

Master Plan Update

Palm Beach County
Glades Airport
Master Plan Update

PREPARED FOR
Palm Beach County
Department of Airports
TB102006004WPB

OCTOBER 31, 2006

PREPARED BY



IN ASSOCIATION
Ricondo & Associates, Inc.

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Master Plan Update

As defined by the Federal Aviation Administration (FAA) in Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, a master plan is defined as a concept for potential long-term development of an airport. It entails a series of planning steps that analyze how expected future aviation demand can best be accommodated, including a graphical representation of the findings.

The goal of a master plan is to provide solutions that will satisfy the expected future needs of an airport in a financially feasible manner, while accounting for the surrounding community, local environment, and socioeconomic factors. Additionally, because future travel demand will change over time, a master plan must allow the airport flexibility to implement different projects to meet actual demand. Airport planning begins with a careful assessment of existing facilities and current airport use, and projections of aviation demand over a specific timeframe, also known as the “planning period.” The planning period here is the 20-year period **2005-2025**.

The recommendations provided in a master plan are technically sound and meet FAA standards, but are only recommendations: implementation of any projects can occur only as warranted by need. The recommendations outlined in the plan are also subject to further FAA review and environmental/feasibility studies before implementation.

Palm Beach County System of Airports

The PBC Department of Airports (DOA) owns and operates a system of four airports; Palm Beach International Airport (PBI), Palm Beach Park Airport (LNA), Palm Beach County Glades Airport (PHK), and North Palm Beach County General Aviation Airport (F45).

PBI is the center for all commercial air carrier service into Palm Beach County, while together, LNA, PHK, and F45 accommodate most of the general aviation demand in the region. Both LNA and F45 are designated as a “reliever airport” by the FAA. As reliever airports, F45 and LNA relieve congestion at Palm Beach International Airport, by providing an alternate venue for general aviation traffic. The County chose to update all four master plans, rather than only PBI’s plan, for the purpose of assuring that the relievers can continue to fulfill their missions of offloading PBI as well as meeting local general aviation (GA) demand.

Specific goals and objectives were developed as guidelines in assessing various alternatives for future development for the system of airports. The goals were identified as the following:

- Accommodate passenger demand while maintaining the highest level of customer service and convenience possible, including an emphasis on low delay and congestion levels.

- ➔ Refine and validate selected long-term airport improvements that meet forecast airline, corporate, and general aviation system demand, while providing flexibility to respond to actual demand.
- ➔ Develop an enhancement plan that meets FAA standards, is financially sound, environmentally responsible, and consistent with the County's established good neighbor programs.

PHK Executive Summary

The PHK Master Plan Update was substantially influenced by Hurricane Wilma. PHK, located 35 miles west of West Palm Beach and three miles southwest of Pahokee, was directly in the path of Hurricane Wilma, and suffered extensive damage. All of the airport buildings, including the terminal housing the FBO, a large hangar, and 10 T-hangars, were completely destroyed or severely damaged, as were a number of aircraft. Airport management quickly implemented interim measures to minimize service interruptions, but clearly a financially-sound and well-planned long term restoration effort was needed. And since extensive rebuilding would be required, an opportunity presented itself to modernize completely the airport's infrastructure to best meet the future needs of the airport users over the next several decades.

The 2006 Master Plan was fashioned to review and verify the validity of previously evaluated alternatives and recommended measures from an earlier (March 2001) master plan.¹ The results of the reviews are highlighted below.

Airfield Demand/Capacity Analyses

The 2006 Master Plan confirmed that PHK's single runway – Runway 17/35 – is sufficient to meet the projected aviation demand through the year 2025 (**Table ES-14**).

TABLE ES-14
Annual Service Volume

	2006 Master Plan ^{1/}	
	2005	2025
Annual Aircraft Operations	34,200	45,160
Annual Service Volume	69,250	69,250
Percent of Operations to ASV	49	65

^{1/} Source: CH2M HILL and Ricondo & Associates, "Palm Beach County Glades Airport - Demand/Capacity and Facility Requirements," October 2006

Table ES-14 introduces the term ASV which at PHK is equivalent to approximately 76,950 operations, which is reduced by 10 percent to reflect the lack of an Air Traffic Control Tower (ATCT) at PHK. The resulting ASV for the airport is presented as 69,250 operations.

In order to minimize aircraft delays, the FAA recommends that alternatives to increase capacity be considered once the volume of annual operations reaches 60-75 percent of an

¹ Master Plan Update for Palm Beach County Glades Airport, prepared for the Palm Beach County Department of Airports by Dames and Moore, March 2001

airport's computed Annual Service Volume². As indicated in Table ES-14, airfield capacity is not considered a significant issue until well beyond 2020.

Based Aircraft

The 2006 CH2M HILL Team reduced the number of aircraft projected to be based at PHK over the planning period (see Table ES-15). Assuming all based aircraft are parked in hangars, the projected need for hangar space through the planning period is tabulated in Table ES-16.

TABLE ES-15
Comparison of Based Aircraft, 2001 and 2006

2001 Master Plan ^{1/}		2006 Master Plan ^{2/}	
Year	Number of Aircraft	Year	Number of Aircraft
1999	13		
2004	14	-	-
<i>2005</i>	<i>14</i>	2005	13
2009	16	2009	14
<i>2010</i>	<i>16</i>	2010	14
2014	18	2014	15
<i>2015</i>	<i>18</i>	2015	15
2019	20	2019	16
-	-	2020	16
-	-	2025	17

Key: **Bold Font** Based aircraft in base year

Italic Font Based aircraft data extrapolated for comparison purposes

1/ Source: Dames and Moore, *Master Plan Update for Palm Beach County Glades Airport*, March 2001

2/ Source: CH2M HILL and Ricondo & Associates, "Palm Beach County Glades Airport – Development Alternatives," October 2006.

TABLE ES-16
Projected Hangar Space Needs Through 2025

	2005 (Existing)	2010	2015	2020	2025
Based Aircraft, Number	13	14	15	16	17
Hangar Space, Square Feet ^{1/}	17,750	24,850	26,625	28,400	30,175

^{1/} Hangar space requirements are based on an average of 1,775 square feet of hangar per based aircraft.

Sources: Source: CH2M HILL and Ricondo & Associates, "Palm Beach County Glades Airport - Demand/Capacity and Facility Requirements," October 2006

² FAA Order 5090.3C, Field Formulation of the National Plan for Integrated Airport Systems, December 4, 2000.

Itinerant Aircraft

The aircraft parking ramp currently has positions for 13 tie-downs, but these positions are too wide for the type of aircraft currently utilizing the airport. Once updated with Airplane Design Group (ADG) I spacing requirements, the existing 180,000 square-foot apron will be able to accommodate 28 tie-down positions.³

Summary of PHK Facility Requirements

The 2006 Master Plan reflects the following:

1. A new terminal building of the same size of the former is adequate to meet projected aviation needs through the planning period.
2. The existing two underground fuel tanks (15,000 gallons AvGas, 15,000 gallons Jet-A) are sufficient in size and condition to meet the projected need for aviation fuel.
3. Ground access and the existing 14-space vehicular parking lot are considered adequate to meet needs through the planning period.

Proposed Projects

In the wake of Hurricane Wilma, the 2006 Master Plan offered a unique opportunity to analyze the needs of PHK from the ground up to determine specifically what facilities and infrastructure are necessary to serve future aviation demand. Because so many aging and obsolete buildings suffered considerable damage, tearing them down and rebuilding to modern-day codes and standards is considered the preferred option. Measures proposed to address future needs and demand are as follows:

- Replace hurricane-damaged structures, such as the terminal building and hangars, with new facilities built to modern-day codes and standards;
- Resurface the itinerant aircraft parking areas and remark the existing space to maximize utility;
- Acquire land tracts within the RPZ to meet FAA requirements for compatible land use
- Update NAVAIDs such as directional lighting; and
- Increase auto parking spaces at or near the proposed new aircraft hangars.

The preferred plan, shown in **Exhibit ES-7**, includes a row of T-hangars, encompassing a total of 14,170 square feet, proposed east of the existing T-hangars, and north of the apron. The automobile parking spaces required are accommodated north of the conventional hangar and access road, replacing the existing unpaved lot.

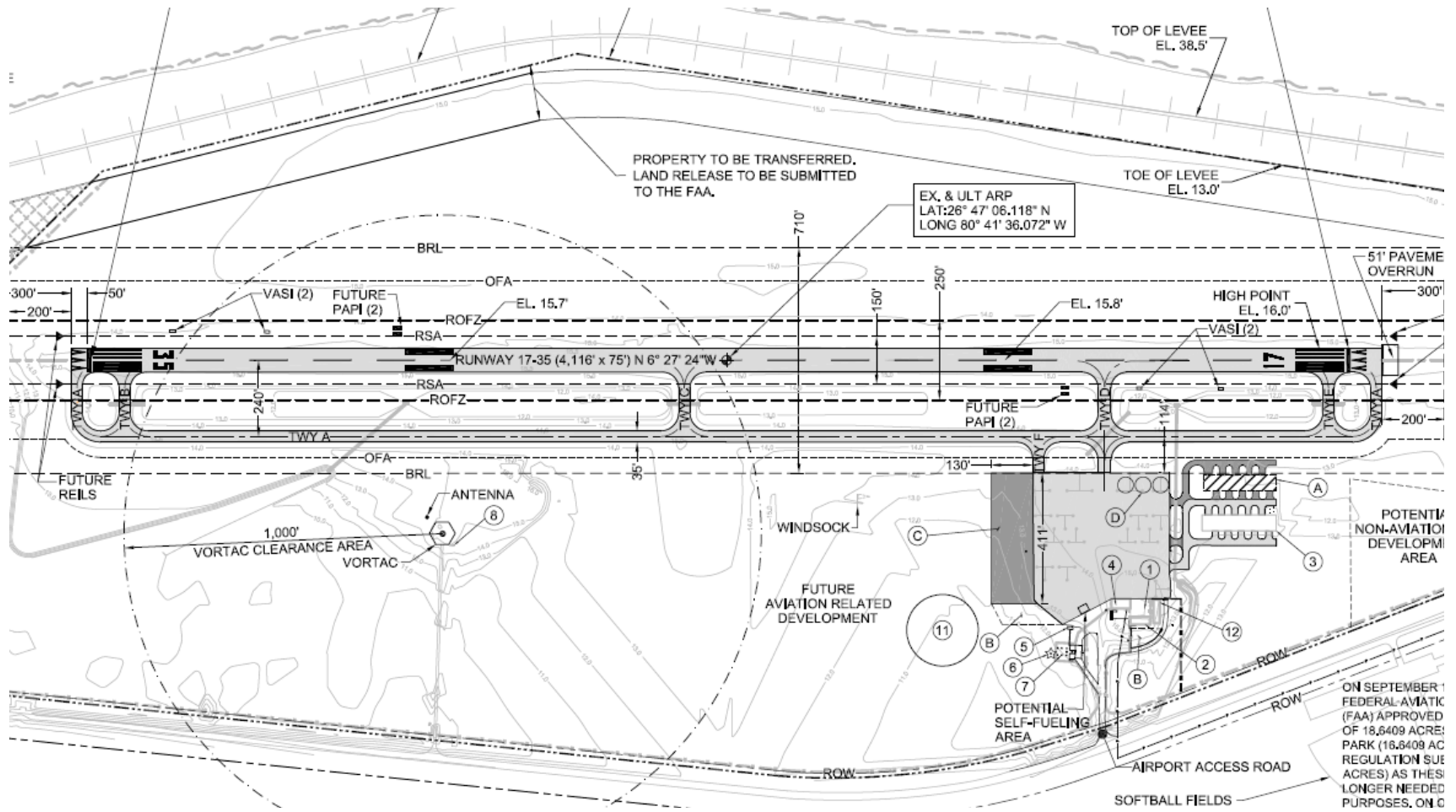
³ Airplanes are placed in "Design Groups" based on wingspans. Airplane Design Group (ADG) I covers planes with wingspans up to but not including 49 feet; ADG II, wingspans 49 feet up to but not including 79 feet; and so on through ADG VI, wingspans 214 feet up to but not including 262 feet. ADG I covers the overwhelming majority of small turboprop planes, i.e., Beech Baron, Beech Bonanza, Piper Navajo, Beech King Air and so on.

Following the conclusion of the October 2006 MPU, meetings were held between the DOA and the Aviation and Airports Advisory Board (AAAB) to discuss the results of the master plan. Recommendations resulting from decisions made during those meetings required additions to the MPU. While these specific additions were incorporated into the Executive Summary, not all revisions were carried through the entire MPU and ALP update; therefore, the final date of the documents contained in the October 2006 MPU remains unchanged. Select pages in this MPU were revised to incorporate the recommendations of the AAAB and are summarized below:

- Executive Summary; Exhibit ES-7 – PHK Preferred Plan - Exhibit has been replaced based on changes made to the ALP sheet replaced in its entirety incorporating additions summarized in Addendum #1 dated March 10, 2008.
- October 2006 Technical Report No. 6; The Table of Contents was updated as a result of added text throughout the document.
- October 2006 Technical Report No. 6; Section 1.4 Runway Approach Aids and Lighting Page 1-2 – Recommendation to pursue the initiation and programming of a nonprecision GPS RNAV approach to Runway 17/35.
- October 2006 Technical Report No. 6; Section 1.9 moved to page 1-3, Page 1-3 was created as a result of added text throughout the document.
- October 2006 Technical Report No. 6; Attachment 1, The ALP sheet was replaced in its entirety incorporating additions addressed in Addendum #1 dated March 10, 2008.

Finally, the select pages affected by these changes are marked in the MPU with a date in the footer.

EXHIBIT ES-7
 PHK Preferred Plan



Note: Exhibit has been revised to incorporate changes addressed in Addendum #1, dated March 10, 2008.

Prepared by: CH2M HILL, March 10, 2008

Technical Report #1

Palm Beach County Glades Airport Inventory

Palm Beach County Glades Airport

Prepared for
Palm Beach County Department of Airports

APRIL 2006

CH2MHILL

In Association with Ricondo & Associates, Inc.

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Airfield Facilities

1.1 Runways, Taxiways, and Apron Area

Palm Beach County Glades Airport (PHK) consists of one runway, a parallel taxiway, and a small parking apron. Runway 17/35 is asphalt-surfaced and designed to accommodate single-wheel, general aviation aircraft weighing less than 20,000 pounds. Pavement conditions described below were obtained from the Draft January 2006 Annual Airports Pavement Evaluation, prepared by Applied Pavement Technology, Inc. The current airfield layout is illustrated in **Exhibit 1-1**.

1.1.1 Runway 17/35

Runway 17/35 is 4,116 feet long and 75 feet wide. Runway 17/35 is performing well, with only a moderate amount of cracking and swelling.

1.1.2 Taxiway A

Taxiway A serves as the parallel taxiway to Runway 17/35 and is showing little sign of deterioration.

1.1.3 Connecting Taxiways

Three small connecting taxiways; Taxiways B, C, and E, provide access between Runway 17/35 and Taxiway A. Generally, these connecting taxiways are performing well with typically only a small amount of low-severity cracking exhibited on the pavement surface.

1.1.4 Taxiway D

Taxiway D extends from the east edge of the apron to the east edge of Runway 17/35. The portion extending through the apron area received a surface treatment at the same time as the apron pavement. Taxiway D is performing well, with only a moderate amount of low-severity cracking and minor surface cracking.

1.1.5 Main Apron

The main apron is performing relatively well, but in comparison to the runway and taxiway facilities, it is showing signs of deterioration.

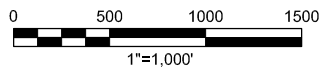
1.2 Fences and Security Gates

Federal regulations for general aviation airports, such as PHK, do not require a fence surrounding airport property or other sensitive aircraft operating areas. Nonetheless, perimeter fencing provides added security by minimizing vandalism of airport facilities and preventing unauthorized people and vehicles, as well as animals, from intruding on airport



Source: Palm Beach County Aerial Photo 2001
Prepared by: CH2M HILL, Inc., April 2006

Exhibit 1-1



Existing Airport

property. In addition, loose objects on the airfield pavement can be projected by propeller and jet blast, potentially causing injury to individuals on the ramp. Therefore, a perimeter fence not only provides an added level of security, it also enhances the safety of airport operations.

A chain-link fence at PHK bounds the Airport property on the north, south, and east. Beginning at the southwestern corner of the Airport property, just east of the berm that runs parallel to Lake Okeechobee and 500 feet west of the Runway 35 end, the fence line runs southeasterly for approximately 460 feet. From that point, the fence curves to the east until it reaches the west side of Bacom Point Road. The fence continues parallel to and west of Bacom Point Road until reaching the intersection of Bacom Point Road and Airport Road. At that point, the fence runs westerly for approximately 460 feet, parallel to Airport Road before curving toward the north for 135 feet before turning west. Finally, the fence line ends east of the berm surrounding Lake Okeechobee in the northwest corner of the Airport property.

Because of the berm and ditch located along the west side of the Airport property, no perimeter fencing is installed on that side of the airfield. These manmade structures preclude intrusion onto Airport property.

There are two access gates at PHK. The main access gate is located at the entrance to the Airport, approximately 100 feet west of Bacom Point Road. This chain gate remains open during the day, but is closed at night. The second vehicle access gate is located east of the old terminal FBO building, separating the automobile parking lot from the service road that leads to the ramp. This gate usually remains open at all times. The locations of the fence and security gates are highlighted on **Exhibit 1-2**.

1.3 Lighting, Marking, Signage, and Other Navigational Aids

The following subsections summarize the lighting, marking, signage, and navigational aids at the Airport, as of the inventory conducted in March 2006.

1.3.1 Lighting and Marking

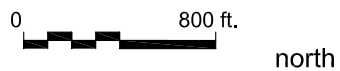
Runway 17/35 has non-precision markings and medium intensity runway lights (MIRL) to facilitate safe operations at the Airport, and to assist pilots during poor visibility conditions. Existing pavement marking and lighting meet FAA requirements for visual and non-precision runway approaches. The MIRL system is considered to be in good condition.

The Airport is also equipped with a rotating beacon, which is located on a pole adjacent to and south of the fuel farm, approximately 240 feet southeast of the old FBO terminal building.



Source: Aerial Photo, 2001; Airport Layout Drawing, September 2000
Prepared by: Ricondo & Associates, Inc., April 2006

Exhibit 1-2



Perimeter Fence and Security Gates

Drawing: P:\PBIA\System Wide Airport Master Planning Study - Phase III\Task 2 - Inventory and Data Collection\Exhibits\PHK_Inventory Exhibits.dwg_Layout: 1-1 Fence_Apr 26, 2006, 2:35pm

The primary landing aid at the Airport is a visual approach slope indicator (VASI) system installed on the left sides of the Runway 17 and Runway 35 ends. The VASI is a light system arranged to provide visual descent guidance during the approach to a runway. The system has an effective visual range of about 5 miles during the day and up to 20 miles at night. The visual glide path angle provided by Runway 17 and Runway 35 is 2.75 and 2.50 degrees, respectively.

Additionally, a lighted wind indicator with a segmented circle is provided east of Taxiway A, approximately 540 feet south of the ramp area.

The power for the airfield lighting system is provided from one electrical vault located inside of the old FBO terminal building.

1.3.2 Signage

At PHK, 18 signs are installed on the airfield, including 6 runway exit signs, 6 runway holding position signs, and 6 taxiway location signs. The runway exit signs are located on the east side of Runway 17/35. The taxiway location signs are set up in combination with the runway holding position signs prior to the intersections of Taxiways A, B, C, D, and E and Runway 17/35. The signs are in good conditions and adequately located. In addition, the signs can be lighted at night or during inclement weather by pilot control.

1.3.3 Other Navigational Aids

One published instrument approach exists for the Airport. The Very High Frequency Omni-directional Range (VOR) Runway 17 (VOR RWY 17) approach is considered a non-precision approach because no vertical guidance is provided to the pilot. Lateral guidance is provided by the VOR located south of the abandoned Runway 7/25. Approximately 240 feet east of the eastern edge of Taxiway A. The VOR RWY 17 approach has a minimum descent altitude (MDA) of 580 feet above Mean Seal Level (MSL), which equates to 564 feet above the Runway 17 Touchdown Zone Elevation. A one statute mile visibility is required for Approach Category A and B aircraft. Visibility requirements increase to 1.5 miles for Approach Category C and D aircraft.

SECTION 2

Aviation Tenant Facilities

The characteristics of the general aviation facilities at PHK, as of the inventory conducted in March 2006, are described in this section. The inventory data provides the basis for determining facility requirements, which will be presented in subsequent reports. These facilities are depicted on **Exhibit 2-1**.

The Airport Layout Plan, dated September 2000, and aerial photographs of the airfield were analyzed to inventory existing general aviation facilities. A field check was also conducted on March 30, 2006, and an interview was conducted with the FBO manager. As of March 2006, four aircraft were based at the Airport, including two R-22 helicopters, and two single-engine piston aircraft.

2.1 FBO Terminal Building

The FBO terminal building provides approximately 1,828 square feet of space adjacent to the main apron. This building, constructed in the 1950s, was severely damaged by Hurricane Wilma in 2005, and is currently abandoned. This building cannot be rehabilitated and will have to be demolished in the future.

As of March 2006, FBO personnel and offices were housed in a trailer located along the east side of the aircraft ramp, between the old terminal building and the fuel farm. This trailer, which was purchased by the Palm Beach County Department of Airports (PBC DOA) to provide a temporary FBO facility, provides very limited space and the need for a new FBO terminal is evident. The current FBO, Pahokee Aviation, provides ramp and fueling services, as well as aircraft tie-downs.

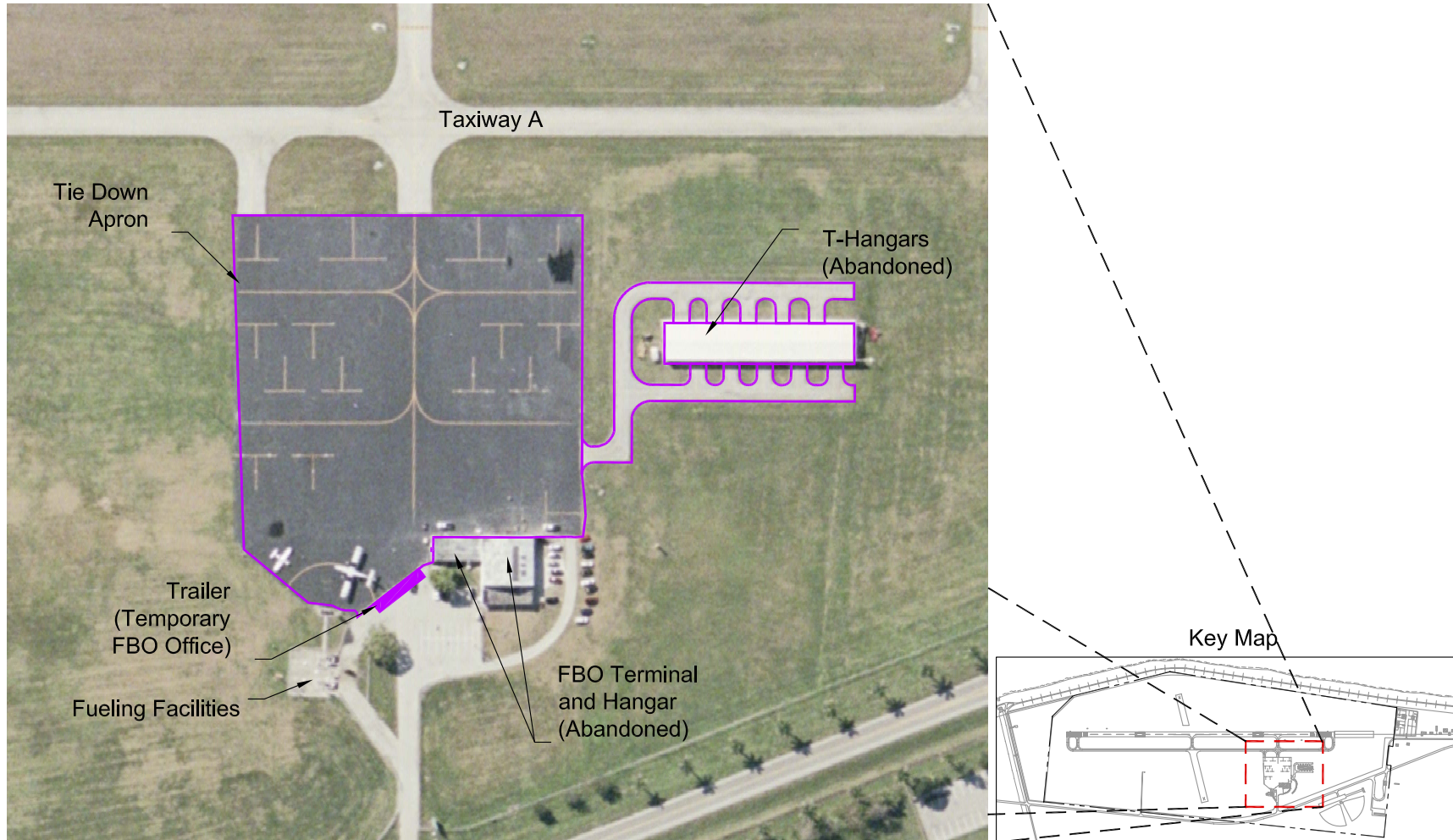
2.2 Aircraft Parking and Apron Areas

The ramp provides approximately 20,000 square yards of space for based and transient aircraft parking. Thirteen tie-down positions are available on the ramp. In general, these tie-down markings are too wide for the type of aircraft that frequent the Airport. The aircraft parking area is linked to Taxiway A via two taxiway connectors that are 35 and 40 feet wide, respectively.

2.3 Aircraft Storage

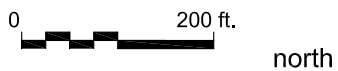
One conventional hangar and 10 t-hangars are located at the Airport. Similar to the old FBO terminal building, these facilities were severely damaged by Hurricane Wilma and are presently abandoned.

The t-hangars are located north of the aircraft parking area and are accessible via a 20-foot wide taxilane linked to the northwest corner of the ramp. These hangars are aligned parallel



Source: Aerial Photo, 2001; Airport Layout Drawing, September 2000
Prepared by: Ricondo & Associates, Inc., April 2006

Exhibit 2-1



T-Hangars and Tie Down Area

Drawing: P:\PBIA\System Wide Airport Master Planning Study - Phase III\Task 2 - Inventory and Data Collection\Exhibits\PHK_Inventory Exhibits.dwg_Layout: 2-1 T-Hangar_Apr 26, 2006, 2:44pm

to Runway 17/35 and Taxiway A. While the foundations of the t-hangars remain in good condition, they must be demolished.

The conventional hangar offers approximately 3,750 square feet of floor space that is currently unusable. The condition of the roof is such that people are precluded from entering the facility. Demolition of this hangar will require relocation of the electrical vault currently located at the rear of the facility.

SECTION 3

Airport Support Facilities

Ancillary facilities needed to support the operations of the Airport only include a fuel farm.

3.1 Maintenance Facilities

There are no maintenance facilities located at the Airport. All airfield and facility maintenance services are provided by the PBC DOA Maintenance Division, which is headquartered at PBI.

3.2 Aircraft Rescue and Fire Fighting

The City of Pahokee provides fire-fighting support at the Airport. The nearest fire station is located north of the intersection of East and West Main Streets, in downtown Pahokee, approximately 3.4 miles from PHK.

3.3 Fueling Facilities

Two underground fuel storage tanks are located at the Airport, south of the main parking lot, east of the aircraft ramp and near the temporary trailer. One tank holds 15,000 gallons of AvGas (100LL), and the other holds 15,000 gallons of Jet-A fuel.

3.4 Airport Traffic Control Tower

At PHK, the pilots rely on communication over a Unicom frequency, as there is no Airport Traffic Control Tower located at the Airport. The Unicom frequency provides a means of communication between Airport users, as necessary.

SECTION 4

Airport Access and Parking Facilities

4.1 Airport Access

PHK is located west of Bacom Point Road (SR 715), on the southeast corner of the Lake Okeechobee shore. Regional access is provided by the surrounding highways: US 98 to the north, US 27 and SR 80 to the south, and US 441 to the north and east. The airport is accessible by SR 715, which connects to US 441 and SR 80.

4.2 Airport Parking

There are a total of 14 automobile parking spaces available in the 200-square-yard parking area adjacent to the ramp and the old FBO terminal building. In addition, informal automobile parking is provided in the grassy area north of the hangar.

There are no rental car companies at this time.

Meteorological Conditions

5.1 Historic Weather Conditions

Meteorological conditions for this analysis are based on weather observations taken in the West Palm Beach area during the period 1996-2005. This data, obtained from the National Climatic Data Center (NCDC), consists of 84,031 hourly observations separated by visual meteorological conditions (VMC), instrument meteorological conditions (IMC), and “all weather” conditions as further described below. The hourly observations record data for ceiling heights, visibility, wind velocity, and wind direction, which was used to prepare wind roses for PHK, as shown in **Figures 5-1 through 5-3**.

Meteorological conditions have a direct impact on the operational characteristics of the Airport. The conditions determine directions in which aircraft operate, the frequency of use of each operating configuration, and the instrumentation required in assisting pilots in landing and departing.

5.1.1 Ceiling and Visibility Conditions

Airfield and airspace capacity is impacted by the flight rules that aircraft operate under, which is governed by the ceiling and visibility conditions at the airport, due to spacing requirements.

Aircraft operate under two distinct categories of operational flight rules: Visual Flight Rules (VFR) and Instrument Flight Rules (IFR), which directly impact air traffic control procedures. These flight rules are closely related to the two categories of weather conditions: VMC (Visual Meteorological Conditions, or fair to good weather), and IMC (Instrument Meteorological Conditions, or poor weather conditions with typically poor visibility). VMC is defined as conditions in which the ceiling is at or above 1,000 feet above ground level (AGL) and the visibility is at or above three statute miles. IMC exists whenever the ceiling drops below 1,000 feet AGL and/or the visibility is below three statute miles. In the West Palm Beach area, VMC occurs approximately 99 percent of the time, and IMC occurs approximately one percent of the time.

