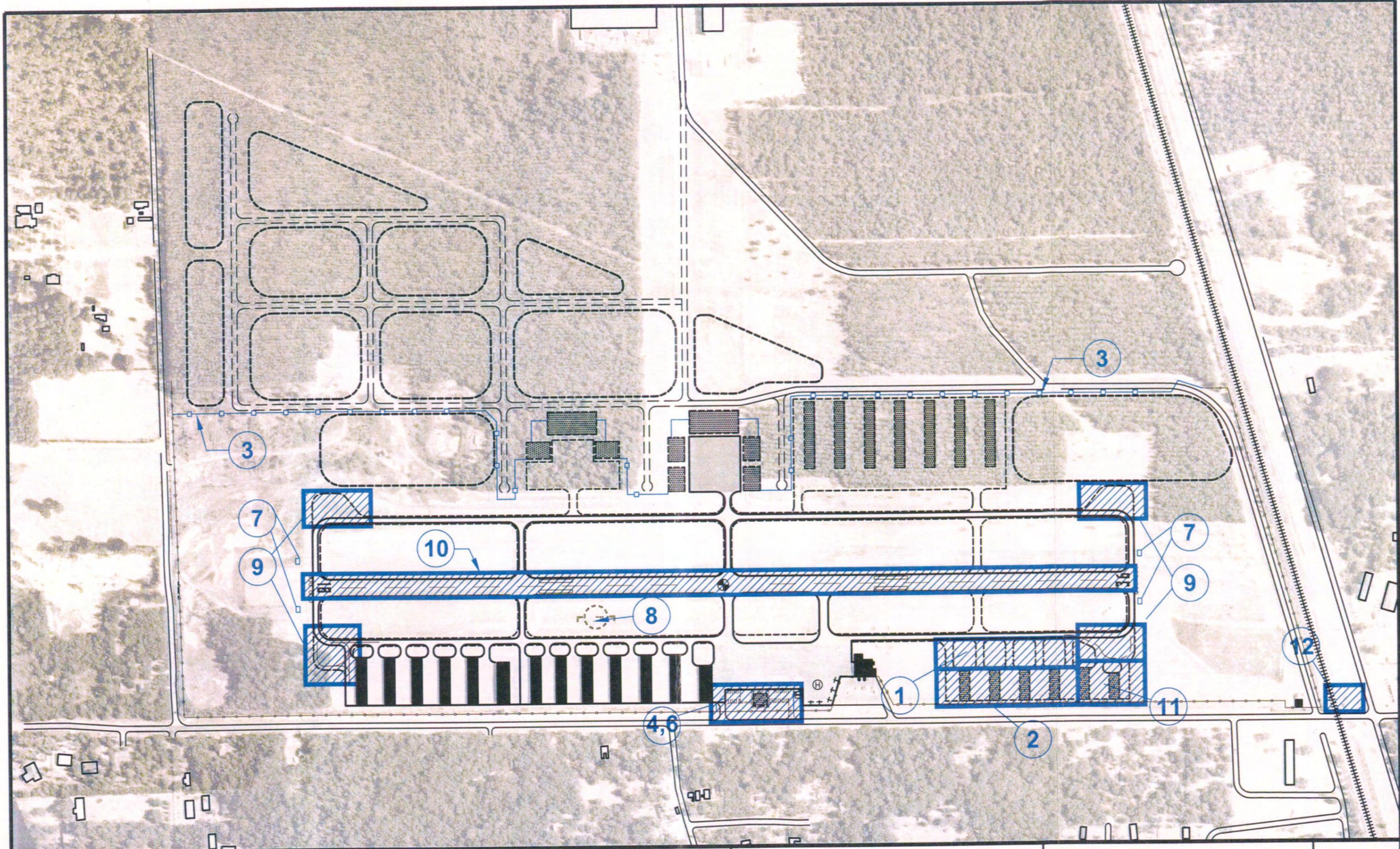
Special attention has been placed on the first five years, Phase I, of the CIP. These projects have been identified as the most critical to the Airport in terms of correcting any substandard facilities and attracting new business to the Airport.

**Table 9-3
Peter Prince Airport Master Plan Update
Capital Improvement Program
Phase 1 (2002-2006)**

<u>Item No.</u>	<u>Year</u>	<u>Project Description and Title</u>	<u>Amount</u>
01	2003	T-Hangar Access Taxiways Construct 35-foot wide access taxiways from Taxiway A to the proposed T-hangar development.	\$ 225,000
02	2003	T- Hangars (16-Units) Construct a total of 16 T-hangar units including access taxiway/apron and all necessary marking and utility relocation or installation.	\$ 448,000
03	2003	Security/Perimeter Fencing Repair and install approximately 8,500 feet of existing and new fencing on the east side of the Airport to prevent unauthorized access to the airfield.	\$ 102,000
04	2003	FBO Terminal Building Construct a new 3,000 square foot FBO terminal building including all necessary pavement, drainage, utilities, lighting, and marking.	\$ 180,000
05	2003	ASR Approach Runway 18-36 Obtain equipment and arrangements necessary to implement an Area Surveillance Radar (ASR) approach to Runway 36.	----
		Subtotal 2003:	\$ 955,000
06	2004	Auto Parking Construct an auto parking area in conjunction with the new FBO terminal building. Include all necessary lighting and marking.	\$ 62,500
07	2004	Runway End Identifier Lights Install REILs on each approach end of Runway 18-36 to aid in locating the runway during night and instrument flight operations.	\$ 100,000

Table 9-3 Continued
Peter Prince Airport Master Plan Update
Capital Improvement Program
Phase 1 (2002-2006)

Item No.	Year	Project Description and Title	Amount
08	2004	Wind Sock and Segmented Circle Install a lighted windsock and segmented circle on the north side of the airport, between Taxiway A and the runway.	\$ 25,000
		Subtotal 2004:	\$ 187,500
09	2005	Hold Bays Runway 18-36 Construct hold bays on Taxiways A and B at both ends of Runway 18-36. Include all necessary lighting, marking, and drainage.	\$ 937,500
10	2005	Non-Precision Markings Runway 18-36 Install non-precision runway markings on Runway 18-36 to coincide with the GPS and ASR approaches to Runway 36.	\$ 50,000
11	2005	T- Hangars (8-Units) Construct a total of 8 T-hangar units including access taxiway/apron and all necessary marking and utility relocation or installation.	\$ 224,000
		Subtotal 2005:	\$ 1,211,500
12	2006	Airport Signage Install new and/or relocate existing signage along access roads to increase Airport exposure.	\$ 150,000
		Subtotal 2006	\$ 150,000
		TOTAL PHASE 1:	\$ 2,504,000



Peter Prince Airport
Master Plan Update

Phase 1 Improvements

Figure
9-1

Table 9-4
Peter Prince Airport Master Plan Update
Capital Improvement Program
Phase 2 (2007-2011)

<u>Item No.</u>	<u>Year</u>	<u>Project Description and Title</u>	<u>Amount</u>
13	2007	East Access Road Construct a two-lane paved access road from the existing Santa Rosa Industrial Park roadway west to the existing west apron area. Include all necessary drainage, utility relocation, lighting, and marking.	\$ 302,500
14	2007	East Access Utilities Extend power, telecommunications, and water and sewer utilities, as appropriate, along the east access road to provide adequate utilities for future development on the east side of the airfield.	\$358,380
15	2007	East T-Hangar Access Taxiways – Stage I Construct an access taxiway from Taxiway B and associated taxiway to the proposed T-hangar development.	\$ 165,000
Subtotal 2007:			\$ 825,880
16	2008	T-Hangars (20 Units) Construct a total of 20 T-hangar units including access taxiway/apron and all necessary marking and utility relocation or installation.	\$ 560,000
17	2008	Corporate Hangars Construct two 6,400 square-foot (80x80) corporate hangars including apron and auto parking for each.	\$ 512,000
18	2008	EA for the Widening of Taxiways A and B and the Construction of South Exit Taxiways Conduct an environmental assessment of the proposed taxiway widening and construction to determine the environmental impacts that may occur.	\$ 175,000
Subtotal 2008:			\$ 1,247,000
19	2009	Auto Parking Expand the existing FBO auto parking area. Include all necessary lighting and marking.	\$ 62,500
20	2009	Fuel Truck Acquire one fuel truck in order to meet increased demand and deliver fuel to tenants on the east side of the airfield.	\$ 100,000
21	2009	Widen Taxiways A and B This project includes the widening of taxiways A and B to 35 feet in order to meet the Group II design standards as identified in FAA AC 5300-13	\$ 750,000
Subtotal 2009:			\$ 912,500

Table 9-4 Continued
Peter Prince Airport Master Plan Update
Capital Improvement Program
Phase 2 (2007-2011)

Item No.	Year	Project Description and Title	Amount
22	2010	T-Hangars (10 Units) Construct a total of 10 T-hangar units including access taxiway/apron and all necessary marking and utility relocation or installation.	\$ 280,000
23	2010	Commerce Park Roadways – Phase 1 Construct a frontage road on the east side of the airfield, which will allow access to future aviation and non-aviation development.	\$ 511,500
		Subtotal 2010:	\$ 791,500
24	2011	Commerce Park Utilities – Phase 1 Extend power, telecommunications, and water and sewer utilities, as appropriate, the length of the phase 1 commerce park roadway.	\$ 608,160
25	2011	Construct Two Entrance/Exit Taxiways Construct two entrance/exit taxiways on the south side of the airfield between Taxiways A and B and the runway. Include all necessary marking, lighting, drainage, and utility installation and/or relocation.	\$ 161,250
		Subtotal 2011:	\$ 769,410
		TOTAL PHASE 2:	\$ 4,546,290

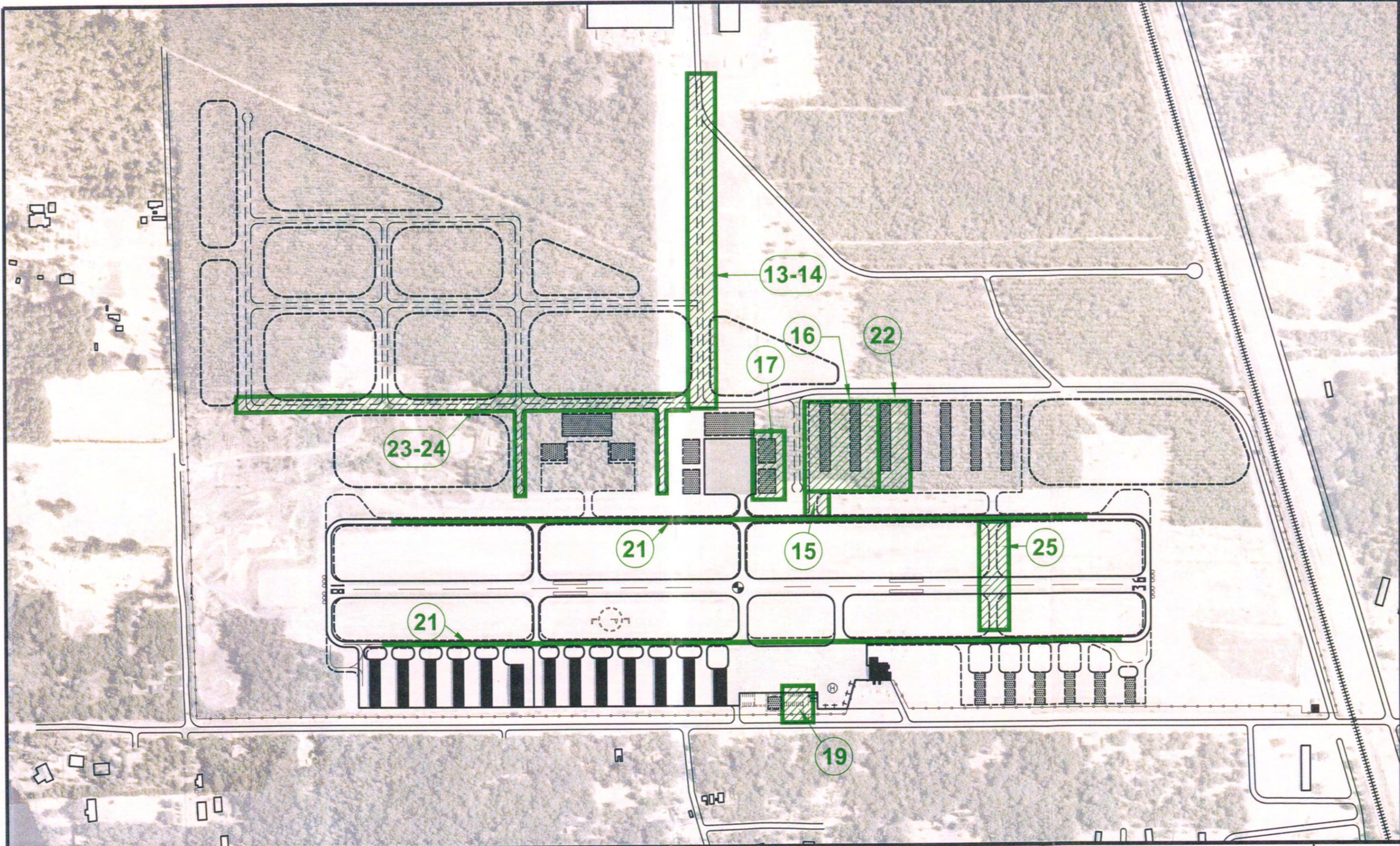
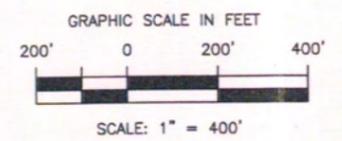
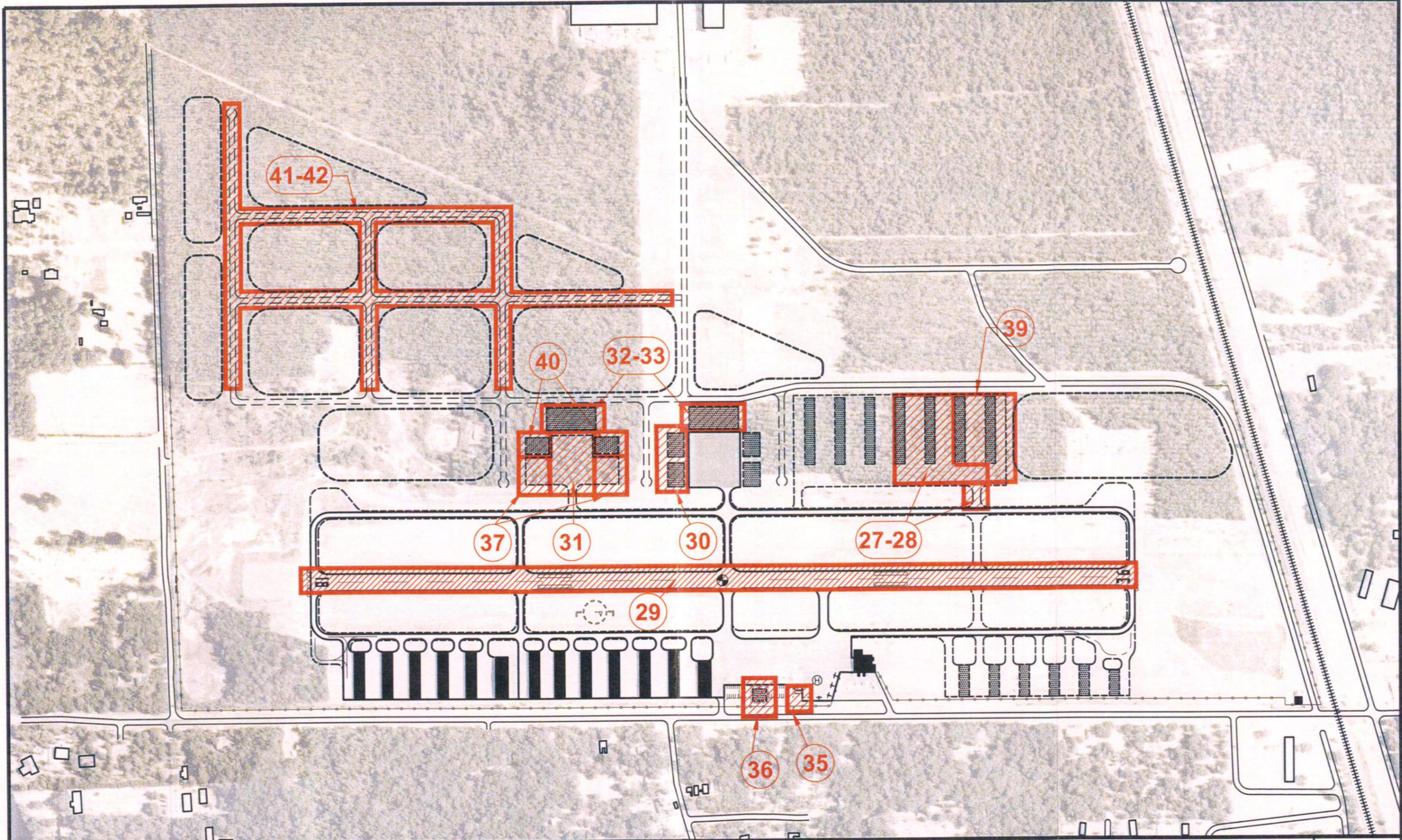


Table 9-5
Peter Prince Airport Master Plan Update
Capital Improvement Program
Phase 3 (2012-2021)

<u>Item No.</u>	<u>Year</u>	<u>Project Description and Title</u>	<u>Amount</u>
26	2012	Airfield Signage Relocate and install taxiway guidance signs, as necessary, from the addition and subsequent designation of the new south exit taxiways.	\$ 150,000
27	2012	East T-Hangar Access Taxiways – Stage II Construct an access taxiway from Taxiway B and associated taxiway to the proposed T-hangar development.	\$ 165,000
28	2012	T-Hangars (20 Units) Construct a total of 20 T-hangar units including access taxiway/apron and all necessary marking and utility relocation or installation.	\$ 560,000
Subtotal 2012:			\$ 875,000
29	2013	Runway Overlay/Pavement Maintenance Overlay and crack fill the pavement of Runway 18-36. Includes all associated marking.	\$ 1,542,500
Subtotal 2013:			\$ 1,542,500
30	2014	Corporate Hangars Construct two 6,400 square-foot (80x80) corporate hangars including apron and auto parking for each.	\$ 512,000
31	2014	East Apron and Access Taxiway Construct a 250 by 200-foot apron on the east side of the airfield, just north of the existing apron. Include all necessary lighting, marking, and drainage.	\$ 412,500
Subtotal 2014:			\$ 924,500
32	2015	Conventional Hangars Construct two 10,000 square foot conventional hangars on the east side of the airfield. Include all necessary lighting, drainage, and utility connections.	\$ 1,300,000
33	2015	Auto Parking Construct an additional auto parking area on the east side of the Airport. Include all necessary lighting and marking.	\$ 62,500
Subtotal 2015:			\$ 1,362,500
34	2016	Fuel Truck This project includes the acquisition of one fuel truck in order to meet increased demand and deliver fuel to tenants on the east side of the airfield.	\$ 100,000

Table 9-5 Continued
Peter Prince Airport Master Plan Update
Capital Improvement Program
Phase 3 (2012-2021)

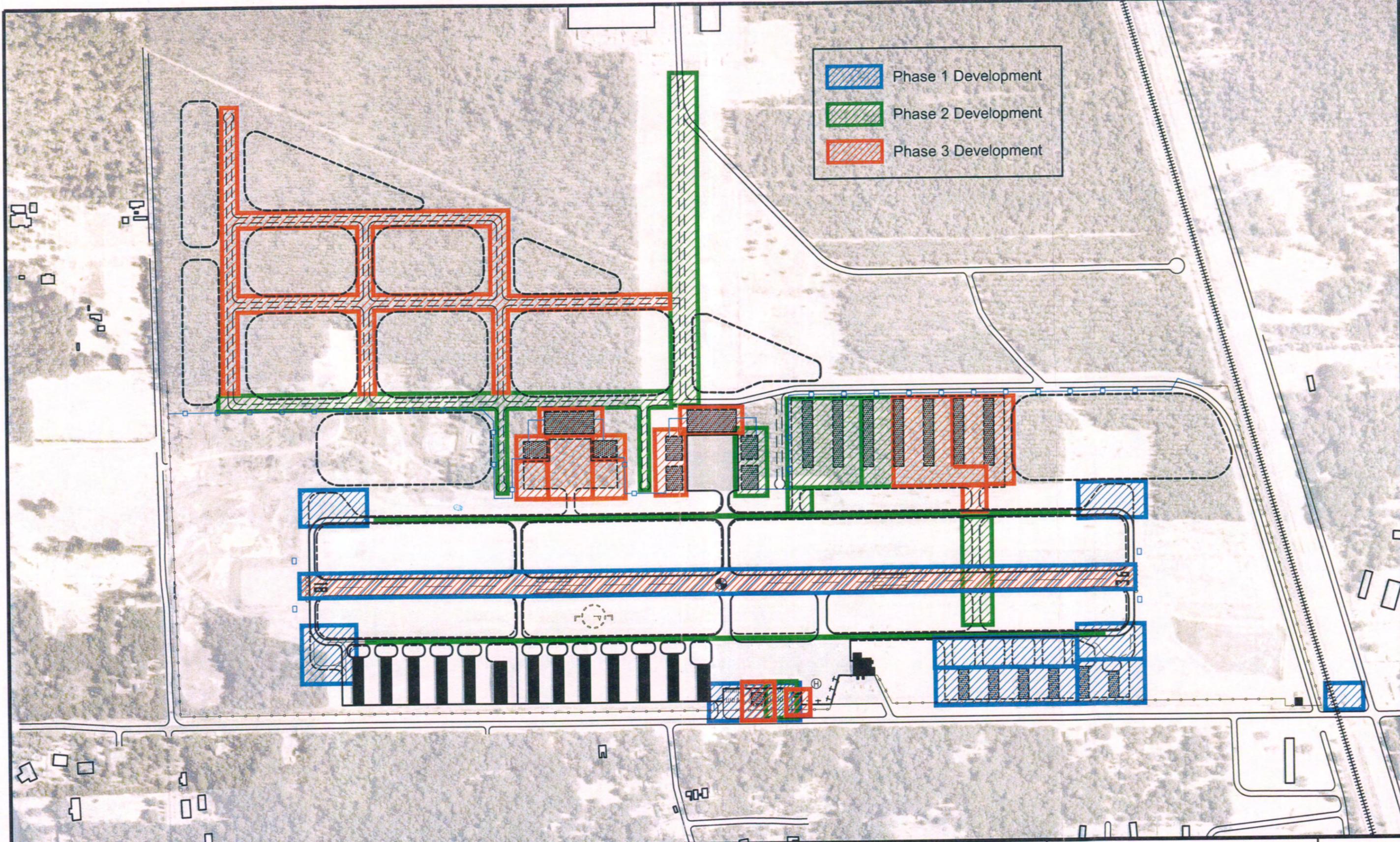
Item No.	Year	Project Description and Title	Amount
35	2016	Automotive Fuel Storage tank Acquire and install a 3,000-gallon fuel storage tank and all necessary equipment to make a complete working system.	\$ 25,000
36	2016	FBO Terminal Building Construct a 3,000 square foot expansion to the FBO terminal building including all necessary pavement, drainage, utilities, lighting, and marking.	\$ 180,000
		Subtotal 2016:	\$ 205,000
37	2017	East Apron Expansion Expand the proposed east apron 5,500 square yards just north of the existing GA apron area. Include all necessary lighting, marking, and drainage.	\$ 412,500
38	2017	Auto Parking This project includes the expansion of the existing east auto parking area. Include all necessary lighting and marking.	\$ 62,500
		Subtotal 2017:	\$ 475,000
39	2018	T-Hangars (20 Units) Construct a total of 20 T-hangar units including access taxiway/apron and all necessary marking and utility relocation or installation.	\$ 560,000
		Subtotal 2018:	\$ 560,000
40	2019	Corporate Hangars Construct two 6,400 square-foot (80x80) corporate hangars including apron and auto parking for each.	\$ 512,000
		Subtotal 2019:	\$ 512,000
41	2020	Commerce Park Roadways – Phase 2 Construct a road network on the east side of the airfield, which will allow access to future non-aviation development.	\$ 1,155,000
		Subtotal 2020:	\$ 1,155,000
42	2021	Commerce Park Utilities – Phase 2 Extend power, telecommunications, and water and sewer utilities, as appropriate, along the phase 2 commerce park roadway network.	\$ 1,368,360
		Subtotal 2021:	\$ 1,368,360
		TOTAL PHASE 3:	\$ 9,079,860



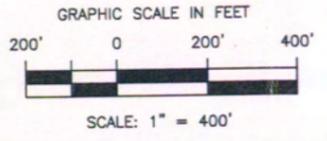
Peter Prince Airport
Master Plan Update

Phase 3 Improvements

Figure
9-3



	Phase 1 Development
	Phase 2 Development
	Phase 3 Development



Peter Prince Airport
Master Plan Update

20 - Year Phased Development

Figure
9-4

CHAPTER 10

AIRPORT LAYOUT PLAN SET

Peter Prince Airport

The airport plan set for Peter Prince Airport (2R4) presents in graphic format, the proposed development of the Airport to meet forecast aviation demand and the overall goals of 2R4 and Santa Rosa County. The complete set of plans include the following:

- Cover Sheet
- Drawing of Existing Facilities
- Airport Layout Plan (ALP)
- Terminal Area Plan
- Runway Protection Zone (RPZ) and Approach Profile Drawings
- Airport Airspace Drawing
- Existing Land Use Drawing
- Future Land Use Drawing

This chapter will present the drawings with a brief discussion of each. The ALP set is provided in conjunction with this report document and has been prepared according to the design requirements set forth in this document, the Federal Aviation Administration (FAA) Advisory Circulars and the *Florida Department of Transportation (FDOT) Guidebook for Airport Master Planning*.

10.1 COVER SHEET

The cover sheet (**Figure 10-1**) serves as an introduction to the ALP set. It includes the name of the Airport, a location map, vicinity map, and an index of drawings included in the ALP set.

10.2 DRAWING OF EXISTING FACILITIES

The drawing of existing facilities is a graphic representation, to scale, of the Airport in its current configuration (year 2002). This drawing shows all existing Airport facilities, their location, pertinent dimensions and clearance information and the runway and taxiway infrastructure. The Existing Airport Facilities Drawing is shown in **Figure 10-2**.

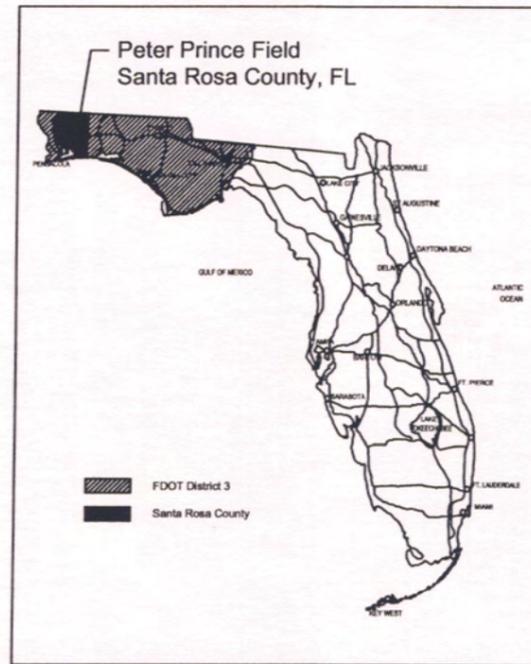
AIRPORT LAYOUT PLANS

PETER PRINCE AIRPORT MILTON, FLORIDA

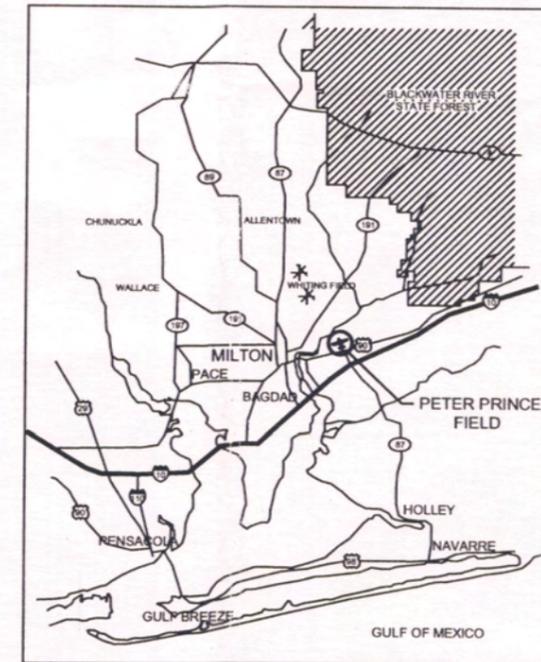
OPERATED BY



PREPARED BY



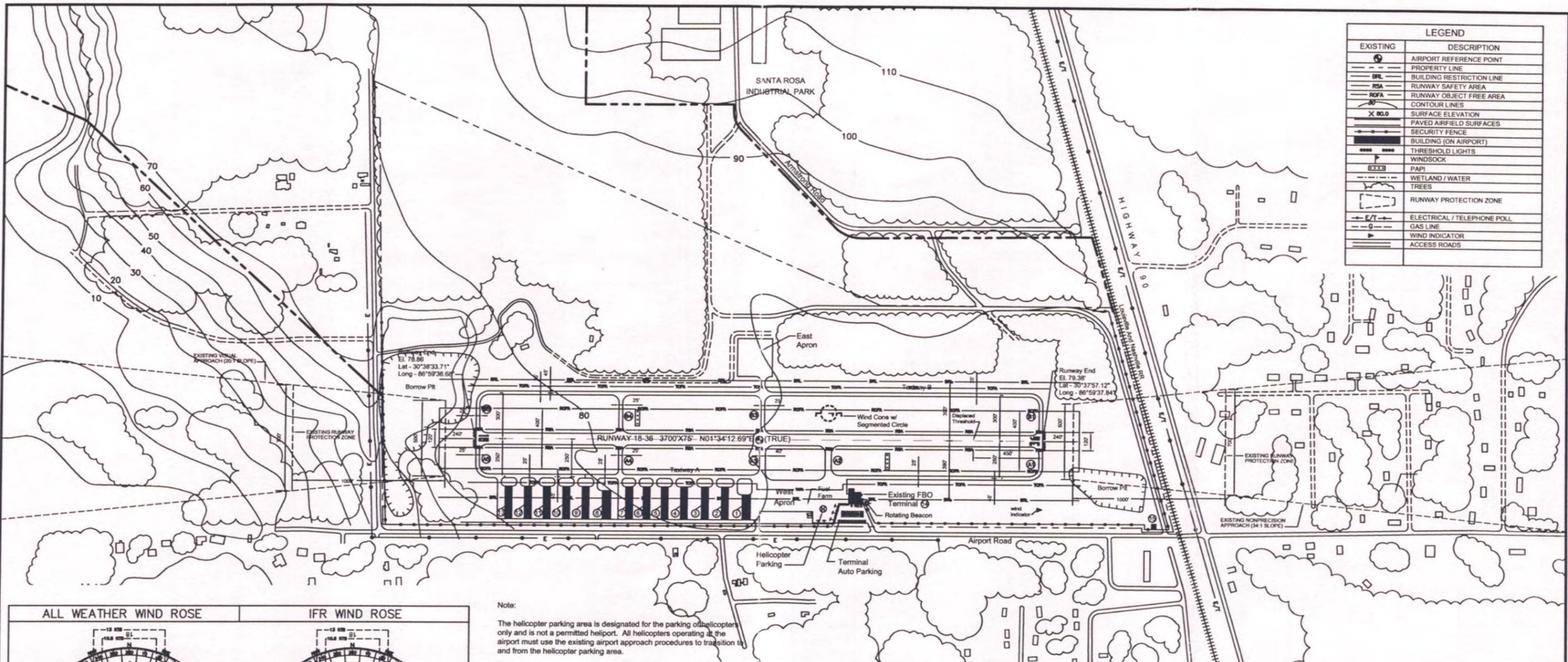
LOCATION MAP



VICINITY MAP

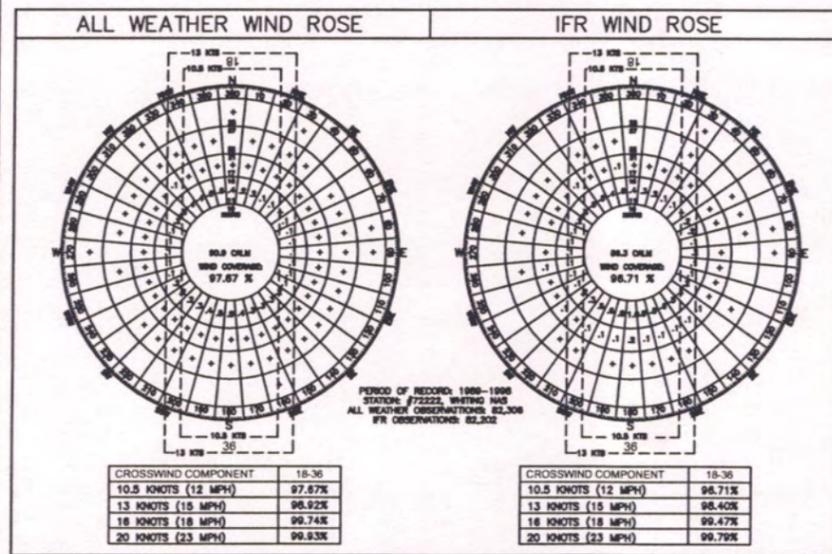
INDEX OF DRAWINGS

<u>TITLE</u>	<u>SHEET NO.</u>
EXISTING FACILITIES	1 OF 8
AIRPORT LAYOUT PLAN	2 OF 8
TERMINAL AREA PLAN	3 OF 8
APPROACH AND RUNWAY PROTECTION ZONE PLANS	4 OF 8
PART 77 AIRSPACE SURFACES	5 OF 8
EXISTING LAND USE PLAN WITH NOISE CONTOURS (2001)	6 OF 8
FUTURE LAND USE PLAN WITH NOISE CONTOURS (2021)	7 OF 8
AIRPORT PROPERTY MAP	8 OF 8



LEGEND	
EXISTING	DESCRIPTION
	AIRPORT REFERENCE POINT
	PROPERTY LINE
	BUILDING RESTRICTION LINE
	RUNWAY SAFETY AREA
	RUNWAY OBJECT FREE AREA
	CONTOUR LINES
	SURFACE ELEVATION
	PAVED AIRFIELD SURFACES
	SECURITY FENCE
	BUILDING (ON AIRPORT)
	THRESHOLD LIGHTS
	WINDSOCK
	PAPI
	WETLAND / WATER
	TREES
	RUNWAY PROTECTION ZONE
	ELECTRICAL / TELEPHONE POLL
	GAS LINE
	WIND INDICATOR
	ACCESS ROADS

Note:
The helicopter parking area is designated for the parking of helicopters only and is not a permitted heliport. All helicopters operating at the airport must use the existing airport approach procedures to transition to and from the helicopter parking area.

