

TECHNICAL REPORT #4

# Palm Beach International Airport Environmental Overview

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# **Palm Beach International Airport Environmental Overview**

**Palm Beach International Airport**

Prepared for  
**Palm Beach County Department of Airports**

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**CH2MHILL**

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SECTION 1

# **Introduction**

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## SECTION 1

# Introduction

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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 International Airport (PBI). 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 International Airport Environmental Constraints Inventory (CH2M HILL, 2005), as well as state and county websites.

SECTION 2

## **Environmental Impacts**

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## SECTION 2

# Environmental Impacts

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The projects proposed and evaluated for impact at PBI include the following:

- Runway 9R/27L
  - ➔ Extension from 3,123 feet to 8,000 feet and widening from 75 feet to 150 feet;
  - ➔ Demolition of Southside ramp areas and associated Connector Taxiways H, D, K and E;
  - ➔ Demolition of Southside facilities;
  - ➔ Runway 13/31 pavement removal (south of Runway 9L/27R);
  - ➔ Shifting the runway envelope 100 feet south of Runway 9L/27R to provide an 800-foot separation (centerline to centerline);
  - ➔ Extension and widening of Taxiway L and construction of connector taxiways;
  - ➔ Construction of Taxiway R and construction of connector taxiways;
  - ➔ Construction of Taxiways C4 and D high speed exits;
  - ➔ Installation of ILS localizer equipment, PAPIs and MALSR approach lights on both runway ends; and
  - ➔ Airfield Electrical Vault expansion.
- Runway 13/31
  - ➔ Shifting the Runway 13 end to the northwest by 480 feet;
  - ➔ Shortening of Runway 31 end to result in total runway length of 4,000 feet (from 6,931 feet at present);
  - ➔ Construction of standard Runway Safety Areas (RSA) for General Aviation (GA) use; and
  - ➔ Extension of parallel Taxiways B and F to the new Runway 13 approach end.
- Other Improvements
  - ➔ Relocation of the Very High Frequency Omni-directional Range (VOR) on-airport;
  - ➔ Construction of new parking garage;
  - ➔ Rehabilitation/expansion of Terminal apron areas;
  - ➔ Expansion of Concourse B;
  - ➔ Construction of the Golfview Apron, Taxilanes and Infrastructure;

- Relocation of Fixed Base Operators (FBO) displaced by extension of Runway 9R/27L to Golfview area;
- Acquisition of 26 commercial parcels and 18 residential parcels in the Runway Protection Zones (RPZ) for Runways 9L and 9R;
- Construction of a new Airport Maintenance Compound;
- Relocation of Federal Inspection Services (FIS) to Golfview area;
- Relocation of 1,250 feet of the West Canal;
- Relocation of the Remote Receiver on-airport;
- Realignment of outbound enplaning/deplaning roadway and new roadways;
- Construction of Concourse D (East Terminal expansion);
- Northside land acquisition (approximately 30 acres);
- Construction of additional surface parking;
- Construction of a consolidated rental car facility; and
- Relocation of the Aircraft Rescue and Firefighting (ARFF) facility to the south side of the airport.

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



TABLE 2-1  
Environmental Database Summary

Database	Description of Database	Distance from Target Property		
		<1/4 mile	¼ to ½ mile	½ to 1 mile
Resource Conservation and Recovery Act (RCRA) Small Quantity Generator	U.S. Environmental Protection Agency (EPA) database on sites which generate, transport, store, treat and/or dispose of hazardous waste	0	5	23
Emergency Response Notification System	EPA database that stores reported releases of oil and hazardous substances	0	0	4
Leaking Underground Storage Tank (LUST)	Florida Department of Environmental Protection (DEP) database of reported LUST incidents	2	3	17
Underground Storage Tank (UST)	DEP database of registered UST's	3	8	25
Brownfields	A property, the expansion, redevelopment or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant		1	
Formerly Used Defense Sites (FUDS)	Database of military sites where U.S. Army Corps of Engineers is actively working or will take cleanup action	2		
SPILLS	Statewide oil and hazardous materials inland incidents			4

Source: Environmental Data Resources, Inc., 2005

## 2.1 Fish, Wildlife and Plants

A search of the Florida Natural Areas Inventory (FNAI) database identified three species of birds as possible or probable breeders in proximity to the airport. The species are the least tern (*Sterna antillarum*), which is a state-listed "threatened" species; the limpkin (*Aramus guarauna*), a state-listed "species of special concern;" and the least bittern (*Ixobrychus exilis*), which is currently not listed as a protected species. These species were identified as part of the Florida Breeding Bird Atlas Project conducted between 1986 and 1991. No other occurrences of threatened or endangered species were identified by FNAI in the vicinity of the airport. (Florida Natural Areas Inventory, 2005) Coordination with U.S. Fish and Wildlife Service and FL Fish and Wildlife Conservation Commission is required during the NEPA process.