Aircraft may operate under VFR during VMC. In these conditions, the pilot is primarily responsible for seeing other aircraft and maintaining safe separation distance; navigation is typically performed by reference to geographic and other visual references. As a result, aircraft separation requirements are reduced, increasing airspace and airfield capacity as compared to IFR.

During IMC, aircraft operate under IFR. Air Traffic Control (ATC) is primarily responsible for aircraft separation and exercises positive control over aircraft during these conditions. In order to operate under IFR conditions, pilots must be certified instrument rated and meet proficiency requirements, and aircraft must meet certain minimum equipment

requirements. Navigation is typically performed by the use of radio navigational aids and vectors from ATC, in addition to the use of ATC-assigned routes and altitudes. As a result of the more stringent requirements due to limited visibility between aircraft, separation is increased during IMC which therefore reduces airspace and airfield capacity.

5.1.2 Runway Wind Coverage

Aircraft arrival and departure runways are determined by wind direction, as aircraft generally takeoff and land into the wind. Due to limitations by aircraft type with regards to maximum allowable crosswind¹ for takeoff and landing, strong crosswinds may result in pilots having to divert to another airport if there is not a crosswind runway available.

In order to quantify crosswind, pilots and airport planners calculate crosswind components based on wind direction and speed. Each aircraft type is certified to operate within a maximum crosswind component; larger, heavier aircraft are more resistant to wind and are generally able to operate with higher crosswinds, while smaller, lighter aircraft are more subject to wind and are therefore more restricted.

The FAA recommends that airports provide at least 95 percent wind coverage for planning purposes under the limitations as defined below. If a single runway does not provide at least 95 percent wind coverage for the airport reference code (ARC), a crosswind runway should be considered. The ARC for PHK is B-II.

- ➔ ARC A-I and B-I: 10.5-knot maximum crosswind component
- ➔ ARC A-II and B-II: 13-knot maximum crosswind component
- ➔ ARC A-III, B-III, and C-I through D-III: 16-knot maximum crosswind component
- ➔ ARC A-IV through D-VI: 20-knot maximum crosswind component

Table 5.1 summarizes wind coverage for PHK, with crosswind components of 10.5 knots, 13 knots, 16 knots, and 20 knots. **Exhibits 5-1 through 5-3** graphically show coverage during good weather (VMC) conditions, poor weather (IMC) conditions, and all-weather conditions in the form of wind roses.

Runway 17/35 provides 91 percent coverage under VMC, 90 percent coverage under IMC, and 91 percent coverage under all-weather conditions for the 13-knot crosswind component; less than the FAA recommended 95 percent coverage.

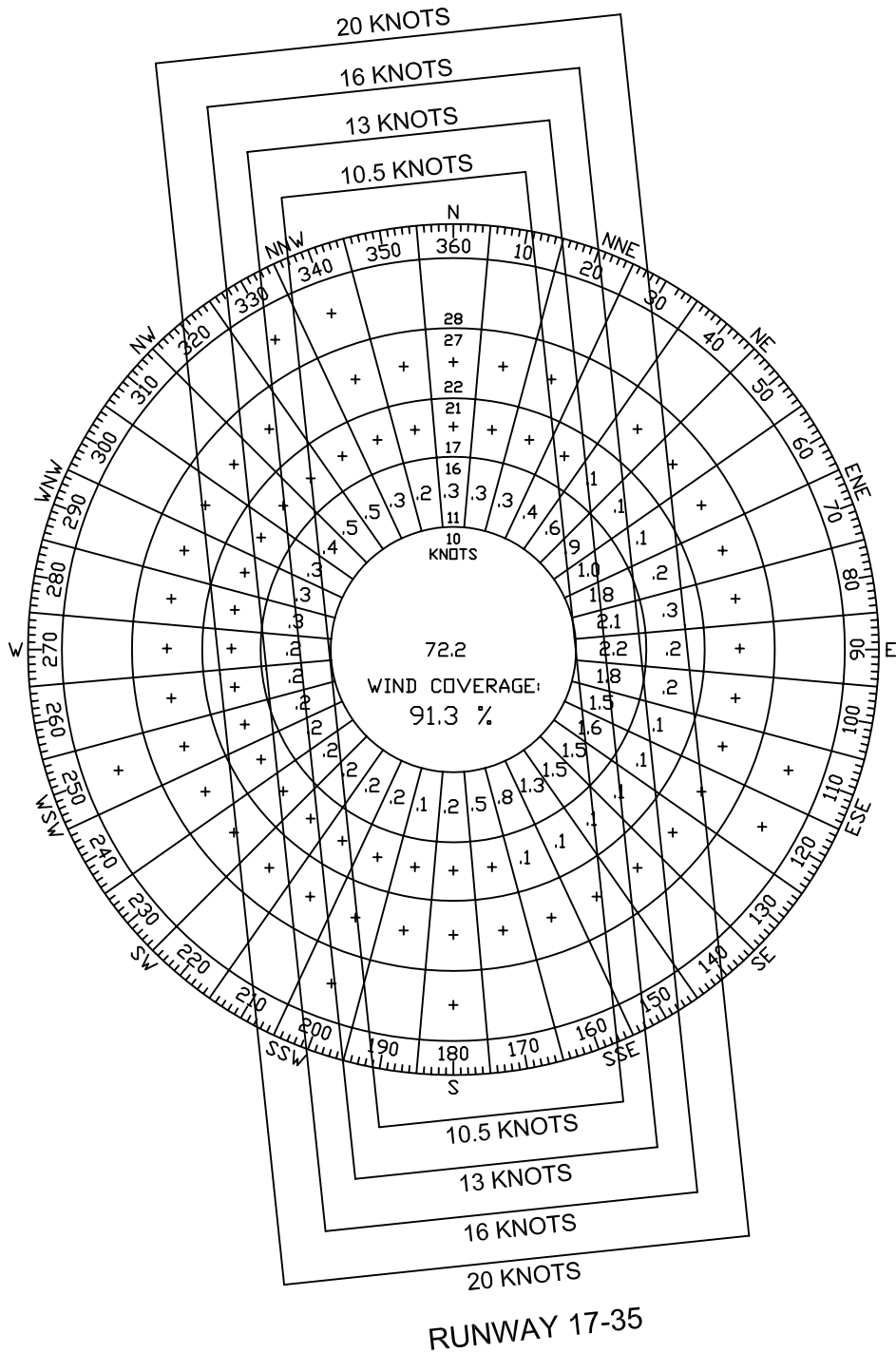
¹ Crosswind is the velocity of wind at a right angle to the runway, calculated from the wind speed and heading in relation to the runway.

TABLE 5.1

PHK WIND COVERAGE: VMC, IMC, and All-Weather

	True North Heading	VMC ¹ Ceiling ≥ 1000' and Visibility ≥ 3 miles				IMC ² Ceiling < 1000' and Visibility < 3 miles				All-Weather All Weather Observations Recorded in the Period			
		10.5 KTS	13 KTS	16 KTS	20 KTS	10.5 KTS	13 KTS	16 KTS	20 KTS	10.5 KTS	13 KTS	16 KTS	20 KTS
Runway 17	174	53.1%	57.3%	60.9%	61.7%	40.3%	43.0%	45.1%	46.2%	53.0%	57.1%	60.7%	61.5%
Runway 35	354	41.7%	44.9%	48.1%	48.9%	52.2%	55.2%	57.5%	58.3%	41.8%	45.0%	48.2%	49.0%
Runway 17-35 Combined	-	84.0%	91.3%	98.1%	99.6%	84.1%	89.8%	94.2%	96.1%	84.0%	91.3%	98.0%	99.6%

Source: CH2M HILL analysis based on National Climatic Data Center (NCDC) weather observations between 1996 and 2005 for the West Palm Beach Station #72203.

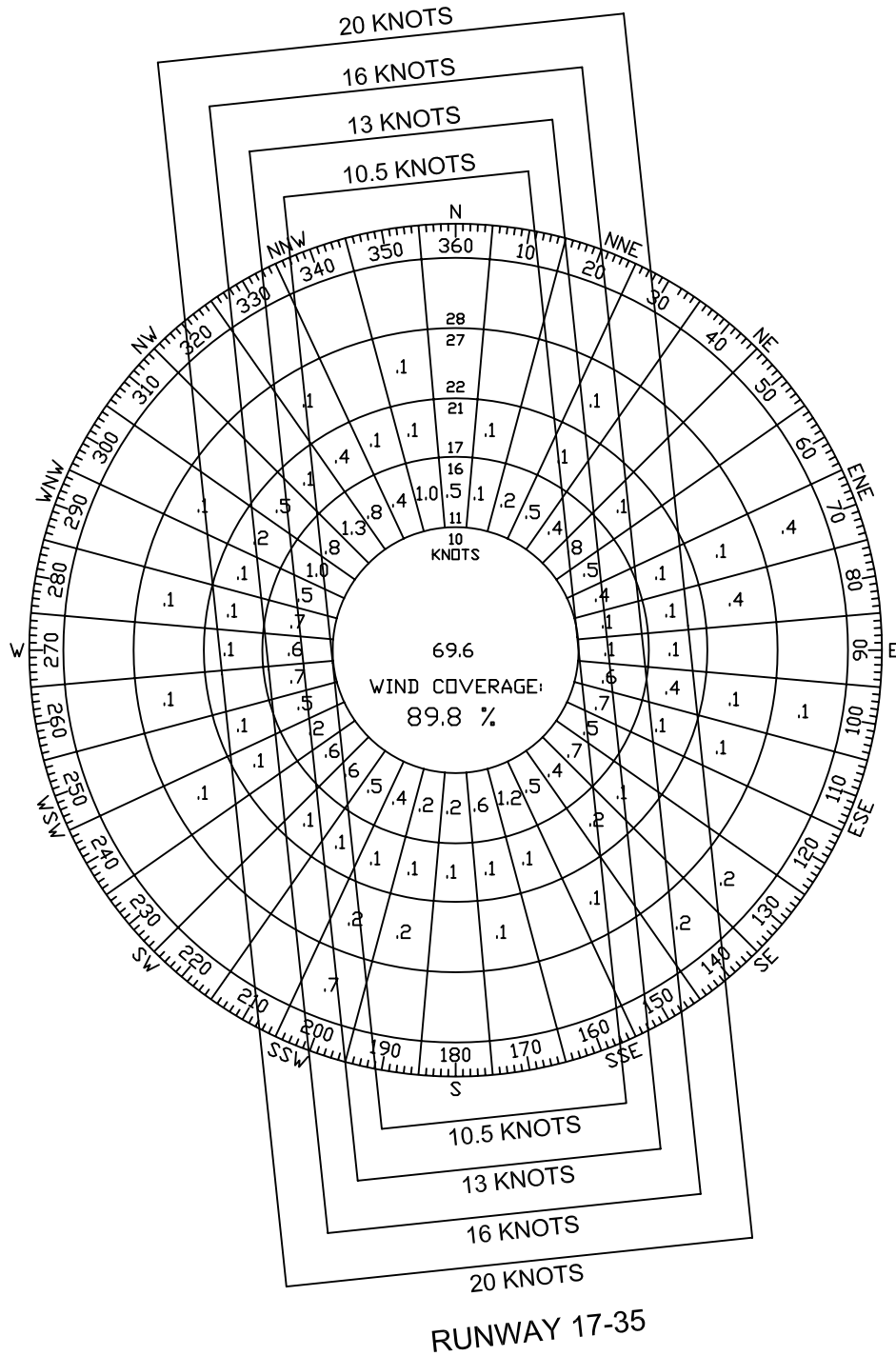


CH2MHILL

Palm Beach County Glades Airport
(PHK)

VMC Wind
Rose

Exhibit
5-1

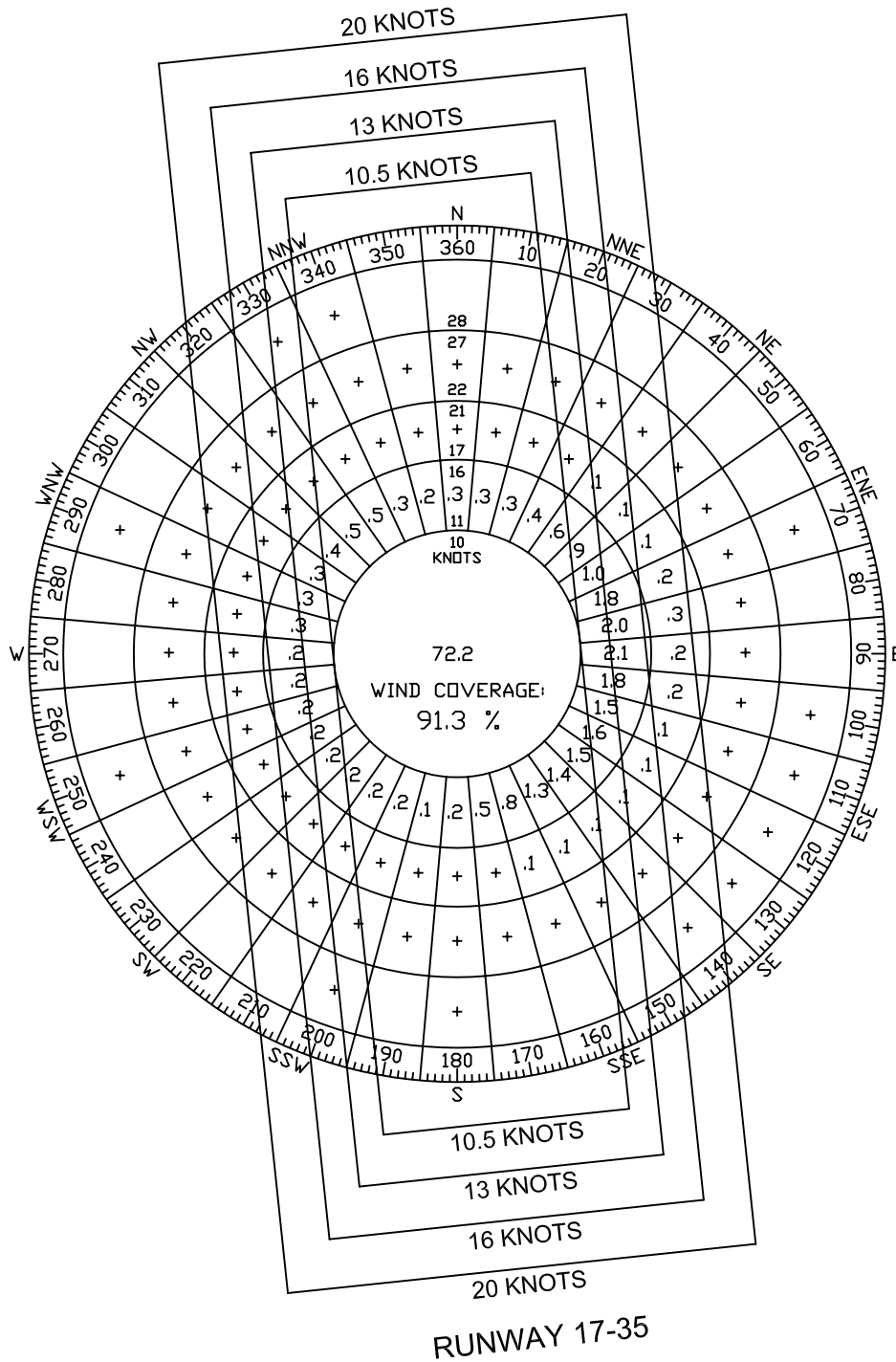


CH2MHILL

Palm Beach County Glades Airport
(PHK)

IMC Wind
Rose

Exhibit
5-2



CH2MHILL

Palm Beach County Glades Airport
(PHK)

All Weather
Wind Rose

Exhibit
5-3

Technical Report #2

Palm Beach County Glades Airport Demand/Capacity and Facility Requirements

Palm Beach County Glades Airport

Prepared for
Palm Beach County Department of Airports

OCTOBER 2006

CH2MHILL

In Association with Ricondo & Associates, Inc.

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Airfield Demand/Capacity Analysis

The purpose of the airfield demand/capacity analysis for Palm Beach County Glades Airport (PHK) is to assess the ability (i.e., capacity) of the airfield facilities to accommodate existing and forecast aircraft operations (i.e., demand). The airfield demand/capacity was analyzed using the methodologies outlined in Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5060-5, Change 2, *Airport Capacity and Delay*. The analysis presented herein does not include delay calculations.

1.1 Factors Affecting Airfield Capacity

Airfield capacity is defined as the maximum number of aircraft operations that an airfield can accommodate during a specified period of time. Typically, the airfield capacity is determined for a peak-hour condition at the Airport and varies according to weather conditions, type of aircraft, airfield configuration, and air traffic control (ATC) procedures. Because PHK does not have an air traffic control tower (ATCT), an adjustment factor was considered in the analysis to account for unique conditions at such uncontrolled airports. The number and location of runway exits and the percentage of touch-and-go operations are other important factors that influence airfield capacity. These factors are discussed in the following sections.

The runway configuration at PHK consists of a single runway, Runway 17/35, and a full length parallel taxiway. The runway is oriented in a north-to-south direction, is 4,116 feet long by 75 feet wide, and has an asphalt surface.

To determine the aircraft mix index, which is a required element in determining airfield capacity, the operational aircraft fleet mix, which is based on the aircraft class, is used. **Exhibit 1-1** illustrates the aircraft classes that use PHK, as well as the typical aircraft belonging to each class. Once the class of aircraft is determined, the mix index can be calculated using the following formula: $[(C+3D)]$, where C and D represent the percentage of aircraft belonging to the respective classes. At PHK, the operational fleet mix consists of 95 percent Class A aircraft and 5 percent Class B aircraft. This mix is not expected to significantly change over the forecast period; therefore the mix index at PHK is 0.

Touch-and-go operations, typically performed by training aircraft, are defined as those operations during which an aircraft lands without coming to a complete stop, and immediately takes off again. As the percentage of these operations at an airport increase, the airfield capacity increases because aircraft runway occupancy time decreases, thereby allowing more aircraft to use the runway in the same amount of time. Based on discussions with the DOA General Aviation Airports Manager at PHK, 20 percent of the total operations at the Airport are estimated to be touch-and-go operations.

EXHIBIT 1-1 Aircraft Classifications

Class A

Small Single-Engine Aircraft
Gross Weight: less than 12,500 pounds



Typical Aircraft:
Cessna 172R Skyhawk
Piper Cherokee
Beechcraft Bonanza

Class B

Small Twin-Engine Aircraft
Gross Weight: less than 12,500 pounds



Typical Aircraft:
Cessna 402
Dassault Falcon 2000
Piper Navajo

Class C

Large Multi-Engine Aircraft
Gross Weight: greater than 12,500 pounds, but less than 300,000 pounds



Typical Aircraft:
Cessna Citation VI/VII
Embraer 145
Gulfstream V

Class D

Large Aircraft
Gross Weight: greater than 300,000 pounds



Typical Aircraft:
Boeing 777
Airbus A330
Boeing 767

Source: FAA AC 150/5600-5, Change 2, *Airport Capacity and Delay*.
Prepared by: Ricondo & Associates, Inc., June 2006.

The number and location of runway exits, as well as their type (i.e., 90-degree angle or high-speed) are also major factors affecting an airfield’s capacity. These factors collectively account for an aircraft’s runway occupancy time, or the amount of time an aircraft is on a runway. For arriving aircraft, this timing is critical because an aircraft must have fully exited the runway before a second aircraft can land. Smaller aircraft typically spend less time on a runway than larger aircraft because they require a shorter distance to land, although this factor is also dependent on pilot skill, experience, and familiarity with the airfield. An example of this is if an arriving aircraft once reaching a safe taxiing speed is not near a runway exit, the aircraft must remain on the runway for a longer period of time, thereby decreasing airfield capacity. Based on this information, a greater number of exits placed at strategic locations increases airfield capacity. **Exhibit 1-2** illustrates the existing runway exits for PHK.

Weather also plays a vital role in airport capacity. In particular, weather factors, such as wind direction and velocity, cloud ceiling, and visibility, greatly affect capacity. Wind direction determines the runway configuration that can be used at any given time. Aircraft typically takeoff and land into the wind, but can accommodate a specified amount of both tailwind and crosswind. Once these winds are exceeded, an aircraft can no longer safely operate on that runway. These conditions may eliminate an airfield operating configuration with the greatest capacity, thus reducing airfield capacity.

Cloud ceiling height and visibility also affect airfield capacity. A decrease in ceiling height and/or visibility may lead to conditions in which only published instrument approaches may be flown. These conditions, known as instrument meteorological conditions (IMC) occur when the visibility is below three statute miles and/or the cloud ceiling is below 1,000 feet above ground level (AGL). Under these conditions, instrument flight rules (IFR) must be followed. The number of aircraft operating during these conditions is reduced because many private pilots are not IFR rated. At PHK, there is one published instrument approach, the very high frequency omnidirectional range/distance measuring equipment (VOR/DME) approach, which can be used in IMC. This approach has a minimum cloud ceiling height of 580 feet AGL. Based on data from the National Climatic Data Center, IMC conditions occur 0.8 percent of the time at PHK. When conditions are reduced below IMC, the airport is assumed to be closed. This occurs 0.4 percent of the time at PHK. Visual meteorological conditions (VMC) occur when visibility is greater than three statute miles and the cloud ceiling is greater than or equal to 1,000 feet AGL. When these weather conditions occur, visual flight rules (VFR) are followed, which are less restrictive than IFR. These conditions occur 98.8 percent of the time at PHK. **Table 1-1** summarizes the characteristics of weather conditions and their occurrence at PHK.

TABLE 1-1
PHK Weather Data Classifications and Occurrence

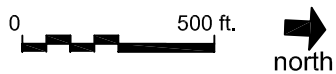
Weather Conditions	Ceiling Height (AGL)	Visibility (Statute Mile)	Percent of Occurrence
VFR	1,000 feet or above	Greater than 3 statute miles	98.8 percent
IFR	Greater than or equal to 580 feet, but less than 1 mile	Greater than or equal to 1 statute mile, but less than 3 statute miles	0.8 percent
Airport Closed	Greater than 580 feet	Greater than 1 statute mile	0.4 percent

Source: National Climatic Data Center, Palm Beach International Weather Station, Jan. 1, 1994 to Dec. 31, 2005.
Prepared by: Ricondo & Associates, Inc., May 2006.



Source: Aerial Photo, 2001.
Prepared by: Ricondo & Associates, Inc., June 2006.

Exhibit 1-2



Runway Exit Locations

Drawing: P:\Airports\PalmBeach-System\PhaseIII\Ch3_DemandCapacity(MP)\PHK\CAD&exhibits\Exhibit 1-2.dwg Layout: 1-2 Fence_Oct 23, 2006, 3:52pm

For purposes of this analysis, the FAA *Terminal Area Forecast* (TAF) was not considered due to inconsistencies in historical data compared to data obtained for the Airport. As a result, a separate forecast of airport operations was derived based on updated information provided by the on-site FBO manager.

This forecast considered the average national growth rate for operations at general aviation (GA) airports (1.4 percent) obtained from the FAA *Aerospace Forecast*, dated February 2006. In 2005, the annual aircraft operations were estimated at 34,200 based on fueling operations and flight training at the Airport. In 2025, 45,163 GA aircraft operations are anticipated at the Airport. This forecast, along with the FAA TAF for 2005 is summarized in **Table 1-2**.

TABLE 1-2
Annual Operations

Year	May 2006 Forecast
Existing:	
2005	34,200
Forecast:	
2006	34,679
2007	35,164
2008	35,657
2009	36,156
2010	36,662
2011	37,175
2012	37,696
2013	38,223
2014	38,759
2015	39,301
2016	39,851
2017	40,409
2018	40,975
2019	41,549
2020	42,130
2021	42,720
2022	43,318
2023	43,925
2024	44,540
2025	45,163

Sources: Ricondo & Associates, Inc., May 2006; FAA Aerospace Forecast, February 2006; FAA TAF, February 2006.

Prepared by: Ricondo & Associates, Inc., May 2006.

Note:

^{1/} National Growth Rate (1.4 percent) obtained from FAA Aerospace Forecast, February 2006.

1.2 Airfield Demand/Capacity Analysis

Existing airfield capacity estimates are presented in terms of both hourly capacity and annual service volume (ASV). Hourly capacities were calculated for PHK under both VFR and IFR conditions. To aid in these calculations, weather data were obtained from the National Climatic Data Center, which determined airfield operating configurations. Finally, a weighted hourly capacity was determined, which is a key factor in calculating ASV.

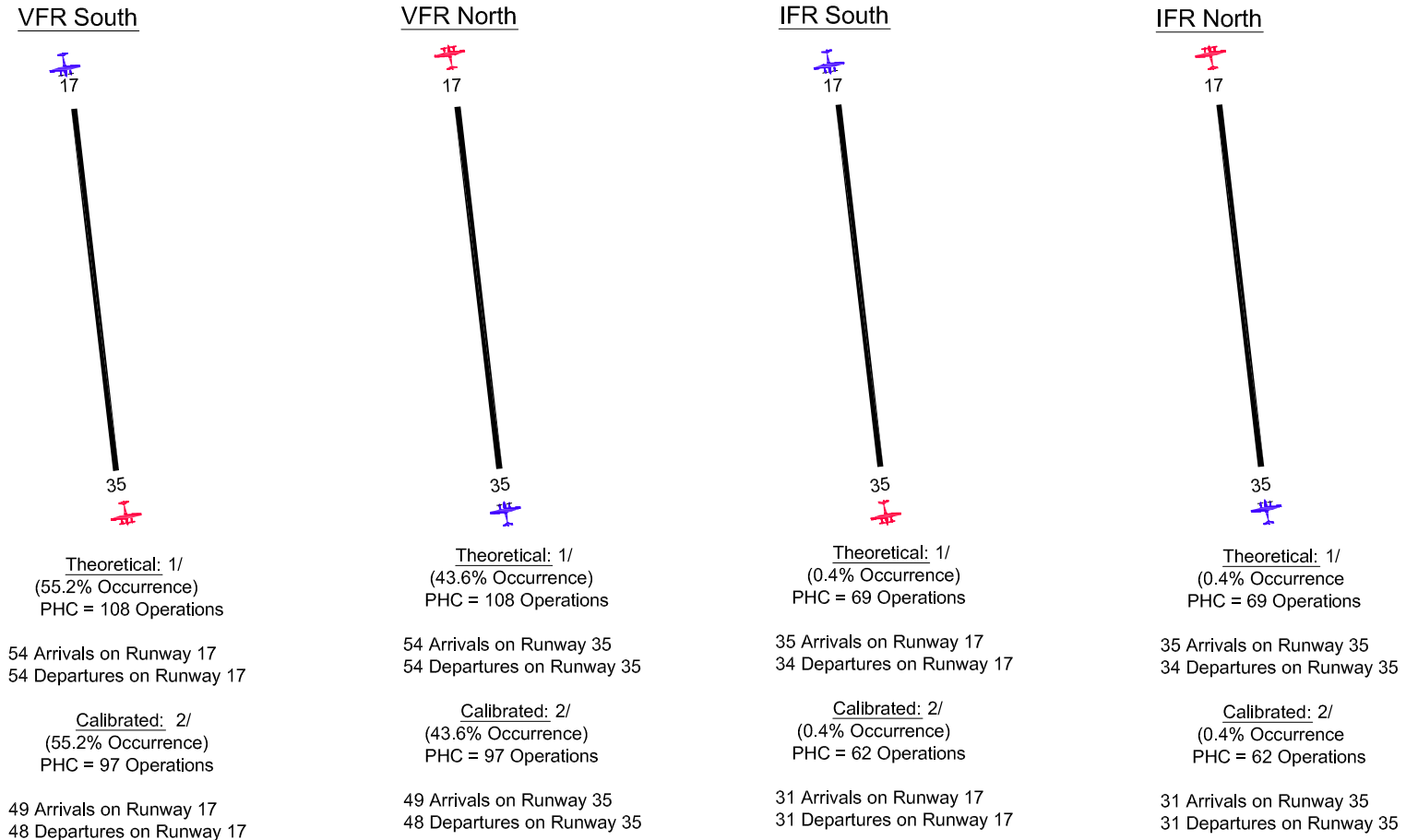
It is important to note that the methodology for determining airfield demand/capacity presented in the FAA AC 150/5060-5 provides a theoretical airfield capacity considering a towered airfield, in which aircraft separations are strictly controlled by Air Traffic Controllers. As previously stated, PHK is an uncontrolled airfield. Thus, aircraft are not separated as expected in a controlled environment. At uncontrolled airfields, right-of-way rules and airport traffic patterns and procedures govern the operating environment for one purpose only. That purpose is to prevent collisions in the air and on the ground. Traffic separation is the primary concern. However, the above rules are based on the concept of “see and avoid.” Therefore, aircraft lateral separations can vary by operators. In addition, it must be kept in mind that the airfield capacity calculation is determined for a peak-hour operating condition. When compared to the theoretical airfield capacity of a controlled airfield, it can be argued that the airfield capacity at a non-towered airport is greater than that of a controlled airfield because aircraft lateral separations are less in an uncontrolled environment. The opposing argument is that the airfield capacity at an uncontrolled airfield cannot be greater than the theoretical capacity of a controlled airfield, since it is unrealistic to imagine that all aircraft, mostly single-engine aircraft at PHK operate in an organized fashion per the non-towered airport traffic patterns and procedures. First, not all pilots are concerned with adhering to standard uncontrolled airport procedures. Second, instrument approaches present specific challenges at uncontrolled airfields. Pilots practicing instrument approaches frequently make straight-in approaches to the approach end of the active runway. This is a potentially confusing situation for VFR pilots flying a standard traffic pattern to the active runway. As previously mentioned, the only instrument approach procedure (IAP) at PHK is a VOR/DME-A approach to Runway 17.

Based on the above discussion, the airfield demand/capacity presented in this report illustrates the peak-hour theoretical airfield capacity and a calibrated airfield capacity to account for the uncontrolled airfield condition at PHK. In an effort to not overestimate or underestimate the airfield capacity at the Airport, the calibration considers a 10 percent adjustment factor below the theoretical capacity in order to reflect what actual operating conditions could be.

1.2.1 Hourly Airfield Capacity

In determining the hourly airfield capacities at PHK, airfield configuration, weather conditions, aircraft fleet mix, and percentage of touch-and-go operations were considered. In addition, the various runway use configurations were considered, as well as their percent of occurrence. These capacities were considered separately for each weather condition and wind flow.