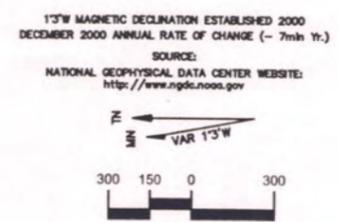


BUILDING DATA TABLE		
BLDG NO.	DESCRIPTION	TOP EL. (AMSL)
1	T HANGAR "A"	95.0'
2	T HANGAR "B"	95.0'
3	T HANGAR "C"	95.0'
4	T HANGAR "D"	95.0'
5	T HANGAR "E"	95.0'
6	T HANGAR "F"	95.0'
7	T HANGAR "G"	95.0'
8	CORPORATE HANGAR "H"	94.0'
9	T HANGAR "I"	94.0'
10	T HANGAR "J"	92.0'
11	T HANGAR "K"	91.0'
12	T HANGAR "L"	89.0'
13	T HANGAR "M"	88.0'
14	FBO TERMINAL BUILDING	98.0'
15	CIVIL AIR PATROL BUILDING	93.0'

RUNWAY DATA		
ITEM	RUNWAY 18/36	
	EXISTING	
RUNWAY CATEGORY (NPIAS)	B-1	
RUNWAY DIMENSIONS	3700' X 75'	
TRUE BEARING	N01°48'E	
EFFECTIVE GRADIENT (%)	<.02%	
PAVEMENT TYPE	ASPHALT	
PAVEMENT STRENGTH	12,500 LBS SW	
RUNWAY LIGHTING	MIRL	
RUNWAY MARKING	BASIC	
TAXIWAY LIGHTING	NONE	
NAVIGATIONAL AIDS	RW 18	RW 36
VISUAL AIDS	PAR AL THRESHOLD LIGHTS	PAR AL THRESHOLD LIGHTS
APPROACH SLOPE	20:1	34:1
RUNWAY END COORDINATES (NAD83 DATUM)	30°38'33.71" N 86°59'36.68" W	30°37'57.12" N 86°59'37.84" W
RUNWAY END ELEVATION	78.88	79.38

AIRPORT DATA	
ITEM	EXISTING
AIRPORT ELEVATION	82
AIRPORT REFERENCE POINT	
LATITUDE	30°38'15.44"
LONGITUDE	86°59'37.15" W
MEAN MAX. TEMP	81° F
AIRPORT ROLE (NPIAS)	GA
AIRCRAFT REFERENCE CODE	B-1
AIRPORT ACREAGE (FEE SIMPLE)	221.3 AC. ±
EASEMENTS	
MAGNETIC VARIATION	1°3' W
AIRPORT & TERMINAL NAVAIDS	ROTATING BEACON

NOTES:
THIS DOCUMENT WAS PREPARED FOR PLANNING PURPOSES ONLY AND IS NOT INTENDED FOR ANY OTHER USE.



REVISIONS	
DATE	DESCRIPTION

CLIENT
Santa Rosa County, Florida

PROJECT
Peter Prince Airport
MASTER PLAN UPDATE

SHEET TITLE
EXISTING AIRPORT
FACILITIES
DRAWING

PREPARED BY
PBSJ
NATIONAL AVIATION

482 South Keller Road
Orlando, Florida 32810-6101
TEL. (407) 647-7275
FAX. (407) 740-8710
www.pbsj.com

JOB NO.: 07-0286.53
DRAWN: RWO
DESIGN: JLM
CHECKED: JWM
DATE: 3/2003

Figure 10-2
SHEET 1 OF 8

10.3 AIRPORT LAYOUT PLAN

The ALP is the primary planning document for the Airport and is a graphic representation, to scale, of existing and proposed Airport facilities, their location, dimensional and clearance data, and the overall infrastructure of the Airport including runways, taxiways, and aprons. Additionally, FAA and FDOT officials refer to the ALP when considering grant applications for development assistance and off-airport development within the vicinity of the Airport.

The ALP was developed in accordance with the design criteria and guidelines contained in FAA Advisory Circular 150/5300-13, Change 6 "Airport Design" and *Florida Department of Transportation Guidebook for Airport Master Plans*. The information and analysis presented in Chapter 5, Design Criteria, discusses in detail the design requirements that pertain to 2R4 and have been incorporated into the ALP. It should be noted that an adaptation to standards has been indicated on this sheet in order to request FAA approval for penetrations to the Federal Aviation Regulation (FAR) Part 77 and encroachment to the building restriction line. **Figure 10-3** illustrates the ALP for 2R4.

10.4 TERMINAL AREA PLAN

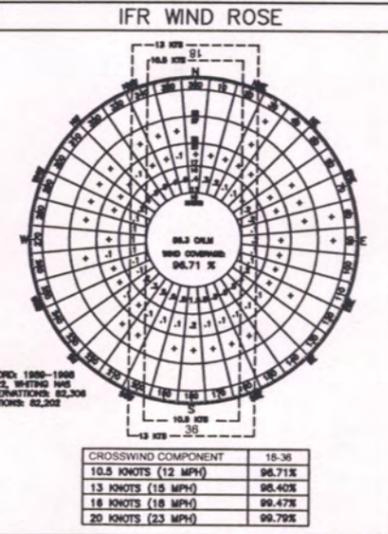
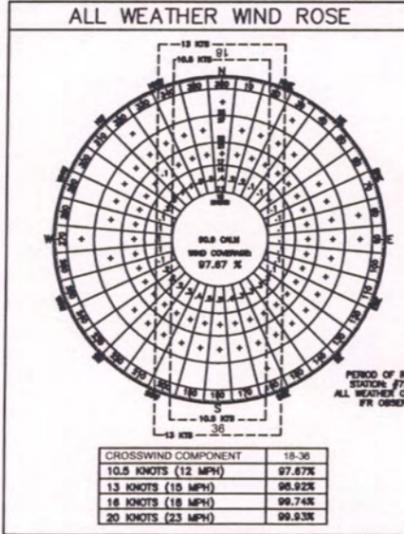
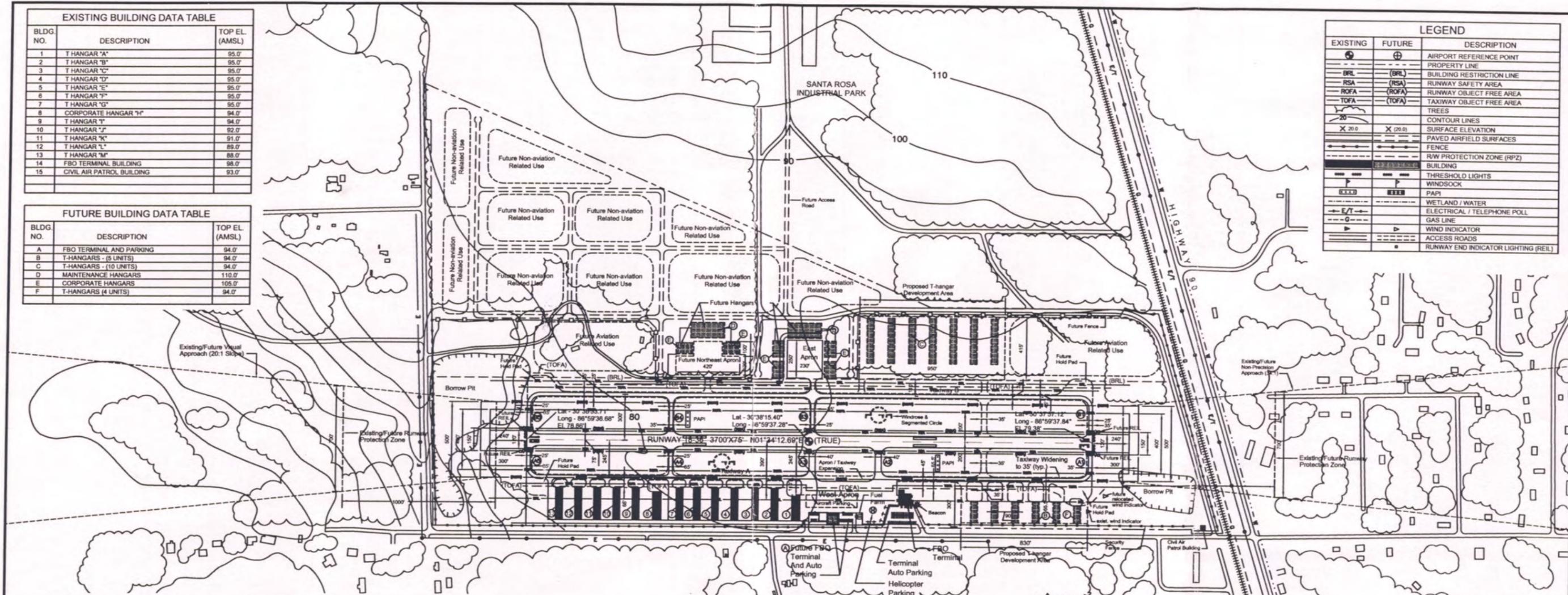
The Terminal Area Plan presents an enlarged area of the ALP at a scale of 1" = 30'. This plan denotes the short- and long-range developments and improvements affecting the FBO terminal and the adjacent apron, taxiway, and hangar areas. Plans to construct an entirely new terminal building northwest of the existing terminal facility have been incorporated into this sheet along with proposed parking and ground access improvements to the new facility. The plan also includes the proposed reconfiguration of Taxiway A to the east of the terminal which shall create additional apron utilization for parking transient and based aircraft parking near the proposed terminal facility. The taxiway object-free areas (TOFAs) and the building restriction line (BRL) are also indicated on this sheet. **Figure 10-4** illustrates the Terminal Area Plan for 2R4.

The Airport Layout Plan is the primary planning document for the Airport and is a graphic representation, to scale, of existing and proposed Airport facilities, their location, dimensional and clearance data, and the overall infrastructure of the Airport including runways, taxiways, and aprons.

EXISTING BUILDING DATA TABLE		
BLDG NO.	DESCRIPTION	TOP EL. (AMSL)
1	T HANGAR "A"	95.0'
2	T HANGAR "B"	95.0'
3	T HANGAR "C"	95.0'
4	T HANGAR "D"	95.0'
5	T HANGAR "E"	95.0'
6	T HANGAR "F"	95.0'
7	T HANGAR "G"	95.0'
8	CORPORATE HANGAR "H"	94.0'
9	T HANGAR "I"	94.0'
10	T HANGAR "J"	92.0'
11	T HANGAR "K"	91.0'
12	T HANGAR "L"	89.0'
13	T HANGAR "M"	88.0'
14	FBO TERMINAL BUILDING	98.0'
15	CIVIL AIR PATROL BUILDING	93.0'

FUTURE BUILDING DATA TABLE		
BLDG NO.	DESCRIPTION	TOP EL. (AMSL)
A	FBO TERMINAL AND PARKING	94.0'
B	T-HANGARS - (5 UNITS)	94.0'
C	T-HANGARS - (10 UNITS)	94.0'
D	MAINTENANCE HANGARS	110.0'
E	CORPORATE HANGARS	105.0'
F	T-HANGARS (4 UNITS)	94.0'

LEGEND		
EXISTING	FUTURE	DESCRIPTION
		AIRPORT REFERENCE POINT
		PROPERTY LINE
		BUILDING RESTRICTION LINE
		RUNWAY SAFETY AREA
		RUNWAY OBJECT FREE AREA
		TAXIWAY OBJECT FREE AREA
		TREES
		CONTOUR LINES
		SURFACE ELEVATION
		PAVED AIRFIELD SURFACES
		FENCE
		RW PROTECTION ZONE (RPZ)
		BUILDING
		THRESHOLD LIGHTS
		WINDSOCK
		PAPI
		WETLAND / WATER
		ELECTRICAL / TELEPHONE POLL
		GAS LINE
		WIND INDICATOR
		ACCESS ROADS
		RUNWAY END INDICATOR LIGHTING (REIL)



Note:
The helicopter parking area is designated for the parking of helicopters only and is not a permitted heliport. All helicopters operating at the airport must use the existing airport approach procedures to transition to and from the helicopter parking area.

13°W MAGNETIC DECLINATION ESTABLISHED 2000
DECEMBER 2000 ANNUAL RATE OF CHANGE (-7min Yr.)
SOURCE:
NATIONAL GEOPHYSICAL DATA CENTER WEBSITE:
<http://www.ngdc.noaa.gov>

NOTE:
THIS DOCUMENT WAS PREPARED FOR PLANNING PURPOSES ONLY AND IS NOT INTENDED FOR ANY OTHER USE.

CONSTRUCTION NOTICE REQUIREMENT
To protect operational safety and future development, all proposed construction on the airport must be coordinated by the airport owner with the FAA Airport District Office prior to construction. FAA's review takes approximately 60 days.

ITEM	RUNWAY DATA			
	RUNWAY 18/36		FUTURE	
	EXISTING	RW 18	RW 36	RW 36
RUNWAY CATEGORY (NPIAS)	GENERAL AVIATION	SAME		
RUNWAY DIMENSIONS (LENGTH x WIDTH)	3,700' X 75'	SAME		
TRUE BEARING	N 00°1'D48" TRUE	SAME		
EFFECTIVE GRADIENT (%)	<.02%	SAME		
PAVEMENT TYPE	ASPHALT	SAME		
PAVEMENT STRENGTH	SINGLE WHEEL 12,500 LBS	SINGLE WHEEL 22,000 LBS		
RUNWAY LIGHTING	MIRL	SAME		
RUNWAY MARKING	VISUAL	NON-PRECISION		
TAXIWAY LIGHTING	LITL	LITL		
AIRCRAFT REFERENCE CODE	B-I	B-II		
DESIGN AIRCRAFT	CESSNA 310	JETSTREAM 31		
FAR PART 77 APPROACH CATEGORY	NON-PRECISION	SAME		
NAVIGATIONAL AIDS	NONE	GPS	SAME	ASR/GPS
VISUAL AIDS	PAPI, THRESHOLD LIGHTS	PAPI, THRESHOLD LIGHTS, REL	PAPI, THRESHOLD LIGHTS, REL	PAPI, THRESHOLD LIGHTS, REL
APPROACH SLOPE	20:1	34:1	SAME	SAME
RUNWAY END COORDINATES (NAD83 DATUM)	LAT - 30° 38' 33.71" LONG - 86° 59' 37.28"	LAT - 30° 37' 51.12" LONG - 86° 59' 37.24"	SAME	SAME
RUNWAY END ELEVATION	78.86'	79.35'	SAME	SAME
APPROACH VISIBILITY MINIMUMS	VISUAL	> 1 MILE	SAME	SAME

AIRPORT DATA		
ITEM	EXISTING	FUTURE
AIRPORT ELEVATION	82	SAME
AIRPORT REFERENCE POINT		SAME
LATITUDE	30° 38' 15.40"	SAME
LONGITUDE	86° 59' 37.28"	SAME
MEAN MAX. TEMP (HOTTEST MO.)	81°F	SAME
AIRPORT SERVICE LEVEL (NPIAS)	GENERAL AVIATION	SAME
AIRPORT ROLE (NPIAS)	GENERAL AVIATION	SAME
AIRCRAFT REFERENCE CODE	B-I	B-II
AIRPORT ACREAGE		
FEE SIMPLE	221.37 AC. ±	SAME
EASEMENTS	0	0
MAGNETIC VARIATION	1°3'W	
AIRPORT & TERMINAL NAVAIDS	BEACON, SUPER UNICOM	SAME

ADAPTATION TO AIRPORT DESIGN STANDARDS		
DESCRIPTION OF MODIFICATION ITEM	REQUIRED STANDARD / ACTION	DATE OF MODIFICATION APPROVAL
N/A	N/A	N/A

REVISIONS	
DATE	DESCRIPTION

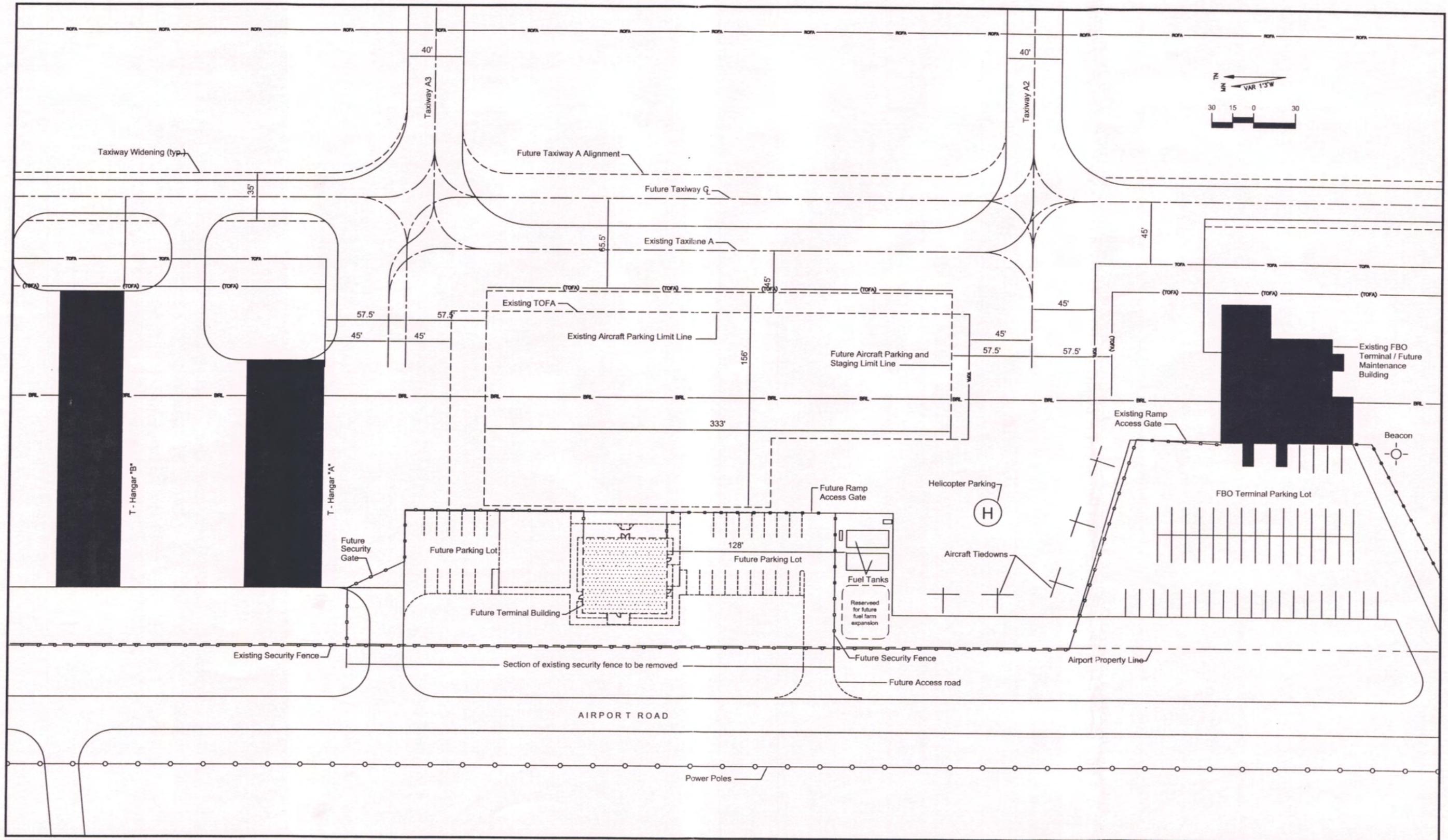
CLIENT
Santa Rosa County, Florida

PROJECT
Peter Prince Airport
MASTER PLAN UPDATE

SHEET TITLE
AIRPORT LAYOUT
PLAN

PREPARED BY
PBSJ
NATIONAL AVIATION
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FAX. (407) 740-8710
www.pbsj.com

JOB NO.: 07-0286.53
DRAWN: RWO
DESIGN: JLM
CHECKED: JWM
DATE: 3/2003
Figure 10-3
SHEET 2 OF 8



REVISIONS	
DATE	DESCRIPTION

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Santa Rosa County, Florida



PROJECT

Peter Prince Airport
MASTER PLAN UPDATE

SHEET TITLE

TERMINAL AREA
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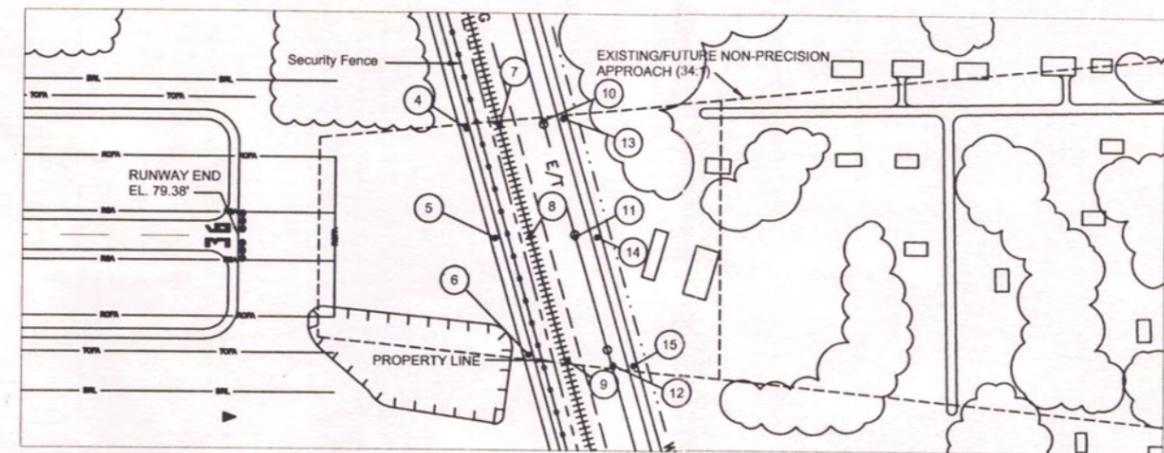
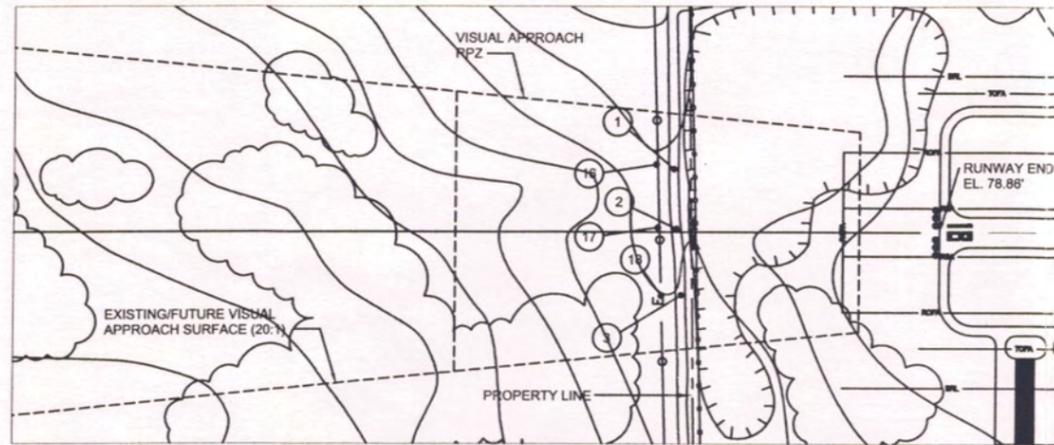
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DRAWN: RWO
DESIGN: JLM
CHECKED: JWM
DATE: 3/2003

Figure 10-4

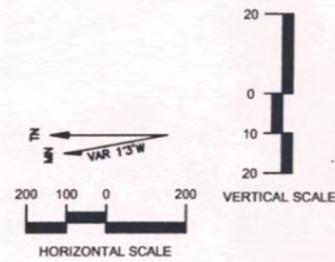
SHEET 3 OF 8

10.5 RPZ AND APPROACH PROFILE DRAWING

The RPZ and Approach Profile drawing shows both plan and profile views for each runway's RPZ and approaches as shown on the ALP. The purpose of these plans is to locate and document existing objects, which represent obstructions to navigable airspace and the existing and proposed approach slopes for each runway. Additionally, the drawing shows the ground profile and terrain features along the extended centerline at each runway end. The Inner Portion of the Approach Surface Drawing is shown in **Figure 10-5**.

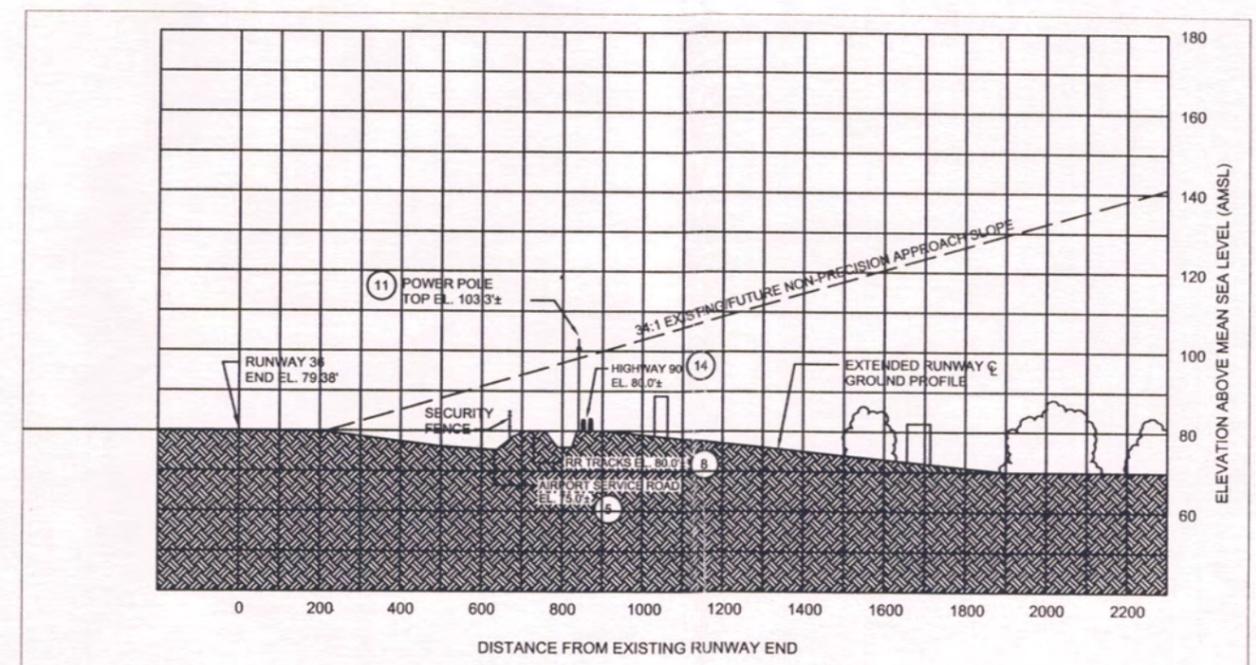
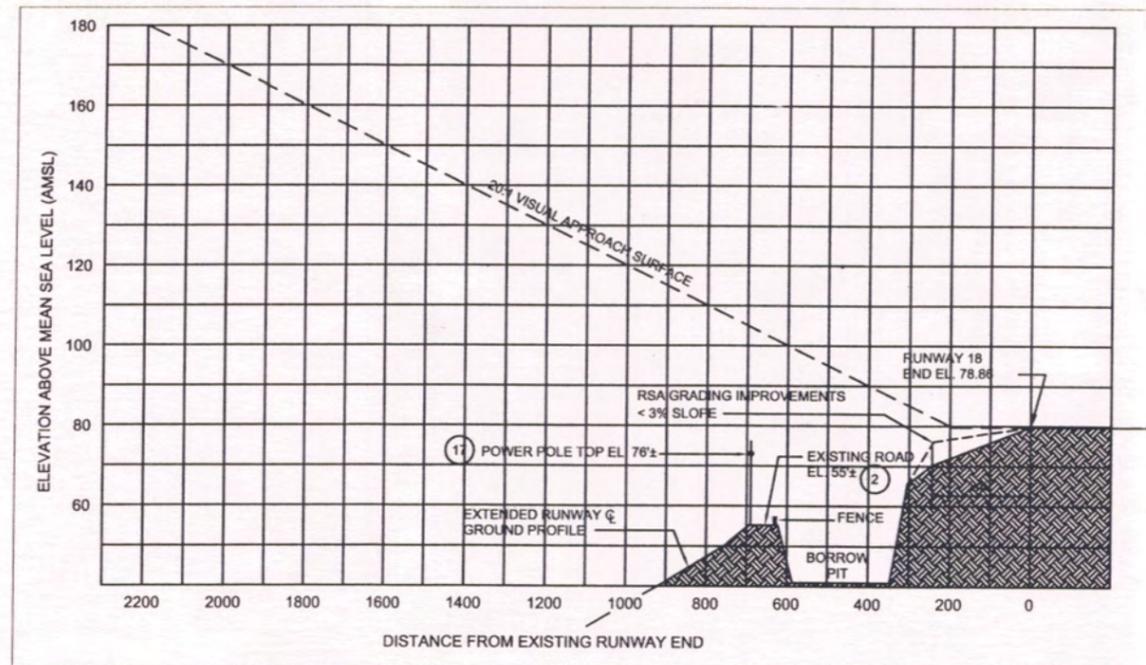


RUNWAY 18-36 PLAN VIEW



APPROACH SURFACE CLEARANCE TABLE											
KEY #	DESCRIPTION	ELEV. (A.M.S.L.)	REQUIRED CLEARANCE	APPROACH CLEARANCE	REQUIRED ACTION	KEY #	DESCRIPTION	ELEV. (A.M.S.L.)	REQUIRED CLEARANCE	APPROACH CLEARANCE	REQUIRED ACTION
1	ROAD	57.0±	15.0'	54.3±	NONE	11	POWER POLES	103.3±	> 0.0'	-4.8±	OBS LIGHT
2	ROAD	52.0±	15.0'	59.36'	NONE	12	POWER POLES	103.3±	> 0.0'	-2.5±	OBS LIGHT
3	ROAD	49.0±	15.0'	61.8±	NONE	13	S.R. 90	80.0±	15.0'	17.8±	NONE
4	AIRPORT SERVICE ROAD	75.0±	10.0'	14.7±	NONE	14	S.R. 90	80.0±	15.0'	18.5±	NONE
5	AIRPORT SERVICE ROAD	75.0±	10.0'	16.8±	NONE	15	S.R. 90	80.0±	15.0'	23.1±	NONE
6	AIRPORT SERVICE ROAD	75.0±	10.0'	19.4±	NONE	16	POWER POLES	86.0±	> 0.0'	45.8±	NONE
7	RAILROAD TRACKS	80.0±	23.0'	14.1±	OBS LIGHT	17	POWER POLES	76.0±	> 0.0'	50.8±	NONE
8	RAILROAD TRACKS	80.0±	23.0'	14.9±	OBS LIGHT	18	POWER POLES	70.0±	> 0.0'	53.8±	NONE
9	RAILROAD TRACKS	80.0±	23.0'	17.0±	OBS LIGHT						
10	POWER POLES	103.3±	> 0.0'	-7.8±	OBS LIGHT						

NOTE:
ALL ELEVATIONS SHOWN ARE ABOVE MEAN SEA LEVEL (AMSL)



RUNWAY 18-36 PROFILE VIEW

REVISIONS	
DATE	DESCRIPTION

CLIENT
Santa Rosa County, Florida



PROJECT
Peter Prince Airport
MASTER PLAN UPDATE

SHEET TITLE
INNER PORTION OF
THE APPROACH
SURFACE DRAWING

PREPARED BY
PBS&J
NATIONAL AVIATION

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JOB NO.: 07-0286 53
DRAWN: RWO
DESIGN: JLM
CHECKED: JWM
DATE: 3/2003