## 2.2 Floodplains

The PBI vicinity is located predominantly within the limits of the 500-year flood. There also are areas on-airport – alongside Taxiway M and east and southeast of Runway 27R – that fall within the 100-year floodplain where the base flood elevation has been calculated. (Federal Emergency Management Agency, 1982) Construction of a stub taxiway connecting to Taxiway M and demolition or removal of the FBO hangars in the southeast corner of the

airport will take place within the 100-year floodplain. The required hydraulic analyses will be prepared for and presented in the EIS.

## 2.3 Hazardous Materials, Pollution Prevention and Solid Waste

Given the urbanized nature of the study area, CH2M HILL contracted with Environmental Data Resources to perform a search of federal and state databases within one mile of the intersection of Runways 13/31 and 9L/27R (the target property) to determine the location of known hazardous waste and material facilities, including brownfields, storage tanks (underground, leaking underground), small quantity hazardous waste generators (between 100 and 1,000 kilograms per month) and spill locations. Table 2-1 above shows the number of sites by database search distance. Some of the facilities are listed on multiple databases; thus, the total of all table entries overstates the presence of hazardous waste sites and spills within the airport vicinity.

Of the 22 facilities identified on the LUST database, two locations in proximity to the airport (Hertz Rent A Car at 3175 Belvedere Road and A&M Discount Beverage at 2227 Belvedere Road) were indicated as in active cleanup.

The former military installations listed on the FUDS database are the Palm Beach Air Force Base and the Boca Raton Army Air Field, identified as located in the City of Cloud Lake.

A brownfield area is located north of PBI between Belvedere Road, Military Trail, Okeechobee Boulevard and Florida Mango Road. The Palm Beach County Board of Commissioners adopted a resolution in December 2003 designating the redevelopment area of the Westgate/Belvedere Homes Community Redevelopment Agency (CRA) a brownfield area. A CRA, by definition, may be declared a brownfield area per Florida statute.

## 2.4 Light Emissions and Visual Impacts

Light emissions may impact residential areas to the west of the airport resulting from the extension of Runway 9R/27L.

## 2.5 Noise and Compatible Land Use

The lengthening of Runway 9R/27L and the shortening of Runway 13/31 will affect flight paths to and from PBI and thus will alter noise exposure to areas around the airport. The airport is situated within a dense urban area which is highly residential. A thorough program of noise analyses and community meetings will be sponsored by the Department of Airports during preparation of an Environmental Impact Statement (EIS).

According to the Palm Beach County comprehensive plan<sup>1</sup>, a "Palm Beach International Airport Approach Path Conversion Area Overlay" area exists to provide for future land uses that are compatible with existing neighborhoods and future operations at the airport. According to the plan, the Overlay is an area bounded on the north by Belvedere Road, on the south by Southern Boulevard, on the west by the Florida Turnpike and on the east by the Palm Beach International Airport, excluding any lands lying within a municipality. Generally, land within the Overlay will have the potential to be zoned for uses permitted

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<sup>1</sup> "Future Land Use Element," Palm Beach County Comprehensive Plan, revised 5/10/05

within the Light Industrial or Planned Industrial Park Development zoning districts. Land within the Overlay will not have the potential to seek commercial zoning unless the land is designated Commercial on the county's Future Land Use Atlas.

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

Given that 44 parcels are targeted for acquisition to the west of Runways 9L and 9R, questions of environmental justice and other socioeconomic disruptions arise vis-à-vis low-income or minority communities. The EIS to be started in 2007 should address these issues.

## 2.7 Water Quality

The airport is located in the streamflow and recharge zones of the Biscayne sole source aquifer. Coordination with the South Florida Water Management District and the U.S. Environmental Protection Agency is required through the NEPA process.

In addition, a length of the West Canal will have to be relocated to a location outside the future Runway 9 safety area, maintaining or bettering all hydraulic characteristics and capacities of the original canal.

Water quality issues will be addresses in the EIS process. Best Management Practices applied during construction should prevent any damage to the identified resources during construction.

## 2.8 Wetlands

Confirmation as to the existence or no of wetlands shown on National Wetland Inventory (NWI) maps in the vicinity of Taxiways M and C at the east end of the airport will be obtained during the EIS process. If present or "definable" wetlands under applicable Florida statutes and regulations, wetlands impacts, if any, will be quantified and mitigated through the EIS process.

Table 2-2 provides a summary of the environmental impacts.

TABLE 2-2  
Environmental Impact Summary

Environmental Category	Resources in Study Area and Impacts Identified
Air Quality	In attainment area. Emissions to be assessed in future Environmental Impact Statement (EIS).
Coastal Resources	Within state coastal zone boundary. Consistency determination required.
Compatible Land Use	Area around airport within "Palm Beach International Airport Approach Path Conversion Area Overlay" zone to ensure compatible land use. Extensive noise analyses to be undertaken for EIS. 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	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. Revising runway configurations as proposed is a significant undertaking requiring the development of a comprehensive soil and erosion control plan, stormwater management plan, truck traffic management plan and a detailed construction phasing/sequencing plan, among others. Construction impacts will be analyzed extensively in the EIS.
Department of Transportation Act, Section 4(f)	Seven (7) public parks – three county and four municipal – are located in the study area. Direct and indirect impacts, i.e., "constructive use," to these parks will be examined in the EIS.
Farmlands	None present in study area
Fish, Wildlife and Plants	A state-listed "threatened" bird species and a state-listed bird "species of special concern" are present on or in the near vicinity of the airport. Coordination with U.S. Fish and Wildlife Service and FL Fish and Wildlife Conservation Commission will take place during the EIS process.
Floodplains	Located within the limits of 500-year floodplain (Zone B) plus areas east and southeast of Runway 27R in 100-year floodplain. Impacts to be assessed in EIS.
Hazardous Materials, Pollution Prevention and Solid Wastes	Twenty (20) or so hazardous sites within one mile of airport. 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. Issue to be addressed further in EIS.
Historical, Architectural, Archeological, and Cultural Resources	While no historic resources are known to exist in study area, coordination with State Historic Preservation Officer (SHPO) required as integral part of environmental review process.
Light Emissions and Visual Impacts	Potential light emission impacts from new lighting for Runways 9R/27L and 13/31 to be assessed in EIS.
Natural Resources and Energy Supply	No impacts to natural resources or energy supply foreseen. EIS to address conclusively.
Noise	The lengthening of Runway 9R/27L and the shortening of Runway 13/31 will affect flight paths to/from PBI and thus will alter noise exposure to areas around the airport. Noise analyses and community meetings will be held in context of EIS.
Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks	Five (5) schools in study area: two public, three private. Properties to be acquired: 44. FBO hangars and related facilities to be acquired and relocated to Golfview area. Relocation of individuals and/or businesses

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<b>Environmental Category</b>	<b>Resources in Study Area and Impacts Identified</b>
Water Quality	requires additional analyses for disproportionate economic/racial impacts and adherence to Uniform Relocation and Real Property Acquisition Policies Act.  Within streamflow and recharge zones for Biscayne sole source aquifer. Relocation of canal at west end for extension of Runway 9R/27L. Coordination with 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	Confirmation as to the existence or no of wetlands shown on National Wetland Inventory (NWI) maps in the vicinity of Taxiways M and C at the east end of the airport will be obtained during the EIS process. If present or "definable" wetlands under applicable Florida statutes and regulations, wetlands impacts, if any, will be quantified and mitigated through the EIS process.
Wild and Scenic River	None present in study area

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Prepared By: CH2M HILL

SECTION 3

## Mitigation and Permitting

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# Mitigation and Permitting

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## 3.1 Further NEPA Processing/Mitigation

An Environmental Impact Statement (EIS) addressing the above will be started in 2007. Impacts, if any, identified with the Proposed Action will be accompanied by specific avoidance, minimization and/or mitigation measures.

Mitigation would likely be needed for relocations resulting from acquisition of properties on the west side of the airport. Acquisitions and relocations must occur in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners would receive fair market value for their residences or businesses. In addition, any significant increase in noise exposure to sensitive receptors would require mitigation as part of this project. No water resource mitigation is expected to be needed for realignment of the west canal.

## 3.2 Permitting

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

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

<b>Federal Agencies</b>	
Federal Aviation Administration	
Approval of Airport Layout Plan (ALP)	
Review under National Environmental Policy Act (NEPA)	
U.S. Army Corps of Engineers	
Section 404 Permit	Threshold wetland area must be triggered for Corps involvement
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	
<b>State of Florida</b>	
Department of Environmental Protection	
NPDES Notice of Intent	Stormwater discharge related to construction activities
Coastal Zone Program Consistency <sup>1</sup>	Development within the coastal zone
Underground Tank Removal Permit	Removal of underground tanks at FBO hangars to be demolished
New Tank Construction Permit	
Department of Transportation	
Roadway Permit	For changes 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	
<b>Palm Beach County</b>	
Development Review Officer	Development review and coordination
Zoning Department	
Zoning Map Amendment and Site Plan Permit	Rezoning of areas acquired at west end of Runway 9R/27L within the PBI Approach Path Conversion Area Overlay



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 Health Department

Water & Sewer Permit	Construction of a water main, force main and gravity sewer extensions for FBO facilities relocated to the Golfview area
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## Environmental Resource Management Department

Vegetation Removal Permit	Removal of vegetation for multiple projects on airport property
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Notice of Intent to Construct	
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## Building Department

Building/Demolition Permit	Demolition of existing FBO hangars and construction of new hangars
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## Engineering and Public Works Department

Roadway Permit	If changes are made at access points on county roads
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Florida Power and Light (FPL)	Electrical power supply and improvements
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**South Florida Water Management District**

Environmental Resource Permit	Realignment of the west canal, filling of open surface waters and increase in impervious surface
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Water Use Permit 1	Increases in operational water consumption
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Water Use Permit 2	Dewatering operations during construction
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Note: 1. Shared review responsibility