Exhibit 1-3 illustrates the operating configurations at the Airport, as well as the percent occurrence of each; hourly capacities, and number of operations occurring during a peak hour under each operating configuration. These configurations are shown for IFR and VFR conditions, as well as for prevailing wind flow, which in this case is either south or north.



Theoretical Weighted Average Hourly Capacity: 105 Calibrated Weighted Average Hourly Capacity: 95

Notes:

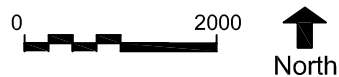
1/ Theoretical hourly capacities were obtained from the FAA 150/5060-5, Airport Capacity and Delay.
 2/ Calibrated hourly capacities were decreased by 10 percent to account for PHK being a non-towered airport.
 PHC = Peak Hour Capacity

Legend: Arrivals Departures

Airport Closed
(0.4% Occurrence)

Sources: Tenant Interviews, March 2006; FAA Advisory Circular (AC) 150/5060-5, *Airport Capacity and Delay*.
 Prepared by: Ricondo & Associates, Inc., April 2006.

Exhibit 1-3



Existing Operating Configurations And Airfield Hourly Capacity

Both the theoretical and calibrated capacities are shown for each airfield operating configuration. As shown, four operating conditions occur at PHK: VFR South, VFR North, IFR South, and IFR North.

In the south flow operating configuration, both arrivals and departures use Runway 17, which occurs 55.2 percent of the time. The theoretical hourly capacity is estimated at 108 operations, while the calibrated hourly capacity is approximately 97 operations. During IFR conditions, the published instrument approach must be used for arrivals, thus decreasing the theoretical hourly capacity to 69 operations and the calibrated hourly capacity to 62 operations. IFR conditions occur 0.4 percent of the time.

In the north flow operating configuration, both arrivals and departures use Runway 35. Under VFR conditions, which occur 43.6 percent of the time, the airfield can theoretically accommodate 108 hourly operations and 97 hourly operations under calibrated conditions. During IFR conditions, arriving aircraft must use the published instrument approach to Runway 17 and circle to Runway 35. Therefore, the theoretical capacity is 69 operations per hour, while the calibrated capacity decreases to 62 operations per hour. In this configuration, IFR conditions also occur approximately 0.4 percent of the time.

1.2.2 Annual Service Volume

The FAA defines ASV as “a reasonable estimate of an airport’s annual capacity.” The ASV calculation consists of three variables: weighted hourly capacity (C_w), ratio of annual operations to average day-peak month operations (D), and average day-peak month operations compared to average peak hour-peak month operations (H). For PHK, these factors were estimated to be 105, 365, and 2, respectively. To determine the ASV, these three factors are multiplied together using the following equation:

$$ASV = C_w \times D \times H$$

This resulted in an ASV equivalent to 76,948 operations. **Table 1-3** summarizes the ASVs for PHK for the different planning horizon. In order to minimize aircraft delays, FAA recommends that airfield planning occurs once the ASV reaches 60 percent of its capacity. The ASV for PHK reaches the 60 percent threshold under the calibrated method by 2020. Thus, additional planning should be considered by that timeframe.

TABLE 1-3
PHK Annual Service Volume Comparison

	2005	2010	2015	2020	2025
Annual Aircraft Operations ^{1/}	34,200	36,662	39,301	42,130	45,163
Annual Service Volume (theoretical) ^{2/}	76,948	76,948	76,948	76,948	76,948
Percent of ASV	44.5%	47.7%	51.1%	54.8%	58.7%
Annual Service Volume (calibrated) ^{3/}	69,253	69,253	69,253	69,253	69,253
Percent of ASV	49.4%	52.9%	56.8%	60.8%	65.2%

Source: Ricondo & Associates, Inc., May 2006.
Prepared by: Ricondo & Associates, Inc., May 2006.

Notes:

^{1/} Annual aircraft operations were forecast based on data provided by the Airport Manager and the FAA *Aerospace Forecast*.

^{2/} Theoretical hourly capacities were obtained from the FAA AC 150/5060-5, *Airport Capacity and Delay*.

^{3/} Calibrated hourly capacities were decreased by 10 percent to account for PHK being a non-towered airport.

1.3 Navigational Aids

Runway approach instrumentation, lighting, and other navigational aids (NAVAIDs) provide pilots with the necessary means to navigate aircraft safely and efficiently in most weather conditions. The facilities provided at PHK were described in Chapter 1 of this Master Plan Update, *Inventory*. The following navigational facilities at PHK are sufficient:

- ➔ Nonprecision approach – The nonprecision approach NAVAID on Runway 17 assists aircraft performing instrument approach procedures via a very high frequency omnidirectional range (VOR).¹
- ➔ Lighting and Markings – Runway 17/35 has non-precision markings and medium intensity runway lights (MIRL), along with a visual approach slope indicator (VASI) system to facilitate safe operations at the Airport, and to assist pilots during poor visibility conditions.

1.4 Airport Design Standards

For airfield planning purposes, the ARC, along with the approach visibility minimums, directly affect the size of the surfaces associated with each runway, including the Runway Safety Area (RSA), Runway Obstacle Free Zone (OFZ), Runway Object Free Area (OFA), and Runway Protection Zone (RPZ). **Table 1-4** depicts the standard dimensions for B-II runways, along with the surface dimensions that exist for each runway at PHK. As shown, the Airport meets all criteria outlined in FAA AC 150/5300-13, *Airport Design*.

TABLE 1-4
B-II Runway Dimensional Standards

Design Criteria	B-II Standard Dimensions	Existing Runway Dimensions	
		17	35
Runway Width	75'	75'	75'
Runway Safety Area:			
- Width	150'	150'	150'
- Length Beyond Runway End	300'	300'	300'
Runway Object Free Area:			
- Width	500'	500'	500'
- Length Beyond Runway End	300'	300'	300'
Runway Protection Zone:			
- Inner Width	500'	500'	500'
- Outer Width	700'	700'	700'
- Length	1,000'	1,000'	1,000'
Runway Obstacle Free Zone:			
- Width	250'	250'	250'
- Length Beyond Runway End	200'	200'	200'

Source: FAA AC 5300-13, Change 10, *Airport Design*.

Prepared by: CH2M HILL, October 2006

¹ The VOR is considered a nonprecision approach because it does not provide vertical guidance.

1.5 Part 77 Surface Area

Federal Aviation Regulations (FAR) Part 77, “Objects Affecting Navigable Airspace,” establishes standards for determining which structures pose potential obstructions to air navigation. This is accomplished by defining specific “Imaginary Surfaces” around an airport that should not contain any protruding objects. Objects affected include existing or proposed objects of natural growth, terrain, or construction, including equipment, which is permanent or temporary in character. Dimensions of Part 77 surfaces (primary, approach, transitional, conical, and horizontal) vary depending on the type of runway approach. These surfaces are analyzed in the Airport Plans section.

SECTION 2

Ground Access and Transportation Networks

Ground access at PHK is currently considered to be adequate. PHK is located west of Bacom Point Road (SR 715), on the southeast corner of the Lake Okeechobee shore. Regional access is provided by the surrounding highways: US 98 to the north, US 27 and SR 80 to the south, and US 441 to the north and east. The airport is accessible by SR 715, which connects to US 441 and SR 80.

SECTION 3

General Aviation/Fixed Base Operator Facilities

The GA/FBO demand/capacity analysis includes tenant facilities that serve based and transient GA aircraft, including temporary aircraft storage and/or flight support services. For purposes of this analysis, these facilities include the FBO terminal building, aircraft parking aprons, aircraft hangars, automobile parking facilities, and fueling facilities.

Currently, there is one FBO, Pahokee Aviation, Inc., at the Airport. In addition to services provided in the terminal building, Pahokee Aviation provides fueling services for the aircraft utilizing the Airport and operates the aircraft parking apron.

The effects of Hurricane Wilma in October 2005 devastated the Airport. All of the buildings, including the FBO terminal building and all of the hangars were completely destroyed. Currently, the FBO is operating out of a trailer. However, the Palm Beach County Department of Airports (PBC DOA) is planning to rebuild PHK's facilities. Thus, for the purpose of determining future facility requirements, this analysis takes into account the conditions at the Airport prior to Hurricane Wilma, which included an FBO terminal building, one conventional hangar, and 10 t-hangars.

The GA operations forecast, summarized in **Table 3-1**, was used as a basis for determining facility requirements for the Airport. In addition to the annual operations, the projected number of based aircraft is shown in Table 3-1. It should be noted that this projection of based aircraft also differs from that presented in the FAA TAF to reflect actual conditions at the Airport. The FAA TAF average annual growth for based aircraft was applied.

TABLE 3-1
General Aviation Operations Forecast

	Existing (2005)	2010	2015	2020	2025
Annual Operations ^{1/}	34,200	36,662	39,301	42,130	45,163
Based Aircraft ^{1/}	13	14	15	16	17

Sources: Palm Beach County Department of Airports, May 2006; FAA *Aerospace Forecast*, February 2006; Ricondo & Associates, Inc., May 2006.
Prepared by: Ricondo & Associates, Inc., June 2006.

Note:

^{1/}Based on forecast developed for PHK in May 2006 following discussions with Airport staff and FBO manager.

3.1 Aircraft Parking Apron

The aircraft parking apron is adjacent to the terminal building. This area encompasses approximately 180,000 square feet of space and is used to accommodate both based and transient aircraft. Based on tenant interviews, the apron area was not at capacity prior to Hurricane Wilma. Additionally, the area can accommodate more aircraft than the number of tiedown spaces currently drawn on the aircraft apron area.

Prior to Hurricane Wilma, most of the based aircraft were accommodated in hangars. For the purpose of determining future apron needs at the Airport, transient aircraft occupying the ramp in a busy day of the peak month had to be determined. Since monthly operations data were not available, an estimated 10 percent of the annual operations were used for peak month operations at the Airport. This percentage compares to the share of operations at Palm Beach International Airport during a peak month. The peak month average day (PMAD) operations were then determined by dividing the monthly operations by the average number of days in a month (31). FAA AC 150/5300-13 also recommends a 10 percent increase in the PMAD operations to account for a busy day in that month. Based on information provided in the previous Airport Master Plan, 20 percent of total operations at PHK were assumed to be transient operations. This information led to the determination of the number of transient aircraft using the apron, which was estimated to be 13 in 2005 and forecast to be 17 in 2025.

The next step in the analysis was to identify the average apron space per aircraft. The size of a large Airplane Design Group (ADG) I aircraft was taken into consideration, along with its respective object free area (OFA) taxiway clearance of 79 feet. **Exhibit 3-1** illustrates the average apron space per aircraft assumed for this analysis. As shown, this total area was determined to be 6,450 square feet per aircraft. On that basis, it was determined that the capacity of the existing 180,000 square-foot apron would be 28 tie-down positions. Based on discussions with the PBC DOA, only three based aircraft were parked on the apron prior to Hurricane Wilma. Taking into account these based aircraft, as well as the transient aircraft estimated above, the number of tie-down spaces required was determined to be 16 in 2005. Based on this demand, the total apron area resulted in less than the existing apron facility. **Table 3-2** summarizes the future apron needs through 2025. As shown, the projected number of tie-down positions are less than the capacity of the existing apron. As a result, the future apron needs projected are also less than the existing aircraft apron at PHK. Therefore, additional apron facilities are not anticipated at the Airport through 2025.

TABLE 3-2
Apron Area requirements summary

	Existing				2010	2015	2020	2025
	Actual	Surplus	Deficiency	Recommended ^{2/}				
Tie Down Positions ^{1/}	28	12	-	16	17	18	19	21
Apron Space	180,000	77,400		103,200	109,650	116,100	122,550	135,450

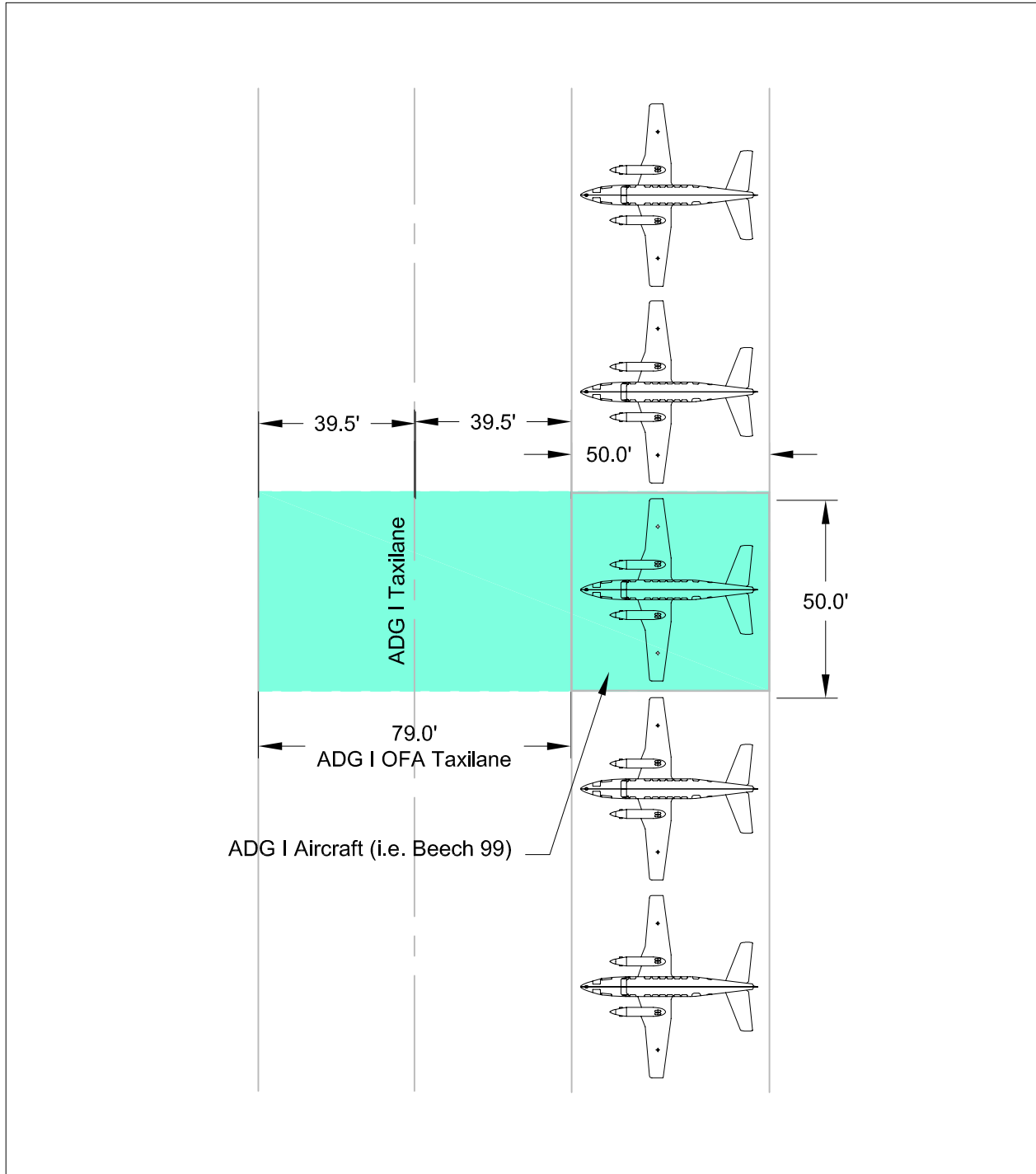
Sources: Palm Beach County Department of Airports, May 2006; FAA AC 150-5300-13, Change 10, *Airport Design*; Ricondo and Associates, Inc., May 2006.

Prepared by: Ricondo and Associates, Inc., June 2006.

Notes:

^{1/} Assuming 6,450 square feet is required for each aircraft parked on the ramp.

^{2/} Recommended based on existing demand.



Total apron space assumed per based aircraft: 6,450 square feet

Source: FAA AC 150/5300-13, Change 10, *Airport Design*
 Prepared by: Ricondo & Associates, Inc., June 2006.

Exhibit 3-1



Apron Space Assumptions per Aircraft

3.2 Aircraft Hangars

Hangar types at the Airport include t-hangars and one conventional hangar. The conventional hangar is located adjacent to the terminal building, encompassing a total of 3,750 square feet. Additionally, a row of 10 t-hangars is located north of the apron, encompassing a total of 14,000 square feet. Combined, the total hangar square footage at the Airport is 17,750 square feet. Based on discussions with Airport staff prior to Hurricane Wilma, these hangars were at capacity. **Exhibit 3-2** illustrates the existing hangars (prior to Hurricane Wilma) at PHK.

Based on discussions with the PBC DOA, 10 aircraft were stored in the hangars prior to Hurricane Wilma. This number was forecast to increase to 17 based aircraft in 2025. By comparing the existing total hangar area (17,750 square feet) to the number of hangared aircraft (10), it was estimated that a gross area of 1,775 square feet would be required for each hangared aircraft. As such, the total hangar area required for 2025 representing an increase of approximately 70 percent from existing conditions is expected to increase to 30,175 square feet. **Table 3-3** summarizes the hangar facility requirements.

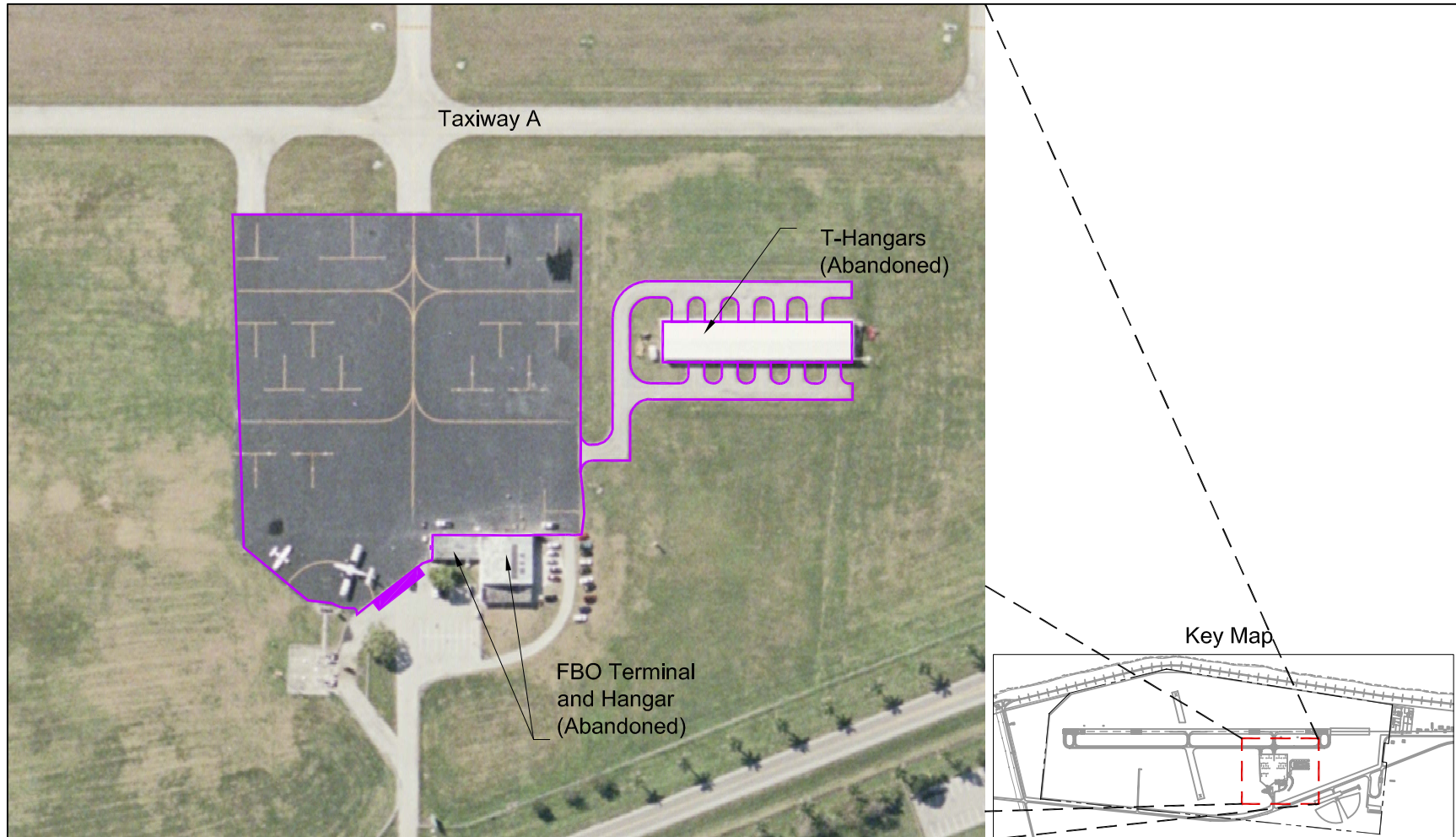
TABLE 3-3
Facilities Requirements Summary

	Existing (2005)	2010	2015	2020	2025
Based Aircraft	13	14	15	16	17
Hangar (square feet) ^{1/}					
Total	17,750	24,850	26,625	28,400	30,175

Sources: Palm Beach County Department of Airports, May 2006; Ricondo & Associates, Inc., May 2006.
Prepared by: Ricondo & Associates, Inc., June 2006.

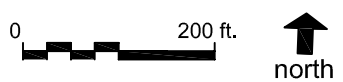
Notes:

^{1/} Hangar space requirements are based on an average of 1,775 square feet of hangar per based aircraft.



Source: Aerial Photo, 2001; Airport Layout Drawing, September 2000
Prepared by: Ricondo & Associates, Inc., June 2006

Exhibit 3-2



Aircraft Hangars

Drawing: P:\Airports\PalmBeach-System\PhaseIII\Ch3_DemandCapacity(MP)\PHK\CAD&exhibits\Exhibit 3-2.dwg_Layout: 2-1 T-Hangar_Oct 23, 2006, 4:03pm

3.3 Automobile Parking Areas

The main automobile parking area associated with the hangar facilities is located north of the conventional hangar, occupies an area of 1,650 square feet, and encompasses a total of five parking spaces. The requirement for automobile parking areas associated with the hangars was analyzed by determining a ratio of the total associated parking area compared to the total hangar area square footage. The results of this analysis are summarized in **Table 3-4**. As shown, the parking area will increase by approximately 70 percent in 2025, which corresponds to an additional four parking spaces.

TABLE 3-4
Automobile Parking Requirements Summary

	Existing (2005)	2010	2015	2020	2025
Parking (square feet)					
Total	1,650	2,310	2,475	2,640	2,850

Sources: Palm Beach County Department of Airports, May 2006; Ricondo & Associates, Inc., May 2006.
Prepared by: Ricondo & Associates, Inc., June 2006.

3.4 Fueling Facilities by Type

The demand/capacity assessment for the fueling facilities at PHK, which are operated by Pahokee Aviation, was conducted to determine if an adequate supply of fuel would be available onsite in the event of a supply disruption. This supply capacity was then compared to the industry-standard, three-day fuel supply to determine any potential deficiencies.

Historical fuel flowage data was obtained from the PBC DOA. The flowage was segregated by fuel type (Jet-A vs. AvGas) based on information provided by the Airport Manager. Additionally, the capacity of the existing facilities was determined, as well as the existing and forecasted aircraft operations. Aircraft operations were based on the forecast developed for PHK in May 2006. This combined information provided a basis from which a ratio of fuel demand per operation was determined. The ratio allowed for the fuel demand to be forecast over the planning period, which was then converted into a projected fuel supply by comparing the existing capacity and annual fuel demand. This fuel supply was finally converted into days for comparison with the typical three-day supply. **Table 3-5** on the following page summarizes the fuel demand/capacity analysis for the Airport. As shown, the supplies for both Jet-A fuel and AvGas are projected to be well above the typical three-day supply through the forecast period. Therefore, the current fueling facilities at the Airport are expected to be adequate to meet the Airport's needs over the forecast period.

TABLE 3-5
Fuel Facility Demand-Capacity Assessment

	Jet A ^{1/}	AvGas ^{1/}
Historical Fuel Demand		
2004 Total Annual Fuel Demand (gallons):	212,879	
2005 Total Annual Fuel Demand (gallons):	184,217	
2005 Annual Fuel Demand (gallons)	55,265	128,952 ^{2/}
2005 Average Fuel Demand Per Operation (gallons) ^{3/}	5	6
2010 Annual Operations ^{4/}	10,999	25,663
2010 Projected Fuel Demand (gallons)	59,244	138,235
2015 Annual Operations ^{4/}	11,790	27,511
2015 Projected Fuel Demand (gallons)	63,508	148,185
2020 Annual Operations ^{4/}	12,639	29,491
2020 Projected Fuel Demand (gallons)	68,079	158,852
2025 Annual Operations ^{4/}	13,549	31,614
2025 Projected Fuel Demand (gallons)	72,981	170,288
Existing Fuel Capacity (gallons)	15,000	15,000
Existing Fuel Supply (2005 - days)	99	42
2010 Projected Fuel Supply (days)	92	40
2015 Projected Fuel Supply (days)	86	37
2020 Projected Fuel Supply (days)	80	34
2025 Projected Fuel Supply (days)	75	32
Recommended Fuel Supply (days) ^{5/}	3	3

Source: Palm Beach County Department of Airports, May 2006; Ricondo & Associates, Inc. May 2006.
Prepared by: Ricondo & Associates, Inc. May 2006.

Notes:

^{1/} Assuming 30 percent of FBO customers use Jet-A fuel and 70 percent use AvGas based on interview with FBO manager.

^{2/} Accounts for 20 percent touch-and-go operations based on information obtained through tenant interviews.

^{3/} Estimated 2005 annual fuel demand based on data obtained through the Palm Beach County Department of Airports and tenant interviews.

^{4/} General aviation forecast reflects national general aviation airport growth rate.

^{5/} Typically, a three-day capacity is recommended.

SECTION 4

Other Airport Support Facilities

Support facilities provide services to the airport and the aircraft serving the airport. At GA airports, these facilities typically include aircraft rescue and fire fighting (ARFF) facilities and airport maintenance.

FAR Part 139 requires an ARFF station at commercial service airports. However, ARFF stations are not required at GA airports, such as PHK, where aircraft rescue and fire fighting services are provided by the City of Pahokee. This fire station is located in downtown Pahokee. Airport maintenance is the responsibility of the PBC DOA. Since there is not a need for a maintenance facility on Airport property, none is anticipated to be located at the Airport.

Technical Report #3

Palm Beach County Glades Airport Environmental Overview

Palm Beach County Glades Airport

Prepared for
Palm Beach County Department of Airports

NOVEMBER 2006

CH2MHILL

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SECTION 1

Introduction

The purpose of this chapter is to provide an overview of potential environmental impacts associated with long-term development identified in this Master Plan Update. The environmental resources evaluated include those typically considered by the National Environmental Policy Act (NEPA) and Federal Aviation Administration (FAA) Orders 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* (April 2006), and 1050.1E, *Environmental Impacts: Policies and Procedures* (March 2006). **Section 2** of this chapter provides an **overview of potential impacts** to the environment that could result from the proposed projects at Palm Beach County Glades Airport (PHK). **Section 3** provides a **summary of permits and mitigation** that may be required for construction and operation of the proposed improvements.

This qualitative impact analysis is based on current information. Prior to FAA approval for the projects recommended in this Master Plan Update, further evaluation of the impacts to identified resources will need to occur. Impacts to each of the environmental resources categories were evaluated within a **study area of one-half mile from the airport boundary** based on the Palm Beach County Glades Airport Environmental Constraints Inventory (CH2M HILL, 2005), as well as state and county websites.

SECTION 2

Environmental Impacts

The projects proposed and evaluated for impact at PHK include:

- ➔ Replacement of Visual Approach Slope Indicator (VASI) systems with Precision Approach Path Indicator (PAPI) systems and installation of Runway End Identifier Lights (REIL) on both ends of Runway 17/35;
- ➔ Construction of a new terminal, conventional hangar and 10-unit T-hangar to replace facilities damaged in the 2004-2005 hurricane season;
- ➔ Construction of a new 10-unit T-hangar west of the existing T-hangar;
- ➔ Development of additional vehicle parking to meet future parking demands;
- ➔ Expansion of current apron to the south by 53,000 square feet;
- ➔ Avigation easements for properties within the Runway 17/35 Runway Protection Zones (RPZ) for parcels that will not be acquired in fee simple; and
- ➔ Property Acquisitions in fee simple for properties with the Runway 17/35 RPZs.

Implementation of these projects may result in impacts to three resource categories. Table 2-1 summarizes all of the environmental resource categories and potential project impacts.

2.1 Compatible Land Use

Until recently, existing land uses to the north and south were not compatible with current FAA requirements for the Runway Protection Zones (RPZ) off Runway 17/35. Fee simple acquisition of these properties has taken place in the recent past and plans are underway to demolish the existing structures in order to make all land use within the RPZ compatible. To prevent future incompatible land use, avigation easements are proposed to control land use on properties within the RPZ that are currently compatible.

2.2 Hazardous Materials, Pollution Prevention and Solid Waste

Depending on prior and existing land uses, evaluation for hazardous materials, asbestos, lead-based paint, contaminated soils and underground storage tanks should be completed on the acquired properties prior to building demolition.

2.3 Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

For properties acquired at the north and south end of the airport, analyses will need to be completed to evaluate whether demolition of the four residences would place a disproportionately high and adverse impact on low-income or minority communities. Regardless of the income or minority status of residents, relocations must occur in

accordance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended.