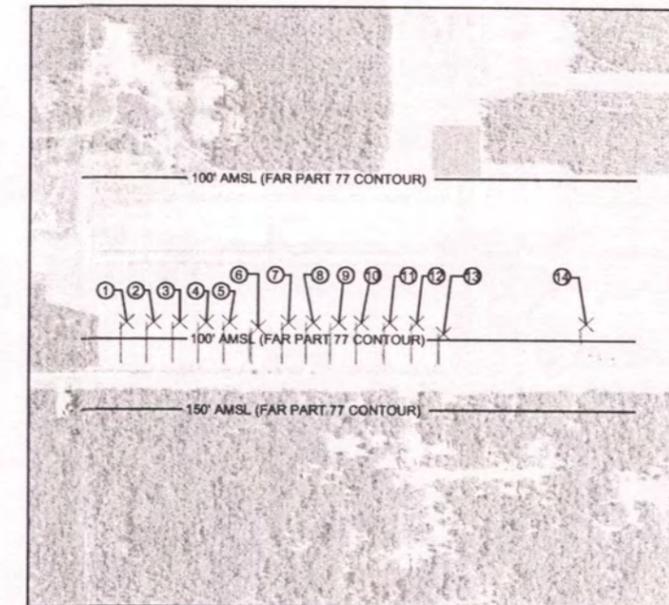
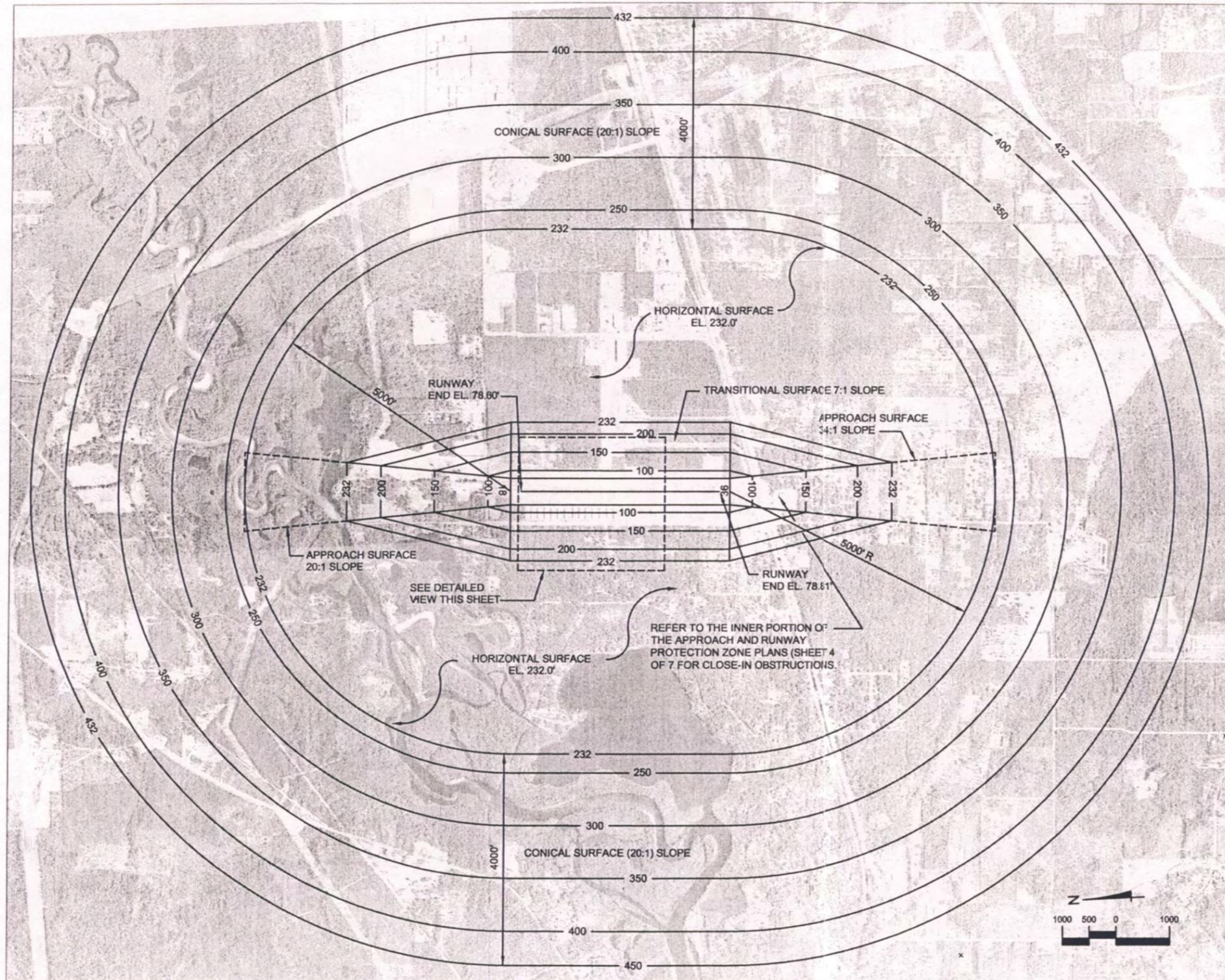
Figure 10-5
SHEET 4 OF 8

10.6 AIRPORT AIRSPACE DRAWING

FAR Part 77, "Objects Affecting Navigable Airspace," prescribes airspace standards, which establish criteria for evaluating navigable airspace. Airport imaginary surfaces are established relative to the airport and runways. The size of each imaginary surface is based on the runway category with respect to the existing and proposed visual, non-precision, or precision approaches for that runway. The slope and dimensions of the respective approach surfaces are determined by the most demanding, existing or proposed, approach for each runway. The imaginary surfaces definitions include:

- Primary Surface – A rectangular area symmetrically located about the runway centerline and extending a distance of 200 feet beyond each runway threshold. Its elevation is the same as that of the runway.
- Horizontal Surface – An oval shaped, flat area situated 150 feet above the published airport elevation. Its dimensions are determined by using 10,000-foot arcs (centered 200 feet beyond each runway end) connected with a line tangent to those arcs. The horizontal surface elevation for 2R4 is 239 feet above mean sea level (AMSL).
- Conical Surface – A sloping area whose inner perimeter conforms to the shape of the horizontal surface. It extends outward for a distance of 4,000 feet measured horizontally, and slopes upward at 20:1. 2R4's conical surface extends upward to an elevation of 539 feet AMSL.
- Transitional Surface – There are three different transitional surfaces. The first is off the sides of the primary surface, the second is off the sides of the approach surface, and the last is outside the conical surface and pertains to precision runways only. All transitional surfaces have slopes of 7:1 that are measured perpendicular to the runway centerline.
- Approach Surface – This surface begins at the ends of the primary surface and slopes upward at a predetermined ratio while at the same time flaring out horizontally. The width and elevation of the inner ends conform to that of the primary surface, while the slope, length, and outer width are determined by the runway service category and existing or proposed instrument approach procedures.

Existing objects, which penetrate the above Part 77 surfaces, are tabulated on the Airport Airspace Drawing. The obstruction table presented on the airspace drawing contains data on the object elevation, elevation of the imaginary surface, and any action to be taken to mitigate the penetration. **Figure 10-6** shows the Part 77 Airspace Surfaces for 2R4.



DETAILED VIEW
SCALE: 1" = 400'

OBSTRUCTION TABLE				
OBSTRUCTION IDENTIFIER	DESCRIPTION	TOP EL. (AMSL)	PENETRATION	ACTION
1	T-HANGAR "M"	88.0'	-.4'	NONE REQ.
2	T-HANGAR "L"	89.0'	.6'	OBS LIGHT
3	T-HANGAR "K"	95.0'	6.6'	OBS LIGHT
4	T-HANGAR "J"	92.0'	3.6'	OBS LIGHT
5	T-HANGAR "I"	94.0'	5.6'	OBS LIGHT
6	CORPORATE HANGAR "H"	94.0'	2.1'	OBS LIGHT
7	T-HANGAR "G"	95.0'	6.6'	OBS LIGHT
8	T-HANGAR "F"	95.0'	6.6'	OBS LIGHT
9	T-HANGAR "E"	95.0'	6.6'	OBS LIGHT
10	T-HANGAR "D"	92.0'	3.6'	OBS LIGHT
11	T-HANGAR "C"	91.0'	2.6'	OBS LIGHT
12	T-HANGAR "B"	89.0'	.6'	OBS LIGHT
13	T-HANGAR "A"	95.0'	-.9'	NONE REQ.
14	FBO TERMINAL	98.0'	9.6'	OBS LIGHT

NOTE:

OBSTRUCTION DATA WAS OBTAINED FROM THE F.D.O.T. OBSTRUCTION DATABASE AND THE DIGITAL AERONAUTICAL INFORMATION (DAI) FILE PRODUCED BY THE F.A.A. A TOTAL OF 23 OBSTRUCTIONS WERE LOCATED WITHIN A ONE MILE RADIUS OF THE AIRPORT, HOWEVER, NONE OF THE OBSTRUCTIONS IDENTIFIED LIE WITHIN THE FAR PART 77 SURFACE OF PETER PRINCE AIRPORT.

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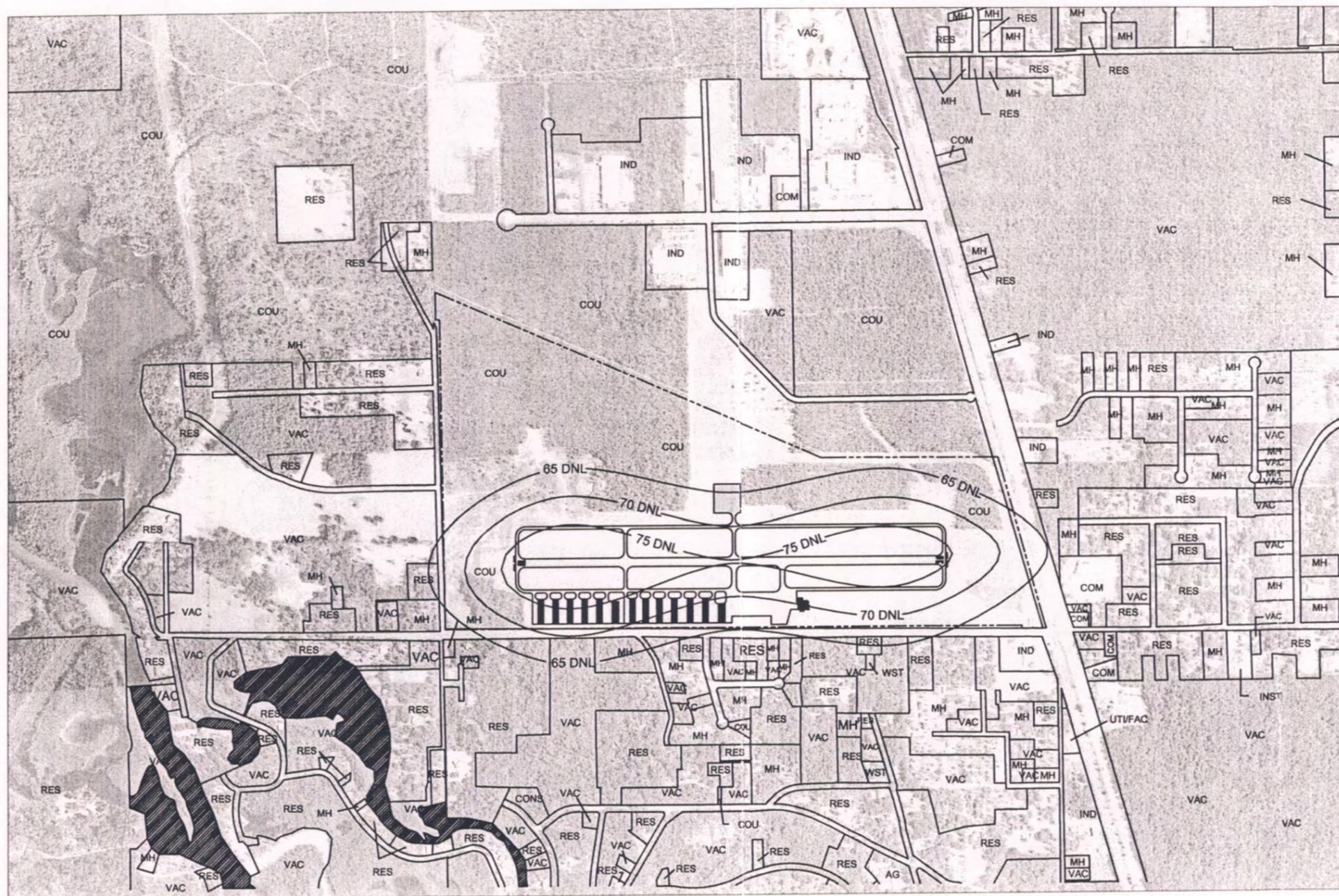
SHEET TITLE
PART 77 AIRSPACE
SURFACES

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Figure 10-6
SHEET 5 OF 8

10.7 LAND USE PLANS

The land use drawings, Existing Land Use Plan with Noise Contours (2001) (**Figure 10-7**) and Proposed Land Use Plan with Noise Contours (2021) (**Figure 10-8**), depict the existing and future land use of all land in and within the vicinity of the Airport. The utilization of this land is represented by several use categories, which are labeled in the legend of each drawing. The land use plans have been developed through coordination with Santa Rosa County to include existing city plans and ensure accuracy. Additionally, the existing (2001) and future (2021) noise contours from Chapter 8, Environmental Overview, have been superimposed on the appropriate drawing. This will give local authorities guidance and help to ensure appropriate aviation-compatible zoning is maintained in the future.



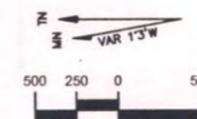
LEGEND

DNL - DAY / NIGHT SOUND LEVEL CONTOURS

LAND USE CODES

- AG - AGRICULTURAL
- COM - COMMERCIAL
- CONS - CONSERVATION
- COU - COUNTY
- IND - INDUSTRIAL
- MH - MOBILE HOMES
- RES - RESIDENTIAL
- STA - STATE
- UTIFAC - PUB & PRIVATE UTILITIES AND FAC.
- VAC - VACANT
- WST - WASTE

SOURCE: SANTA ROSA COUNTY GIS DEPARTMENT



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PROJECT

Peter Prince Airport
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SHEET TITLE

EXISTING LANDUSE
PLAN WITH NOISE
CONTOURS (2001)

PREPARED BY

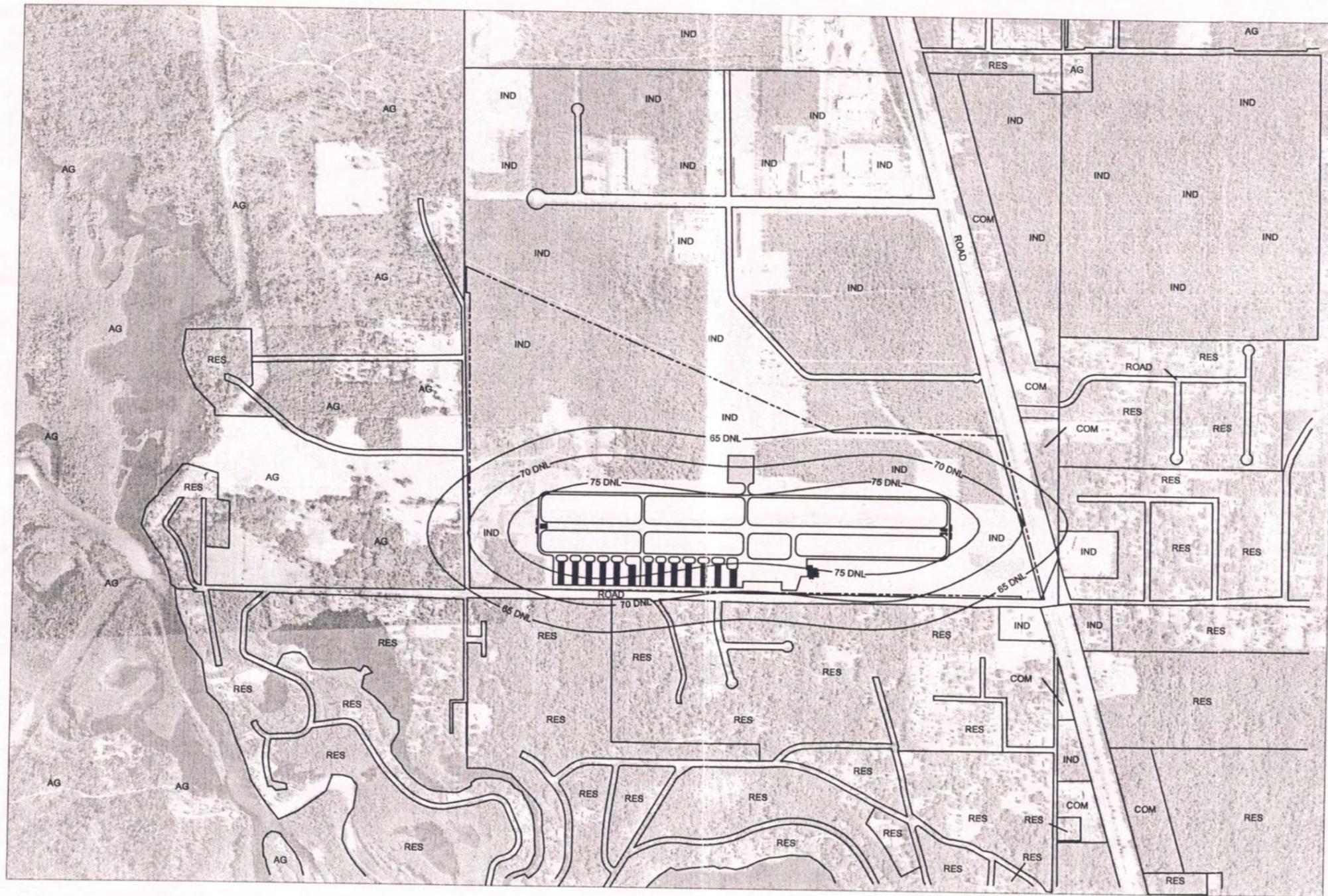


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Figure 10-7

SHEET 6 OF 8



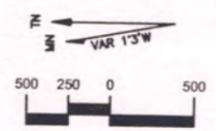
LEGEND

DNL - DAY / NIGHT SOUND LEVEL CONTOURS

LAND USE CODES

- AG - AGRICULTURAL
- COM - COMMERCIAL
- CONS - CONSERVATION
- HIS - HISTORICAL
- IND - INDUSTRIAL
- MUN - MUNICIPAL
- RES - RESIDENTIAL
- RES - RESIDENTIAL
- ROAD - ROAD

SOURCE: SANTA ROSA COUNTY GIS DEPARTMENT



REVISIONS	
DATE	DESCRIPTION

CLIENT
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PROJECT
 Peter Prince Airport
 MASTER PLAN UPDATE

SHEET TITLE
 FUTURE LAND USE
 PLAN WITH NOISE
 CONTOURS (2021)

PREPARED BY

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 CHECKED: JWM
 DATE: 3/2003

Figure 10-8

CHAPTER 11 FINANCIAL FEASIBILITY AND PLAN IMPLEMENTATION

Peter Prince Airport

11.1 INTRODUCTION

The purpose of this chapter is to analyze Peter Prince Airport's (2R4) historical and projected revenue and expenditures and determine whether it is financially viable to implement the Airport Master Plan's capital improvement program (CIP). The objective of this updated financial analysis is twofold:

- Estimate the capital and operating costs for the various components that comprise the capital improvement program (CIP).
- Determine if it is feasible for the Airport to generate sufficient revenues to repay capital and operating costs.

In order to achieve these objectives, several subtasks were performed:

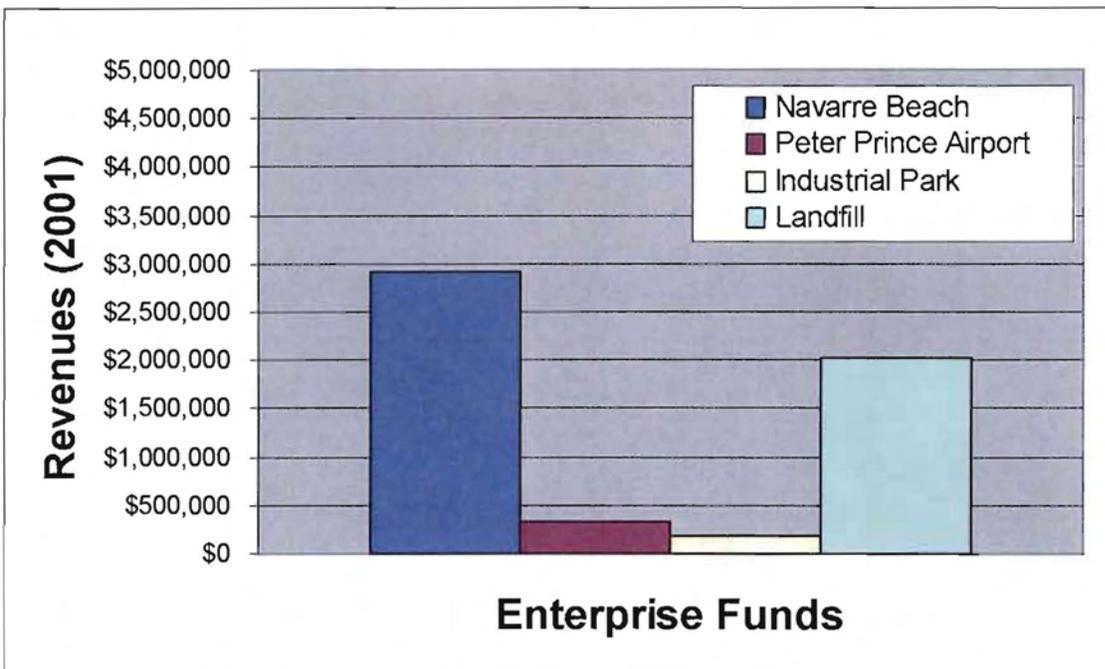
- Projections of potential operating revenues
- Comparison of operating revenues with capital and operating costs
- Identification of funding shortfalls
- Identification of potential additional funding sources

11.2 PETER PRINCE AIRPORT – AN ENTERPRISE FUND

The Airport is one of several independent funds managed by Santa Rosa County as Enterprise Funds. Enterprise Funds account for operations (a) that are financed and operated in a manner similar to private business enterprises -- where the intent of the governing body is that the costs of providing goods services to the general public on a continuing basis are financed or recovered primarily through user charges; or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes. Enterprise Funds are established for operations that the county chooses to account for as though they were private enterprises. An Enterprise Fund is established because an operation is expected to cover its own expenses (including depreciation expense) through user fees and charges or because the county believes it is necessary to account for income and capital maintenance associated with the operation. The basis of budgeting for these funds is full accrual. Santa Rosa County has a total of four

Enterprise Funds, as shown in **Figure 11-1**. The Airport is the third largest Enterprise Fund, accounting for 6.23 percent (\$340,300.00) of total Enterprise revenues for Santa Rosa County, as reported October 2001.

Figure 11-1
Peter Prince Airport Master Plan Update
Santa Rosa County Enterprise Funds



Source: Santa Rosa County and PBS&J, 2002

11.3 PROJECT DEVELOPMENT COST VERSUS POTENTIAL REVENUES

As derived from the selected development alternative, depicted on the Airport Layout Plan (ALP), and presented in the cost estimate and phasing plan, Chapter 9, *Cost Estimates, Construction Phasing and Capital Improvement Program*, the development costs in current dollars (2001) are summarized in **Table 11-1**. The totals presented will be balanced against the projected revenue for the Airport to identify the overall feasibility of the development program.

Table 11-1
Peter Prince Airport Master Plan Update
Summary of Estimated Project Costs – Selected Alternative
(2001 Dollars)

Development Period	Total	Federal	State	Local
Short-Term (2002– 2006)	\$ 4,348,550	\$ 1,976,422	\$ 1,186,064	\$ 1,186,064
Medium – Term (2007 – 2011)	\$ 6,592,122	\$ 1,632,881	\$ 2,479,621	\$ 2,479,620
Long-Term (2012 – 2021)	\$ 12,904,797	\$ 3,524,587	\$ 4,690,105	\$ 4,690,105
Total Development Costs	\$ 23,845,468	\$ 7,133,890	\$ 8,355,790	\$ 8,355,789

Source: PBS&J, 2002

11.3.1 HISTORICAL AIRPORT FINANCIAL STATEMENTS, 1996 – 2001

11.3.1.1 Revenue Sources

The Airport receives revenues from a variety of sources. **Table 11-2** provides the basis of income from the Airport's various revenue sources as reported by the Santa Rosa County Annual Budget, Actual Funds Fiscal Year (FY) 2001. Revenues from federal and state grants have been removed to illustrate operating revenues only.

Table 11-2
Peter Prince Airport Master Plan Update
Revenue Sources

Type Revenue	Revenue Source	Revenue (2001)	Percent of Total Revenue
Airport	Rent and Royalties	\$ 164,900	94.39%
	Miscellaneous Revenue	\$ 9,800	5.61%
Non Airport	Other Source	\$ 0	0.00%
	Total:	\$ 174,700	100.00%

Source: Santa Rosa County, 2002

As shown above, Airport-generated revenues account for 94.39% of total revenues, with hangar rentals (T-hangars) historically being the sole revenue source. The non-airport revenues come from interest income. No subsidies or contributions have been given to the Airport from the county's general fund but are available if need to help fund capital improvement projects. This is a clear

indication the Airport has not been dependent upon non-airport revenue sources for anything other than large capital improvements and other projects that are eligible for state and federal funding.

11.3.1.2 Expenses

Airport expenses essentially consist of operating expenses, capital outlay, reserves, and other financing uses. **Table 11-3** shows the Airport's expenses before depreciation for FY 2001, as reported in the Santa Rosa County Annual Budget, Actual Funds Fiscal Year (FY) 2001, by expense type. Depreciation has not been included in order to illustrate operating expenditures and cash outlays only.

Table 11-3
Peter Prince Airport Master Plan Update
Expenditures

Type	Expenditure	2001	Percent of Total
Operating Expense	Professional Services	\$ 65,386	85.44%
	Utility Services	\$ 6,633	8.67%
	Insurance and Bonds	\$ 0	0.00%
	Repair and Maintenance	\$ 3,089	4.04%
Capital Outlay	Buildings	\$ 0	0.00%
	Improvements other than Bldgs.	\$ 1,422	1.85%
	Equipment	\$ 0	0.00%
Other	To Road and Bridge Fund	\$ 0	0.00%
Reserves	Contingencies	\$ 0	0.00%
	Total:	\$ 76,530	100.00%

Source: Santa Rosa County, 2002

11.4 HISTORICAL AIRPORT FINANCIAL STATEMENTS, 1997 – 2001

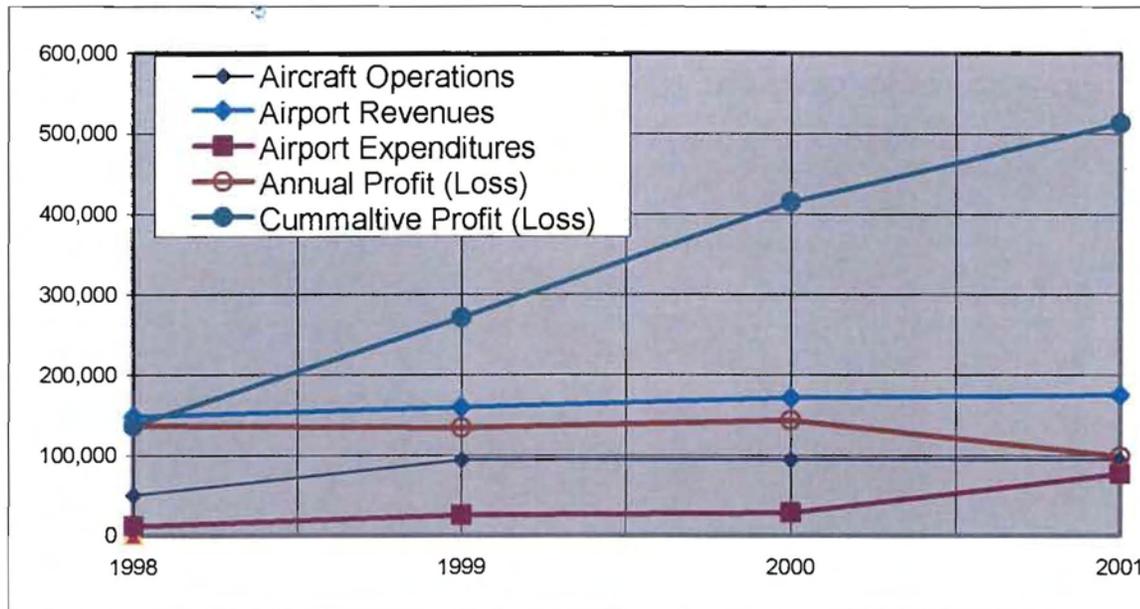
During the period cited, operating revenues exceeded operating expenditures for the years 1997 through 2001. From 1998 to 2001, revenues and expenditures increased approximately 18 percent and 672 percent, respectively. This is mostly due to increases in hangar rental fees as well as significant increases in expenses for 2001 from professional services fees. **Table 11-4** and **Figure 11-2** depict the historical analysis of key aviation indicators, revenues, expenses, and profits and losses before depreciation.

Table 11-4
Peter Prince Airport Master Plan Update
Historical Analysis of Airport Revenues and Expenditures

Year	Aircraft Operations	Airport Revenues	Airport Expenditures	Ratio of Revenues to Expenditures	Annual Profit (Loss)	Cumulative Profit (Loss)
1998	50,050	\$147,958	\$11,373	13.01	\$136,585	\$136,585
1999	93,950	\$159,632	\$25,323	6.30	\$134,309	\$270,894
2000	93,950	\$171,148	\$27,805	6.16	\$143,343	\$414,237
2001	93,950	\$174,700	\$76,530	2.28	\$98,170	\$512,407

Source: Santa Rosa County and PBS&J, 2002

Figure 11-2
Peter Prince Airport Master Plan Update
Historical Analysis of Airport Revenues and Expenditures



11.5 PROJECTED REVENUE FORECAST ANALYSIS 2001 – 2021

Based upon the historical trend analysis discussed previously, a trend analysis projection to 2021 was conducted. Airport lease records indicate that the average lease is renewed every five years, 15 years for the FBO, with an annual

yearly escalator for each lease tied to the Consumer Price Index (CPI). From 1995 to 2000 the average annual national CPI rate increased 2.3 percent per year. Maintaining this conservative escalating factor throughout the forecast period, projected revenues and expenses for the Airport can be forecasted. These figures are based on the current individual leaseholds with the Airport, and assume the leases are renewed upon expiration by the existing tenants or with new tenants assuming the vacated leases.

Based upon future development as proposed by this study, a projection of each revenue source was conducted. Aviation leases and rents are predicted to increase as the Airport develops the southwest and southeast T-hangar and east and northeast corporate/conventional hangar aviation areas. It is assumed that development begins by 2003, and proceeds as identified in the CIP in Chapter 9. Based on a current average T-hangar rental rate of \$170, an annual land lease rate of \$0.225 per square foot or \$9,801 per acre, and a 90 percent occupancy of the previously mentioned aviation development areas, as well as existing lease areas, potential annual revenues of all aviation hangar and land leases could exceed \$875,000 by 2021. A similar revenue projection was conducted for the non-aviation commercial areas as well. Assuming the proposed Commerce Park (50 acres) areas to the northeast of the Airport are 90 percent leased at a per acre lease rate of \$9,801 by 2021, annual non-aviation lease revenues could exceed \$440,000 annually.

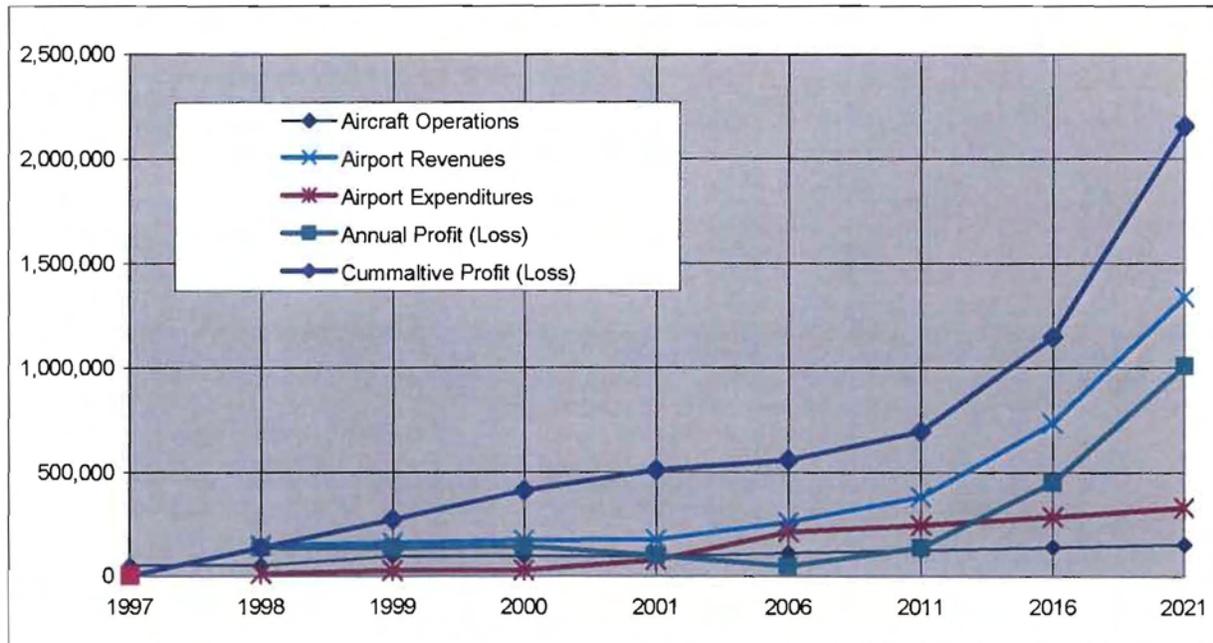
As can be seen in **Table 11-5** and **Figure 11-3**, revenues will continue to exceed expenditures as activity at the Airport continues to increase as forecast. Revenues for 2R4 will continue to be derived mostly from building leases and fuel flowage fees until existing undeveloped land areas are improved and subsequently leased for aviation and non-aviation uses.