TABLE 2-1
Environmental Impact Summary

Environmental Category	Resources in Study Area and Impacts Identified
Air Quality	In attainment area. Proposed projects will not generate additional aircraft or vehicle traffic; therefore, no increase in or impacts from emissions due to proposed projects.
Coastal Resources	Within state coastal zone boundary. Consistency determination required.
Compatible Land Use	Structures (recently acquired) within RPZ at both ends. Demolition of structures and relocation of individuals and/or businesses requires additional analyses and adherence to Uniform Relocation and Real Property Acquisition Policies Act.
Construction Impacts	Demolition and reconstruction of terminal building and hangars damaged by hurricanes. Demolition of structures on properties to be acquired in RPZ. Structures to be demolished require inspection for asbestos, lead-based paint, hazardous materials and so on; if found, specific demolition and disposal procedures are triggered.
Department of Transportation Act, Section 4(f)	One county park (Duncan Padgett Park) northeast of the airport and east of SR 175. A portion of the 110-mile-long Lake Okeechobee Scenic Trail, a segment of the Florida National Scenic Trail, along the west side of the airport atop Herbert Hoover Dike. No impacts to 4(f) resources are foreseen.
Farmlands	Present to east and south of airport. No impacts foreseen.
Fish, Wildlife and Plants	Potential habitat for Bald Eagle (federal and state threatened) and Okeechobee gourd (federal and state endangered species) exists near the airport but not on airport property. Coordination with U.S. Fish and Wildlife Service and FL Fish and Wildlife Conservation Commission required in NEPA process.
Floodplains	Located within the limits of the 500-year floodplain (Zone B). No impacts foreseen.
Hazardous Materials, Pollution Prevention and Solid Wastes	Demolition of terminal building and hangars damaged by hurricanes. Demolition of structures on properties to be acquired in RPZ. Structures to be demolished require inspection for asbestos, lead-based paint, hazardous materials, underground tanks and so on; if found, specific demolition and disposal procedures are triggered.
Historical, Architectural, Archeological, and Cultural Resources	Herbert Hoover Dike (surrounds Lake Okeechobee) is NHRP eligible, but will not be impacted. Coordination with State Historic Preservation Officer (SHPO) required as integral part of NEPA process.
Light Emissions and Visual Impacts	None anticipated.
Natural Resources and Energy Supply	None anticipated.

Environmental Category	Resources in Study Area and Impacts Identified
Noise	Proposed projects will not generate additional aircraft or vehicle traffic; therefore, no impacts from noise due to proposed projects anticipated.
Socioeconomic Impacts, Environmental Justice and Children's Environmental Health and Safety Risks	Recent property acquisition to north and south of properties with structures within the RPZ is noted, as well as future plans to acquire avigation easements for other properties within RPZ that will not be acquired in fee. Relocation of individuals and/or businesses requires additional analyses of disproportionate economic/racial impacts and adherence to Uniform Relocation and Real Property Acquisition Policies Act.
Water Quality	Lake Okeechobee to the west is a resource for drinking water, irrigation and recreation regulated by the U.S. Army Corps of Engineers. The airport is located in the streamflow and recharge zones of the Biscayne sole source aquifer. Coordination with the Corps, the S. FL Water Management District and the U.S. Environmental Protection Agency required through the NEPA process. Given nature of proposed development, Best Management Practices should prevent any damage to the identified resources.
Wetlands	Riverine and palustrine emergent wetlands are present southwest of airport, but will not be impacted.
Wild and Scenic River	None present in study area.

Prepared by: CH2M HILL

Mitigation and Permitting

3.1 Further NEPA Processing

It is recommended that the proposed development program be assessed under a single Environmental Assessment (EA) prepared in accordance with FAA Orders 5050.4B and 1050.1E. This all-inclusive approach presents economies of scale for DOA and enables the cumulative impacts, if any, of the projects to be assessed at one time. Also, the EA process would trigger consultation/coordination with various agencies and authorities where conceptual mitigation plans and proposals could be aired and assessed. As early mitigation planning and permitting are proven means of expediting projects, it is recommended that the EA process also include elements of both.

3.2 Mitigation

The proposed developments at PHK present little likelihood of environmental impact, and that foreseen is mitigated readily. For the most part, potential impacts are foreseen around the recent acquisition of properties within the RPZ at both runway ends. Prior to demolition (which relates also to the demolition of the existing terminal, hangar and T-hangar complex damaged in the 2004-2005 hurricane season), the structures should be assessed for the presence of asbestos, lead-based paint, mercury light ballasts, hazardous wastes and so on, with the demolition specifications reflecting the appropriate and approved demolition and disposal methodologies. Similarly, any individuals and/or businesses displaced must be compensated in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

Given the nearby presence of Lake Okeechobee and the fact that the airport sits astride the streamflow and recharge zones of the Biscayne sole source aquifer, coordination with the U.S. Army Corps of Engineers, the South Florida Water Management District and the U.S. Environmental Protection Agency is advised.

3.3 Permitting

Table 3-1 identifies the necessary permits and their issuing authorities required for the proposed PHK development program.

TABLE 3-1
Required Permits/Actions for the Proposed Measures

Federal Agencies	
Federal Aviation Administration	
Approval of Airport Layout Plan (ALP)	
Review under National Environmental Policy Act (NEPA)	
U.S. Environmental Protection Agency	
Consultation regarding potential impacts to the Biscayne sole source aquifer	
U.S. Fish & Wildlife Service	
Consultation regarding potential impacts to threatened and endangered species	
State of Florida	
Department of Environmental Protection	
NPDES Notice of Intent	Stormwater discharge related to construction activities
Coastal Zone Program Consistency ¹	Development within the coastal zone
Underground Tank Removal Permit	
New Tank Construction Permit	
Department of Transportation	
Roadway Permit	Changes, if any, made at access points on state roads
Fish & Wildlife Conservation Commission	
Consultation regarding potential impacts to threatened and endangered species	
Division of Historical Resources/ State Historic Preservation Officer	
Consultation regarding potential impacts to historically, architecturally, archeologically, and culturally significant resources	
Palm Beach County	
Development Review Officer	Development review and coordination
Environmental Resource Management Department	
Vegetation Removal Permit	Removal of vegetation for multiple projects on airport property
Notice of Intent to Construct	
Building Department	
Building/Demolition Permit	Demolition of existing terminal and hangars and construction of new terminal and hangars

South Florida Water Management District

Environmental Resource Permit	Increases in impervious surface
Coastal Zone Program Consistency ¹	Development within the coastal zone
Water Use Permit 1	Increases in operational water consumption
Water Use Permit 2	Dewatering operations during construction

Note: 1. Shared review responsibility.

Technical Report #4

Palm Beach County Glades Airport Development Alternatives

Palm Beach County Glades Airport

Prepared for
Palm Beach County Department of Airports

OCTOBER 2006

CH2MHILL

In Association with Ricondo & Associates, Inc.

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SECTION 1

Overview

The previous chapter, *Demand/Capacity and Facility Requirements*, determined the facilities needed at Palm Beach County Glades Airport (PHK) based on projected aviation demand over the 20-year planning period (through 2025). The purpose of this chapter is to review and verify the validity of previously evaluated alternatives from the most recent Master Plan¹ to ensure the preferred alternative previously selected still represents the best way to reasonably satisfy future aviation-related demand.

In order to review, validate, and potentially adjust the previously selected preferred alternative, the forecast requirements and demand/capacity assessment from the previous Master Plan is compared to those of the current effort. Ultimately, the preferred facility development alternative will serve as the basis for the future Airport Layout Plan (ALP).

To that end, the alternatives analysis discussion is contained in the following sections:

- ➔ Comparison/Summary of the Forecast Reports
- ➔ Comparison/Summary of the Demand/Capacity and Facility Requirements Analyses
- ➔ Review of Alternatives and Preferred Alternative

¹ Dames and Moore, *Master Plan Update for Palm Beach County Glades Airport*, 2001.

SECTION 2

Comparison/Summary of Forecast Reports

A comparison of the forecasts of based aircraft and aviation operations for PHK between the 2001 Master Plan Update and this Master Plan Update are provided below.

2.1 Based Aircraft

Between master planning efforts, there were not any dramatic changes in the number of based aircraft projections for PHK. This comparison is shown in **Table 2-1**.

TABLE 2-1
Based Aircraft Comparison, 2001 Forecast and 2006 Forecast

2001 Forecast ^{1/}		2006 Forecast ^{2/}	
Year	Number of Aircraft	Year	Number of Aircraft
Existing Year of Study:		Existing Year of Study:	
1999	13	2005	13
Forecast Years:		Forecast Years:	
2004	14	-	-
<i>2005</i>	<i>14</i>	-	-
2009	16	<i>2009</i>	<i>14</i>
<i>2010</i>	<i>16</i>	2010	14
2014	18	<i>2014</i>	<i>15</i>
<i>2015</i>	<i>18</i>	2015	15
2019	20	<i>2019</i>	<i>16</i>
-	-	2020	16
-	-	2025	17

Italic Font. Based aircraft data extrapolated for comparison purposes.
Prepared by: CH2M HILL, October 2006.

^{1/} Source: Dames and Moore, *Master Plan Update for Palm Beach County Glades Airport*, 2001.

^{2/} Source: PBC DOA/Ricondo & Associates, May 2006. (Based on the FAA Aerospace Forecast, February 2006).

The number of based aircraft in 1999 for the previous Master Plan Update was 13. This number was projected to increase to 20 by 2019. As shown in the current forecast, the existing number of based aircraft in 2005 remained at 13, and is projected to increase to 17 over the planning period, through 2025. This is slightly less than the projected 20 based aircraft through 2019, as estimated by the previous forecast.

2.2 Airport Operations

The two forecasts of annual aircraft operations are shown in **Table 2-2**.

TABLE 2-2
Annual Aircraft Operations Comparison, 2001 Forecast and 2006 Forecast

2001 Forecast ^{1/}		2006 Forecast ^{2/}	
Year	Number of Aircraft	Year	Number of Aircraft
Existing Year of Study:		Existing Year of Study:	
1999	36,500	2005	34,200
Forecast Years:		Forecast Years:	
2004	40,355	-	-
<i>2005</i>	<i>41,205</i>	-	-
2009	44,894	<i>2009</i>	36,156
<i>2010</i>	<i>45,917</i>	2010	36,662
2014	50,010	<i>2014</i>	38,759
<i>2015</i>	<i>51,195</i>	2015	39,301
2019	55,935	<i>2019</i>	41,549
-	-	2020	42,130
-	-	2025	45,163

Italic Font: Aircraft operations data extrapolated for comparison purposes.
Prepared by: CH2M HILL, October 2006.

^{1/} Source: Dames and Moore, *Master Plan Update for Palm Beach County Glades Airport*, 2001.

^{2/} Source: PBC DOA/Ricondo & Associates, May 2006. (Based on the FAA Aerospace Forecast, February 2006).

The 2001 Master Plan Forecast projected a significantly higher growth rate for PHK (2.1 percent per year), than that of the current forecast (1.4 percent per year). The 2001 Forecast estimated that by 2005, operations would be 41,205, which is actually 18 percent higher than actual levels in 2005. The resulting number of aircraft operations over the planning period is 45,163 for 2025, which is still approximately 20 percent lower than the forecast number of operations for the previous planning period, which projected through 2019.

SECTION 3

Comparison/Summary of Demand/Capacity and Facility Requirements Analyses

This section summarizes the requirements for the airfield and general aviation (GA)/Fixed Based Operator (FBO) facilities identified in the *Demand/Capacity and Facility Requirements* chapter.² As the purpose of this chapter is to review and verify the validity of previously evaluated alternatives, this section also provides a comparison of the facility requirements identified in the 2001 Master Plan Update.

3.1 Airfield Facilities

In the previous chapter, airfield capacity was analyzed to assess whether PHK’s existing runway system will experience a capacity deficiency over the planning period. A summary of the findings from the previous chapter, as well as from the previous Master Plan, is provided in **Table 3-1**.

TABLE 3-1
Comparison of ASV

	<u>2001 Master Plan</u> ^{1/}		<u>Current Master Plan</u> ^{2/}	
	1999	2019	2005	2025
Annual Aircraft Operations	36,500	55,935	34,200	45,163
Annual Service Volume	230,000	230,000	69,253	69,253
Percent of Operations to ASV	16%	24%	49%	65%

Prepared by: CH2M HILL, October 2006.

^{1/} Source: Dames and Moore, *Master Plan Update for Palm Beach County Glades Airport*, 2001.

^{2/} Source: CH2M HILL and Ricondo & Associates, *Demand/Capacity and Facility Requirements*, Oct. 2005.

In the 2001 Master Plan, the projected ASV is much higher than that of the current Master Plan. The methodology used in the previous Master Plan to ascertain ASV was not documented, so it is not known how that level of ASV was estimated. The methodology used for this effort is described in the previous chapter. Even with the significantly lower ASV determined in this Master Plan, no additional capacity will be needed before the end of the planning period.

² As described in the previous chapter, prior to Hurricane Wilma, facilities at the Airport included an FBO terminal building, a conventional hangar, and 10 t-hangars. The future facility requirements were calculated assuming those facilities are rebuilt and used as existing.

3.2 GA/FBO Facilities

For GA/FBO facilities, the demand/capacity analysis concluded that additional facilities are required for aircraft hangars and automobile parking by 2025. Both the previous Master Plan demand/capacity analysis and this analysis concluded that the FBO terminal building, aircraft apron, and other support facilities, including ARFF, maintenance, and fuel facilities, are adequate through the planning period. As noted, most of the existing facilities were destroyed in 2005 by a hurricane. This analysis serves to help determine the appropriate replacement facilities over the planning period.

Table 3-2 provides a summary of the GA/FBO facility requirements.

TABLE 3-2
2025 GA/FBO Facility Requirements Summary (square feet)

Facilities	Existing Facilities^{1/}	2025 Requirement	Shortfall
Terminal Building/FBO	1,828	1,828	-
Aircraft Apron	180,000	135,450	-
Hangar Facilities	17,750	30,175	(12,425)
Auto Parking ^{2/}	1,650	2,850	(1,200)

Source: CH2M HILL and Ricondo & Associates *Demand Capacity/ Facility Requirements*, October 2006.
Prepared by: CH2M HILL, October 2006.

Notes:

1/ Based on the existing facilities at the airport prior to the hurricane.

2/ Only represents the automobile parking associated with hangar facilities.

3.3 Ground Access and Transportation Networks

Ground access needs are being assessed as a part of a separate planning effort to be completed in the near future (MTP Group, Inc., *Ground Access and Transportation Networks*, estimated to be complete in November 2006). However, ground access at PHK is currently considered to be adequate. PHK is located west of Bacom Point Road (SR 715), on the southeast corner of the Lake Okeechobee shore. Regional access is provided by the surrounding highways: US 98 to the north, US 27 and SR 80 to the south, and US 441 to the north and east. The airport is accessible by SR 715, which connects to US 441 and SR 80.

SECTION 4

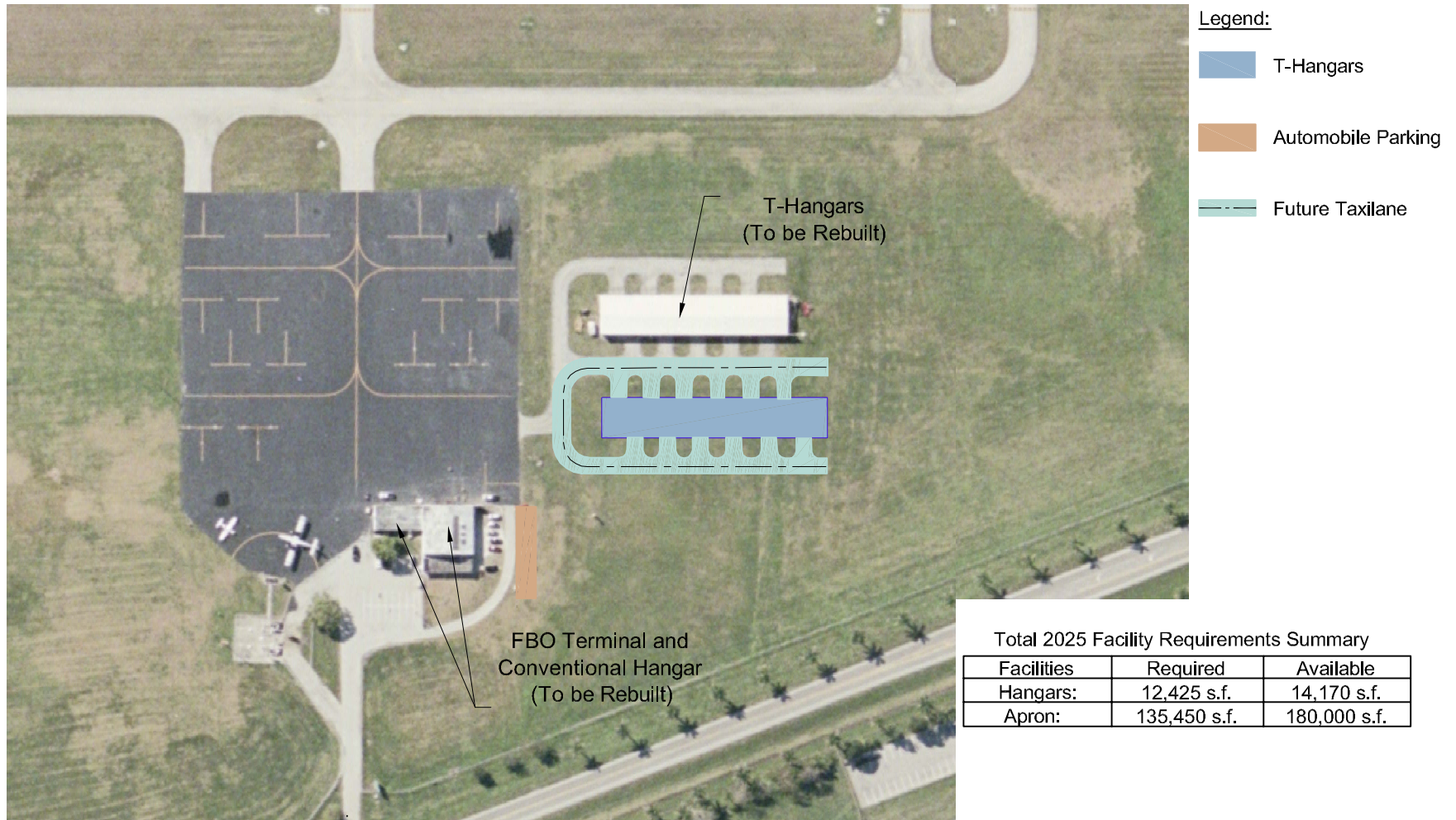
Review of Alternatives

The purpose of the review of alternatives is to determine if the preferred alternative presented in the 2001 Master Plan will adequately meet the projected 2025 demand levels, and represent the best way to do so. Considering operations and based aircraft are actually lower in this Master Plan versus the 2001 Master Plan, the alternative identified in the 2001 Plan will not require any adjustments to satisfy the needs outlined above.

2001 Preferred Alternative

Alternative 2 was chosen as the recommended alternative in the 2001 Master Plan. This alternative, developed to meet the needs of the Airport in the 2001 Dames and Moore Master Plan, also satisfies the capacity needs projected in the current demand/capacity analysis. Due to the reduction of forecast operations and based aircraft, all of the facilities on the airport layout plan still meet the requirements through the updated planning horizon. No better alternatives exist, and this alternative remains the preferred plan for 2025 development.

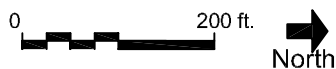
Exhibit 4-1 is provided on the following page to provide better detail of the GA/FBO facilities required. As shown, a row of t-hangars, encompassing a total of 14,170 square feet is proposed east of the existing t-hangars, and north of the apron. The automobile parking spaces required are accommodated north of the conventional hangar and access road, replacing the existing unpaved lot.



Source: Southern Resources and Mapping of Miami, July 2005; Ricondo & Associates, Inc., June 2006.
 Prepared by: Ricondo & Associates, Inc., July 2006.

DRAFT - For Review and Discussion Purposes Only

Exhibit 4-1



2025 General Aviation Facility Requirements - Layout

Drawing: P:\Airports\PalmBeach\System\PhaseII\CAD\PHK_Altis_Fixed\1006\PHK_Exhibit 3-1.dwg_Layout: 2025 Facilities_Oct 20, 2006, 1:08pm

Technical Report #5

Palm Beach County Airports Financial Planning

Prepared for
Palm Beach County Department of Airports

SEPTEMBER 2007

CH2MHILL

In Association with Ricondo & Associates, Inc.

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1.0 Financial Analysis

The financial viability of implementing the Master Plan recommendations for the Airport and its three reliever airports collectively known as the Airport System is discussed in this chapter. As noted previously, the actual implementation schedule for the various improvements identified in the Master Plan will be defined by development triggers and demand growth rather than specific calendar years. For purposes of this illustrative financial analysis, a specific implementation schedule was assumed; however, it should be noted that this schedule and the resulting financial analysis are intended only to demonstrate financial viability and that the actual financing strategies used will be determined as implementation approaches. The projected financial results are presented in detail for the short term, Fiscal Year (FY) 2007 through FY 2017, and a more general overview is presented for the longer term of the Master Plan period, FY 2018 through FY 2025 (for Fiscal Years ending September 30). This chapter is presented in the following sections:

- I. Financial Structure of the Airport
- II. Capital Improvement Plan - Phasing and Funding Sources
- III. Debt Service Requirements
- IV. Operation and Maintenance (O&M) Expenses
- V. Airport Revenues (Airline and Nonairline)
- VI. Cost per Enplaned Passenger
- VII. Cash Flow
- VIII. Debt Service Coverage
- IX. Summary of Baseline Scenario
- X. Sensitivity Analysis 1
- XI. Sensitivity Analysis 2

2.0 Financial Structure of the Airport

This section presents a discussion of the Airport System's accounting practices, a summary of the Airport-Airline Use and Lease Agreement (the Airline Agreement) between Palm Beach County and the airlines that have executed the Airline Agreement (the Signatory Airlines), and the Bond Resolution that was adopted in 1984 and subsequently amended in full.

2.1 Accounting Practices

Airport System-related expenditures are categorized by type of expense into Direct Cost Centers and Indirect Cost Centers, as defined in the Airline Agreement. Revenues are allocated in the same manner. Direct Cost Centers include those areas or functional activities of the Airport System used for the purposes of accounting for Revenues, O&M Expenses, and Debt Service. Revenues are not usually associated with Indirect Cost Centers, which include those areas or functional activities of the Airport System used to account for O&M Expenses and Debt Service. The expenses included in Indirect Cost Centers are allocated to Direct Cost Centers as defined in the Airline Agreement.

Direct Cost Centers defined in the Airline Agreement include, but are not necessarily limited to:

- **Airside** - Includes all Debt Service, all Direct and Indirect O&M Expenses, Capital Expenditures, and Operating Revenues for the Airside. The Airside includes the landing area, taxiways and Ramp Area.
- **Terminal** - Includes all Debt Service, all Direct and Indirect O&M Expenses, and Operating Revenues for the Terminal, which consists of airline terminal facilities at the Airport.
- **Tenant Equipment** - Includes all Debt Service, all Direct and Indirect O&M Expenses, and Operating Revenues related to loading bridges, aircraft supply systems, holdroom furnishings, and certain bag makeup and bag claim equipment.
- **Ground Transportation** - Includes all Debt Service, all Direct and Indirect O&M Expenses, and Operating Revenues for terminal access roadways (including the enplanement/deplanement drives), all Airport roads, Airport parking facilities, and other areas and facilities accommodating ground transportation.
- **Aviation** - Includes all Debt Service, all Direct and Indirect O&M Expenses, and Operating Revenues for air cargo, general aviation, flight kitchen, and military activities.
- **Non-Aviation** - Includes all Debt Service, all Direct and Indirect O&M Expenses, and Operating Revenues for Airport areas related to non-aviation purposes that provide support functions (e.g., rental car maintenance areas, and miscellaneous ground areas and facilities leased by Airport tenants).
- **Terminal FIS** - Includes all Debt Service, all Direct and Indirect O&M Expenses, and Operating Revenues for Airport areas related to areas in the Terminal, and/or elsewhere on

the Airport, to be used by agencies of the United States Government for the inspection of passengers and their baggage, and for the exercise of the responsibilities of said agencies with respect to the movement of persons and property to and from the United States.

- **Palm Beach County Park (Lantana Airport)** - Includes all Debt Service, all Direct and Indirect O&M Expenses, and Operating Revenues for all activities and facilities at Lantana Airport.
- **Palm Beach County Glades Airport (Glades Airport)** - Includes all Debt Service, all Direct and Indirect O&M Expenses, and Operating Revenues for all activities and facilities at Glades Airport.
- **North Palm Beach County General Aviation Airport (North County Airport)** - Includes all Debt Service, all Direct and Indirect O&M Expenses, and Operating Revenues for all activities and facilities at North County Airport.
- **Air Cargo Building** - Includes all Debt Service, all Direct and Indirect O&M Expenses, and Operating Revenues for all activities at and facilities surrounding the Air Cargo Building.

Indirect Cost Centers defined in the Airline Agreement include, but are not necessarily limited to:

- **Administrative and Operations** - Includes all Direct O&M Expenses for all administration activities and facilities, including charges for County administrative services provided on behalf of the Airport System (e.g. accounting, finance, data processing services). Administrative O&M Expenses are allocated based on each Direct Cost Center's share of O&M Expenses attributable to all Direct Cost Centers.
- **Maintenance** - Includes all Direct O&M Expenses for maintenance activities and facilities of the Airport System. Maintenance O&M Expenses are allocated to Direct Cost Centers to the extent possible based on actual staff hours charged to each respective Direct Cost Center, and other O&M Expenses that can be directly charged.
- **Fire Department** - Includes all Direct O&M Expenses for fire, and rescue activities and facilities, including those required under FAR Part 139. Fire department O&M Expenses are allocated to Direct Cost Centers to the extent possible based on actual staff hours charged to each respective Direct Cost Center, and other O&M Expenses that can be directly charged.

2.2 Airline Agreement

The County recently negotiated a new Airline Agreement, effective October 1, 2006, with a five year term. The rate-making structure for FY 2007 through FY 2015 includes the following key elements:

- A "compensatory" average rental rate for the Terminal, using total rentable square feet as the divisor. Differential Terminal rental rates are calculated for the purpose of differentiating space by location and function.
- A "residual" landing fee rate for the Airside using total landed weight as the divisor.

- A revenue-sharing provision, by which a portion of funds remaining after the payment of debt service, O&M expenses and replenishment of required fund balances, equivalent to 50 percent, is credited to the Signatory Airline rate base in the subsequent year.
- There is no majority in interest provision in the Airline Agreement for any capital projects at the Airport.

2.3 Bond Resolution

The Bond Resolution authorizes the issuance of Airport System Revenue Bonds by the County. The requirements of the Bond Resolution and the methodology contained in the Airline Agreement were adhered to in developing the application of revenues included in these financial analyses. The principal funds and accounts created in the Bond Resolution are summarized below:

- Revenues (or “Operating Revenues”) as defined in the Bond Resolution, include, generally, all revenue due and payable to the County from the ownership or operation of the Airport System, including all rentals, concession revenue, use charges, and landing fees.
- An O&M Reserve requirement was established in an amount equal to one-sixth of the amount appropriated in the annual budget for O&M Expenses for the then-current Fiscal Year.
- Pursuant to the Bond Resolution, the County covenants that it will fix, charge, and collect rates, fees, rentals, and charges for the use of the Airport System, and shall revise such rates, fees, rentals, and charges as often as may be necessary or appropriate to produce Revenues in each Fiscal Year at least equal to the sum of Operation and Maintenance Expenses, including reserves therefore provided for in the annual budget, plus the greater of (a) an amount equal to the sum of 1.25 times the Aggregate Debt Service for such Fiscal Year, or (b) the sum of (i) the amount to be paid during such Fiscal Year into the Debt Service Account, plus (ii) the amount, if any, to be paid during the Fiscal Year into the Debt Service Reserve Account (including amounts payable to the issuer of any Debt Service Reserve Account Facility and excluding amounts required to be paid into such account out of the proceeds of Bonds), plus (iii) the amount, if any, to be paid into the Renewal and Replacement Fund as provided in the Annual Budget, plus (iv) all other charges and liens whatsoever payable out of Revenues during such Fiscal Year, plus (v) to the extent not otherwise provided for, all amounts payable on Subordinated Indebtedness.

3.0 Capital Improvement Plan – Phasing and Funding Sources

This section presents a discussion of the Master Plan’s long-term Capital Improvement Plan (CIP) including discussion of major projects and funding sources.

3.1 Projects

Funding for the CIP is expected to be secured from various sources. The estimated capital costs were developed in current dollars and escalated to inflated dollars using an annual growth rate of five percent. **Table 1.1** presents the CIP by Airport by funding source. The CIP is estimated to cost \$922.1 million in inflated dollars, and consists of the following projects:

- Airside projects in the CIP are estimated to total approximately \$390.2 million.
- Terminal improvements are estimated to total \$75 million and include redevelopment of Concourse A, expansion of Concourse C, and construction of a new baggage system.
- A new parking garage for the Airport is planned for FY 2023 at an estimated cost of \$224 million.
- A cargo facility is planned for FY 2015 at an estimated cost of \$33 million.
- Projects at the general aviation airports are planned as follows:
 - Lantana Airport - \$23 million
 - North County Airport - \$26 million
 - Glades Airport - \$5 million

3.2 Funding Sources

The County intends to finance the recommended CIP through a combination of FAA Airport Improvement Program (AIP) grants (entitlements and discretionary), Florida Department of Transportation (FDOT) grants, passenger facility charge (PFC) revenues, County funds, and proceeds from the sale of General Airport Revenue Bonds (GARBs). The County has been actively seeking maximum discretionary funding for certain Airfield projects and may pursue an FAA Letter of Intent (LOI) for certain Airfield projects. **Table 1.2** presents the CIP for FY 2007 through FY 2025 and funding sources for each project. For purposes of this report, funding sources have been identified on the basis of project eligibility and are presented as a Base Case. Actual funding may not be secured at this level of eligibility and alternative funding scenarios are presented later in the chapter. The following sections briefly describe the anticipated funding sources for these projects.

Table 1.1 (1 of 2)**Capital Improvement Plan – Summary of Funding Sources**

Project	Total Project Escalated Dollars	Funding Source				
		AIP Ent & Disc	FDOT	PFC	Airport Cash	GARBs
PALM BEACH INTERNATIONAL AIRPORT						
Expand and Rehab Overnight Parking Apron	\$740,000	\$0	\$370,000	\$370,000	\$0	\$0
Apron "A" Expansion	3,420,000	0	1,220,000	2,200,000	0	0
NAVAID Relocation Study	300,000	0	0	300,000	0	0
Construct Maintenance Compound	1,000,000	0	0	1,000,000	0	0
Rehabilitate Aircraft Parking Apron	1,090,000	0	545,000	545,000	0	0
Extension of Taxiway "F" to RW 13	13,400,000	0	5,236,500	8,163,500	0	0
Extend Runway 9R-27L Environmental & Design	8,284,000	0	4,142,000	4,142,000	0	0
Extension of Taxiway "L" (Lima)	17,700,000	0	8,850,000	8,850,000	0	0
Miscellaneous taxiway rehab	5,250,000	0	2,625,000	2,625,000	0	0
New Taxiway Connector - Runway 9L-27R	5,300,000	3,975,000	662,500	662,500	0	0
Taxiway Romeo West of R1 & East of R1	20,825,398	15,619,049	2,603,175	2,603,175	0	0
Taxiway C4 High Speed Exit - Rwy 9L-27R	5,084,000	4,067,200	508,400	508,400	0	0
Taxiway D High Speed Exit - Rwy 9L-27R	4,721,000	3,776,800	472,100	472,100	0	0
Replace (2) Fire Rescue Vehicles	2,250,000	0	1,000,000	1,250,000	0	0
Concourse "A" Redevelopment	20,375,000	0	2,075,000	18,300,000	0	0
Acquire land runway 9L-27R	7,094,817	3,000,000	375,000	3,719,817	0	0
Taxiway Lima (West) Upgrades and Improvements	17,048,000	12,786,000	2,131,000	2,131,000	0	0
Runway 9R Property Acquisition	35,846,700	24,802,632	4,272,034	6,772,034	0	0
Golfview Apron, Taxilanes/Taxiways and Infrastructure	74,000,000	55,500,000	0	18,500,000	0	0
Golfview Facilities	130,000,000	97,500,000	0	32,500,000	0	0
Relocate VOR	3,939,281	2,954,461	492,410	492,410	0	0
Taxiway Charlie (East) Improvements	7,800,000	0	7,020,000	780,000	0	0
Extend, Relocate and Upgrade RWY 9R-27L	77,101,000	43,039,000	17,031,000	17,031,000	0	0
Construct Apron Golfview 2	6,000,000	4,500,000	750,000	750,000	0	0
Construct Surface Parking Lot	1,426,946	0	0	0	1,426,946	0
Demolition East of Runway 13-31	17,600,000	13,200,000	2,200,000	2,200,000	0	0
Demolition West of Runway 13-31	10,600,000	7,950,000	1,325,000	1,325,000	0	0
Runway 13-31 Pavement Removal	2,500,000	1,875,000	312,500	312,500	0	0
Runway 13-31, Taxiway F and Taxiway B Extensions and Taxiway Connectors	23,000,000	17,250,000	2,875,000	2,875,000	0	0
Part 150 Study PBIA	800,000	720,000	40,000	40,000	0	0
Rehabilitate Taxiway C	8,500,000	3,609,000	2,445,500	2,445,500	0	0
New Parking Revenue Center	2,609,546	0	0	0	2,609,546	0
New Cargo Apron	5,461,307	4,915,177	273,065	273,065	0	0
Concourse "B" Expansion	29,500,000	2,000,000	3,582,157	18,917,843	5,000,000	0
Miscellaneous Taxiway Rehab	2,687,834	1,707,500	490,167	490,167	0	0
New Belly Cargo/All Cargo Facility	33,131,938	0	0	33,131,938	0	0
Cargo Apron Expansion	3,070,758	2,763,682	153,538	153,538	0	0
Construct Surface Parking Lot	4,270,962	0	3,416,770	854,192	0	0
Terminal Building Baggage System Expansion	24,979,506	0	0	24,979,506	0	0
Construct Surface Parking Lot	5,806,149	0	0	0	5,806,149	0
New Parking Garage	224,176,582	0	0	0	0	224,176,582
Subtotal Palm Beach International Airport	\$868,690,724	\$327,510,501	\$79,494,816	\$222,666,185	\$14,842,641	\$224,176,582

Table 1.1 (2 of 2)
Capital Improvement Plan – Summary of Funding Sources

Project	Total Project Escalated Dollars	Funding Source				
		AIP Ent & Disc	FDOT	PFC	Airport Cash	GARBs
LANTANA						
Runway 33 Threshold Improvements	\$150,000	\$142,500	\$3,750	\$3,750	\$0	\$0
Construct Hangars at Lantana	1,875,000	0	1,500,000	0	375,000	0
Construct Hangars (Rows 500, 600 & 700)	5,000,000	0	4,000,000	0	1,000,000	0
Upgrade Airfield Signage	400,000	380,000	10,000	10,000	0	0
Expand Itinerant Apron	6,200,000	0	4,960,000	1,240,000	0	0
Relocate Airport Rotating Beacon	100,000	95,000	0	5,000	0	0
Taxiway C Rehab	1,100,000	0	880,000	220,000	0	0
Apron Rehab	275,000	0	220,000	55,000	0	0
Rehab Runway 15/33	1,500,000	0	1,200,000	300,000	0	0
Rehab Runway 3/21	200,000	0	160,000	40,000	0	0
Construct Apron	2,200,000	0	1,760,000	440,000	0	0
Construct Hangars (Rows 1600, 1700, 1800 & 1900)	3,600,000	0	2,880,000	0	720,000	0
Construct Access Road to West Side Development	250,000	0	200,000	50,000	0	0
Subtotal Lantana	\$22,850,000	\$617,500	\$17,773,750	\$2,363,750	\$2,095,000	\$0
NORTH COUNTY AIRPORT						
Miscellaneous Pavement Rehab	\$250,000	\$237,500	\$6,250	\$6,250	\$0	\$0
Construct Hangars at North County	1,875,000	0	1,500,000	0	375,000	0
Construct Apron and Taxilanes	1,875,000	0	1,500,000	375,000	0	0
Construct Service Road from Terminal to North T-Hangars	550,000	0	440,000	110,000	0	0
Construct Additional Tie-Down/Transient Apron	4,200,000	0	3,360,000	840,000	0	0
Construct Hangars	5,000,000	0	4,000,000	0	1,000,000	0
Hangar Construction Environmental Mitigation	2,500,000	0	2,000,000	500,000	0	0
Construct Parallel Runway	4,450,000	4,227,500	111,250	111,250	0	0
Environmental Mitigation Runway 13-31	5,000,000	0	4,000,000	1,000,000	0	0
Subtotal North County Airport	\$25,700,000	\$4,465,000	\$16,917,500	\$2,942,500	\$1,375,000	\$0
GLADES						
T-Hangar Taxilane Rehab	\$143,000	\$135,850	\$3,575	\$3,575	\$0	\$0
Construct T-Hangar Facilities	500,000	0	400,000	0	100,000	0
Runway 17/35 Crack Sealing	80,000	76,000	0	4,000	0	0
Construct T-Hangars	1,250,000	0	1,000,000	0	250,000	0
Install PAPIs and REILs	360,000	342,000	0	18,000	0	0
Expand Aircraft Parking Apron	1,500,000	0	1,200,000	300,000	0	0
Property Acquisition	1,000,000	0	800,000	200,000	0	0
Subtotal Glades	\$4,833,000	\$553,850	\$3,403,575	\$525,575	\$350,000	\$0
TOTAL	\$922,073,724	\$333,146,851	\$117,589,641	\$228,498,010	\$18,662,641	\$224,176,582
Total Funding Sources By Cost Center:						
Airside	\$390,164,095	\$228,010,501	\$69,420,889	\$92,732,706	\$0	\$0
Terminal	74,854,506	2,000,000	5,657,157	62,197,349	5,000,000	0
Ground Transportation	238,290,185	0	3,416,770	854,192	9,842,641	224,176,582
Aviation	130,000,000	97,500,000	0	32,500,000	0	0
Lantana	22,850,000	617,500	17,773,750	2,363,750	2,095,000	0
Glades	4,833,000	553,850	3,403,575	525,575	350,000	0
North County Airport	25,700,000	4,465,000	16,917,500	2,942,500	1,375,000	0
Air Cargo Building	33,131,938	0	0	33,131,938	0	0
Fire Rescue	2,250,000	0	1,000,000	1,250,000	0	0
TOTAL	\$922,073,724	\$333,146,851	\$117,589,641	\$228,498,010	\$18,662,641	\$224,176,582

Source: Palm Beach County
Prepared by: Ricondo & Associates, Inc.

Table 1.2 (1 of 2)**Capital Improvement Plan – Total Project Costs by Year**

Project	Total Project Escalated Dollars	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<u>PALM BEACH INTERNATIONAL AIRPORT</u>																				
Expand and Rehab Overnight Parking Apron	\$740,000	\$740,000																		
Apron "A" Expansion	\$3,420,000	\$3,420,000																		
NAVAID Relocation Study	\$300,000	\$300,000																		
Construct Maintenance Compound	\$1,000,000		\$1,000,000																	
Rehabilitate Aircraft Parking Apron	\$1,090,000		\$1,090,000																	
Extension of Taxiway "F" to RW 13	\$13,400,000		\$776,000	\$12,624,000																
Extend Runway 9R-27L Environmental & Design	\$8,284,000		\$3,000,000	\$5,284,000																
Extension of Taxiway "L" (Lima)	\$17,700,000		\$1,717,000	\$15,983,000																
Miscellaneous taxiway rehab	\$5,250,000		\$5,250,000																	
New Taxiway Connector - Runway 9L-27R	\$5,300,000		\$5,300,000																	
Taxiway Romeo West of R1 & East of R1	\$20,825,398		\$6,700,000				\$2,825,080	\$8,475,239	\$2,825,080											
Taxiway C4 High Speed Exit - Rwy 9L-27R	\$5,084,000		\$5,084,000																	
Taxiway D High Speed Exit - Rwy 9L-27R	\$4,721,000		\$4,721,000																	
Replace (2) Fire Rescue Vehicles	\$2,250,000			\$2,250,000																
Concourse "A" Redevelopment	\$20,375,000			\$20,375,000																
Acquire land runway 9L-27R	\$7,094,817			\$7,094,817																
Taxiway Lima (West) Upgrades and Improvements	\$17,048,000			\$17,048,000																
Runway 9R Property Acquisition	\$35,846,700			\$25,846,700	\$10,000,000															
Golfview Apron, Taxiways/Taxiways and Infrastructure	\$74,000,000			\$74,000,000																
Golfview Facilities	\$130,000,000			\$130,000,000																
Relocate VOR	\$3,939,281			\$3,939,281																
Taxiway Charlie (East) Improvements	\$7,800,000			\$7,800,000																
Extend, Relocate and Upgrade RWY 9R-27L	\$77,101,000				\$27,545,150	\$49,555,850														
Construct Apron Golfview 2	\$6,000,000				\$6,000,000															
Construct Surface Parking Lot	\$1,426,946				\$1,426,946															
Demolition East of Runway 13-31	\$17,600,000					\$17,600,000														
Demolition West of Runway 13-31	\$10,600,000					\$10,600,000														
Runway 13-31 Pavement Removal	\$2,500,000						\$2,500,000													
Runway 13-31, Taxiway F and Taxiway B Extensions and Taxiway Connectors	\$23,000,000						\$23,000,000													
Part 150 Study PBIA	\$800,000							\$800,000												
Rehabilitate Taxiway C	\$8,500,000							\$8,500,000												
New Parking Revenue Center	\$2,609,546								\$2,609,546											
New Cargo Apron	\$5,461,307								\$5,461,307											
Concourse "B" Expansion	\$29,500,000									\$29,500,000										
Miscellaneous Taxiway Rehab	\$2,687,834									\$2,687,834										
New Belly Cargo/All Cargo Facility	\$33,131,938									\$33,131,938										
Cargo Apron Expansion	\$3,070,758										\$3,070,758									
Construct Surface Parking Lot	\$4,270,962										\$4,270,962									
Terminal Building Baggage System Expansion	\$24,979,506											\$24,979,506								
Construct Surface Parking Lot	\$5,806,149														\$5,806,149					
New Parking Garage	\$224,176,582																	\$224,176,582		

Table 1.2 (2 of 2)

Capital Improvement Plan – Total Project Costs by Year

Project	Total Project Escalated Dollars	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
LANTANA																				
Runway 33 Threshold Improvements	\$150,000	\$150,000																		
Construct Hangars at Lantana	\$1,875,000		\$1,875,000																	
Construct Hangars (Rows 500, 600 & 700)	\$5,000,000			\$5,000,000																
Upgrade Airfield Signage	\$400,000			\$400,000																
Expand Itinerant Apron	\$6,200,000			\$6,200,000																
Relocate Airport Rotating Beacon	\$100,000				\$100,000															
Taxiway C Rehab	\$1,100,000				\$1,100,000															
Apron Rehab	\$275,000				\$275,000															
Rehab Runway 15/33	\$1,500,000				\$1,500,000															
Rehab Runway 3/21	\$200,000				\$200,000															
Construct Apron	\$2,200,000						\$2,200,000													
Construct Hangars (Rows 1600, 1700, 1800 & 1900)	\$3,600,000						\$3,600,000													
Construct Access Road to West Side Development	\$250,000									\$250,000										
NORTH COUNTY AIRPORT																				
Miscellaneous Pavement Rehab	\$250,000	\$250,000																		
Construct Hangars at North County	\$1,875,000		\$1,875,000																	
Construct Apron and Taxilanes	\$1,875,000			\$1,875,000																
Construct Service Road from Terminal to North T-Hangars	\$550,000			\$550,000																
Construct Additional Tie-Down/Transient Apron	\$4,200,000			\$4,200,000																
Construct Hangars	\$5,000,000				\$5,000,000															
Hangar Construction Environmental Mitigation	\$2,500,000				\$2,500,000															
Construct Parallel Runway	\$4,450,000					\$4,450,000														
Environmental Mitigation Runway 13-31	\$5,000,000														\$5,000,000					
GLADES																				
T-Hangar Taxilane Rehab	\$143,000	\$143,000																		
Construct T-Hangar Facilities	\$500,000	\$500,000																		
Runway 17/35 Crack Sealing	\$80,000		\$80,000																	
Construct T-Hangars	\$1,250,000			\$625,000	\$625,000															
Install PAPIs and REILs	\$360,000			\$360,000																
Expand Aircraft Parking Apron	\$1,500,000				\$1,500,000															
Property Acquisition	\$1,000,000							\$1,000,000												
TOTAL	\$922,073,724	\$5,503,000	\$38,468,000	\$341,454,798	\$57,772,096	\$82,205,850	\$34,125,080	\$18,775,239	\$10,895,933	\$65,569,772	\$7,341,720	\$24,979,506	\$0	\$0	\$10,806,149	\$0	\$0	\$224,176,582	\$0	\$0
Total Project Costs By Cost Center:																				
Airside	\$390,164,095	\$4,460,000	\$34,638,000	\$169,619,798	\$43,545,150	\$77,755,850	\$28,325,080	\$17,775,239	\$8,286,387	\$2,687,834	\$3,070,758	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Terminal	74,854,506	0	0	20,375,000	0	0	0	0	0	29,500,000	0	24,979,506	0	0	0	0	0	0	0	0
Ground Transportation	238,290,185	0	0	0	1,426,946	0	0	0	2,609,546	0	4,270,962	0	0	0	5,806,149	0	0	224,176,582	0	0
Aviation	130,000,000	0	0	130,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lantana	22,850,000	150,000	1,875,000	11,600,000	3,175,000	0	5,800,000	0	0	250,000	0	0	0	0	0	0	0	0	0	0
Glades	4,833,000	643,000	80,000	985,000	2,125,000	0	0	1,000,000	0	0	0	0	0	0	0	0	0	0	0	0
North County Airport	25,700,000	250,000	1,875,000	6,625,000	7,500,000	4,450,000	0	0	0	0	0	0	0	0	5,000,000	0	0	0	0	0
Air Cargo Building	33,131,938	0	0	0	0	0	0	0	0	33,131,938	0	0	0	0	0	0	0	0	0	0
Fire Rescue	2,250,000	0	0	2,250,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	\$922,073,724	\$5,503,000	\$38,468,000	\$341,454,798	\$57,772,096	\$82,205,850	\$34,125,080	\$18,775,239	\$10,895,933	\$65,569,772	\$7,341,720	\$24,979,506	\$0	\$0	\$10,806,149	\$0	\$0	\$224,176,582	\$0	\$0

Source: Palm Beach County
 Prepared by: Ricondo & Associates, Inc.

3.2.1 AIP Grants

One of the main sources of funding for airport improvements is the federal AIP. The AIP was initially authorized by the Airport and Airway Improvement Act of 1982 to assist airport sponsors in funding planning, development, and noise compatibility projects at public-use airports nationwide to accommodate projected civil aviation growth. To be eligible for funding assistance under this 1982 act, an airport must be included in the National Plan of Integrated Airport Systems (NPIAS).

The AIP is funded through the Aviation Trust Fund, which was established by the Airport and Airway Revenue Act of 1970. Revenues for the Aviation Trust Fund are derived through the levying of taxes and fees on aviation fuel and lubricants, airline tickets, international departing passengers, aircraft freight, and other components of the aviation industry. Funds deposited into the Aviation Trust Fund are distributed to eligible airports throughout the United States and its territories through grants administered by the FAA under appropriations limits established by the United States Congress.

The FAA allocates funds to the nation's airports based on a number of eligibility criteria tied to a priority system used to rank each request and determine which projects will be funded and which will not during any given federal fiscal year (also ending September 30). The priority system used by the FAA is based on different criteria for different types of projects. Generally, projects that enhance the safety of aircraft operations and those that enhance capacity in the national air transportation system are higher priority projects. Projects are also ranked based on the size of the airport and the number of aircraft and aircraft operations at the facility.

The County has assumed that approximately \$333.1 million of projects are eligible for AIP funding (discretionary and entitlements), including the extension and relocation of Runway 9R-27L at Palm Beach International Airport. The County intends to pursue an LOI for the airfield projects that comprise the Airfield Improvement Projects. As the runway and other airfield improvements will significantly enhance the capacity of the national air transportation system, the runway and associated airfield projects are ideally suited for LOI funding. The proposed runway project is expected to be economically justifiable with a positive net present value and a benefit-cost ratio significantly greater than 1.

3.2.2 FDOT Funds

Similar to the federal AIP, the FDOT Aviation Grant Program is funded from the State Transportation Trust Fund. The State Transportation Trust Fund consists, in part, of funds collected through the State's aviation fuel tax. The FDOT Aviation Office administers the aviation grant program to help provide a safe, cost-effective, and efficient Statewide aviation system. The FDOT Aviation Grant Program supplements the AIP, providing a portion of the sponsor's matching share when federal funding is available and up to 80 percent of the overall project cost when it is not. FDOT grant funds help airport sponsors to construct T-hangars, construct and maintain runways and taxiways, eliminate airport hazards, protect the airspace, and construct terminals and other facilities.

All publicly owned Florida airports that are open for public use are eligible for State funding. In addition, privately owned airports that are classified as "reliever" airports are eligible for FAA funding. Florida law generally allows FDOT to fund any capital project on airport property and any service that leads to capital projects, such as planning and design services.

The only off-airport projects eligible for FDOT funding are the purchase of lands for mitigation purposes, the purchase of avigation easements, and the access projects for intercontinental airports. Airport capital equipment is eligible, except equipment closely related to day-to-day operations (mowing machines, weed eaters, airport vehicles, etc.). In general, operational expenses, such as for maintenance services, equipment, and supplies, are not eligible for FDOT aviation grants. To be eligible for FDOT grants, each airport project must be consistent with the airport's role as defined in the Florida Aviation System Plan (FASP), and capital projects must be part of an FDOT approved airport master plan or airport layout plan. Additionally, for projects to be eligible for State funding, they must also be included in the Joint Automated Capital Improvement Plan (JACIP). Under this plan, the State accepts requests from airport sponsors for project funding along with each airport sponsor's priority for individual airport projects. Inclusion in the JACIP does not represent a commitment by the FDOT or FAA to fund a particular project or projects. The JACIP is intended to coordinate State and federal funding efforts and provide a realistic approach to funding based on the best and most current information available regarding projects at Florida grant-eligible airports.

FDOT grants are expected to fund approximately \$117.6 million of the Master Plan projects.

3.2.3 Passenger Facility Charge Revenues

In accordance with the Aviation Safety and Capacity Expansion Act of 1990, as amended by the Aviation Investment and Reform Act for the 21st Century (AIR-21), the County recently filed a PFC application to impose a \$4.50 PFC at the Airport. PFC revenues may be used to fund the local share of eligible Airport project costs (PFC eligibility for projects generally follows the same general guidelines for determining AIP grant eligibility outlined earlier).

In June 2007, the County filed a PFC Application to collect PFC at a \$4.50 level, which is expected to be approved and will become effective May 1, 2008. The County is therefore, required by AIR-21 to demonstrate to the FAA that the project will make a significant contribution to improving air safety and security, increasing competition among air carriers, reducing current or anticipated congestion, or reducing the impact of aviation noise on people living near the Airport. The finding of significant contribution is in addition to the finding of adequate justification already required for all PFC-eligible projects. In particular, the FAA considers all relevant factors, including but not limited to the following, in assessing whether the significant contribution requirement has been met:

- *Safety and security projects.* Does the project advance airport safety and/or security? In the case of AIP discretionary funds, highest priority is usually given to those projects that meet regulatory requirements for safety and security under 14 CFR Part 139 and Part 107, respectively. A similar approach to assessing PFC significance may be appropriate.
- *Congestion (capacity).* Does the project support or is it part of a capacity project to which the FAA has allocated federal resources or that would qualify for such resources? For example, is the project included in an LOI or does it satisfy the FAA's benefit-cost criteria for large AIP discretionary investments? Has the project been identified as an important item in an FAA Airport Capacity Enhancement Plan? Does the project alleviate an important constraint on airport growth or service?
- *Noise.* Does the project affect the noise-impacted areas around the airport? Historically, higher priority for AIP discretionary grants has been given to projects in noisier areas over

projects in less noisy areas, all other factors being equal. A similar approach to assessing PFC significance may be appropriate.

- *Competition.* Does the project mitigate or remove barriers to increased airline competition at the airport? Has the project been identified as an essential component in the airport's competition plan or other similar documents?

When submitting PFC applications for projects identified as being partially funded with PFC revenues, the County will need to provide sufficient information to support its assertion that a project makes a significant contribution to one or more of the above factors. In the case of a project that would reduce congestion, the information may include a quantified measure of reduced delay per aircraft operation or reference a study that included measures of the expected congestion reduction benefits. Similarly, an assertion that a project enhances competition may be supported by information on the number of new operations that the project would provide for, the number of new entrant airlines it would accommodate, the effect on fares at the airport, and/or other measures of increased competition. In general, because “significant contribution” is a higher standard than adequate justification, more documentation is required to establish significant contribution than is typically needed for adequate justification.

The annual cost of projects identified as PFC-eligible exceeds the PFC capacity in the years in which the project costs are expected to be incurred. Thus, it is anticipated that the County may issue PFC-backed bonds to fund certain projects and that a portion of annual PFC collections will be used to pay the outstanding debt service on any PFC-backed bonds.

Master Plan projects totaling \$228.5 million are expected to be funded from PFC revenues. Of this amount, approximately \$43.4 million is anticipated to be funded on a pay-as-you-go basis and the remaining \$185.1 million is expected to be funded with bond proceeds that will subsequently be repaid with PFC revenues. **Table 1.3** presents projections of PFC revenues and PFC expenditures and reflects that ample PFC capacity exists to fund those Airport System projects identified as PFC-eligible.

Funding assumptions incorporated into the calculation of annual debt service resulting from the issuance of the bonds include the following:

- Three debt series - Series 2009 is to include a portion of the projects expected to be undertaken in FY 2009 through FY 2011; Series 2015 is to include all projects expected to be undertaken in FY 2015; and Series 2017 is to include all projects expected to be undertaken in FY 2017.
- 30-year term
- No capitalized interest
- 6.5 percent interest rate
- Establishment of a Debt Service Reserve Account equivalent to the maximum annual debt service
- Level annual debt service

3.2.4 Airport Funds

Under the County's existing Bond Resolution and the Airline Agreement, an Improvement and Development Fund is established that can be used for Airport System capital projects at the County's sole discretion. The Improvement and Development Fund is funded from any remaining Airport System earnings after the payment of O&M Expenses, the payment of

Table 1.3
Projection of PFC Revenue

Fiscal Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Enplanements ¹	3,723,800	3,842,600	3,979,500	4,138,700	4,264,600	4,394,900	4,529,900	4,669,700	4,814,700	4,958,600	5,107,400	5,261,400	5,420,700	5,585,600	5,748,100	5,916,900	6,092,300	6,274,500	6,463,900
PFC per passenger	\$4.50	\$4.50	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00
Admin.	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11
% eligible	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
PFC Revenues	14,712,734	15,182,113	21,095,330	21,939,249	22,606,645	23,297,365	24,013,000	24,754,080	25,522,725	26,285,539	27,074,327	27,890,681	28,735,131	29,609,266	30,470,678	31,365,487	32,295,282	33,261,125	34,265,134
Investment Earnings	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Net PFC Revenues Capacity Pay-As-You-Go (FY 2007 - FY 2025)	\$14,970,207	\$15,447,800	\$21,464,498	\$22,323,186	\$23,002,261	\$23,705,069	\$24,433,227	\$25,187,276	\$25,969,372	\$26,745,536	\$27,548,128	\$28,378,768	\$29,237,995	\$30,127,428	\$31,003,915	\$31,914,383	\$32,860,450	\$33,843,194	\$34,864,774
Future PFC Debt Service – Series 2009 (FY '09-'10 Projects)	2,883,575	11,442,000	20,365,500	7,991,500				11,273,065	2,237,834	1,007,730		0	0	1,000,000	0	0	0	0	0
Future PFC Debt Service – Series 2011 (FY '11-12 projects)				4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709	4,604,709
Future PFC Debt Service - Series 2013 (FY '13 projects)						14,010,097	14,010,097	14,010,097	14,010,097	14,010,097	14,010,097	14,010,097	14,010,097	14,010,097	14,010,097	14,010,097	14,010,097	14,010,097	14,010,097
Future PFC Debt Service - Series 2017 (FY '17 projects)							6,981,109	6,981,109	6,981,109	6,981,109	6,981,109	6,981,109	6,981,109	6,981,109	6,981,109	6,981,109	6,981,109	6,981,109	6,981,109
Annual Remaining for PAYG or Future Debt Service	\$12,086,632	\$4,005,800	(\$3,505,711)	\$1,735,477	\$4,387,455	\$5,090,263	(\$1,162,687)	(\$11,681,704)	(\$1,864,376)	\$141,891	(\$165,142)	\$665,498	\$1,524,725	\$1,414,158	\$3,290,645	\$4,201,113	\$5,147,180	\$6,129,924	\$7,151,504
Ending Balance	\$12,086,632	\$16,092,431	\$12,586,720	\$14,322,197	\$18,709,652	\$23,799,915	\$22,637,228	\$10,955,524	\$9,091,148	\$9,233,039	\$9,067,897	\$9,733,395	\$11,258,120	\$12,672,278	\$15,962,923	\$20,164,036	\$25,311,215	\$31,441,139	\$38,592,643

Note:

1/ Based on forecast growth rate calculated by Ricondo & Associates, Inc., for the County's Series 2006 Bonds.

Source: Palm Beach County Department of Airports; Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

outstanding debt service, the funding of other reserves, and the payment of Airline Rebates. Any additional local funding, beyond what can be funded from the Improvement and Development Fund, would require the issuance of GARBs. Approximately \$18.7 million of Master Plan project costs is expected to be funded from Airport funds.

3.2.5 General Airport Revenue Bonds (GARBs)

The County anticipates funding the \$224 million long-term parking garage with GARB proceeds. This project is not anticipated to be necessary until FY 2023 and resulting annual debt service on the bonds is anticipated to be approximately \$20 million per year based on the following assumptions:

- 30-year term
- One year construction period and capitalized interest period
- 6.5 percent interest rate

Establishment of a Debt Service Reserve Account equivalent to the maximum annual debt service.

4.0 Debt Service Requirements

Table 1.4 presents the annual estimated debt service requirements on the outstanding Airport Bonds as well as estimated debt service on projects expected to be funded with PFC-backed bonds for FY 2007 through FY 2017. As presented in Table 1.4, the annual debt service requirement is approximately \$15.2 million from FY 2007 until FY 2011 when existing annual debt service increases to \$17.3 million. In FY 2015, existing annual debt service decreases to \$6.8 million. Debt service on the County's Series 2006B Bonds was structured to increase in FY 2015 to coincide with the retirement of the outstanding Series 2001 and Series 2002 Bonds.

As described previously, estimated annual PFC-backed debt on projects included in this Master Plan is projected to total \$15.7 million in FY 2017 and ample capacity is expected to be available to fund the debt service from PFC revenues.

As described above, the parking garage is the only project included in this Master Plan that is planned to be funded with future long-term debt (\$224 million) projected to begin in FY 2023. Resulting annual debt service is conservatively projected to be \$20 million beginning in FY 2024. More detailed analysis should be performed as the project start date nears to determine if revenue bonds are the optimal funding source for this project.

Table 1.4**Projected Debt Service**

Fiscal Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
SUBORDINATED INDEBTEDNESS	\$1,262,500	\$40,000	\$1,080,000	\$1,040,000	0	0	0	0	0	0	0
<u>Existing Debt:</u>											
Series 2001 ¹	8,205,813	8,267,363	8,288,363	8,313,938	0	0	0	0	0	0	0
Series 2002 ¹	2,611,075	2,611,075	2,611,075	2,611,075	12,881,075	13,015,550	13,033,338	13,218,750	0	0	0
Series 2006A ^{1,2}	3,418,480	3,418,480	3,418,480	3,418,480	3,418,480	3,418,480	3,418,480	3,418,480	3,418,480	3,418,480	3,418,480
Series 2006B ^{1,2}	995,288	995,288	995,288	995,288	995,288	995,288	995,288	995,288	3,420,288	3,417,092	3,415,628
TOTAL GARB DEBT SERVICE	\$15,230,655	\$15,292,205	\$15,313,205	\$15,338,780	\$17,294,843	\$17,429,318	\$17,447,105	\$17,632,518	\$6,838,768	\$6,835,572	\$6,834,108
<u>Future Debt:</u>											
Series 2009 (PFC)	0	0	9,116,141	9,116,141	9,116,141	9,116,141	9,116,141	9,116,141	9,116,141	9,116,141	9,116,141
Series 2015 (PFC)	0	0	0	0	0	0	0	0	4,457,719	4,457,719	4,457,719
Series 2017 (PFC)	0	0	0	0	0	0	0	0	0	0	2,117,355
TOTAL FUTURE PFC DEBT SERVICE	\$0	\$0	\$9,116,141	\$9,116,141	\$9,116,141	\$9,116,141	\$9,116,141	\$9,116,141	\$13,573,860	\$13,573,860	\$15,691,215

Notes:

1/ Series 2006 A & B Bonds Official Statement

2/ Columns may not add due to rounding.