Table 11-5
Peter Prince Airport Master Plan Update
Forecast of Airport Revenues and Expenditures
Selected Development Alternative

	Year	Aircraft Operations	Airport Revenues	Airport Expenditures	Ratio Rev/Exp	Annual Profit (Loss)	Cumulative Profit (Loss)
Historical	1998	50,050	\$147,958	\$11,373	13.01	\$136,585	\$136,585
	1999	93,950	\$159,632	\$25,323	6.30	\$134,309	\$270,894
	2000	93,950	\$171,148	\$27,805	6.16	\$143,343	\$414,237
	2001	93,950	\$174,700	\$76,530	2.28	\$98,170	\$512,407
Forecast	2006	111,162	\$258,647	\$211,784	1.22	\$46,862	\$559,269
	2011	123,869	\$381,814	\$245,516	1.56	\$136,298	\$695,567
	2016	137,456	\$736,326	\$284,620	2.59	\$451,706	\$1,147,273
	2021	151,482	\$1,339,480	\$329,953	4.06	\$1,009,527	\$2,156,800

Source: Santa Rosa County and PBS&J, 2002

Figure 11-3
Peter Prince Airport Master Plan Update
Forecast of Airport Revenues and Expenditures
Selected Development Alternative



11.6 COMPARISON OF REVENUE RATES & CHARGES

To evaluate whether 2R4 is charging tenants and itinerant operators reasonable fees, a comparison with national averages and general aviation (GA) airports in Florida was conducted. The data for this analysis was obtained from the American Association of Airport Executives (AAAE) 1999/2000 Airport Rates and Charges Survey (March 2001). This survey, conducted every two years, is a comprehensive survey of 360 airports nationwide, 111 of which were GA airports. Eight Florida GA airports participated in the survey as well. **Table 11-6** compares 2R4's rates and charges by standard industry categories compared to GA airports nationwide and in Florida.

Looking at **Table 11-6**, Florida Airports and 2R4 are well below the national average in landing fees (per 1,000 pounds per gross landing weight and per operation) and fixed based operators (FBO) operations. Most GA airports in Florida, including 2R4, do not charge landing fees for two primary reasons: most GA airports do not service aircraft large enough to impose landing fees; and the competitive Florida market requires each airport to weigh imposing landing fees against losing business. Due to the small aircraft that 2R4 serves, landing fees are not anticipated over the planning period. However, if future airfield improvements to accommodate larger corporate and cargo aircraft were completed, landing fees may become feasible and should be reevaluated.

The ground charges (improved and unimproved) for FBO rental fees at 2R4 appear to be slightly higher than the Florida average. However, most Florida airports are below the national average due to competitive environments. Fuel flowage fees paid to the county by the FBO are below the Florida average and well below the national average.

2R4's tie-down and hangar fees compared to Florida and the national average vary. Although it appears 2R4 is well above the Florida and national average for large hangar rentals, the Airport does not currently charge a tie-down fee and the T-hangar rental rates are well below the Florida and national averages. Therefore, establishing a tie-down fee, especially for transient aircraft, should be implemented at the Airport. Additionally, revaluation of T-hangar fees may be warranted, as T-hangar space is highly desired by aircraft owners. Overall the State of Florida and airports cannot afford to fund sufficient T-hangars to meet demand. For all new T-hangars coming online in the future, 2R4 should charge T-hangar fees at the level the market would bear. The large hangar rate is well above the Florida and national rates by more than 43 percent and is likely influenced by local factors.

Table 11 - 6
Peter Prince Airport Master Plan Update
General Aviation Airport Statistics

	National	Florida	Peter Prince
Landing Fees (per 1,000 GLW)			
Average landing fee for general aviation revenue flights	\$2.50	\$0.00	\$0.00
Average landing fee for general aviation non-revenue flights	\$1.13	\$0.00	\$0.00
Landing Fees (per flight/minimum fee)			
Average landing fee for general aviation revenue flights	\$11.61	\$0.00	\$0.00
Average landing fee for general aviation non-revenue flights	\$13.27	\$0.00	\$0.00
Fixed Based Operations			
Average FBO unimproved ground rental fee (\$/sq ft/yr)	\$0.35	\$0.19	\$0.45
Average FBO improved ground rental fee (\$/sq ft/yr)	\$1.46	\$0.21	\$1.00
Average fuel flowage fee	\$0.07	\$0.04	\$0.02
Hangars & Tiedowns			
Average monthly tiedown	\$54.05	\$79.00	\$0.00
Average daily transient aircraft tiedown	\$7.69	\$8.83	\$0.00
Average monthly T-hangar rate	\$203.80	\$262.83	\$170.00
Average monthly large hangar rate	\$463.30	\$516.67	\$900.00
Average monthly large hangar rate for narrow/wide body jet	\$1,334.74	\$525.00	N/A
Terminal Building Rates			
Average rental rate for counter space (\$/sq ft/yr)	\$21.85	\$15.50	N/A
Average rental rate for passenger office space (\$/sq ft/yr)	\$11.98	\$9.73	N/A
Average rental rate for cargo office space (\$/sq ft/yr)	\$10.80	\$0.00	N/A
Airport Revenues/Expenses per General Aviation Operation			
Total FBO/general aviation revenues	\$6.24	\$3.40	\$1.75
Total airport operation revenues	\$5.82	\$8.28	\$3.62
Total airport operating expenses	\$7.28	\$7.45	\$2.65

Source: AAAE 1999 - 2000 Rate and Charges Survey, 2001

The Airport's revenues and expenses per GA operation are significantly lower than the national and Florida averages. This is likely due to high levels of flight training operations with low rental and fuel flowage fees. At many GA airports nationwide, expenses are greater than revenues. This has been the case for 2R4 in the past, but the Airport has since shown a profit in 2001. Still, the Airport should evaluate its current rental and lease fees as well as implementing additional fees (tie-down, ground/land lease, etc.) in order to generate additional revenue income. Revenue diversification represents the greatest opportunity for the Airport to gain an increased financial footing. The greatest opportunity for the Airport to gain financial independence is to develop additional T-hangars to meet the significant demand, as shown by the Airport's current hangar waiting list. Additionally, the large vacant land areas on the northeast corner of the Airport are a great opportunity for development of non-aviation revenues. A typical Florida airport with active industrial/commerce parks generates substantial revenues from these non-aviation revenue sources.

The Airport's revenues and expenses per GA operation are significantly lower than the national and Florida averages.

11.7 MEANS OF FINANCING PROJECT DEVELOPMENT

11.7.1 FUNDING SOURCES – FAA AND FDOT

The Airport receives airport development funding from two primary sources: the Florida Aviation Administration (FAA) and Florida Department of Transportations (FDOT). Through the Airport Improvement Program (AIP) the FAA funds GA airports by two means: GA entitlement and AIP discretionary funds. Airport's typically receive AIP discretionary funding for federally eligible projects such as:

- New runways, taxiways, and non exclusive use aprons
- Reconstruction of runways, taxiways, and non exclusive aprons
- Navigation aids
- Federal air traffic control towers (ATCT)
- Passenger terminal buildings (non revenue areas only)
- Primary airport access roads
- Land acquisition

Most eligible FAA project costs are eligible up to 90 percent, of which the remaining 10 percent is typically shared evenly between FDOT and the airport. Because only airports with scheduled passenger airline service are eligible for FAA AIP entitlement funding, 2R4 is not eligible. The 1999 reauthorization of the AIP legislation (AIR 21) set aside, for the first time, GA entitlement funding specifically reserved for GA airports. Eligible airports (including 2R4) are may receive up to \$150,000 dollars per year for eligible FAA projects.

The FDOT annually funds a state-sponsored airport development program supported by statewide aviation taxes. The program typically generates approximately \$100 million per year. The FDOT will participate in projects not funded with FAA monies on a 50-50 to 80-20 basis, depending upon the nature and eligibility requirements of the projects. The state will also participate with federal and local agencies on a project on a 90 percent federal, 5 percent state, and 5 percent local share basis. Typically, projects funded through this aviation development program have been developed on a pay-as-you-go basis.

Funding from the FDOT is dependent upon the airport including its proposed near term projects in the FDOT five year work program as well as in the Joint Automated Capital Improvement Program (JACIP), a cooperative funding program mechanism used by the FAA and FDOT for coordination of annual funding and programming of Florida airport projects.

11.7.2 FUNDING SOURCES – OTHER

Several federal assistance-funding programs (other than FAA) are available to Airports. These include the following:

- *Economic Development Assistance Grants (EDA)* – Managed by the US Department of Commerce – grants available to finance industrial park development.
- *Transportation Act for the 21st Century (TEA-21)* – Airports eligible for access road development and intermodal-related projects.
- *Florida Economic Development Transportation Fund Agency* – Administered by Enterprise Florida, Incorporated, this program provides funding to local governments for transportation projects serving as an inducement for a company's Florida location, retention, or expansion project.
- *Small Cities Community Development Block Grant (CDBG) Section 108 Loan Guarantee Program* – Offered by the Florida Department of Community Affairs (DCA), this program provide a mechanism for small cities to access funds for larger community development projects.
- *Florida Small Cities CDBG, Economic Development* – Available through the DCA, the purpose of this program is to provide grants to eligible jurisdictions to provide infrastructure improvements which specific businesses need to create new jobs, and provide eligible jurisdictions with grants which are used for loans to new or expanding businesses when other sources of financing are not available.

11.7.3 FUNDING SOURCES – LOCAL SHARE

The Airport and the county will need to match the federal and state grants that will be necessary to develop the proposed Master Plan development program. The most likely funding mechanism would be through the issuance of bonds. Airports typically secure GA revenue bonds (GARB), which are secured by the Airport's future revenues. Based on the additional revenue that would be achieved through the selected development alternative, the Airport's revenue generating potential is likely sufficient to finance the issuance of debt and the associated debt service. The Airport is advised to seek professional financial advise on bonding requirements and opportunities.

Additional local financing may be obtained through contributions the county general fund. Repayment of any funds used from the general account is typically made a discounted rate. This allows the airport to finance projects without having to issue bonds and thus, is a less expense option if funds are available in the general fund account.

Revenues the Airport generates now and in the future will come primarily from commissions on services provided, hangar and building rental fees, and land leases. Additional revenues can come from landing fees on aircraft (i.e., corporate and cargo), and terminal fees. Construction of new T-hangars to meet the existing demand and hangar waiting list represent significant opportunities to generate the necessary revenues to implement the overall Master Plan development program. The success of the Airport to qualify for bonding and attaining financial sustainability rests with the successful marketing and overall development of the Airport.

It should be noted that shortfalls in working capital available for the local share requirements of the proposed development plan have been identified and use of the previously mentioned local funding sources will be required. The revenues and expenses associated with the different funding sources available vary significantly and thus, further analysis of the financial feasibility of each project will be necessary prior at the time of grant application and overall project implementation.

Construction of new T-hangars to meet the existing demand and hangar waiting list represent significant opportunities to generate the necessary revenues to implement the overall Master Plan development program.

**APPENDIX A
ADVISORY COMMITTEE MEETING
AGENDAS AND MINUTES**

Peter Prince Airport

**Santa Rosa County – Peter Prince Airport
(2R4)
2001 Airport Master Plan Update Study**

**TECHNICAL ADVISORY COMMITTEE
Project Initiation Meeting
AGENDA**

Thursday, March 15, 2001 5 p.m.

- 1. Call to Order**

- 2. Purpose: Initiate Master Plan Update Study Project, Addendum No. 2 to FDOT Supplemental JPA No. 1**
 - FDOT Financial Mgmt. No. 40659318401
 - County Project No. _____
 - PBSJ Project No. 070562

- 3. Attendance/Introductions**

Santa Rosa County; State/Federal Aviation Agencies; U.S. Navy; Airport Interest Groups; Consultants

DISCUSSION ITEMS

- 4. Formation of Peter Prince Airport Technical Advisory Committee (TAC)**
 - Airport Stakeholders (Attachment 1)
 - TAC Formation, Organization and Protocol

- 5. Project Approach & Preliminary Schedule (Attachments 2 & 3)**
 - Steps in the Master Planning Process
 - Public Involvement Open House
 - Draft Schedule
 - Deliverables (working papers/draft plan/final plan)

- 6. Key Airport Development Issues**
 - Runway/Taxiway System; Proposed Rwy
 - Airspace
 - NAVAIDS
 - Land Constraints/Acquisition
 - Revenue Development (T-Hangars; Corporate Hangars)
 - Others

- 7. Remarks / Next Meeting Date / Adjournment**

Peter Prince Airport
2001 Master Plan Update

TECHNICAL ADVISORY COMMITTEE MEETING
SIGN-IN SHEET

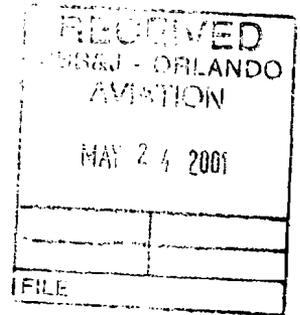
Project Initiation Meeting
March 15, 2001

MAILING ADDRESS				
	NAME	ORGANIZATION	PHONE	E-MAIL
1	DAVIS GLASS	AIRCRAFT MANAGEMENT SERVICES INC	(850) (23-4151)	
2	Cley T. Meletcher	Aviation Advisory committee member	WR 850-884-2200 44850-623-3217	Cley.Meletcher@Hurlburt.AFB.MI
3	GARY P. IHAM	AAC/XPR 101 WEST D. Ave Eglin AFB #632542	(850) 882-3283 X37	pelham@eglin.af.mil
4	CLIFTON W NELSON	REPRESENTATIVE DISTRICT 2	500 994-0743	DEDESND@ADL.COM
5	ROBERT L. BRACE	BULLDOG AIRCRAFT Co.	550 475-5311	BULLDOGPLANES@AOL.COM
6	D. HOBBS	FLIGHT WATCH	850 473-0866	
7	TERRY OGLE	FLIGHT WATCH (EAST HANGAR)	623-0018	tandjogle@aol.com
8	George White	Flight Watch	473-0866	gwhite4306@att.net
9	MARCY MARTIN	NAS WHITTIER FIELD	850 623 7196 EXT 7-22	NWRM2@NAVY.NAVY.MIL
10	Kacey Wagg	SRC Planning Group	850-626-8839	kaceyw@southwest.com

11	CARLOS DIAZ	HMS, Inc. 5550 W. Airport Rd Milton, Fla. 32583	(850) 623-4871	flymilton.com
12	James Hopmeier	5855 Stewart St Milton FL	850 623 0609	Pansign@worldnet.att.net
13	Roger Blaylock	SRC Engineering 6065 Old Bagdad Milton, FL 32571	850 983-2446	rogerb@cc.santa-rosa.fl.c
14	Gene Hudkins	7617 WHITESANDS NAVARRE BEACH 32566	950 936 0088	
15	Fred Duplantier	—	—	FredD@cc.santa-rs.fl.c ✓
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AVIATION ADVISORY COMMITTEE
2001 AIRPORT MASTER PLAN UPDATE STUDY
PETER PRINCE AIRPORT
MILTON, FLORIDA



March 15, 2001

The Santa Rosa County Aviation Advisory Committee met on the above date with the following members present: Acting Chairman Roger Blaylock, District 2 representative, Clifton W. Nelson, District 4 representative, Gene Hudkins, District 5 representative, Clay T. McCutchan, Commanding Officer representative with Whiting Field, Walter “Marty” Martin, and Commanding Officer representative with Eglin Air Force Base, Gary Pelham. Also present was Davis Glass with Aircraft Management Services, Inc., Robert T. Bragg with Bulldog Aircraft Co., Dale Holbert with Flight Watch, Terry Ogle with Flight Watch and hangar tenant, George White with Flight Watch, Kacey Wagg with Santa Rosa County Planning and Zoning, Carlos Diaz with Aircraft Management Services, Inc., James Hopmeier, Fred Duplantis with Team Santa Rosa, and Commissioner Byrd Mapoles.

Blaylock introduced our consultant, Klaus Palinkas with PBS& J. PBS& J has been contracted by Santa Rosa County to develop the master plan update for Peter Prince Airport.

Blaylock gave an update on Peter Prince and identified the purpose of the committee, stating that parallel taxiways have been developed on both sides; there are 73 hangars

that are currently on a waiting list. All projects that were identified in the 1993 master plan update that could be completed without the completion of runway 220 have been completed or are under construction today. The need for a master plan update was identified through DOT, with funding of this master plan update. SRC will be looking at the projects that were included in the current master plan and AOP. Blaylock stated that we will be looking at impacts to future projects.

Palinkas explained that everyone in attendance is a part of the Technical Advisory Committee for the Airport Master Plan project and it is their input that is being sought. Palinkas provided technical background that forms the basis for discussion of the issues relating to the Airport Master Plan development. Palinkas' role is here to help facilitate the process. Palinkas will provide technical information and serve as staff to the committee. An agenda for the meeting and a formation, organization, and protocol document was provided for all members. The protocol is a draft document, a guideline provided by Palinkas to set the tone. Agenda Attachment 1 is called formation of Technical Advisory Committee. This is a document that was the subject of planning committee meeting held with the county staff on February 14, 2001 and used to identify all the people that would be the most directly affected by the planning process. This list is not meant to be inclusive. Everyone was asked to sign the sign-in sheet, which was copied and handed out to all members. The Master Plan will include minutes of the meetings as well as an attendance list so that the public's interest is being taken into account. The third page of the agenda includes a schematic diagram of the master plan in process, used to outline the major steps and how they are interrelated with each other.

All of the documents that are part of the handouts are preliminary, they may be adjusted as we go through the master planning process which takes approximately one year for an airport of this type, it could go a little bit longer, depends on the agency review, sometimes they take 90 days. This affects our schedule and ability to continue certain things because at certain milestones in the process we cannot proceed until we have conditional agency approval. These agencies include, largely, the Technical Planning Process, Federal Aviation Administration, and Aviation Office of the Florida Department of Transportation. Both the FAA and the FDOT have a lot to say about the technical safety and regulatory issues, and how they are addressed in the plan. The last page of the Formation, Organization, and Protocol document includes a bar chart, which is our preliminary schedule for the completion of project. The bars on this schedule correspond closely to the block on the schematic diagram, which is just another way of looking at a time line envision, on how the process to proceed. The schedule will change, will be refined, revised, and adjusted as we go on. A new schedule will be handed out at the first milestone. There are three milestones in the master plan process and each of these milestones will be kept with a meeting with this committee. This is the first milestone, which is the project initiation meeting of the Technical Advisory Committee. This meeting completes many of the elements of task one in the project, which is called organization and pre-planning. This group will now kick off the study process as a whole, discuss issues and reach a consensus where this organization will be considered in the master plan and brought up for continuing review at each of the milestone events. The next milestone event according to the schedule that is attached to the back of this document will be upon completion of the aviation forecast and the airport inventory. We

anticipate that to be approximately the end of May. The next milestone event will be the evaluation of the alternatives that proceed from the information that we gather from the forecast of aviation activity. We look at how much activity there is going to be, then we see how we can accommodate that with development alternatives for the airport. This committee then will select the preferred alternative, which will then be incorporated into the final draft of the planning document. At the last committee meeting, we will then consider the adoption and implementation process. That committee meeting will be approximately this time next year if outside forces do not affect the schedule to seriously.

A couple of items that were left out of the protocol because they are up to this committee on what the future protocol will be, is the election of a chairman, and definitions of particular procedures. This is a consensus building exercise. When we speak of consensus, the best way to reach consensus is to give each individual member of the committee veto power over any possible issue. You can also decide to votes. Votes have pluses and minuses, and that is the clear majority, however, a vote always makes winners and losers. What we would really like is no losers, we want winners, we want consensus.

Consensus means not everyone will be satisfied with everything but most people can support most of the development proposal that will finally be selected as part of this process.

Each committee member then introduced themselves, who they represented, and their background in aviation.

Members of the committee identified themselves and gave a brief biography.

Discussion items:

Palinkas stated the airport development is provided by County goals for the project which have been in part or set down in the previous master plan, completed in the early 1990's.

Our charge is to take those projects that have not yet been developed and prioritize them for the future. One of the largest issues facing us is the development of the new runway that has been proposed in the old master plan, but that has not yet come to the point of development and that is one of the things that we need to reach consensus on. As we go through the master plan process and develop, all the other information from the inventory through the forecast to facilities needs and requirements, we will see that many of them will relate back to the realization of this runway project. These items will be the first issues to be discussed with the goal of identifying interested groups opinions, desires and wishes on particular issues. Other issues will spring from this and the committee then should limit how many issues we want to discuss right now. Starting with the proposed runway develop a list of key issues that they would like to address primarily in the master planning process.

Members of the committee stated their issues:

Blaylock stated that the master plan had been completed when he came to SRC as the County Engineer. Baskerville Donovan developed the master plan. At this time construction is under way at the airport for two of the larger T hangars and three other T

hangars. There are no parallel taxiways and the runway was in a state of deteriorate as well as the parking aprons. Since this time, we now have 73 hangars for lease, a waiting list of 72 individuals. Many individuals are wanting to upgrade to end hangars and others wanting to get into the four larger T hangars. We have three corporate hangars, parallel taxiways on each side, blast pads. The completion of the west taxiway is under way at this time. We have redone the lighting system, new rotating tower beacon, as well as an overlay of the entire runway. All of this has been completed with FAA dollars, FDOT matching funds, and local dollars. The Board of County Commissioners have been taking the proceeds from the T hangars, rolling those back in and using those capital dollars to fund the projects as well as hire consultants to help complete all of the permitting and design requirements. In 1993 Griner Engineering did an update. Blaylock stated that he would get each of them a copy of the update as well as the AOP that existed at that time. One of the things that will be coming out of this master planning process is the development of a new AOP, which we will have to submit to FAA. The county's issues are the development of runway 220 and issues relating to air space and the Navy. In the previous master plan there was a consensus from the Navy that runway 220 could proceed provided that they would have control over use through Whiting's Air Traffic.

Martin stated this is what is commonly called in the military prior permission required. In other words, if it is during operations of South Field, a corporation would get permission prior to coming in, but on weekends and non-flying hours it would not make any difference.

Mapoles expressed his thanks to the gentlemen that have consented to serve on the committee. The committee was set up originally as a project of the Santa Rosa County Chamber of Commerce while trying to set up a liaison between general aviation and military aviation so that we would know what they were doing and they would know what we were doing. Through the last several years the committee has not been as active as it should have been but that was because we have not had any real issues. The master plan got under way shortly after he was elected commissioner at a time when he was the only commissioner who cared about the airport. Peter Price used to be the Milton T field. The Navy and the Air Force used Milton T Field. A lot of the original test flying on the C130 was done at Milton T Field. We had one of the greatest grass fields at that time in the United States but then we decided that it needed to be paved. We started out with a few dollars to put in 20 T hangars. Joe Smith with the FDOT agreed to meet us 50/50 with that. We took the money from the rent of the T hangars, and went back to the state and got 20 more and now we have 73 hangars and have run out of space. We need more hangars. It's imperative that we get the master plan done so we know where to go. Also, we are trying to put as many dollars aside as we can and be as frugal as we can with money that we get from the T hangars to build the new runway. We are going to have to come up with a tremendous amount of money. Hopefully we will get a situation where the federal government will give us 90 percent, maybe the state will give us five percent, and then we will have to come up with the other five percent. We have to have our money at the time we sign the agreement. Not everyone likes airplanes. When you are talking about tax dollars you have to keep in mind when you build anything in relation to aviation, not everyone like airplanes. We have to put ourselves in the position

of a county commissioner to justify where we are going to spend tax dollars. We have been able to do this in the past by showing them that the T hangars are paying for themselves. Not all county commissioners care about having an airport. We probably have a board at this time that is friendlier to general aviation than we have had in a long time. The name Peter Prince Field came from a gentleman who moved here right after WWII. He came here from Miami and was in charge of all the steersman operations in South Florida. At the end of the war, he came to Milton and started a little airport operation on the South End of the current airport. He did a little bit of everything. This developed into a flying school; his son Chuck was the instructor from the age of 16. Chuck Prince was one of the youngest instructors in twin charter pilots in this part of the country. Prince was a mechanic on the Granville Brothers racing team. Prince was quite an aviation pioneer. Most of tools that he had he had made. After he passed , the airport was named after him.

Clay McCutchan clarified that the longer runway at the airport is the key issue remaining from the 1993 master plan update. Blaylock stated that Runway 220 is a full installment runway and in the future will be determined to be worked out with all instrument approaches. The runway itself will be instrument capable.

Blaylock stated that the GCA approach to Whiting Field is Runway 32 at South over the top of Santa Rosa Field into 32 at South. There's no possibility of setting up other GCA approaches from the North, fixed wings are at the North and helicopters are at the South. Mapoles emphasized not to create conflict with the Navy.

McCutchan stated that airport J22 has a workable agreement with the Navy recreational flying and traffic congestion.

Hudkins stated that a longer runway at Milton will interest corporations and industrial growth. The Unicom System will aide by giving departure pilot information. Hudkins emphasized the need to be cooperative with the Navy.

Mapoles stated that with the industrial park 300-400 acres to the East, a longer runway would bring hi-tech jobs to the area. Corporations who learn of the 3,700 foot runway can utilize the industrial park. Mapoles placed an emphasis on making sure the runway that is built is sufficient enough to support the industrial park.

Martin asked about the cost analysis done 10 years ago and asked if we could go North of 1836. Mapoles stated that that was as far as we can go. Blaylock stated that there is a railway to the south and the approach slope with steep grades at the North end. Mapoles stated that the new runway creates a V effect, it starts close to the end of runway 36 and cuts across the side of the hill. Blaylock stated it would fit without moving massive amounts of dirt.

Martin stated that the Navy is not out to stop and curtail, but has to look at what is happening with the county and encroachment. We don't need any accidents.

Mapoles stated that space limitation is due to the buying of private property. Mapoles stated that the criteria for most corporate jets is 5,000 feet. Mapoles suggested the

Federal Prison System's fleet using the airport with a taxi service to and from the jail and prison. Mapoles stated that the planners for the last airport master plan established the 5,300 feet number.

Duplantis suggested finding out what load bearing capabilities would be necessary for the new runway.

Glass requested the addition of a wind sock at the north end of the runway stating that it is difficult to see.

McCutchan asked how FBO operators felt about the longer runway. Diaz stated that the new runway would be a boom for the industrial park, new corporations, aviation related businesses on the field and transportation of prisoners. Diaz stated that big aircrafts were reluctant to come in. Glass concurred expressing a definite need. Glass would like to keep the original envision of keeping the air cargo on the east side and the FBO on the West side. Glass had been told of a possibility of the air cargo terminal on the east side to service FBO east side and putting the terminal building on the West side where open hangar used to be. Mapoles stated the only problem is with the T hangar construction, is that they were constructed for the doors to extend into the safety zone. Mapoles stated that large aircraft trying to refuel may end up in safety zone.

Plainkas expressed his opinion to design the runway to accommodate a C130.

McCutchan suggested designing the runway to include a 737. McCutchan also suggested concerns to investigate footings or runway separation requirements, stating that it may be difficult to land a 737 on a hot day.

capabilities. Palinkas stated that at the next meeting, the committee will further define and refine the facilities requirements, what is doable and what isn't, potential solutions and resolutions, possible introduction of GCO and super Unicom, the possibility of the Navy being able to put into place certain opportunity procedural rules in cooperation with Navy officials. Palinkas suggested that all members and interested citizens send any input concerns ideas to Blaylock so that they can be looked at and reviewed before the next meeting.

The next meeting will be May 31, 2001 at 5:00 p.m.

Meeting adjourned at 6:45 p.m.

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Clay McCutchan	Aviation Advisory Committee Member email claymccutchen@hurlburt.AF.mil	wk 850-884-2200 hm 850-623-3217
Gary Pelham	AAC/XPP 101 West D Avenue Eglin AFB, FL 32542 email pelham@eglin.af.mil	850- 882-3283 x37
Clifton Nelson	Representative - District 2 email dedesdad@aol.com	850-994-0743
Robert Bragg	Bulldog Aircraft Company email bulldogplanes@aol.com	850-475-5311
Dale Holbert	Flight Watch	850-427-5361
Terry Ogle	Flight Watch (Rent Hangar) tandjogle@aol.com	850-623-0018
George White	Flight Watch email gwhite430@att.net	850-473-0866

Marty Martin	NAS Whiting Field email nwrn2@navtap.navy.mil	850-623-7196 x722
Kacey Wagg	SRC Planning and Zoning email kaceyw@santa-rosa.fl.us	850-626-8839
Carols Diaz	AMS Inc. 5550 North Airport Road Milton, Florida 32583 email flymilton.com	850-623-4157
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Gene Hudkins	7617 Whitesands Navarre Beach, Florida 32566	850-936-0088
Fred Duplantis	email fred@co.santa-rosa.fl.us	

AVIATION ADVISORY COMMITTEE
2001 AIRPORT MASTER PLAN UPDATE STUDY
PETER PRINCE AIRPORT
MILTON, FLORIDA
JULY 11, 2001

RECEIVED	
FLSCLJ - ORLANDO	
AVIATION	
AUG 17 2001	
FILE	

The Santa Rosa County Aviation Advisory Committee met on the above date with the following members present: Acting Chairman and County Engineer Roger Blaylock, Cliff Nelson, Bryan Woram, Gene Hudkins, and Clay McCutchan. Also present was Walter "Marty" Martin, representing Whiting Field and Garieth Pelham, Commanding Officer of Eglin Air Force Base.

Blaylock introduced John Mafera who will be replacing Klaus Palinkas as Project Manager and announced the decision from the previous meeting to remove runway 220 from Master Plan #93.

Mafera began his presentation with the following topics beginning with Chapters 1-4 in the draft format.

Steps in the Master Planning Process. These steps include site visits of airports to collect data on the location and size of the runways and aprons which is part of the inventory process. Also to look at the historical activities as reported by the FAA to base future forecast activities.

Mafera explained that the Public Review (See Booklet 1, Pg. 2) will

be considered and adjusted according to comments discussed at this meeting and it will then be forwarded to FDOT and FAA for approval.

Once approval is granted, the next phase of the Master Plan is to review the demand and capacity of the airport for the next 20 years.

Inadequate capacity will require the committee to look at the alternatives. The plan will continue on to address environmental issues that are associated with the preferred or selected development plans. Mafera stated that the Northwest Florida area is very congested with military activity as well as commercial activity.

Financial Analysis and Capital Improvement Plan will include how the development will be funded, when it will be constructed and what revenues and income it will generate for Santa Rosa County. This information essentially creates the Plan Draft. Plan documents will be available for review and comments. After the needed adjustments are made they will be sent to FDOT and FAA for review and approval.

Existing Facilities (See Booklet 1, Pg. 5) includes a review of local facilities and the types of locations and size condition in the year 2000, which is the base year for the Master Plan. This will include two categories: Airside and Landside. Airside will include the 1836, 3700 ft long taxiway, dual parallel and nav aids on the field and airspace. Land side will include a review of aprons, tie downs, hangar facilities,

terminals and automobile parking as well as aircrafts and ground access which will allow access to the airport.

Mafera then referred to an aerial slide (See Booklet 1, Pg. 6,7,&8) that will be updated next month. This slide shows the airport in its immediate location. It will include 13 hangars and one corporate hangar in various sizes. It will also include a maintenance hangar and single taxiway lane. Fuel facilities will include two 10 thousand gallon tanks and a helipad area which has an expanded apron and road access.

Aviation Demand Forecasts (See Booklet 1, Pg. 9). Mefera explained the analysis of aviation data and the establishment of reasonable historical records and the need to forecast future aviation activity.

The Historical Statistics (See Booklet 1, Pg. 10) shows a graph of existing based aircraft forecast. Mafera stated that this is not a real useful tool but is used to forecast the activity over the past 20 years.

Next Mafera discussed the topic of Various Forecasted Activities (See Booklet 1, Pg. 16) and did a comparison on the increases of the following items and what needs would be met due to the increase of activity, such as parking spaces.

Table 4-16 is a General Aviation Forecast Summary (See Booklet 1, Pg. 19) of all items included in the Master Plan Update. This summary shows

the expected increases in activity beginning from 1999 to 2020.

Mafera explained that the next meeting will include more detailed pictures and give the committee an opportunity to draft the Master Plan document which will include the environmental evaluation of the selected developmental alternative, the draft airport layout plans, set financial analysis and implementation plans.