Source: Series 2006 A & B Bonds Official Statement

Prepared by: Ricondo & Associates, Inc.

5.0 O&M Expenses

Projections of future O&M Expenses are based on analysis of historical activity, the anticipated effects of inflation, planned facility improvements and expansions, and forecast activity increases. **Table 1.5** presents projected O&M Expenses for FY 2007 through FY 2017.

As shown, O&M Expenses are projected to increase from \$42.7 million in FY 2007 to \$69.6 million in FY 2017, at a compounded annual growth rate of 5.0 percent.

Table 1.5**Projected O&M Expenses**

Fiscal Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Airside	\$6,030,836	\$6,332,378	\$6,648,997	\$6,981,447	\$7,330,519	\$7,697,045	\$8,081,897	\$8,485,992	\$8,910,292	\$9,355,806	\$9,823,597
Terminal	14,534,052	15,260,755	16,023,792	16,824,982	17,666,231	18,549,543	19,477,020	20,450,871	21,473,414	22,547,085	23,674,439
Tenant Equipment	1,690,460	1,774,983	1,863,732	1,956,918	2,054,764	2,157,502	2,265,377	2,378,646	2,497,579	2,622,458	2,753,580
Ground Transportation	13,131,749	13,788,336	14,477,753	15,201,641	15,961,723	16,759,809	17,597,799	18,477,689	19,401,574	20,371,652	21,390,235
Aviation	2,468,380	2,591,799	2,721,389	2,857,459	3,000,332	3,150,348	3,307,866	3,473,259	3,646,922	3,829,268	4,020,732
Non-Aviation	1,096,528	1,151,354	1,208,922	1,269,368	1,332,836	1,399,478	1,469,452	1,542,925	1,620,071	1,701,074	1,786,128
Terminal FIS	298,183	313,092	328,747	345,184	362,444	380,566	399,594	419,574	440,552	462,580	485,709
Lantana	687,429	721,800	757,890	795,785	835,574	877,352	921,220	967,281	1,015,645	1,066,427	1,119,749
Glades	810,215	850,725	893,262	937,925	984,821	1,034,062	1,085,765	1,140,054	1,197,056	1,256,909	1,319,754
North County Airport	1,855,819	1,948,610	2,046,041	2,148,343	2,255,760	2,368,548	2,486,975	2,611,324	2,741,890	2,878,985	3,022,934
Air Cargo Building	132,533	139,160	146,118	153,424	161,095	169,150	177,607	186,487	195,812	205,602	215,882
TOTAL O&M EXPENSES	\$42,736,183	\$44,872,993	\$47,116,642	\$49,472,474	\$51,946,098	\$54,543,403	\$57,270,573	\$60,134,102	\$63,140,807	\$66,297,847	\$69,612,739

Source: Palm Beach County Department of Airports; Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

6.0 Airport Revenues (Nonairline and Airline)

Airport revenues are generated from nonairline sources, such as tenant leases and other miscellaneous agreements, and from airline sources in accordance with the Airline Agreements, Cargo Agreements, and the Bond Resolution. Nonairline revenues are categorized by the Direct Cost Center in which they occur.

6.1 Nonairline Revenues

Nonairline revenues for FY 2007 through FY 2017 are presented in **Table 1.6**. As shown, total Nonairline revenues are projected to increase from approximately \$45.6 million in FY 2007 to approximately \$63.0 million in FY 2017 at a compounded annual growth rate of 3.5 percent throughout the projection period.

6.1.1 Airside

The major source of nonairline revenues in the Airside Cost Center is aviation fueling. Total Airside revenues are projected to increase from approximately \$1.3 million in FY 2007 to approximately \$2.1 million in FY 2017. This increase represents a compounded annual growth rate of 4.6 percent during this period, and is the result of forecast growth in aircraft operations and the effects of inflation during the projection period.

6.1.2 Terminal

Nonairline revenues in the Terminal Cost Center primarily consist of rentals and fees from news and gift and food and beverage concessionaires, advertisers, and miscellaneous concessionaires, as well as nonairline Terminal rental revenues, airline reimbursements for tenant equipment and security charges, and federal inspection services (FIS) facility fees. These revenues are projected to increase from approximately \$7.0 million in FY 2007 to approximately \$9.5 million in FY 2017. This increase represents a compounded annual growth rate of 3.2 percent during this period, and is the result of forecast growth in numbers of enplaned passengers and the effects of inflation during the projection period.

6.1.3 Ground Transportation

Revenues from the Ground Transportation Cost Center primarily consist of automobile parking revenues, taxicab and limousine parking fees, and rental car concession fees. Total Ground Transportation revenues are projected to increase from approximately \$29.4 million budgeted for FY 2007 to approximately \$40.9 million in FY 2017. This increase represents a compounded annual growth rate of 3.4 percent during this period, and is the result of forecast growth in numbers of enplaned passengers and anticipated parking rate increases as well as the effects of inflation during the projection period.

Table 1.6

Projected Nonairline Revenues

Fiscal Year	Projected										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Airside Revenues	\$1,326,699	\$1,387,170	\$1,452,929	\$1,524,923	\$1,593,351	\$1,664,962	\$1,739,932	\$1,818,410	\$1,900,604	\$1,985,439	\$2,074,188
Terminal Revenues	\$6,914,483	\$7,121,823	\$7,346,609	\$7,591,917	\$7,826,078	\$8,070,915	\$8,327,012	\$8,594,857	\$8,875,141	\$9,164,401	\$9,466,760
Ground Transportation	\$29,331,816	\$30,133,886	\$31,018,838	\$32,002,464	\$34,785,123	\$35,718,278	\$36,686,575	\$37,691,203	\$38,734,582	\$39,792,780	\$40,890,506
Aviation	\$1,652,179	\$1,696,344	\$1,741,835	\$1,788,690	\$1,836,950	\$1,886,659	\$1,937,859	\$1,990,594	\$2,044,912	\$2,100,860	\$2,158,485
Air Cargo Facility	\$236,900	\$244,007	\$251,327	\$258,867	\$266,633	\$274,632	\$282,871	\$291,357	\$300,098	\$309,101	\$318,374
Non-Aviation	\$1,745,850	\$1,798,226	\$1,852,172	\$1,907,737	\$1,964,970	\$2,023,919	\$2,084,636	\$2,147,175	\$2,211,591	\$2,277,938	\$2,346,276
Other Revenues	\$4,429,838	\$4,594,906	\$4,737,035	\$4,845,357	\$4,992,905	\$5,188,212	\$5,381,814	\$5,553,745	\$5,687,643	\$5,732,447	\$5,778,594
Total Nonairline Revenues	\$45,637,765	\$46,976,362	\$48,400,745	\$49,919,955	\$53,266,011	\$54,827,577	\$56,440,699	\$58,087,342	\$59,754,571	\$61,362,966	\$63,033,183

Source: Palm Beach County Department of Airports; Ricondo & Associates, Inc.
 Prepared by: Ricondo & Associates, Inc.

6.1.4 Aviation

Revenues from the Aviation Cost Center consist primarily of facility and ground rents and flight kitchen revenues. These revenues are projected to increase from approximately \$1.7 million in FY 2007 to approximately \$2.2 million in FY 2017. This increase represents a compounded annual growth rate of 2.7 percent during this period, and reflects the expected effects of inflation during the projection period.

6.1.5 Air Cargo Building

Revenues from the Air Cargo Building are projected to increase from approximately \$237,000 in FY 2007 to approximately \$318,000 in FY 2017. This increase represents a compounded annual growth rate of 3.0 percent during this period, and is the result of the expected effects of inflation during the projection period.

6.1.6 Non-Aviation

Revenues from the Non-Aviation Cost Center consist of non-aviation ground and building rents. These revenues are projected to increase from approximately \$1.7 million in FY 2007 to approximately \$2.3 million in FY 2017. This increase represents a compounded annual growth rate of 3.0 percent during this period, and is the result of the expected effects of inflation during the projection period.

6.1.7 Other Revenues

Revenues from the three reliever general aviation airports and investment earnings are projected to increase from approximately \$4.4 million in FY 2007 to approximately \$5.8 million in FY 2017. This increase represents a compounded annual growth rate of 3.3 percent during this period, as a result of the expected effects of inflation and increasing fund balances during the projection period.

6.2 Airline Revenues

The remaining revenues generated at the Airport include Terminal rentals, landing fees, and apron fees payable by the airlines. In general, the airline rate-base for the Terminal rental rate and landing fee calculations consists of the following elements:

- **O&M Expenses** - These expenses are attributed to the various rate-setting areas for the Terminal and Airside Cost Centers and the allocated portion of indirect O&M Expenses.
- **O&M Reserve** - This requirement represents the amount necessary to fund and replenish the O&M Reserve Fund as required by the Bond Resolution, equal to one-sixth of O&M Expenses.
- **Debt Service** - Debt service requirements attributable to the rate-setting areas resulting from all GARBs and subordinate indebtedness.
- **Debt Service Coverage** - The County must maintain rental rates, fees, and charges sufficient to meet the rate covenant in the Bond Resolution.

- **Debt Service Reserve Funding** - As required by the Bond Resolution, the amount, if any, required to replenish the Debt Service Reserve Account to its minimum balance.
- **Amortization** - This amount represents the annual capital expenditures that were initially funded by the County and then amortized through the airline rate base over the useful life of the project.

Certain Terminal and Airside revenues offset these rate base items. As described previously, a portion of the funds remaining from the previous year (known as the Transfer) is allocated to the Signatory Airlines to partially offset their rentals, fees, and charges.

6.2.1 Terminal Rentals

The Terminal rental rate calculation combines Terminal Cost Center-specific Direct and Indirect O&M Expenses and the O&M Reserve requirement; total debt service, debt service coverage, and the debt service reserve requirement; and amortization; **less:** Concourse Security Reimbursements, Air Carrier FIS facility fees, and a portion of airline catering revenues. This net requirement is divided by the sum of rentable square footage in the Terminal to determine the average Terminal rental rate per square foot. Currently, the County assigns 80 percent of the Transfer to the Terminal rental rate calculation. The Transfer reduces the average Terminal rental rate to the Signatory Airline rental rate.

Table 1.7 presents the Terminal rental rate for FY 2007 through FY 2017. As shown, the Signatory Airline Terminal rental rate is projected to increase from \$49.17 per square foot in FY 2007 to \$56.50 per square foot in FY 2017 as a result of increasing O&M expenses partially offset by increased parking revenues and decreasing debt service that positively affect the airline Transfer included in the rate base.

6.2.2 Landing Fees

The Signatory Airline landing fee calculation combines Airside Cost Center-specific Direct and Indirect O&M Expenses and the O&M Reserve requirement; total debt service, debt service coverage and the debt service reserve requirement; and amortization; **less:** non-signatory airline landing fees, Airside services revenues, aviation fueling revenues, a portion of airline catering revenues, and 10% of the Airside requirement that is recovered from Apron fees. This net requirement is divided by landed weight to determine the Signatory Airline landing fee rate. The non-signatory airlines are assessed a 25 percent surcharge on the Signatory Airline landing fee rate.

Table 1.8 presents Signatory Airline landing fees for FY 2007 through FY 2017. As shown, the Signatory Airline landing fee rate is projected to decrease from \$0.88 per 1,000 pounds of landed weight in FY 2007 to \$0.94 per 1,000 pounds of landed weight in FY 2017 as a result of increased parking revenues and decreasing debt service that positively affect the airline Transfer included in the rate base partially offset by increasing O&M expenses.

Table 1.7**Terminal Rental Rates**

Fiscal Year	Projected										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
TERMINAL RENTAL RATES:											
Operating Expenses	\$14,534,052	\$15,260,755	\$16,023,792	\$16,824,982	\$17,666,231	\$18,549,543	\$19,477,020	\$20,450,871	\$21,473,414	\$22,547,085	\$23,674,439
O&M Reserve (1/6 annual)	140,779	147,990	155,390	163,159	171,317	179,883	188,877	198,321	208,237	218,649	229,581
Debt Service	5,698,193	5,727,885	5,738,015	5,750,353	6,693,957	6,758,828	6,767,409	6,856,852	1,649,947	1,648,405	1,647,699
Debt Service Coverage (25%)	1,424,548	1,431,971	1,434,504	1,437,588	1,673,489	1,689,707	1,691,852	1,714,213	412,487	412,101	411,925
Debt Service Reserve Requirement	0	0	0	0	0	0	0	0	0	0	0
Amortization Charges	461,484	697,593	697,593	697,593	692,348	611,238	611,238	611,238	438,912	438,912	438,912
Total Terminal Requirement	\$22,259,057	\$23,266,194	\$24,049,294	\$24,873,675	\$26,897,343	\$27,789,199	\$28,736,396	\$29,831,494	\$24,182,997	\$25,265,152	\$26,402,556
Less:											
Concourse Security Reimbursements ¹	0	0	0	0	0	0	0	0	0	0	0
Air Carrier FIS Facility	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Applicable Direct Revenue and Reimburs:											
Airline Catering (25%)	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000
NET REQUIREMENT	\$22,184,057	\$23,191,194	\$23,974,294	\$24,798,675	\$26,822,343	\$27,714,199	\$28,661,396	\$29,756,494	\$24,107,997	\$25,190,152	\$26,327,556
Rentable Terminal Area	329,766	348,339	348,339	348,339	348,339	348,339	348,339	348,339	348,339	348,339	348,339
<hr/>											
Average Terminal Rental Rate	\$67.27	\$66.58	\$68.82	\$71.19	\$77.00	\$79.56	\$82.28	\$85.42	\$69.21	\$72.32	\$75.58
Total Airline Terminal Space	274,613	288,843	288,843	288,843	288,843	288,843	288,843	288,843	288,843	288,843	288,843
Signatory Airline Leased Terminal Space	231,340	241,340	241,340	241,340	253,407	253,407	253,407	266,077	266,077	266,077	266,077
<hr/>											
Airline Share of Net Requirement	\$15,562,717	\$16,067,560	\$16,610,116	\$17,181,272	\$19,512,496	\$20,161,296	\$20,850,355	\$22,729,359	\$18,414,780	\$19,241,380	\$20,110,180
Less Transfers	4,188,085	2,233,831	2,574,432	2,133,072	2,128,739	3,242,534	3,183,193	3,120,767	3,439,933	5,283,148	5,077,601
<hr/>											
Signatory Airline Requirement	11,374,632	13,833,729	14,035,684	15,048,200	17,383,757	16,918,762	17,667,163	19,608,592	14,974,848	13,958,231	15,032,579
Signatory Airline Leased Terminal Space	231,340	241,340	241,340	241,340	253,407	253,407	253,407	266,077	266,077	266,077	266,077
<hr/>											
Signatory Terminal Rental Rate	\$49.17	\$57.32	\$58.16	\$62.35	\$68.60	\$66.77	\$69.72	\$73.70	\$56.28	\$52.46	\$56.50
<hr/>											
Terminal Revenue by Type:											
Type 1	\$566,309	\$658,809	\$668,427	\$716,646	\$827,873	\$805,729	\$841,370	\$933,828	\$713,153	\$664,738	\$715,902
Type 2	3,663,902	4,539,827	4,606,103	4,938,381	5,704,843	5,552,245	5,797,848	6,434,969	4,914,309	4,580,685	4,933,255
Type 3	3,661,169	4,259,178	4,321,357	4,633,094	5,352,173	5,209,009	5,439,429	6,037,163	4,610,510	4,297,510	4,628,284
Type 4	3,041,034	3,861,465	3,917,837	4,200,465	4,852,399	4,722,603	4,931,507	5,473,426	4,179,990	3,896,218	4,196,105
Type 5	442,219	514,450	521,960	559,614	646,469	629,176	657,008	729,206	556,886	519,080	559,033
Total Terminal Revenue	\$11,374,632	\$13,833,729	\$14,035,684	\$15,048,200	\$17,383,757	\$16,918,762	\$17,667,163	\$19,608,592	\$14,974,848	\$13,958,231	\$15,032,579

Notes:

1/ Effective October 1, 2006, the County discontinued a separate passenger screening charge.

Source: Palm Beach County Department of Airports; Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

Table 1.8**Projected Landing Fees**

Fiscal Year	Projected										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Landing Fees:											
Operating Expenses	\$6,030,836	\$6,332,378	\$6,648,997	\$6,981,447	\$7,330,519	\$7,697,045	\$8,081,897	\$8,485,992	\$8,910,292	\$9,355,806	\$9,823,597
O&M Reserve (1/6 annual)	20,570	21,624	22,705	23,840	25,032	26,284	27,598	28,978	30,427	31,948	33,545
Debt Service	1,146,962	1,152,939	1,154,978	1,157,461	1,347,395	1,360,452	1,362,180	1,380,183	332,110	331,800	331,657
Debt Service Coverage (25%)	286,741	288,235	288,744	289,365	336,849	340,113	340,545	345,046	83,027	82,950	82,914
Debt Service Reserve Requirement	0	0	0	0	0	0	0	0	0	0	0
Amortization Charges	84,018	84,018	84,018	77,169	77,169	77,169	77,169	77,169	18,073	18,073	18,073
Total Airside Requirement	\$7,569,127	\$7,879,193	\$8,199,442	\$8,529,282	\$9,116,964	\$9,501,063	\$9,889,388	\$10,317,368	\$9,373,929	\$9,820,577	\$10,289,787
Less:											
Applicable Direct Revenue and Reimburse:											
Nonsignatory Landing Fee Revenue	\$75,869	\$88,080	\$90,451	\$96,240	\$104,210	\$104,135	\$109,132	\$114,698	\$97,238	\$94,757	\$101,404
Airside Services	30,900	31,827	32,782	33,765	34,778	35,822	36,896	38,003	39,143	40,317	41,527
Aviation Fueling	1,295,799	1,355,343	1,420,147	1,491,158	1,558,573	1,629,141	1,703,036	1,780,407	1,861,461	1,945,122	2,032,661
Airline Catering (25%)	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000
Apron Fees (10%)	756,913	787,919	819,944	852,928	911,696	950,106	988,939	1,031,737	937,393	982,058	1,028,979
ADJUSTED REQUIREMENT	\$5,364,646	\$5,571,023	\$5,791,118	\$6,010,191	\$6,462,705	\$6,736,860	\$7,006,385	\$7,307,524	\$6,393,694	\$6,713,323	\$7,040,216
Less: Transfers	1,047,021	558,458	643,608	533,268	532,185	810,634	795,798	780,192	859,983	1,320,787	1,269,400
NET REQUIREMENT	\$4,317,625	\$5,012,565	\$5,147,510	\$5,476,923	\$5,930,521	\$5,926,226	\$6,210,587	\$6,527,332	\$5,533,711	\$5,392,536	\$5,770,816
Signatory Landed Weight (1,000 pounds)	4,807,150	4,928,695	5,049,693	5,169,868	5,291,309	5,415,078	5,529,116	5,655,400	5,767,365	5,882,712	6,000,366
Nonsignatory Landed Weight (1,000 pounds)	78,165	80,141	82,109	84,063	86,038	88,050	89,904	91,958	93,778	95,654	97,567
Total Landed Weight (1,000 pounds)	4,885,315	5,008,837	5,131,802	5,253,930	5,377,346	5,503,128	5,619,020	5,747,358	5,861,143	5,978,366	6,097,933
Landing Fee Rate	\$0.88	\$1.00	\$1.00	\$1.04	\$1.10	\$1.08	\$1.10	\$1.13	\$0.94	\$0.90	\$0.94
Nonsignatory Surcharge	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Nonsignatory Landing Fee Rate	\$0.97	\$1.10	\$1.10	\$1.14	\$1.21	\$1.18	\$1.21	\$1.25	\$1.04	\$0.99	\$1.04
Signatory Landing Fee Revenue	\$4,241,756	\$4,924,485	\$5,057,058	\$5,380,683	\$5,826,310	\$5,822,091	\$6,101,456	\$6,412,634	\$5,436,473	\$5,297,779	\$5,669,412
Nonsignatory Landing Fee Revenue	75,869	88,080	90,451	96,240	104,210	104,135	109,132	114,698	97,238	94,757	101,404

Source: Palm Beach County Department of Airports; Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

7.0 Cost per Enplaned Passenger

Airline revenues are divided by the number of enplaned passengers to yield the cost per enplaned passenger for the airlines in total. The number of enplaned passengers is forecast to increase at a compounded annual growth rate of 3.0 percent from FY 2007 through FY 2017. As presented in **Table 1.9**, the airline cost per enplaned passenger is projected to decrease from \$4.93 in FY 2007 to \$4.71 in FY 2017.

Table 1.9**Projected Cash Flow / Coverage Calculation / Cost per Enplaned Passenger**

Fiscal Year	Projected										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Airline Revenues:											
Landing Fees	\$4,317,625	\$5,012,565	\$5,147,510	\$5,476,923	\$5,930,521	\$5,926,226	\$6,210,587	\$6,527,332	\$5,533,711	\$5,392,536	\$5,770,816
Landing Fee Rebate	0	0	0	0	0	0	0	0	0	0	0
Apron Fees	756,913	787,919	819,944	852,928	911,696	950,106	988,939	1,031,737	937,393	982,058	1,028,979
Terminal Rentals	11,374,632	13,833,729	14,035,684	15,048,200	17,383,757	16,918,762	17,667,163	19,608,592	14,974,848	13,958,231	15,032,579
Tenant Equipment Charges	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000	2,200,000
Passenger Screening Revenues	0	0	0	0	0	0	0	0	0	0	0
FIS Revenues	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Total Airline Revenues	\$18,679,170	\$21,864,214	\$22,233,138	\$23,608,051	\$26,455,974	\$26,025,094	\$27,096,689	\$29,397,660	\$23,675,952	\$22,562,825	\$24,062,374
Nonairline Revenues ¹	43,407,765	44,746,362	46,170,745	47,689,955	51,036,011	52,597,577	54,210,699	55,857,342	57,524,571	59,132,966	60,803,183
PFC Revenues Available for DS and Coverage	0	0	11,395,176	11,395,176	11,395,176	11,395,176	11,395,176	11,395,176	16,967,325	16,967,325	19,614,019
Subtotal Revenues	\$62,086,935	\$66,610,576	\$79,799,059	\$82,693,183	\$88,887,161	\$90,017,847	\$92,702,564	\$96,650,178	\$98,167,847	\$98,663,115	\$104,479,576
Prior Year Transfer	5,608,942	3,166,125	3,591,876	3,040,176	3,034,760	4,427,004	4,352,827	4,274,795	4,673,752	6,843,292	6,586,246
TOTAL REVENUES	\$67,695,877	\$69,776,701	\$83,390,935	\$85,733,358	\$91,921,921	\$94,444,851	\$97,055,391	\$100,924,973	\$102,841,599	\$105,506,408	\$111,065,822
Less: O&M Expenses	42,736,183	44,872,993	47,116,642	49,472,474	51,946,098	54,543,403	57,270,573	60,134,102	63,140,807	66,297,847	69,612,739
NET REVENUES	\$24,959,694	\$24,903,708	\$36,274,292	\$36,260,884	\$39,975,823	\$39,901,448	\$39,784,818	\$40,790,871	\$39,700,793	\$39,208,561	\$41,453,083
Less: O&M Reserve	338,782	356,135	373,942	392,639	412,271	432,884	454,528	477,255	501,118	526,173	552,482
Debt Service	15,230,655	15,292,205	15,313,205	15,338,780	17,294,843	17,429,318	17,447,105	17,632,518	6,838,768	6,835,572	6,834,108
Future PFC Debt Service	0	0	9,116,141	9,116,141	9,116,141	9,116,141	9,116,141	9,116,141	13,573,860	13,573,860	15,691,215
Debt Service Reserve Requirement	0	0	0	0	0	0	0	0	0	0	0
Subordinated Debt Repayment	1,262,500	40,000	1,080,000	1,040,000	0	0	0	0	0	0	0
FUNDS REMAINING	\$8,127,756	\$9,215,368	\$10,391,005	\$10,373,324	\$13,152,569	\$12,923,106	\$12,767,043	\$13,564,958	\$18,787,048	\$18,272,956	\$18,375,278
Coverage Calculation:											
Net Revenues less O&M Reserve	24,620,912	24,547,573	35,900,351	35,868,245	39,563,552	39,468,564	39,330,289	40,313,617	39,199,675	38,682,387	40,900,601
Debt Service	15,230,655	15,292,205	24,429,346	24,454,921	26,410,984	26,545,459	26,563,246	26,748,659	20,412,627	20,409,432	22,525,323
Coverage	1.62	1.61	1.47	1.47	1.50	1.49	1.48	1.51	1.92	1.90	1.82
Cost per Enplaned Passenger:											
Airline Revenues	\$18,679,170	\$21,864,214	\$22,233,138	\$23,608,051	\$26,455,974	\$26,025,094	\$27,096,689	\$29,397,660	\$23,675,952	\$22,562,825	\$24,062,374
Enplanements	3,723,800	3,842,600	3,979,500	4,138,700	4,264,600	4,394,900	4,529,900	4,669,700	4,814,700	4,958,600	5,107,400
Cost Per Enplaned Passenger	\$5.02	\$5.69	\$5.59	\$5.70	\$6.20	\$5.92	\$5.98	\$6.30	\$4.92	\$4.55	\$4.71

Notes:

1/ Does not include Tenant Equipment Charges, Passenger Screening Revenues, or FIS Revenues.

Source: Palm Beach County Department of Airports; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc.

8.0 Cash Flow

Table 1.9 also shows the funds remaining after O&M Expenses and debt service are deducted from total revenues. The funds remaining are available for the calculation of debt service coverage and to fund capital projects. This table also shows the calculation of debt service coverage.

9.0 Debt Service Coverage

Debt service coverage is calculated by subtracting O&M Expenses and O&M Reserve from total revenues and then dividing the result by debt service for the period. Coverage must be at least 1.25 times debt service as required by the Bond Resolution. As presented in Table 1.9, debt service coverage for the Airport is projected to be higher than the minimum 1.25 times required in every year of the projection period, indicating that the Airport System is projected to have adequate resources to meet its debt service obligations throughout the projection period.

10.0 Summary of Baseline Scenario

Based on analyses of forecast activity at the Airport, in addition to projected revenues and expenses, and the Airport System Capital Improvement Plan for FY 2007 through FY 2025, it appears that the County has adequate resources and the Airport System has adequate growth capacity to meet future demand. The County has access to various sources of funding and, through a mix of FAA funding, State funding, PFC revenues, General Airport Revenue Bonds and PFC-backed bonds, and Airport funds. The capital projects recommended in the Master Plan appear to be financially feasible and the County can reasonably expect to implement these projects. The airline rates and overall airline cost per enplaned passenger remain reasonable over the shorter term planning period (through FY 2017) and projected Airport System funds appear to be adequate to effectively operate the Airport System. As required in the Bond Resolution, debt service coverage is projected to be significantly above the minimum 125 percent of debt service throughout the projection period.

11.0 Sensitivity Analysis 1

The baseline financial scenario was based on eligibility of projects for various types of funding. This section evaluates a modified funding scenario based on the following assumptions:

- FAA and State Funding are capped at Historical Levels experienced by the airport system.
- PFCs are collected at a \$4.50 per enplaned passenger level.
- FAA entitlement are calculated based on the existing FAA formula incorporating the baseline forecast of enplanements and a \$4.50 PFC.
- FAA discretionary funds for FY 2008 through FY 2016 are estimated to be \$500,000 per year.
- Additional FAA discretionary funds for FY 2010 through FY 2014 are estimated to be \$100 million for the five-year period, secured with an LOI and distributed over the five-year period (\$20 million annually)
- FDOT funds are estimated to be \$2.5 million per year for PBI; and \$500,000 per year (total) for the 3 GA airports.
- FDOT (SIS) Funding is estimated to be \$10,898,000 in FY 2009.
- Timing of projects is projected to be delayed when necessary to ensure adequate funding availability.
- Hangars at reliever / general aviation airports will be funded with bond proceeds and will only be undertaken if hangar revenues are sufficient to repay annual debt service.

Based on analyses of forecast activity at the Airport, in addition to projected revenues and expenses, and the Airport System Capital Improvement Plan for FY 2007 through FY 2025 based on the above assumptions, it appears that the County has adequate financial resources and the Airport System has adequate growth capacity to meet future demand under this scenario. However, airline rates and charges would increase significantly over the baseline scenario.

Table 1.10 presents the funding sources assumed in Scenario 1. After incorporating the funding sources and other assumptions, **Table 1.11** illustrates selected airline rates and charges, cost per enplanement, debt service coverage and ending balance in the Airport's capital account through FY 2017 that result from this scenario and compares the financial results to the baseline scenario. As presented, airline rates and charges are projected to be higher and the balance in the Airport's Improvement and Development fund is projected to be lower in Scenario 1 compared to the Baseline Scenario.

Table 1.10 (1 of 3)
Capital Improvement Plan – Summary of Funding Sources

Project	Total Project Escalated Dollars	Funding Source					
		AIP Ent	AIP Disc	FDOT	PFC	Airport Cash	GARBs
PALM BEACH INTERNATIONAL AIRPORT							
Expand and Rehab Overnight Parking Apron	\$740,000	\$0	\$0	\$370,000	\$370,000	\$0	\$0
Apron "A" Expansion	3,420,000	0	0	1,220,000	2,200,000	0	0
NAVAID Relocation Study	300,000	0	0	0	300,000	0	0
Construct Maintenance Compound	1,000,000	0	0	0	1,000,000	0	0
Rehabilitate Aircraft Parking Apron	1,090,000	0	0	0	1,090,000	0	0
Extension of Taxiway "F" to RW 13	13,400,000	0	0	2,888,000	10,512,000	0	0
Extend Runway 9R-27L Environmental & Design	8,284,000	0	0	0	8,284,000	0	0
Extension of Taxiway "L" (Lima)	17,700,000	0	0	858,500	16,841,500	0	0
Miscellaneous taxiway rehab	5,250,000	0	0	1,253,500	2,625,000	1,371,500	0
New Taxiway Connector - Runway 9L-27R	5,300,000	1,676,250	500,000	0	662,500	2,461,250	0
Taxiway Romeo (West of R1)	20,825,398	0	3,733,333	0	837,500	3,629,167	12,625,398
Taxiway C4 High Speed Exit - Rwy 9L-27R	5,084,000	0	0	0	508,400	4,575,600	0
Taxiway D High Speed Exit - Rwy 9L-27R	4,721,000	0	0	0	472,100	4,248,900	0
Replace (2) Fire Rescue Vehicles	2,250,000	0	0	0	1,250,000	1,000,000	0
Concourse "A" Redevelopment	20,375,000	0	0	0	18,300,000	2,075,000	0
Acquire land runway 9L-27R	7,094,817	1,705,100	5,014,717	0	375,000	0	0
Taxiway Lima (West) Upgrades and Improvements	17,048,000	1,731,150	1,303,050	2,500,000	11,513,800	0	0
Runway 9R Property Acquisition	35,846,700	0	11,948,900	5,974,000	9,923,800	0	8,000,000
Golfview Apron, Taxilanes/Taxiways and Infrastructure	74,000,000	0	60,000,000	0	14,000,000	0	0
Golfview Facilities	130,000,000	0	0	2,500,000	127,500,000	0	0
Relocate VOR	3,939,281	0	0	1,414,000	2,525,281	0	0
Taxiway Charlie (East) Improvements	7,800,000	0	0	3,510,000	4,290,000	0	0
Extend, Relocate and Upgrade RWY 9R-27L	77,101,000	0	20,000,000	0	13,000,000	5,000,000	39,101,000
Construct Apron Golfview 2	6,000,000	0	0	0	6,000,000	0	0
Construct Surface Parking Lot	1,426,946	0	0	0	0	1,426,946	0
Demolition East of Runway 13-31	17,600,000	0	0	0	2,200,000	1,000,000	14,400,000
Demolition West of Runway 13-31	10,600,000	1,755,500	0	0	1,325,000	0	7,519,500
Runway 13-31 Pavement Removal	2,500,000	1,779,950	0	0	312,500	407,550	0
Runway 13-31, Taxiway F and Taxiway B Extensions and Taxiway Connectors	23,000,000	0	0	2,500,000	2,875,000	17,625,000	0
Part 150 Study PBlA	800,000	0	0	40,000	40,000	0	720,000

Table 1.10 (2 of 3)**Capital Improvement Plan – Summary of Funding Sources**

Project	Total Project Escalated Dollars	Funding Source					
		AIP Ent	AIP Disc	FDOT	PFC	Airport Cash	GARBs
Rehabilitate Taxiway C	8,500,000	1,804,500	0	2,445,500	2,445,500	0	1,804,500
New Parking Revenue Center	2,609,546	0	0	0	0	2,609,546	0
New Cargo Apron	5,461,307	1,829,100	0	273,065	273,065	0	3,086,077
Concourse "B" Expansion	29,500,000	1,853,750	0	2,500,000	0	5,000,000	20,146,250
Miscellaneous Taxiway Rehab	2,687,834	0	500,000	0	0	0	2,187,834
New Belly Cargo/All Cargo Facility	33,131,938	0	0	0	0	0	33,131,938
Cargo Apron Expansion	3,070,758	1,878,425	0	0	153,538	0	1,038,795
Construct Surface Parking Lot	4,270,962	0	0	2,500,000	854,192	0	916,770
Terminal Building Baggage System Expansion	24,979,506	0	0	0	24,979,506	0	0
Construct Surface Parking Lot	5,806,149	0	0	0	0	5,806,149	0
New Parking Garage	224,176,582	0	0	0	0	0	224,176,582
Subtotal Palm Beach International Airport	\$868,690,724	\$16,013,725	\$103,000,000	\$32,746,565	\$289,839,182	\$58,236,608	\$368,854,644
LANTANA							
Runway 33 Threshold Improvements	\$150,000	\$0	\$142,500	\$3,750	\$3,750	\$0	\$0
Construct Hangars at Lantana	1,875,000	0	0	0	0	0	1,875,000
Construct Hangars (Rows 500, 600 & 700)	5,000,000	0	0	0	0	0	5,000,000
Upgrade Airfield Signage	400,000	0	0	0	10,000	390,000	0
Expand Itinerant Apron	6,200,000	0	0	0	1,240,000	4,960,000	0
Relocate Airport Rotating Beacon	100,000	0	0	0	5,000	0	95,000
Taxiway C Rehab	1,100,000	0	0	0	220,000	0	880,000
Apron Rehab	275,000	0	0	0	55,000	0	220,000
Rehab Runway 15/33	1,500,000	0	0	0	300,000	0	1,200,000
Rehab Runway 3/21	200,000	0	0	0	40,000	0	160,000
Construct Apron	2,200,000	0	0	500,000	0	1,700,000	0
Construct Hangars (Rows 1600, 1700, 1800 & 1900)	3,600,000	0	0	0	0	0	3,600,000
Construct Access Road to West Side Development	250,000	0	0	200,000	50,000	0	0
Subtotal Lantana	\$22,850,000	\$0	\$142,500	\$703,750	\$1,923,750	\$7,050,000	\$13,030,000

Table 1.10 (3 of 3)
Capital Improvement Plan – Summary of Funding Sources

Project	Total Project Escalated Dollars	Funding Source					
		AIP Ent	AIP Disc	FDOT	PFC	Airport Cash	GARBs
NORTH COUNTY AIRPORT							
Miscellaneous Pavement Rehab	\$250,000	\$0	\$237,500	\$6,250	\$6,250	\$0	\$0
Construct Hangars at North County	1,875,000	0	0	0	0	0	1,875,000
Construct Apron and Taxilanes	1,875,000	0	0	500,000	375,000	1,000,000	0
Construct Service Road from Terminal to North T-Hangars	550,000	0	0	0	110,000	440,000	0
Construct Additional Tie-Down/Transient Apron	4,200,000	0	0	0	840,000	3,360,000	0
Construct Hangars	5,000,000	0	0	0	0	0	5,000,000
Hangar Construction Environmental Mitigation	2,500,000	0	0	0	500,000	0	2,000,000
Construct Parallel Runway	4,450,000	0	500,000	500,000	111,250	0	3,338,750
Environmental Mitigation Runway 13-31	5,000,000	0	0	4,000,000	1,000,000	0	0
Subtotal North County Airport	\$25,700,000	\$0	\$737,500	\$5,006,250	\$2,942,500	\$4,800,000	\$12,213,750
GLADES							
T-Hangar Taxilane Rehab	\$143,000	\$0	\$135,850	\$3,575	\$3,575	\$0	\$0
Construct T-Hangar Facilities	500,000	0	0	0	0	500,000	0
Runway 17/35 Crack Sealing	80,000	0	0	80,000	0	0	0
Construct T-Hangars	1,250,000	0	0	0	0	0	1,250,000
Install PAPIs and REILs	360,000	0	0	0	18,000	342,000	0
Expand Aircraft Parking Apron	1,500,000	0	500,000	500,000	300,000	0	200,000
Property Acquisition	1,000,000	0	0	0	0	1,000,000	0
Subtotal Glades	\$4,833,000	\$0	\$635,850	\$583,575	\$321,575	\$1,842,000	\$1,450,000
TOTAL	\$922,073,724	\$16,013,725	\$104,515,850	\$39,040,140	\$295,027,007	\$71,928,608	\$395,548,394
<u>Total Funding Sources By Cost Center:</u>							
Airside	\$390,164,095	\$14,159,975	\$103,000,000	\$25,246,565	\$116,955,484	\$40,318,967	\$90,483,104
Terminal	74,854,506	1,853,750	0	2,500,000	43,279,506	7,075,000	20,146,250
Ground Transportation	238,290,185	0	0	2,500,000	854,192	9,842,641	225,093,352
Aviation	130,000,000	0	0	2,500,000	127,500,000	0	0
Lantana	22,850,000	0	142,500	703,750	1,923,750	7,050,000	13,030,000
Glades	4,833,000	0	635,850	583,575	321,575	1,842,000	1,450,000
North County Airport	25,700,000	0	737,500	5,006,250	2,942,500	4,800,000	12,213,750
Air Cargo Building	33,131,938	0	0	0	0	0	33,131,938
Fire Rescue	2,250,000	0	0	0	1,250,000	1,000,000	0
TOTAL	\$922,073,724	\$16,013,725	\$104,515,850	\$39,040,140	\$295,027,007	\$71,928,608	\$395,548,394

Source: Palm Beach County Department of Airports; Ricondo & Associates, Inc.
 Prepared by: Ricondo & Associates, Inc.

Table 1.11**Cash Flow / Coverage Calculation / Cost Per Enplanement**

Fiscal Year	Budget	Projected										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<u>Sensitivity Scenario 1:</u>												
Signatory Landing Fee Rate	\$1.06	\$0.88	\$1.00	\$1.00	\$1.05	\$1.12	\$1.66	\$1.67	\$2.73	\$2.49	\$2.43	\$2.50
Average Terminal Rental Rate	\$57.88	\$49.17	\$57.33	\$58.39	\$63.29	\$69.95	\$68.13	\$70.54	\$75.06	\$55.91	\$53.21	\$63.52
Cost Per Enplanement	\$6.24	\$5.02	\$5.69	\$5.60	\$5.77	\$6.30	\$6.81	\$6.81	\$8.57	\$7.00	\$6.65	\$7.14
Debt Service Coverage	2.05	1.62	1.60	1.50	1.46	1.42	1.38	1.35	1.34	1.56	1.56	1.40
Airport Improvement and Development Fund Ending Balance	\$39,780,563	\$43,698,396	\$38,851,750	\$21,688,540	\$23,644,887	\$27,409,430	\$12,457,154	\$10,966,743	\$13,843,325	\$16,270,419	\$23,628,478	\$29,154,868
<u>Baseline Scenario:</u>												
Signatory Landing Fee Rate	\$1.06	\$0.88	\$1.00	\$1.00	\$1.04	\$1.10	\$1.08	\$1.10	\$1.13	\$0.94	\$0.90	\$0.94
Average Terminal Rental Rate	\$57.88	\$49.17	\$57.32	\$58.16	\$62.35	\$68.60	\$66.77	\$69.72	\$73.70	\$56.28	\$52.46	\$56.50
Cost Per Enplanement	\$6.24	\$5.02	\$5.69	\$5.59	\$5.70	\$6.20	\$5.92	\$5.98	\$6.30	\$4.92	\$4.55	\$4.71
Debt Service Coverage	2.05	1.62	1.61	1.47	1.47	1.50	1.49	1.48	1.51	1.92	1.90	1.82
Airport Improvement and Development Fund Ending Balance	\$39,780,563	\$44,101,396	\$47,724,889	\$50,421,682	\$51,679,266	\$56,875,796	\$61,197,039	\$66,160,252	\$68,912,877	\$71,213,167	\$78,256,412	\$85,086,148

Source: Palm Beach County Department of Airports; Ricondo & Associates, Inc.
 Prepared by: Ricondo & Associates, Inc.

12.0 Sensitivity Analysis 2

The baseline financial scenario was based on eligibility of projects for various types of funding. This section evaluates a modified funding scenario based on the following assumptions:

- FAA and State Funding are capped at Historical Levels experienced by the airport system.
- PFCs are collected at a \$6.00 per enplaned passenger level starting in FY 2009.
- FAA entitlements are calculated based on the existing FAA formula incorporating the baseline forecast of enplanements and the PFC level. When the PFC level is assumed to increase to \$6.00, entitlements will be eliminated.
- FAA discretionary funds for FY 2008 through FY 2016 are estimated to be \$500,000 per year.
- Additional FAA discretionary funds for FY 2010 through FY 2014 are estimated to be \$100 million for the five-year period, secured with an LOI and distributed over the five-year period (\$20 million annually)
- FDOT funds are estimated to be \$2.5 million per year for PBI; and \$500,000 per year (total) for the 3 GA airports.
- FDOT (SIS) Funding is estimated to be \$10,898,000 in FY 2009.
- Timing of projects is projected to be delayed when necessary to ensure adequate funding availability.
- Hangars at reliever / general aviation airports will be funded with bond proceeds and will only be undertaken if hangar revenues are sufficient to repay annual debt service.

Based on analyses of forecast activity at the Airport, in addition to projected revenues and expenses, and the Airport System Capital Improvement Plan for FY 2007 through FY 2025 based on the above assumptions, it appears that the County has adequate financial resources and the Airport System has adequate growth capacity to meet future demand under this scenario. However, airline rates and charges would increase over the baseline scenario.

Table 1.12 presents the funding sources assumed in Scenario 2. After incorporating the funding sources and other assumptions, **Table 1.13** illustrates selected airline rates and charges, cost per enplanement, debt service coverage and ending balance in the Airport's capital account through FY 2017 that result from this scenario and compares the financial results to the baseline scenario. As presented, airline rates and charges are projected to be higher and the balance in the Airport's Improvement and Development Fund is projected to be lower in Scenario 2 compared to the Baseline Scenario. However, this scenario is projected to reflect lower rates and charges and a higher balance in the Improvement and Development Fund than Scenario 1 presented in the previous section.

Table 1.12 (1 of 2)

Capital Improvement Plan – Summary of Funding Sources

Project	Total Project Escalated Dollars	Funding Source					
		AIP		FDOT	PFC	Airport Cash	GARBs
		Ent	Disc				
PALM BEACH INTERNATIONAL AIRPORT							
Expand and Rehab Overnight Parking Apron	\$740,000	\$0	\$0	\$370,000	\$370,000	\$0	\$0
Apron "A" Expansion	3,420,000	0	0	1,220,000	2,200,000	0	0
NAVAID Relocation Study	300,000	0	0	0	300,000	0	0
Construct Maintenance Compound	1,000,000	0	0	0	1,000,000	0	0
Rehabilitate Aircraft Parking Apron	1,090,000	0	0	0	1,090,000	0	0
Extension of Taxiway "F" to RW 13	13,400,000	0	0	2,888,000	10,512,000	0	0
Extend Runway 9R-27L Environmental & Design	8,284,000	0	0	0	8,284,000	0	0
Extension of Taxiway "L" (Lima)	17,700,000	0	0	858,500	16,841,500	0	0
Miscellaneous taxiway rehab	5,250,000	0	0	1,253,500	2,625,000	1,371,500	0
New Taxiway Connector - Runway 9L-27R	5,300,000	1,676,250	500,000	0	662,500	2,461,250	0
Taxiway Romeo (West of R1)	20,825,398	0	3,733,333	0	3,070,833	1,395,833	12,625,398
Taxiway C4 High Speed Exit - Rwy 9L-27R	5,084,000	0	0	0	3,050,400	2,033,600	0
Taxiway D High Speed Exit - Rwy 9L-27R	4,721,000	0	0	0	2,832,600	1,888,400	0
Replace (2) Fire Rescue Vehicles	2,250,000	0	0	0	2,250,000	0	0
Concourse "A" Redevelopment	20,375,000	0	0	0	18,300,000	2,075,000	0
Acquire land runway 9L-27R	7,094,817	0	5,014,717	0	2,080,100	0	0
Taxiway Lima (West) Upgrades and Improvements	17,048,000	0	1,303,050	2,500,000	13,244,950	0	0
Runway 9R Property Acquisition	35,846,700	0	11,948,900	5,974,000	17,923,800	0	0
Golfview Apron, Taxilanes/Taxiways and Infrastructure	74,000,000	0	60,000,000	0	14,000,000	0	0
Golfview Facilities	130,000,000	0	0	2,500,000	127,500,000	0	0
Relocate VOR	3,939,281	0	0	1,414,000	2,525,281	0	0
Taxiway Charlie (East) Improvements	7,800,000	0	0	3,510,000	4,290,000	0	0
Extend, Relocate and Upgrade RWY 9R-27L	77,101,000	0	20,000,000	0	32,545,150	24,555,850	0
Construct Apron Golfview 2	6,000,000	0	0	0	6,000,000	0	0
Construct Surface Parking Lot	1,426,946	0	0	0	0	1,426,946	0
Demolition East of Runway 13-31	17,600,000	0	0	0	17,600,000	0	0
Demolition West of Runway 13-31	10,600,000	0	0	0	10,600,000	0	0
Runway 13-31 Pavement Removal	2,500,000	0	0	0	2,500,000	0	0
Runway 13-31, Taxiway F and Taxiway B Extensions and Taxiway Connectors	23,000,000	0	0	2,500,000	20,500,000	0	0
Part 150 Study PBIA	800,000	0	0	40,000	760,000	0	0
Rehabilitate Taxiway C	8,500,000	0	0	2,445,500	6,054,500	0	0
New Parking Revenue Center	2,609,546	0	0	0	0	2,609,546	0
New Cargo Apron	5,461,307	0	0	273,065	273,065	0	4,915,177
Concourse "B" Expansion	29,500,000	0	0	2,500,000	0	5,000,000	22,000,000
Miscellaneous Taxiway Rehab	2,687,834	0	500,000	0	2,187,834	0	0
New Belly Cargo/All Cargo Facility	33,131,938	0	0	0	0	0	33,131,938
Cargo Apron Expansion	3,070,758	0	500,000	0	153,538	2,417,220	0
Construct Surface Parking Lot	4,270,962	0	0	2,500,000	854,192	0	916,770
Terminal Building Baggage System Expansion	24,979,506	0	0	0	24,979,506	0	0
Construct Surface Parking Lot	5,806,149	0	0	0	0	5,806,149	0
New Parking Garage	224,176,582	0	0	0	0	0	224,176,582
Subtotal Palm Beach International Airport	\$868,690,724	\$1,676,250	\$103,500,000	\$32,746,565	\$379,960,749	\$53,041,294	\$297,765,865

Table 1.12 (2 of 2)

Capital Improvement Plan – Summary of Funding Sources

Project	Total Project Escalated Dollars	Funding Source					
		AIP	AIP	FDOT	PFC	Airport Cash	GARBs
		Ent	Disc				
LANTANA							
Runway 33 Threshold Improvements	\$150,000	\$0	\$142,500	\$3,750	\$3,750	\$0	\$0
Construct Hangars at Lantana	1,875,000	0	0	0	0	0	1,875,000
Construct Hangars (Rows 500, 600 & 700)	5,000,000	0	0	0	0	0	5,000,000
Upgrade Airfield Signage	400,000	0	0	0	10,000	390,000	0
Expand Itinerant Apron	6,200,000	0	0	0	1,240,000	4,960,000	0
Relocate Airport Rotating Beacon	100,000	0	0	0	5,000	95,000	0
Taxiway C Rehab	1,100,000	0	0	0	220,000	880,000	0
Apron Rehab	275,000	0	0	0	55,000	220,000	0
Rehab Runway 15/33	1,500,000	0	0	0	300,000	1,200,000	0
Rehab Runway 3/21	200,000	0	0	0	40,000	160,000	0
Construct Apron	2,200,000	0	0	500,000	0	1,700,000	0
Construct Hangars (Rows 1600, 1700, 1800 & 1900)	3,600,000	0	0	0	0	0	3,600,000
Construct Access Road to West Side Development	250,000	0	0	200,000	50,000	0	0
Subtotal Lantana	\$22,850,000	\$0	\$142,500	\$703,750	\$1,923,750	\$9,605,000	\$10,475,000
NORTH COUNTY AIRPORT							
Miscellaneous Pavement Rehab	\$250,000	\$0	\$237,500	\$6,250	\$6,250	\$0	\$0
Construct Hangars at North County	1,875,000	0	0	0	0	0	1,875,000
Construct Apron and Taxilanes	1,875,000	0	0	500,000	375,000	1,000,000	0
Construct Service Road from Terminal to North T-Hangars	550,000	0	0	0	110,000	440,000	0
Construct Additional Tie-Down/Transient Apron	4,200,000	0	0	0	840,000	3,360,000	0
Construct Hangars	5,000,000	0	0	0	0	0	5,000,000
Hangar Construction Environmental Mitigation	2,500,000	0	0	0	500,000	0	2,000,000
Construct Parallel Runway	4,450,000	0	0	500,000	111,250	0	3,838,750
Environmental Mitigation Runway 13-31	5,000,000	0	0	4,000,000	1,000,000	0	0
Subtotal North County Airport	\$25,700,000	\$0	\$237,500	\$5,006,250	\$2,942,500	\$4,800,000	\$12,713,750
GLADES							
T-Hangar Taxilane Rehab	\$143,000	\$0	\$135,850	\$3,575	\$3,575	\$0	\$0
Construct T-Hangar Facilities	500,000	0	0	0	0	500,000	0
Runway 17/35 Crack Sealing	80,000	0	0	80,000	0	0	0
Construct T-Hangars	1,250,000	0	0	0	0	0	1,250,000
Install PAPIs and REILs	360,000	0	0	0	18,000	342,000	0
Expand Aircraft Parking Apron	1,500,000	0	0	500,000	300,000	0	700,000
Property Acquisition	1,000,000	0	0	0	0	1,000,000	0
Subtotal Glades	\$4,833,000	\$0	\$135,850	\$583,575	\$321,575	\$1,842,000	\$1,950,000
TOTAL	\$922,073,724	\$1,676,250	\$104,015,850	\$39,040,140	\$385,148,574	\$69,288,294	\$322,904,615
Total Funding Sources By Cost Center:							
Airside	\$390,164,095	\$1,676,250	\$103,500,000	\$25,246,565	\$206,077,051	\$36,123,653	\$17,540,575
Terminal	74,854,506	0	0	2,500,000	43,279,506	7,075,000	22,000,000
Ground Transportation	238,290,185	0	0	2,500,000	854,192	9,842,641	225,093,352
Aviation	130,000,000	0	0	2,500,000	127,500,000	0	0
Lantana	22,850,000	0	142,500	703,750	1,923,750	9,605,000	10,475,000
Glades	4,833,000	0	135,850	583,575	321,575	1,842,000	1,950,000
North County Airport	25,700,000	0	237,500	5,006,250	2,942,500	4,800,000	12,713,750
Air Cargo Building	33,131,938	0	0	0	0	0	33,131,938
Fire Rescue	2,250,000	0	0	0	2,250,000	0	0
TOTAL	\$922,073,724	\$1,676,250	\$104,015,850	\$39,040,140	\$385,148,574	\$69,288,294	\$322,904,615

Source: Palm Beach County Department of Airports
 Prepared by: Ricondo & Associates, Inc.

Table 1.13**Financial Results for Sensitivity 2 and Baseline Scenario**

Fiscal Year	Budget	Projected										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<u>Sensitivity Scenario 2:</u>												
Signatory Landing Fee Rate	\$1.06	\$0.88	\$1.00	\$1.00	\$1.05	\$1.11	\$1.09	\$1.12	\$1.47	\$1.27	\$1.24	\$1.27
Average Terminal Rental Rate	\$57.88	\$49.17	\$57.33	\$58.39	\$63.08	\$69.62	\$67.83	\$70.82	\$74.81	\$57.93	\$55.11	\$66.41
Cost Per Enplanement	\$6.24	\$5.02	\$5.69	\$5.60	\$5.76	\$6.28	\$6.00	\$6.06	\$6.81	\$5.45	\$5.14	\$5.66
Debt Service Coverage	2.05	1.62	1.60	1.50	1.46	1.40	1.38	1.36	1.35	1.56	1.55	1.39
Airport Improvement and Development Fund Ending Balance	\$39,780,563	\$43,698,396	\$38,851,750	\$29,885,874	\$29,391,926	\$34,251,051	\$37,242,362	\$40,835,370	\$18,484,377	\$20,042,742	\$23,996,922	\$28,497,294
<u>Baseline Scenario:</u>												
Signatory Landing Fee Rate	\$1.06	\$0.88	\$1.00	\$1.00	\$1.04	\$1.10	\$1.08	\$1.10	\$1.13	\$0.94	\$0.90	\$0.94
Average Terminal Rental Rate	\$57.88	\$49.17	\$57.32	\$58.16	\$62.35	\$68.60	\$66.77	\$69.72	\$73.70	\$56.28	\$52.46	\$56.50
Cost Per Enplanement	\$6.24	\$5.02	\$5.69	\$5.59	\$5.70	\$6.20	\$5.92	\$5.98	\$6.30	\$4.92	\$4.55	\$4.71
Debt Service Coverage	2.05	1.62	1.61	1.47	1.47	1.50	1.49	1.48	1.51	1.92	1.90	1.82
Airport Improvement and Development Fund Ending Balance	\$39,780,563	\$44,101,396	\$47,724,889	\$50,421,682	\$51,679,266	\$56,875,796	\$61,197,039	\$66,160,252	\$68,912,877	\$71,213,167	\$78,256,412	\$85,086,148

Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

Technical Report #6

Palm Beach County Glades Airport Layout Plan

Palm Beach County Glades Airport

Prepared for
Palm Beach County Department of Airports

OCTOBER 2006

CH2MHILL

In Association with Ricondo & Associates, Inc.

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Attachments

- 1 Airport Layout Plan

Appendix

- A FAA Airport Layout Plan Drawing Set Checklist

Airport Layout Plan Narrative

1.1 Introduction

The proposed 20-year development plan for Palm Beach County Glades (Pahokee or PHK) Airport Layout Plan (ALP) is a graphic depiction of existing and ultimate airport facilities that will be required to enable the airport to accommodate the forecast future demand. The drawing was prepared in accordance with Federal Aviation Administration (FAA) guidelines as defined in FAA Advisory Circular 150/5070-6A, *Airport Master Plans*, and Advisory Circular 150/5300-13, *Airport Design*. Furthermore, the ALP provides both airport and airfield facility data and design criteria which is required to define relationships with applicable planning and design standards. The attached drawing, entitled Airport Layout Plan, and the following paragraphs describe the major components of the future PHK development plan. Additionally, the FAA ALP Drawing Set Checklist for the Southern Region Airports Division is provided in **Appendix A**.

1.2 Runway System

The Palm Beach County Glades Airport runway system consists of Runway 17/35, a 4,116 foot long by 75 feet wide asphalt concrete runway. The current runway operates using declared distances because of threshold displacements on both runway ends. The Palm Beach County Department of Airports (PBC DOA) has no plans to extend this runway in the 20-year development plan future. Both runway approaches are nonprecision approaches equipped with Visual Approach Slope Indicators (VASI). The runway pavement is generally in good condition with no plans for maintenance or rehabilitation in the near future.

1.3 Land Acquisition

In association with runway approach protection zones, object clearing criteria, and land use compatibility issues, parcels at each end of Runway 17/35 are recommended for acquisition. Approximately 16.6 acres is recommended for acquisition in the Runway 35 RPZ, and approximately 2.9 acres is recommended for acquisition in the Runway 17 RPZ as shown on the ALP. Once these parcels are acquired, the existing structures are recommended for demolition to clear these structures from the RPZs. Aviation easements should be sought to control heights and land use within other areas of the RPZ that will not be acquired in fee simple as shown on the ALP.

1.4 Runway Approach Aids and Lighting

Runway 17/35 is currently and will remain a nonprecision runway in the future. The runway is equipped with medium intensity runway edge lighting. The VASI systems will be replaced in the future with Precision Approach Path Indicator (PAPI) systems.

Furthermore, Runway End Identifier Lights (REIL) are planned to be installed at both runway ends. The Runway 17/35 approaches are currently served by TVOR and DME-A equipment.

In an effort to provide enhanced facilities and aeronautical services at PHK, the Palm Beach County Department of Airports is encouraged to pursue the initiation and programming of a non-precision GPS RNAV approach, with the lowest minimums possible, to Runway 17/35 at PHK. The introduction of such an approach is aimed at providing increased training opportunities at the airport, as well as providing enhanced capability during inclement weather.¹

1.5 Taxiway System

The parallel taxiway system consisting of Taxiway A and four connector taxiways (B, C, D, and E) serving Runway 17/35 meets FAA standards for separation between runway centerline and taxiway centerline. The taxiway pavement system is generally in good condition, with no plans for major maintenance or rehabilitation in the near future. No additional taxiway work is planned for the future. The taxiways are unlighted but are equipped with reflectors to aid pilots with taxiing operations.

1.6 Landside Facilities

The existing terminal building was severely damaged by hurricanes in the 2004-2005 seasons. As a result, the general aviation terminal is planned to be rebuilt to replace the existing facility within the 20 year planning period. The terminal building will be replaced with a facility of similar size and function as the previous facility. No growth in terminal facility requirements is anticipated for the 20 year planning period.

1.7 Aircraft Storage Facilities

In addition to the existing terminal building, an existing conventional aircraft hangar and a 10-unit t-hangar were severely damaged during the 2004-2005 hurricane seasons and are planned to be rebuilt in the 20 year planning period. A new 10-unit t-hangar west of the existing t-hangar structure is also proposed to meet forecast demand. Additional vehicle parking is also proposed adjacent to the apron to meet future parking demands.

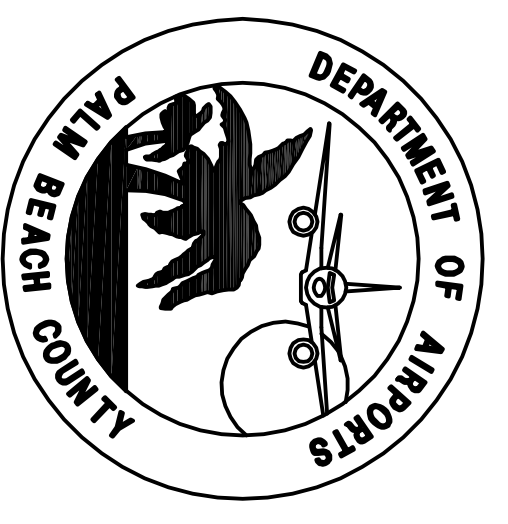
1.8 Airside Development

Apron expansion is recommended for airside development at PHK to accommodate anticipated future growth of transient aircraft. Approximately 53,000 square feet of apron expansion is depicted on the ALP to provide sufficient aircraft parking space for anticipated growth in the 20 year planning period.