Next the draft document will go for agency and committee review.

Discussion took place among the committee concerning the GIS, the preparation of pamphlets to be available for realtors and what disclosures will need to be released at the time of sale for homeowners surrounding the Peter Prince Airport.

Changes required for the Peter Prince Airport Master Plan (See Booklet 2, Pg. 1). The committee emphasized that anyone wanting to submit comments could do so by e-mail, which is expected to be available within a few days. The comments received via e-mail will then be incorporated into this document and submitted for committee review, and upon approval by the committee will go to FDOT and FAA for their approval.

The next scheduled presentation by John Mafera of PBS&J was set for November 15, 2001.

Meeting adjourned at 5:45 p.m.

Roger Blaylock, Acting Chairman

020K1111

Peter Prince Field Airport Master Plan Update 2000 - 2020

Presented to:

Airport Advisory Committee (AAC)

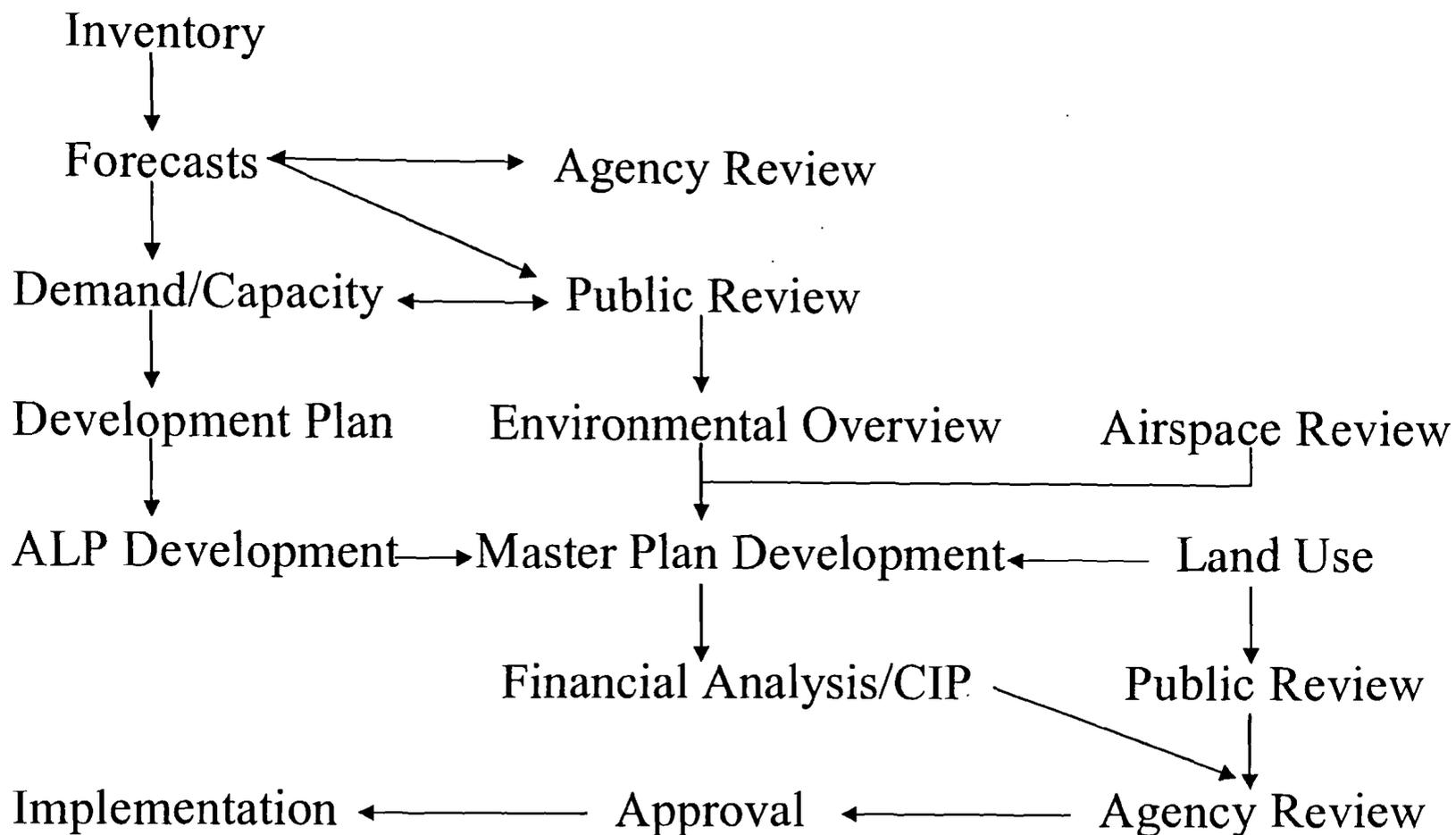
Presented by:

PBS&J

July 11, 2001

Master Planning Steps

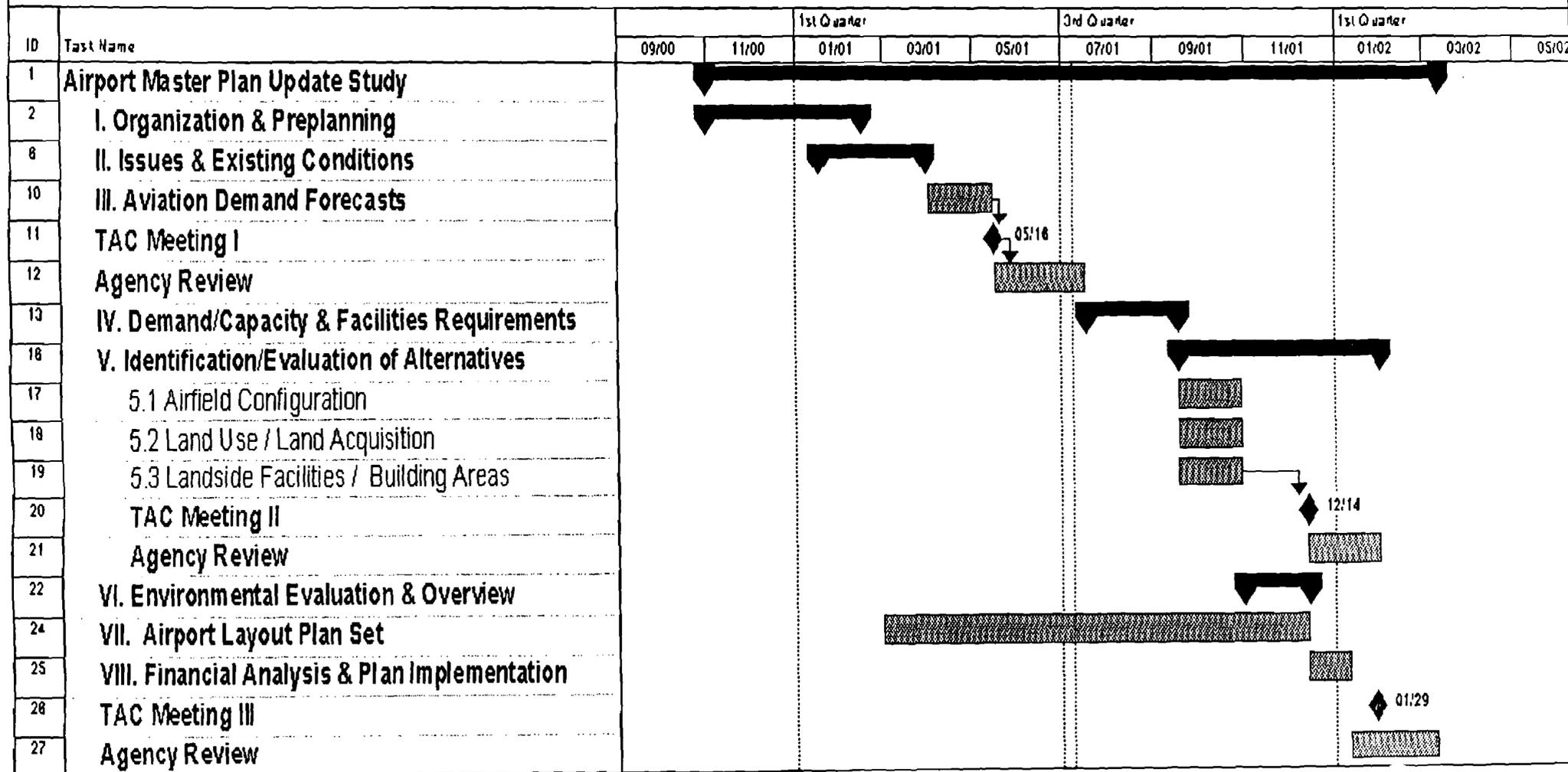
Steps in the Master Planning Process



Original Project Schedule

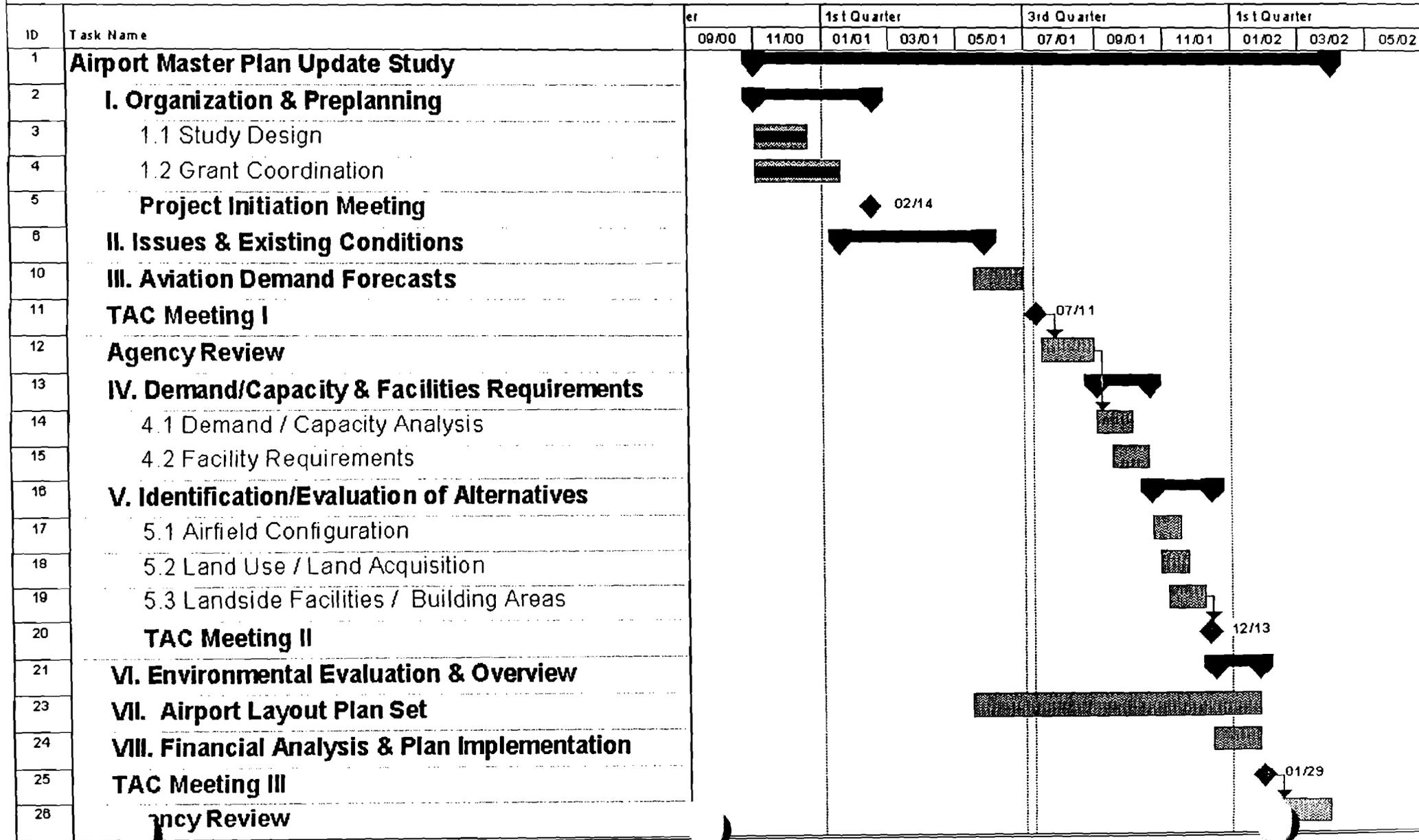
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Peter Prince Airport - 2001 Master Plan Update
Preliminary Project Schedule



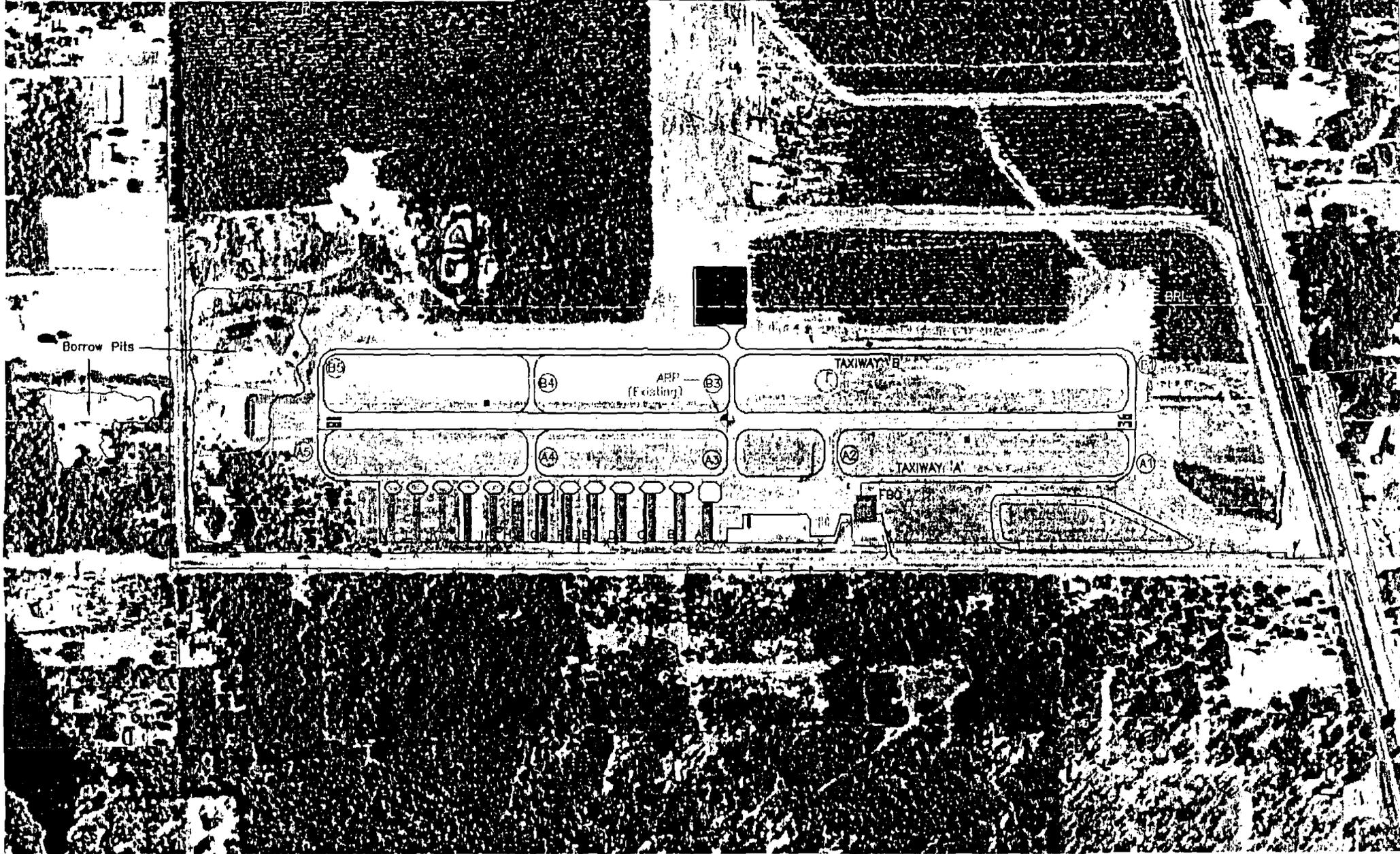
Revised Project Schedule

Peter Prince Airport - 2001 Master Plan Update
Preliminary Project Schedule

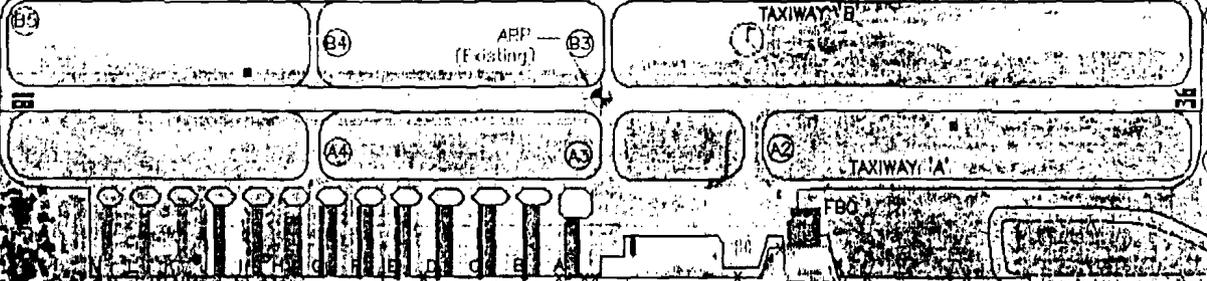


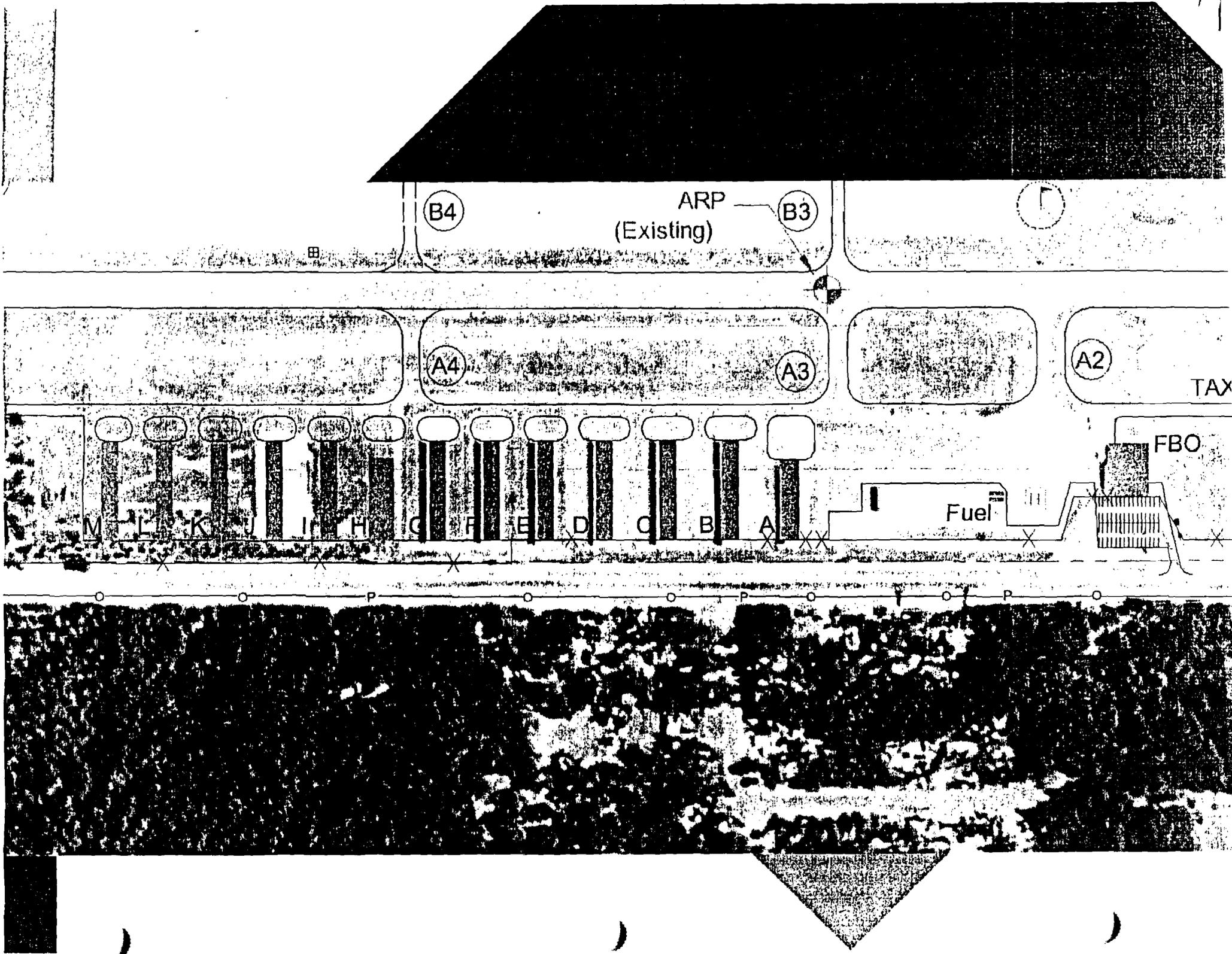
Existing Facilities & Environs

- Inventory of Existing Facilities
 - Facility Type, Location, Size & Condition
 - Airside: Runways, Taxiways, NAVAIDS, Airspace
 - Landside: Aprons, Tiedowns, Hangars, Terminals, Parking, Access



Borrow Pits





A3

A2

TAXIWAY

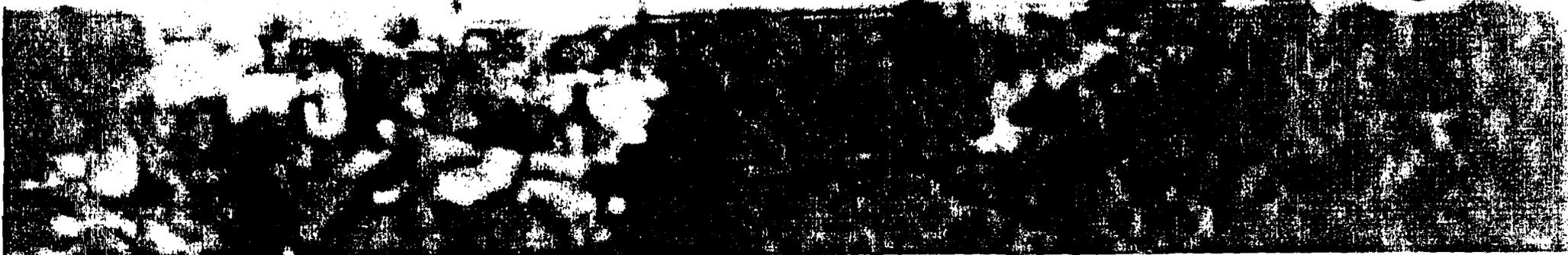
FBO

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Aviation Demand Forecasts

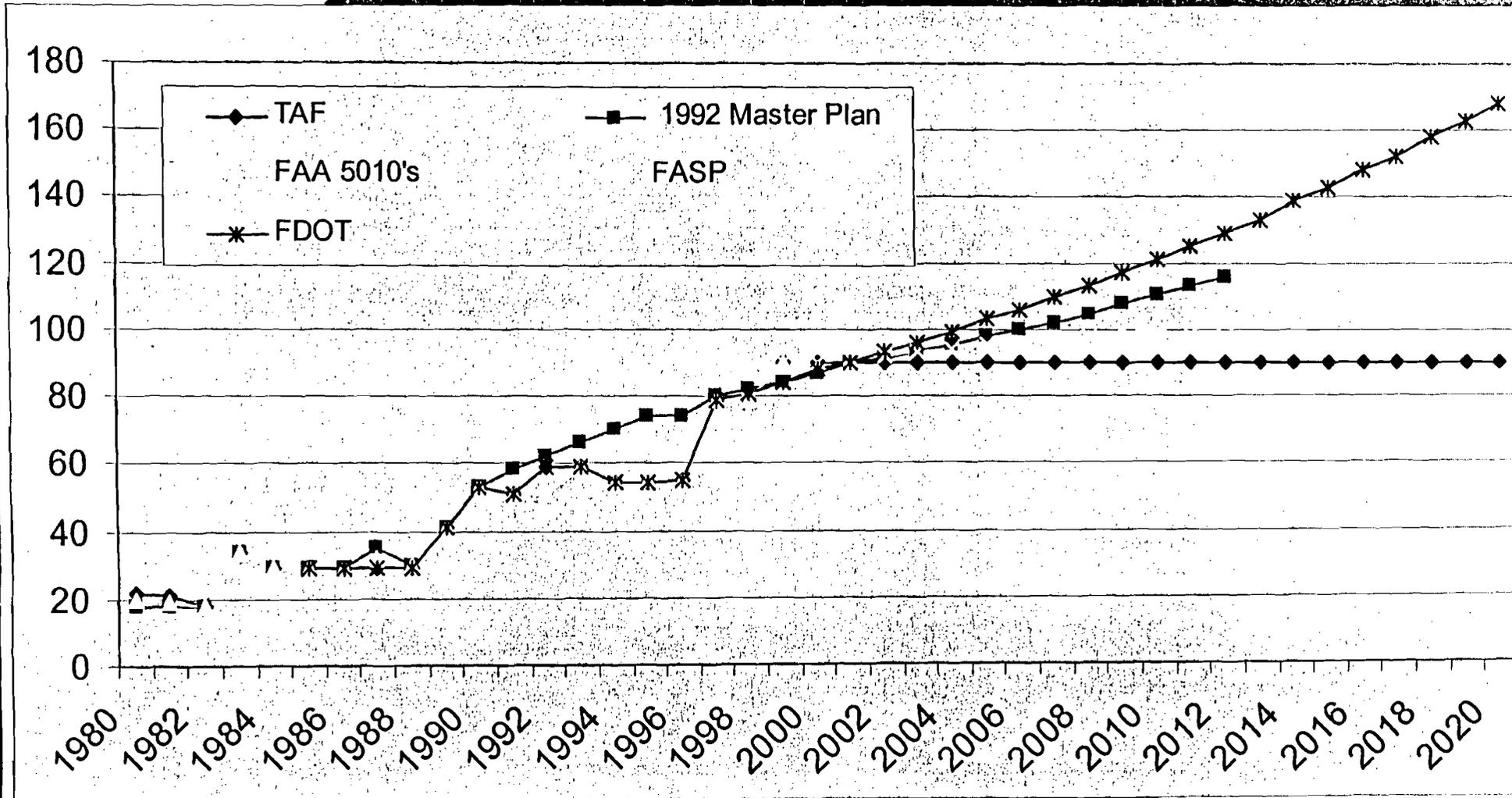
- Collect and Analyze Historical Aviation Data
 - Former Master Plan, FAA and FDOT
- Establish Reasonable Historical Record and Baseline (no ATCT)
- Forecast Future Aviation Activity
 - 2005, 2010, 2015 and 2020

Historical Aviation Activity

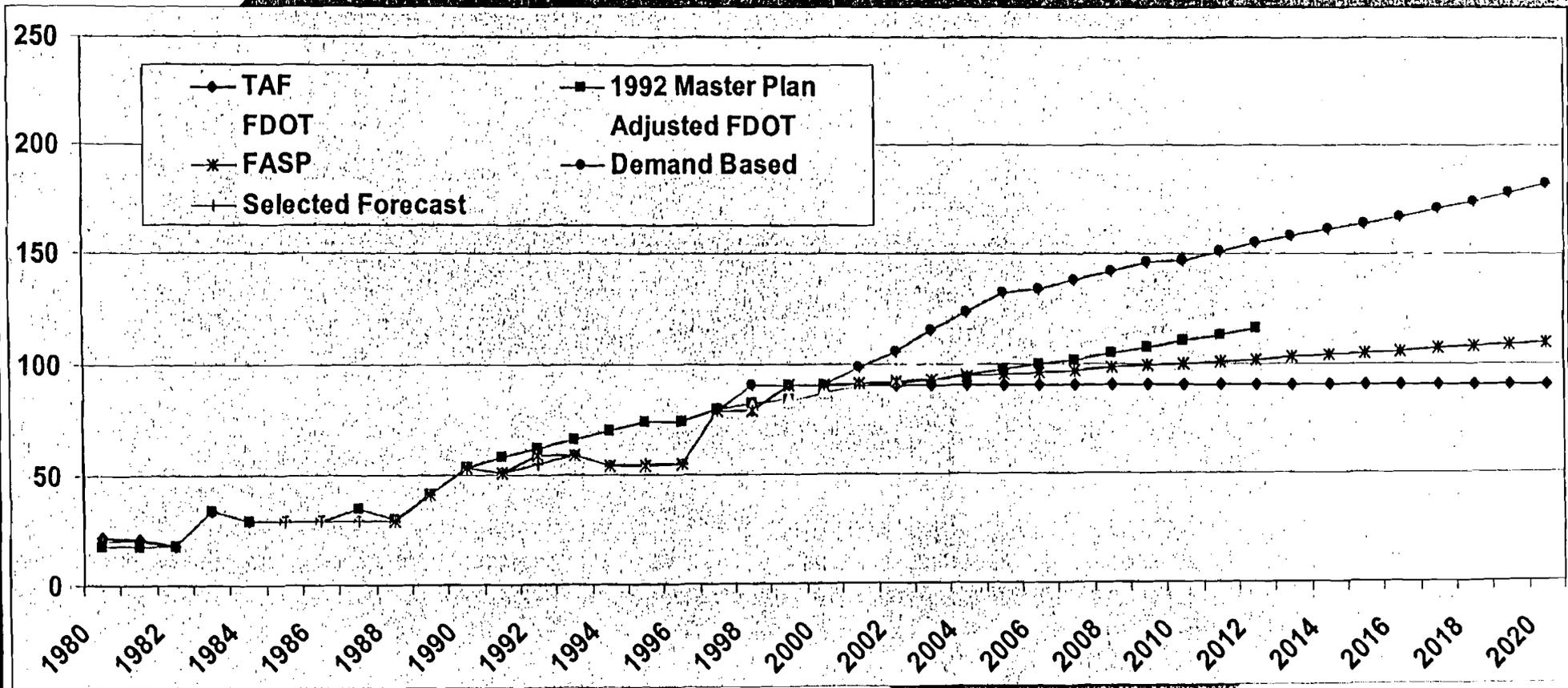
Table 3-7
 Peter Prince Field Airport Master Plan Update
 Historical Statistics Summary

Activity	1998	1999	2000
Based Aircraft			
Single-engine	70	80	80
Multi-engine	0	10	10
Jet Engine	0	0	0
Helicopter	0	0	0
Other	0	0	0
Total	70	90	90
Aircraft Operations			
Local GA	42,500	86,400	86,400
Itinerant GA	7,500	7,500	7,500
Military	50	50	50
Air Taxi	0	0	0
Total	50,050	93,950	93,950
Instrument Operations	0	0	0
Peak Operations			
Month	4,171	9,003	9,003
Day	137	296	296
Hour	24	44	44
Aircraft Parking			
Based Aircraft	12	14	14
Itinerant Aircraft	2	2	2
Total	14	16	16
GA Passengers	60,750	100,260	100,260
Automobile Parking	43	71	71
Fuel Sales (Gal.)	81,500	86,500	96,000

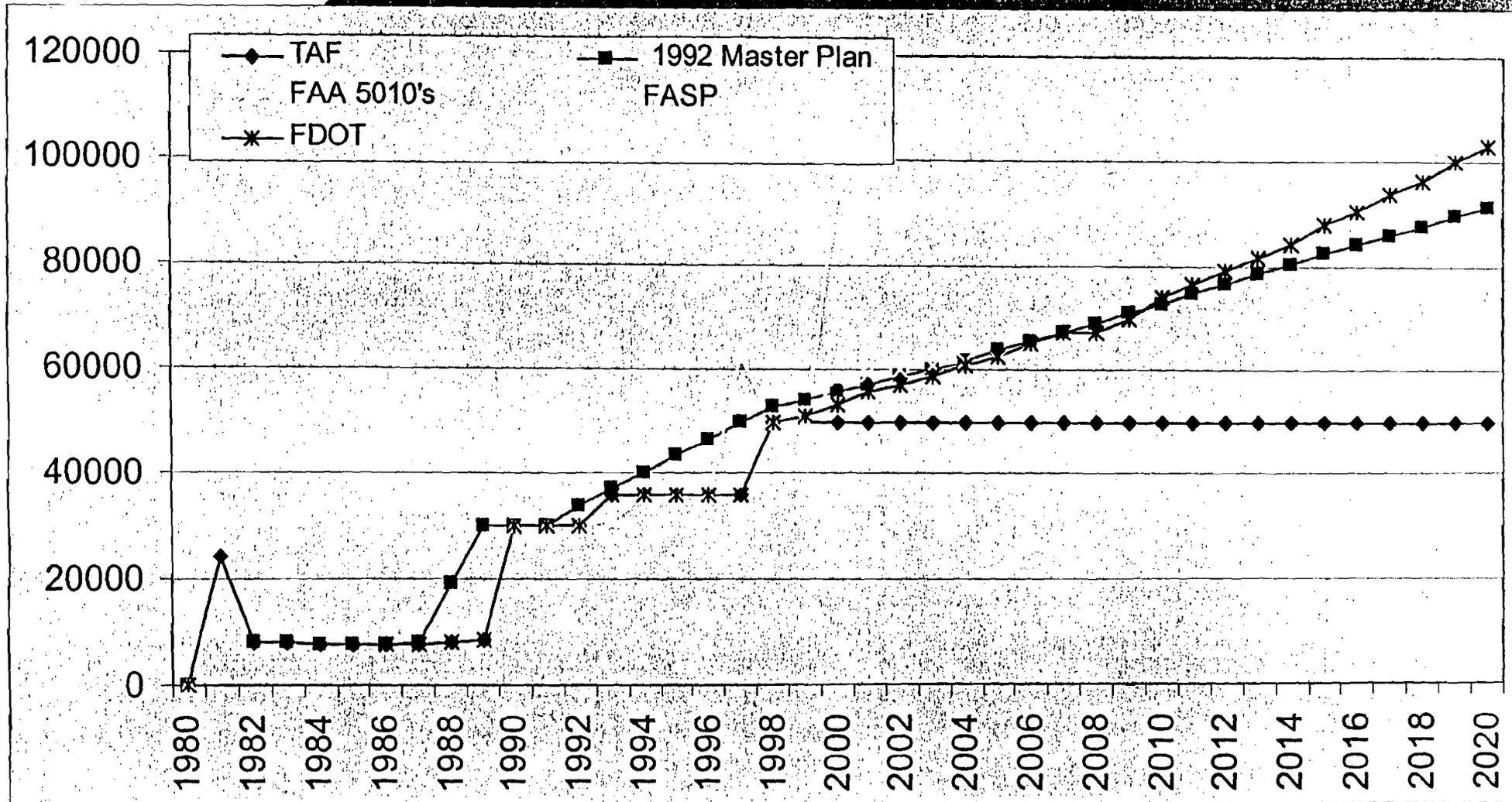
Existing Based Aircraft Forecasts



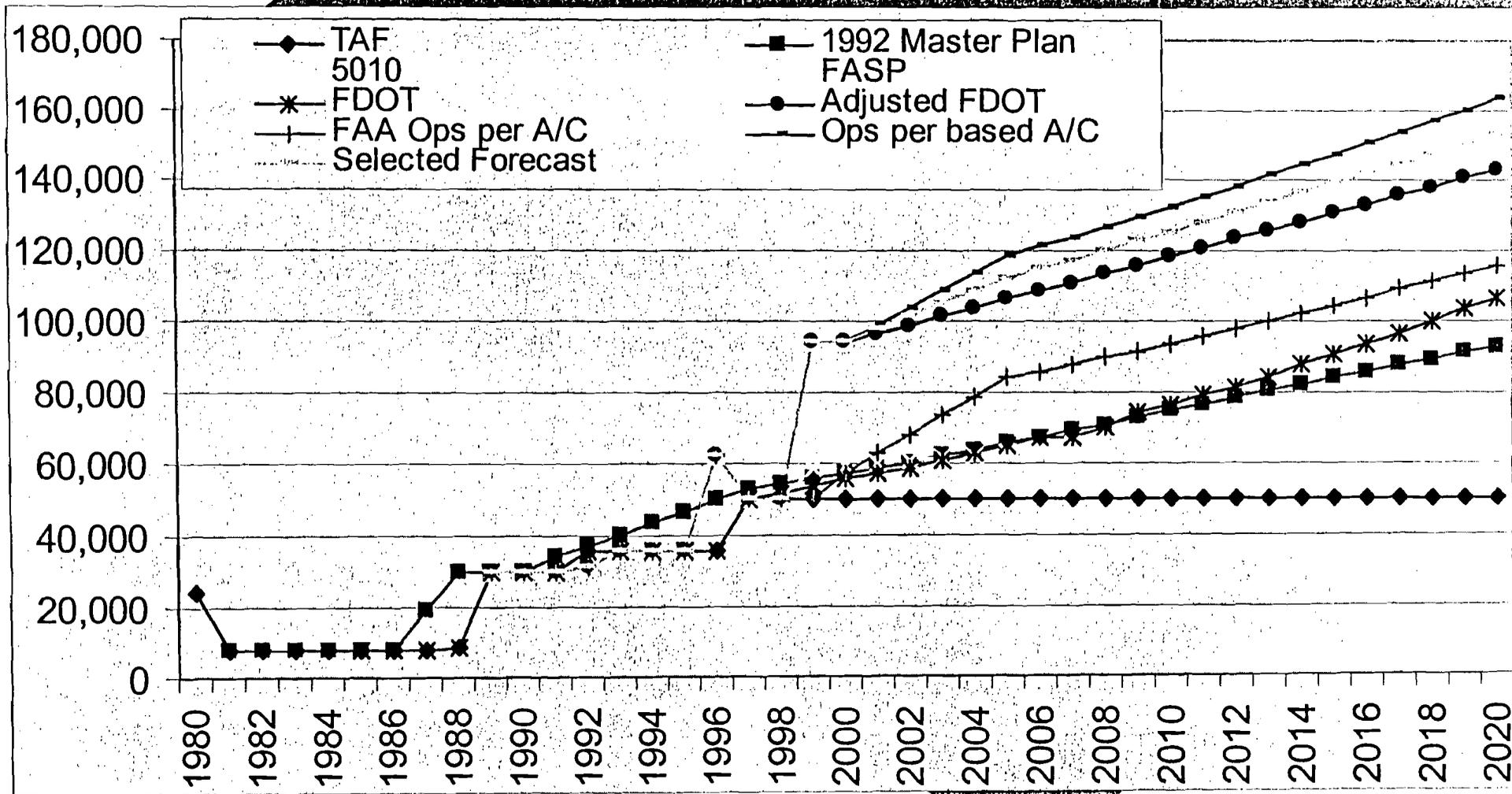
Based Aircraft Forecast Distribution & Selection



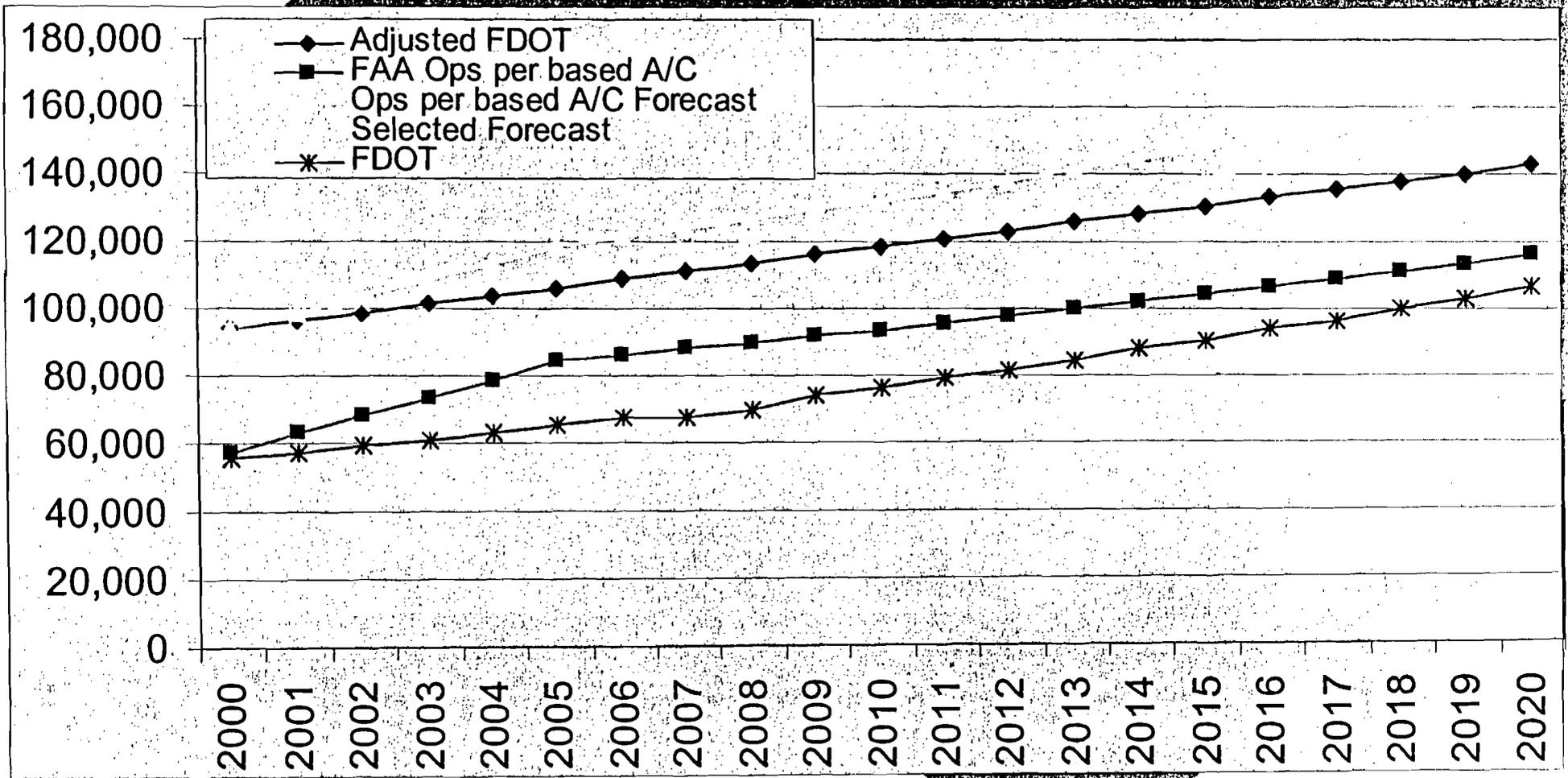
Existing Aircraft Ops Forecasts



Aircraft Operations Analysis



Operations Forecast Selection



Various Forecasted Activities Cont...

Table 4-14
Peter Prince Field - Airport Master Plan Update
Forecasted Aircraft Parking

Itinerant Aircraft Parking

Year	Itinerant Operations	Local Operations	Peak Hour	Itinerant Aircraft Parking
2000	7,500	186,400	4	2
2005	8,964	103,299	4	2
2010	9,990	115,126	5	3
2015	11,087	127,761	5	3
2020	12,219	140,809	6	3

Source: PBS&J, 1999

Based Aircraft Parking

Year	Based Aircraft	Hangared Aircraft	Tie-down Aircraft
2000	90	76	14
2005	132	112	20
2010	147	125	22
2015	164	139	25
2020	182	155	27

Source: PBS&J, 2001

Various Forecasted Activities

Table 4-10
Peter Prince Field - Airport Master Plan Update
Forecast of Fuel Flowage

Year	Operations	Fuel Sales (gallons)	Gallons per Op.
1997	50,050	78,200	1.56
1998	50,050	81,500	1.63
1999	93,950	86,500	0.92
2000	93,950	96,000	1.02
Avg. gallons per op.			1.28
2005	112,330	139,289	1.28
2010	125,192	155,238	1.28
2015	138,932	172,276	1.28
2020	153,120	189,869	1.28

Source: Santa Rosa Aviation (FBO) and PBS&J, 2001

Table 4-11
Peter Prince Field - Airport Master Plan Update
Forecast of Peaking Characteristics

Year	Annual Ops	Peak Month	Peak Day	Peak Hour
1998	50,050	4,796	158	24
1999	93,950	9,004	296	44
2000	93,950	9,004	296	44
2005	112,330	10,765	354	53
2010	125,192	11,998	394	59
2015	138,932	13,314	438	66
2020	153,120	14,674	482	72

Based on FAA 5010

Source: FAA 5010, Santa Rosa Aviation and PBS&J, 2001

Table 4-9
Peter Prince Field - Airport Master Plan Update
Forecasted Operations by Aircraft Type

	Year 2000		Year 2005		Year 2010		Year 2015		Year 2020	
	Percent Total Operations	Operations By Type								
Single-Engine Piston	88.89%	83,511	87.12%	97,863	86.4%	108,159	84.5%	116,908	83.1%	127,243
Multi-Engine Piston	11.11%	10,439	11.51%	12,929	11.5%	14,397	12.3%	17,089	12.8%	19,599
Turbo Prop	0.00%	0	0.60%	0	1.4%	1,703	2.1%	2,818	2.4%	3,675
Jet Engine	0.00%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Rotorcraft	0.00%	0	0.76%	851	0.76%	951	1.5%	2,084	1.7%	2,603
Other	0.00%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Tot	100.0%	93,950	100.0%	112,330	100.0%	125,192	100.0%	138,932	100.0%	153,120

Various Forecasted Activities Cont...

Table 4-15
Peter Prince Field - Airport Master Plan Update
Forecast of Automobile Parking Requirements

<u>Year</u>	<u>Total Passengers</u>	<u>Peak-Hour Passengers</u>	<u>Parking Spaces</u>
2000	100,260	47	71
2005	119,861	57	85
2010	133,583	63	95
2015	148,245	70	105
2020	163,385	77	116

Aviation Activity Forecasts

Table 4-16

Peter Prince Field Airport Master Plan Update
General Aviation Forecast Summary

Activity	1999	2000	2005	2010	2015	2020
Based Aircraft						
Single-engine Piston	80	80	116	128	142	164
Multi-engine Piston	10	10	15	16	18	20
Jet Engine	0	0	0	0	0	0
Turbo Prop	0	0	0	1	2	3
Rotorcraft	0	0	1	2	2	3
Other	0	0	0	0	0	0
Total	90	90	132	147	164	182
Aircraft Operations						
Local GA	86,400	86,400	100,811	111,553	124,659	138,158
Itinerant GA	7,500	7,500	8,651	9,573	10,697	11,854
Military	50	50	50	50	50	50
AirTaxi	0	0	0	0	0	0
Total	93,950	93,950	112,330	125,192	138,932	153,120
Instrument Operations (1)	3,758	3,758	4,493	5,008	5,557	6,125
Peak Operations						
Month	9,004	9,004	10,765	11,998	13,314	14,674
Day	296	296	354	394	438	482
Hour	44	44	53	59	66	72
Peak Aircraft Parking						
Based Aircraft	14	14	20	22	25	28
Itinerant Aircraft	4	4	4	5	5	6
Total	18	18	24	25	30	34
GA Passengers	100,260	100,260	119,874	133,600	148,263	163,406
Automobile Parking	71	71	85	95	105	116
Fuel Sales (Gal.)	86,500	96,000	139,289	155,238	172,276	189,869

(1) Calculated as a percentage of total operations based on NOAA climatic data.

Source: PBS&J, 2001

Remaining Elements of the Master Plan

- Working Paper No. 2 (demand/capacity, facility requirements & development alternatives)
- AAC Review of Working Paper No. 2
- Draft Master Plan Document (environmental evaluation, ALP set, financial analysis & implementation plan)
- Agency Review
- Final Report Document

Memorandum

FROM: Walter "Marty" Martin
Air Operations Dep., NAS Whiting Field
Milton, FL 32570-5000
(850)623-7196 ext 723

SUBJ: CHANGES REQUIRED FOR PETER PRINCE AIRPORT MASTER PLAN

1. I believe the official name of the airport is "Peter Prince Airport." The changes have been separated by page, section, paragraph, and line as follows:

Page 1-1:

Section 1.1, Para 3, line 5:
Change "Tallahassee" to "Orlando"

Page 1-2:

Section 1.3, line 2:
Change "ten years" to "fifteen years"

Page 1-3:

Figure 1-1, line 1:
Delete "Ocala... Update"

Page 2-1:

Section 2.1, Para 1, line 4:
Change "Town" to "City"

Section 2.1, Para 3, line 2:
Should be able to get later data than 1993.

Section 2.1, Para 3, line 3:
Change "Town" to "City"

Section 2.1, Para 3, line 4:
Delete "116,000". Get correct City of Milton population.

Page 2-2:

Section 2.2, Para 3, line 3:
Capitalize "Weaver"

Page 2-5:

Section 2.3.1, Para 2, line 4:
Add "half" after "one"
Aircraft flying at 1 mile from runway would be outside the one mile cutout as the cutout is from the center of the airport.

Page 2-6:

Section 2.3.2, Para 1, line 3:
Delete the sentence starting with "Therefore".

Section 2.3.2, Para 1, line 6:

Add "Precision approach path indicators" in front of "PAPIs"

Section 2.3.2, Para 2, line 4:

Change "3 miles West" to "4 miles East"

Section 2.3.2, Para 2, line 5:

Delete "extending from Eglin AFB ... Florida."

Replace with "in an area bounded by Highway 87 on the West, the railroad track North of Highway 90 on the North, and the Gulf of Mexico on the South"

Section 2.3.2, Para 2, line 6:

Delete "...not fly... traffic."

Replace "...remain North of the railroad tracks North of Highway 90 in order to avoid Restricted Area 2915A."

Page 2-9:

Section 2.5.2, Para 1, line 1:

Change "Airport" to "Field"

Section 2.5.4, Para 1:

What about parking apron on east?

Page 2-14:

Section 2.7:

Check on water/sewer and electric

Page 2-16:

Section 2.8, line 6 on page 2-16:

Change "Sever" to "Severe"

Section 2.9.1, Para 1, line 2:

Delete "situated between ... Mobile, Alabama"

Section 2.9.2, Para 2, line 1:

Change "Airfield" to "Field"

Page 2-18:

Section 2.9.2, Para 1, line 6:

Change "2-10" to "2-11"

Page 2-21:

Section 2.11.2, last Para, line 3:

Delete "Runways"

Page 2-22:

Table 2-4

Add "J-22," "Coastal," and "Fort Walton Beach"

Section 2.12.1, Title:

Change title to: " Special Use Airspace"

Section 2.12.3, Para 1, line 12:

Delete "Operational... Whiting Field."

Add "Approximately 152,000 flight operations are split between North and South fields; 78,000 and 72,000 respectively. North Field has 141 T-34C aircraft, while South Field has 117 H-57 B/C aircraft. The NAS Whiting Field complex, including the NOLFs, generated over 1.3 million operations in 2000. The T-34C aircraft depart NAS Whiting Field (North) and conduct their training operations at NOLFs Barin, Brewton, Choctaw, Evergreen, Saufley, Silverhill, Summerdale, and Wolf. The H-57 helicopters conduct their training at NOLFs Harold, Pace, Santa Rosa, Site 8, and Spencer. Additionally, the T-34C and H-57 aircraft routinely conduct training at Crestview, Duke Field, and Eglin AFB."

Section 2.12.4, Title

Add "NAS" in front of "Pensacola"

Delete "Naval Air Station"

Section 2.12.4, Para 1, line 1:

Add "NAS" in front of "Pensacola"

Delete "Naval Air Station"

Change "23" to "25"

Section 2.12.4, Para 1, line 2:

Move "Pensacola" to after "NAS"

Section 2.12.4, Para 1, line 5:

Delete last sentence

Add "NAS Pensacola conducted over 100,000 operations in 2000. The 131 based aircraft include 62 T-34C, 35 T-39, 6 T-1, 14 T-2, and 3 H-3 aircraft.

Additionally, NAS Pensacola is home to the United States Navy's Flight Demonstration Team. The Blue Angels have 10 F-18 and one C-130 aircraft."

Section 2.12.5, Para 1, line 2:

Change "Airport" to "Field"

Section 2.12.5, Para 1, line 5:

Change "4066" to "5000"

Page 2-24:

Section 2.12.5, Para 1, end of line 2

Add "Brewton is leased as a NOLF for flight training by NAS Whiting Field."

Section 2.12.6, Para 1, line 2:

Change "17-5" to "17-35"

Change "08-6" to "8-26"

Table 2-5

Table needs to be moved ahead of Section 2.12.6

Add the following data to table 2-5:

Airport	Distance	Runways	ATCT	Notes
NOLF Harold	7 mi E	Courses flown: 9/27/18/36 (turf)	NO	Helicopter Navy Outlying Landing Field
NOLF Spencer	9 mi W	Courses flown: 9/27/18/36 (turf)	NO	Helicopter Navy Outlying Landing Field
NOLF Pace	13 mi WNW	Courses flown: 9/27/18/36 (turf)	NO	Helicopter Navy Outlying Landing Field
NOLF Site 8	24 mi WSW	Courses flown: 9/27/18/36 (turf)	NO	Helicopter Navy Outlying Landing Field
Duke Field	25 mi E	18/36: 8,000x150 180/360:3,500x60	YES	USAF

Table 2-5, "Airport Name Description" Column:

For Holley, Santa Rosa, and Choctaw: move "NOLF" in front of field name
For Pensacola, Whiting Field (North), and Whiting Field (South): move "NAS"
in front of field name

Table 2-5, "Distance/ Direction" Column:

Change Eglin from "25 mi ESE" to "30 mi SE"
Change NOLF Holley from "15 mi SE" to "16 mi SSE"
Change NOLF Saufley from "20 mi WSW" to "24 mi WSW"
Change Hurlburt Field from "20 mi SE" to "24 mi SE"
Change NOLF Santa Rosa from "5 mi ESE" to "4 mi ESE"
Change Whiting Field (North) from "4 mi N" to "5 mi NNW"
Change Whiting Field (South) from "5 mi NNE" to "4 mi NNW"

Table 2-5, "Runways" Column:

Add punctuation in "6000" for NAS Whiting Field (South)
Change runway info to "Not Used As Runway/ Courses Flown: 9, 27, 18, 36" for
NOLF Santa Rosa

Table 2-5, "ATCT" Column:

Change "NO" to "YES" for Choctaw

Table 2-5, "Notes" Column:

Change all "Outer Lying" to "Outlying Landing"
Add "Fixed Wing" in front of "Navy Outlying Landing Field" for NOLFs Holley,
Saufley, and Choctaw

Page 2-25:

Section 2.12.17, Title

Change "Sykes" to "Sikes"

Section 2.12.17, Para 1, line 1
Change "Sykes" to "Sikes"
Change "25" to 30"

Section 2.12.8, Para 1, line 1:
Change "28 miles east/southeast" to "35 miles southeast"

Page 2-27:

Figure 2-14:
Change title to "Special Use Airspace in the Region"

Page 3-3:

Table 3-2:
I question 1996-2000 GA Operations. Estimates look high.

Page 3-4:

Table 3-2:
Why the drop in 1997????

Page 3-5

Section 3.4:
What about East apron???

Page 4-4:

Section 4.2.2, Para 1, line 2:
Check % for growth

Page 4-12:

Table 4-4, Title:
Change "Updtae" to "Update"

Further notes: Add page numbers to all pages containing just graphics and tables.

SIGN-IN SHEET

PETER PRINCE AIRPORT

AIRPORT MASTER PLAN UPDATE

AAC MEETING

THURSDAY, JANUARY 17, 2002, 5:00 PM

NAME	CITY/TOWN	ORGANIZATION	PHONE NUMBER	FAX/EMAIL
John Maffea	Ozlando	PBSJ	407-6-17-7275	907-740-5710 jcmaffea@PBSJ.com
Doug Pellen	Eglin AFB	ENCOREment	850-882-3283x37	pelham@eglin.af.mil 850 882 9361
Clyde T. McVick	Milton, FL		850-623-3217 HWR 850-884-2206 WMR	Chy. Melton @Hurlbut.AF.MIL
DAVIS GARY	MILTON	AMS INC	(850)623-4151	623-5154
Jane Hukkin	NAVARRE		936 6088	
Chiflow W. Nelson	PACE		994-0743	
Torey Oates	MILTON	AOPA	623-0018	tandjoe@aol.com
George White	Pennington	PAFW	473-0866	gwhite430@att.net
D. HOBERT	Pennington	PAFW	477-5361	hobert@d @home.com
Kacey Wigg	SRC	SRC P&Z	626-5839	Kacey W Co. Santa Rosa, FL
Robert Powell	Pace		995 5105	
Roger Blaylock	Milton	SRC Engineering	983-2446	850 983-2161 rogerb@co. santa-rosa-fl.us
James Hopmeier	milton		623-0609	626-4181
Bryon L. Woram	NAVARRE/MILTON	ATI	623-3330	623-3323
MARY MARTIN	NAS Whiting FIELD		623 7196 EXT 722	623 7804
Jimmie BEAVERS	NAVARRE		664-2500 934-3570 (H)	JBEAVERS@ BEAVERSINC.COM

AVIATION ADVISORY COMMITTEE

January 17, 2002

Milton, Florida

The Aviation Advisory Committee met on the above date with the following members present: Acting Chairman Clay McCutchan, Garieth Pelham, Clifton Nelson, Gene Hudkins, Marty Martin, Byron Woram and new District 1 member Jimmy Beavers. Also present were County Administrator Hunter Walker and County Engineer Roger Blaylock. Acting Chairman McCutchan called the meeting to order at 5:00 p.m.

Due to board members not having reviewed the September 4, 2001 minutes, review/approval of September 4, 2001 minutes will be reserved until the February 21, 2002 meeting.

John Mafera, PBS&J, was present and gave a Power Point presentation on working paper number 2. Discussion took place among board members and Mafera concerning working paper number 2.

The board expressed concerns with improving security at PPA. Discussion took place concerning the electronic gate and the possibilities of fencing areas surrounding PPA. Robert Powell, an employee at Pensacola Regional Airport, was present and expressed difficulties the PRA is having with electronic gates at PRA.

Blaylock informed board members of joint participation agreements and stated that the State will be providing 75% of the cost of the ground communication outlet and 75% of the cost of the Super Unicom and automated weather observation system. Blaylock stated that SRC is presently soliciting for bids. Blaylock also indicated that SRC is looking into an advisory for high-wing aircrafts for paving runway turnarounds at northwest and southwest ends of taxi-ways; obtaining a second windsock and pole on north end; and concrete for helicopter pads and fuel tanks.

Blaylock stated that he received a letter from FAA stating that PPA has a tentative allocation of \$300,000 to use this year or to roll over to the next year or following year.

Terry Ogle, aircraft owner and representing a volunteer from AOPA, was present and stated that he had concerns with safety. Ogle stated that people had been drag racing on the runways and messing with parked planes.

Dale Hobart, Pensacola Flight Watch and APOA for PRA, was present and explained Super Unicom. Hobart agreed to provide information packets to parties who requested them.

McCutchan inquired as to whether SRC deputies were patrolling PPA. McCutchan requested that if deputies were to patrol PPA, that they speak with local aviators to help assist them with their efforts.

James Hopmeier, an aircraft owner, was present and inquired about what could and could not take place in PPA hangars concerning maintenance. Walker agreed to provide copies of the lease to all interested parties and board members. Board members agreed to have discussions concerning this lease at the February 21, 2002 meeting.

Decided agenda items for the February 21, 2002 meeting are: Election of Chairman and Vice Chairman, Review of PPA hangar lease; Update on CAP building; Security issues, fencing and patrolling; Taxi run-up pad issues; Helicopter paving issues; Super Unicom information; and for Glass to give input on the possibility of a fuel truck at PPA. As a permanent agenda item, the board requested that Glass give FBO updates at future meetings.

As previously mentioned, the next meeting will be February 21, 2002 at 5:00 p.m.

Meeting adjourned at 6:55 p.m.

Chairman

Peter Prince Airport Airport Master Plan Update 2001 - 2021

Presented to:

Airport Advisory Committee (AAC)

Presented by:

PBS&J

January 17, 2002

Working Paper No. 2

Demand/Capacity Analysis



Analysis to determine the ability of current facilities to meet forecast activity levels and overall demand.

Facility Requirements



Comparison of existing facilities and operations with projected demand in order to identify additional facilities that will be required over the planning period.

Airport Design Criteria

Table 5-2
Peter Prince Airport Master Plan Update
Design Standards

DESIGN REQUIREMENTS

Geometrical Design Standards (RW 18-36)	ARC B-I	ARC B-II
Runway width	60'	75'
Runway shoulder width	10'	10'
Runway blast pad width	80'	95'
Runway blast pad length	100'	150'
Runway safety area width	120'	150'
Runway safety area length beyond runway end	240'	300'
Obstacle free zone width	400'	400'
Obstacle free zone length beyond runway end	200'	200'
Runway Object free area width	400'	500'
Object free area length beyond runway end	240'	300'
Taxiway width	25'	35'
Taxiway shoulder width	10'	10'
Taxiway safety area width	49'	79'
Taxiway object free area width	89'	131'

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

Airport Design Criteria Cont..

Table 5-3
Peter Prince Airport Master Plan Update
Separation Standards

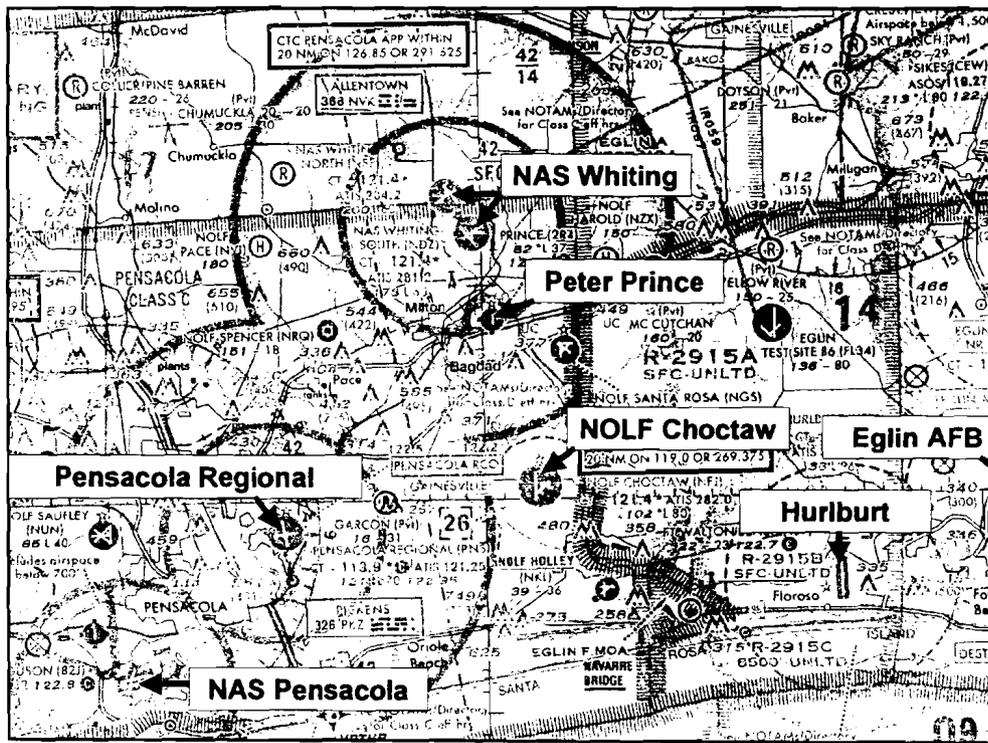
SEPERATION REQUIREMENTS

Separation Standards (RW 18-36)	ARC B-I	ARC B-II
Runway centerline to hold line	200'	200'
Runway centerline to parallel taxiway/taxilane centerline	225'	240'
Runway centerline to aircraft parking area	200'	250'
Runway centerline to helicopter touchdown pad	700' *	700' *
Taxiway centerline to parallel taxiway/taxilane centerline	69'	105'
Taxiway centerline to fixed or moveable object	44.5'	65.5'
Taxilane centerline to parallel taxilane centerline	64'	97'
Taxilane to fixed or moveable object	39.5'	57.5'

Sources: FAA AC 150/5300-13, Airport Design; FAA AC 150/5340-1, Standards for Airport Markings; FAA AC 150/5380-2, Helipport Design
* - 300 feet for small and medium helicopters, 700 feet for heavy helicopters (over 12,500 lbs)

Airspace Capacity

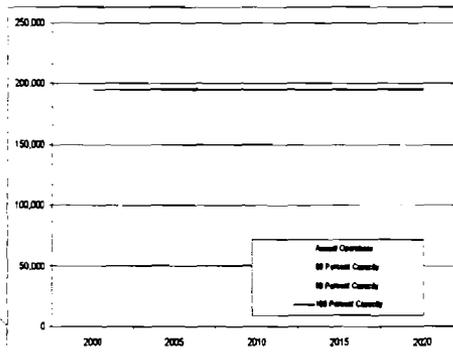
- Airspace capacity is of concern when the flight paths or local NAVAIDS interact to affect operations at the study airport.
- The region surrounding 2R4 is occupied by a number of small GA airports and military facilities.
- The airspace surrounding the airport is heavily occupied by military special use airspace, with the remaining unrestricted airspace shared by a number of GA and commercial airports.
- Limitations on the airspace and use of instrument approach procedures exist and must be considered when calculating the airport's overall capacity.



Airside Capacity & Facilities

Annual Service Volume (ASV) vs. Annual Demand

Year	Aircraft Mix Index	Annual Operations	Annual Service Volume (ASV)	Percent of ASV
2000	0.0%	93,950	195,272	48%
2006	0.0%	112,330	195,272	58%
2011	0.7%	125,192	195,272	64%
2016	2.2%	138,932	195,272	71%
2021	3.7%	153,120	195,272	78%



Source: FAA AC 150/5000-5, Airport Capacity and Delay and PBS&J, 2001

Runways

- The Current runway has adequate capacity and the critical aircraft is currently the Cessna 310 (B-I). Meets FAA requirements for B-II aircraft.
- However, increased activity and demand by larger business aircraft, such as the Jetstream 31 and Citation III, are forecast to begin by 2006.

Required Runway Length

Aircraft	Maximum T/O Weight (lbs.)	Usable Load			Stage Length (nm)	Runway Length		
		Existing	Typical	Ultimate		Existing (ft.)	Typical (ft.)	Ultimate (ft.)
Jetstream 31	14,550	80%	90%	100%	1,500	3,700	4,000	4,500
Falcon 900	45,500	75%	90%	90%	1,500	3,700	4,450	4,950
Beech 1900C	16,800	98%	90%	100%	1,500	3,700	3,500	3,737
Fokker F28	65,000	78%	90%	95%	1,500	3,700	4,300	4,800
Cessna Citation III	22,000	74%	90%	90%	1,500	3,700	4,500	5,000

Source: FAA AC 150/5325-4A, PBS&J 2001

Taxiways

- Both Taxiway "A" and "B" are currently 25 feet wide and meet B-I design standards.
- FAA design standards for Group II taxiways require a width of 35 feet.
- Taxiway "A", "B" and all associated connector taxiways should be widened to 35 feet.
- The existing centerline separations for Taxiways "A" and "B" meet the FAA Group II requirements.
- The taxiways ("A" and "B") should be extended in conjunction with any future runway extension.

Approach & Navigational Aids

- Existing NAVAIDS include:
 - ❖ Very High Frequency Omni-directional Range/Tactical Navigation (VORTAC) for enroute navigation
 - ❖ Global Positioning System (GPS) for IFR approach
 - ❖ Precision Approach Path Indicators (PAPI) for visual and IFR approach
 - ❖ Automated Weather Observation System III (AWOS III).
- Runway End Identification Lights (REILS) should be installed at both ends of Runway 18-36.

Airfield Lighting, Signage & Pavement Markings

- MIRL and MITL systems should be expanded in conjunction with any future runway and taxiway extensions.
- Signage updates should be completed with any runway extensions, taxiway extensions, apron expansion, and fueling facilities.
- Runway markings should be appropriately relocated to coincide with completion of any runway and taxiway extensions and improvements or construction of additional apron area.

Aircraft Aprons & Tie-Downs

Aircraft Tie-down/Parking Apron Requirements (SY)

Year	Based Aircraft	Itinerant Aircraft	Total
2000	4,050	1,440	5,490
2006	5,940	1,560	7,500
2011	6,615	1,625	8,240
2016	7,380	1,805	9,185
2021	8,190	1,990	10,180

Source: FAA AC 150/5300-12, PDS&J 2001

Aircraft Hangars

Hangar Space Requirements*

Year	T-Hangars	Corporate Hangars	Conventional Hangars
2000	72	1	1
2006	104	2	1
2011	115	3	1
2016	129	3	2
2021	143	4	2

Source: PBS&J, 2001

* ZRH currently has 72 T-hangar units, 1 corporate hangar, and 1 conventional hangar

Aircraft Fuel Storage

Fuel Storage Requirements

Year	1 Month Demand	Capacity (Gallons)	Fuel Tank Requirement (1)	Fuel Trucks Required	Fuel Farm Area (sq/ft) =
2000	8,800	10,000	1	0	840
2006	11,607	20,000	2	1	1,680
2011	12,936	20,000	2	1	1,680
2016	14,356	20,000	2	1	1,680
2021	16,822	20,000	2	2	1,680

Source: PBS&J, 2001

(1) Based on 110% capacity of forecast demand
Based on average area of 840 sq. ft per tank for safety and operational areas

FBO Terminal Building

FBO/GA Terminal Building Requirements

Year	Total GA Passengers	Busy-Hour Passengers	Required Terminal Space (SF)
2000	100,260	48	3,000
2006	119,874	57	3,565
2011	133,800	64	4,000
2016	148,406	71	4,440
2021	163,406	78	4,875

Source: PBS&J, 2001

Automobile Parking

Automobile Parking Requirements

Year	Busy-Hour Passengers	Required Parking Spaces	Required Parking Area (SY)*
2000	48	63	2,775
2006	57	74	3,255
2011	64	83	3,655
2016	71	92	4,050
2021	78	102	4,490

Source: PBS&J, 2001

Demand & Facilities Summary

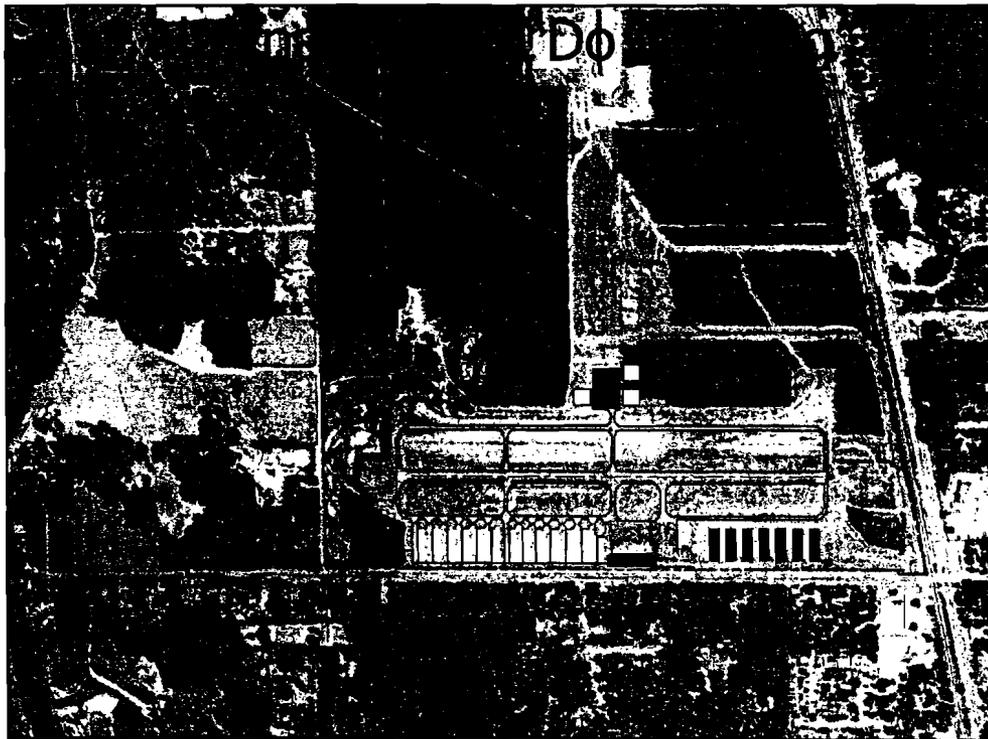
Item	Existing (2000)	Planning Stage Requirements		
		2006	2011	2021
Airside Facilities				
Runway 18-36:				
- length/width	3,700' x 75'	4,500' x 75'	N/C	N/C
- strength	22,000 SW/44,000 DW	22,000SW/44,000DW	N/C	N/C
- approach aids				
- RW 18	PAPI, MIRL	PAPI/GPS/MIRL/REIL	N/C	N/C
- RW 36	PAPI, GPS, MIRL	PAPI/GPS/MIRL/REIL	N/C	N/C
-Taxiways length/width	3,700' x 25'	4,500' x 35'	N/C	N/C
Taxway System				
- Runway 18-36	Full-length parallels	N/C	N/C	N/C
Landside Facilities				
Aircraft Apron Area:				
- Tie-down	9,800 sy	7,500 sy	8,240 sy	10,180 sy
- Run-Up	6,700 sy	N/C	N/C	N/C
Aircraft Hangars:				
- T-Hangar units	72	104	115	143
- Corporate hangars	1	2	3	4
	1	1	1	2

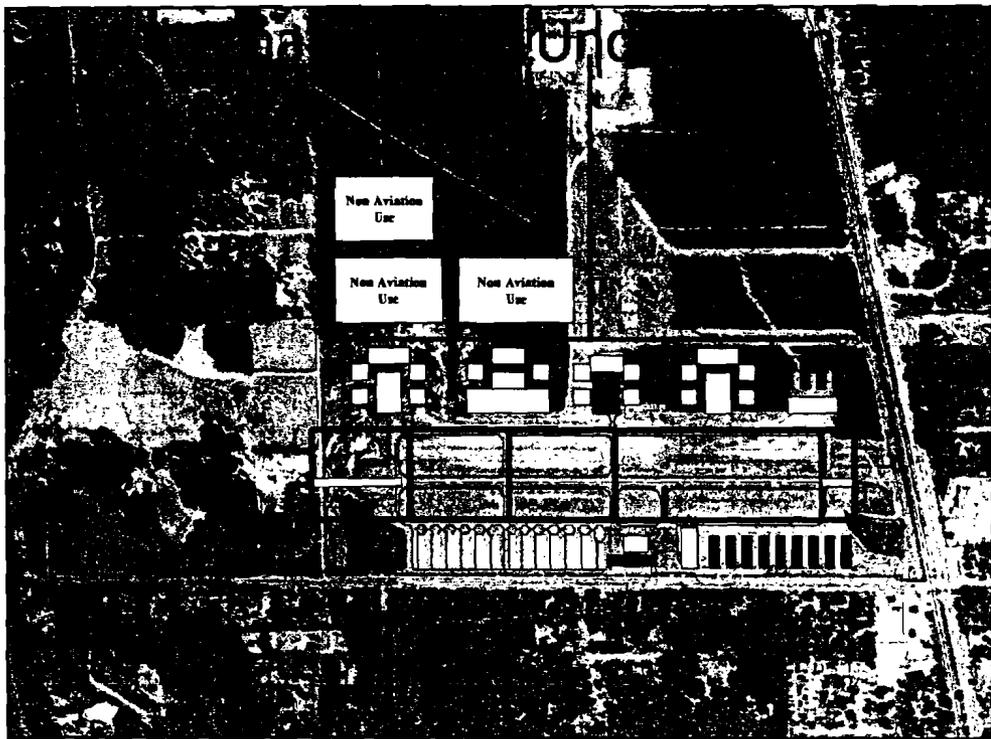
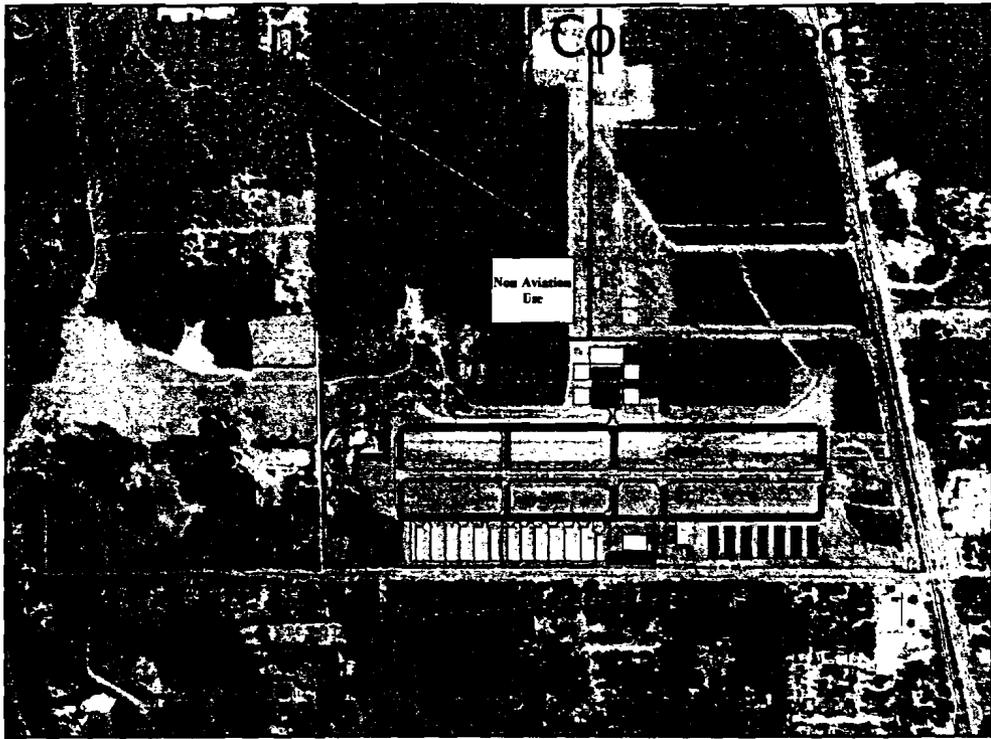
Demand & Facilities Summary Cont...

Fuel Storage:				
- Fuel tanks	2	1	2	2
- Fuel trucks	0	1	1	2
- Self serve	1	1	1	1
Terminal Buildings:				
- FBO terminal	5,000 square feet (old building to be replaced)	3,565 square feet	4,000 square feet	4,875 square feet
Automobile Parking:				
- FBO/GA Spaces	55	74	83	102
- Total Parking Area	3,000 square yards	3,255 square yards	3,655 square yards	4,490 square yards
Land Acquisition:				
- Additional acquisition	N/A	25 acres	10 acres	N/A
- Total Property	235 acres	260 acres	270 acres	N/C

Development Alternatives

- Based on aviation demand forecasts and demand/capacity analysis & facility requirements, there are three primary development alternatives:
 - ❖ Alternative 1 – “No Build” / Demand Based
 - ❖ Alternative 2 – Constrained Development
 - ❖ Alternative 3 – Unconstrained Development

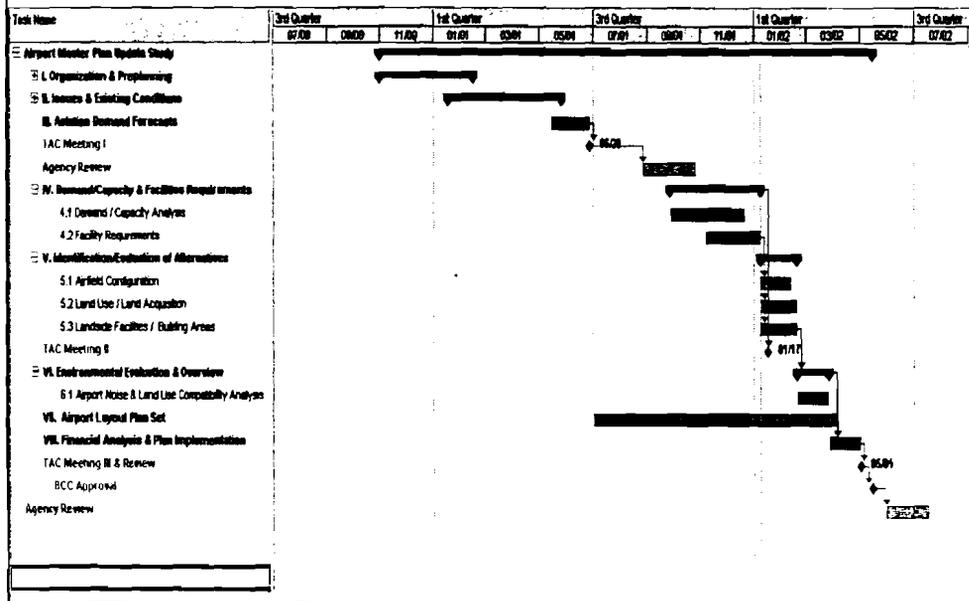




Remaining Elements of the Master Plan

- Draft Master Plan Document (development alternatives, environmental evaluation, ALP set, financial analysis & implementation plan)
- AAC Review of Draft Master Plan
- Agency Review
- Final Report Document

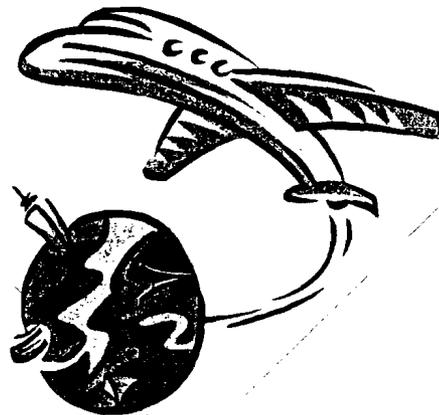
Revised Schedule



Important Dates

- January 17, 2002 Working Paper No. 2
- May 1, 2002 Present Draft Master Plan to AAC
- May 15, 2002 Submit Draft Master Plan to BCC
- June 1, 2002 Submit Master Plan to Agencies
- July 15, 2002 Final Master Plan Document

Thank You for Your Time,
Now Q & A



AGENDA
AVIATION ADVISORY COMMITTEE
June 19, 2002

- I. Call to Order
- II. Review/Approval of May 15, 2002 minutes
- III. Review of development alternatives – John Mafera
- IV. Review of annual hangar inspection
- V. Chairman issues/items
- VI. FBO Issues/Items
- VII. Other Business/Adjournment

July 17 Meetings
August 28 Meetings – DRAFT MP Doe

06/19/02

AVIAITON ADVISORY COMMITTEE

June 19, 2002

Milton, Florida

The Aviation Advisory Committee met on the above date with the following members present: Chairman Clay McCutchan, Jimmy Beavers, Garieth A. Pelham, Marty Martin, and Bryon Woram. Also present were the County Administrator, County Engineer, and Administrative Services Manager. Gene Hudkins and Clifton Nelson were absent. Chairman McCutchan called the meeting to order at 5:00 p.m.

Beavers moved approval of the May 15, 2002 minutes, Pelham seconded, and the motion carried unanimously.

First on the agenda was review of development alternatives. A Powerpoint presentation on the Peter Prince Airport Master Plan Update was given by John Mafera. Mafera said they have completed the data collection and inventory; the forecast development is complete, and they are waiting the final approval from FAA. The last element of the Master Plan is the overall Draft Master Plan document, which will include the environmental overview, Airport Layout Plan (ALP), financial analysis and implementation plan. At the last meeting the Committee voted on Alternative 2, which is the constrained development plan. Mafera said he hopes to get final direction on the selected alternative, so they can present this to the Board at the July 11, 2002 meeting for approval. After this he plans to submit and present the Draft Master Plan document at the August 21, 2002, Aviation meeting, and review the comments and make necessary changes. The Master Plan would then go to the Board for their approval at the September 12, 2002 meeting. After the Board approves it in September he could submit it to the agencies, which will take 45 days for review, comment, and final approval. This would give a finalized document by October 31, 2002. He said they are 75% done with the Plan. Beavers asked where the fuel farm is going to be, and Mafera said they can expand its existing location, or it can be relocated. He said based on the forecast they are not

anticipating a large expansion of the facilities. The current location is where it's planned now, but if there are issues that need it to move, then they can move it to other areas of the airfield. They do require a truck as the east side becomes developed. They will have to deliver fuel rather than have self-serve. Mafera said the ALP is an overall guide for development of the airport for the next 20 years, and is essentially to get funding for whatever projects they want to do. Discussion took place concerning Alternative 2.

Dale Holbert, Flight Watch, suggested a modified phasing of alternative 2 in the Master Plan. Holbert said they would like to rearrange items in phase 1 and phase 2 of Alternative 2. He feels this would give some breathing room if the circumstances did change in 2 to 4 years. He said it would be a shame to preclude the possibility of a runway extension. There are no additions or subtractions, they are changing the phasing of the items. Davis Glass, FBO, agreed with Holbert that the 4 hangers sited south of the FBO building be displaced to the south a little further so they can retain a portion of their 5 acres. Blaylock said they have received word from FAA that they have \$450,000.00 allocated towards Peter Prince of which \$120,000.00 has to be spent next year. He said FAA does not participate in installing T-hangers, but DOT does a 50/50 match. McCutchan said he is in favor of going with the selected alternative if the plan will work with Flight Watch and the FBO on the phasing as much as possible. He said the diagonal runway is a moot point, and it's time to build this airport. Discussion took place concerning changes at Peter Prince Airport.

Mafera said in 5 years, depending on funding and the construction time, there may only be 3 or 4 hangers built. Beavers asked when would there be some T-hangers up, and Blaylock said in 6 months if the Board funded 100%, but if they tried to get in the cycle with DOT they would have some lag time and will have to work through that process. McCutchan asked what number of hangers they could look forward to in 6 months or a year from now if they vote tonight, and Blaylock said 3 or 6 rows, which will be 18 or 36. **Martin moved approval of selected Development Alternative 2 with numbers 1 through 4 of Flight Watch's proposed phasing items, Pelham seconded, and the motion carried unanimously.** Walker requested the Committee be present at the Board

of County Commissioners Regular Meeting on July 11, 2002, to present Alternative 2 to the Board.

Next on the agenda was a review of the annual hangar inspection. Staff provided the Committee with a hard copy of the inspection. Walker thanked Flight Watch for providing a volunteer for the inspection, and discussion took place concerning the inspection. **McCutchan moved to support the findings of the inspection and recommends the County follow through on the inspection. Martin seconded, and the motion carried unanimously.** McCutchan said he has an uneasiness about some of the write-ups and he recommends another inspection in 6 months to see if there are repeat write-ups. He said he sees tremendous amounts of liability for the County. **McCutchan moved there be another hangar inspection in 6 months, Woram seconded, and the motion carried unanimously.** Pelham said in the lease the people can do their own repairs, but it also says it can't be used as a repair shop which is in direct competition, and he feels this should be stopped immediately. McCutchan said he doesn't have a problem with competition as long as it's fair. If the County is subsidizing somebody and the person is not paying for the commercial licenses or the proper insurance, this is a liability.

CHAIRMAN ISSUES:

McCutchan said he got in touch with the Civil Air Patrol (CAP), and talked about the CAP building here. He said they are a non-profit tax-exempt organization doing a service for the community. Their situation is that their senior squadron in the Milton area became inactive so they moved the airplane to Pensacola, and have plans to come back and operate out of that facility. They have a junior squadron of cadets who are meeting in Pensacola, but are having a hard time with their meeting place. They may move their meetings to the Milton airport. He supports the CAP a hundred percent, and was wondering if there was something the County could do as far as cleaning the place up.

FBO ISSUES:

David Glass, FBO, said the subject of hangar misuse was brought up. But he was not prepared to give his report on their feelings on this subject right now. Glass said as soon as they get finished with the 141 hangar, misuse will be their next subject to address to the County. He said there are 3 commercial shops being run in County hangars, and he has identified them to the County Attorney in a letter he sent in January. Of the 3, 1 does not own an aircraft, which is a requirement of the lease. If any spray gets into any of the neighbors, there's going to be some irate people. This is in direct violation of the lease. Glass said FAA showed up late last Monday. Tuesday there was an accident at Regional Airport, and the inspector was sent there to investigate the accident so they lost one day of his time going through their 141 status. Their chief instructor got a check ride in one aircraft a day and Glass is hoping he got a second check ride in a second type of aircraft. McCutchan asked if it's possible to build a couple commercial grade hangars for people to lease and to set up businesses, and Mafera said you could put any type of hangar there. Discussion took place concerning hangars and businesses.

The next meeting was scheduled for July 17, 2002 at 5:00 p.m. The August meeting was changed to the second Wednesday, which is August 14, 2002.

There being no further business to come before the Committee at this time the meeting adjourned.

Chairman

Peter Prince Airport Airport Master Plan Update 2001 - 2021

Presented to:

Airport Advisory Committee (AAC)

Presented by:

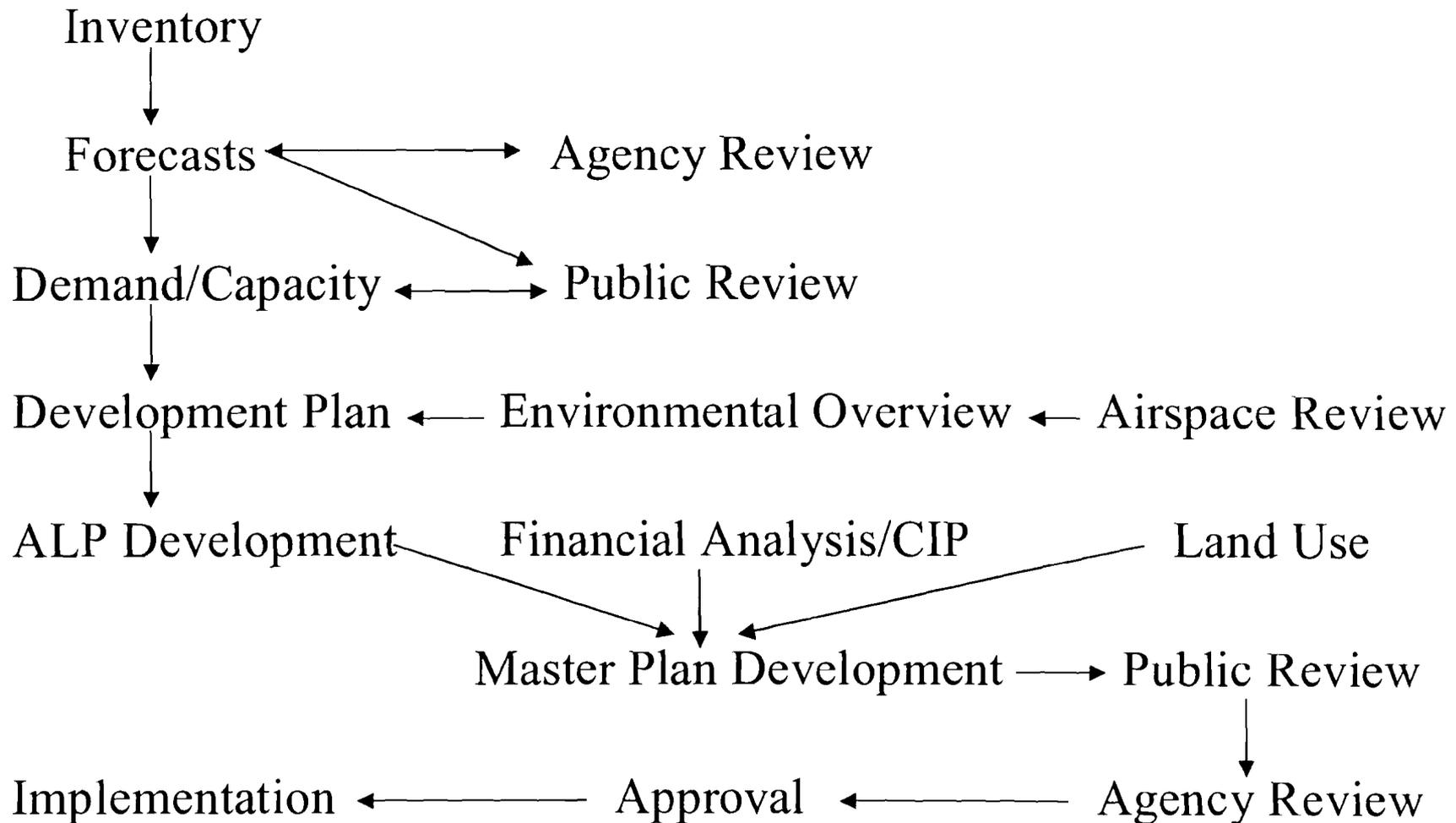
PBS&J

June 19, 2002

Project Status and Update

- Data Collection and Inventory
- Forecast Development
- Demand/Capacity Analysis & Facility Requirements
- Development Alternatives
- **Selected Alternative and Environmental Overview**

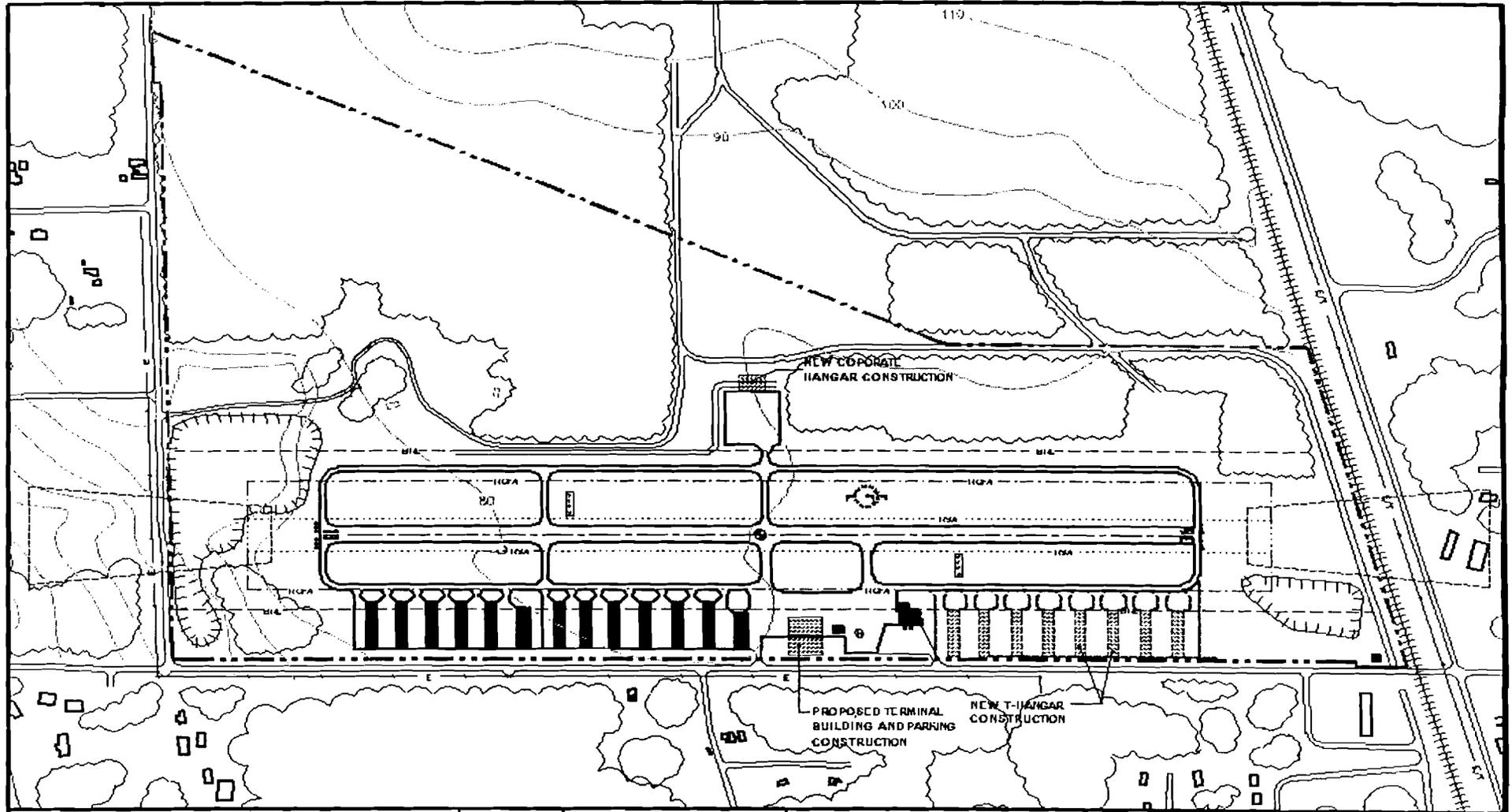
Steps in the Master Planning Process



Development Alternatives

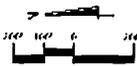
- Alternative 1 – “No Build” / Demand Based
- Alternative 2 – Constrained Development
- Alternative 3 – Unconstrained Development

Alternative 1 - No Build/Demand Based



PBSJ

GRAPHIC SCALE IN FEET

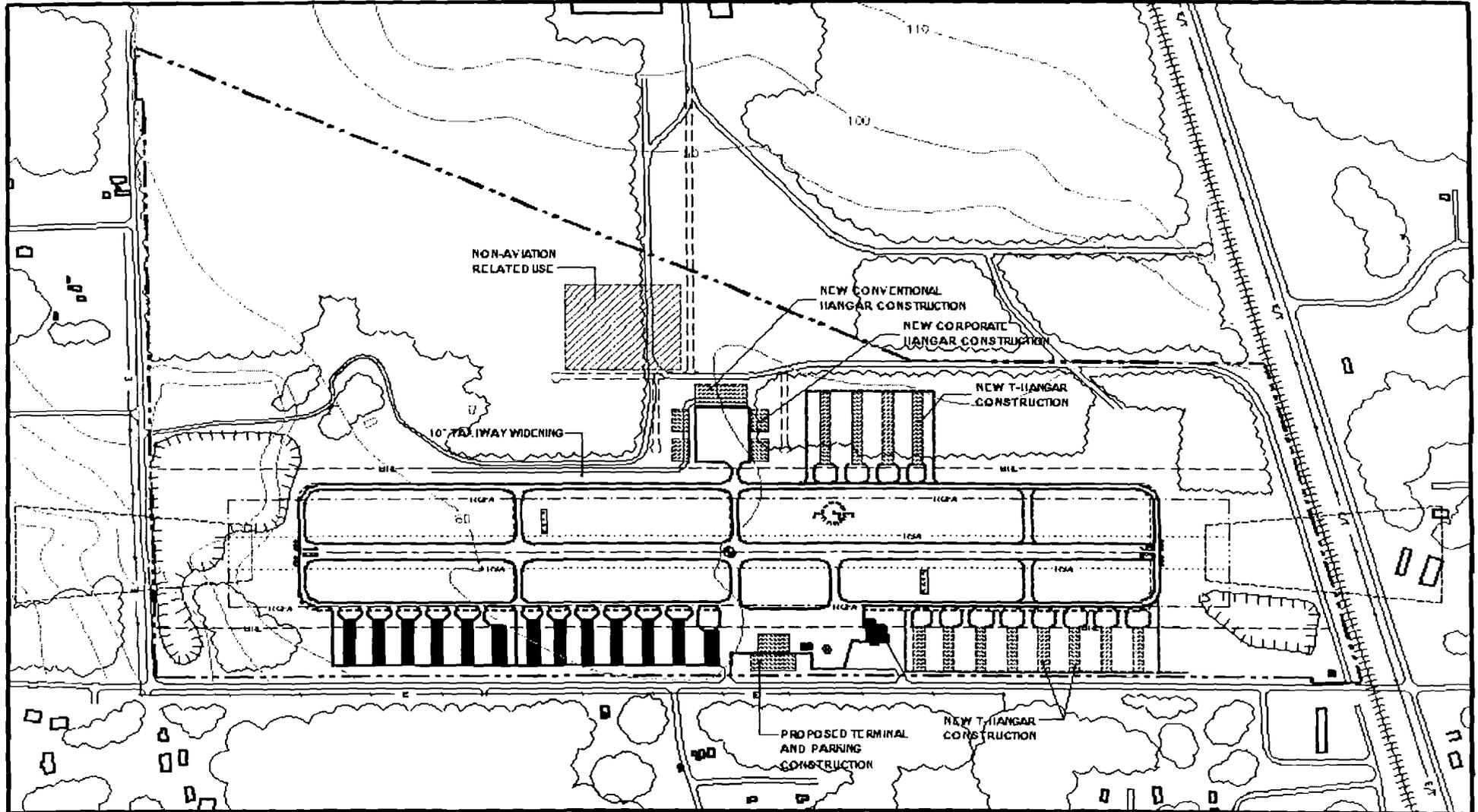


Peter Prince Airport
Master Plan Update

Alternative - 1
No Build/Demand Based

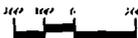
Figure
7-1

Alternative 2 - Constrained



PBSJ

GRAPHIC SCALE IN FEET

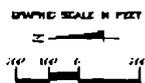
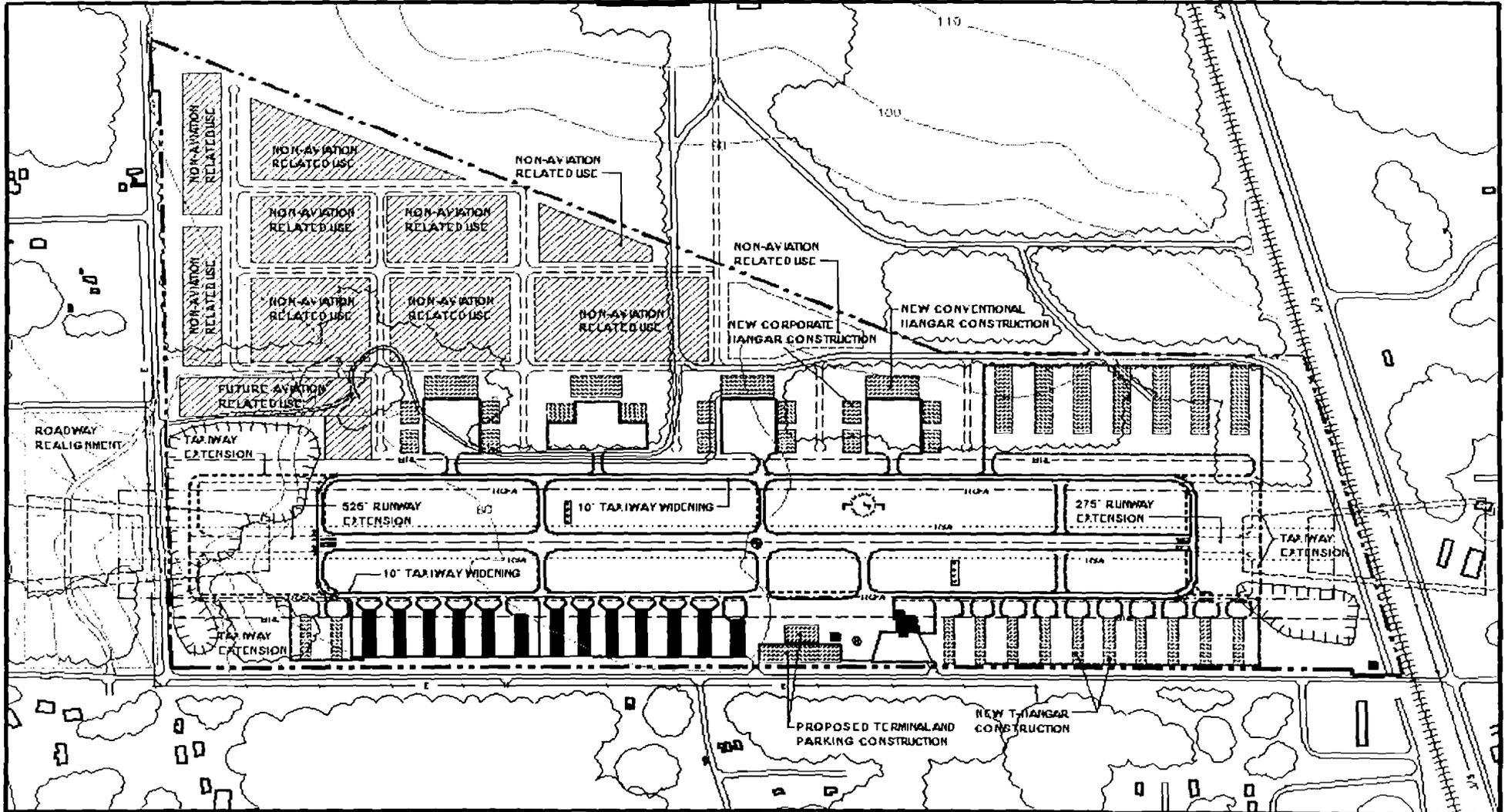


Peter Prince Airport
Master Plan Update

Alternative - 2
Constrained Development

Figure
7-2

Alternative 3 Unconstrained

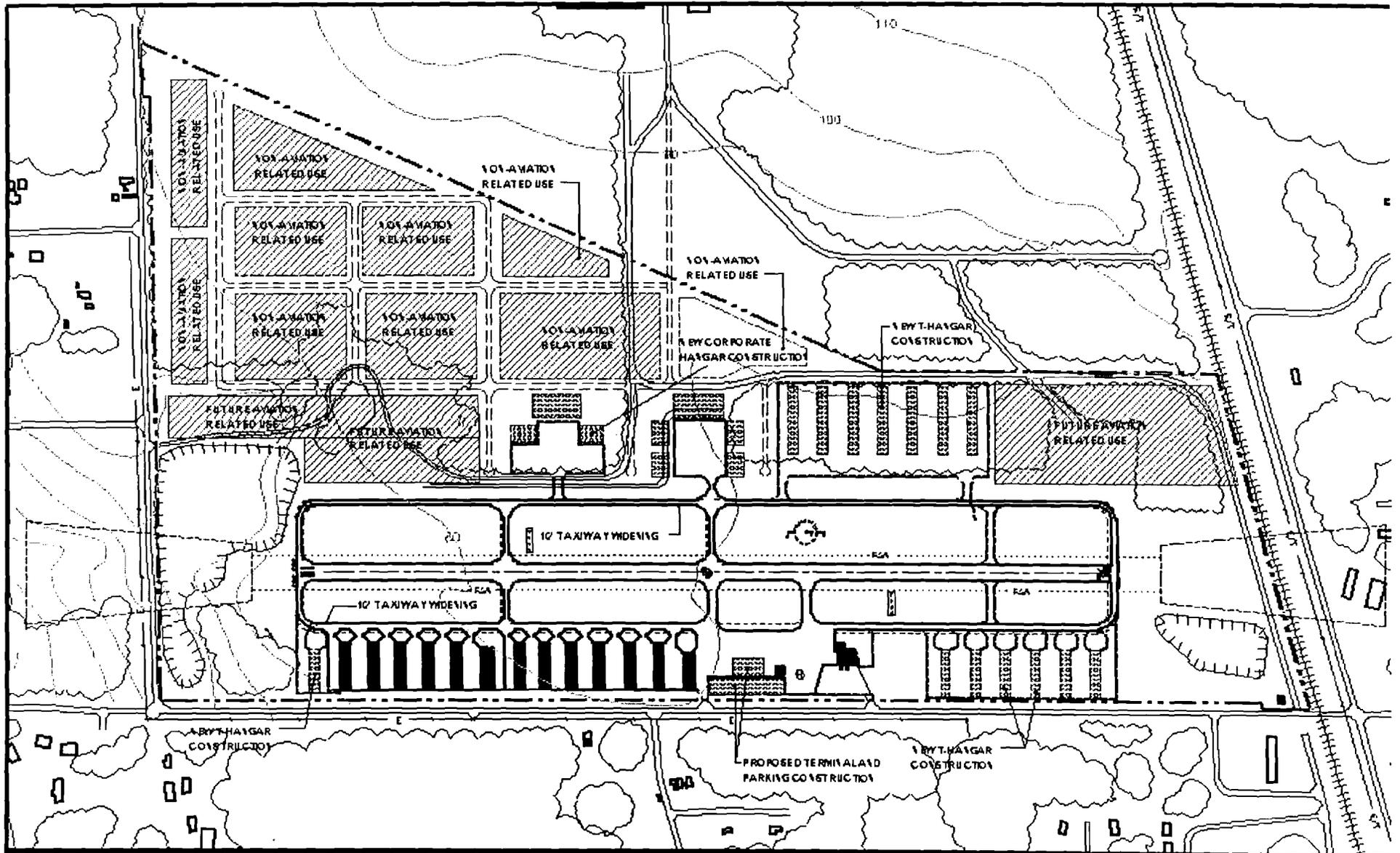


Peter Prince Airport
Master Plan Update

Alternative - 3
Unconstrained Development

Figure
7-3

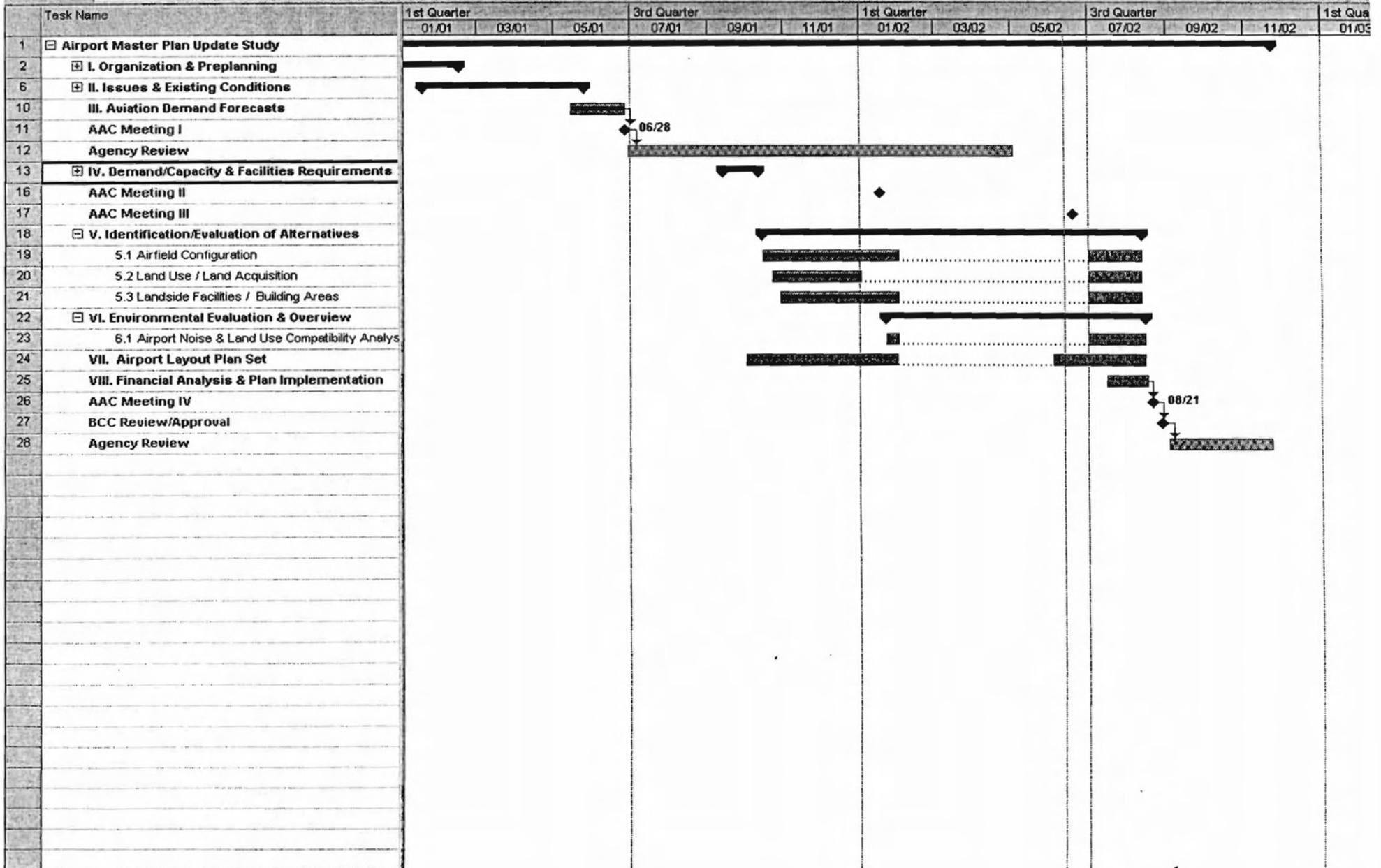
Selected Development Alternative



Remaining Elements of the Master Plan

- Draft Master Plan Document (environmental overview, ALP set, financial analysis & implementation plan)
- AAC and BCC Approval of Draft Master Plan
- Agency Review and Approval
- Final Report Document

Revised Schedule

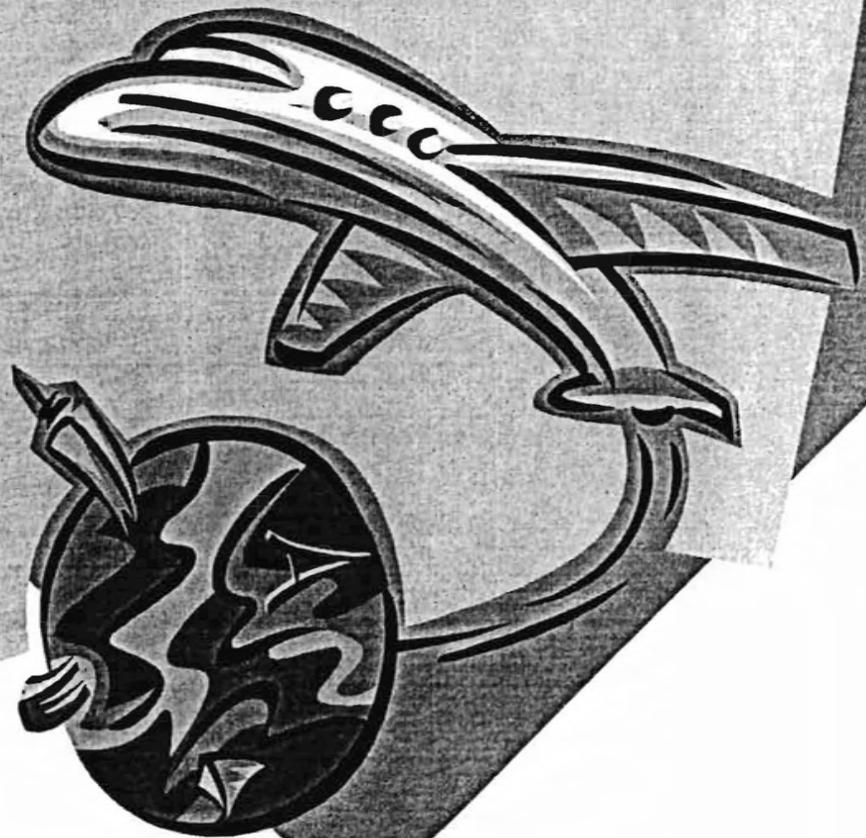


Important Dates

- June 19, 2002 Approval of Selected Alt.
- July 10, 2002 BCC Approval of Preferred Alternative
- August 21, 2002 Draft Master Plan to AAC
- September 11, 2002 Approval by BCC
- September 16, 2002 Master Plan to Agencies
- October 31, 2002 Approval from Agencies

Thank You for Your Time,

Now Q & A





SANTA ROSA COUNTY BOARD OF COMMISSIONERS



JIM WILLIAMSON, District 1
H. BYRD MAPOLES, District 2
W. D. "DON" SALTER, District 3
DEBBIE DAWSEY, District 4
W. A. "BUCK" LEE, District 5

Santa Rosa Administrative Offices
6495 Caroline Street
Milton, Florida 32570-4592

HUNTER WALKER, County Administrator
THOMAS V. DANNHEISSER, County Attorney
JOEL D. HANIFORD, OMB Director

M E M O R A N D U M

TO: Aviation Advisory Committee

FROM: *NWJ* Hunter Walker, County Administrator

DATE: March 13, 2002

SUBJECT: March 20, 2002 Meeting

This is to confirm the Aviation Advisory Committee meeting of Wednesday March 20, 2002 in the Commissioners Meeting Room beginning at 5:00 p.m. Find attached minutes of February 21, 2002 meeting for your review and subsequent approval.

The tentative agenda is as follows:

- a. Call to Order - Chairman
- b. Review/approval of February 21, 2002 minutes
- c. Review of three (3) development alternatives and selection of preferred alternative
- d. Discussion of need for AWOS-III system based on Superunicom options
- e. FBO Report - FBO agreement provisions, other
- f. Discussion of hangar inspection plan
- g. Other business/adjournment

Please contact this office with questions, comments, or concerns.

cc: Roger Blaylock
Tammy Simmons
Kacey Wagg
Interested Parties

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AVIATION
MAR 18 2002



SANTA ROSA COUNTY BOARD OF COMMISSIONERS



JIM WILLIAMSON, District 1
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DEBBIE DAWSEY, District 4
W. A. "BUCK" LEE, District 5

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HUNTER WALKER, County Administrator
THOMAS V. DANNHEISSER, County Attorney
JOEL D. HANIFORD, OMB Director

M E M O R A N D U M

TO: Aviation Advisory Committee

FROM: Hunter Walker, County Administrator

DATE: August 21, 2002

SUBJECT: August 28, 2002 Meeting

This is to confirm the Aviation Advisory Committee meeting of Wednesday August 28, 2002 in the Commissioners Meeting Room beginning at 5:00 p.m. Find attached minutes of July 17, 2002 meeting for your review and subsequent approval.

John Mafera of PBS&J, Inc. forwarded under separate cover final draft of Peter Prince Airport Master Plan Update which will be the prime topic of the meeting.

The tentative agenda is as follows:

- a. Call to Order - Chairman
- b. Review/approval of July 17, 2002 minutes
- c. Peter Prince Airport Master Plan Final Draft
- d. Chairman Issues
- e. FBO Issues
- f. Other business/adjournment

Please contact this office with questions, comments, or concerns.

cc: Roger Blaylock
Tammy Simmons
Kacey Wagg
Interested Parties

AVIATION ADVISORY COMMITTEE**August 28, 2002****Milton, Florida**

The Aviation Advisory Committee met on the above date with the following members present: Chairman Clay McCutchan, Jimmy Beavers, Marty Martin, Garieth A. Pelham, Clifton Nelson, and new member Carlos Diaz. Also present were the County Administrator Hunter Walker, County Engineer Roger Blaylock, and Administrative Services Manager Tammy Simmons. Chairman McCutchan called the meeting to order at 5:00 p.m.

Beavers moved approval of the July 17, 2002 minutes, Garieth seconded, and the motion carried by unanimous vote.

Chairman McCutchan welcomed new committee member Carlos Diaz.

First on the agenda was a presentation of the Peter Prince Airport Master Plan Update by John Mafera, PBS&J. Mafera gave a PowerPoint presentation, and distributed a hardcopy of the presentation to the committee members. (See Attached) Mafera said they are near the end of the plan, and asked the committee members to e-mail any comments so he can incorporate them in the plan. Walker said the next Regular Meeting is the 12th for the Commission to vote on the plan. Pelham asked if this meeting would meet the public input requirements for the master plan, and Mafera said yes. Martin said he is concerned with land use controls as 65 DNL line is outside the airport property, so they must get this through the Planning Board for zoning. McCutchan asked about the profits of the airport, and discussion took place concerning revenues and expenditures at the airport. Diaz asked if the plan is approved by the committee and the Commissioners, could there be no further plan of development, and Blaylock said this will become the implementing plan for FAA and DOT participation. He said this doesn't mean they can't do something outside of the ALP (Airport Layout Plan), but if it's not on the ALP it doesn't get funded. Blaylock said if they wanted to do add something they would have to come back and

modify the ALP, get it approved and resubmit to reviewing agencies.

Dale Holbert, Flight Watch, said the hangers on the southwest corner appear to be smaller in the capital improvement program. Mafera said they do conceptual planning, and put it where they think they can fit the hangers.

Don Weloth said he is very interested in the growth of the airport, growth of the county, and especially the financial growth of the county with the airport. Weloth said the runway is the smallest thing in the construction phasing and capital improvement program. He said an airport is basically a runway, and feels the committee is avoiding the issue. He said a larger runway would mean more accessibility, which means more revenue for the county, people, and businesses.

Pelham moved approval of the Peter Prince Master Plan as written, with review of comments provided before next Wednesday by the committee members and the public, which was seconded by Martin and carried by unanimous vote.

Diaz said the airport has had three large corporate hangers for years, and never had a corporation airplane at the airport. This is because of the 3,700-ft. runway. He said if the runway is shorter than 4,000 feet, the big planes will not come in.

Chairman Issues:

McCuthcan thanked the county for the outstanding job they did on the CAP cleanup. He said the committee went to Byron Woram's place, and had an outstanding tour. He said there is a lot going on there, and they are one-of-one in the world doing what they do. Their customers are nations, the biggest governments, and corporate entities, including NASA. He asked if there has been any work on the frequency change at the airport, and Holbert said they made 3 suggestions. He said Blaylock said they would pursue the change only after the superunicom is installed. Pelham said at the last meeting Flight Watch said they would do the paper work for the superunicom, and provide it to

Blaylock. Martin said they have a problem at Brewton also, and would like a copy from Holbert when available. McCutchan asked about the compass rose, and Blaylock said they decided to use Okaloosa. Diaz said Peter Prince has an arrangement with the Crestview master compass. McCutchan also asked about hanger inspections, and Walker said they sent the follow-up letters and they are scheduled in November. McCutchan asked if county staff is making regular inspections of the outside of the hangers. Walker said staff could go out once a month to look and make sure things are all right. McCutchan asked if there have been complaints on water leaks in the hangers, and Blaylock said they've had some complaints related to drainage. Simmons said they don't have any leaks now, but have replaced 22 skylights.

FBO ISSUES:

Diaz said the progress report on the building is going according to plan. The latest issue is that one of the requirements for building is that it has to be within 500 feet of a fire hydrant, and there isn't a hydrant north of Highway 90. They had to get a waiver for this, which has to be approved by the commission. Blaylock said East Milton Water is looking at an expansion to connect the 4-inch pipe to a 6-inch pipe. He said the county will provide the pipe, and the county will provide the labor. McCutchan asked Diaz how many students they have since they got the 141, and Diaz said they are up to 20 students. Diaz said the Air Force students are coming in too, and they are called IFTs (Initial Flight Training).

George White, Flight Watch, said this committee has oversight over the aviation activities of the county, and the committee has a lot of influence with the commission and county administrator. White said the questions he gets asked are concerning Diaz being on the committee. He said the committee has oversight over the FBO, Diaz. He asked how Diaz is going to deal with committee issues without having an appearance of conflict of interest. Walker said he asked the county attorney about the situation, and the attorney said this should not be a problem, as this is only an advisory committee. Beavers said he shares the same concern, but feels where there are things of conflict he hopes Diaz will

recuse himself. White said one of the positive things that has come out of this committee has been the ability to have people able to voice their complaints about everything concerning aviation. McCutchan said the FBO is the county's trusted agent to run the airport. Discussion took place concerning committee members.

Beavers asked what the status of the GCO is, and Blaylock said they received a letter of approval from Pensacola Traycon. Blaylock said their letter and his letter would be going to Washington to request approval, which would take about 90 days.

The next meeting was scheduled for October 16, 2002 at 5:00 p.m.

There being no further business to come before the committee at this time, the meeting adjourned.

Chairman

Peter Prince Airport Airport Master Plan Update 2001 - 2021

Presented to:

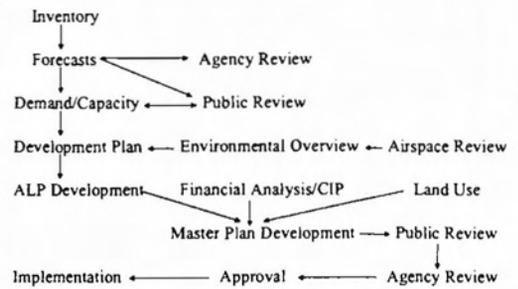
Airport Advisory Committee (AAC)

Presented by:

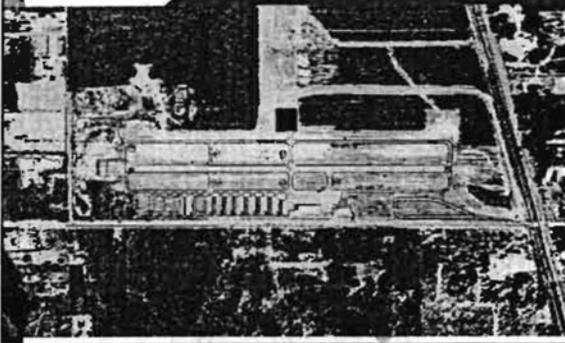
PBS&J

August 28, 2002

Steps in the Master Planning Process

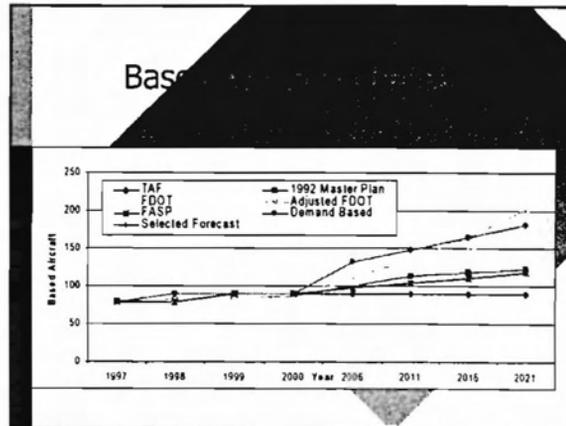
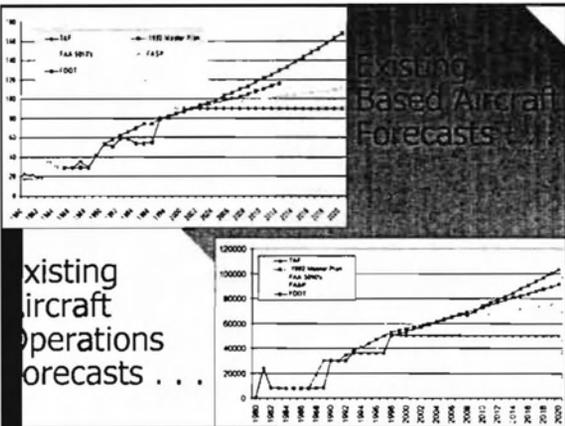


Existing Facilities & Environs



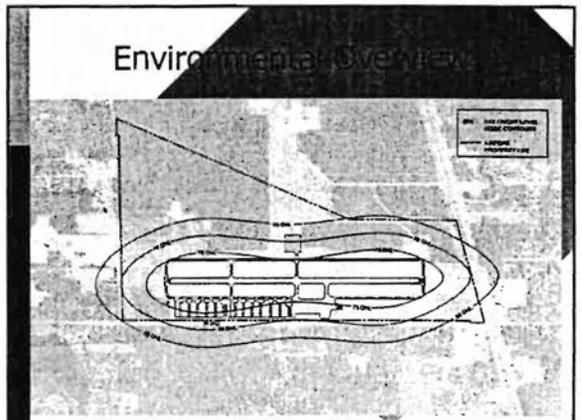
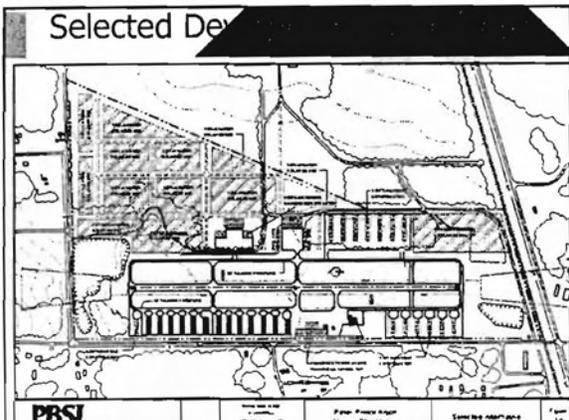
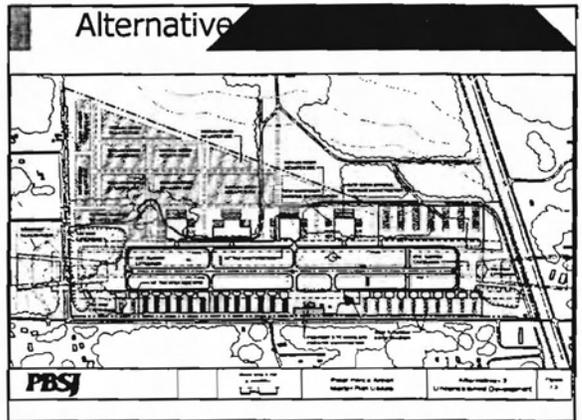
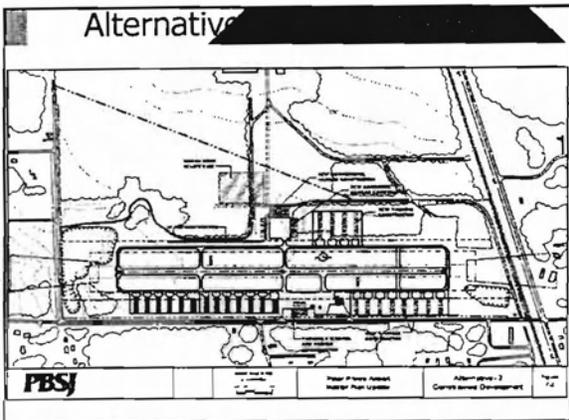
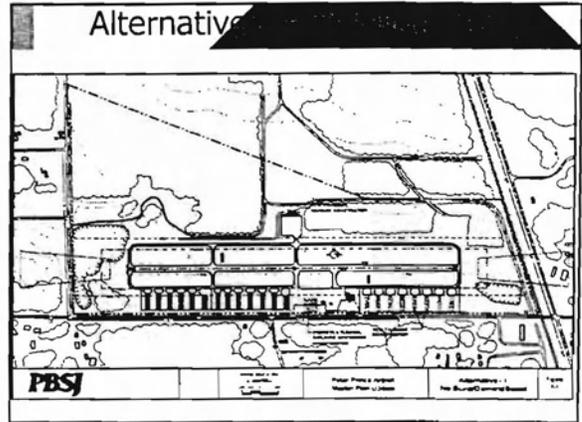
Aviation Demand Forecasts

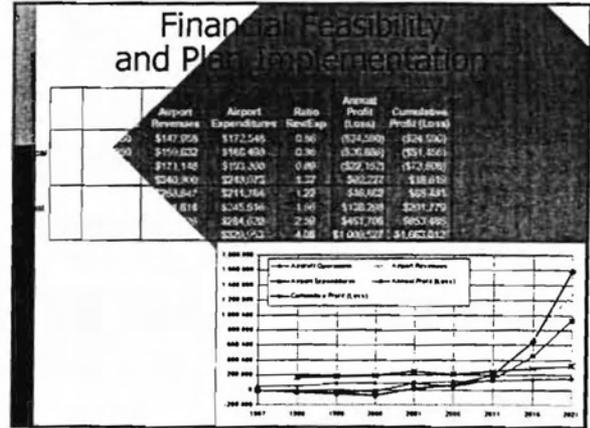
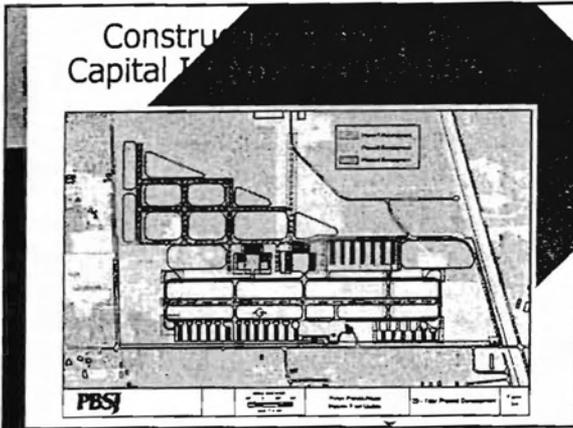
- Collect and analyze historical aviation data
 - Formulate base, 2000, and FDOT
- Establish Reasonable Historical Record and Baseline (no ATCT)
- Forecast Future Aviation Activity
 - 2006, 2011, 2016 and 2021



Development Alternatives

- Alternative 1 – “No Build” / Demand Based
- Alternative 2 – Constrained Development
- Alternative 3 – Unconstrained Development





- ### Remaining Elements of the Master Plan Process
- AAG and ACP Review of Draft Master Plan
 - Agency Review and Approval
 - Final Report Document

Important Dates

August 28, 2002 Draft Master Plan to AAG

September 10, 2002 Approval by BCC

September 20, 2002 Master Plan to Agencies