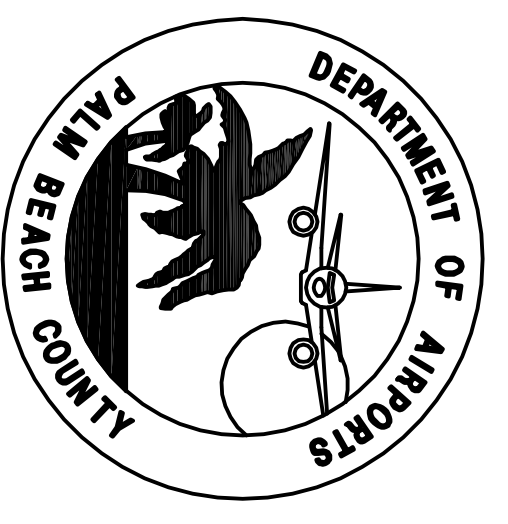
¹ Recommendations of the AAAB – Addendum #1, March 10, 2008

1.9 Airspace

The Runway 17/35 approaches are both 20:1 nonprecision approaches and will remain as such for the forecast future.



CH2MHILL



DEPARTMENT OF AIRPORTS
PALM BEACH COUNTY

CH2MHILL

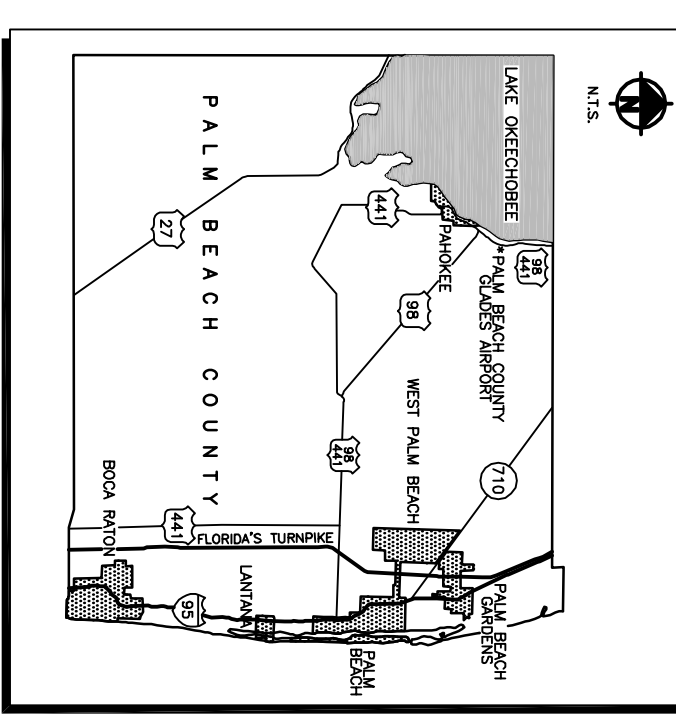
NO.	DATE	BY	DESCRIPTION	APPD NO.
1	03/10/06	DCT	ADDENDUM NO.1	

PROJECT MGR:	CIN	SCALE:	AS SHOWN
PLANNER:	CIN	DATE:	OCTOBER 2006
DRAWN BY:	PT	CHECKED BY:	WFB

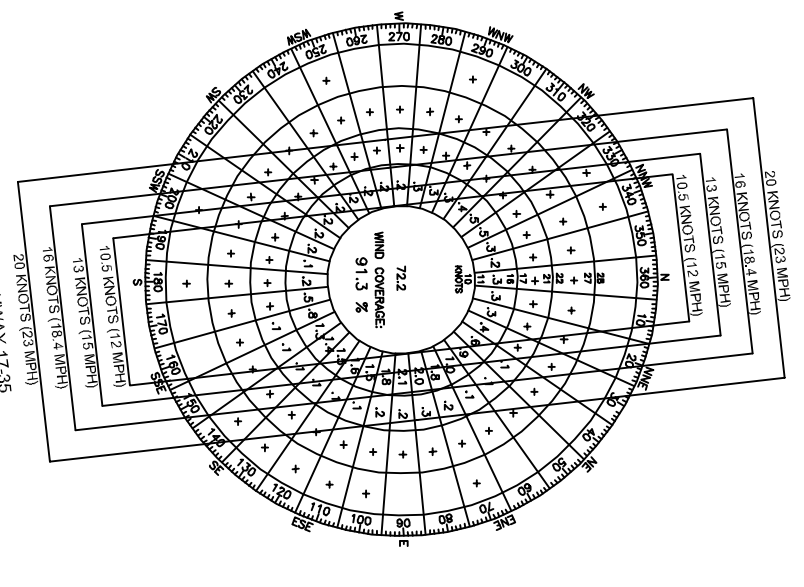
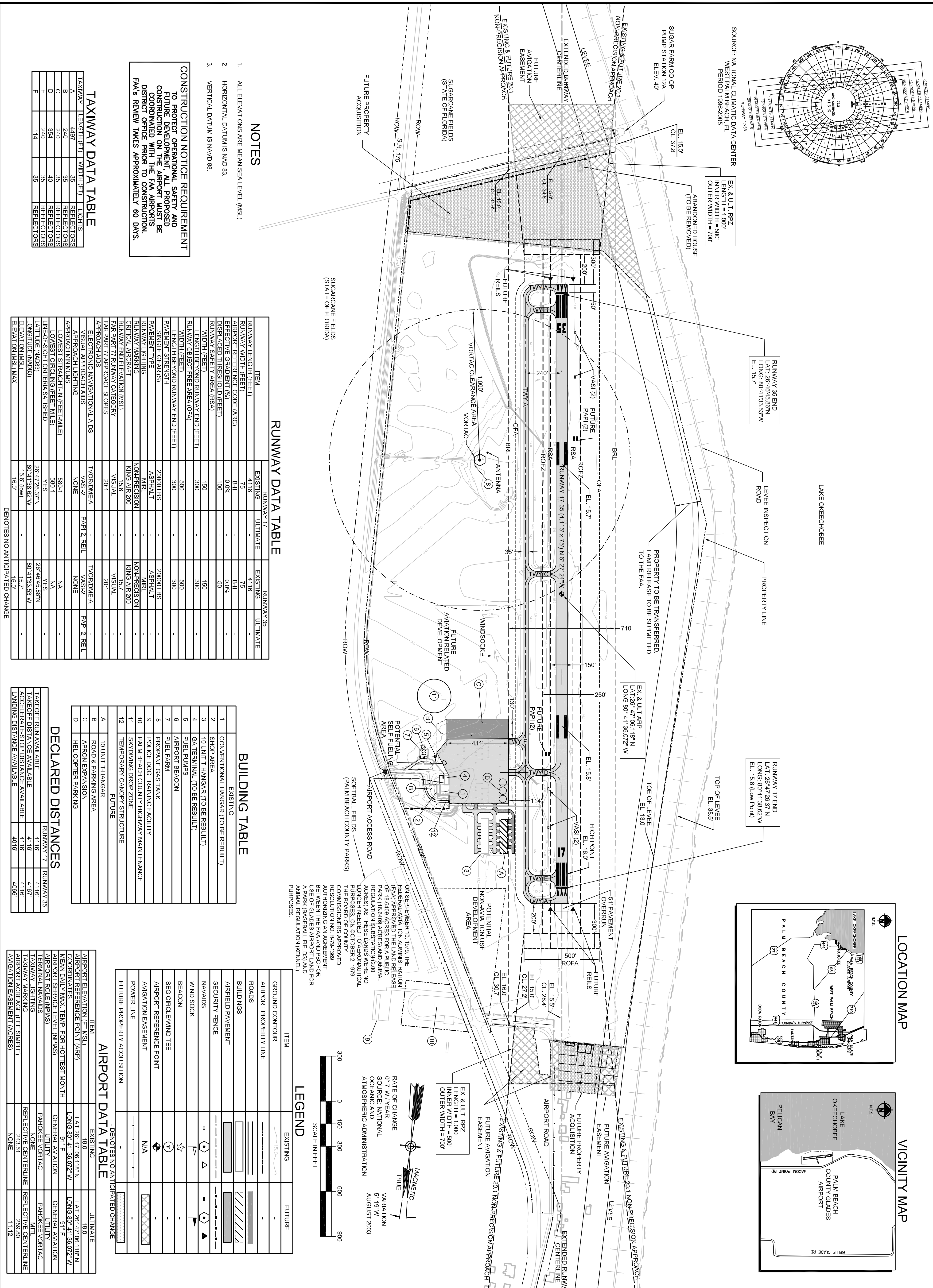
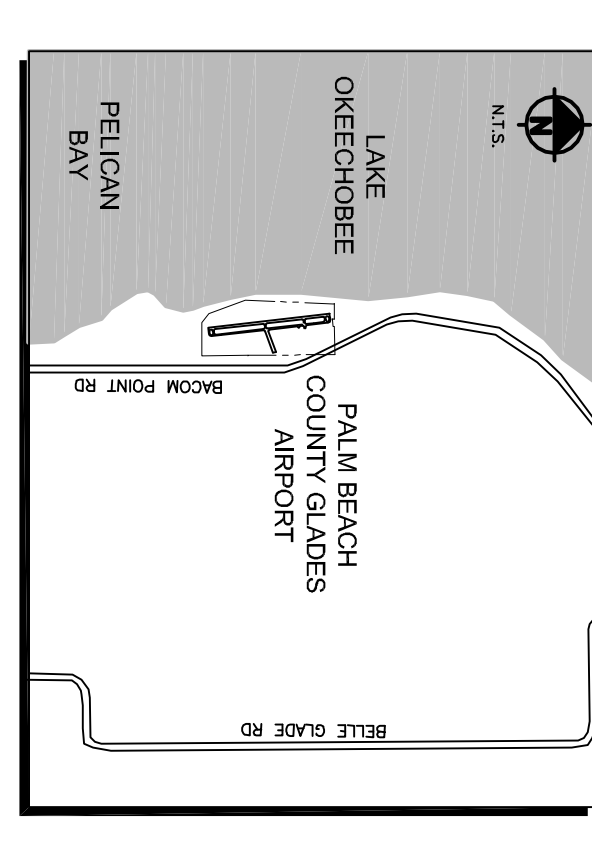
APPROVALS	
By: _____	Federal Aviation Administration
By: _____	Palm Beach County Department of Airports
Title: _____	Date: _____

AIRPORT LAYOUT PLAN	
REVISION DATE	MARCH 10, 2008
PRINT DATE	MARCH 10, 2008
DEPT. OF AIRPORTS NO.	L06-DOA-C-004
SHEET NO.	1 of 1

LOCATION MAP



VICINITY MAP



SOURCE: NATIONAL CLIMATIC DATA CENTER
WEST PALM BEACH, FL
PERIOD 1996-2005

NOTES

1. ALL ELEVATIONS ARE MEAN SEA LEVEL (MSL).
2. HORIZONTAL DATUM IS NAD 83.
3. VERTICAL DATUM IS NAVD 88.

CONSTRUCTION NOTICE REQUIREMENT
TO PROTECT OPERATIONAL SAFETY AND FUTURE DEVELOPMENT, ALL PROPOSED CONSTRUCTION ON THE AIRPORT MUST BE COORDINATED WITH THE FAA AIRPORTS DISTRICT OFFICE PRIOR TO CONSTRUCTION. FAA'S REVIEW TAKES APPROXIMATELY 60 DAYS.

TAXIWAY DATA TABLE

TAXIWAY	LENGTH (FT)	WIDTH (FT)	LIGHTS
A	4987	35	REFLECTORS
B	240	35	REFLECTORS
C	240	40	REFLECTORS
D	354	35	REFLECTORS
E	240	35	REFLECTORS
F	114	35	REFLECTORS

RUNWAY DATA TABLE

ITEM	EXISTING	ULTIMATE	EXISTING	ULTIMATE
RUNWAY LENGTH (FEET)	4116		4116	
RUNWAY WIDTH (FEET)	75		75	
AIRPORT REFERENCE CODE (ARC)	B-I		B-I	
EFFECTIVE GRADIENT (%)	0.0%		0.0%	
DISPLACED THRESHOLD (FEET)	100		50	
RUNWAY SAFETY AREA (RSA)				
WIDTH (FEET)	150		150	
LENGTH BEYOND RUNWAY END (FEET)	300		300	
RUNWAY OBJECT FREE AREA (OFA)				
WIDTH (FEET)	500		500	
LENGTH BEYOND RUNWAY END (FEET)	300		300	
PAVEMENT STRENGTH	20000 LBS		20000 LBS	
SINGLE GEAR (SI)	ASPHALT		ASPHALT	
PAVEMENT TYPE	MIRL		MIRL	
RUNWAY LIGHTING	NONPRECISION		NONPRECISION	
RUNWAY MARKING	KING AIR 200		KING AIR 200	
CRITICAL APPROACH	VISUAL		VISUAL	
RUNWAY END ELEVATION (MSL)	15.6		15.7	
FAR PART 77 APPROACH CATEGORY	VISUAL		VISUAL	
FAR PART 77 APPROACH SLOPES	20:1		20:1	
APPROACH AIDS				
ELECTRONIC NAVIGATIONAL AIDS	TVORDME-A		TVORDME-A	
VISUAL APPROACH AIDS	VASIZ		VASIZ	
APPROACH LIGHTS	PAPR2, REIL		PAPR2, REIL	
APPROACH SLOPES	NONE		NONE	
APPROACH GRADIENT				
LOWEST OBACLE (FEET) (M)	89.4		NA	
LINE OF SIGHT (FEET) (M)	89.4		NA	
LATITUDE (NAD83)	26.4726.37°N		26.4645.88°N	
LONGITUDE (NAD83)	80.4133.82°W		80.4133.53°W	
ELEVATION (MSL) MAX	15.6 (699)		15.6	

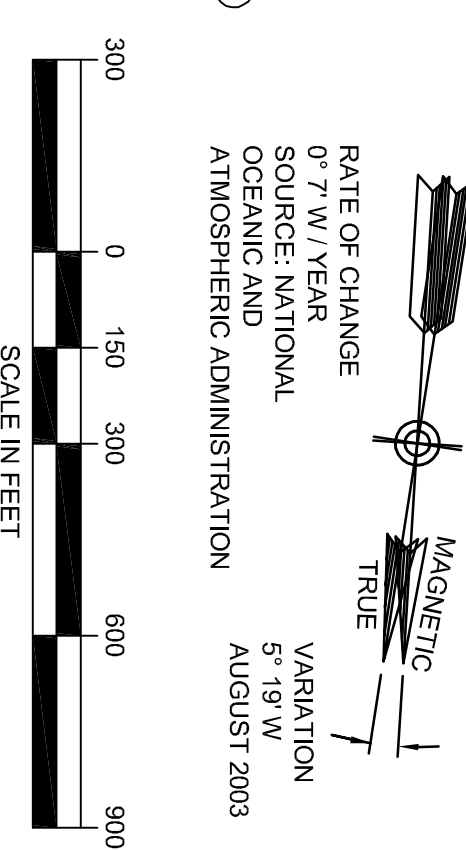
BUILDING TABLE

EXISTING	ULTIMATE
1 CONVENTIONAL HANGAR (TO BE REBUILT)	
2 SHOP AREA	
3 10 UNIT HANGAR (TO BE REBUILT)	
4 GA. TERMINAL (TO BE REBUILT)	
5 FUEL PUMPS	
6 AIRPORT BEACON	
7 FUEL FARM	
8 PROPANE GAS TANK	
9 POLICE DOG TRAINING FACILITY	
10 PALM BEACH COUNTY HIGHWAY MAINTENANCE	
11 SANDWING DROP ZONE	
12 TEMPORARY CANOPY STRUCTURE	

DECLARED DISTANCES

TAKOFF RUN AVAILABLE	RUNWAY 17	RUNWAY 35
TAKOFF DISTANCE AVAILABLE	4116'	4116'
ACCELERATE-STOP DISTANCE AVAILABLE	4116'	4116'
LANDING DISTANCE AVAILABLE	4016'	4066'

ON SEPTEMBER 10, 1970 THE FEDERAL AVIATION ADMINISTRATION (FAA) APPROVED THE LAND RELEASE OF 18,649 ACRES FOR A PUBLIC PARK (18,649 ACRES) AND ANIMAL REGULATION SUBSTATION (2.00 ACRES) AS THESE LANDS WERE NO LONGER REQUIRED FOR AIRPORT PURPOSES. ON OCTOBER 2, 1970, THE BOARD OF COUNTY COMMISSIONERS APPROVED RESOLUTION NO. R-79-1389 AUTHORIZING AN AGREEMENT BETWEEN THE FAA AND PBC FOR USE OF GLADES AIRPORT LAND FOR ANIMAL REGULATION (KEMNEL) PURPOSES.



AIRPORT DATA TABLE

ITEM	EXISTING	ULTIMATE
AIRPORT ELEVATION (FT MSL)	18.0	18.0
AIRPORT REFERENCE POINT (ARP)	LAT 26.47.06.118° N LONG 80.41.36.022° W	LAT 26.47.06.118° N LONG 80.41.36.022° W
COORDINATES		
MEAN DAILY MAX TEMP FOR HOTTEST MONTH	91° F	91° F
AIRPORT SERVICE LEVEL (NPAS)	GENERAL AVIATION	GENERAL AVIATION
AIRPORT ROLE (NPAS)	UTILITY	UTILITY
TERMINAL NAVIGS	PAHOKEE VORTAC	PAHOKEE VORTAC
TAXIWAY LIGHTING	NONE	MTI
TAKOFF MARKING	REFLECTIVE CENTERLINE	REFLECTIVE CENTERLINE
AIRPORT ARCEAGE (FREE SIMPLE)	253.61	259.80
AVIGATION EASEMENT (ACRES)	NONE	11.12

Appendix A



Airport Layout Plan Drawing Set Checklist

Name of Airport: Palm Beach County Glades (Pahokee)
Location of Airport: Pahokee, Florida
Date of Review: _____ Reviewed by: _____

Significant Development Changes Since Previous ALP Approval/ or Narrative

- 1. NONE
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____

In order to protect the airspace for future conditions, complete the following information:

Future Airport Reference Point (ARP) (if same as existing, provide existing ARP)

ARP Latitude: 26 deg, 47', 06.118", ARP Longitude: 80 deg, 41', 36.072"

Future Rwy End Coordinates & Rwy End Elevation (if same as existing, provide existing coordinates)

Rwy End: 17, Rwy End Latitude: 26d, 47',26.37", Rwy End Longitude: 80d, 41', 38.62", Rwy End Elevation: 15.6' msl
Rwy End: 35, Rwy End Latitude: 26d, 46',45.86", Rwy End Longitude: 80d, 41',33.53", Rwy End Elevation: 15.7' msl
Rwy End: _____, Rwy End Latitude: _____, Rwy End Longitude: _____, Rwy End Elevation: _____
Rwy End: _____, Rwy End Latitude: _____, Rwy End Longitude: _____, Rwy End Elevation: _____

Existing and Proposed Modification of Standards (MOS)

Existing Deviation of Standard/ FAA Approved MOS FAA Approval Date (if any) Expiration Date (if any)

- 1. NONE
- 2. _____
- 3. _____

Proposed Deviation of Standard/ FAA Modification of Standards

- 1. NONE
- 2. _____
- 3. _____

Runway Safety Area Re-Evaluations

- Concur with Runway Safety Area Determination currently on file with FAA.
- Reevaluation of Runway Safety Area Determination completed as part of planning document and shown on this ALP set.

Narrative Report

	<u>Yes</u>	<u>No</u>	<u>Comments</u>
Report Provided	()	(X)	_____
<i>Aeronautical Forecasts</i>			
- 0-5 yrs., 6-10 yrs., 10-20 yrs	(X)	()	_____
- Total annual operations	(X)	()	_____
- Annual itinerant operations	(X)	()	_____
- Based aircraft	(X)	()	_____
- Annual instrument approaches (if applicable)	()	(X)	_____
- Annual itinerant operations by critical aircraft	()	(X)	_____
- Annual itinerant ops by more demanding aircraft	()	(X)	_____
Proposed Development Justification	(X)	()	_____
Special Issues (MOS, etc.)	(X)	()	_____
Development Schedule and Graphics	(X)	()	_____
Proper Agency Coordination (sponsor, local, state)	(X)	()	_____

Airport Layout Drawing

Proper Agency Approval (Sponsor, Local, State)	(X)	()	_____
Sheet Size - 24"x36"/ 22" x 34"	(X)	()	_____
Scale 1"=200'-600'	(X)	()	1" = 300'
2'-10' Labeled Contours	(X)	()	1' Contours

North Arrow

- True & magnetic	(X)	()	_____
- Declination w/ annual rate of change	(X)	()	_____

Wind Rose

- Source & time period	(X)	()	_____
- MPH & knots	(X)	()	_____
- 12 MPH individual & combined coverage	()	(X)	_____
- 15 MPH individual & combined coverage	()	(X)	_____

Airport Reference Point (ARP)

- Existing w/ Lat./ Long. (NAD 83)	(X)	()	_____
- Ultimate w/ Lat./ Long. (NAD 83)	(X)	()	_____

Elevations (Existing & Ultimate)

- Existing runway ends	(X)	()	_____
- Displaced thresholds	(X)	()	_____
- Ultimate runway ends	()	(X)	N/A
- Runway intersections	()	(X)	N/A
- Runway high & low points	(X)	()	_____
- Touchdown zone elevation	(X)	()	_____
(highest Rwy elevation in first 3,000' of any Rwy having published straight -in minima)			

Drawing Lines

- Existing property boundary	(X)	()	_____
- Ultimate property boundary	(X)	()	_____
- Building restriction line (both sides)	(X)	()	_____
- Existing development shown as solid	(X)	()	_____
- Future development shown as dashed/ shaded	(X)	()	_____

Airport Layout Drawing (Continued)

	Yes	No	Comments
<i>Runway Drawing Details (Existing & Ultimate)</i>			
- Runway(s) Depiction	(X)	()	_____
- Length & width	(X)	()	_____
- End numbers	(X)	()	_____
- True bearing (nearest sec.)	(X)	()	_____
- Markings (basic, NPI, PIR)	(X)	()	NP
- Lighting (thresholds only)	()	(X)	_____
- Threshold lat/ long & elevations	(X)	()	_____
- Displaced threshold lat/ long & elevations	(X)	()	_____
- Runway safety areas & dimensions	(X)	()	_____
- Runway object free areas & dimensions	(X)	()	_____
- Runway obstacle free zones	(X)	()	_____
- Centerline w/ true bearing	(X)	()	_____
- Approach aids indicated (ILS, REILS, etc.)	()	(X)	N/A
- Lat/ long & elevation for non-federal on-airport NAVAIDs (used for instrument approach procedure)	()	(X)	N/A
<i>Taxiway Details (Existing & Ultimate)</i>			
- Taxiway widths	(X)	()	_____
- Designations	(X)	()	_____
- Separation dimensions to:			
Runway centerline(s)	(X)	()	_____
Parallel taxiway(s)	(X)	()	_____
Aircraft parking area(s)	(X)	()	_____
<i>Aircraft Parking Aprons</i>			
- Existing & ultimate aprons shown	(X)	()	_____
- Dimensions	(X)	()	_____
- Tie-down layout/ locations	(X)	()	_____
<i>Runway Protection Zones (RPZs)</i>			
- Existing & ultimate RPZs shown	(X)	()	_____
- Dimensions	(X)	()	_____
- Approach slope (20:1, 34:1, 50:1)	(X)	()	20:1
<i>Title & Revision Blocks</i>			
- Name and location of airport	(X)	()	_____
- Name of preparer	(X)	()	_____
- Date of drawing	(X)	()	_____
- Drawing title	(X)	()	_____
- Revision block			
- FAA disclaimer	(X)	()	_____
- Sponsor approval block	(X)	()	_____
<i>Airport Data Block (Existing & Ultimate)</i>			
- Airport elevation (MSL)	(X)	()	_____
- Airport Reference Point (ARP) Data	(X)	()	_____
- Airport & terminal NAVAIDS (beacon, ILS)	(X)	()	_____
- Mean maximum temperature	(X)	()	_____
- Airport Reference Code (ARC) for each runway	(X)	()	_____
- Design Aircraft for each runway	(X)	()	_____
- Identify GPS at airport	()	(X)	N/A

Airport Layout Drawing (Continued)

	Yes	No	Comments
<i>Runway Data Block (Existing & Ultimate)</i>			
- % effective gradient	(X)	()	_____
- % wind coverage (MPH & knots)	()	(X)	_____
- Maximum elevation above MSL	(X)	()	_____
- Runway length	(X)	()	_____
- Runway width	(X)	()	_____
- Runway surface type (turf, asphalt...)	(X)	()	_____
- Runway strength (SWG, DWG...)	(X)	()	_____
- Part 77 approach category (visual, NPI, PIR)	(X)	()	_____
- Type instrument approach (ILS, GPS...)	(X)	()	_____
- Approach slope (20:1, 34:1, 50:1)	(X)	()	_____
- Runway lighting (HIRL, MIRL, LIRL)	(X)	()	_____
- Runway marking (PIR, NPI, BCS)	(X)	()	_____
- NAVAIDS & visual aids	(X)	()	_____
- Runway safety area dimensions (standard & non-standard)	(X)	()	_____
<i>Miscellaneous</i>			
- Airport facility/ building list (existing & future)	(X)	()	_____
- Standard legend	(X)	()	_____
- Location map	(X)	()	_____
- Vicinity map	(X)	()	_____
- Roadways, traverse ways identified	(X)	()	_____
<i>Additional Comments:</i>			

Airport Airspace Drawing

Ultimate Runway Length Plan View of Surfaces	()	(X)	_____
Profile View of Ultimate Runway Lengths	()	(X)	_____
Obstruction Data Tables	()	(X)	_____
Sheet Size Same as ALP	()	(X)	_____
Plan View Scale 1"=2000'	()	(X)	_____
Profile View Scale 1"=1000' Horizontal, 1"=100' Vertical	()	(X)	_____
Title & Revision Blocks	()	(X)	_____
<i>Approach Plan View Details</i>			
- USGS base map	()	(X)	_____
- Runway end numbers shown	()	(X)	_____
- Elevation contours of 50' on all slopes	()	(X)	_____
- Show most demanding surface lines as solid and others as dashed	()	(X)	_____
- Identify penetrating objects & top elevations (for those in inner approach add note, "Refer to the inner portion of the approach surface plan view details for close-in obstructions.")	()	(X)	_____
- Show PIR approach of 50,000 on separate sheet as necessary	()	(X)	_____
- Note any height restriction zoning/ ordinances/ statutes in place	()	(X)	_____
<i>Approach Profile View Details</i>			
- Ground profile along extended centerline (highest profile elevations of width & length of approach)	()	(X)	_____
- Identify significant objects (roads, rivers, etc.) w/ elevations	()	(X)	_____
- Existing & ultimate runway ends and approach slopes	()	(X)	_____
<i>Additional Comments:</i>			

Inner Portion of the Approach Surface Drawing

	Yes	No	Comments
Large-Scale Plan View for Each Runway End (up to 100' height above runway end)	()	(X)	_____
Large-Scale Profile View for Each Runway End (up to 100' height above runway end)	()	(X)	_____
Sheet Size	()	(X)	_____
Scale 1"=200' Horizontal, 1"=20' Vertical	()	(X)	_____
Title & Revision Blocks	()	(X)	_____

Separate Approach Tables with Obstruction Data

- Type of approach (NPI, etc.)	()	(X)	_____
- Approach Slope (20:1, etc.)	()	(X)	_____
- Obstruction number	()	(X)	_____
- Obstruction description	()	(X)	_____
- Approach penetration (in feet)	()	(X)	_____
- Proposed mitigation (including "none.")	()	(X)	_____

Inner Approach Plan View Details

- Aerial photo base map	()	(X)	_____
- Obstructions numbered	()	(X)	_____
- Property line depicted	()	(X)	_____
- Identify by numbers all traverse ways w/ elevations & vertical clearances in approach (At approach edge & extended centerline)	()	(X)	_____
- Depict existing & ultimate runway ends	()	(X)	_____
- Ground contours shown	()	(X)	_____

Inner Approach Profile View Details

- Identify significant terrain/ items in RSA	()	(X)	_____
- Identify obstructions with numbers on plan view	()	(X)	_____
- Depict roads and railroads at edge of approach as dashed	()	(X)	_____

Additional Comments:

Terminal Area Drawing

Large-Scale Plan View of Terminal/ GA Area(s) as Needed	()	(X)	_____
Show Existing & Future Buildings	()	(X)	_____
Sheet Size Same as ALP	()	(X)	_____
Scale 1"=50'-100'	()	(X)	_____
Title & Revision Bocks	()	(X)	_____
Legend	()	(X)	_____

Building Data Table (Existing & Ultimate)

- Number facilities	()	(X)	_____
- Include top elevations	()	(X)	_____
- Identify obstruction marking	()	(X)	_____

Additional Comments:

Land Use Drawing (Existing & Ultimate)

	<u>Yes</u>	<u>No</u>	<u>Comments</u>
- Basic airport features/ surfaces	()	(X)	_____
- Property lines	()	(X)	_____
- Include all land uses (industrial, residential, etc.) on & off airport (including non-aeronautical) to minimum 65 LDN	()	(X)	_____
- Line of sight or runway visibility zones shown	()	(X)	_____
- Note any existing land use ordinances/ statutes in place	()	(X)	_____
- Noise contours as required in scope of work (60, 65 & 70 LDN)	()	(X)	_____
- Sheet size same as ALP	()	(X)	_____
- Scale same as ALP	()	(X)	_____
- Title & revision block	()	(X)	_____
- Aerial base map	()	(X)	_____
- Legend (symbols and land use descriptions)	()	(X)	_____
- Identify recommended land use changes	()	(X)	_____
- Identify public facilities (schools, parks, etc.)	()	(X)	_____

Additional Comments:

Airport Property Map (Existing & Ultimate)

Property Lines (Clear & Bold)	()	(X)	_____
RPZ's Shown	()	(X)	_____
Tracts of Land on and off Airport	()	(X)	_____
Sheet Size Same as ALP	()	(X)	_____
Scale Same as ALP	()	(X)	_____
Title & Revision Block	()	(X)	_____
Legend	()	(X)	_____
Airport Features (expansion, etc.)/ Critical Surfaces (RSA's, etc.) Shown (to aid in determining eligible land needs)	()	(X)	_____

Data Table

- Numbering system for parcels	()	(X)	_____
- Date of acquisition	()	(X)	_____
- Federal aid project number	()	(X)	_____
- Type of ownership (fee, easement, federal surplus, etc.)	()	(X)	_____
- Parcel acreage	()	(X)	_____

Additional Comments: