APPLICATION FOR
COMPREHENSIVE PLAN AMENDMENT (CPA)

HAZARDOUS WILDLIFE COMPREHENSIVE PLAN AMENDMENT

MAY 2012

Prepared for:

Lee County Port Authority
11000 Terminal Access Road, Suite 8671
Fort Myers, Florida 33913
(239) 590-4600

Prepared by:

JOHNSON
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APPLICATION FOR
HAZARDOUS WILDLIFE COMPREHENSIVE PLAN AMENDMENT (CPA)

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CPA 2011-00022

RECEIVED
MAY 23 2012
COMMUNITY DEVELOPMENT

LEE COUNTY
SOUTHWEST FLORIDA

Lee County Board of County Commissioners
Department of Community Development
Division of Planning
Post Office Box 398
Fort Myers, FL 33902-0398
Telephone: (239) 533-8585
FAX: (239) 485-8319

APPLICATION FOR A COMPREHENSIVE PLAN AMENDMENT

(To be completed at time of intake)

DATE REC'D: 5/23/2012 REC'D BY: AYH

APPLICATION FEE: $2500.00 TIDEMARK NO: CPA2011-00022

THE FOLLOWING VERIFIED:
Zoning ☑ Commissioner District ☑
Designation on FLUM ☑

(To be completed by Planning Staff)

Plan Amendment Cycle: ☑ Normal ☐ Small Scale ☐ DRI ☐ Emergency

Request No: _____

APPLICANT PLEASE NOTE:
Answer all questions completely and accurately. Please print or type responses. If additional space is needed, number and attach additional sheets. The total number of sheets in your application is: 86+164

Submit **6** copies of the complete application and amendment support documentation, including maps, to the Lee County Division of Planning. Up to 90 additional copies will be required for Local Planning Agency, Board of County Commissioners hearings and the Department of Community Affairs' packages. Staff will notify the applicant prior to each hearing or mail out.

I, the undersigned owner or authorized representative, hereby submit this application and the attached amendment support documentation. The information and documents provided are complete and accurate to the best of my knowledge.

DATE SIGNATURE OF OWNER OR AUTHORIZED REPRESENTATIVE

I. APPLICANT/AGENT/OWNER INFORMATION

Lee County Port Authority
APPLICANT

11000 Terminal Access Road, Suite 8671
ADDRESS

Fort Myers, Florida 33913
CITY, STATE, ZIP

(239) 590-4600 (239) 590-4688
TELEPHONE NUMBER FAX NUMBER

Johnson Engineering, Inc., Laura DeJohn, AICP
AGENT*

2122 Johnson Street
ADDRESS

Fort Myers, Florida 33901
CITY, STATE, ZIP

(239) 334-0046 (239) 334-3661
TELEPHONE NUMBER FAX NUMBER

Lee County Port Authority
OWNER(s) OF RECORD

11000 Terminal Access Road, Suite 8671
ADDRESS

Fort Myers, Florida 33913
CITY, STATE, ZIP

(239) 590-4600 (239) 590-4688
TELEPHONE NUMBER FAX NUMBER

Name, address and qualification of additional planners, architects, engineers, environmental consultants, and other professionals providing information contained in this application.

* This will be the person contacted for all business relative to the application.

II. REQUESTED CHANGE (Please see Item 1 for Fee Schedule)

A. TYPE: (Check appropriate type)

■ Text Amendment

☐ Future Land Use Map Series Amendment (Maps 1 thru 24)
List Number(s) of Map(s) to be amended

_____

1. Future Land Use Map amendments require the submittal of a complete list, map, and two sets of mailing labels of all property owners and their mailing addresses, for all property within 500 feet of the perimeter of the subject parcel. The list and mailing labels may be obtained from the Property Appraisers office. The map must reference by number or other symbol the names of the surrounding property owners list. The applicant is responsible for the accuracy of the list and map.

   At least 15 days before the Local Planning Agency (LPA) hearing, the applicant will be responsible for posting signs on the subject property, supplied by the Division of Planning, indicating the action requested, the date of the LPA hearing, and the case number. An affidavit of compliance with the posting requirements must be submitted to the Division of Planning prior to the LPA hearing. The signs must be maintained until after the final Board adoption hearing when a final decision is rendered.

B. SUMMARY OF REQUEST (Brief explanation):

Request to amend Policy 1.2.1, 1.2.7 and 1.9.8 of the Future Land Use Element .

III. PROPERTY SIZE AND LOCATION OF AFFECTED PROPERTY (for amendments affecting development potential of property)

A. Property Location:

1. Site Address: 11000 Terminal Access Road Fort Myers, Florida 33913
2. STRAP(s): 19-45-26-00-00002.0000

B. Property Information

Total Acreage of Property: +/- 6,366 acres (SWFIA) & +/- 563.65 (Page Field)

Total Acreage included in Request:

Total Uplands: refer to Environmental Impact Analysis (Ex. IV.C)

Total Wetlands: refer to Environmental Impact Analysis (Ex. IV.C)

Current Zoning: AOPD

Current Future Land Use Designation: Airport & Wetlands (SWFIA) Intensive Dev (Page Field

Area of each Existing Future Land Use Category: Airport +/-5,220 acres (SWFIA)

Wetlands +/-1,146 acres (SWFIA)

Airport +/- 563.65 acres (Page Field)

Existing Land Use: Airports with aviation operations, aviation support facilities and non-aviation land uses

C. State if the subject property is located in one of the following areas and if so how does the proposed change affect the area:

Lehigh Acres Commercial Overlay: N/A

Airport Noise Zone 2 or 3: N/A

Acquisition Area: N/A

Joint Planning Agreement Area (adjoining other jurisdictional lands): N/A

Community Redevelopment Area: N/A

D. Proposed change for the subject property:

No change is proposed to the property as currently approved in the SWFIA or Page Field Master Plan and Airport Layout Plan (Map 3F and Map 3G). The request is to amend Policy 1.2.1, 1.2.7 and 1.9.8.

E. Potential development of the subject property:

1. Calculation of maximum allowable development under existing FLUM:

Residential Units/Density N/A

Commercial intensity Refer to Table 5(a) and 5(b) in the Lee Plan

Industrial intensity Refer to Table 5(a) and 5(b) in the Lee Plan

2. Calculation of maximum allowable development under proposed FLUM:

Residential Units/Density N/A

Commercial intensity N/A

Industrial intensity N/A

IV. AMENDMENT SUPPORT DOCUMENTATION

At a minimum, the application shall include the following support data and analysis. These items are based on comprehensive plan amendment submittal requirements of the State of Florida, Department of Community Affairs, and policies contained in the Lee County Comprehensive Plan. Support documentation provided by the applicant will be used by staff as a basis for evaluating this request. To assist in the preparation of amendment packets, the applicant is encouraged to provide all data and analysis electronically. (Please contact the Division of Planning for currently accepted formats.)

A. General Information and Maps
NOTE: For each map submitted, the applicant will be required to provide a reduced map (8.5" x 11") for inclusion in public hearing packets.

The following pertains to all proposed amendments that will affect the development potential of properties (unless otherwise specified).

1. Provide any proposed text changes.

2. Provide a current Future Land Use Map at an appropriate scale showing the boundaries of the subject property, surrounding street network, surrounding designated future land uses, and natural resources. **N/A**

3. Provide a proposed Future Land Use Map at an appropriate scale showing the boundaries of the subject property, surrounding street network, surrounding designated future land uses, and natural resources. **N/A**

4. Map and describe existing land *uses* (not designations) of the subject property and surrounding properties. Description should discuss consistency of current uses with the proposed changes. **N/A**

5. Map and describe existing zoning of the subject property and surrounding properties. **N/A**

6. The certified legal description(s) and certified sketch of the description for the property subject to the requested change. A metes and bounds legal description must be submitted specifically describing the entire perimeter boundary of the property with accurate bearings and distances for every line. The sketch must be tied to the state plane coordinate system for the Florida West Zone (North America Datum of 1983/1990 Adjustment) with two coordinates, one coordinate being the point of beginning and the other an opposing corner. If the subject property contains wetlands or the proposed amendment includes more than one land use category a metes and bounds legal description, as described above, must be submitted in addition to the perimeter boundary of the property for each wetland or future land use category. **N/A**

7. A copy of the deed(s) for the property subject to the requested change. **N/A**

8. An aerial map showing the subject property and surrounding properties. **N/A**

9. If applicant is not the owner, a letter from the owner of the property authorizing the applicant to represent the owner. **N/A**

B. Public Facilities Impacts **N/A**
NOTE: The applicant must calculate public facilities impacts based on a maximum development scenario (see Part II.H.).

1. Traffic Circulation Analysis
The analysis is intended to determine the effect of the land use change on the Financially Feasible Transportation Plan/Map 3A (20-year horizon) and on the Capital Improvements Element (5-year horizon). Toward that end, an applicant must submit the following information:

Long Range – 20-year Horizon:

a. Working with Planning Division staff, identify the traffic analysis zone (TAZ) or zones that the subject property is in and the socio-economic data forecasts for that zone or zones;
b. Determine whether the requested change requires a modification to the socio-economic data forecasts for the host zone or zones. The land uses for the proposed change should be expressed in the same format as the socio-economic forecasts (number of units by type/number of employees by type/etc.);
c. If no modification of the forecasts is required, then no further analysis for the long range horizon is necessary. If modification is required, make the change and provide to Planning Division staff, for forwarding to DOT staff. DOT staff will rerun the FSUTMS model on the current adopted Financially Feasible Plan network and determine whether network modifications are

necessary, based on a review of projected roadway conditions within a 3-mile radius of the site;

d. If no modifications to the network are required, then no further analysis for the long range horizon is necessary. If modifications are necessary, DOT staff will determine the scope and cost of those modifications and the effect on the financial feasibility of the plan;
e. An inability to accommodate the necessary modifications within the financially feasible limits of the plan will be a basis for denial of the requested land use change;
f. If the proposal is based on a specific development plan, then the site plan should indicate how facilities from the current adopted Financially Feasible Plan and/or the Official Trafficways Map will be accommodated.

Short Range – 5-year CIP horizon:

a. Besides the 20-year analysis, for those plan amendment proposals that include a specific and immediated development plan, identify the existing roadways serving the site and within a 3-mile radius (indicate laneage, functional classification, current LOS, and LOS standard);
b. Identify the major road improvements within the 3-mile study area funded through the construction phase in adopted CIP's (County or Cities) and the State's adopted Five-Year Work Program;
   Projected 2030 LOS under proposed designation (calculate anticipated number of trips and distribution on roadway network, and identify resulting changes to the projected LOS);
c. For the five-year horizon, identify the projected roadway conditions (volumes and levels of service) on the roads within the 3-mile study area with the programmed improvements in place, with and without the proposed development project. A methodology meeting with DOT staff prior to submittal is required to reach agreement on the projection methodology;
d. Identify the additional improvements needed on the network beyond those programmed in the five-year horizon due to the development proposal.

2. Provide an existing and future conditions analysis for (see Policy 95.1.3):
   a. Sanitary Sewer
   b. Potable Water
   c. Surface Water/Drainage Basins
   d. Parks, Recreation, and Open Space
   e. Public Schools.

   Analysis should include (but is not limited to) the following (see the Lee County Concurrency Management Report):
   - Franchise Area, Basin, or District in which the property is located;
   - Current LOS, and LOS standard of facilities serving the site;
   - Projected 2030 LOS under existing designation;
   - Projected 2030 LOS under proposed designation;
   - Existing infrastructure, if any, in the immediate area with the potential to serve the subject property.

- Improvements/expansions currently programmed in 5 year CIP, 6-10 year CIP, and long range improvements; and
- Anticipated revisions to the Community Facilities and Services Element and/or Capital Improvements Element (state if these revisions are included in this amendment).
- Provide a letter of service availability from the appropriate utility for sanitary sewer and potable water.

In addition to the above analysis for Potable Water:

- Determine the availability of water supply within the franchise area using the current water use allocation (Consumptive Use Permit) based on the annual average daily withdrawal rate.
- Include the current demand and the projected demand under the existing designation, and the projected demand under the proposed designation.
- Include the availability of treatment facilities and transmission lines for reclaimed water for irrigation.
- Include any other water conservation measures that will be applied to the site (see Goal 54).

3. Provide a letter from the appropriate agency determining the adequacy/provision of existing/proposed support facilities, including:
   a. Fire protection with adequate response times;
   b. Emergency medical service (EMS) provisions;
   c. Law enforcement;
   d. Solid Waste;
   e. Mass Transit; and
   f. Schools.

In reference to above, the applicant should supply the responding agency with the information from Section's II and III for their evaluation. This application should include the applicant's correspondence to the responding agency.

C. Environmental Impacts

Provide an overall analysis of the character of the subject property and surrounding properties, and assess the site's suitability for the proposed use upon the following:

1. A map of the Plant Communities as defined by the Florida Land Use Cover and Classification system (FLUCCS).

2. A map and description of the soils found on the property (identify the source of the information).

3. A topographic map depicting the property boundaries and 100-year flood prone areas indicated (as identified by FEMA).

4. A map delineating the property boundaries on the Flood Insurance Rate Map effective August 2008.

5. A map delineating wetlands, aquifer recharge areas, and rare & unique uplands.

6. A table of plant communities by FLUCCS with the potential to contain species (plant and animal) listed by federal, state or local agencies as endangered, threatened or species of special concern. The table must include the listed species by FLUCCS and the species status (same as FLUCCS map).

D. Impacts on Historic Resources **N/A**

List all historic resources (including structure, districts, and/or archeologically sensitive areas) and provide an analysis of the proposed change's impact on these resources. The following should be included with the analysis:

1. A map of any historic districts and/or sites, listed on the Florida Master Site File, which are located on the subject property or adjacent properties.

2. A map showing the subject property location on the archeological sensitivity map for Lee County.

E. Internal Consistency with the Lee Plan

1. Discuss how the proposal affects established Lee County population projections, Table 1(b) (Planning Community Year 2030 Allocations), and the total population capacity of the Lee Plan Future Land Use Map.

2. List all goals and objectives of the Lee Plan that are affected by the proposed amendment. This analysis should include an evaluation of all relevant policies under each goal and objective.

3. Describe how the proposal affects adjacent local governments and their comprehensive plans.

4. List State Policy Plan and Regional Policy Plan goals and policies which are relevant to this plan amendment.

F. Additional Requirements for Specific Future Land Use Amendments **N/A**

1. Requests involving Industrial and/or categories targeted by the Lee Plan as employment centers (to or from)

   a. State whether the site is accessible to arterial roadways, rail lines, and cargo airport terminals,
   b. Provide data and analysis required by Policy 2.4.4,
   c. The affect of the proposed change on county's industrial employment goal specifically policy 7.1.4.

2. Requests moving lands from a Non-Urban Area to a Future Urban Area

a. Demonstrate why the proposed change does not constitute Urban Sprawl. Indicators of sprawl may include, but are not limited to: low-intensity, low-density, or single-use development; 'leap-frog' type development; radial, strip, isolated or ribbon pattern type development; a failure to protect or conserve natural resources or agricultural land; limited accessibility; the loss of large amounts of functional open space; and the installation of costly and duplicative infrastructure when opportunities for infill and redevelopment exist.

3. Requests involving lands in critical areas for future water supply must be evaluated based on policy 2.4.2.

4. Requests moving lands from Density Reduction/Groundwater Resource must fully address Policy 2.4.3 of the Lee Plan Future Land Use Element.

G. Justify the proposed amendment based upon sound planning principles. Be sure to support all conclusions made in this justification with adequate data and analysis.

Item 1: Fee Schedule

Map Amendment Flat Fee	$2,000.00 each
Map Amendment > 20 Acres	$2,000.00 and $20.00 per 10 acres
Small Scale Amendment (10 acres or less)	$1,500.00 each
Text Amendment Flat Fee	$2,500.00 each

AFFIDAVIT

I, Mark R. Fisher, Deputy Executive Director-Development certify that I am the owner or authorized representative of the property described herein, and that all answers to the questions in this application and any sketches, data, or other supplementary matter attached to and made a part of this application, are honest and true to the best of my knowledge and belief. I also authorize the staff of Lee County Community Development to enter upon the property during normal working hours for the purpose of investigating and evaluating the request made through this application.

LEE COUNTY PORT AUTHORITY

_____ _____

Signature of owner or owner-authorized agent Date

Mark R. Fisher, A.A.E. Deputy Executive Director-Development
Typed or printed name

STATE OF FLORIDA)
COUNTY OF LEE)
The foregoing instrument was certified and subscribed before me _____ (date), by _____, who is personally known to me or who has produced _____ as identification.

(SEAL)

_____
Signature of notary public

_____
Printed name of notary public

LETTER OF AUTHORIZATION

TO LEE COUNTY COMMUNITY DEVELOPMENT

The undersigned do hereby swear or affirm that they are the fee simple title holders and owners of record of property commonly known as **Southwest Florida International Airport & Page Field General Aviation Airport**

The property described herein is the subject of an application for comprehensive plan amendment. We hereby designate **Johnson Engineering, Inc.** *as the legal representatives of the property and as such, this entity is authorized to legally bind all owners of the property in the course of seeking the necessary approvals to develop.*

LEE COUNTY PORT AUTHORITY

Owner/Authorized Representative (signature)

Mark R. Fisher, A.A.E. Deputy Executive Director - Development

Printed Name/Title

STATE OF FLORIDA
COUNTY OF LEE

Sworn to (or affirmed) and subscribed before me this 21 day of MAY, 20 12, by MARK R FISHER who is personally known to me or who has produced as identification and who did (did not) take an oath.

ROBERTA J IRION
Notary Public - State of Florida
My Comm. Expires May 29, 2015
Commission # EE 89236
Bonded Through National Notary Assn.

Notary Public

ROBERTA J IRION

(Name typed, printed or stamped)

Exhibit IV.A.1
Summary of Text Changes
for
Lee County Port Authority
Hazardous Wildlife Comprehensive Plan Amendment

Amendments to Lee Plan Policies 1.2.1, 1.2.9, and 1.9.8 are proposed in order to align the Lee Plan with Federal and state policy as it relates to avoidance of wildlife hazards and hazardous wildlife attractants. The amendments are proposed as follows (**underline** indicates additions, ~~**strikethrough**~~ indicates deletions), and further explanation is provided on the following pages of this summary.

POLICY 1.2.1: Airport Lands includes the existing facility and projected growth areas for the Southwest Florida International Airport and Page Field General Aviation Airport through the year 2030. The Airport Lands comprising the Southwest Florida International Airport includes airport and airport-related development as well as non-aviation land uses as proposed in the approved 2003 Airport Master Plan update and as depicted on the Airport Layout Plan sheet (Map 3F) and the Southwest Florida International Airport Proposed Development Schedule (Table 5(a)). This mix of uses is intended to support the continued development of the Southwest Florida International Airport. Future development at the Southwest Florida International Airport will also include non-aviation related land uses such as hotels/motels, light industrial, service stations, retail/shopping, and office development. Any future airport expansion or development of aviation-related and non-aviation uses at Southwest Florida International Airport will offset environmental impacts through the Airport Mitigation Lands Overlay (Map 3M) or other appropriate mitigation. ~~**acceptable to the permitting agencies and to Lee County. The physical design of the airport expansion will minimize any degradation of the recharge capability of land being developed.**~~ **Wetland mitigation must be designed so it does not create a wildlife hazard and should be sited outside the critical separations identified by the FAA. Development and land management practices on airport property shall be in accordance with FAA directives and other required agency approvals.** Airport expansion beyond the present boundaries will be subject to necessary amendments to the Lee Plan.

All development on Airport Lands comprising Southwest Florida International Airport must be consistent with Map 3F and Table 5(a). Map 3F depicts the planned expansion of the Southwest Florida International Airport through 2020.

Future development on Airport Lands comprising Page Field General Aviation Airport must be consistent with Objective 1.9 and related policies as well as Map 3G and Table 5(b).

If the airport master planning process precipitates a substantive change to the Airport Layout Plan (Map 3F or Map 3G), then the Port Authority must amend Map 3F or Map 3G, as appropriate, prior to obtaining local development approval. The non-aviation related development areas have been depicted on the approved Airport Layout Plan sheets (Maps 3F and 3G). These uses will be constructed upon Airport lands with long term leases.

~~**All development within the non-aviation land use areas will be subject to mitigation requirements for wetland impacts. Mitigation of wetland impacts will be in accordance with the U.S. Army Corps of Engineers and South Florida Water Management District requirements. To the greatest extent reasonably possible, development of non-aviation land use areas must avoid wetland impacts. All non-aviation land use development will meet the indigenous vegetation requirements set forth in the Lee County Land Development Code.**~~ (Amended by Ordinance No. 94-30, 00-22, 04-16, 07-12, 09-14, 11-16).

POLICY 1.2.7: ~~**Future non-aviation areas depicted on the Airport Layout Plan (Map 3F) will be developed, to the greatest extent possible, only within existing upland areas. Impacts to wetlands in the future non-aviation areas will be minimized by site design, wherever possible, in compliance with the Lee County Land Development Code.**~~ **In cooperation with local, state and Federal regulatory agencies, the Port Authority will work to minimize and correct any wildlife hazards arising from existing wetlands located on or near airports. Site improvements will be designed to minimize attractiveness to wildlife of natural areas and man-made features such as detention/retention ponds, landscaping, and wetlands, which can provide wildlife with the ideal locations for feeding, loafing, reproduction, and escape.** Development within the future non-aviation area, as designated on Map 3F, is limited to a maximum of 300 acres north of runway 6-24 and approximately 52 acres within the midfield terminal area. All development must be in compliance with Map 3F and the intensities outlined in Table 5(a). Development of additional acreage will require prior Lee Plan amendment approval. (Added by Ordinance No. 04-16, Amended by Ordinance No. 11-16)

POLICY 1.9.8: ~~**Future non-aviation areas depicted on the Airport Layout Plan (Map 3G) will be developed, to the greatest extent possible, within existing upland areas. Impacts to wetlands in the future non-aviation areas will be minimized by site design whenever possible in compliance with the Lee County Land Development Code.**~~ **In cooperation with local, state and Federal regulatory agencies, the Port Authority will work to minimize and correct any wildlife hazards arising from existing wetlands located on or near airports. Site improvements will be designed to minimize attractiveness to wildlife of natural areas and man-made features such as detention/retention ponds, landscaping, and wetlands, which can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape.** (Added by Ordinance No. 09-14).

Supporting Documentation for Request

Introduction

The Lee County Port Authority (LCPA) operates Lee County-owned aviation facilities under the direction of the Lee County Board of Port Commissioners. The two Lee County-owned aviation facilities are Page Field General Aviation Airport (Page Field) and Southwest Florida International Airport (SWFIA). Both airports are included within the U.S. Department of Transportation's National Plan of Integrated Airport System (NPIAS) and the Florida Aviation System Plan (FASP).

Although SWFIA serves as the Port Authority's only commercial service airport with Page Field serving as a Regional Reliever airport, both SWFIA and Page Field are operated according to most of the same rules and regulations of Federal, state, and local agencies:

Federal The U.S. Department of Transportation Federal Aviation Administration (FAA) is responsible for regulating civil aviation throughout the United States. The FAA issues regulations (Code of Federal Regulations or "CFR") and guidance for all aspects of aviation facility operation and development that must be followed by airport operators. The primary objective of FAA regulations and guidance is public safety.

In order to operate a commercial service facility, the FAA issues CFR Part 139 Certifications, which authorize and govern airport operations. A significant source of funding for airport facility operations is derived from the FAA. The Certification that authorizes an airport's operation and the supplemental grant funding both issued by the FAA are contingent on the airport operator's compliance with FAA regulations and guidance issued through Advisory Circulars (AC) and Certalerts. AC 150/5200-33B dated August 28, 2007, Certalert Number 06-07 dated November 21, 2006, and Certalert Number 09-10 dated June 11, 2009 direct airport operator activity in regard to avoidance of wildlife hazards and hazardous wildlife attractants on or near airports.

State Florida Statutes and the Florida Administrative Code establish standards for the operation, location, and compatibility of airports throughout Florida. The Florida Department of Transportation issued an "Airport Compatible Land Use Guidebook" in March 2010 which outlines how airport development should be managed to comply with compatibility standards. Florida Administrative Code Rule 68A-9.012 became effective July 27, 2010 allowing any airport to take wildlife on airport property for safety purposes.

Local Lee County governs local land use and development order procedures through the goals, objectives, policies, and standards in its Comprehensive Plan (Lee Plan) and Land Development Code, ordinances and resolutions. The

coordination of airport planning and community planning occurs at the local level through the incorporation of the Airport Master Plans in the Lee Plan.

Existing Conditions

All land area within the airport property boundary constitutes the airport facility, and is subject to all FAA regulations and guidance documents. Page Field occupies ±587.50 acres in the urban area of Lee County, and SWFIA occupies ±6,366 acres in central Lee County. Both properties are governed by Airport Master Plans and associated Airport Layout Plans adopted per FAA Advisory Circular 150/5070-6B "Airport Master Plans," and incorporated in the Lee Plan. Per the adopted Airport Layout Plans, both airports contain land areas within the airport boundary classified for aviation related and non-aviation related uses. Consistent with FAA objectives, the Port Authority strives to ensure long-term aviation demands are satisfied and to develop compatible non-aviation leaseholds on those portions of the airports not anticipated to be needed for future aviation use, in order to generate additional revenue to support the airport's operations.

Federal, State and Local Policy Review

Among the many regulations and guidance documents issued and enforced by the FAA, avoidance of wildlife hazards is a primary safety issue. Wildlife hazard issues affecting airport operations and public safety have come to the forefront of aviation policy since the Flight 1549 bird strike incident that resulted in a landing on the Hudson River in 2009.

FEDERAL POLICY:

The Federal governing documents that direct airport operators to avoid wildlife hazards are:

Advisory Circular 150/5200-33B, dated August 28, 2007 "Hazardous Wildlife Attractants on or Near Airports"

Certalert No. 06-07, dated November 21, 2006 regarding "Requests by State Wildlife Agencies to Facilitate and Encourage Habitat for State-Listed Threatened and Endangered Species and Species of Special Concern on Airports"

Certalert No. 09-10, dated June 11, 2009 regarding "Wildlife Hazard Assessments in Accordance with Part 139 Requirements."

Relevant language from these three documents is provided below, with underline/**bold** added for emphasis.

- **FAA Advisory Circular 150/5200-33B** dated August 28, 2007 "Hazardous Wildlife Attractants on or Near Airports" provides the following definitions and assertions:

Definitions:

Hazardous wildlife -

Species of wildlife (birds, mammals, reptiles), including feral animals and domesticated animals not under control, that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard.

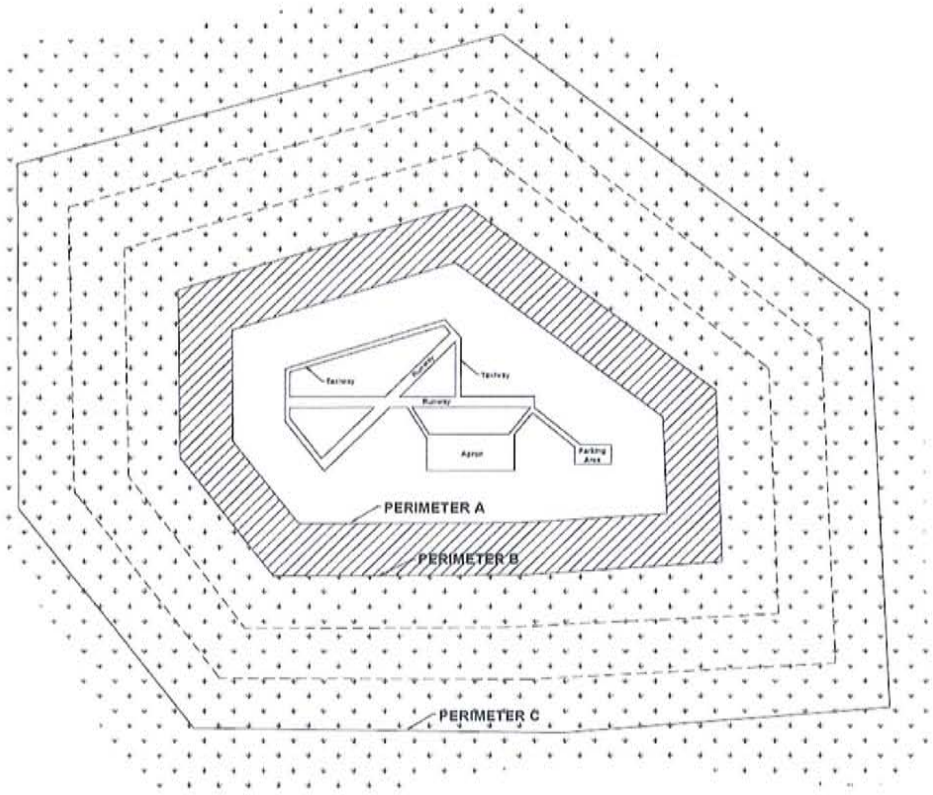
Wildlife attractants –

Any human-made structure, land-use practice, or human-made or natural geographic feature that can attract or sustain hazardous wildlife within the landing or departure airspace (within 5 statute miles of an airport) or the airport's air operation area. These attractants can include architectural features, landscaping, waste disposal sites, wastewater treatment facilities, agricultural or aquaculture activities, surface mining, or wetlands.

Wildlife hazard –

A potential for a damaging aircraft collision with wildlife on or near an airport.

Separation distances within which hazardous wildlife attractants should be avoided, eliminated, or mitigated -



Perimeter A: For airport serving piston- powered aircraft, hazardous wildlife attractants must be 5,000 feet from the nearest air operations area.

Perimeter B: For airports serving turbine- powered aircraft, hazardous wildlife attractants must be 10,000 feet from the nearest air operations area.

Perimeter C: 5-mile range to protect approach, departure and circling airspace.

Assertions:
"Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years."

"...natural areas - such as...detention/retention ponds, ...landscaping, ...surface mining, or wetlands - can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape."

"During the past century, wildlife-aircraft strikes have resulted in the loss of hundreds of lives worldwide, as well as billions of dollars in aircraft damage."

"At public use airports, the FAA recommends immediately correcting, in cooperation with local, state and Federal regulatory agencies, any wildlife hazards arising from existing wetlands located on or near airports."

"Wetland mitigation must be designed so it does not create a wildlife hazard. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside the separations identified..."

"Airport operators should work with local watershed management agencies or organizations to develop mitigation banking for wetland impacts on airport property."

"Airport operators should work with local and regional planning and zoning boards...Pay particular attention to proposed land uses involving creation or expansion of waste water facilities, development of wetland mitigation sites or development or expansion of dredge spoil containment areas."

"In recognition of the increased risk of serious aircraft damage or the loss of human life that can result from a wildlife strike, the FAA may require the development of a Wildlife Hazard Management Plan."

"Airports that have received Federal grant-in-aid assistance are required by their grant assurances to take appropriate actions to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations."

"Increasing the intensity of wildlife control efforts is not a substitute for eliminating or reducing a proposed wildlife hazard."

"Airport operators should identify hazardous wildlife attractants and any associated wildlife hazards during any planning process for new airport development projects."

- **Certalert No. 06-07 re: Requests by State Wildlife Agencies to Facilitate and Encourage Habitat for State-Listed Threatened and Endangered Species and Species of Special Concern on Airports**

Assertions:
"Some wildlife species may occur on the airport in higher numbers than occur naturally in the region because the airport offers habitat features the species prefer."

"Managing the on-airport environment to facilitate or encourage the presence of hazardous wildlife species can create conditions that are incompatible with, or pose a threat to, aviation safety."

"Airport operators must decline to adopt habitat management techniques that jeopardize aviation safety."

"Do not deliberately preserve or develop on-airport wildlife habitats such as wetlands."

"Reevaluate existing and evaluate future agreements with federal, state or local wildlife agencies where the terms of the agreements are or may be contrary to federal obligations concerning hazardous wildlife on or near public-use airports and aviation safety."

- **Certalert No. 09-10 re: Wildlife Hazard Assessments in Accordance with Part 139 Requirements**

Assertions:
"The risk of wildlife strikes to aircraft has been increasing."

"Part 139 requires certificated airports to conduct a Wildlife Hazard Assessment if they experience a triggering event."

"As we move to Safety Management Systems, it is incumbent upon airports to be proactive and understand the risk of wildlife strikes before they experience a triggering event."

STATE POLICY:

The State of Florida has taken legislative action and updated policies that relate to the issue of wildlife hazards and hazardous wildlife attractants and the authority of airport operators to act on wildlife hazard issues in the interest of safety. The relevant state documents related to this issue are:

> **Florida Senate Bill 1864** titled "2009 Airline Safety and Wildlife Protection Act of Florida"
>
> **Florida Department of Transportation** "Airport Compatible Land Use Guidebook"
>
> **Florida Administrative Code Rule 68A-9.012**, Take of Wildlife on Airport Property

Relevant language from these three documents is provided below, with underline/**bold** added for emphasis.

- **Florida Senate Bill 1864, "2009 Airline Safety and Wildlife Protection Act of Florida"**

Assertions:
Exempts airport authorities and other entities from penalties, restrictions, or sanctions with respect to authorized actions taken to protect human life or aircraft from wildlife hazards.

Provides that federal or state authorizations for such actions prevail over certain other regulations, permits, comprehensive plans, and laws, etc.

- **Florida Department of Transportation Airport Compatible Land Use Guidebook, dated March 2010**

Assertions:
"**Wetland areas are typically considered wildlife attractants**."

"Wetland conservation, preservation, or mitigation should not occur on airport property and is strongly discouraged for any property within the 5,000 and 10,000 foot separation criteria."

"Consideration should be given to developing off-site wetland mitigation strategies, where applicable, and utilizing wetland mitigation banks that are located outside of the separation distances."

- **Florida Administrative Code Rule 68A-9.012, Take of Wildlife on Airport Property**

Assertions:
"Any airport may take wildlife on airport property for the purpose of ensuring aircraft and human safety"

"(1) The taking and disposition of species regulated by the United States Departments of Interior or Commerce in 50 C.F.R. §10.13 (Migratory Birds), 50 C.F.R. § 17.11 and §17.12 (Threatened and Endangered Species), 50 C.F.R. §22 (Bald Eagle), 50 C.F.R. §223.102 and §224.102 (Marine Species), is allowed pursuant to federal authorization. No additional Commission authorization is required."

LOCAL POLICY:

At the local level, Lee Plan policies, Land Development Code standards, ordinances and resolutions are in place to govern land use and development throughout the County. Some airport-related policies and code language has been previously adopted to further aviation safety and compatibility, while some language is contrary to federal and state policies specific to the avoidance of wildlife hazards.

The relevant local policy documents related to this issue are:

Lee Plan

Land Development Code

Resolution 06-30 (Southwest Florida International Airport AOPD), October 2006

Resolution Z-11-013 (Page Field AOPD), October 2011

Relevant language is provided below, with underline added for emphasis.

- **The Lee Plan** contains three conflicting policies (1.2.1, 1.2.7, & 1.9.8) which call for retention of wildlife attracting wetlands, while Policy 47.6.4 reinforces FAA safety protocol to avoid wildlife attractants on or near the airports.

Policy 1.2.1:
...
Any future airport expansion or development of aviation-related and non-aviation uses at Southwest Florida International Airport will offset environmental impacts through the Airport Mitigation Lands Overlay (Map 3M) or other appropriate mitigation acceptable to the permitting agencies and to Lee County.
...

Mitigation of wetland impacts will be in accordance with the U.S. Army Corps of Engineers and South Florida Water Management District requirements. To the greatest extent reasonably possible, development of non-aviation land use areas must avoid wetland impacts. All non-aviation land use development will meet the indigenous vegetation requirements set forth in the Lee County Land Development Code.

Policy 1.2.7: Future non-aviation areas depicted on the Airport Layout Plan (Map 3F) will be developed, to the greatest extent possible, only within existing upland areas. Impacts to wetlands in the future non-aviation areas will be minimized by site design, wherever possible, in compliance with the Lee County Land Development Code. …

Policy 1.9.8: Future non-aviation areas depicted on the Airport Layout Plan (Map 3G) will be developed, to the greatest extent possible, within existing upland areas. Impacts to wetlands in the future non-aviation areas will be minimized by site design whenever possible in compliance with the Lee County Land Development Code.

Policy 47.6.4: The safety of aircraft operators, aircraft passengers, and persons on the ground will guide the Port Authority in the operation of county airports, and hazardous wildlife attractants on or near the airports will be avoided.

- **The Land Development Code** requirement for onsite preservation of existing native vegetation communities requires preservation that is contrary to FAA directives to avoid wildlife attractants. Applicability of this requirement has been an issue addressed through provision of administrative deviations that can be granted for a lower percentage of onsite indigenous, and zoning deviations that have been granted to allow provision of required preserves off-site for aviation areas at SWFIA (see Resolution 06-30 below).

Section 10-415. Open Space.
(b) Indigenous native vegetation and trees.
(1) Preservation.
Large developments, with existing indigenous native vegetation communities must provide 50 percent of their open space percentage requirement through the onsite preservation of existing native vegetation communities.

(5) Administrative deviation. Consistent with the provisions of section 10-104, the Director may permit administrative deviations to reduce the minimum 50 percent indigenous native vegetation requirement within this subsection to a lower percentage.

- **Resolution 06-30 (Southwest Florida International Airport AOPD), October 2006**

Condition 8.a.i. "Wetlands and uplands within Tracts 1-3 must be preserved in perpetuity and are limited to the following uses: habitat management, wildlife management, hand removal of invasive exotic vegetation, surface water management that does not alter the existing plant community or the existing topography."

Deviation (5) to allow use of the airport's off-site mitigation park for the airport to meet on-site preservation of existing indigenous, was approved SUBJECT TO the condition that the deviation applies only to Aviation Use Areas.

- **Resolution Z-11-013 (Page Field AOPD), October 2011**

Condition added by Hearing Examiner Richard Gescheidt:
"Conflicts between Regulations: In the event of a conflict between the provisions of the LDC and the Federal Aviation Administration's (FAA), Federal Air Regulations (FAR) or other FAA policies, advisories, and regulations applicable to this airport, then such FAA's policies, advisories and regulations will control."

Evaluation

Because information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years, the agencies with authority over airport operations in the United States have increased regulatory emphasis on avoidance of wildlife hazards to fulfill public safety objectives. To comply with these safety measures and continue with federal certification and funding of Lee County's airports, the avoidance of wildlife hazards must be considered a priority for continued operations at Page Field and SWFIA.

Considering the environmental context and strike data on record for SWFIA, the FAA advised LCPA in a June 2007 Part 139 Certification Inspection Compliance Letter that a new Wildlife Hazard Assessment (WHA) should be conducted at SWFIA. At the conclusion of the WHA, a Wildlife Hazard Management Plan (WHMP) was prepared and adopted by the FAA in 2011 and is now a condition of the airport's Part 139 Certification. Annual review by FAA is conducted to ensure the LCPA adheres to the WHMP goals and directives for SWFIA, which include coordination with agencies to allow harassment and maintenance activities to reduce attractiveness to vultures and wading birds in the Southwest and Northeast Conservation Areas, and removal of trees and shrubs in two identified cattle egret roosting locations. Other activities outlined within the plan call for the removal of on-site wetland areas that have demonstrated to be high risk hazard areas which attract wildlife.

In addition, due to its number of operations and based aircraft, the FAA has notified the Port Authority that it must also conduct a WHA for Page Field by the year 2015. It is reasonable to assume that this effort will also conclude in the Port Authority's need to prepare a WHMP for Page Field as well.

As it seeks to undertake plans, development activities and land management activities that are necessary for avoidance of wildlife hazards, the LCPA is confronted with local policies and standards found in the Lee Plan and Land Development Code that require land preservation and practices that are contrary to FAA directives. Updates to inconsistent local policy language and codes are needed to maintain compliance with guidance and directives per the FAA.

LEE COUNTY PORT AUTHORITY

HAZARDOUS WILDLIFE COMPREHENSIVE PLAN AMENDMENT

ENVIRONMENTAL IMPACT ANALYSIS

March 2012

Prepared for:

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EXECUTIVE SUMMARY

The Lee County Port Authority (LCPA) is applying for a comprehensive plan amendment to revise the language of three Lee Plan policies, to align policy language with Federal Aviation Administration (FAA) standards for minimization and control of wildlife attractants near airports and the LCPA's approved Wildlife Hazard Management Plan (WHMP) for Southwest Florida International Airport (RSW). Airport lands subject to this comprehensive plan amendment include the existing and projected growth areas for both RSW and Page Field General Aviation Airport (FMY).

Wildlife at airports can be a hazard to aircraft operations. A wildlife hazard to aircraft operations is defined as a potential for a damaging aircraft collision with wildlife on or near an airport. Not all wildlife species are equally hazardous to aircraft operation. The ability of wildlife to be hazardous is dependent on their size, numbers, and behavior. Utilizing the National Wildlife Strike Database a list of the top 25 most hazardous wildlife species groups has been developed. This list is found in the FAA Advisory Circular (AC) 150/5200-33B, Hazardous Wildlife Attractants On or Near Airports.

RSW holds an Airport Operating Certificate issued under Title 14 Code of Federal Regulations (CFR) Part 139. This certificate requires the airport to comply with Part 139 in operating the airport, and that includes meeting requirements for managing wildlife hazards. Certificated airports use the standards, practices, and recommendations contained in this AC to comply with the wildlife hazard management requirements of Part 139. FMY receives Federal grant-in-aid assistance, and thus the airport must comply with all FAA Advisory Circulars, including AC 150/5200-33B. The circular provides airports with guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. The AC lists land-use practices having the potential to attract hazardous wildlife and threaten aviation safety; these include but are not limited to:

- waste disposal operations, stormwater and wastewater treatment facilities, wetlands, dredge spoil containment areas, agricultural activities, golf courses, and landscaping.

There is also a FAA Certalert (No. 06-07) that addresses requests by state wildlife agencies to facilitate and encourage habitat for state-listed threatened and endangered species and species of special concern on airports. The Certalert states that the airport operator must decline to adopt habitat management techniques for the benefit of state-listed species that could jeopardize aviation safety. Based on this Certalert, the LCPA should not allow mitigation for impacts to state-listed species and their habitat to occur on airport property if it is to result in a direct or indirect safety hazard.

Through the Port Authority's effort to comply with the FAA, as well as remain in compliance with the Lee Plan for future development, it has become apparent that text amendments are necessary to Lee Plan policies 1.2.1, 1.2.7, and 1.9.8. These policies currently require that development within the non-aviation land use areas avoid wetland impacts to the greatest extent possible and restrict development to existing uplands to the greatest extent possible. These practices may create additional wildlife hazards on airport property.

In order to avoid the creation of new hazardous wildlife attractants on airport property at RSW and FMY, development must be planned in accordance with AC 150/5200-33B. In addition, mitigation for wetland and protected species impacts should not take place on or near airport property. As such, the proposed text changes to Lee Plan policies 1.2.1, 1.2.7, and 1.9.8 are proposed to provide flexibility to allow the Port Authority to 1) work to minimize and correct any wildlife hazards arising from existing wetlands located on or near the airports, and 2) to allow for future site improvements to be designed to minimize attractiveness to wildlife.

This Environmental Impact Analysis for the LCPA Hazardous Wildlife Comprehensive Plan Amendment provides specific background information on RSW and FMY pertaining to both man-made and natural features of the airports, in order to meet the requirements of the Lee County Comprehensive Plan Amendment application process. The analysis is largely a compilation of information and maps that have been previously submitted (and updated, as applicable) to the County for RSW through a past comprehensive plan amendment and for FMY through a recent rezoning application process. An outline of the submittal information/documents for each airport is provided below.

Southwest Florida International Airport (RSW)

A report detailing the existing conditions of RSW is provided, along with the following maps:

1. A map of the plant and land use communities as defined by the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (**Exhibit IV.C.RSW.1**);
2. A map and description of the soils found on the property (**Exhibit IV.C.RSW.2**);
3. A topographic map based upon elevations from available Lee County data (**Exhibit IV.C.RSW.3**);
4. A map delineating the property boundaries on FEMA's Flood Insurance Rate Map (**Exhibit IV.C.RSW.4.1**) and Flood Map Index (**Exhibit IV.C.RSW.4.2**);
5. A map delineating wetlands and rare & unique uplands (**Exhibit IV.C.RSW.5.1**) and aquifer recharge areas (**Exhibit IV.C.RSW.5.2**);
6. A map depicting the noise zones for RSW (**Exhibit IV.C.RSW.6**); and
7. A table of plant communities by FLUCFCS with the potential to contain species (plant and animal) listed by federal, state or local agencies as endangered, threatened or species of special concern and a map for RSW illustrating USFWS panther habitat mapping (**Exhibit IV.C.RSW.7**).

Page Field General Aviation Airport (FMY)

The following documents and exhibits are provided in **Attachment FMY** to provide the necessary background information pertaining to Page Field General Aviation Airport.

1. A copy of the Environmental Analysis/Protected Species Survey that was previously submitted for the Page Field AOPD Rezoning (adopted by Resolution No. Z-11-013) - This report, which had been labeled as Exhibit D-7-T for the rezoning application, provides the necessary background information on land use/habitat types, wetlands, and protected species issues associated with FMY;
2. A copy of the previously approved FMY Burrowing Owl Protective Measures;
3. An October 27, 2011 memorandum from JEI ecologist to the LCPA, which outlines FMY burrowing owl monitoring and updated correspondence from the Florida Fish and Wildlife Conservation Commission (FWC) indicating a "take permit" is no longer required to collapse

burrowing owl burrows on airport property, in accordance with Florida Administrative Code Rule 68A-9.012.

4. A FLUCFCS map of the plant and land use communities (**Exhibit IV.C.FMY.1**);
5. A map and description of the soils found on the property (**Exhibit IV.C.FMY.2**);
6. A topographic map based upon elevations from available Lee County data (**Exhibit IV.C.FMY.3**); and
7. A map delineating the property boundary on FEMA's Flood Insurance Rate Map (**Exhibit IV.C.FMY.4.1**) and Flood Map Index (**Exhibit IV.C.FMY.4.2**).

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LIST OF EXHIBITS AND ATTACHMENTS

ATTACHMENT FMY - EXISTING ENVIRONMENTAL INFORMATION FOR FMY

1. Environmental Analysis/Protected Species Survey that was previously submitted for the Page Field AOPD Rezoning (adopted by Resolution No. Z-11-013).
2. FMY Burrowing Owl Protective Measures.
3. October 27, 2011 memorandum from JEI ecologist to the LCPA, which outlines FMY burrowing owl monitoring and updated correspondence from the Florida Fish and Wildlife Conservation Commission (FWC) indicating a "take permit" is no longer required to collapse burrowing owl burrows on airport property, in accordance with Florida Administrative Code Rule 68A-9.012.
4. Exhibit IV.C.FMY.1 - FLUCFCS map of the plant and land use communities at FMY
5. Exhibit IV.C.FMY.2 - A map and description of the soils found on FMY
6. Exhibit IV.C.FMY.3 – FMY topographic map;
7. Exhibit IV.C.FMY.4.1 - A map delineating the property boundary on FEMA's Flood Insurance Rate Map; and Exhibit IV.C.FMY.4.2 – A map delineating the property boundary on the Flood Map Index.

1.0 RSW INTRODUCTION

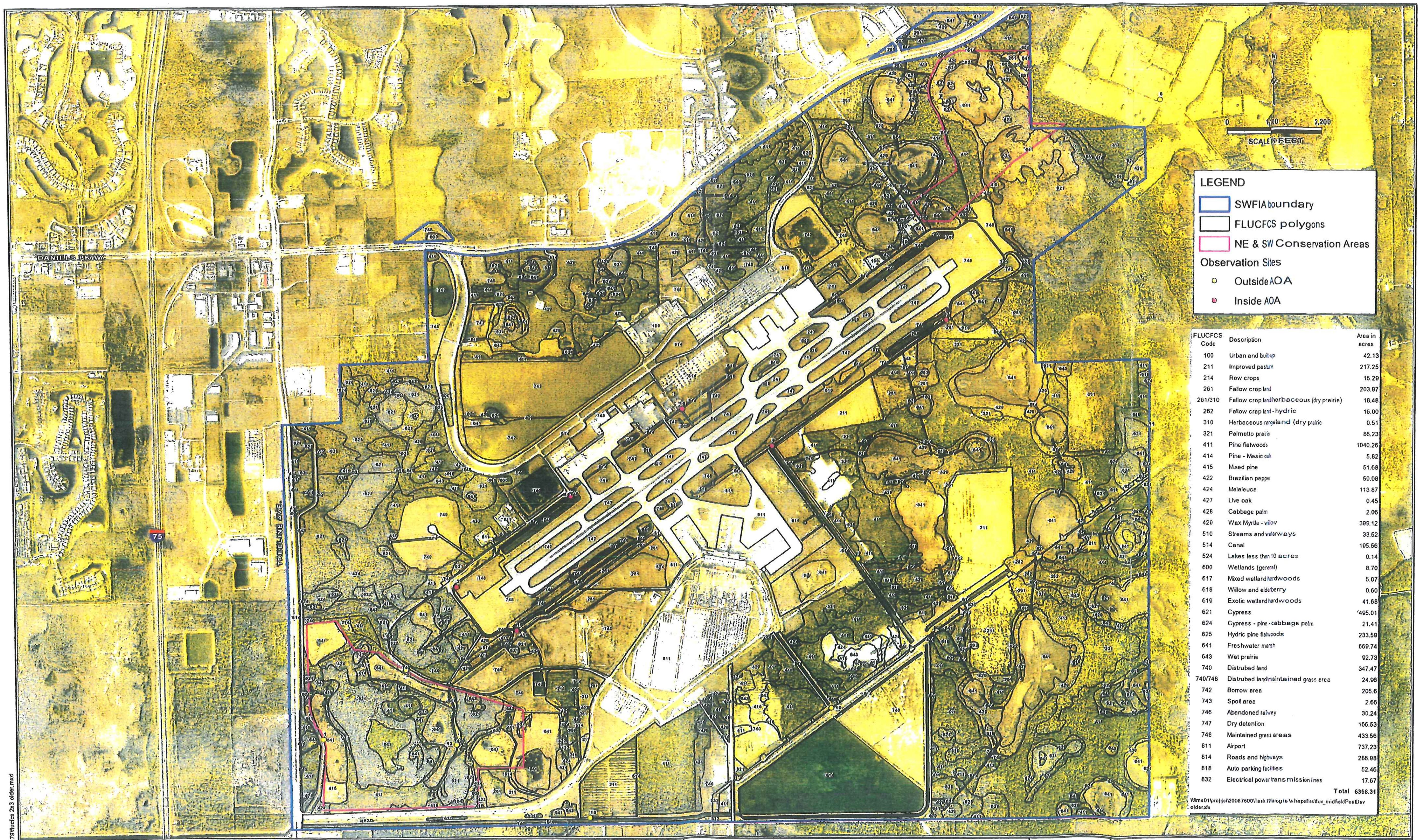
The RSW boundary encompasses +/- 6,366 acres and is comprised of existing airport facilities including the roadways and associated water management systems, as well as undeveloped land. The undeveloped portions of RSW are characterized by upland and wetland indigenous habitats (some of which are currently under conservation easement), fallow agricultural lands and pasture, invasive exotic vegetation, as well as previously disturbed land. RSW is located in portions of Sections 23, 24, 25, 26, 35, and 36, Township 45 South, Range 25 East; and Sections 17, 18, 19, 20, 29, 30, 31, 32, Township 45 South, Range 26 East.

2.0 RSW FLUCFCS INFORMATION AND MAP

The RSW Wildlife Hazard Assessment (2009) contained a habitat map based on the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT, 1999), Level III mapping, which is being used for the purpose of this hazardous wildlife comprehensive plan amendment. The codification was based upon previous work conducted by Kevin L. Erwin Consulting Ecologists, Inc. (KLECE) where the major plant communities were mapped in 2001 for the entire airport property as part of the airport's Master Plan update. The mapping effort utilized rectified digital aerial photography, and involved extensive field verifications at that time. Overall the descriptions and are based on areas of the particular habitat that contained relatively low levels of exotic or nuisance plants. Areas mapped as exotics (i.e. FLUCFCS Code 422 for Brazilian pepper) typically contained less than five percent remnant native vegetation. **Table 2.1** outlines the habitat and land use codes, their descriptions and associated acreage, as referenced on the RSW Wildlife Hazard Assessment FLUCFCS map (**Exhibit IV.C.RSW.1**).

Table 2.1 FLUCFCS Codes for RSW (RSW Wildlife Hazard Assessment, 2009)

FLUCFCS Code	Description	Acreage	% of Total Acreage
100	Urban and Built-Up	42.13	0.7%
211	Improved Pasture	217.25	3.5%
214	Row Crops	15.29	0.2%
261	Fallow Crop Land	203.97	3.2%
261/310	Fallow Crop Land / Dry Prairie	18.48	0.4%
262	Fallow Crop Land, Hydric	16.00	0.3%
310	Herbaceous Rangeland (Dry Prairie)	0.51	0.01%
321	Palmetto Prairie	86.23	1.4%
411	Pine Flatwoods	1,040.26	16.5%
414	Pine-Mesic Oak	5.82	0.1%
415	Mixed Pine	51.68	0.8%
422	Brazilian Pepper	0.39	0.01%
424	Melaleuca	113.87	1.8%
428	Cabbage Palm, Disturbed	2.06	0.01%
429	Wax Myrtle / Willow	399.12	6.3%
510	Streams and Waterways	33.52	0.5%
514	Canal	195.56	3.1%
524	Lakes less than 10 acres	0.14	0.01%
600	Wetlands (general)	8.70	0.1%
617	Mixed Wetland Hardwoods	5.07	0.1%
618	Willow	0.60	0.01%
619	Exotic Wetland Hardwoods	41.68	0.7%
621	Cypress	495.01	7.8%
624	Cypress-Pine-Cabbage Palm	21.41	0.3%
625	Hydric Pine Flatwoods	233.59	3.8%
641	Freshwater Marsh	669.74	10.6%
643	Wet Prairie	92.73	1.5%
740	Disturbed Land	347.47	5.5%
740/748	Disturbed Land / Maintained Grass	24.96	0.4%
742	Borrow Area	205.60	3.2%
743	Spoil Area	2.66	0.01%
746	Abandoned Railway	30.24	0.5%
747	Dry Detention	166.53	2.6%
748	Maintained Grass Area	433.56	6.8%
811	Airport	737.23	11.7%
814	Roads and Highways	286.98	4.5%
818	Auto Parking Facilities	52.46	0.8%
832	Electrical Power Transmission Lines	17.67	0.3%
	Total:	**6366.36**	**100.0%**



FLUCFCS Code	Description	Area in acres
100	Urban and built-up	42.13
211	Improved pasture	217.25
214	Row crops	15.29
261	Fallow crop land	203.97
261/310	Fallow crop land/herbaceous (dry prairie)	18.48
262	Fallow crop land - hydric	16.00
310	Herbaceous rangeland (dry prairie	0.51
321	Palmetto prairie	86.23
411	Pine flatwoods	1040.26
414	Pine - Mesic oak	5.82
415	Mixed pine	51.68
422	Brazilian pepper	50.08
424	Melaleuca	113.87
427	Live oak	0.45
428	Cabbage palm	2.06
429	Wax Myrtle - willow	399.12
510	Streams and waterways	33.52
514	Canal	195.56
524	Lakes less than 10 acres	0.14
600	Wetlands (general)	8.70
617	Mixed wetland hardwoods	5.07
618	Willow and elderberry	0.60
619	Exotic wetland hardwoods	41.68
621	Cypress	495.01
624	Cypress - pine - cabbage palm	21.41
625	Hydric pine flatwoods	233.59
641	Freshwater marsh	669.74
643	Wet prairie	92.73
740	Distrubed land	347.47
740/748	Distrubed land/maintained grass area	24.96
742	Borrow area	205.6
743	Spoil area	2.66
746	Abandoned railway	30.24
747	Dry detention	166.53
748	Maintained grass areas	433.56
811	Airport	737.23
814	Roads and highways	286.98
818	Auto parking facilities	52.46
832	Electrical power transmission lines	17.67
	Total	6366.31

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REVISIONS

Comprehensive Plan Amendment
Lee County, Florida

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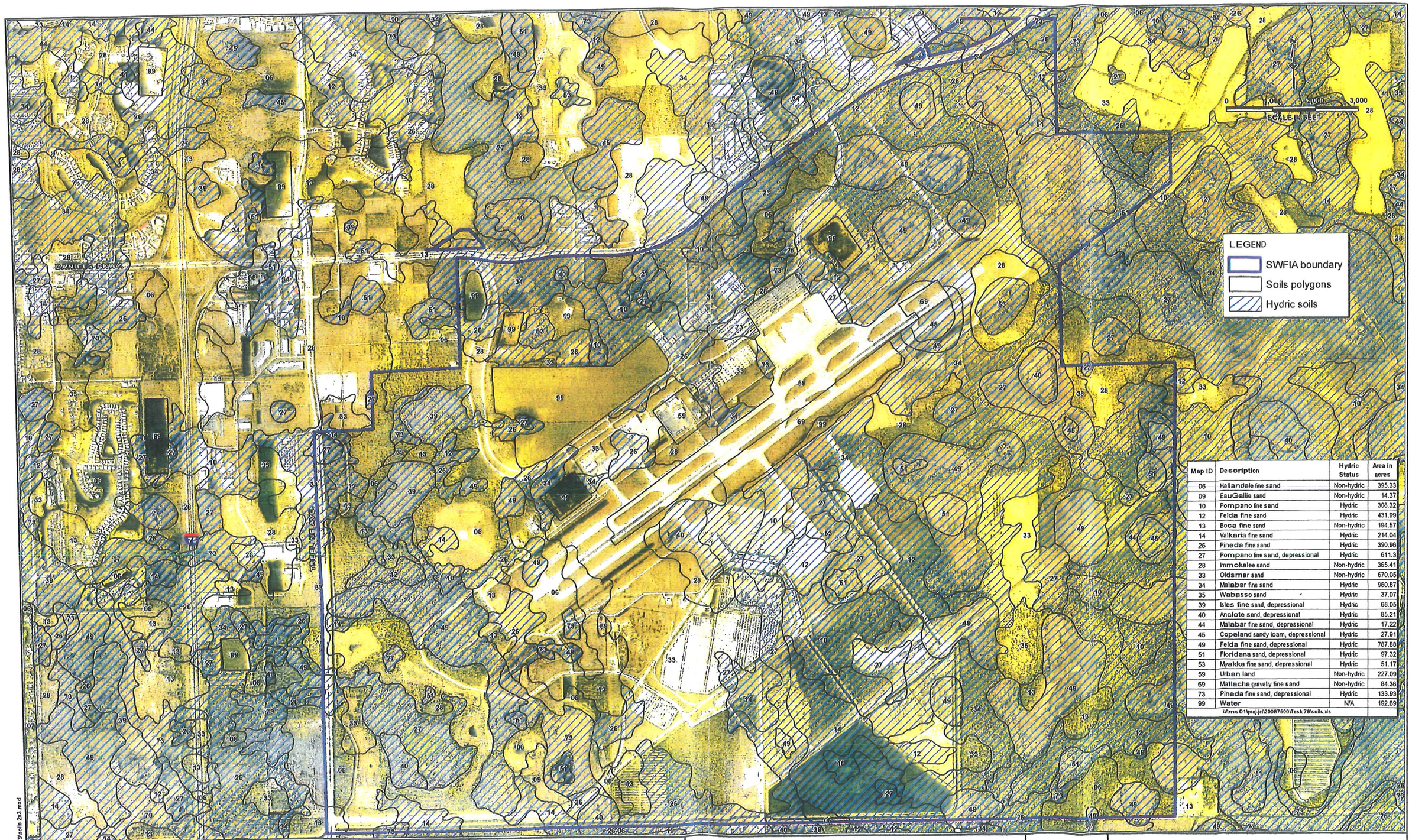
FLUCFCS Map
Exhibit IV.C.RCW.1

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2011	20087500-079	--	As Shown	IV.C.RSW.1

3.0 RSW SOILS INFORMATION AND MAP

The information regarding the soils found on the RSW and FMY properties was obtained from the Soil Survey of Lee County, Florida developed by the U.S. Department of Agriculture Soil Conservation Service (1984). This information is graphically presented in **Exhibit IV.C.RSW.2**.



Map ID	Description	Hydric Status	Area in acres
06	Hallandale fine sand	Non-hydric	395.33
09	EauGallie sand	Non-hydric	14.37
10	Pompano fine sand	Hydric	308.32
12	Felda fine sand	Hydric	431.99
13	Boca fine sand	Non-hydric	194.57
14	Valkaria fine sand	Hydric	214.04
26	Pineda fine sand	Hydric	390.96
27	Pompano fine sand, depressional	Hydric	611.3
28	Immokalee sand	Non-hydric	365.41
33	Oldsmar sand	Non-hydric	670.05
34	Malabar fine sand	Hydric	960.87
35	Wabasso sand	Hydric	37.07
39	Isles fine sand, depressional	Hydric	68.05
40	Anclote sand, depressional	Hydric	85.21
44	Malabar fine sand, depressional	Hydric	17.22
45	Copeland sandy loam, depressional	Hydric	27.91
49	Felda fine sand, depressional	Hydric	787.88
51	Floridana sand, depressional	Hydric	97.32
53	Myakka fine sand, depressional	Hydric	51.17
59	Urban land	Non-hydric	227.09
69	Matlacha gravelly fine sand	Non-hydric	84.36
73	Pineda fine sand, depressional	Hydric	133.93
99	Water	N/A	192.69

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REVISIONS

NOTES
The aerial photograph shown was taken in 2011 and was provided by Lee County government.

The soils layer shown was provided by FGDL.

Comprehensive Plan Amendment
Lee County, Florida

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Soils Map
Exhibit IV.C.RSW.2

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	-	As Shown	IV.C.RSW.2

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Table 3.1 Soils Information for RSW

Soil ID	Soil Name	Brief Soil Description	Seasonal High Water Table Depth Duration (ft)	Hydric Status	Area in acres
06	Hallandale fine sand	Level, poorly drained soil on low, broad flatwoods area; slope at 0-2%; gray fine sand	0-1; Jun-Nov	Non-hydric	395.33
09	EauGallie sand	Nearly level, poorly drained soil on flatwoods; slopes are smooth to convex and less than 1%	0-1; Jun-Sept	Non-hydric	14.37
10	Pompano fine sand	Nearly level, poorly drained soil on sloughs; slopes are smooth to concave & range from 0-1%; fine sand	0-1; Jun-Nov	Hydric	308.32
12	Felda fine sand	Nearly level, poorly drained soil on broad, nearly level sloughs; slopes are smooth to concave & range from 0-2%; fine sand	0-1; Jul-Mar	Hydric	431.99
13	Boca fine sand	Nearly level, poorly drained soil on flatwoods; slopes are smooth & range from 0-2%; fine sand	0-1; Jun-Feb	Non-hydric	194.57
14	Valkaria fine sand	Nearly level, poorly drained soil on sloughs; slopes are smooth to concave and range from 0-1%; fine sand	0-0.5; Jun-Sept.	Hydric	214.04
26	Pineda fine sand	Nearly level, poorly drained soil in depressions; slopes are concave and less than 1%; fine sand	0-1; Jun-Nov	Hydric	390.96
27	Pompano fine sand, depressional	Nearly level, poorly drained soil in depressions; slopes are concave and less than 1%; fine sand	+2-1; Jun-Feb	Hydric	611.30
28	Immokalee sand	Nearly level, poorly drained soil in flatwoods areas; slopes are smooth to convex and range from 0-2%; sand	0-1; Jun-Nov	Non-hydric	365.41
33	Oldsmar sand	Nearly level, poorly drained soil on low, broad flatwoods area; slopes are smooth to slightly convex and range from 0-2%; fine sand to sand	0-1; Jun-Feb	Non-hydric	670.05
34	Malabar fine sand	Nearly level, poorly drained soil on sloughs; slopes are smooth to concave and range from 0-1%; fine sand	0-1; Jun-Nov	Hydric	960.87
35	Wabasso sand	Nearly level, poorly drained soil on flatwoods; slopes are smooth to slightly convex and range from 0-2%	0-0.5; Jun-Sept.	Hydric	37.07
39	Isles fine sand, depressional	Nearly level, very poorly drained soil in depressions; slopes are smooth to concave and less than 1%.	+2-1; Jun-Dec	Hydric	68.05
40	Anclote sand, depressional	Nearly level, poorly drained soil isolated depressions; slopes are smooth to concave and less than 1%; black sand	+2-0; Jun-Mar	Hydric	85.21

Table 3.1 Soils Information for RSW (continued)

Soil ID	Soil Name	Brief Soil Description	Seasonal High Water Table Depth Duration (ft)	Hydric Status	Area in acres
44	Malabar fine sand, depressional	Nearly level, poorly drained soil in depressions; slopes are concave and less than 1%; fine sand	+3-0; Jun-Jan	Hydric	17.22
45	Copeland sandy loam, depressional	Low, nearly level, very poorly drained soil in depressions; slopes are concave and less than 1%; sandy loam	+2-1; Jun-Feb	Hydric	27.91
49	Felda fine sand, depressional	Nearly level, poorly drained soil in depressions; slopes are concave and less than 1%; fine sand	+2-1; Jun-Dec	Hydric	787.08
51	Floridana sand, depressional	Nearly level, very poorly drained soil in depressions; slopes are concave and less than 1%	+2-1; Jun-Feb	Hydric	97.32
53	Myakka fine sand, depressional	Nearly level, poorly drained soil in depressions; slopes are concave and less than 1%; fine sand	+2-1; Jun-Feb	Hydric	51.17
59	Urban land	---	---	NA	227.09
69	Matlacha gravelly fine sand	Nearly level, somewhat poorly drained soil formed by filing and earthmoving operations; slopes are smooth to slightly convex and range from 0-2%; fine sand	-2-3; Jun-Sept	Non-hydric	84.36
73	Pineda fine sand, depressional	Nearly level, poorly drained soil in depressions; slopes are concave and less than 1%; fine sand	+2-1; Jun-Dec	Hydric	133.93
99	Water	---	---	NA	192.69
					6,366.3

4.0 RSW TOPOGRAPHIC MAP, 100-YEAR FLOOD PRONE AREAS (FEMA), AND FLOOD INSURANCE RATE MAP

This information is graphically presented in **Exhibit IV.C.RSW.3**, **Exhibit IV.C.RSW.4.1**, and **Exhibit IV.C.RSW.4.2** respectively.

REVISIONS		

NOTES
The elevation layer shown was provided by Lee County government. Elevations are in reference to NAVD 1988.

Comprehensive Plan Amendment
Lee County, Florida

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Topographic Map
Exhibit IV.C.RSW.3

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	-	As Shown	IV.C.RSW.3

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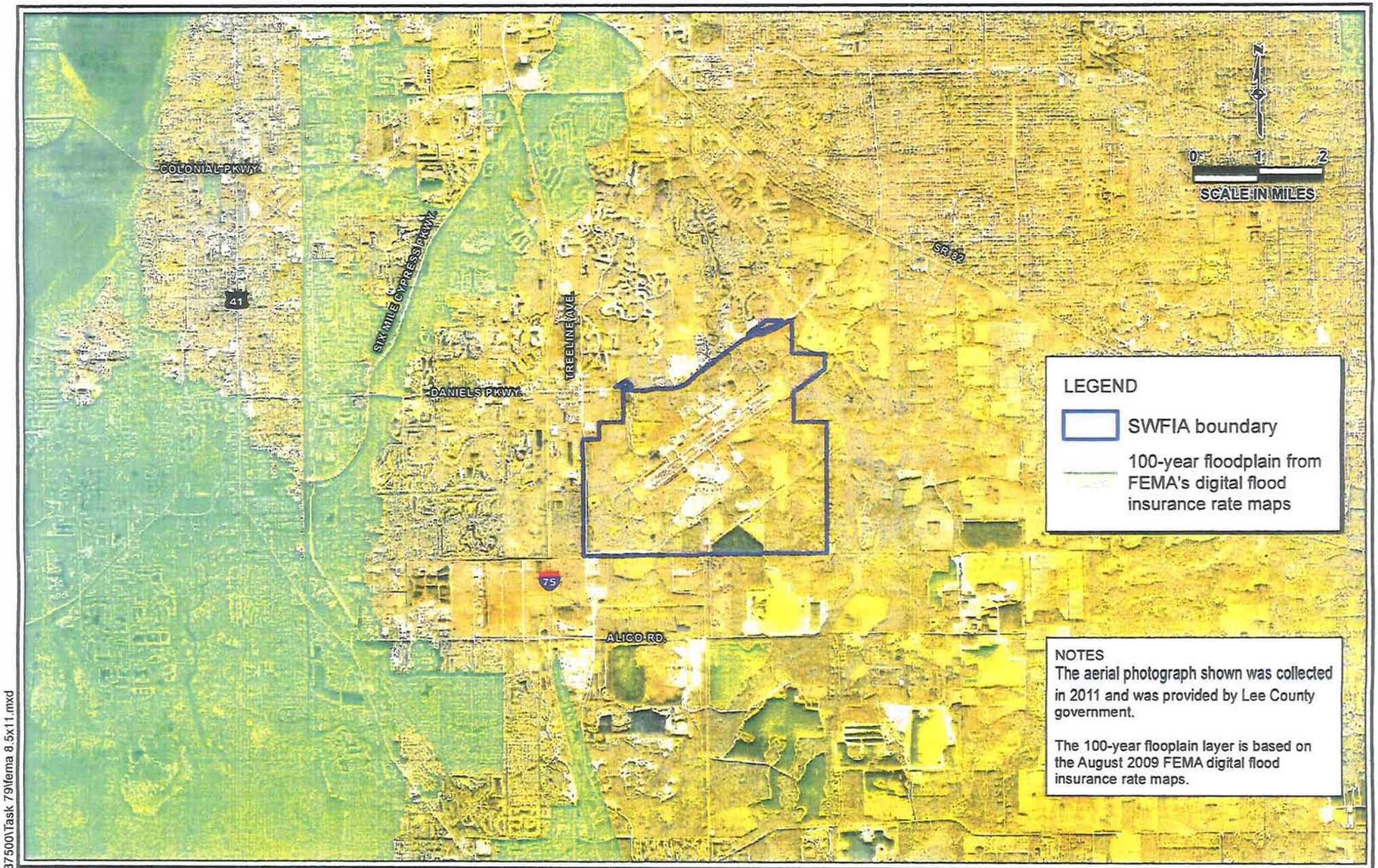

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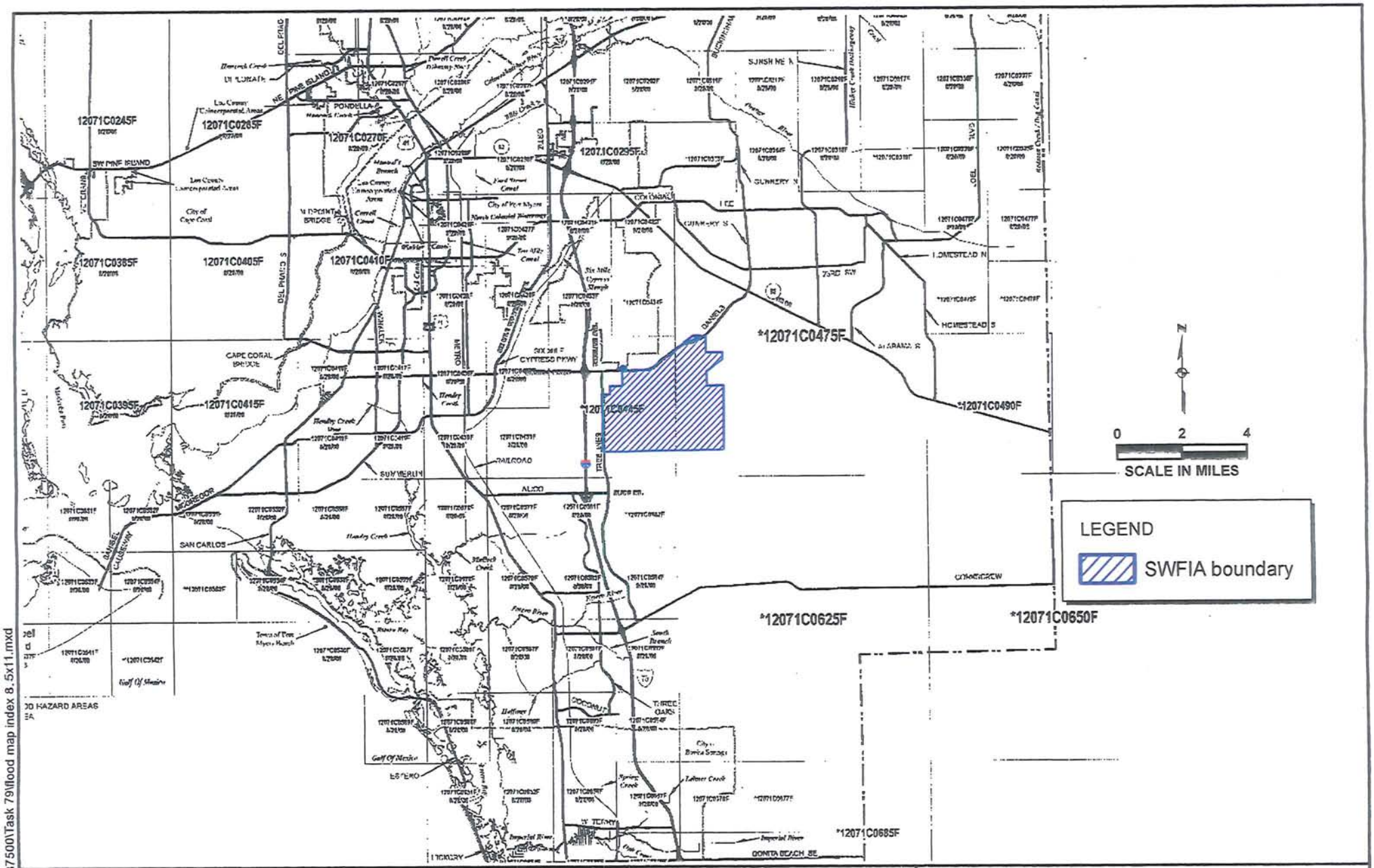
Flood Mapping
Exhibit IV.C.RSW.4.1

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	–	As Shown	IV.C.RSW.4.1



\\ftms01\proj-jel\20087500\Task 79\flood map index 8.5x11.mxd

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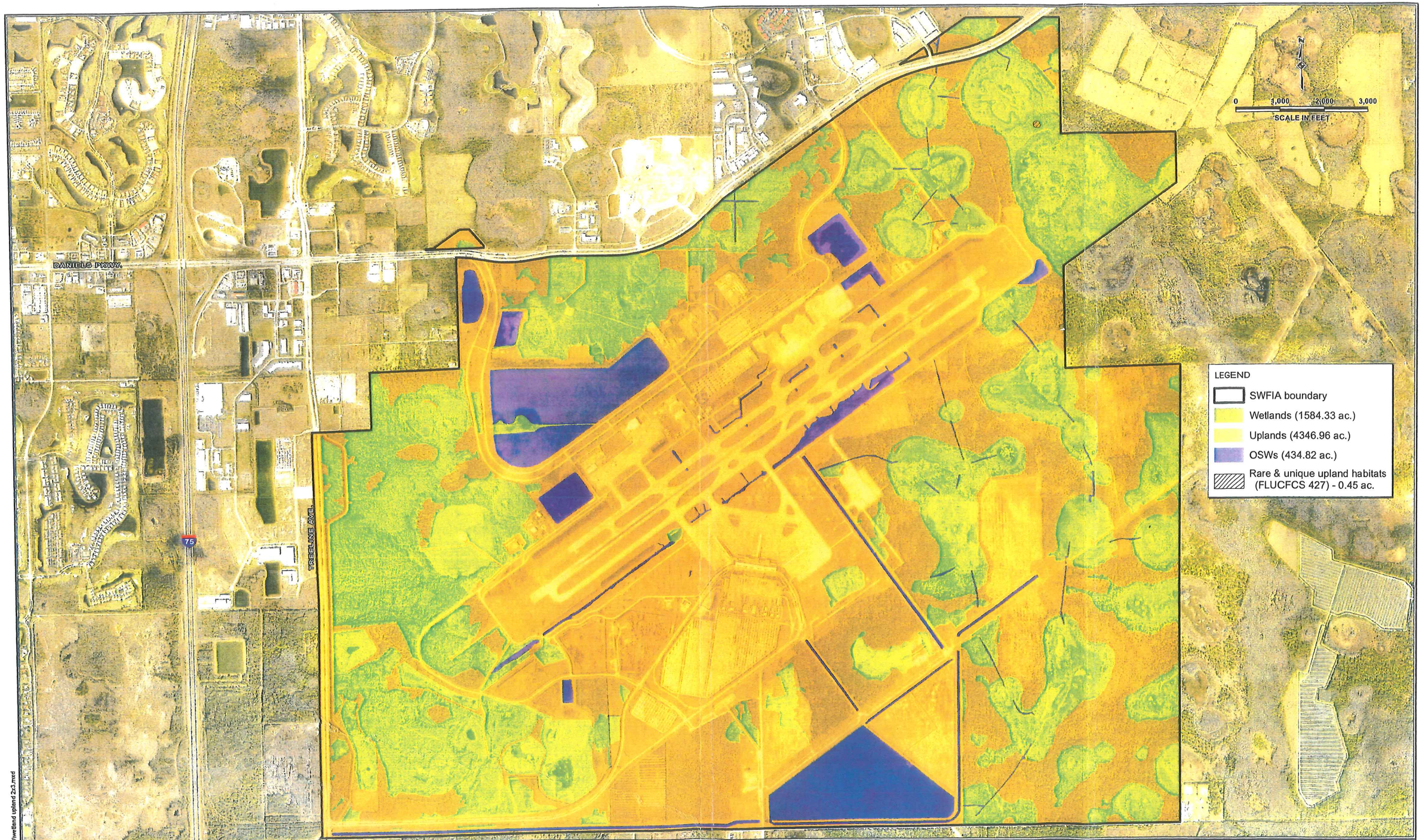
Flood Map Index
Exhibit IV.C.RSW.4.2

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	–	As Shown	IV.C.RSW.4.2

5.0 RSW WETLANDS/RARE & UNIQUE UPLANDS INFORMATION AND MAPS

The following wetland/upland map (**Exhibit IV.C.RSW.5.1**) of the project site was created based upon the previously referenced FLUCFCS map. The wetlands FLUCFCS codes are designated in a color separate from the other surface waters (OSW) and uplands on the following map. There are approximately 1,584 acres of wetlands, 4,347 acres of uplands, and 435 acres of OSW. Many areas of RSW have been subject to a jurisdictional wetland determination as part of the Midfield Terminal Complex Environmental Resource Permitting that was conducted in 2001. However, areas outside of the Midfield Terminal Complex project boundary have not been field delineated or survey located and therefore their locations are approximate.

Rare and Unique upland habitats as defined in the Lee Comprehensive Plan under Conservation and Coastal Management Element, Goal 74, Objective 74.1 include, but are not limited to: sand scrub (320); coastal scrub (322); those pine flatwoods (411) which can be categorized as "mature" due to the absence of severe impacts caused by logging, drainage, and exotic infestation; slash pine/midstory oak (412); tropical hardwood (426); live oak hammock (427); and cabbage palm hammock (428). The numbered references are to the FLUCFCS Level III. Based upon the habitat mapping from the RSW Wildlife Hazard Assessment, a small patch of live oak hammock (FLUCFCS 427, 0.45 acres) is located within the Northeast Conservation Area, which would meet the definition of a rare and unique upland habitat (Exhibit IV.C.RSW.5.1. A few pockets of cabbage palm are mapped near the northern end of the runway, but they contain greater than 75% Brazilian pepper and therefore have not been qualified as "rare and unique". Although FLUCFCS Code 411 occurs within the RSW boundary, this particular habitat does not meet the "mature" criteria. This area of Lee County was logged in the early part of the 20th century, as was much of southwest Florida. The drainage associated with Daniels Parkway, Paul J. Doherty Parkway, Alico Road, and former agricultural practices on this land have also impacted the drainage of the pine flatwoods located within the RSW boundary.



REVISIONS		

NOTES
The aerial photograph shown was taken in 2011 and was provided by Lee County government.

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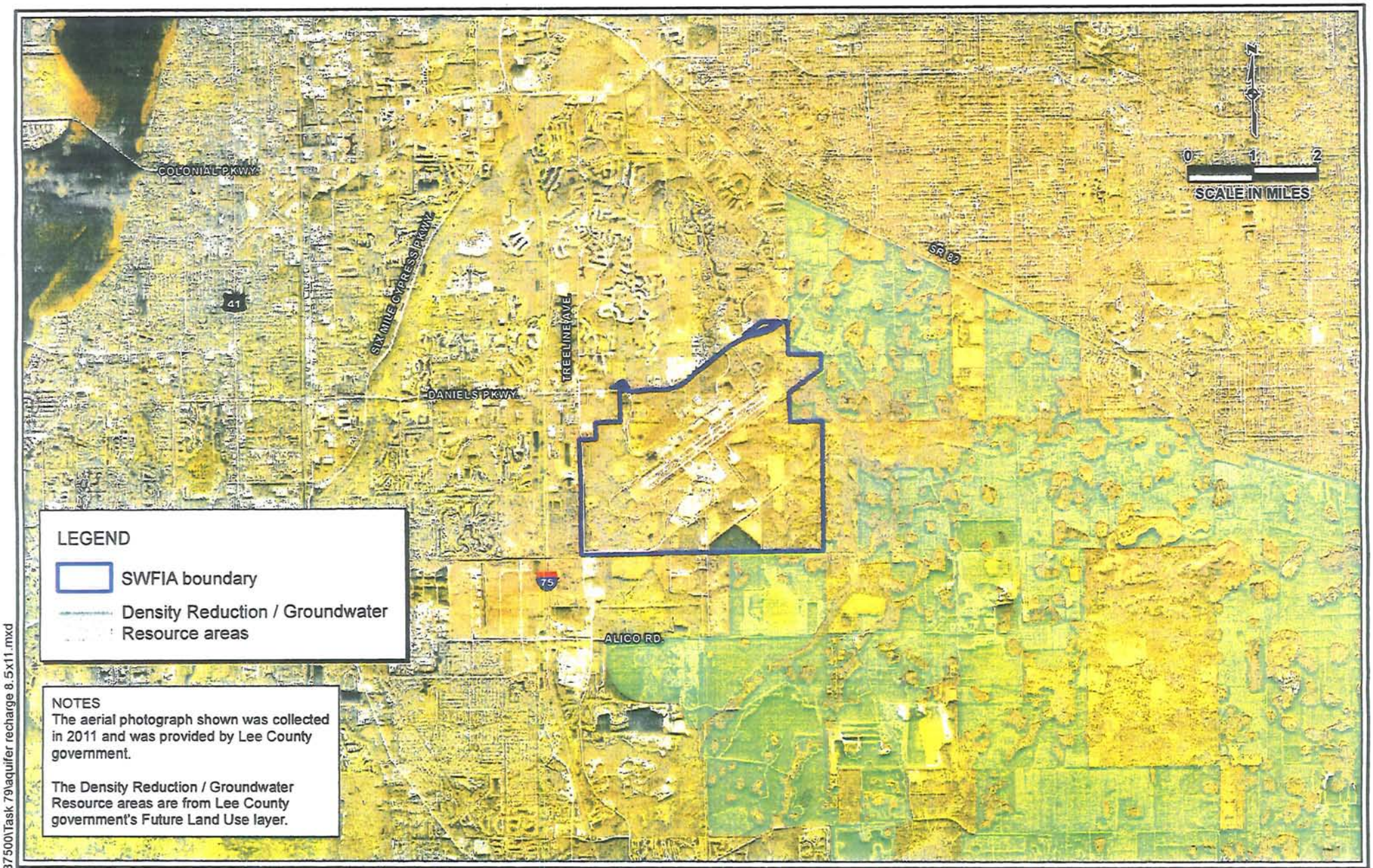
Wetland / Upland Map
Exhibit IV.C.RSW.5.1

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	--	As Shown	IV.C.RSW.5.1

\\fmsd1\proj\jkh\20087500\Task 79\wetland upland 2x3.mxd

6.0 AQUIFER RECHARGE AREAS MAP

As, illustrated in **Exhibit IV.C.RSW.5.2**, there are no areas within RSW property designated by Lee County as aquifer recharge areas.



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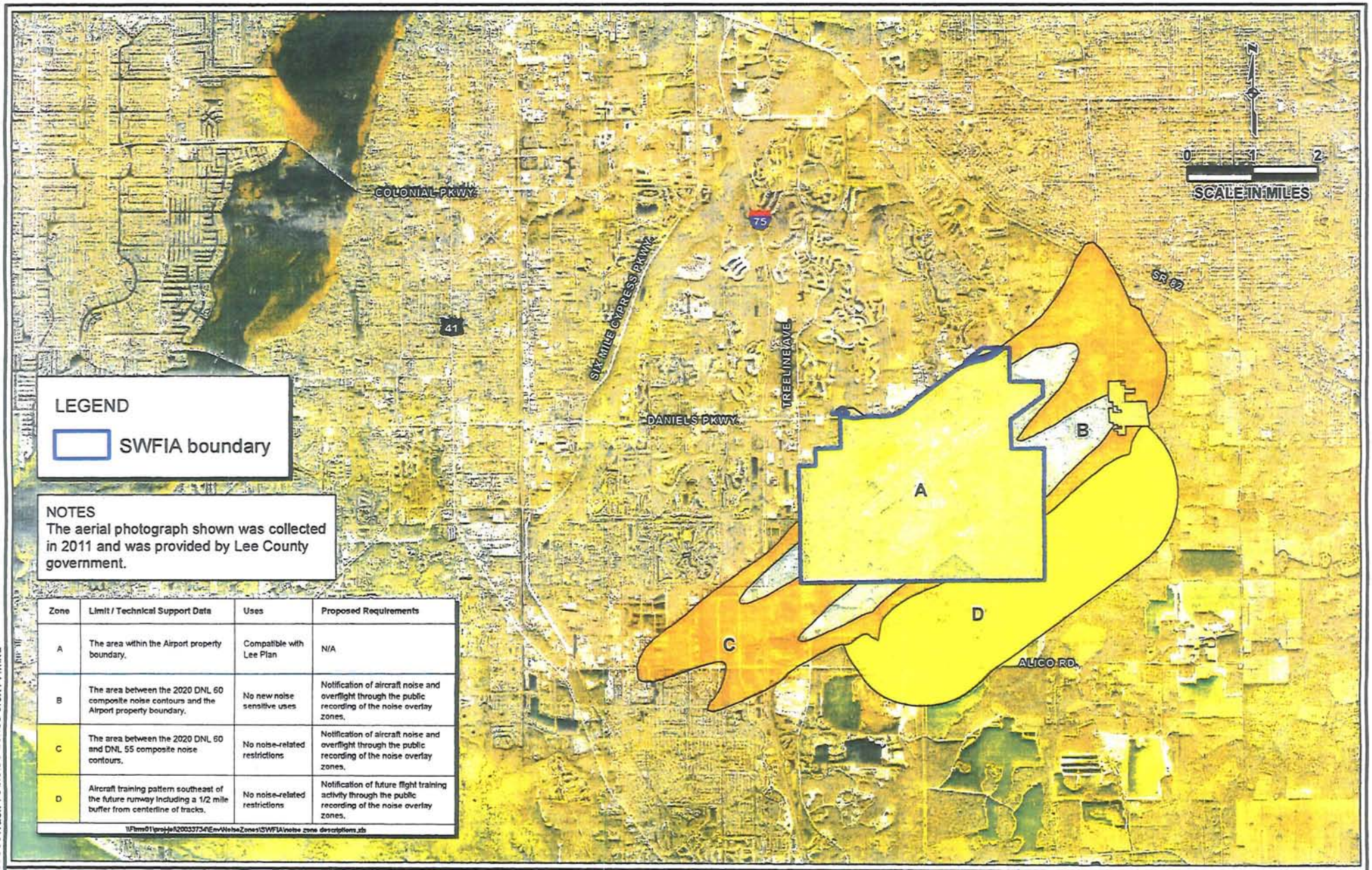
Aquifer Recharge Areas
Exhibit IV.C.RSW.5.2

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	–	As Shown	IV.C.RSW.5.2

7.0 NOISE ZONES FOR SOUTHWEST FLORIDA INTERNATIONAL AIRPORT

A map depicting the noise zones for RSW is provided on the following page as **Exhibit IV.C.RSW.6**.



NOTES
The aerial photograph shown was collected in 2011 and was provided by Lee County government.

Zone	Limit / Technical Support Data	Uses	Proposed Requirements
A	The area within the Airport property boundary.	Compatible with Lee Plan	N/A
B	The area between the 2020 DNL 60 composite noise contours and the Airport property boundary.	No new noise sensitive uses	Notification of aircraft noise and overflight through the public recording of the noise overlay zones.
C	The area between the 2020 DNL 60 and DNL 55 composite noise contours.	No noise-related restrictions	Notification of aircraft noise and overflight through the public recording of the noise overlay zones.
D	Aircraft training pattern southeast of the future runway including a 1/2 mile buffer from centerline of tracks.	No noise-related restrictions	Notification of future flight training activity through the public recording of the noise overlay zones.

\\flms01\proj-jel\20087500\Task 79\noise zones 8.5x11.mxd

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Noise Overlay Zones
Exhibit IV.C.RSW.6

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	–	As Shown	IV.C.RSW.6

8.0 RSW POTENTIAL PROTECTED SPECIES

The protection of rare and endangered species is regulated by Federal, State, and local agencies having jurisdiction over those particular species. The U.S. Fish and Wildlife Service (USFWS) regulate federally protected wildlife and plant species and also maintain the official lists of those species. At the State level, the Florida Fish and Wildlife Conservation Commission (FWC) regulate wildlife species and maintain the list of protected species. The Florida Department of Agriculture and Consumer Services (FDACS) regulate and maintain the list of protected plant species.

The FLUCFCS table below (**Table 8.1**) includes the listed animal and plant species having the potential to occur in each FLUCFCS category, according to Lee County Ordinance No. 94-10 and the current state and federal protected species lists. Five wildlife species are listed as endangered on the state list, federal list, or both. These species include the Florida panther, wood stork, red-cockaded woodpecker, snail kite, and American crocodile.

The majority of the property is within the US Fish and Wildlife Service Panther Focus Area (**Exhibit IV.C.RSW.7**). The FWC Integrated Wildlife Habitat Ranking System (2008) identifies a portion of the property (excluding the two smaller parcels to the north) as part of a larger, roadless habitat patch. Large habitat patches are important for wildlife utilization and especially the Florida panther. This portion of the habitat patch is on the fringe of the larger patch and does not provide connection to other parcels. The remainder of the property is fragmented by existing infrastructure, with no contiguous areas greater than one square mile. The most recent record of panther movement within the airport property boundary was in 2002.

The property is located within the 18.6 mile Core Foraging Area of four USFWS documented wood stork colonies (Colony numbers 619013, 619018, 619310, and 619041). The closest active colony is in the Caloosahatchee River, approximately 10.5 miles from RSW. The nearest documented active red-cockaded woodpecker cavity tree is nearly 20 miles south of the property site in Collier County. There are no known snail kites nests within the general vicinity of the property, and although the range for the American crocodile includes coastal Lee County, at this time there are no crocodiles known to inhabit the County.

8.1 Potential Listed Species per FLUCFCS Code (Lee County)

FLUCFCS Code	Description	Acreage	Potential Listed Species per Lee County FLUCFCS Code			
			Common Name	Scientific Name	Listed Status	
					State	Federal
100	Urban and Built-Up	42.13	None Listed	------	---	---
211	Improved Pasture	217.25	Florida Sandhill Crane Florida Panther	*Grus canadensis pratensis* *Felis concolor coryi*	T E	--- E
214	Row Crops	15.29	None Listed	------	---	---
261	Fallow Crop Land	203.97	Least Tern	*Sterna antillarum*	T	---
261/310	Fallow Crop Land / Dry Prairie	18.48	Least Tern Burrowing Owl Florida sandhill crane	*Sterna antillarum* *Athene cunicularia floridana* *Grus canadensis pratensis*	T SSC T	--- --- ---
262	Fallow Crop Land, Hydric	16.00	Least Tern Little Blue Heron Snowy Egret Tricolored Heron	*Sterna antillarum* *Egretta caerulea* *Egretta thula* *Egretta tricolor*	T SSC SSC SSC	--- --- --- ---
310	Herbaceous Rangeland (Dry Praire)	0.51	Burrowing Owl Florida sandhill crane	*Athene cunicularia floridana* *Grus canadensis pratensis*	SSC T	--- ---
321	Palmetto Prairie	86.23	Eastern Indigo Snake Gopher Tortoise Gopher Frog Southeastern American Kestrel Florida sandhill crane Audubon's crested caracara Florida black bear Curtis milkweed Fakahatchee burmannia Florida coontie[1] Beautiful paw-paw	*Drymarchon corais couperi* *Gopherus polyphemus* *Lithobates capito* *Falco sparverius paulus* *Grus canadensis pratensis* *Polyborus plancus audubonii* *Ursus americanus floridanus* *Asclepias curtissii* *Burmannia flava* *Zamia floridana* *Deeringothamnus pulchellus*	T T SSC T T T T E E CE E	T --- --- --- --- T --- --- --- --- E

8.1 Potential Listed Species per FLUCFCS Code (Lee County) continued.

FLUCFCS Code	Description	Acreage	Potential Listed Species per Lee County FLUCFCS Code			
			Common Name	Scientific Name	Listed Status	
					State	Federal
411	Pine flatwoods	1,040.26	Eastern Indigo Snake Gopher Tortoise Gopher Frog Southeastern American Kestrel Red-cockaded Woodpecker Florida Black Bear Florida Panther Big Cypress Fox Squirrel Fakahatchee Burmannia Satin Leaf Beautiful Paw Paw Florida coontie[1]	*Drymarchon corais couperi* *Gopherus polyphemus* *Lithobates capito* *Falco sparverius paulus* *Picoides borealis* *Ursus americanus floridanus* *Felis concolor coryi* *Sciurus niger avicennia* *Burmannia flava* *Chrysophyllum olivaeforme* *Deeringothamnus pulchellus* *Zamia floridana*	T T SSC T E T E T E T E CE	T --- --- --- E --- E --- --- --- E ---
414	Pine-Mesic Oak	5.82	Eastern Indigo Snake Florida Panther Florida Black Bear	*Drymarchon corais couperi* *Felis concolor coryi* *Ursus americanus floridanus*	T E T	T E ---
415	Mixed Pine	51.68	Eastern Indigo Snake Florida panther Florida black bear	*Drymarchon corais couperi* *Felis concolor coryi* *Ursus americanus floridanus*	T E T	T E ---
422	Brazilian pepper	0.39	None Listed	------	---	---
424	Melaleuca	113.87	None Listed	------	---	---
428	Cabbage palm	2.06	Eastern Indigo Snake Audubon's crested caracara Florida Panther Florida Black Bear Simpson's stopper	*Drymarchon corais couperi* *Polyborus plancus audubonii* *Felis concolor coryi* *Ursus americanus floridanus* *Myrcianthes fragrans*	T T E T T	T T E --- ---
429	Wax Myrtle / Willow	399.12	None Listed	------	---	---

[1] Listed by Lee County.

8.1 Potential Listed Species per FLUCFCS Code (Lee County) continued.

FLUCFCS Code	Description	Acreage	Potential Listed Species per Lee County FLUCFCS Code			
			Common Name	Scientific Name	Listed Status	
					State	Federal
510	Streams and Waterways	33.52	American alligator Roseate spoonbill Limpkin Little blue heron Reddish egret Snowy egret Tricolored heron Wood stork Everglades mink	*Alligator mississipiensis* *Ajaja ajaja* *Aramus guarauna* *Egretta caerulea* *Egretta rufescens* *Egretta thula* *Egretta tricolor* *Mycteria americana* *Mustela vison evergladensis*	T (S/A) SSC SSC SSC SSC SSC SSC E T	T (S/A) --- --- --- --- --- --- E ---
514	Canal	195.56	American alligator Roseate spoonbill Limpkin Little blue heron Reddish egret Snowy egret Tricolored heron Wood stork Everglades mink	*Alligator mississipiensis* *Ajaja ajaja* *Aramus guarauna* *Egretta caerulea* *Egretta rufescens* *Egretta thula* *Egretta tricolor* *Mycteria americana* *Mustela vison evergladensis*	T (S/A) SSC SSC SSC SSC SSC SSC E T	T (S/A) --- --- --- --- --- --- E ---
524	Lakes less than 10 acres	0.14	American alligator Roseate spoonbill Limpkin Little blue heron Reddish egret Snowy egret Tricolored heron Wood stork Everglades mink	*Alligator mississipiensis* *Ajaja ajaja* *Aramus guarauna* *Egretta caerulea* *Egretta rufescens* *Egretta thula* *Egretta tricolor* *Mycteria americana* *Mustela vison evergladensis*	T (S/A) SSC SSC SSC SSC SSC SSC E T	T (S/A) --- --- --- --- --- --- E ---

8.1 Potential Listed Species per FLUCFCS Code (Lee County) continued.

FLUCFCS Code	Description	Acreage	Potential Listed Species per Lee County FLUCFCS Code			
			Common Name	Scientific Name	Listed Status	
					State	Federal
600	Wetlands (general)	8.70	Little blue heron Snowy egret Tricolored heron Wood stork	*Egretta caerulea* *Egretta thula* *Egretta tricolor* *Mycteria americana*	SSC SSC SSC E	--- --- --- E
617	Mixed Wetland Hardwoods	5.07	Little blue heron Snowy egret Tricolored heron Wood stork Limpkin Florida panther Florida black bear	*Egretta caerulea* *Egretta thula* *Egretta tricolor* *Mycteria americana* *Aramus guarauna* *Felis concolor coryi* *Ursus americanus floridanus*	SSC SSC SSC E SSC E T	--- --- --- E --- E ---
618	Willow	0.60	Little blue heron Snowy egret Tricolored heron Wood stork	*Egretta caerulea* *Egretta thula* *Egretta tricolor* *Mycteria americana*	SSC SSC SSC E	--- --- --- E
619	Exotic Wetland Hardwoods	41.68	None Listed	------	---	---
621	Cypress	495.01	Little Blue Heron Snowy Egret Tricolored Heron Limpkin Wood Stork Arctic Peregrine Falcon Gopher Frog American Alligator Everglades Mink Florida panther Florida black bear Big Cypress Fox Squirrel	*Egretta caerulea* *Egretta thula* *Egretta tricolor* *Aramus guarauna* *Mycteria americana* *Falco peregrinus tundrius* *Lithobates capito* *Alligator mississipiensis* *Mustela vison evergladensis* *Felis concolor coryi* *Ursus americanus floridanus* *Sciurus niger avicennia*	SSC SSC SSC SSC E --- SSC T (S/A) T E T T	--- --- --- --- E --- --- T (S/A) --- E --- ---

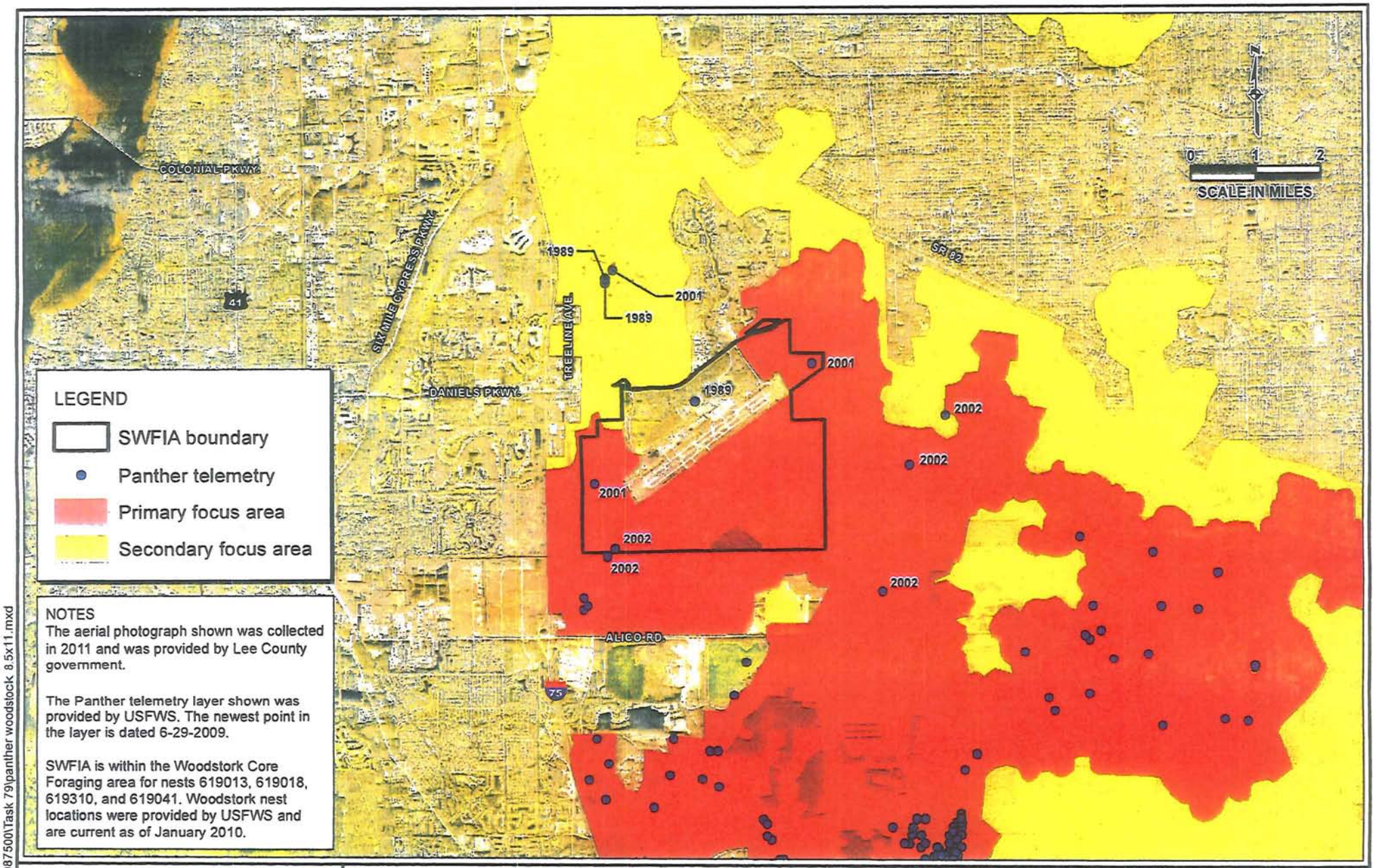
8.1 Potential Listed Species per FLUCFCS Code (Lee County) continued.

FLUCFCS Code	Description	Acreage	Potential Listed Species per Lee County FLUCFCS Code			
			Common Name	Scientific Name	Listed Status	
					State	Federal
624	Cypress-Pine-Cabbage Palm	21.41	Little Blue Heron Snowy Egret Tricolored Heron Florida Panther Florida Black Bear	*Egretta caerulea* *Egretta thula* *Egretta tricolor* *Felis concolor coryi* *Ursus americanus floridanus*	SSC SSC SSC E T	--- --- --- E ---
625	Hydric pine flatwoods	233.59	Little Blue Heron Snowy Egret Tricolored Heron Florida Panther Florida Black Bear	*Egretta caerulea* *Egretta thula* *Egretta tricolor* *Felis concolor coryi* *Ursus americanus floridanus*	SSC SSC SSC E T	--- --- --- E ---
641	Freshwater Marsh	669.74	Little blue heron Snowy egret Tricolored heron Wood stork Limpkin Florida sandhill crane Snail kite American alligator Everglades mink	*Egretta caerulea* *Egretta thula* *Egretta tricolor* *Mycteria americana* *Aramus guarauna* *Grus canadensis pratensis* *Rostrhamus sociabilis plumbeus* *Alligator mississipiensis* *Mustela vison evergladensis*	SSC SSC SSC E SSC T E T (S/A) T	--- --- --- E --- --- E T (S/A) ---
643	Wet Prairie	92.73	Little blue heron Snowy egret Tricolored heron Wood stork Limpkin Snail kite Everglades mink	*Egretta caerulea* *Egretta thula* *Egretta tricolor* *Mycteria americana* *Aramus guarauna* *Rostrhamus sociabilis plumbeus* *Mustela vison evergladensis*	SSC SSC SSC E SSC E T	--- --- --- E --- E ---
740	Disturbed Land	347.47	None Listed	------	---	---
740/748	Disturbed Land / Maintained Grass	24.96	None Listed	------	---	---
742	Borrow Area	205.60	None Listed	------	---	---

8.1 Potential Listed Species per FLUCFCS Code (Lee County) continued.

FLUCFCS Code	Description	Acreage	Potential Listed Species per Lee County FLUCFCS Code			
			Common Name	Scientific Name	Listed Status	
					State	Federal
743	Spoil Area	2.66	Gopher tortoise	Gopherus polyphemus	T	---
746	Abandoned Railway	30.24	None Listed	------	---	---
747	Dry Detention	166.53	None Listed	------	---	---
748	Maintained Grass Area	433.56	None Listed	------	---	---
811	Airport	737.23	None Listed	------	---	---
814	Roads and Highways	286.98	None Listed	------	---	---
818	Auto Parking Facilities	52.46	None Listed	------	---	---
832	Electrical Power Transmission Lines	17.67	None Listed	------	---	---
	Total:	**6366.36**				

List of Abbreviations:
E = Endangered
T = Threatened
T (S/A) = Threatened due to Similarity of Appearance
SSC = Species of Special Concern
CE = Commercially Exploited



NOTES

The aerial photograph shown was collected in 2011 and was provided by Lee County government.

The Panther telemetry layer shown was provided by USFWS. The newest point in the layer is dated 6-29-2009.

SWFIA is within the Woodstork Core Foraging area for nests 619013, 619018, 619310, and 619041. Woodstork nest locations were provided by USFWS and are current as of January 2010.

\\ftms01\proj-jei\20087500\Task 79\panther woodstock 8.5x11.mxd

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Florida Panther Habitat Map
Exhibit IV.C.RSW.7

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	–	As Shown	IV.C.RSW.7

ATTACHMENT FMY

EXISTING ENVIRONMENTAL INFORMATION FOR PAGE FIELD GENERAL AVIATION AIRPORT

ATTACHMENT FMY

1. **Environmental Analysis/Protected Species Survey that was previously submitted for the Page Field AOPD Rezoning (adopted by Resolution No. Z-11-013).**

PAGE FIELD GENERAL AVIATION AIRPORT

REZONING APPLICATION

ENVIRONMENTAL ANALYSIS/ PROTECTED SPECIES SURVEY

Page Field Airport is located within Section 01 Township 45 S and Range 24 E, and totals approximately ±563.65 acres. The airport is completely surrounded by development within an urbanized portion of Lee County, outside the City of Fort Myers city limits. The airport is often referred to by quadrants, which are based on the layout of the two runways.

There are no on-site preserves or conservation easements within the boundaries of Page Field. Preservation of green space that could attract wildlife could be hazardous to air operations at the airport and would be considered an incompatible use according to the Federal Aviation Administration (FAA) Advisory Circular on Hazardous Wildlife Attractants on or Near Airports (AC No: 150/5200-33B, August 28, 2007).

Federal Aviation Administration and Hazardous Wildlife Requirements

Wildlife at airports can be a hazard to aircraft operations. A wildlife hazard to aircraft operations is defined as a potential for a damaging aircraft collision with wildlife on or near an airport. Not all wildlife species are equally hazardous to aircraft operation. The ability of wildlife to be hazardous is dependent on their size, numbers, and behavior. Utilizing the National Wildlife Strike Database a list of the top 25 most hazardous wildlife species groups has been developed. This list is found in the FAA AC 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports.

Page Field Airport receives Federal grant-in-aid assistance, and thus the airport must comply with all FAA Advisory Circulars, including AC 150/5200-33B, which pertains to the management of hazardous wildlife. AC 150/5200-33B provides airports with guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. The AC lists land-use practices having the potential to attract hazardous wildlife and threaten aviation safety; these include but are not limited to:

- waste disposal operations,
- stormwater and wastewater treatment facilities,
- wetlands,
- dredge spoil containment areas,
- agricultural activities,
- golf courses,
- and landscaping.

The FAA specifically recommends with regard to stormwater management, that such new facilities on airports be designed as steep-sided, rip-rap lined, narrow, linearly shaped water detention basins, to facilitate the control of hazardous wildlife and prevent the creation of new attractants.

The LCPA, in compliance with AC 150/5200-33B, has developed two landscape lists to be utilized at Page Field Airport as guidance in planning and reviewing future projects on and surrounding the airport. There is a compatible species list recommending native species that are

typically not attractive to wildlife and can be utilized in landscaping. The incompatible species list includes native plant species that provide significant food and/or cover for wildlife and should be avoided for landscaping projects on and near the airport. The lists were developed with assistance from a qualified airport wildlife damage management biologist.

There is also a FAA Certalert (No. 06-07) that addresses requests by state wildlife agencies to facilitate and encourage habitat for state-listed threatened and endangered species and species of special concern on airports. This guidance is specifically for state-listed species. The Certalert states that the airport operator must decline to adopt habitat management techniques for the benefit of state-listed species that could jeopardize aviation safety. Based on this Certalert the airport should not allow mitigation for impacts to state-listed species and their habitat to occur on airport property if it is to result in a direct or indirect safety hazard.

For the reasons listed above, new development at Page Field Airport should be planned in accordance with AC 150/5200-33B in order to avoid the creation of new hazardous wildlife attractants on airport property. In addition, mitigation for wetland and protected species impacts should not take place on or near airport property.

Protected Species Assessment

Green space at Page Field is in the form of maintained grass areas, some of which act as detention during the rainy season. These areas, as well as other open grass areas surrounding the airport, have historically been utilized by the Florida burrowing owl (*Athene cunicularia floridana*), which is listed by the Florida Fish and Wildlife Conservation Commission (FWC) as a Species of Special Concern. Page Field is a relatively small airfield without the benefit of large pervious areas located away from active aircraft operations for burrowing owls to be directed. Additionally, protection zones associated with runways 5/23 and 13/31 significantly reduce potential burrowing owl habitat. This combined with the airport becoming surrounded by commercial and residential development leaves little to no suitable habitat on or near Airport property. The airport does not actively manage for burrowing owl habitat but regular mowing of these areas corresponds with the owl's habitat requirements.

Burrowing owls utilize Page Field for their nesting activity. They are the only documented listed species to regularly utilize airport property. A Protected Species Survey was conducted at Page Field Airport on June 6, 2007. Weather conditions during the survey consisted of temperatures between 80-85 degrees Fahrenheit, mostly sunny skies, and with a light wind out of the southwest between 0-5mph. The survey was conducted in accordance with the Lee County Land Development Code (LDC), Chapter 10, Article 3, Division 8 (Protection of Habitat) as well in accordance with FWC guidelines. The survey was conducted utilizing the "Meandering Strip Census" methodology and consisted of vehicular and pedestrian transects within all of the green space areas at Page Field Airport to document the presence of all listed species, including active burrowing owl burrows. At least 80% of the project site was covered during this survey. There were ten (10) active burrowing owl nest burrows occupying airport property at that time. The location of these burrows is shown on **Exhibit IV.C.5**. All owl species, occurring in North America, are listed as potential wildlife hazards to air carrier operations in AC 150/5200-33B and therefore, for this reason and those discussed in the previous section they cannot be managed for on airport property.

In terms of their protection, even though no active management is conducted for the burrowing owls they are not actively harassed at Page Field Airport, hence their presence there.

Permit History

An incidental-take permit from FWC is required to destroy any inactive burrowing owl nest burrow. A burrow is determined to be inactive if it contains no eggs or flightless young. In the past the Lee County Port Authority (LCPA) requested individual permits for each specific development project at Page Field to impact a burrowing owl burrow. In 2005, in anticipation of future development in the North and West Quadrants, LCPA sought an airport-wide incidental-take permit for Page Field, which was issued on November 7, 2005 (Permit No. WN05179a, attached). This permit, which was extended on December 23, 2008 and expires on February 15, 2011, allows the permittee, or designee, who is knowledgeable in burrowing owl ecology, to destroy inactive nest burrows within proposed development footprints during construction. The LCPA is required to submit a summary report to FWC for any activities conducted at Page Field pursuant to this permit.

Burrowing Owl Protective Measures

It is critical that no active burrowing owl burrows (burrow containing eggs or flightless young) are damaged during construction and that no owls, eggs, or flightless young are injured during burrow collapse activities. The following procedures will be implemented to reduce impacts to the owls:

1. Timing: Burrowing owl nesting season is from February 15th until July 10th. Any burrow attended by one or more burrowing owls during the nesting season will be considered active, and thus will not be disturbed.
2. Occupation: All burrows will be monitored by a qualified ecologist prior to commencement of construction activities to ensure no eggs or flightless young will be impacted. Burrows that are considered too damaged to house owls will be deemed inactive. Burrows that could potentially hold owls will be thoroughly investigated by terrestrial and / or subterranean (underground camera) observation methods prior to excavation.
3. Method of Collapse: If a burrow is occupied by eggs or juvenile owls it will not be collapsed until the owls have fledged. Burrows will be collapsed by hand shovel only after the ecologist has ensured it is unoccupied. Correspondence in the form of a year-end letter report will be submitted to FWC and Lee County Environmental Sciences Staff for all collapsed burrows.
4. Mitigation: In accordance with FWC recommendations and FAA guidelines, onsite burrowing owl habitat enhancement activities such as artificial nest construction, t-perch installation, or habitat management practices will not be conducted.
5. Burrowing owls outside of development areas will be left to their own recourse to find suitable habitat. Owls continuing to reside at Page Field that do not pose a threat to aircraft operations will likely be left in place. However, if burrowing owls become a nuisance to aircraft operations, LCPA retains the right to implement a wildlife harassment program in accordance with FWC and FAA policies.

Land Use Habitat Types Assessment

Habitat mapping of Page Field Airport was conducted onsite in 2005 and updated using aerial photography taken in 2008. Habitat types were delineated in accordance with the Florida Land Use Cover and Forms Classification System (FLUCFCS) developed by the Florida Department of Transportation (FDOT 1999). ArcGIS (Version 9.1) was used to illustrate habitat mapping areas and associated acreage for the property. As indicated in the FLUCFCS map (**Exhibit D-7-F**) and the table below, the dominate land cover type is maintained grass area, totaling approximately ± 263.16 acres or 46.69% of the airport property. The airport itself and associated facilities make up ±190.83 acres or 33.86% of the entire project boundary. The property does not contain any rare and unique uplands as defined by the Lee Plan.

Table 1 – Page Field FLUCFCS breakdown

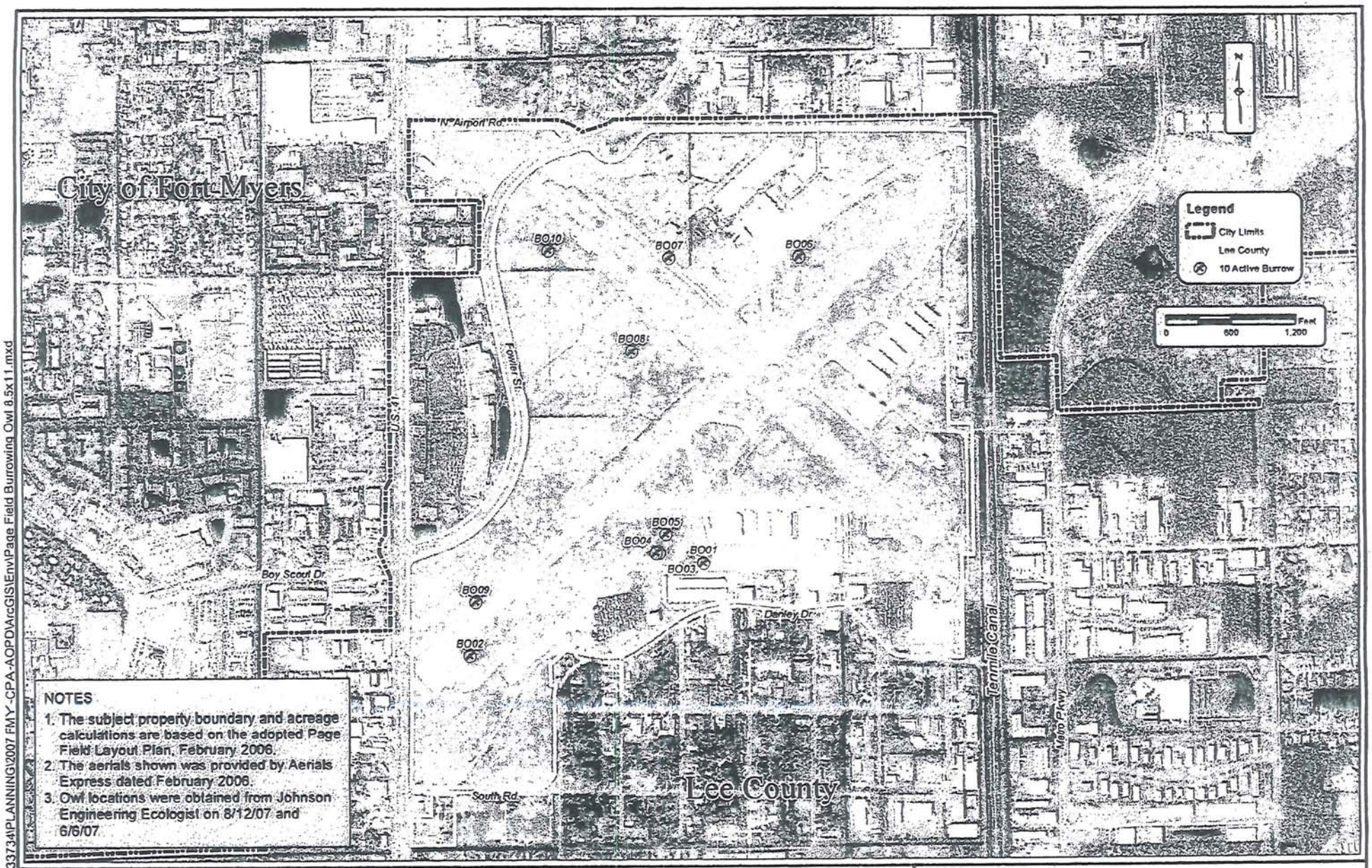
FLUCFCS	FLUCFCS Description	Acreage	Percent cover
141	Commercial Retail Sales and Services	46.03	8.20%
143	Commercial Professional Services	4.93	0.80%
185	Park Facility	3.64	0.65%
311	Maintained Grass Area	263.16	46.69%
329	Mixed Shrub and Brushland	1.29	0.4%
514	Ditch	10.9	1.89%
811	Airport and Associated Facilities	190.83	33.86%
8111	Airport Development	42.87	7.60%
Project Boundary Total Acreage		**563.65**	**100.00%**

The entire Page Field property boundary is outside of any designated aquifer recharge areas for Lee County.

Rare and Unique upland habitats as defined in the Lee Comprehensive Plan under Conservation and Coastal Management Element, Goal 74, Objective 74.1 include, but are not limited to: sand scrub (320); coastal scrub (322); those pine flatwoods (411) which can be categorized as "mature" due to the absence of severe impacts caused by logging, drainage, and exotic infestation; slash pine/midstory oak (412); tropical hardwood (426); live oak hammock (427); and cabbage palm hammock (428). The numbered references are to the Florida Land Use, Cover and Forms Classification System (FLUCFCS) Level III (FDOT, 1999). There are no Rare and Unique Uplands located on Page Field Airport property.

Jurisdictional Wetlands

Some of the drainage ditches on site could be considered Other Surface Waters (OSW) by the South Florida Water Management District (SFWMD). Approximately ±10.9 acres of ditches were mapped within the entire project boundary using aerial photography and limited field observations. Development within the West Quadrant may also be changing the location and total acreage of drainage ditches on site that could be considered OSW by the SFWMD. An official wetlands jurisdictional determination would be needed to provide a total acreage of jurisdictional wetlands found within the Page Field Airport property.



NOTES

1. The subject property boundary and acreage calculations are based on the adopted Page Field Layout Plan, February 2006.
2. The aerials shown was provided by Aerials Express dated February 2006.
3. Owl locations were obtained from Johnson Engineering Ecologist on 8/12/07 and 6/6/07

Page Field
AOPD Rezone
Lee County, Florida

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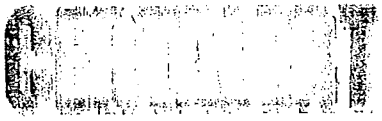
E.B. #642 & L.B. #642

Burrowing Owl Location Map

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
May 2010	20033734-127	00-00-00	As Shown	IV.C.5

\\Flms01\Projects\20033734\PLANNING\2007 FMY-CPA-AOPD\ArcGIS\Env\Page Field Burrowing Owl 8.5x11.mxd



ADVISORY CAUTIONARY NON-DIRECTIVE
AIRPORT SAFETY AND OPERATIONS DIVISION AAS-300

FOR INFORMATION, CONTACT Ed Cleary, AAS-300, (202) 267-3389

Date: **11/21/2006** **No. 06-07**

To: **Airport Operators, FAA Airport Certification Safety Inspectors**

Topic: **Requests by State Wildlife Agencies to Facilitate and Encourage Habitat for State-Listed Threatened and Endangered Species and Species of Special Concern on Airports**

PURPOSE:

This Certalert describes procedures for responding to requests by state wildlife agencies to facilitate and encourage habitats for state-listed threatened and endangered species or species of special concern that occur on airports and may pose a threat to aviation safety. This Certalert does not apply to federally listed threatened and endangered species. Federal Aviation Administration (FAA) guidance on dealing with federally listed threatened and endangered species can be found in FAA Order 1050.1E, *Environmental Impacts - Policies and Procedures*, Appendix A, Section 8.

BACKGROUND:

An airport's air operations area (AOA) is an artificial environment that has been created and maintained for aircraft operations. Because an AOA can be markedly different from the surrounding native landscapes, it may attract wildlife species that do not normally occur, or that occur only in low numbers in the area. Some of the grassland species attracted to an airport's AOA are at the edge of their natural ranges, but are attracted to habitat features found in the airport environment. Also, some wildlife species may occur on the airport in higher numbers than occur naturally in the region because the airport offers habitat features the species prefer. Some of these wildlife species are state-listed threatened and endangered species or have been designated by state resource agencies as species of special concern.

Many state wildlife agencies have requested that airport operators facilitate and encourage habitat on airports for state-listed threatened and endangered species or species of special concern. Airport operators should exercise great caution in adopting new management techniques; new techniques may increase wildlife hazards and be inconsistent with safe airport operations. Managing the on-airport environment to facilitate or encourage the presence of hazardous wildlife species can create conditions that are incompatible with, or pose a threat to, aviation safety.

DISCUSSION:

Hazardous wildlife are those species of wildlife (50 CFR 10.12), including feral animals and domesticated animals not under control (14 CFR 139.5, Definitions), that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard. (FAA Advisory Circular 150/5200-33A, *Hazardous Wildlife Attractants on or Near Airports*, July 27, 2004.) Not all state-listed threatened and endangered species or species of concern pose a direct threat to aviation safety. However, these species may pose an indirect threat and be hazardous because they attract other wildlife species or support prey species attractive to other species that are directly hazardous. Also, the habitat management practices that benefit these state-listed threatened and endangered species and species of special concern may attract other hazardous wildlife species. For example, the grassland habitat preferred by grasshopper sparrows, which are listed as threatened in New York[1], also supports a wide variety of insects and small mammals. These insects and small mammals are an indirect threat to aviation safety because they are very attractive to hawks, owls, gulls and other birds. It is these large birds that can pose a direct threat to aviation safety. On-airport habitat and wildlife management practices designed to benefit wildlife that directly or indirectly create safety hazard where none existed before are incompatible with safe airport operations.

Airport operators must decline to adopt habitat management techniques that jeopardize aviation safety. Adopting such techniques could place them in violation of their obligations and subject to an FAA enforcement action and possible civil penalties under 49 U.S.C. §44706, as implemented by 14 CFR § 139.337. In particular, an airport operator that has received federal grant-in-aid assistance is obligated through its grant assurances to maintain compatible land uses. Failure to do so may lead to noncompliance with its grant obligations. Further, airports that serve commercial air carriers are required to be certificated under 49 U.S.C. §44706, as implemented by 14 CFR Part 139. Title 14 CFR § 139.337(a) requires airport operators holding a Part 139 certificate to "take immediate action to alleviate wildlife hazards whenever they are detected." Accordingly, Part 139-certificated airport operators should make state wildlife agencies aware of the airport's FAA-approved Wildlife Hazard Management Plan (WHMP), AC 150/5200-33A, and the joint FAA-Wildlife Services manual, *Wildlife Hazard Management at Airports* (6/05) (joint FAA/WS manual). Before making any changes in land management practices, the airport operator should carefully review the above documents to assure that any changes are consistent with its obligations under federal law to control wildlife hazards and attractants in the AOA. For ease of reference, the key land management practices bearing upon aviation safety are summarized and highlighted below:

RECOMMENDATIONS:

1. Adhere to the turf, landscaping, and habitat management practices described in the airport's WHMP, AC 150/5200-33A, and the joint FAA/WS manual. Do not change these practices specifically to encourage the presence of, or to attract hazardous wildlife species even if the species are state-listed or of special concern.

    a. Do not deliberately preserve or develop on-airport wildlife habitats such as wetlands, forest, brush, or native grasslands having characteristics that attract

---

[1] Those species listed by states as threatened, endangered, or species of special concern vary from state to state. For information on state listed species, contact the appropriate state wildlife management Agency.

hazardous wildlife (See the airport's WHMP, AC 150/5200-33A, and the joint FAA/WS Manual.)

b. Manage the airport's AOA vegetation as recommended in the airport's WHMP, AC 150/5200-33A, and the joint FAA/WS manual.

2. Adhere to the wildlife harassment and repellant techniques described in the airport's WHMP, AC 150/5200-33A, and the joint FAA/WS manual to prevent hazardous wildlife species from becoming established and complicating the ability to adhere to prescribed habitat management practices.

3. Do not allow hazardous state-listed threatened and endangered species or species of special concern to remain on the airport if it requires managing the airport environment contrary to FAA recommendations.

4. Reevaluate existing and evaluate future agreements with federal, state, or local wildlife agencies where the terms of the agreements are or may be contrary to federal obligations concerning hazardous wildlife on or near public-use airports and aviation safety.

5. Whenever practicable, wetland mitigation for state-listed threatened and endangered species or species of special concern should be sited off-airport (see AC 150/5200-33A, §2-4.c (1)).

OSB

Ben Castellano, Manager
Airport Safety & Operations Division

11/21/2006

Date

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**Federal Aviation
Administration**

Advisory Circular

Subject: HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS	**Date:** 8/28/2007	**AC No:** 150/5200-33B
	Initiated by: AAS-300	**Change:**

1. **PURPOSE.** This Advisory Circular (AC) provides guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. Appendix 1 provides definitions of terms used in this AC.

2. **APPLICABILITY.** The Federal Aviation Administration (FAA) recommends that public-use airport operators implement the standards and practices contained in this AC. The holders of Airport Operating Certificates issued under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D (Part 139), may use the standards, practices, and recommendations contained in this AC to comply with the wildlife hazard management requirements of Part 139. Airports that have received Federal grant-in-aid assistance must use these standards. The FAA also recommends the guidance in this AC for land-use planners, operators of non-certificated airports, and developers of projects, facilities, and activities on or near airports.

3. **CANCELLATION.** This AC cancels AC 150/5200-33A, *Hazardous Wildlife Attractants on or near Airports*, dated July 27, 2004.

4. **PRINCIPAL CHANGES.** This AC contains the following major changes, which are marked with vertical bars in the margin:

   a. Technical changes to paragraph references.

   b. Wording on storm water detention ponds.

   c. Deleted paragraph 4-3.b, *Additional Coordination.*

5. **BACKGROUND.** Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife are a serious economic and public safety problem. While many species of wildlife can pose a threat to aircraft safety, they are not equally hazardous. Table 1

ranks the wildlife groups commonly involved in damaging strikes in the United States according to their relative hazard to aircraft. The ranking is based on the 47,212 records in the FAA National Wildlife Strike Database for the years 1990 through 2003. These hazard rankings, in conjunction with site-specific Wildlife Hazards Assessments (WHA), will help airport operators determine the relative abundance and use patterns of wildlife species and help focus hazardous wildlife management efforts on those species most likely to cause problems at an airport.

Most public-use airports have large tracts of open, undeveloped land that provide added margins of safety and noise mitigation. These areas can also present potential hazards to aviation if they encourage wildlife to enter an airport's approach or departure airspace or air operations area (AOA). Constructed or natural areas—such as poorly drained locations, detention/retention ponds, roosting habitats on buildings, landscaping, odor-causing rotting organic matter (putrescible waste) disposal operations, wastewater treatment plants, agricultural or aquaculture activities, surface mining, or wetlands—can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape. Even small facilities, such as fast food restaurants, taxicab staging areas, rental car facilities, aircraft viewing areas, and public parks, can produce substantial attractions for hazardous wildlife.

During the past century, wildlife-aircraft strikes have resulted in the loss of hundreds of lives worldwide, as well as billions of dollars in aircraft damage. Hazardous wildlife attractants on and near airports can jeopardize future airport expansion, making proper community land-use planning essential. This AC provides airport operators and those parties with whom they cooperate with the guidance they need to assess and address potentially hazardous wildlife attractants when locating new facilities and implementing certain land-use practices on or near public-use airports.

6. **MEMORANDUM OF AGREEMENT BETWEEN FEDERAL RESOURCE AGENCIES.** The FAA, the U.S. Air Force, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture - Wildlife Services signed a Memorandum of Agreement (MOA) in July 2003 to acknowledge their respective missions in protecting aviation from wildlife hazards. Through the MOA, the agencies established procedures necessary to coordinate their missions to address more effectively existing and future environmental conditions contributing to collisions between wildlife and aircraft (wildlife strikes) throughout the United States. These efforts are intended to minimize wildlife risks to aviation and human safety while protecting the Nation's valuable environmental resources.

DAVID L. BENNETT
Director, Office of Airport Safety
and Standards

Table 1. Ranking of 25 species groups as to relative hazard to aircraft (1=most hazardous) based on three criteria (damage, major damage, and effect-on-flight), a composite ranking based on all three rankings, and a relative hazard score. Data were derived from the FAA National Wildlife Strike Database, January 1990–April 2003.[1]

Species group	Ranking by criteria			Composite ranking[2]	Relative hazard score[3]
	Damage[4]	Major damage[5]	Effect on flight[6]		
Deer	1	1	1	1	100
Vultures	2	2	2	2	64
Geese	3	3	6	3	55
Cormorants/pelicans	4	5	3	4	54
Cranes	7	6	4	5	47
Eagles	6	9	7	6	41
Ducks	5	8	10	7	39
Osprey	8	4	8	8	39
Turkey/pheasants	9	7	11	9	33
Herons	11	14	9	10	27
Hawks (buteos)	10	12	12	11	25
Gulls	12	11	13	12	24
Rock pigeon	13	10	14	13	23
Owls	14	13	20	14	23
H. lark/s. bunting	18	15	15	15	17
Crows/ravens	15	16	16	16	16
Coyote	16	19	5	17	14
Mourning dove	17	17	17	18	14
Shorebirds	19	21	18	19	10
Blackbirds/starling	20	22	19	20	10
American kestrel	21	18	21	21	9
Meadowlarks	22	20	22	22	7
Swallows	24	23	24	23	4
Sparrows	25	24	23	24	4
Nighthawks	23	25	25	25	1

[1] Excerpted from the *Special Report for the FAA, "Ranking the Hazard Level of Wildlife Species to Civil Aviation in the USA: Update #1, July 2, 2003"*. Refer to this report for additional explanations of criteria and method of ranking.

[2] Relative rank of each species group was compared with every other group for the three variables, placing the species group with the greatest hazard rank for $\geq$ 2 of the 3 variables above the next highest ranked group, then proceeding down the list.

[3] Percentage values, from Tables 3 and 4 in Footnote 1 of the *Special Report*, for the three criteria were summed and scaled down from 100, with 100 as the score for the species group with the maximum summed values and the greatest potential hazard to aircraft.

[4] Aircraft incurred at least some damage (destroyed, substantial, minor, or unknown) from strike.

[5] Aircraft incurred damage or structural failure, which adversely affected the structure strength, performance, or flight characteristics, and which would normally require major repair or replacement of the affected component, or the damage sustained makes it inadvisable to restore aircraft to airworthy condition.

[6] Aborted takeoff, engine shutdown, precautionary landing, or other.

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SECTION 1.

GENERAL SEPARATION CRITERIA FOR HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS.

1-1. INTRODUCTION. When considering proposed land uses, airport operators, local planners, and developers must take into account whether the proposed land uses, including new development projects, will increase wildlife hazards. Land-use practices that attract or sustain hazardous wildlife populations on or near airports can significantly increase the potential for wildlife strikes.

The FAA recommends the minimum separation criteria outlined below for land-use practices that attract hazardous wildlife to the vicinity of airports. Please note that FAA criteria include land uses that cause movement of hazardous wildlife onto, into, or across the airport's approach or departure airspace or air operations area (AOA). (See the discussion of the synergistic effects of surrounding land uses in Section 2-8 of this AC.)

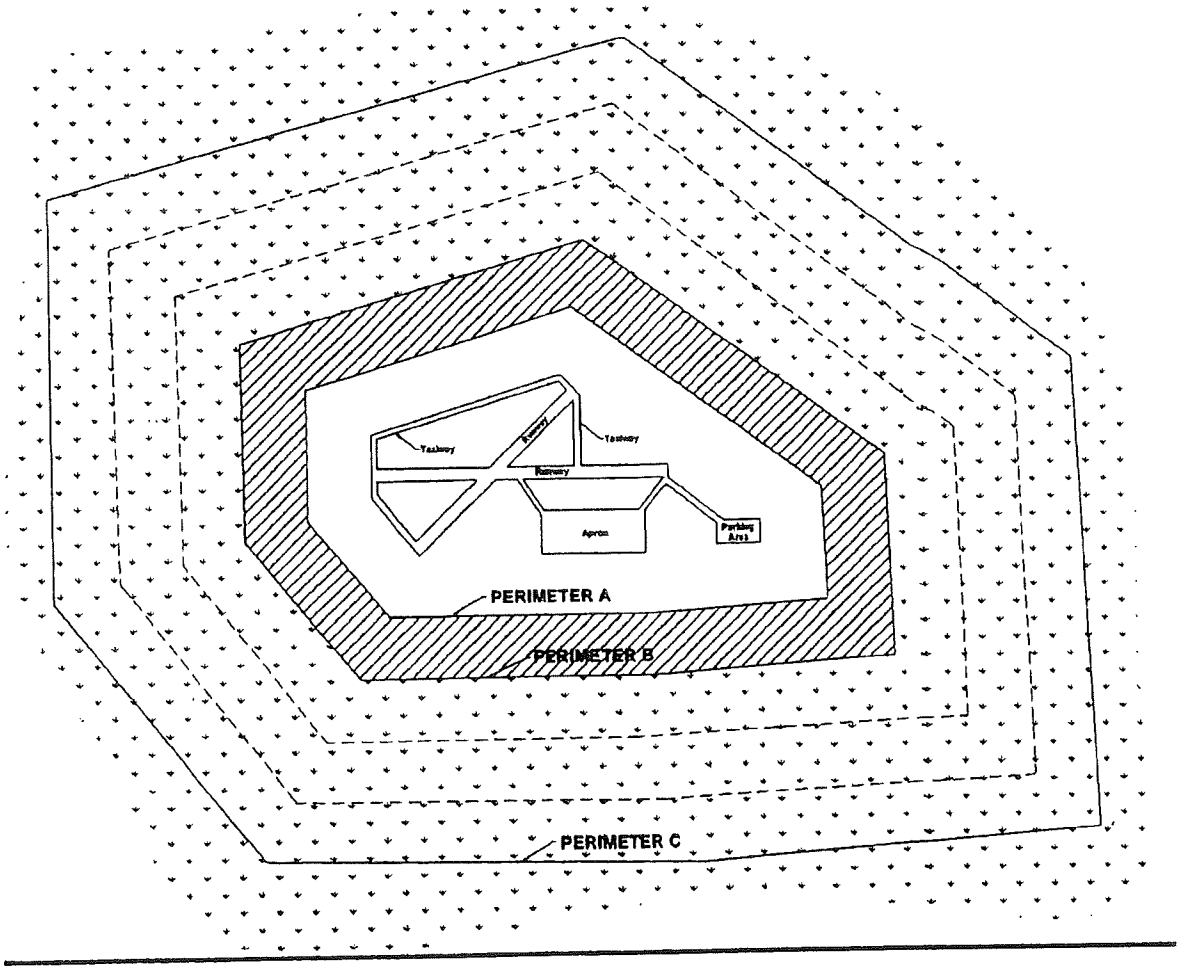
The basis for the separation criteria contained in this section can be found in existing FAA regulations. The separation distances are based on (1) flight patterns of piston-powered aircraft and turbine-powered aircraft, (2) the altitude at which most strikes happen (78 percent occur under 1,000 feet and 90 percent occur under 3,000 feet above ground level), and (3) National Transportation Safety Board (NTSB) recommendations.

1-2. AIRPORTS SERVING PISTON-POWERED AIRCRAFT. Airports that do not sell Jet-A fuel normally serve piston-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 5,000 feet at these airports for any of the hazardous wildlife attractants mentioned in Section 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between an airport's AOA and the hazardous wildlife attractant. Figure 1 depicts this separation distance measured from the nearest aircraft operations areas.

1-3. AIRPORTS SERVING TURBINE-POWERED AIRCRAFT. Airports selling Jet-A fuel normally serve turbine-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 10,000 feet at these airports for any of the hazardous wildlife attractants mentioned in Section 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between an airport's AOA and the hazardous wildlife attractant. Figure 1 depicts this separation distance from the nearest aircraft movement areas.

1-4. PROTECTION OF APPROACH, DEPARTURE, AND CIRCLING AIRSPACE. For all airports, the FAA recommends a distance of 5 statute miles between the farthest edge of the airport's AOA and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace.

Figure 1. Separation distances within which hazardous wildlife attractants should be avoided, eliminated, or mitigated.



PERIMETER A: For airports serving piston-powered aircraft, hazardous wildlife attractants must be 5,000 feet from the nearest air operations area.

PERIMETER B: For airports serving turbine-powered aircraft, hazardous wildlife attractants must be 10,000 feet from the nearest air operations area.

PERIMETER C: 5-mile range to protect approach, departure and circling airspace.

SECTION 2.

LAND-USE PRACTICES ON OR NEAR AIRPORTS THAT POTENTIALLY ATTRACT HAZARDOUS WILDLIFE.

2-1. GENERAL. The wildlife species and the size of the populations attracted to the airport environment vary considerably, depending on several factors, including land-use practices on or near the airport. This section discusses land-use practices having the potential to attract hazardous wildlife and threaten aviation safety. In addition to the specific considerations outlined below, airport operators should refer to *Wildlife Hazard Management at Airports,* prepared by FAA and U.S. Department of Agriculture (USDA) staff. (This manual is available in English, Spanish, and French. It can be viewed and downloaded free of charge from the FAA's wildlife hazard mitigation web site: http://wildlife-mitigation.tc.FAA.gov.). And, *Prevention and Control of Wildlife Damage,* compiled by the University of Nebraska Cooperative Extension Division. (This manual is available online in a periodically updated version at: ianrwww.unl.edu/wildlife/solutions/handbook/.)

2-2. WASTE DISPOSAL OPERATIONS. Municipal solid waste landfills (MSWLF) are known to attract large numbers of hazardous wildlife, particularly birds. Because of this, these operations, when located within the separations identified in the siting criteria in Sections 1-2 through 1-4, are considered incompatible with safe airport operations.

a. **Siting for new municipal solid waste landfills subject to AIR 21.** Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Public Law 106-181) (AIR 21) prohibits the construction or establishment of a new MSWLF within 6 statute miles of certain public-use airports. Before these prohibitions apply, both the airport and the landfill must meet the very specific conditions described below. These restrictions do not apply to airports or landfills located within the state of Alaska.

   The airport must (1) have received a Federal grant(s) under 49 U.S.C. § 47101, et. seq.; (2) be under control of a public agency; (3) serve some scheduled air carrier operations conducted in aircraft with less than 60 seats; and (4) have total annual enplanements consisting of at least 51 percent of scheduled air carrier enplanements conducted in aircraft with less than 60 passenger seats.

   The proposed MSWLF must (1) be within 6 miles of the airport, as measured from airport property line to MSWLF property line, and (2) have started construction or establishment on or after April 5, 2001. Public Law 106-181 only limits the construction or establishment of some new MSWLF. It does not limit the expansion, either vertical or horizontal, of existing landfills.

   NOTE: Consult the most recent version of AC 150/5200-34, *Construction or Establishment of Landfills Near Public Airports,* for a more detailed discussion of these restrictions.

b. **Siting for new MSWLF not subject to AIR 21.** If an airport and MSWLF do not meet the restrictions of Public Law 106-181, the FAA recommends against locating MSWLF within the separation distances identified in Sections 1-2 through 1-4. The separation distances should be measured from the closest point of the airport's AOA to the closest planned MSWLF cell.

c. **Considerations for existing waste disposal facilities within the limits of separation criteria.** The FAA recommends against airport development projects that would increase the number of aircraft operations or accommodate larger or faster aircraft near MSWLF operations located within the separations identified in Sections 1-2 through 1-4. In addition, in accordance with 40 CFR 258.10, owners or operators of existing MSWLF units that are located within the separations listed in Sections 1-2 through 1-4 must demonstrate that the unit is designed and operated so it does not pose a bird hazard to aircraft. (See Section 4-2(b) of this AC for a discussion of this demonstration requirement.)

d. **Enclosed trash transfer stations.** Enclosed waste-handling facilities that receive garbage behind closed doors; process it via compaction, incineration, or similar manner; and remove all residue by enclosed vehicles generally are compatible with safe airport operations, provided they are not located on airport property or within the Runway Protection Zone (RPZ). These facilities should not handle or store putrescible waste outside or in a partially enclosed structure accessible to hazardous wildlife. Trash transfer facilities that are open on one or more sides; that store uncovered quantities of municipal solid waste outside, even if only for a short time; that use semi-trailers that leak or have trash clinging to the outside; or that do not control odors by ventilation and filtration systems (odor masking is not acceptable) do not meet the FAA's definition of fully enclosed trash transfer stations. The FAA considers these facilities incompatible with safe airport operations if they are located closer than the separation distances specified in Sections 1-2 through 1-4.

e. **Composting operations on or near airport property.** Composting operations that accept only yard waste (e.g., leaves, lawn clippings, or branches) generally do not attract hazardous wildlife. Sewage sludge, woodchips, and similar material are not municipal solid wastes and may be used as compost bulking agents. The compost, however, must never include food or other municipal solid waste. Composting operations should not be located on airport property. Off-airport property composting operations should be located no closer than the greater of the following distances: 1,200 feet from any AOA or the distance called for by airport design requirements (see AC 150/5300-13, *Airport Design*). This spacing should prevent material, personnel, or equipment from penetrating any Object Free Area (OFA), Obstacle Free Zone (OFZ), Threshold Siting Surface (TSS), or Clearway. Airport operators should monitor composting operations located in proximity to the airport to ensure that steam or thermal rise does not adversely affect air traffic. On-airport disposal of compost by-products should not be conducted for the reasons stated in 2-3f.

f. **Underwater waste discharges.** The FAA recommends against the underwater discharge of any food waste (e.g., fish processing offal) within the separations identified in Sections 1-2 through 1-4 because it could attract scavenging hazardous wildlife.

g. **Recycling centers.** Recycling centers that accept previously sorted non-food items, such as glass, newspaper, cardboard, or aluminum, are, in most cases, not attractive to hazardous wildlife and are acceptable.

h. **Construction and demolition (C&D) debris facilities.** C&D landfills do not generally attract hazardous wildlife and are acceptable if maintained in an orderly manner, admit no putrescible waste, and are not co-located with other waste disposal operations. However, C&D landfills have similar visual and operational characteristics to putrescible waste disposal sites. When co-located with putrescible waste disposal operations, C&D landfills are more likely to attract hazardous wildlife because of the similarities between these disposal facilities. Therefore, a C&D landfill co-located with another waste disposal operation should be located outside of the separations identified in Sections 1-2 through 1-4.

i. **Fly ash disposal.** The incinerated residue from resource recovery power/heat-generating facilities that are fired by municipal solid waste, coal, or wood is generally not a wildlife attractant because it no longer contains putrescible matter. Landfills accepting only fly ash are generally not considered to be wildlife attractants and are acceptable as long as they are maintained in an orderly manner, admit no putrescible waste of any kind, and are not co-located with other disposal operations that attract hazardous wildlife.

   Since varying degrees of waste consumption are associated with general incineration (not resource recovery power/heat-generating facilities), the FAA considers the ash from general incinerators a regular waste disposal by-product and, therefore, a hazardous wildlife attractant if disposed of within the separation criteria outlined in Sections 1-2 through 1-4.

2-3. WATER MANAGEMENT FACILITIES. Drinking water intake and treatment facilities, storm water and wastewater treatment facilities, associated retention and settling ponds, ponds built for recreational use, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife. To prevent wildlife hazards, land-use developers and airport operators may need to develop management plans, in compliance with local and state regulations, to support the operation of storm water management facilities on or near all public-use airports to ensure a safe airport environment.

a. **Existing storm water management facilities.** On-airport storm water management facilities allow the quick removal of surface water, including discharges related to aircraft deicing, from impervious surfaces, such as pavement and terminal/hangar building roofs. Existing on-airport detention ponds collect storm water, protect water quality, and control runoff. Because they slowly release water

after storms, they create standing bodies of water that can attract hazardous wildlife. Where the airport has developed a Wildlife Hazard Management Plan (WHMP) in accordance with Part 139, the FAA requires immediate correction of any wildlife hazards arising from existing storm water facilities located on or near airports, using appropriate wildlife hazard mitigation techniques. Airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a wildlife damage management biologist.

Where possible, airport operators should modify storm water detention ponds to allow a maximum 48-hour detention period for the design storm. The FAA recommends that airport operators avoid or remove retention ponds and detention ponds featuring dead storage to eliminate standing water. Detention basins should remain totally dry between rainfalls. Where constant flow of water is anticipated through the basin, or where any portion of the basin bottom may remain wet, the detention facility should include a concrete or paved pad and/or ditch/swale in the bottom to prevent vegetation that may provide nesting habitat.

When it is not possible to drain a large detention pond completely, airport operators may use physical barriers, such as bird balls, wires grids, pillows, or netting, to deter birds and other hazardous wildlife. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office.

The FAA recommends that airport operators encourage off-airport storm water treatment facility operators to incorporate appropriate wildlife hazard mitigation techniques into storm water treatment facility operating practices when their facility is located within the separation criteria specified in Sections 1-2 through 1-4.

b. **New storm water management facilities.** The FAA strongly recommends that off-airport storm water management systems located within the separations identified in Sections 1-2 through 1-4 be designed and operated so as not to create above-ground standing water. Stormwater detention ponds should be designed, engineered, constructed, and maintained for a maximum 48–hour detention period after the design storm and remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. When it is not possible to place these ponds away from an airport's AOA, airport operators should use physical barriers, such as bird balls, wires grids, pillows, or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office. All vegetation in or around detention basins that provide food or cover for hazardous wildlife should be eliminated. If soil conditions and other requirements allow, the FAA encourages

the use of underground storm water infiltration systems, such as French drains or buried rock fields, because they are less attractive to wildlife.

c. **Existing wastewater treatment facilities.** The FAA strongly recommends that airport operators immediately correct any wildlife hazards arising from existing wastewater treatment facilities located on or near the airport. Where required, a WHMP developed in accordance with Part 139 will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should encourage wastewater treatment facility operators to incorporate measures, developed in consultation with a wildlife damage management biologist, to minimize hazardous wildlife attractants. Airport operators should also encourage those wastewater treatment facility operators to incorporate these mitigation techniques into their standard operating practices. In addition, airport operators should consider the existence of wastewater treatment facilities when evaluating proposed sites for new airport development projects and avoid such sites when practicable.

d. **New wastewater treatment facilities.** The FAA strongly recommends against the construction of new wastewater treatment facilities or associated settling ponds within the separations identified in Sections 1-2 through 1-4. Appendix 1 defines wastewater treatment facility as "any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes." The definition includes any pretreatment involving the reduction of the amount of pollutants or the elimination of pollutants prior to introducing such pollutants into a publicly owned treatment works (wastewater treatment facility). During the site-location analysis for wastewater treatment facilities, developers should consider the potential to attract hazardous wildlife if an airport is in the vicinity of the proposed site, and airport operators should voice their opposition to such facilities if they are in proximity to the airport.

e. **Artificial marshes.** In warmer climates, wastewater treatment facilities sometimes employ artificial marshes and use submergent and emergent aquatic vegetation as natural filters. These artificial marshes may be used by some species of flocking birds, such as blackbirds and waterfowl, for breeding or roosting activities. The FAA strongly recommends against establishing artificial marshes within the separations identified in Sections 1-2 through 1-4.

f. **Wastewater discharge and sludge disposal.** The FAA recommends against the discharge of wastewater or sludge on airport property because it may improve soil moisture and quality on unpaved areas and lead to improved turf growth that can be an attractive food source for many species of animals. Also, the turf requires more frequent mowing, which in turn may mutilate or flush insects or small animals and produce straw, both of which can attract hazardous wildlife. In addition, the improved turf may attract grazing wildlife, such as deer and geese. Problems may also occur when discharges saturate unpaved airport areas. The resultant soft, muddy conditions can severely restrict or prevent emergency vehicles from reaching accident sites in a timely manner.

2-4. WETLANDS. Wetlands provide a variety of functions and can be regulated by local, state, and Federal laws. Normally, wetlands are attractive to many types of wildlife, including many which rank high on the list of hazardous wildlife species (Table 1).

NOTE: If questions exist as to whether an area qualifies as a wetland, contact the local division of the U.S. Army Corps of Engineers, the Natural Resources Conservation Service, or a wetland consultant qualified to delineate wetlands.

a. **Existing wetlands on or near airport property.** If wetlands are located on or near airport property, airport operators should be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. At public-use airports, the FAA recommends immediately correcting, in cooperation with local, state, and Federal regulatory agencies, any wildlife hazards arising from existing wetlands located on or near airports. Where required, a WHMP will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a wildlife damage management biologist.

b. **New airport development.** Whenever possible, the FAA recommends locating new airports using the separations from wetlands identified in Sections 1-2 through 1-4. Where alternative sites are not practicable, or when airport operators are expanding an existing airport into or near wetlands, a wildlife damage management biologist, in consultation with the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the state wildlife management agency should evaluate the wildlife hazards and prepare a WHMP that indicates methods of minimizing the hazards.

c. **Mitigation for wetland impacts from airport projects.** Wetland mitigation may be necessary when unavoidable wetland disturbances result from new airport development projects or projects required to correct wildlife hazards from wetlands. Wetland mitigation must be designed so it does not create a wildlife hazard. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Sections 1-2 through 1-4.

(1) Onsite mitigation of wetland functions. The FAA may consider exceptions to locating mitigation activities outside the separations identified in Sections 1-2 through 1-4 if the affected wetlands provide unique ecological functions, such as critical habitat for threatened or endangered species or ground water recharge, which cannot be replicated when moved to a different location. Using existing airport property is sometimes the only feasible way to achieve the mitigation ratios mandated in regulatory orders and/or settlement agreements with the resource agencies. Conservation easements are an additional means of providing mitigation for project impacts. Typically the airport operator continues to own the property, and an easement is created stipulating that the property will be maintained as habitat for state or Federally listed species.

Mitigation must not inhibit the airport operator's ability to effectively control hazardous wildlife on or near the mitigation site or effectively maintain other aspects of safe airport operations. Enhancing such mitigation areas to attract hazardous wildlife must be avoided. The FAA will review any onsite mitigation proposals to determine compatibility with safe airport operations. A wildlife damage management biologist should evaluate any wetland mitigation projects that are needed to protect unique wetland functions and that must be located in the separation criteria in Sections 1-2 through 1-4 before the mitigation is implemented. A WHMP should be developed to reduce the wildlife hazards.

(2) Offsite mitigation of wetland functions. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Sections 1-2 through 1-4 unless they provide unique functions that must remain onsite (see 2-4c(1)). Agencies that regulate impacts to or around wetlands recognize that it may be necessary to split wetland functions in mitigation schemes. Therefore, regulatory agencies may, under certain circumstances, allow portions of mitigation to take place in different locations.

(3) Mitigation banking. Wetland mitigation banking is the creation or restoration of wetlands in order to provide mitigation credits that can be used to offset permitted wetland losses. Mitigation banking benefits wetland resources by providing advance replacement for permitted wetland losses; consolidating small projects into larger, better-designed and managed units; and encouraging integration of wetland mitigation projects with watershed planning. This last benefit is most helpful for airport projects, as wetland impacts mitigated outside of the separations identified in Sections 1-2 through 1-4 can still be located within the same watershed. Wetland mitigation banks meeting the separation criteria offer an ecologically sound approach to mitigation in these situations. Airport operators should work with local watershed management agencies or organizations to develop mitigation banking for wetland impacts on airport property.

2-5. DREDGE SPOIL CONTAINMENT AREAS. The FAA recommends against locating dredge spoil containment areas (also known as Confined Disposal Facilities) within the separations identified in Sections 1-2 through 1-4 if the containment area or the spoils contain material that would attract hazardous wildlife.

2-6. AGRICULTURAL ACTIVITIES. Because most, if not all, agricultural crops can attract hazardous wildlife during some phase of production, the FAA recommends against the used of airport property for agricultural production, including hay crops, within the separations identified in Sections 1-2 through 1-4. . If the airport has no financial alternative to agricultural crops to produce income necessary to maintain the viability of the airport, then the airport shall follow the crop distance guidelines listed in the table titled "Minimum Distances between Certain Airport Features and Any On-Airport Agricultural Crops" found in AC 150/5300-13, *Airport Design*, Appendix 17. The cost of wildlife control and potential accidents should be weighed against the income produced by the on-airport crops when deciding whether to allow crops on the airport.

a. **Livestock production.** Confined livestock operations (i.e., feedlots, dairy operations, hog or chicken production facilities, or egg laying operations) often attract flocking birds, such as starlings, that pose a hazard to aviation. Therefore, The FAA recommends against such facilities within the separations identified in Sections 1-2 through 1-4. Any livestock operation within these separations should have a program developed to reduce the attractiveness of the site to species that are hazardous to aviation safety. Free-ranging livestock must not be grazed on airport property because the animals may wander onto the AOA. Furthermore, livestock feed, water, and manure may attract birds.

b. **Aquaculture.** Aquaculture activities (i.e. catfish or trout production) conducted outside of fully enclosed buildings are inherently attractive to a wide variety of birds. Existing aquaculture facilities/activities within the separations listed in Sections 1-2 through 1-4 must have a program developed to reduce the attractiveness of the sites to species that are hazardous to aviation safety. Airport operators should also oppose the establishment of new aquaculture facilities/activities within the separations listed in Sections 1-2 through 1-4.

c. **Alternative uses of agricultural land.** Some airports are surrounded by vast areas of farmed land within the distances specified in Sections 1-2 through 1-4. Seasonal uses of agricultural land for activities such as hunting can create a hazardous wildlife situation. In some areas, farmers will rent their land for hunting purposes. Rice farmers, for example, flood their land during waterfowl hunting season and obtain additional revenue by renting out duck blinds. The duck hunters then use decoys and call in hundreds, if not thousands, of birds, creating a tremendous threat to aircraft safety. A wildlife damage management biologist should review, in coordination with local farmers and producers, these types of seasonal land uses and incorporate them into the WHMP.

2-7. GOLF COURSES, LANDSCAPING AND OTHER LAND-USE CONSIDERATIONS.

a. **Golf courses.** The large grassy areas and open water found on most golf courses are attractive to hazardous wildlife, particularly Canada geese and some species of gulls. These species can pose a threat to aviation safety. The FAA recommends against construction of new golf courses within the separations identified in Sections 1-2 through 1-4. Existing golf courses located within these separations must develop a program to reduce the attractiveness of the sites to species that are hazardous to aviation safety. Airport operators should ensure these golf courses are monitored on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, corrective actions should be immediately implemented.

b. **Landscaping and landscape maintenance.** Depending on its geographic location, landscaping can attract hazardous wildlife. The FAA recommends that airport operators approach landscaping with caution and confine it to airport areas not associated with aircraft movements. A wildlife damage management biologist should review all landscaping plans. Airport operators should also monitor all landscaped areas on a continuing basis for the presence of hazardous wildlife. If

hazardous wildlife is detected, corrective actions should be immediately implemented.

Turf grass areas can be highly attractive to a variety of hazardous wildlife species. Research conducted by the USDA Wildlife Services' National Wildlife Research Center has shown that no one grass management regime will deter all species of hazardous wildlife in all situations. In cooperation with wildlife damage management biologist, airport operators should develop airport turf grass management plans on a prescription basis, depending on the airport's geographic locations and the type of hazardous wildlife likely to frequent the airport

Airport operators should ensure that plant varieties attractive to hazardous wildlife are not used on the airport. Disturbed areas or areas in need of re-vegetating should not be planted with seed mixtures containing millet or any other large-seed producing grass. For airport property already planted with seed mixtures containing millet, rye grass, or other large-seed producing grasses, the FAA recommends disking, plowing, or another suitable agricultural practice to prevent plant maturation and seed head production. Plantings should follow the specific recommendations for grass management and seed and plant selection made by the State University Cooperative Extension Service, the local office of Wildlife Services, or a qualified wildlife damage management biologist. Airport operators should also consider developing and implementing a preferred/prohibited plant species list, reviewed by a wildlife damage management biologist, which has been designed for the geographic location to reduce the attractiveness to hazardous wildlife for landscaping airport property.

c. **Airports surrounded by wildlife habitat.** The FAA recommends that operators of airports surrounded by woodlands, water, or wetlands refer to Section 2.4 of this AC. Operators of such airports should provide for a Wildlife Hazard Assessment (WHA) conducted by a wildlife damage management biologist. This WHA is the first step in preparing a WHMP, where required.

d. **Other hazardous wildlife attractants.** Other specific land uses or activities (e.g., sport or commercial fishing, shellfish harvesting, etc.), perhaps unique to certain regions of the country, have the potential to attract hazardous wildlife. Regardless of the source of the attraction, when hazardous wildlife is noted on a public-use airport, airport operators must take prompt remedial action(s) to protect aviation safety.

2-8. SYNERGISTIC EFFECTS OF SURROUNDING LAND USES. There may be circumstances where two (or more) different land uses that would not, by themselves, be considered hazardous wildlife attractants or that are located outside of the separations identified in Sections 1-2 through 1-4 that are in such an alignment with the airport as to create a wildlife corridor directly through the airport and/or surrounding airspace. An example of this situation may involve a lake located outside of the separation criteria on the east side of an airport and a large hayfield on the west side of an airport, land uses that together could create a flyway for Canada geese directly across the airspace of the airport. There are numerous examples of such situations;

therefore, airport operators and the wildlife damage management biologist must consider the entire surrounding landscape and community when developing the WHMP.

SECTION 3.

PROCEDURES FOR WILDLIFE HAZARD MANAGEMENT BY OPERATORS OF PUBLIC-USE AIRPORTS.

3.1. INTRODUCTION. In recognition of the increased risk of serious aircraft damage or the loss of human life that can result from a wildlife strike, the FAA may require the development of a Wildlife Hazard Management Plan (WHMP) when specific triggering events occur on or near the airport. Part 139.337 discusses the specific events that trigger a Wildlife Hazard Assessment (WHA) and the specific issues that a WHMP must address for FAA approval and inclusion in an Airport Certification Manual.

3.2. COORDINATION WITH USDA WILDLIFE SERVICES OR OTHER QUALIFIED WILDLIFE DAMAGE MANAGEMENT BIOLOGISTS. The FAA will use the Wildlife Hazard Assessment (WHA) conducted in accordance with Part 139 to determine if the airport needs a WHMP. Therefore, persons having the education, training, and expertise necessary to assess wildlife hazards must conduct the WHA. The airport operator may look to Wildlife Services or to qualified private consultants to conduct the WHA. When the services of a wildlife damage management biologist are required, the FAA recommends that land-use developers or airport operators contact a consultant specializing in wildlife damage management or the appropriate state director of Wildlife Services.

NOTE: Telephone numbers for the respective USDA Wildlife Services state offices can be obtained by contacting USDA Wildlife Services Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD, 20737-1234, Telephone (301) 734-7921, Fax (301) 734-5157 *(http://www.aphis.usda.gov/ws/)*.

3-3. WILDLIFE HAZARD MANAGEMENT AT AIRPORTS: A MANUAL FOR AIRPORT PERSONNEL. This manual, prepared by FAA and USDA Wildlife Services staff, contains a compilation of information to assist airport personnel in the development, implementation, and evaluation of WHMPs at airports. The manual includes specific information on the nature of wildlife strikes, legal authority, regulations, wildlife management techniques, WHAs, WHMPs, and sources of help and information. The manual is available in three languages: English, Spanish, and French. It can be viewed and downloaded free of charge from the FAA's wildlife hazard mitigation web site: http://wildlife-mitigation.tc.FAA.gov/. This manual only provides a starting point for addressing wildlife hazard issues at airports. Hazardous wildlife management is a complex discipline and conditions vary widely across the United States. Therefore, qualified wildlife damage management biologists must direct the development of a WHMP and the implementation of management actions by airport personnel.

There are many other resources complementary to this manual for use in developing and implementing WHMPs. Several are listed in the manual's bibliography.

3-4. WILDLIFE HAZARD ASSESSMENTS, TITLE 14, CODE OF FEDERAL REGULATIONS, PART 139. Part 139.337(b) requires airport operators to conduct a Wildlife Hazard Assessment (WHA) when certain events occur on or near the airport.

Part 139.337 (c) provides specific guidance as to what facts must be addressed in a WHA.

3-5. WILDLIFE HAZARD MANAGEMENT PLAN (WHMP). The FAA will consider the results of the WHA, along with the aeronautical activity at the airport and the views of the airport operator and airport users, in determining whether a formal WHMP is needed, in accordance with Part 139.337. If the FAA determines that a WHMP is needed, the airport operator must formulate and implement a WHMP, using the WHA as the basis for the plan.

The goal of an airport's Wildlife Hazard Management Plan is to minimize the risk to aviation safety, airport structures or equipment, or human health posed by populations of hazardous wildlife on and around the airport.

The WHMP must identify hazardous wildlife attractants on or near the airport and the appropriate wildlife damage management techniques to minimize the wildlife hazard. It must also prioritize the management measures.

3-6. LOCAL COORDINATION. The establishment of a Wildlife Hazards Working Group (WHWG) will facilitate the communication, cooperation, and coordination of the airport and its surrounding community necessary to ensure the effectiveness of the WHMP. The cooperation of the airport community is also necessary when new projects are considered. Whether on or off the airport, the input from all involved parties must be considered when a potentially hazardous wildlife attractant is being proposed. Airport operators should also incorporate public education activities with the local coordination efforts because some activities in the vicinity of your airport, while harmless under normal leisure conditions, can attract wildlife and present a danger to aircraft. For example, if public trails are planned near wetlands or in parks adjoining airport property, the public should know that feeding birds and other wildlife in the area may pose a risk to aircraft.

Airport operators should work with local and regional planning and zoning boards so as to be aware of proposed land-use changes, or modification of existing land uses, that could create hazardous wildlife attractants within the separations identified in Sections 1-2 through 1-4. Pay particular attention to proposed land uses involving creation or expansion of waste water treatment facilities, development of wetland mitigation sites, or development or expansion of dredge spoil containment areas. At the very least, airport operators must ensure they are on the notification list of the local planning board or equivalent review entity for all communities located within 5 miles of the airport, so they will receive notification of any proposed project and have the opportunity to review it for attractiveness to hazardous wildlife.

3-7 COORDINATION/NOTIFICATION OF AIRMEN OF WILDLIFE HAZARDS. If an existing land-use practice creates a wildlife hazard and the land-use practice or wildlife hazard cannot be immediately eliminated, airport operators must issue a Notice to Airmen (NOTAM) and encourage the land–owner or manager to take steps to control the wildlife hazard and minimize further attraction.

SECTION 4.

FAA NOTIFICATION AND REVIEW OF PROPOSED LAND-USE PRACTICE CHANGES IN THE VICINITY OF PUBLIC-USE AIRPORTS

4-1. FAA REVIEW OF PROPOSED LAND-USE PRACTICE CHANGES IN THE VICINITY OF PUBLIC-USE AIRPORTS.

a. The FAA discourages the development of waste disposal and other facilities, discussed in Section 2, located within the 5,000/10,000-foot criteria specified in Sections 1-2 through 1-4.

b. For projects that are located outside the 5,000/10,000-foot criteria but within 5 statute miles of the airport's AOA, the FAA may review development plans, proposed land-use changes, operational changes, or wetland mitigation plans to determine if such changes present potential wildlife hazards to aircraft operations. The FAA considers sensitive airport areas as those that lie under or next to approach or departure airspace. This brief examination should indicate if further investigation is warranted.

c. Where a wildlife damage management biologist has conducted a further study to evaluate a site's compatibility with airport operations, the FAA may use the study results to make a determination.

4-2. WASTE MANAGEMENT FACILITIES.

a. **Notification of new/expanded project proposal.** Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Public Law 106-181) limits the construction or establishment of new MSWLF within 6 statute miles of certain public-use airports, when both the airport and the landfill meet very specific conditions. See Section 2-2 of this AC and AC 150/5200-34 for a more detailed discussion of these restrictions.

The Environmental Protection Agency (EPA) requires any MSWLF operator proposing a new or expanded waste disposal operation within 5 statute miles of a runway end to notify the appropriate FAA Regional Airports Division Office and the airport operator of the proposal (40 CFR 258, *Criteria for Municipal Solid Waste Landfills*, Section 258.10, *Airport Safety*). The EPA also requires owners or operators of new MSWLF units, or lateral expansions of existing MSWLF units, that are located within 10,000 feet of any airport runway end used by turbojet aircraft, or within 5,000 feet of any airport runway end used only by piston-type aircraft, to demonstrate successfully that such units are not hazards to aircraft. (See 4-2.b below.)

When new or expanded MSWLF are being proposed near airports, MSWLF operators must notify the airport operator and the FAA of the proposal as early as possible pursuant to 40 CFR 258.

b. **Waste handling facilities within separations identified in Sections 1-2 through 1-4.** To claim successfully that a waste-handling facility sited within the separations identified in Sections 1-2 through 1-4 does not attract hazardous wildlife and does not threaten aviation, the developer must establish convincingly that the facility will not handle putrescible material other than that as outlined in 2-2.d. The FAA strongly recommends against any facility other than that as outlined in 2-2.d (enclosed transfer stations). The FAA will use this information to determine if the facility will be a hazard to aviation.

c. **Putrescible-Waste Facilities.** In their effort to satisfy the EPA requirement, some putrescible-waste facility proponents may offer to undertake experimental measures to demonstrate that their proposed facility will not be a hazard to aircraft. To date, no such facility has been able to demonstrate an ability to reduce and sustain hazardous wildlife to levels that existed before the putrescible-waste landfill began operating. For this reason, demonstrations of experimental wildlife control measures may not be conducted within the separation identified in Sections 1-2 through 1-4.

4-3. OTHER LAND-USE PRACTICE CHANGES. As a matter of policy, the FAA encourages operators of public-use airports who become aware of proposed land use practice changes that may attract hazardous wildlife within 5 statute miles of their airports to promptly notify the FAA. The FAA also encourages proponents of such land use changes to notify the FAA as early in the planning process as possible. Advanced notice affords the FAA an opportunity (1) to evaluate the effect of a particular land-use change on aviation safety and (2) to support efforts by the airport sponsor to restrict the use of land next to or near the airport to uses that are compatible with the airport.

The airport operator, project proponent, or land-use operator may use FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, or other suitable documents similar to FAA Form 7460-1 to notify the appropriate FAA Regional Airports Division Office. Project proponents can contact the appropriate FAA Regional Airports Division Office for assistance with the notification process.

It is helpful if the notification includes a 15-minute quadrangle map of the area identifying the location of the proposed activity. The land-use operator or project proponent should also forward specific details of the proposed land-use change or operational change or expansion. In the case of solid waste landfills, the information should include the type of waste to be handled, how the waste will be processed, and final disposal methods.

a. **Airports that have received Federal grant-in-aid assistance.** Airports that have received Federal grant-in-aid assistance are required by their grant assurances to take appropriate actions to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations. The FAA recommends that airport operators to the extent practicable oppose off-airport land-use changes or practices within the separations identified in Sections 1-2 through 1-4 that may attract hazardous wildlife. Failure to do so may lead to noncompliance with applicable grant assurances. The FAA will not approve the placement of airport

development projects pertaining to aircraft movement in the vicinity of hazardous wildlife attractants without appropriate mitigating measures. Increasing the intensity of wildlife control efforts is not a substitute for eliminating or reducing a proposed wildlife hazard. Airport operators should identify hazardous wildlife attractants and any associated wildlife hazards during any planning process for new airport development projects.

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APPENDIX 1. DEFINITIONS OF TERMS USED IN THIS ADVISORY CIRCULAR.

1. **GENERAL.** This appendix provides definitions of terms used throughout this AC.

   1. **Air operations area.** Any area of an airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft. An air operations area includes such paved areas or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiways, or apron.

   2. **Airport operator.** The operator (private or public) or sponsor of a public-use airport.

   3. **Approach or departure airspace.** The airspace, within 5 statute miles of an airport, through which aircraft move during landing or takeoff.

   4. **Bird balls.** High-density plastic floating balls that can be used to cover ponds and prevent birds from using the sites.

   5. **Certificate holder.** The holder of an Airport Operating Certificate issued under Title 14, Code of Federal Regulations, Part 139.

   6. **Construct a new MSWLF.** To begin to excavate, grade land, or raise structures to prepare a municipal solid waste landfill as permitted by the appropriate regulatory or permitting agency.

   7. **Detention ponds.** Storm water management ponds that hold storm water for short periods of time, a few hours to a few days.

   8. **Establish a new MSWLF.** When the first load of putrescible waste is received on-site for placement in a prepared municipal solid waste landfill.

   9. **Fly ash.** The fine, sand-like residue resulting from the complete incineration of an organic fuel source. Fly ash typically results from the combustion of coal or waste used to operate a power generating plant.

   10. **General aviation aircraft.** Any civil aviation aircraft not operating under 14 CFR Part 119, Certification: Air Carriers and Commercial Operators.

   11. **Hazardous wildlife.** Species of wildlife (birds, mammals, reptiles), including feral animals and domesticated animals not under control, that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard

   12. **Municipal Solid Waste Landfill (MSWLF).** A publicly or privately owned discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 CFR § 257.2. An MSWLF may receive

other types wastes, such as commercial solid waste, non-hazardous sludge, small-quantity generator waste, and industrial solid waste, as defined under 40 CFR § 258.2. An MSWLF can consist of either a stand alone unit or several cells that receive household waste.

13. **New MSWLF.** A municipal solid waste landfill that was established or constructed after April 5, 2001.

14. **Piston-powered aircraft.** Fixed-wing aircraft powered by piston engines.

15. **Piston-use airport.** Any airport that does not sell Jet-A fuel for fixed-wing turbine-powered aircraft, and primarily serves fixed-wing, piston-powered aircraft. Incidental use of the airport by turbine-powered, fixed-wing aircraft would not affect this designation. However, such aircraft should not be based at the airport.

16. **Public agency.** A State or political subdivision of a State, a tax-supported organization, or an Indian tribe or pueblo (49 U.S.C. § 47102(19)).

17. **Public airport.** An airport used or intended to be used for public purposes that is under the control of a public agency; and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft is publicly owned (49 U.S.C. § 47102(20)).

18. **Public-use airport.** An airport used or intended to be used for public purposes, and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft may be under the control of a public agency or privately owned and used for public purposes (49 U.S.C. § 47102(21)).

19. **Putrescible waste.** Solid waste that contains organic matter capable of being decomposed by micro-organisms and of such a character and proportion as to be capable of attracting or providing food for birds (40 CFR §257.3-8).

20. **Putrescible-waste disposal operation.** Landfills, garbage dumps, underwater waste discharges, or similar facilities where activities include processing, burying, storing, or otherwise disposing of putrescible material, trash, and refuse.

21. **Retention ponds.** Storm water management ponds that hold water for several months.

22. **Runway protection zone (RPZ).** An area off the runway end to enhance the protection of people and property on the ground (see AC 150/5300-13). The dimensions of this zone vary with the airport design, aircraft, type of operation, and visibility minimum.

23. **Scheduled air carrier operation.** Any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial

operator for which the air carrier, commercial operator, or their representative offers in advance the departure location, departure time, and arrival location. It does not include any operation that is conducted as a supplemental operation under 14 CFR Part 119 or as a public charter operation under 14 CFR Part 380 (14 CFR § 119.3).

24. **Sewage sludge.** Any solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works. (40 CFR 257.2)

25. **Sludge.** Any solid, semi-solid, or liquid waste generated form a municipal, commercial or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. (40 CFR 257.2)

26. **Solid waste.** Any garbage, refuse, sludge, from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including, solid liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or by product material as defined by the Atomic Energy Act of 1954, as amended, (68 Stat. 923). (40 CFR 257.2)

27. **Turbine-powered aircraft.** Aircraft powered by turbine engines including turbojets and turboprops but excluding turbo-shaft rotary-wing aircraft.

28. **Turbine-use airport.** Any airport that sells Jet-A fuel for fixed-wing turbine-powered aircraft.

29. **Wastewater treatment facility.** Any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes, including Publicly Owned Treatment Works (POTW), as defined by Section 212 of the Federal Water Pollution Control Act (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-576) and the Water Quality Act of 1987 (P.L. 100-4). This definition includes any pretreatment involving the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. (See 40 CFR Section 403.3 (q), (r), & (s)).

30. **Wildlife.** Any wild animal, including without limitation any wild mammal, bird, reptile, fish, amphibian, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, including any part, product, egg, or offspring thereof (50 CFR 10.12, *Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants*). As used in this AC, wildlife includes feral animals and domestic animals out of the control of their owners (14 CFR Part 139, Certification of Airports).

31. **Wildlife attractants.** Any human-made structure, land-use practice, or human-made or natural geographic feature that can attract or sustain hazardous wildlife within the landing or departure airspace or the airport's AOA. These attractants can include architectural features, landscaping, waste disposal sites, wastewater treatment facilities, agricultural or aquaculture activities, surface mining, or wetlands.

32. **Wildlife hazard.** A potential for a damaging aircraft collision with wildlife on or near an airport.

33. **Wildlife strike.** A wildlife strike is deemed to have occurred when:

    a. A pilot reports striking 1 or more birds or other wildlife;

    b. Aircraft maintenance personnel identify aircraft damage as having been caused by a wildlife strike;

    c. Personnel on the ground report seeing an aircraft strike 1 or more birds or other wildlife;

    d. Bird or other wildlife remains, whether in whole or in part, are found within 200 feet of a runway centerline, unless another reason for the animal's death is identified;

    e. The animal's presence on the airport had a significant negative effect on a flight (i.e., aborted takeoff, aborted landing, high-speed emergency stop, aircraft left pavement area to avoid collision with animal) (Transport Canada, Airports Group, *Wildlife Control Procedures Manual*, Technical Publication 11500E, 1994).

2. **RESERVED.**

PAGE FIELD GENERAL AVIATION CENTER
WEST QUAD DEVELOPMENT AREA
PROTECTED SPECIES SURVEY AND MANAGEMENT PLAN

JUNE 2006

Prepared for:

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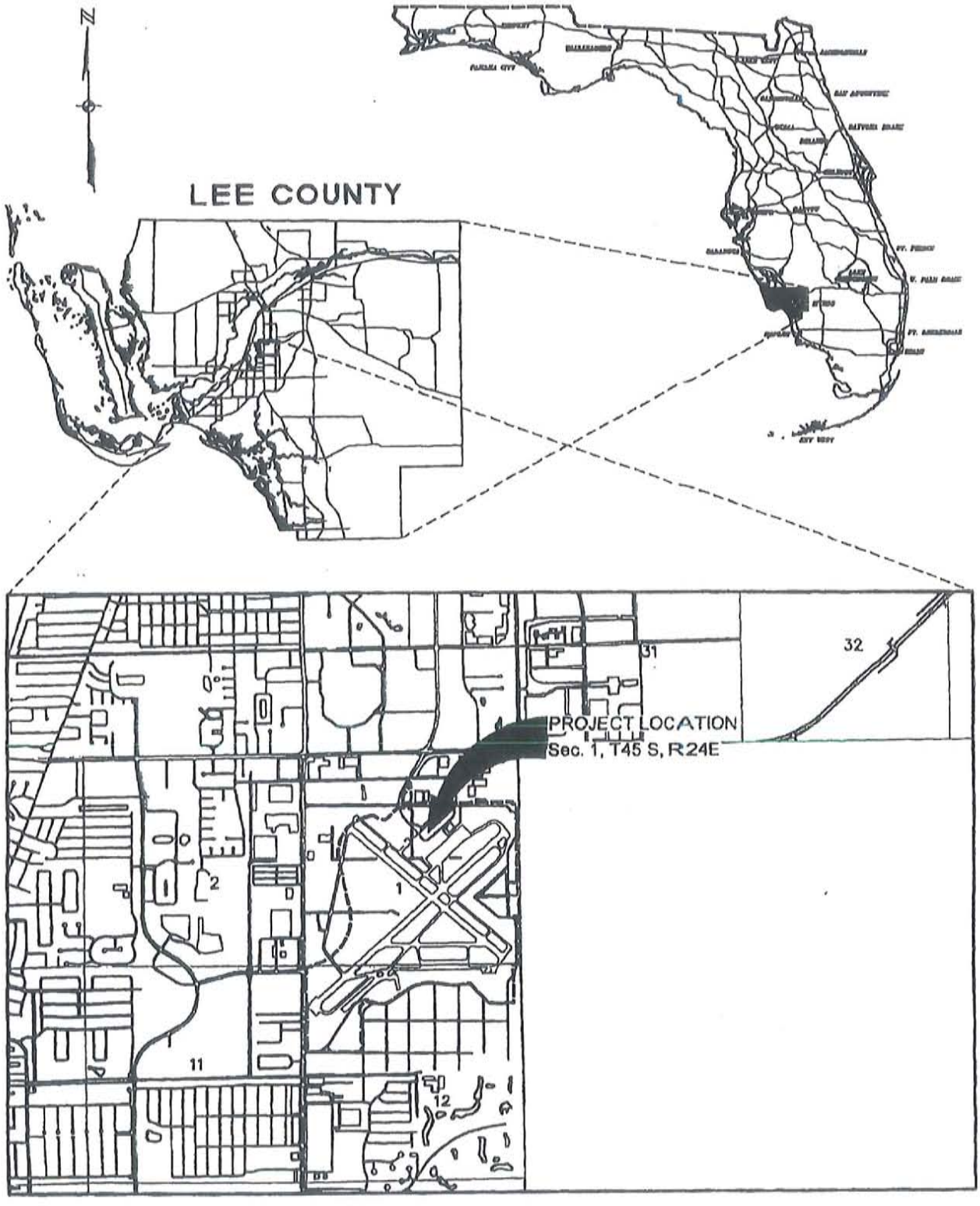
1.0 INTRODUCTION

The Page Field General Aviation Airport (Page Field or Airport), owned and operated by the Lee County Port Authority (LCPA), is located in Sections 1 and 12, Township 45 South, Range 24 East in Lee County Florida. Please refer to the Location Map (Figure 1-1).

The Airport is bordered to the west by Fowler Street Extension, U.S. 41 and commercial development and to the north by North Airport Road. Ten-Mile Canal and light industrial development lies to the east, while South Road and residential areas border the Airport to the south. The Airport includes approximately 502 acres, of which approximately 160 acres is impervious. The LCPA intends to expand existing facilities within the West Quadrant of the Airport.

Johnson Engineering, Inc. Ecologists conducted a Protected Species Survey in accordance with guidelines set forth by the Florida Fish and Wildlife Conservation Commission (FWC) and the US Fish and Wildlife Service (FWS), as well as Chapter 10 of the Lee County Land Development Code (LDC). The survey was originally conducted on the Airport on April 6, 2005 and updated with an additional field inspection on May 17, 2006.

The purpose of the Protected Species Survey is to determine the extent of use, if any, by Federal and State listed species within the proposed project limits. Based on prior knowledge of the presence of burrowing owls (*Athene cunicularia floridana*) on the site, particular attention was paid to this species to evaluate potential impacts during the development process. The burrowing owl is listed by the Florida Fish and Wildlife Conservation Commission as a Species of Special Concern (FWC 2004) and is provided additional protection under the Federal Migratory Bird Treaty Act (FMBTA). The FMBTA makes it illegal for people to "take" migratory birds, their eggs, feathers or nests. Take is defined in the FMBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof. Furthermore, the FMBTA states taking of active burrows (burrows containing eggs or flightless young) will not be permitted at any time.



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Page Field
Location Map

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
Sept. 2004	20033734		N.T.S.	Figure 1-1

2.0 VEGETATION ASSOCIATIONS

Cover and vegetation association types were delineated utilizing 2002 digital aerial photography, Soil Conservation Service soil survey maps for Lee County, and onsite field investigations. The cover and vegetation assemblages were classified based on the nomenclature of the Florida Land Use Cover and Forms Classification System, Level III (FLUCFCS) (Florida Department of Transportation 1999). This system, originally developed by the Florida Department of Transportation (FDOT), allows for a uniform but flexible means of classifying land uses important for determining the presence of wetlands and suitable habitat for protected species. Below is a description of the vegetative communities found during the survey. See Figure 2-1 for location of FLUCFCS coverage locations.

FLUCFCS Code 311: Maintained Grassland

This vegetation coverage type includes all maintained pervious areas of the Airport. No canopy or mid-story vegetation exists in this coverage area, but herbaceous vegetation includes many species such as bahia grass (*Paspalum notatum*), Bermuda grass (*Cynodon dactylon*), St. Augustine grass (*Stenotaphrum secundatum*), smut grass (*Sporobolus indicus*), and various other herbaceous species.

FLUCFCS Code 811: Airport Facilities

This coverage includes all impervious surfaces utilized by the Airport. Vegetation in this coverage area is nearly absent. Scattered landscaping and pioneer herbaceous species are included in the Airport Facilities coverage area.

3.0 SURVEY METHODOLOGY

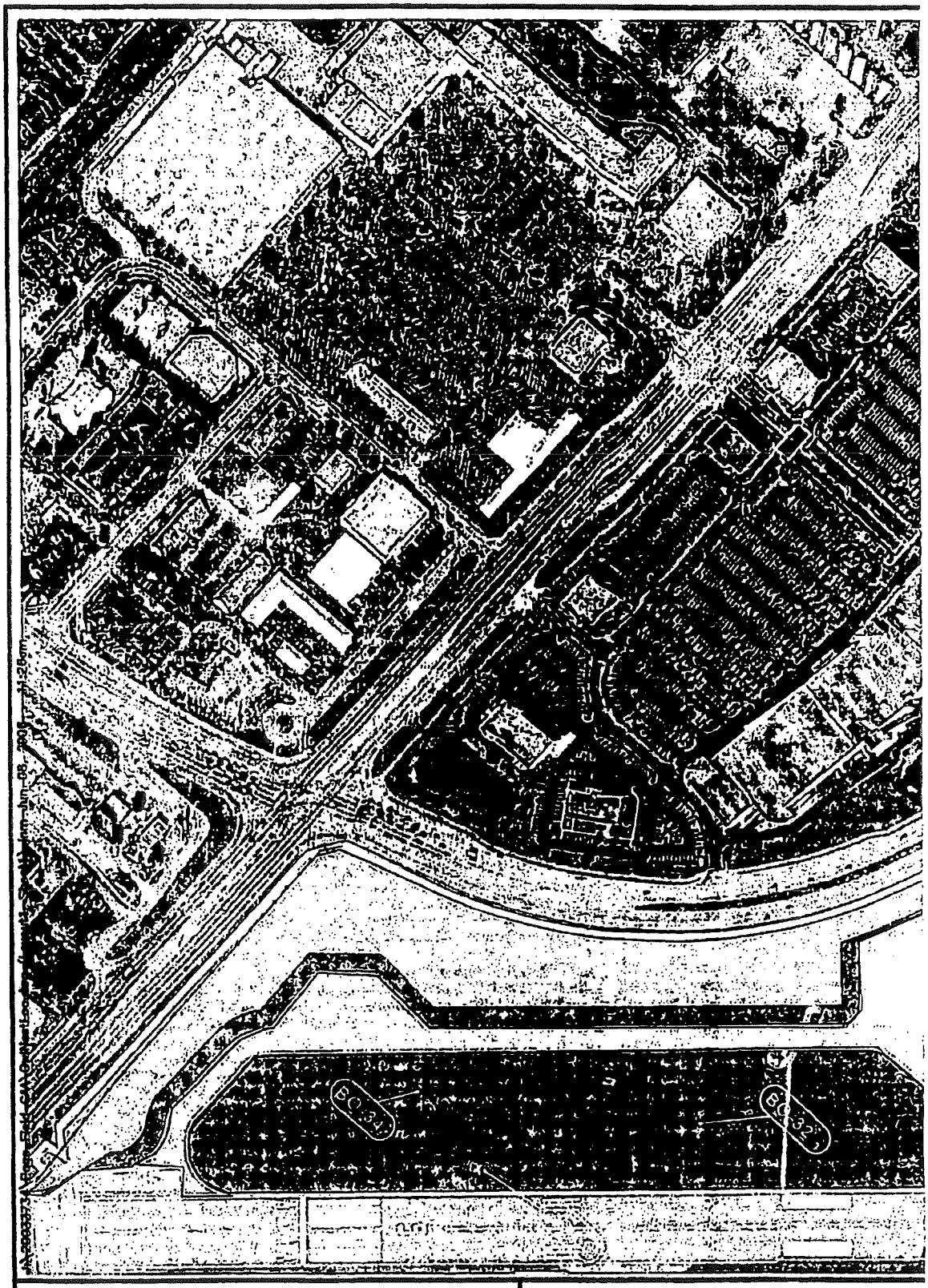
The survey was conducted utilizing the "Meandering Strip Census" methodology. A series of parallel pedestrian transects were conducted in the field spaced approximately fifty (50) feet apart. Transects were designed to achieve near total coverage of the impact areas as well as approximately fifty feet (50') outside of the project limits. Each burrowing owl burrow was located using a global position system (GPS) and noted on an aerial photograph (see Figure 2-1). The burrow activity is not reported here because burrowing owl burrows are only considered active during the nesting season. Therefore, the activity status of each burrow within the West Quadrant Development area will be determined prior to construction, if construction begins during burrowing owl nesting season (February 15 – July 10).

4.0 SURVEY RESULTS

A total of eleven (11) burrowing owl burrows were observed during the inspection within the proposed West Quadrant Development limits. Of the eleven burrows observed, eight (8) are located in areas proposed for development (See Table 4-1 below). Please see Figure 2-1 for burrowing owl burrow locations in relation to proposed development.

TABLE 4-1 Burrows within West Quadrant Development Area

Burrow #		Within proposed development	
		YES	NO
BO-04		✓	
BO-27		✓	
BO-28		✓	
BO-29		✓	
BO-30		✓	
BO-31		✓	
BO-32			✓
BO-33			✓
BO-34			✓
BO-35		✓	
BO-36		✓	
TOTAL	11	8	3



Lee County, Florida

5.0 DISCUSSION

Although Page Field is inhabited by several burrowing owls, the habitat itself can be considered unsuitable due to its close proximity to active aircraft operations. FWC in cooperation with the Federal Aviation Administration (FAA) has authorized airports to harass listed species utilizing areas within 300 feet of active tarmacs, taxiways, and runways to reduce potential wildlife vs. aircraft conflicts. The layout of Page Field leaves very little suitable habitat outside the allowable harassment areas. However, permission to harass listed species does not include the destruction of burrowing owl burrows.

Any damage or destruction to burrowing owl nests is prohibited without an Incidental Take Permit issued by FWC. FWC will only permit the destruction of inactive burrows (burrows containing no eggs or flightless young) as a last resort. Burrows can generally be considered inactive from July 10th to February 15th (non-nesting season). Between February 15th and July 10th (nesting season), burrows containing adult owls are considered active nests unless information suggesting that all young owls have fledged from the nest has been collected.

Page Field is a relatively small airfield without the benefit of large pervious areas located away from active aircraft operations for burrowing owls to be directed. Additionally, protection zones associated with runways 5/23 and 13/31 significantly reduce potential burrowing owl habitat. This combined with the airport becoming surrounded by commercial and residential development leaves little to no suitable habitat on or near Airport property.

Proposed expansion activities within the West Quadrant Development Area will impact eight (8) burrowing owl nests. All proposed impacts to burrowing owl nests are located within the 300-foot harassment area approved by FWC. Please see the Burrowing Owl Management Plan below for specific management techniques designed to reduce potential impacts to the owls.

6.0 BURROWING OWL MANAGEMENT PLAN

6.1 INTRODUCTION

6.1.1 BURROWING OWL HISTORY

The burrowing owl (*Athene cunicularia floridana*) is one of the smallest species of Florida owls and is listed as a Species of Special Concern by the Florida Fish and Wildlife Conservation Commission. Natural burrowing owl habitat in Florida includes grasslands and open rangeland throughout the state. However, the preferred habitat in southwest Florida seems to be maintained grassy areas located in close proximity to development (Ehrlich 1988). These interface areas allow the owls to thrive on small mammals, birds, reptiles, insects, and other forage species (FWC 2003). The presence of suitable burrows seems to be the limiting factor for burrowing owl success (Rosenberg 1998). Burrows are generally built in well-drained sandy areas and often adorned with decorations. The abundance of grassy areas at Page Field has provided suitable habitat for burrowing owls for many years. However, proposed expansion of Page Field will reduce the amount of suitable habitat for burrowing owls.

6.1.2 PAGE FIELD

The West Quadrant Development Area of Page Field currently houses eleven (11) burrowing owl burrows, most of which are located near or adjacent to active runways, taxi-ways, and aprons posing a hazard to the owls and aircraft utilizing the airfield. Future expansion projects associated with the West Quadrant will directly impact several of those burrows (see Figure 2-1). Due to site constraints associated with Page Field including its relatively small size, runway protection zones, and being completely encompassed by commercial and residential development, onsite mitigation for impacts to the owls is not practical. Conversations with FWC staff indicate that remaining open areas of Page Field cannot be considered burrowing owl habitat due to the close proximity to active aircraft operations. With these restrictions in mind, the potential for onsite mitigation for impacts to burrowing owl burrows is severely limited.

6.2. INCIDENTAL TAKE PERMIT

6.2.1 PERMIT HISTORY

Past impacts to burrowing owl burrows associated with development at Page Field have been dealt with on a case by case basis requiring the application and review of individual Incidental Take Permits from FWC. Although this process succeeds at documenting each impacted burrow, it has no provisions for tracking the overall development at Page Field. Due to the scale of proposed construction activities, this method of burrowing owl protection is no longer suitable. Construction of additional taxiways, aprons, hangars, terminal, and water management facilities within the West Quadrant will effectively eliminate approximately 41 acres of remaining habitat at Page Field. Therefore, the LCPA has applied for and received an overall Incidental Take Permit for the Airport from FWC (see Appendix A) allowing inactive burrows to be taken as development activities approach.

6.2.2 MONITORING AND EXCAVATION

It is critical that no active burrowing owl burrows (burrow containing eggs or flightless young) are damaged during construction and that no owls, eggs, or flightless young are injured during burrow collapse activities. The following procedures will be implemented to reduce impacts to the owls:

1. Timing: Burrowing owl nesting season is from February 15th until July 10th. Any burrow attended by one or more burrowing owls during the nesting season will be considered active, and thus will not be disturbed.

2. Occupation: All burrows will be monitored by a qualified ecologist prior to commencement of construction activities to ensure no eggs or flightless young will be impacted. Burrows that are considered too damaged to house owls will be deemed inactive. Burrows that could potentially hold owls will be thoroughly investigated by terrestrial and / or subterranean (underground camera) observation methods prior to excavation.

3. Method of Collapse: If a burrow is occupied by eggs or juvenile owls it will not be collapsed until the owls have fledged. Burrows will be collapsed by hand shovel only after the ecologist has ensured it is unoccupied. Correspondence in the form of a year-end letter report will be submitted to FWC and Lee County Environmental Sciences Staff for all collapsed burrows.
4. Mitigation: In accordance with FWC recommendations and FAA guidelines, onsite burrowing owl habitat enhancement activities such as artificial nest construction, t-perch installation, or habitat management practices will not be conducted.

Completion of the proposed expansion activities is expected within five (5) years. The current Incidental Take Permit is scheduled to expire on December 31, 2008, but may be extended through written request and justification to FWC.

6.2.3 REMAINING OWLS

Additional consideration must be paid to remaining burrowing owls on Page Field property. Regulations set forth by the FAA do not allow enhancements to airport property that may increase the potential for aircraft/wildlife collisions. Therefore, no enhancements to burrowing owl habitat such as the construction of starter or artificial burrows or installation of t-perches are proposed at Page Field. Once construction activities are completed, remaining owls on Page Field will be left to their own recourses to find suitable habitat. Owls continuing to reside at Page Field that do not pose a threat to aircraft operations will likely be left in place. However, if burrowing owls become a nuisance to aircraft operations, LCPA retains the right to implement a wildlife harassment program in accordance with FWC and FAA policies.

7.0 WEST QUADRANT

7.1 EXISTING CONDITIONS

The West Quadrant of Page Field Airport lies between Runways 5 and 13. Existing facilities within this area are limited to drainage features and Instrument Landing System (ILS) hardware. Currently, approximately eleven (11) burrowing owl burrows exist in this area. These burrows are scattered throughout the grassy area between the two above-mentioned Runways. The West Quadrant currently offers approximately 55 acres of open grassy areas where burrowing owls could inhabit.

7.2 PROPOSED CONDITIONS

Due to the extensive surface water management system reconfiguration required to meet current water quality standards, the proposed construction activities within the West Quadrant will likely impact eight (8) burrowing owl burrows. Available burrowing owl habitat will be reduced by approximately 41 acres with the implementation of the proposed development plan, leaving approximately 14 acres of open grassy lands within the West Quadrant. It is possible that burrowing owls may move into or out of the construction areas of the West Quadrant prior to commencement of construction activities. All impacted burrowing owl burrows will be addressed as discussed in Section 6.2.2 above.

PAGE FIELD GENERAL AVIATION CENTER
WEST QUAD DEVELOPMENT AREA
PROTECTED SPECIES SURVEY AND MANAGEMENT PLAN

JUNE 2006

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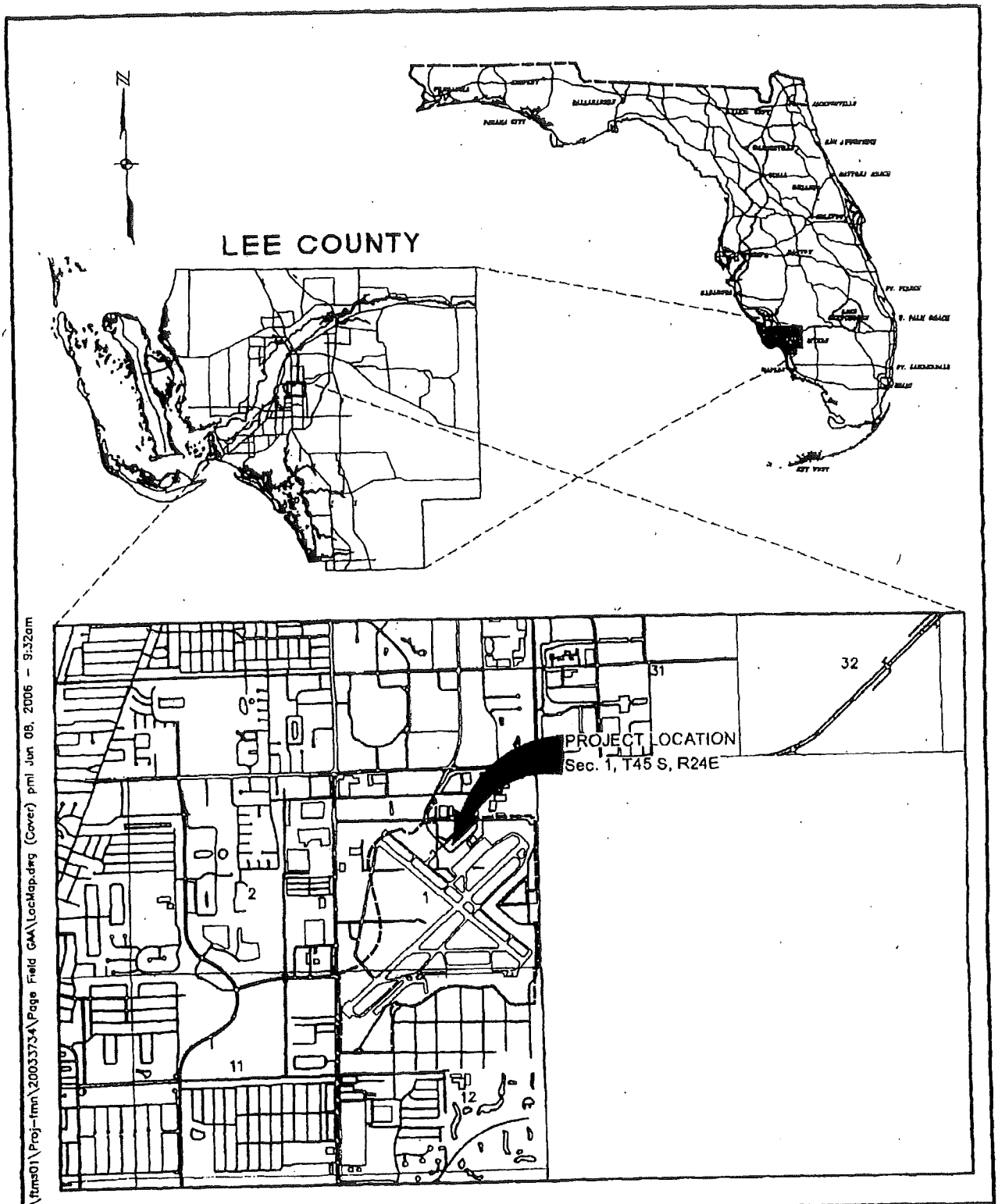

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Page Field
Location Map

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
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2.0 VEGETATION ASSOCIATIONS

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4.0 SURVEY RESULTS

A total of eleven (11) burrowing owl burrows were observed during the inspection within the proposed West Quadrant Development limits. Of the eleven burrows observed, eight (8) are located in areas proposed for development (See Table 4-1 below). Please see Figure 2-1 for burrowing owl burrow locations in relation to proposed development.

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Burrow #	Within proposed development	
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BO-30	✓	
BO-31	✓	
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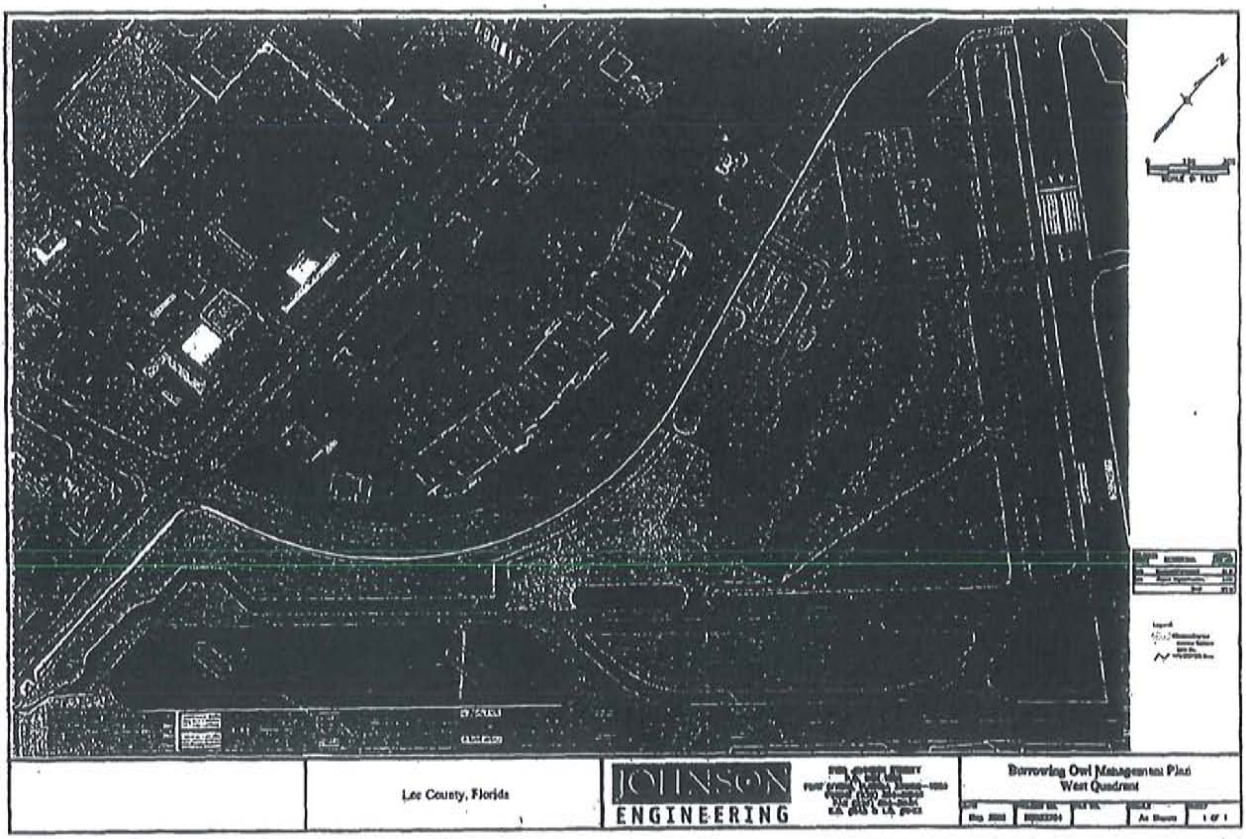
BO-33		✓
BO-34		✓
BO-35	✓	
BO-36	✓	
TOTAL 11	8	3



Lee County, Florida

JOHNSON ENGINEERING

Burrowing Owl Management Plan
West Quadrant

5.0 DISCUSSION

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6.0 BURROWING OWL MANAGEMENT PLAN

6.1 INTRODUCTION

6.1.1 BURROWING OWL HISTORY

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1. Timing: Burrowing owl nesting season is from February 15th until July 10th. Any burrow attended by one or more burrowing owls during the nesting season will be considered active, and thus will not be disturbed.
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Completion of the proposed expansion activities is expected within five (5) years. The current Incidental Take Permit is scheduled to expire on December 31, 2008, but may be extended through written request and justification to FWC.

6.2.3 REMAINING OWLS

Additional consideration must be paid to remaining burrowing owls on Page Field property. Regulations set forth by the FAA do not allow enhancements to airport property that may increase the potential for aircraft/wildlife collisions. Therefore, no enhancements to burrowing owl habitat such as the construction of starter or artificial burrows or installation of t-perches are proposed at Page Field. Once construction activities are completed, remaining owls on Page Field will be left to their own recourses to find suitable habitat. Owls continuing to reside at Page Field that do not pose a threat to aircraft operations will likely be left in place. However, if burrowing owls become a nuisance to aircraft operations, LCPA retains the right to implement a wildlife harassment program in accordance with FWC and FAA policies.

7.0 WEST QUADRANT

7.1 EXISTING CONDITIONS

The West Quadrant of Page Field Airport lies between Runways 5 and 13. Existing facilities within this area are limited to drainage features and Instrument Landing System (ILS) hardware. Currently, approximately eleven (11) burrowing owl burrows exist in this area. These burrows are scattered throughout the grassy area between the two above-mentioned Runways. The West Quadrant currently offers approximately 55 acres of open grassy areas where burrowing owls could inhabit.

7.2 PROPOSED CONDITIONS

Due to the extensive surface water management system reconfiguration required to meet current water quality standards, the proposed construction activities within the West Quadrant will likely impact eight (8) burrowing owl burrows. Available burrowing owl habitat will be reduced by approximately 41 acres with the implementation of the proposed development plan, leaving approximately 14 acres of open grassy lands within the West Quadrant. It is possible that burrowing owls may move into or out of the construction areas of the West Quadrant prior to commencement of construction activities. All impacted burrowing owl burrows will be addressed as discussed in Section 6.2.2 above.

8.0 REFERENCES

Ehrlich, P.R., Dobkin, D.S., and Wheye, D. 1988. The Birder's Handbook, A Field Guide to the Natural History of North American Birds.

Florida Department of Transportation, State Topographic Bureau, Thermatic Mapping Section, 1999. Florida Land Use, Cover and Forms Classification System. Procedure No. 550-010-001-a.

Florida Fish and Wildlife Conservation Commission. 2003, January 6. Florida's breeding bird atlas: A collaborative study of Florida's birdlife. http://www.wildflorida.org/bba/ (Date accessed 7/8/2005).

Florida Fish and Wildlife Conservation Commission, 2004. Florida's Endangered Species, Threatened Species and Species of Special Concern Official Lists, Florida Game and Freshwater Fish Commission. 10 pp.

Rosenberg, D., Gervalis, J., Ober, H., and DeSante, D. 1998. An Adaptive Management Plan for the Burrowing Owl Population at Naval Air Station Lemoore, Lemoore, California.

U.S.D.A: Soil Conservation Service, 1984. Soil Survey of Lee County. 185 pp.

U.S. Department of Transportation, Federal Aviation Administration, US Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services; *Wildlife Strikes to Civil Aircraft in the United States 1990-2003.*

U.S. Fish and Wildlife Service, 1995. Endangered and Threatened Wildlife and Plants. 44 pp.

ATTACHMENT FMY

2. FMY Burrowing Owl Protective Measures

PAGE FIELD GENERAL AVIATION AIRPORT

REZONING APPLICATION

Burrowing Owl Protective Measures

Page Field Airport is located within Section 01 Township 45 S and Range 24 E, and totals approximately ±563.65 acres. The airport is completely surrounded by development within an urbanized portion of Lee County, outside the City of Fort Myers city limits. The airport is often referred to by quadrants, which are based on the layout of the two runways.

There are no on-site preserves or conservation easements within the boundaries of Page Field. Preservation of green space that could attract wildlife could be hazardous to air operations at the airport and would be considered an incompatible use according to the Federal Aviation Administration (FAA) Advisory Circular on Hazardous Wildlife Attractants on or Near Airports (AC No: 150/5200-33B, August 28, 2007).

Federal Aviation Administration and Hazardous Wildlife Requirements

Wildlife at airports can be a hazard to aircraft operations. A wildlife hazard to aircraft operations is defined as a potential for a damaging aircraft collision with wildlife on or near an airport. Not all wildlife species are equally hazardous to aircraft operation. The ability of wildlife to be hazardous is dependent on their size, numbers, and behavior. Utilizing the National Wildlife Strike Database a list of the top 25 most hazardous wildlife species groups has been developed. This list is found in the FAA AC 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports.

Page Field Airport receives Federal grant-in-aid assistance, and thus the airport must comply with all FAA Advisory Circulars, including AC 150/5200-33B, which pertains to the management of hazardous wildlife. AC 150/5200-33B provides airports with guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. The AC lists land-use practices having the potential to attract hazardous wildlife and threaten aviation safety; these include but are not limited to:

- waste disposal operations,
- stormwater and wastewater treatment facilities,
- wetlands,
- dredge spoil containment areas,
- agricultural activities,
- golf courses,
- and landscaping.

The FAA specifically recommends with regard to stormwater management, that such new facilities on airports be designed as steep-sided, rip-rap lined, narrow, linearly shaped water detention basins, to facilitate the control of hazardous wildlife and prevent the creation of new attractants.

The LCPA, in compliance with AC 150/5200-33B, has developed two landscape lists to be utilized at Page Field Airport as guidance in planning and reviewing future projects on and surrounding the airport. There is a compatible species list recommending native species that are

typically not attractive to wildlife and can be utilized in landscaping. The incompatible species list includes native plant species that provide significant food and/or cover for wildlife and should be avoided for landscaping projects on and near the airport. The lists were developed with assistance from a qualified airport wildlife damage management biologist.

There is also a FAA Certalert (No. 06-07) that addresses requests by state wildlife agencies to facilitate and encourage habitat for state-listed threatened and endangered species and species of special concern on airports. This guidance is specifically for state-listed species. The Certalert states that the airport operator must decline to adopt habitat management techniques for the benefit of state-listed species that could jeopardize aviation safety. Based on this Certalert the airport should not allow mitigation for impacts to state-listed species and their habitat to occur on airport property if it is to result in a direct or indirect safety hazard.

For the reasons listed above, new development at Page Field Airport should be planned in accordance with AC 150/5200-33B in order to avoid the creation of new hazardous wildlife attractants on airport property. In addition, mitigation for wetland and protected species impacts should not take place on or near airport property.

Protected Species Assessment

Green space at Page Field is in the form of maintained grass areas, some of which act as detention during the rainy season. These areas, as well as other open grass areas surrounding the airport, have historically been utilized by the Florida burrowing owl (*Athene cunicularia floridana*), which is listed by the Florida Fish and Wildlife Conservation Commission (FWC) as a Species of Special Concern. Page Field is a relatively small airfield without the benefit of large pervious areas located away from active aircraft operations for burrowing owls to be directed. Additionally, protection zones associated with runways 5/23 and 13/31 significantly reduce potential burrowing owl habitat. This combined with the airport becoming surrounded by commercial and residential development leaves little to no suitable habitat on or near Airport property. The airport does not actively manage for burrowing owl habitat but regular mowing of these areas corresponds with the owl's habitat requirements.

Burrowing owls utilize Page Field for their nesting activity. They are the only documented listed species to regularly utilize airport property. A Protected Species Survey was conducted at Page Field Airport in accordance with the Lee County Land Development Code (LDC), Chapter 10, Article 3, Division 8 (Protection of Habitat) as well in accordance with FWC guidelines. The survey was conducted utilizing the "Meandering Strip Census" methodology and consisted of vehicular and pedestrian transects within all of the green space areas at Page Field Airport to document the presence of all listed species, including active burrowing owl burrows. At least 80% of the project site was covered during this survey. There were ten (10) active burrowing owl nest burrows occupying airport property at that time. All owl species, occurring in North America, are listed as potential wildlife hazards to air carrier operations in AC 150/5200-33B and therefore, for this reason and those discussed in the previous section they cannot be managed for on airport property.

In terms of their protection, even though no active management is conducted for the burrowing owls they are not actively harassed at Page Field Airport, hence their presence there.

Permit History

An incidental-take permit from FWC is required to destroy any inactive burrowing owl nest burrow. A burrow is determined to be inactive if it contains no eggs or flightless young. In the past the Lee County Port Authority (LCPA) requested individual permits for each specific development project at Page Field to impact a burrowing owl burrow. In 2005, in anticipation of future development in the North and West Quadrants, LCPA sought an airport-wide incidental-take permit for Page Field, which was issued on November 7, 2005 (Permit No. WN05179a, attached). This permit, which was extended on December 23, 2008 and expires on February 15, 2011, allows the permittee, or designee, who is knowledgeable in burrowing owl ecology, to destroy inactive nest burrows within proposed development footprints during construction. The LCPA is required to submit a summary report to FWC for any activities conducted at Page Field pursuant to this permit. The airport-wide incidental take permit for Page Field is in the process of being renewed. Upon issuance of the renewed permit, a copy will be provided to Lee County.

Burrowing Owl Protective Measures

It is critical that no active burrowing owl burrows (burrow containing eggs or flightless young) are damaged during construction and that no owls, eggs, or flightless young are injured during burrow collapse activities. The following procedures will be implemented to reduce impacts to the owls:

1. Timing: Burrowing owl nesting season is from February 1 5th until July 10th. Any burrow attended by one or more burrowing owls during the nesting season will be considered active, and thus will not be disturbed.
2. Occupation: All burrows will be monitored by a qualified ecologist prior to commencement of construction activities to ensure no eggs or flightless young will be impacted. Burrows that are considered too damaged to house owls will be deemed inactive. Burrows that could potentially hold owls will be thoroughly investigated by terrestrial and / or subterranean (underground camera) observation methods prior to excavation.
3. Method of Collapse: If a burrow is occupied by eggs or juvenile owls it will not be collapsed until the owls have fledged. Burrows will be collapsed by hand shovel only after the ecologist has ensured it is unoccupied. Correspondence in the form of a year-end letter report will be submitted to FWC and Lee County Environmental Sciences Staff for all collapsed burrows.
4. Mitigation: In accordance with FWC recommendations and FAA guidelines, onsite burrowing owl habitat enhancement activities such as artificial nest construction, t-perch installation, or habitat management practices will not be conducted.
5. Burrowing owls outside of development areas will be left to their own recourse to find suitable habitat. Owls continuing to reside at Page Field that do not pose a threat to aircraft operations will likely be left in place. However, if burrowing owls become a nuisance to aircraft operations, LCPA retains the right to implement a wildlife harassment program in accordance with FWC and FAA policies.

ATTACHMENT FMY

3. **October 27, 2011 memorandum from JEI ecologist to the LCPA, which outlines FMY burrowing owl monitoring and updated correspondence from the Florida Fish and Wildlife Conservation Commission (FWC) indicating a "take permit" is no longer required to collapse burrowing owl burrows on airport property, in accordance with Florida Administrative Code Rule 68A-9.012.**

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MEMORANDUM

TO: **Ellen L. Lindblad**

DATE: **October 27, 2011**

FROM: **Peggy A. Grant**

RE: **FMY Burrowing Owl Monitoring**

Background:

Lee County Port Authority (LCPA) developed the fuel farm area for North Quad and the new GA terminal in West Quad at Page Field Airport (referred to as FMY). Both of these areas have historically been utilized by burrowing owls for nesting. Florida Fish and Wildlife Conservation Commission (FWC) issued Incidental Take Permit No. WN08639 to LCPA to allow the collapse of inactive burrowing owl burrows at Page Field Airport. The Take Permit expired on February 15, 2011 and LCPA requested renewal of the permit from FWC. On June 22, 2011, FWC determined a Take Permit was no longer required in accordance with Florida Administrative Code (F.A.C.) Rule 68A-9.012 "Take of Wildlife on Airport Property. Per this rule, LCPA is authorized to collapse burrowing owl burrows (without a Take Permit) where the presence of such wildlife constitutes a safety hazard in the Airport Operations Area (AOA). Work/activities outside of the AOA require a permit. Confirmation of this determination by FWC is enclosed (copy of electronic mail communication confirmation).

Observations:

Johnson Engineering, Inc. (JEI) was hired to survey the subject area and collapse any inactive burrows as needed, on a bi-weekly basis. Upon completion of each bi-weekly survey, JEI informed LCPA of their findings via electronic mail message. This memo serves to summarize the results of the surveys conducted at FMY. Burrowing owl burrow surveys were conducted bi-weekly. No owls or their burrows were observed during any of the surveys in the subject areas.

This memo completes the FMY Burrowing Owl Monitoring Task.

Enclosures: Electronic Mail Communication and F.A.C. Rule 68A-9.012

END OF MEMORANDUM

2122 Johnson Street • Post Office Box 1550 • Fort Myers, Florida 33902-1550
(239) 334-0046 • Fax (239) 334-3661

Peggy Grant

From: Williams, Angela [Angela.Williams@MyFWC.com]
Sent: Monday, July 11, 2011 4:06 PM
To: Peggy Grant
Cc: Renee Kwiat
Subject: RE: FW: Lee County Port Authority Page Field Burrowing Owl Permit

Peggy,

Please pardon the delayed response as I am just now returning from annual leave. Renee's interpretation is correct. The rule applies to any AOA where the presence of wildlife constitutes a safety hazard. FWC does not determine this safety hazard. Only an airport can do so. Hence, you are allowed to deal with wildlife within "your" defined AOA to alleviate threats to human safety and/or life. All work occurring outside of the safety area must obtain a permit.

Feel free to contact me should you need to discuss any specific work project.

Regards,

**** Please note the new Permitting Office number is (850) 921-1018****
Angela T. Williams, Permit Coordinator
Species Conservation Planning Section
(850) 410-0656, ext. 17310
Website: http://www.myfwc.com/License/Permits_ProtectedWildlife.htm
NEW Online Permit Site: FWCOnlinePermits

Florida Fish and Wildlife Conservation Commission
MyFWC.com

From: Peggy Grant [mailto:pgrant@johnsoneng.com]
Sent: Thursday, July 07, 2011 9:32 AM
To: Williams, Angela
Cc: Renee Kwiat
Subject: FW: FW: Lee County Port Authority Page Field Burrowing Owl Permit

Hi Angela – just wanted to check back with you on this. Could you please e-mail to confirm our understanding of the burrowing owl permit needs regarding future work at Page Field, as indicated in Renee Kwiat's 6/22/2011 e-mail below, is as FWC's understands this?

Thank you very much,
Peggy

From: Peggy Grant
Sent: Monday, June 27, 2011 2:44 PM
To: 'Williams, Angela'
Subject: FW: FW: Lee County Port Authority Page Field Burrowing Owl Permit

Hi Angela – was wondering if you've had the opportunity to review LCPA's e-mail below to confirm our understanding of burrowing owl permit needs regarding future work at Page Field Airport.

Thank you very much for your assistance,
Peggy

From: Peggy Grant
Sent: Wednesday, June 22, 2011 11:36 AM
To: 'Williams, Angela'
Subject: FW: FW: Lee County Port Authority Page Field Burrowing Owl Permit

Hi Angela,

We just want to be absolutely certain we understand FWC's understanding of the AOA as it relates to burrowing owl take permits being required or not required.

Renee Kwiat of LCPA forwarded me the attached Airport Layout Plan that shows the AOA and the below e-mail narrative.

Please confirm FWC agrees with our understanding detailed below.

Thank you very much,
Peggy

From: Renee Kwiat [mailto:rfkwiat@flylcpa.com]
Sent: Wednesday, June 22, 2011 9:55 AM
To: Peggy Grant
Subject: Re: FW: Lee County Port Authority Page Field Burrowing Owl Permit

Peggy,

Just for clarification purposes, FAA defines several safety areas, such as the runway safety areas, taxiway safety areas, and runway object free areas. From the discussion with FWC, as well as from the letter, it appears that FWC is defining the safety area as included all of the Airport Operations Area (AOA), including associated ramp.

I have attached the Airport Layout Plan (ALP) for Page Field (FMY). If my understanding of the interpretation is correct, then we need no permit for collapsing burrows within the AOA, which is any place on the airfield in which aircraft may be taxiing, landing or taking off.

There are some non-aviation uses, outside of the AOA, on FMY property that will be developed in the future. I am assuming that, when it comes to those parcels, a permit will be required if there are burrows present.

I just wanted to make sure that we are on the same page with FWC, so that there is no future confusion.

Thank you,

Renée J. Kwiat, CHMM
Manager, Environmental Compliance
Lee County Port Authority
(239)590-4619 (office)
(239)410-8359 (cellular)

From: Williams, Angela [mailto:Angela.Williams@MyFWC.com]
Sent: Wednesday, June 22, 2011 8:13 AM
To: Peggy Grant; Barnhart, Jo
Subject: RE: Lee County Port Authority Page Field Burrowing Owl Permit

Peggy,

The airport safety rule (attached) states that airports may collapse wildlife burrows within the safety area without a permit. The majority of burrows at Paige Field fall within this area. Hence, they pose a safety hazard due to such close proximity to the runways and taxiways. Staff may collapse the burrows within its defined safety area (regardless of activity) to alleviate the possible safety threats (i.e.-bird strikes).

I hope this helps.

Angela T. Williams, Permit Coordinator

Species Conservation Planning Section

(850) 410-0656, ext. 17310

Website: http://www.myfwc.com/License/Permits_ProtectedWildlife.htm

NEW Online Permit Site: FWCOnlinePermits

Florida Fish and Wildlife
Conservation Commission

MyFWC.com

From: Peggy Grant [mailto:pgrant@johnsoneng.com]
Sent: Wednesday, June 22, 2011 7:41 AM
To: Barnhart, Jo; Williams, Angela
Subject: Lee County Port Authority Page Field Burrowing Owl Permit

Hi Jo and Angela,

Have you had the opportunity to discuss the above project? Jo, when we spoke, you indicated the action taken was based on the fact that we included the safety aspect along with the construction activities. LCPA needs the permit to cover construction activities as they develop portions of the Page Field Airport into the future. Do we need to resubmit?

Please let us know what needs to be done once you've had the opportunity to discuss it.

Thank you,

Peggy

Peggy A. Grant

Ecologist

Johnson Engineering, Inc.

2122 Johnson Street

P.O. Box 1550

Fort Myers, Florida 33902-1550

Phone: 239-334-0046

Direct: 239-461-2474

Facsimile: 239-334-3661

E-mail: pgrant@johnsoneng.com

"Peace of Mind by Design Since 1946"

68A-9.012 Take of Wildlife on Airport Property.

Any airport may take wildlife on airport property for the purpose of ensuring aircraft and human safety in accordance with this rule. An airport or other entity owning or operating an airport as defined in Section 330.27(2), F.S., or their officers, employees, contractors (or employee of a contractor) or member of the airport's governing body as referenced in Section 379.2293(5), F.S., may carry out the activities specified in this rule. Notwithstanding the provisions of this section, the executive director or a designee may issue permits authorizing the take of additional species of wildlife, additional methods of take or alternative forms of disposition and transportation for justifiable purposes pursuant to Rule 68A-9.002, F.A.C., provided authorizations shall be denied or revoked upon reasonable conclusion that the requested or permitted activity would be detrimental to fish and wildlife resources or public health and safety.

(1) The taking and disposition of species regulated by the United States Departments of Interior or Commerce in 50 C.F.R. §10.13 (Migratory Birds), 50 C.F.R. § 17.11 and §17.12 (Threatened and Endangered Species), 50 C.F.R. §22 (Bald Eagle), 50 C.F.R. §223.102 and §224.102 (Marine Species), is allowed pursuant to federal authorization. No additional Commission authorization is required.

(2) The following paragraphs control the take of black bears and species described in Chapter 68A-27, F.A.C., except species described in subsection (1):

(a) Any of these species may be harassed by persistent, non-injurious disturbance without physical capture or direct handling to disperse wildlife when the wildlife poses an imminent threat to aircraft and human safety.

(b) Any of these species may be otherwise taken when:

1. The wildlife poses an imminent threat to aircraft and human safety; and

2. A situation requires an emergency response which does not allow time for paragraph (2)(a); or

3. Attempts using paragraph (2)(a) have been documented as unsuccessful and when:

a. The airport is implementing a Federal Aviation Administration approved wildlife hazard management plan; and

b. The airport has made habitat management alteration that has eliminated or significantly reduced hazardous wildlife attractants on airport property.

(c) Wildlife burrows, including gopher tortoise burrows, within the safety area as defined in 14 C.F.R. § 139.5 may be destroyed after or while all existing gopher tortoise(s) within the burrows are live captured.

(3) Notwithstanding any provision of Commission rule, an airport authority may take all other wildlife not described in subsections (1) and (2) on airport property if their presence poses a potential threat to aircraft and human safety.

(4) Notwithstanding any provision of Commission rule, wildlife in subsections (2) and (3) taken pursuant to this rule may be taken by any method except the following:

(a) Poison, other than those pesticides that are registered by the Florida Department of Agriculture and Consumer Services without additional authorizations and are only used in a manner consistent with the product labeling.

(b) Leg hold traps except those commercially manufactured padded-jaw traps.

(c) Traps, nets and snares unless they are visited at intervals not exceeding 24 hours.

(d) Any method prohibited pursuant to Section 828.12, F.S.

(e) Live capture of any deer, except Key deer as authorized by subsection (1).

(f) The killing of gopher tortoises is prohibited.

(5) Disposition of live-captured wildlife.

(a) Any species described in subsection (2) live captured shall be immediately released provided the release site and capture site are located on a contiguous piece of airport property or a permit or authorization has been obtained from the Commission for off-site release or alternative forms of disposition.

(b) Any species described in subsection (3) live captured by any method shall be released or euthanized within 24 hours following capture or inspection of a trapping device containing wildlife except,

1. Wildlife may only be released if:

a. The wildlife is released on the property of the airport provided the release site and capture site are located on a contiguous piece of property; or

b. The wildlife is a native species; and

c. The property where the animal is to be released is located within the county of capture and is a minimum of 40 contiguous acres; and

d. The person releasing the wildlife is in possession, at time of release, of written permission from the property owner allowing such action.

2. Euthanasia of wildlife shall be humane as defined by the American Association of Zoo Veterinarians or the American Veterinary Medical Association.

3. Euthanasia of any live captured bobcat is prohibited and any live captured bobcat shall be released as provided in subparagraph 1.

(6) Transportation of wildlife.

(a) Live-captured wildlife described in subsection (3), may be transported pursuant to this subsection only for:

1. The purpose of euthanasia as provided in subsection (5); or

2. The purpose of release as provided in subsection (5).

(b) Transportation of wildlife authorized by this subsection shall not supersede the provisions of any rabies alert or area quarantine issued by County Health Departments or County Animal Services.

(7) Wildlife described in subsections (2) and (3) that is killed pursuant to this rule or parts of that wildlife shall not be retained for personal use and shall be buried or incinerated.

(8) Any take that kills wildlife described in subsection (2) shall be reported by the airport. An Airport Wildlife Incident Report (Form FWC-AWIR 06-2010, herein incorporated by reference) must be submitted to the Commission within 5 business days. The form is available at MyFWC.com and must be submitted to the Protected Species Permit Coordinator, 620 S. Meridian Street, Mail Station 2A, Tallahassee, FL 32399-1600 or by email at AirportIncidents@myFWC.com.

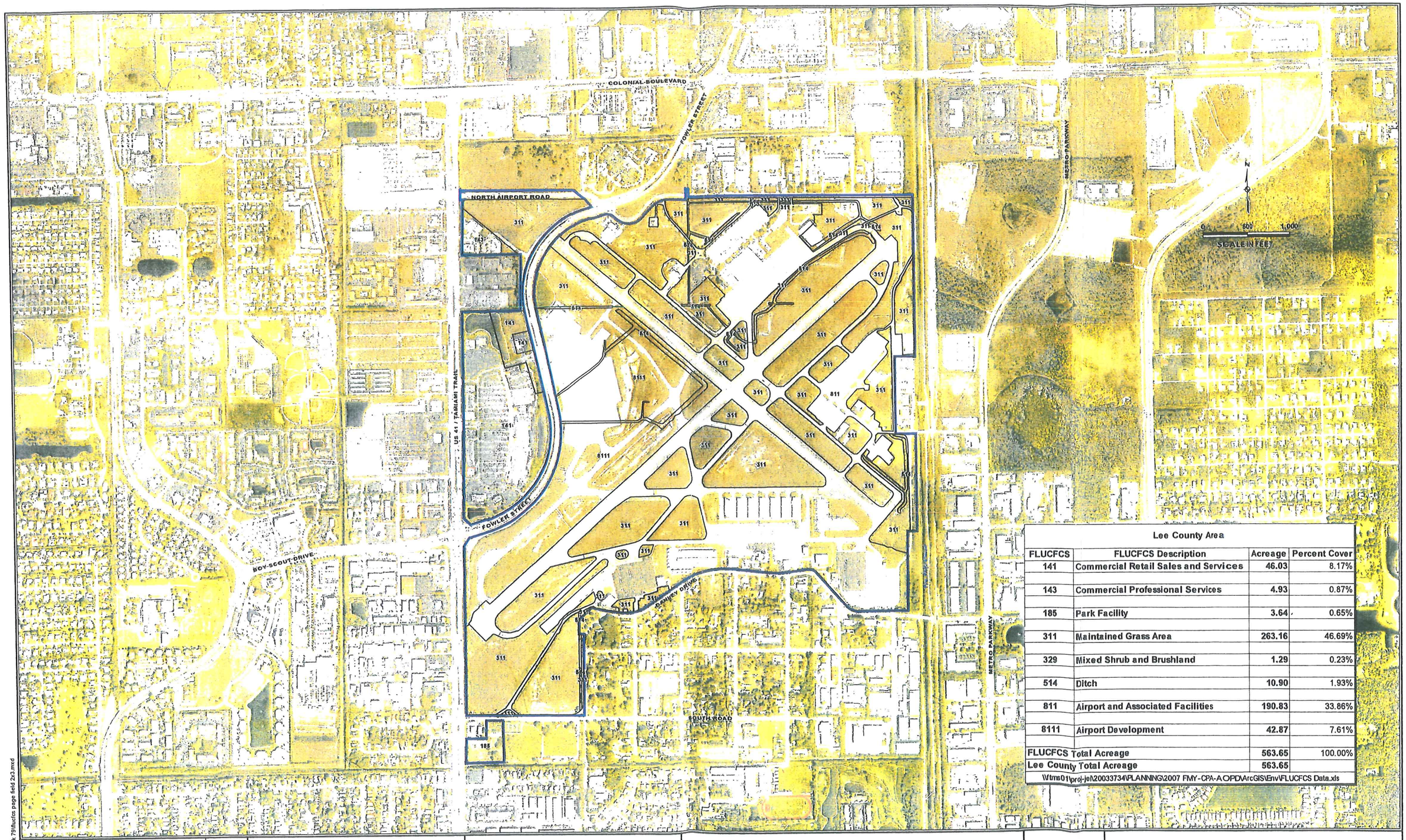
Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 7-27-10.

ATTACHMENT FMY

4. Exhibit IV.C.FMY.1-FLUCFCS map of the plant and land use communities at FMY

ATTACHMENT FMY

4. **Exhibit IV.C.FMY.1-FLUCFCS map of the plant and land use communities at FMY**



Lee County Area			
FLUCFCS	FLUCFCS Description	Acreage	Percent Cover
141	Commercial Retail Sales and Services	46.03	8.17%
143	Commercial Professional Services	4.93	0.87%
185	Park Facility	3.64	0.65%
311	Maintained Grass Area	263.16	46.69%
329	Mixed Shrub and Brushland	1.29	0.23%
514	Ditch	10.90	1.93%
811	Airport and Associated Facilities	190.83	33.86%
8111	Airport Development	42.87	7.61%
FLUCFCS Total Acreage		563.65	100.00%
Lee County Total Acreage		563.65	

\\ftms01\proj-jeh\20033734\PLANNING\2007 FMY-CPA-AOPD\ArcGIS\Env\FLUCFCS Data.xls

REVISIONS			

Page Field
Comprehensive Plan Amendment
Lee County, Florida

JOHNSON ENGINEERING
2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642

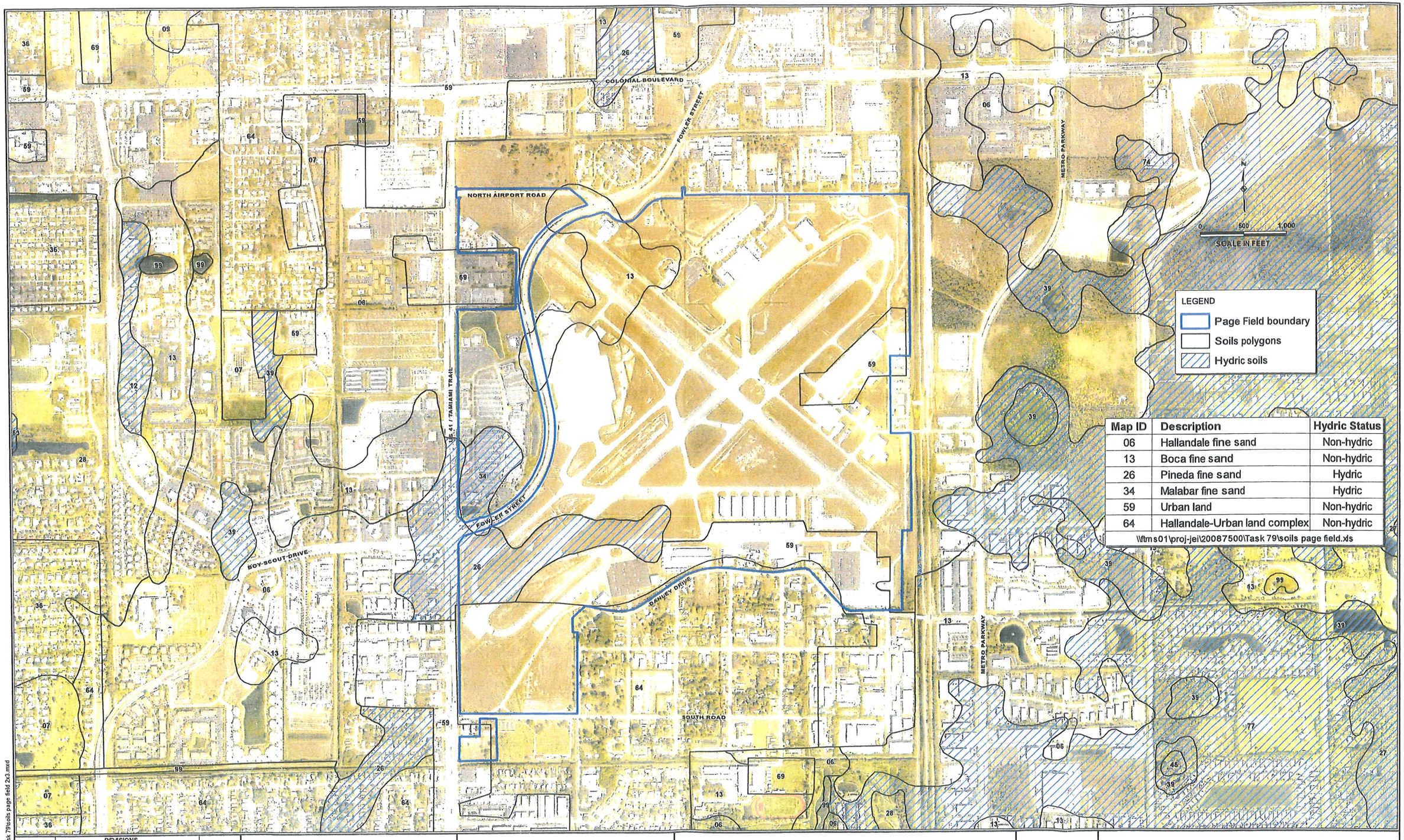
FLUCFCS Map
Exhibit IV.C.FMY.1

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	-	As Shown	IV.C.FMY.1

\\ftms01\proj-jeh\20087500\Task 79\fluc\es page field 2x3.mxd

ATTACHMENT FMY

5. Exhibit IV.C.FMY.2 - A map and description of the soils found on FMY



Map ID	Description	Hydric Status
06	Hallandale fine sand	Non-hydric
13	Boca fine sand	Non-hydric
26	Pineda fine sand	Hydric
34	Malabar fine sand	Hydric
59	Urban land	Non-hydric
64	Hallandale-Urban land complex	Non-hydric

\\ftms01\proj-jei\20087500\Task 79\soils page field.xls

REVISIONS		

Page Field
Comprehensive Plan Amendment
Lee County, Florida

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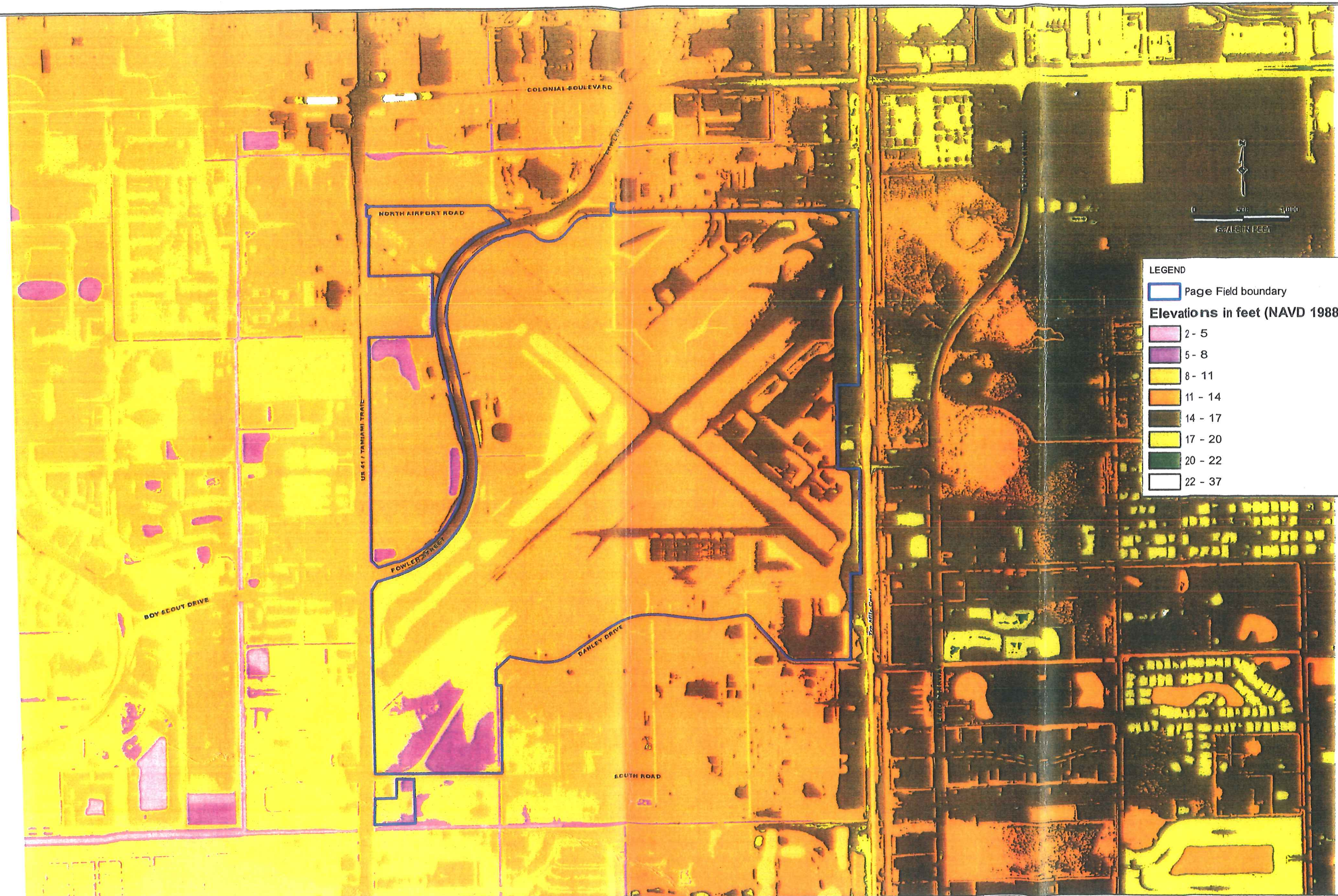
Soils Map
Exhibit IV.C.FMY.2

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	--	As Shown	IV.C.FMY.2

\\ftms01\proj-jei\20087500\Task 79\soils page field 2x3.mxd

ATTACHMENT FMY

6. Exhibit IV.C.FMY.3 – FMY topographic map



REVISIONS		

NOTES
The elevation layer shown was provided by Lee County government. Elevations are in reference to NAVD 1988.

Page Field
Comprehensive Plan Amendment
Lee County, Florida

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E.B. #642

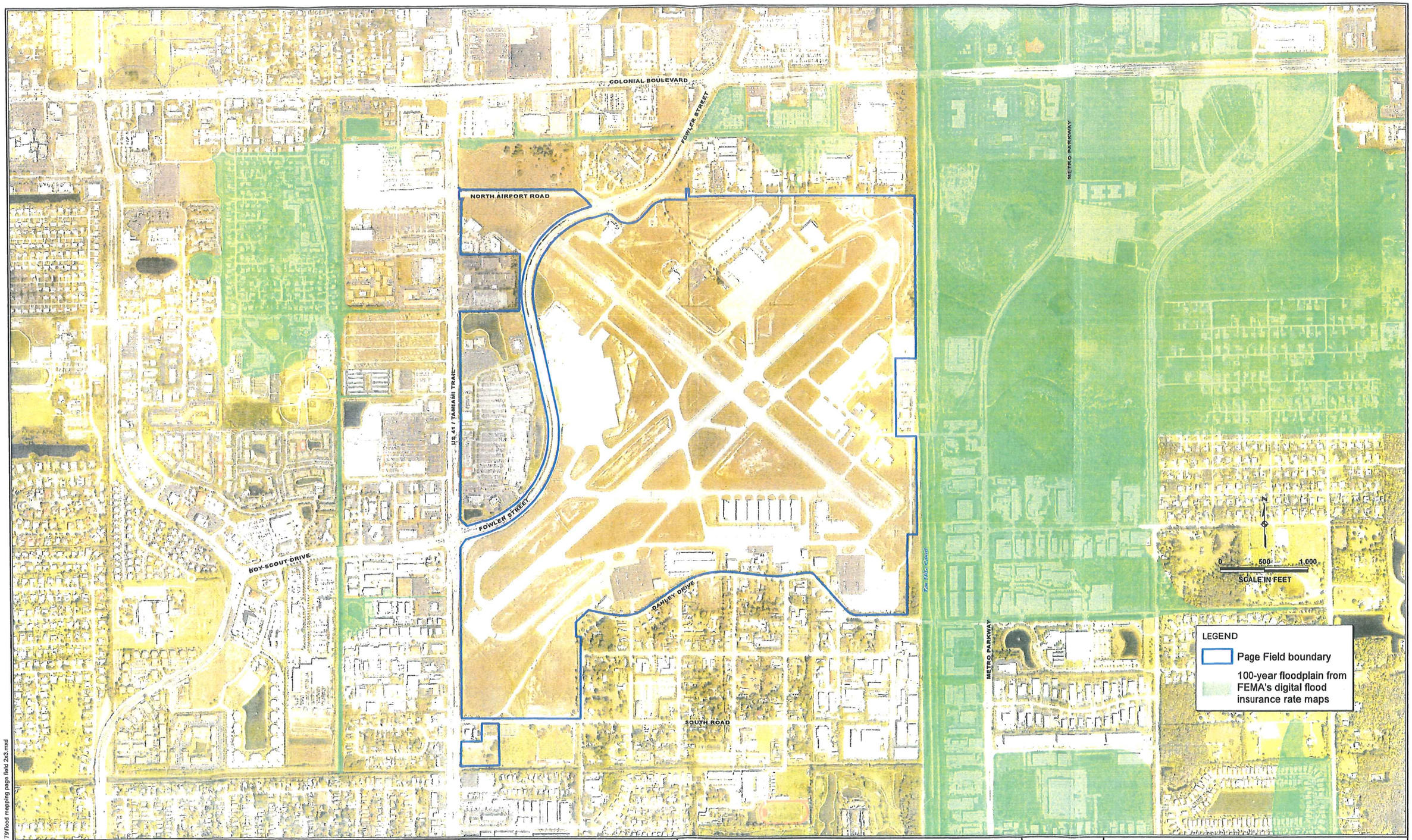
Topographic Map
Exhibit IV.C.FMY.3

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	-	As Shown	IV.C.FMY.3

\\ftms01\projects\20087500\Task 79\topo map page field 2x3.mxd

ATTACHMENT FMY

7. **Exhibit IV.C.FMY.4.1 - A map delineating the property boundary on FEMA's Flood Insurance Rate Map; and Exhibit IV.C.FMY.4.2 – A map delineating the property boundary on the Flood Map Index**



\\fhms01\proj-jel\20087500\Task 79\flood mapping page field 2x3.mxd

REVISIONS		

NOTES
The aerial photograph shown was collected in 2011 and was provided by Lee County government.

The 100-year flooplain layer is based on the August 2009 FEMA digital flood insurance rate maps.

Page Field
Comprehensive Plan Amendment
Lee County, Florida

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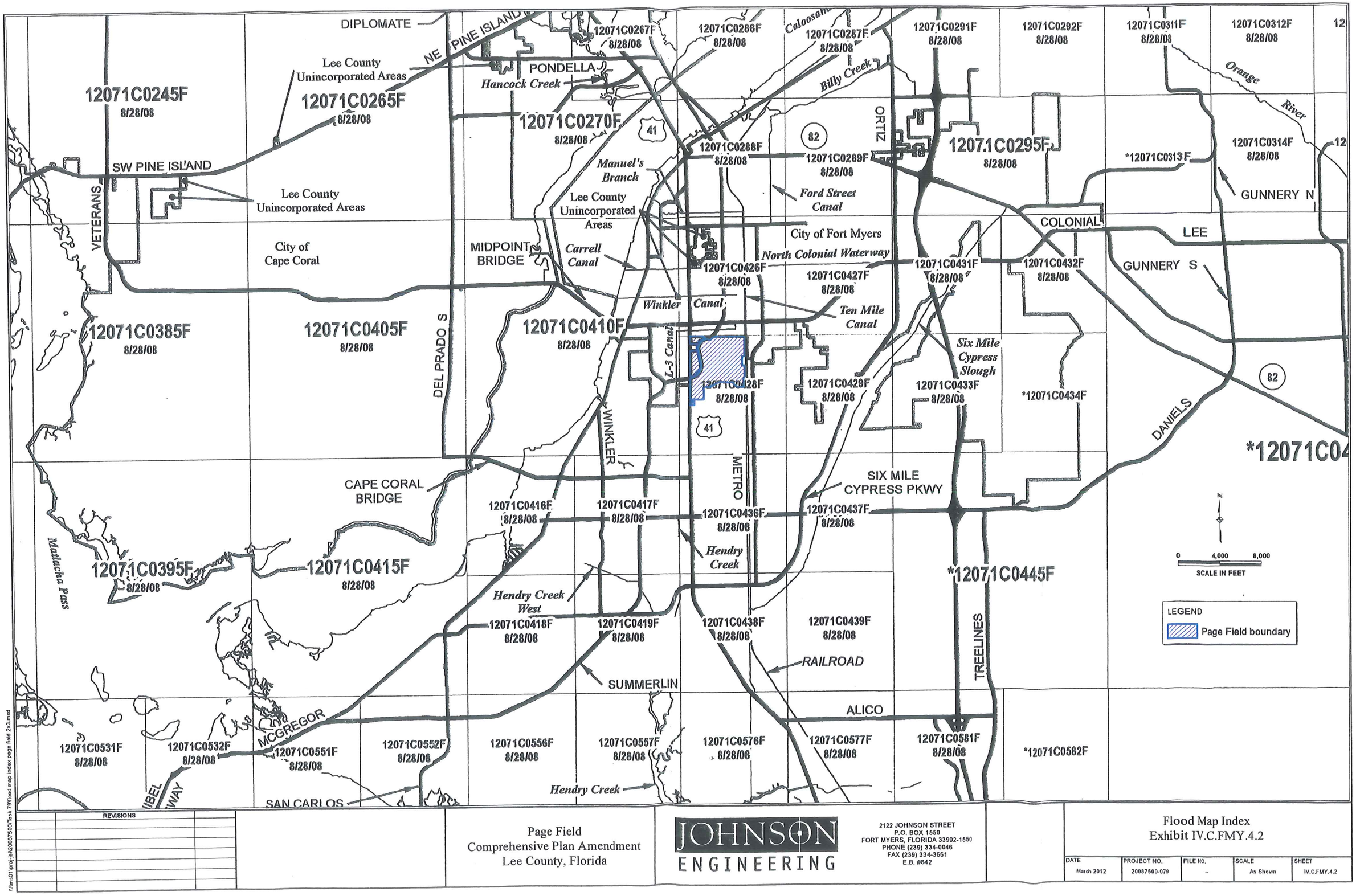
E.B. #642

Flood Mapping
Exhibit IV.C.FMY.4.1

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	–	As Shown	IV.C.FMY.4.1



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REVISIONS		

Page Field
Comprehensive Plan Amendment
Lee County, Florida

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E.B. #642

Flood Map Index
Exhibit IV.C.FMY.4.2

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
March 2012	20087500-079	-	As Shown	IV.C.FMY.4.2

Exhibit IV.E.
INTERNAL CONSISTENCY WITH THE LEE PLAN
for
LEE COUNTY PORT AUTHORITY
HAZARDOUS WILDLIFE COMPREHENSIVE PLAN AMENDMENT

1. Discuss how the proposal affects established Lee County population projections, Table 1(b) (Planning Community Year 2030 Allocations), and the total population capacity of the Lee Plan Future Land Use Map.

The proposed text amendments involve changes to Policies 1.2.1, 1.2.7 and 1.9.8 to update and align the Lee Plan with safety objectives of the Federal Aviation Administration (FAA) related to avoidance of wildlife hazards and hazardous wildlife attractants. Southwest Florida International Airport and Page Field General Aviation Airport are the two aviation facilities affected by this amendment. SWFIA is located within the Gateway/Airport Planning Community. Page Field is located in the South Fort Myers Planning Community.

The request is consistent with the adopted Airport Master Plans and the adopted Airport Layout Plans for Southwest Florida International Airport (SWFIA) and Page Field General Aviation Airport, which are both incorporated in the Lee Plan. The proposal does not affect established Lee County population projections and does not affect the total population capacity of the Lee Plan Future Land Use Map. No new development is requested as part of this amendment to update Policies 1.2.1, 1.2.7 and 1.9.8.

2. List all goals and objectives of the Lee Plan that are affected by the proposed amendment. This analysis should include an evaluation of all relevant policies under each goal and objective.

The two aviation facilities impacted by this proposed amendment are currently designated "Airport" on the Lee Plan Future Land Use Map. The portions of the Lee Plan relevant to this application are included and discussed below, with the proposed amendments in strikethrough/underline format.

GOAL 1: FUTURE LAND USE MAP. To maintain and enforce a Future Land Use Map showing the proposed distribution, location, and extent of future land uses by type, density, and intensity in order to protect natural and man-made resources, provide essential services in a cost-effective manner, and discourage urban sprawl. (Amended by Ordinance No. 94-30).

OBJECTIVE 1.2: SOUTHWEST FLORIDA INTERNATIONAL AIRPORT AND PAGE FIELD GENERAL AVIATION AIRPORT AREAS. Designate on the Future Land Use Map adequate land in appropriate locations to accommodate the projected growth needs of the Southwest Florida International Airport and the business and industrial areas related to it, as well as research and development activities and other non-aviation related development that is not necessarily related to the airport, through the year 2030. Designate on the Future Land Use Map existing and proposed development areas for Page Field General Aviation Airport. The Lee County Port Authority desires to establish non-aviation related uses to provide a supplementary revenue source as well as providing an opportunity for businesses that desire a location on airport property. Designate on the respective Airport Layout Plans suitable areas to accommodate these desired uses and provide general policy guidance as to how these uses will be developed. These categories are also considered Future Urban Areas. (Amended by Ordinance No. 94-30, 02-02, 04-16, 07-12, 09-14).

POLICY 1.2.1: Airport Lands includes the existing facility and projected growth areas for the Southwest Florida International Airport and Page Field General Aviation Airport through the year 2030. The Airport Lands comprising the Southwest Florida International Airport includes airport and airport-related development as well as non-aviation land uses as proposed in the approved 2003 Airport Master Plan update and as depicted on the Airport Layout Plan sheet (Map 3F) and the Southwest Florida International Airport Proposed Development Schedule (Table 5(a)). This mix of uses is intended to support the continued development of the Southwest Florida International Airport. Future development at the Southwest Florida International Airport will also include non-aviation related land uses such as hotels/motels, light industrial, service stations, retail/shopping, and office development. Any future airport expansion or development of aviation-related and non-aviation uses at Southwest Florida International Airport will offset environmental impacts through the Airport Mitigation Lands Overlay (Map 3M) or other appropriate mitigation. Wetland mitigation must be designed so it does not create a wildlife hazard and should be sited outside the critical separations identified by the FAA. Development and land management practices on airport property shall be in accordance

with FAA directives and other required agency approvals. Airport expansion beyond the present boundaries will be subject to necessary amendments to the Lee Plan.

All development on Airport Lands comprising Southwest Florida International Airport must be consistent with Map 3F and Table 5(a). Map 3F depicts the planned expansion of the Southwest Florida International Airport through 2020.

Future development on Airport Lands comprising Page Field General Aviation Airport must be consistent with Objective 1.9 and related policies as well as Map 3G and Table 5(b).

If the airport master planning process precipitates a substantive change to the Airport Layout Plan (Map 3F or Map 3G), then the Port Authority must amend Map 3F or Map 3G, as appropriate, prior to obtaining local development approval. The non-aviation related development areas have been depicted on the approved Airport Layout Plan sheets (Maps 3F and 3G). These uses will be constructed upon Airport lands with long term leases.

(Amended by Ordinance No. 94-30, 00-22, 04-16, 07-12, 09-14, 11-16).

POLICY 1.2.3: Airport Noise Zones are subject to varying levels of airport-related noise; see Policy 1.7.1 for details of these overlay zones.

POLICY 1.2.4: The Airport AOPD zoning resolution must be amended before any non-aviation related uses can be developed at the Southwest Florida International Airport. The intensity of the proposed aviation and non-aviation land uses at Southwest Florida International Airport must be consistent with Lee Plan Table 5(a). The Page Field General Aviation Airport project must be rezoned to AOPD prior to development of the new non-aviation uses proposed in Map 3G and Table 5(b). (Added by Ordinance No. 04-16, Amended by Ordinance No. 09-14).

POLICY 1.2.5: Map 3F, as currently incorporated into the Lee Plan, includes transportation improvements that exceed those shown on the balance of the Transportation Map series. The direct access improvements to I-75 depicted on Map 3F, which are being pursued by the Port Authority to benefit the midfield terminal, include and interchange at I-75 and grade separation at Treeline Avenue/Ben Hill Griffin Parkway. These future improvements are the Port Authority's desired access to the airport. The Port Authority will be responsible for achieving consistency between Map 3F and the balance of the Transportation Map Series concerning access to I-75. The Port Authority will serve as the lead agency for achieving direct access to I-75. (Added by Ordinance No. 04-16)

POLICY 1.2.6: Any future airport expansion or development of aviation-related uses or non-aviation related uses will provide appropriate buffer areas, as determined by Lee County, for the protection of groundwater resources in the Southeast and Northeast quadrants of the airport property. (Added by Ordinance No. 04-16)

POLICY 1.2.7: In cooperation with local, state and Federal regulatory agencies, the Port Authority will work to minimize and correct any wildlife hazards arising from existing wetlands located on or near airports. Site improvements will be designed to minimize attractiveness to wildlife of natural areas and man-made features such as detention/retention ponds, landscaping, and wetlands, which can provide wildlife with the ideal locations for feeding, loafing, reproduction, and escape. Development within the future non-aviation area, as designated on Map 3F, is limited to a maximum of 300 acres north of runway 6-24 and approximately 52 acres within the midfield terminal area. All development must be in compliance with Map 3F and the intensities outlined in Table 5(a). Development of additional acreage will require prior Lee Plan amendment approval. (Added by Ordinance No. 04-16, Amended by Ordinance No. 11-16)

RESPONSE: The proposed comprehensive plan amendment request is consistent with this Goal, and supporting Objective and Policies with the exception of the proposed amendments to Policies 1.2.1 and 1.2.7.

The airport properties are designated Airport Lands on the Future Land Use Map. Airport Lands include the existing and projected growth areas for SWFIA and Page Field. No new development is requested as part of this amendment to update Policies 1.2.1, 1.2.7 and 1.9.8.

Wildlife hazard management measures are called for by Federal Aviation Administration to ensure that wildlife hazards and hazardous wildlife attractants are avoided on airport property for the purpose of public safety. The amendments to Policies 1.2.1 and 1.2.7 are proposed to establish Lee Plan policies that are in alignment with these FAA measures.

OBJECTIVE 1.7: SPECIAL TREATMENT AREAS. Designate on the Future Land Use Map, as overlays, special treatment areas that contain special restrictions or allowances in addition to all of the requirements of their underlying categories.

POLICY 1.7.1: The Airport Noise Zones cover areas subject to varying levels of airport-related noise. By 2006 and every 5 years thereafter, the Port Authority will update the aviation forecasts and associated noise contours for the Southwest Florida International Airport and initiate an amendment to the Airport Noise Zone Overlay Map to reflect the findings of this study. In addition to meeting the requirements of the underlying Future Land Use Map categories, properties within the Noise Zone Overlay must meet the following:

Airport Noise Zone A is limited to uses that are compatible with airports and air commerce, including but not limited to those necessary to provide services and convenience goods to airline passengers, those generally associated with airport operation, and related development.

RESPONSE: No development is proposed as a part of this amendment, and no changes are proposed to Noise Zones as a part of this amendment. Therefore, the proposed amendment is consistent with this Objective and Policy.

OBJECTIVE 1.9: PAGE FIELD GENERAL AVIATION AIRPORT. Page Field General Aviation Airport plays a vital role as a reliever airport facility to Southwest Florida International Airport. In its role as a reliever airport, Page Field reduces general aviation traffic from Southwest Florida International Airport, thereby increasing the capacity and efficiency of the International Airport. Therefore, it is important to designate the land comprising the Page Field General Aviation Airport as Airport Lands on the Future Land Use Map. This designation should include adequate land to accommodate the projected growth needs of Page Field General Aviation Airport in its continued role as an airport reliever, including the industrial, commercial and office uses necessary to continue viable aviation activity through 2025. (Added by Ordinance No. 09-14).

POLICY 1.9.1: In order to create the revenue source necessary to maintain Page Field General Aviation Airport as a viable aviation operation and reliever to Southwest Florida International Airport, the Port Authority seeks to establish non-aviation uses on the Page Field General Aviation Airport property. Suitable locations for these non-aviation uses are designated on the Page Field Airport Layout Plan adopted as Lee Plan Map 3G. The Page Field Airport Layout Plan sheet (Map 3G) was adopted by the Federal Aviation Administration as part of the 2002 Page Field Airport Master Plan Update. This update and documents comprising the 2002 Master Plan approval are incorporated into the Lee Plan by reference as support for adoption of Map 3G and Table 5(b). (Added by Ordinance No. 09-14).

POLICY 1.9.2: The Page Field Airport Layout Plan (Map 3G) identified existing facilities and projected growth areas for both aviation and non-aviation uses through 2025. The mix of uses is identified on Table 5(b). This mix of uses is intended to support the continued future development of Page Field General Aviation Airport and includes aviation and non-aviation related land uses such as light industrial and office development and expands the non-aviation uses to include retail development. Development of the aviation and non-aviation uses on Page Field General Aviation Airport property must be consistent with Map 3G and Table 5(b) and will be required to comply with the Lee County Land Development Code regulations, including, but not limited to, the impact fee regulations. Any environmental mitigation deemed necessary to support development of Page Field General Aviation Airport property will be addressed separately by each development project and is not entitled to claim a benefit from the Airport Mitigation Lands Overlay area (Map 3M). (Added by Ordinance No. 09-14).

POLICY 1.9.3: If the Port Authority determines expansion of the Page Field General Aviation Airport boundaries is necessary in order to provide continued viability to Page Field as a reliever to Southwest Florida International Airport, then the Port Authority will submit to the Board of County Commissioners the appropriate application and support documentation to amend Map 3G, Table 5(b) and the Future Land Use Map to reflect the land added to Page Field General Aviation Airport. (Added by Ordinance No. 09-14).

POLICY 1.9.4: The Page Field Airport Master Plan and Airport Layout Plan will be updated no less than every 5-8 years, with the next amendment anticipated to be approved by the Federal Aviation Administration in 2010. A comprehensive plan amendment will be submitted by the Port Authority to update Map 3G and Table 5(b) to reflect the updated Page Field Master Plan as approved. The planning horizon used for the master plan update should be consistent with the Lee Plan Horizon, which can be verified by Lee County as part of the Master Plan Update process. Lee County staff will be included in the Master plan update process as required under the terms of the existing memorandum of understanding regarding airport development. (Added by Ordinance No. 09-14).

POLICY 1.9.5: The Port Authority will seek to eliminate or modify existing uses on the Page Field property deemed incompatible with existing aviation activity or causing a diminution in the Page Field Airport capacity. In order to protect Page Field as a Southwest Florida International Airport reliever, the Port Authority will use its capacity/authority as a reviewing entity to influence land-use decisions and approvals with respect to development of the lands surrounding Page Field in order to promote development that is compatible with the aviation activity at Page Field General Aviation Airport. (Added by Ordinance No. 09-14).

POLICY 1.9.6: Development on Page Field lands must be consistent with the Airport Layout Plan (Map 3G). If the Page Field Airport Master Plan or Airport Layout Plan set is amended or updated by the Port Authority in a manner that constitutes a substantive change from Map 3G or Table 5(b), local development order approval may be delayed or denied pending a Lee Plan Amendment, by the Port Authority, with respect to Map 3G and Table 5(b). (Added by Ordinance No. 09-14).

POLICY 1.9.7: Non-aviation development areas at Page Field Airport, as depicted on Map 3G, will be developed under long term land leases. All non-aviation development must comply with Land Development Code regulations, including payment of impact fees. The intensity of non-aviation development must be consistent with Table 5(b). (Added by Ordinance No. 09-14).

POLICY 1.9.8: In cooperation with local, state and Federal regulatory agencies, the Port Authority will work to minimize and correct any wildlife hazards arising from existing wetlands located on or near airports. Site improvements will be designed to minimize attractiveness to wildlife of natural areas and man-made features such as detention/retention ponds, landscaping, and wetlands, which can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape. (Added by Ordinance No. 09-14).

POLICY 1.9.9: Future aviation and non-aviation development at Page Field General Aviation Airport must comply with the provisions of the Educational Restriction Zone established under Florida Statutes, section 333.03 and the School Zone Map adopted as part of the Lee County Land Development Code.

RESPONSE: The proposed amendment is consistent with this Objective and supporting Policies with the exception of the proposed changes to Policy 1.9.8. As an existing general aviation airport and capacity reliever for Southwest Florida International Airport, the development and maintenance of Page Field must adhere to safety objectives related to avoidance of wildlife hazards and hazardous wildlife attractants in accordance with the Federal Aviation Administration (FAA). No development is proposed as a part of this amendment, however the amendment will ensure that future development meets safety objectives of the FAA and outlined in the Florida Department of Transportation (FDOT) "Airport Compatible Land Use Guidebook."

GOAL 46: COORDINATED SYSTEM OF RAILWAYS, AVIATION, PORTS AND ROADS. Develop and maintain a coordinated system of railways, aviation, ports, roads, and related facilities to facilitate the safe and efficient movement of commerce, consistent with community values and economic objectives. (Amended by Ordinance No. 99-15)

OBJECTIVE 46.1: FUTURE LAND USES. The county will encourage the location of suitable commerce movement support facilities such as warehouses, cargo handling facilities, and transfer points at areas appropriately designated on the Future Land Use Map. (Amended by Ordinance No. 99-15)

RESPONSE: This amendment to update Policies related to avoidance of wildlife hazards and hazardous wildlife attractants is consistent with Goal 46 because the amendment furthers the safety of the movement of commerce. No new development is proposed as part of this amendment, and it is consistent with Objective 46.1.

GOAL 47: COORDINATED SYSTEM OF AVIATION FACILITIES. Develop and maintain a coordinated system of aviation facilities to facilitate the safe, cost effective and efficient movement of commerce consistent with community values and economic objectives (Amended by Ordinance 99-15).

OBJECTIVE 47.1: ECONOMIC GROWTH. To aid in the diversification of the county's economic growth the capacity and long term development of the Southwest Florida International Airport and Page Field General Aviation Airport will be expanded in compliance with Maps 3F and 3G, and Table 5(a) and 5(b). Specific project implementation and approval of the proposed development will be coordinated through the annual Capital Improvement Program process and be consistent with the Airport Layout Plans (Map 3F and 3G). These expansions will be funded through user fees, airline contributions, and other funding sources not involving general county tax dollars. The Port Authority will strive to minimize impacts to surrounding land uses while maintaining a safe and efficient facility for airport operations. (Amended by Ordinance No. 98-09, 99-15, 04-16, 09-14)

POLICY 47.1.1: The Port Authority will coordinate the implementation of scheduled infrastructure and facility improvements for the Southwest Florida International Airport and Page Field General Aviation Airport consistent with the approved Airport Layout

Plan sheets (Map 3F and Map 3G, respectively) and the Development Schedules (Table 5(a) and (b), respectively). (Amended by Ordinance No. 98-09, 99-15, 04-16, 09-14)

POLICY 47.1.2: The development potential of Southwest Florida International Airport will continue to be protected by the acquisition of additional land for runway and taxiway, road access, storm water management, and environmental mitigation use, consistent with the adopted Airport Master Plan and the Port Authority's Capital Improvement Program. (Amended by Ordinance No. 98-09, 99-15, 07-09)

POLICY 47.1.3: The Port Authority will continue to expand existing and proposed aviation facilities such as the terminal building, airport aprons, cargo facilities, roadways and parking in order to meet the forecasted demand. (Amended by Ordinance No. 98-09, 99-15, 04-16)

POLICY 47.1.4: The Port Authority will continue to investigate commercial and industrial potentials at Page Field and at Southwest Florida International Airport through market surveys and the solicitation and receipt of acceptable proposals for land lease at fair market value as well as efforts to cultivate appropriate public/private partnerships in pursuing this potential. (Amended by Ordinance No. 98-09, 07-09)

POLICY 47.1.5: The Port Authority will capitalize on its Port of Entry and Foreign Trade Zone status to encourage economic diversification. This will be accomplished by actively: (1) seeking to increase international commerce movement; (2) implementing an international marketing program designed to increase tourist activity; (3) continuing planning efforts to ensure availability of adequate airport facilities to accommodate increases in international air traffic; and, (4) pursing development of international corporate activity. (Amended by Ordinance No. 99-15, 04-16)

POLICY 47.1.6: The Port Authority will maintain guidelines for the location, development, and operation of private aviation facilities that would add to Lee County's overall tax base. (Amended by Ordinance No. 99-15)

POLICY 47.1.7: The Port Authority will plan to accommodate growth at the existing facilities and provide for the development of future aviation facilities as warranted. (Amended by Ordinance No. 98-09, 99-15).

RESPONSE: As established, publicly-owned airports, SWFIA and Page Field continue to operate and grow in alignment with the adopted Airport Master Plan and the Lee Plan. The proposed amendment relates to avoidance of wildlife hazards and hazardous wildlife attractants on airport property, thus promoting the safe and efficient movement of commerce.

Southwest Florida International Airport and Page Field offer critical services that contribute to the vitality of Lee County. Southwest Florida International Airport provides well-integrated, efficient, and direct commercial aviation services. Commercial aviation plays a vital role in the economic and transportation systems,

offering opportunities for transportation of goods, and flying for business or personal reasons. Aviation activity forecasts reflect growth in the demand for the aviation services provided at SWFIA. As a reliever to SWFIA, Page Field provides general aviation services that fulfill the air transportation demands for the County. Public safety is most important objective of the Federal Aviation Administration and is a primary focus of Lee County and the Port Authority as operator of both airports. Therefore, the proposed amendment is consistent with the Goals, Objectives and Policies listed.

OBJECTIVE 47.2: DEVELOPMENT COMPATIBILITY. The county and Port Authority will evaluate development proposals for property located within the vicinity of existing aviation facilities to ensure land use compatibility, to preclude obstructions to aircraft operations, and to protect airport capacities. (Amended by Ordinance No. 99-15, 07-09)

POLICY 47.2.1: The Port Authority will coordinate efforts with aviation and other transportation interests at Southwest Florida International Airport to establish multi-modal transfer facilities. During prior master planning efforts, the Port Authority identified on its Airport Layout Plan (Map 3F) an "Ultimate Passenger Multi Modal" area. As part of the normal Airport Master Plan update approval process, the Airport Layout Plan was approved by the FAA, FDOT, and the Board of County Commissioners and is consistent with other transportation-related objectives. Future Southwest Florida International Airport Master Plan Update efforts will re-evaluate appropriate locations for multi-modal transfer facilities on airport property. (Amended by Ordinance No. 99-15, 04-16, 11-16)

POLICY 47.2.2: The county will coordinate with the Port Authority to ensure that regulations in the Lee County Land Development Code restrict land uses in areas covered by the Airport Noise Zones (ANZ) to those uses that are compatible with the operation of the airport. (Amended by Ordinance No. 99-15)

POLICY 47.2.3: Future updates of the Page Field and Southwest Florida International Airport Master Plans will monitor and incorporate development of non-aviation uses at the airports and suggest aviation-related uses as appropriate. (Amended by Ordinance No. 99-15, 04-16).

POLICY 47.2.4: To the greatest extent possible, future airport master plans will retain the long term aviation expansion capability and capacity at both Page Field Airport and the Southwest Florida International Airport. (Amended by Ordinance No. 99-15).

POLICY 47.2.5: The county will utilize the approved Airport Master Plans and FAR Part 150 Study, including updates, as a basis to amend the comprehensive land use plan and the land development code to prohibit development that is incompatible with the Southwest Florida International Airport or Page Field General Aviation Airport; and, to ensure future economic enhancement consistent with Objective 46.2. Future updates of the Southwest Florida International Airport Master Plan and Page Field General Aviation

Airport Master Plan that precipitate substantive changes to the Airport Layout Plans (Map 3F and Map 3G, respectively) will require a Lee Plan Amendment prior to local permitting approval for the affected airport. In accordance with FAA requirements, the Southwest Florida International Airport Master Plan and corresponding Airport Layout Plan (Map 3F) will be comprehensively updated at least once every 5 to 8 years. (Amended by Ordinance No. 99-15, 04-16, 09-14)

POLICY 47.2.6: Through an interlocal agreement, the Port Authority and the City of Fort Myers will continue to coordinate the review of new land uses that have the potential to create tall structure obstructions to aviation within the City of Fort Myers. (Added by Ordinance No. 07-09).

RESPONSE: The requested amendment is consistent with this Objective and supporting Policies. The formal airport master planning process is guided by state and federal requirements. Airport master planning is an ongoing process coordinated with the local government, and it requires significant attention be placed on safety, including the avoidance of wildlife hazards and hazardous wildlife attractants.

The proposed amendment addresses the need for the Port Authority to consider potential hazards on and near airports, which is necessary to preclude obstructions to airport operations that can be caused by wildlife and to ensure land use compatibility as outlined in the FDOT "Airport Compatible Land Use Guidebook." Coordination with the City of Fort Myers to manage the compatibility of future land uses and development of adjoining properties within the City is ongoing.

OBJECTIVE 47.3: FUTURE DEMANDS. Continually evaluate the projected demands for public aviation facilities and ensure their adequate provision.

POLICY 47.3.1: The Port Authority Executive Director will coordinate all expansion plans contained in approved airport master plans with the Federal Aviation Administration and the Florida Department of Transportation to ensure that projects of interest to the Port Authority are included in the federal and state funding programs. (Amended by Ordinance No. 99-15)

POLICY 47.3.2: The appropriate costs for expansion as depicted in the approved Port Authority CIP will continue to be coordinated with the Capital Improvements element. (Amended by Ordinance No. 99-15).

POLICY 47.3.3: Maximum use of airport facilities should be ensured before expanding or developing new facilities. (Amended by Ordinance No. 07-09)

POLICY 47.3.4: The proposed development schedule for the Southwest Florida International Airport through the year 2020 for landside and airside uses and through the year 2030 for non-aviation uses is depicted in Table 5(a) of the Lee Plan. The proposed development schedule for the Page Field General Aviation Airport through the year 2025

is depicted in Table 5(b) of the Lee Plan. These Tables include both aviation and non-aviation related development. If the FAA/FDOT mandate navigational improvements (NAVAIDS) or require improvements related to Airport security or safety at Southwest Florida International Airport or Page Field General Aviation Airport, then the Port Authority may pursue installation of the improvement even though the improvement is not specifically identified on Table 5(a) or Table 5(b). However, the Port Authority must obtain all appropriate approvals and permits prior to installation, including approval from Lee County. If these improvements precipitate a substantive change to Table 5(a), Table 5(b), Map 3F, or Map 3G, then the Port Authority must pursue a Lee Plan amendment incorporating the changes in the next available amendment cycle. (Added by Ordinance No. 04-16, Amended by Ordinance No. 09-14, 11-16).

RESPONSE: The request is consistent with this Objective and Policies. The amendment addresses FAA policy to avoid wildlife hazards and hazardous wildlife attractants so that the Port Authority can fulfill requirements of Part 139 Certifications and associated Wildlife Hazardous Management Plan (WHMP) adopted for SWFIA. This alignment of Lee Plan policies with the FAA is necessary for the Port Authority to maintain compliance for continued airport operation and continued supplemental grant funding from FAA. No new development is proposed as part of this amendment. All future development approvals will be obtained through applicable permitting agencies as required.

OBJECTIVE 47.4: ACCESS. The Southwest Florida International Airport is an intermodal facility of significant value to the regional, state and federal transportation systems. Protecting this resource requires the provision of adequate landside and airside capacity. (Amended by Ordinance No. 99-15)

POLICY 47.4.1: The County and Port Authority will coordinate aviation facility expansion and demand, consistent with the Airport Layout Plan, through the County's annual Capital Improvement Program in conjunction with regular briefings by Port Authority staff to County staff. (Amended by Ordinance No. 98-09, 99-15, 04-16)

POLICY 47.4.2: The county and Port Authority recognize that the access from Interstate 75 to the Southwest Florida International Airport is designated as a priority intermodal connector in the National Highway Plan and Florida Intrastate Highway System Plan, and will work with the MPO, FDOT and the Federal Highway Administration to ensure that this access receives funding and is developed compatibly with the intermodal access needs of the region. (Amended by Ordinance No. 99-15)

POLICY 47.4.3: The Port Authority will coordinate surface transportation planning for Page Field and the Southwest Florida International Airport with the Lee County Metropolitan Planning Organization, the county Department of Transportation, Lee Tran, and the Florida Department of Transportation to ensure adequate access to the airports. (Amended by Ordinance No. 98-09, 99-15, 07-09)

POLICY 47.4.4: The County and Port Authority recognize the significance and value of the Southwest Florida International Airport. The Lee County Port Authority will aggressively pursue Federal and State funding for access roadway improvements as identified on the Airport Layout Plan. (Added by Ordinance No. 04-16)

POLICY 47.4.5: Development of non-aviation related uses on airport property will be required to meet concurrency standards set forth in the Lee County Land Development Code. (Added by Ordinance No. 04-16)

RESPONSE: This comprehensive plan amendment request is consistent with this Objective and supporting Policies. No new development is proposed as part of this amendment. The amendment addresses FAA policy to avoid wildlife hazards and hazardous wildlife attractants so that the Port Authority can fulfill requirements of Part 139 Certifications and associated Wildlife Hazardous Management Plan (WHMP) adopted for SWFIA. This alignment of Lee Plan policies with the FAA is necessary for the Port Authority to maintain compliance for continued airport operation and continued supplemental grant funding from FAA. The Port Authority will continue coordinating with local, state and federal transportation agencies to pursue funding and improvements to ensure adequate access to airport lands. All future development approvals will be obtained through applicable permitting agencies as required.

OBJECTIVE 47.5: COORDINATED COMMERCE MOVEMENT. The Port Authority will provide facilities that are economically feasible and compatible with adjacent land uses, environmental standards and public safety, and that also meet the needs of commerce movement enterprises and facilities. (Amended by Ordinance No. 99-15)

POLICY 47.5.1: The Port Authority will continue to coordinate plans for existing and proposed aviation facilities with appropriate transportation agencies such as the Federal Aviation Administration, the Transportation Security Administration, the Lee County Metropolitan Planning Organization, the Florida Department of Transportation, Lee Tran and the Lee County Department of Transportation. (Amended by Ordinance No. 98-09, 99-15, 07-09)

POLICY 47.5.2: The county will monitor roads leading to Page Field and the Southwest Florida International Airport in order to facilitate efficient and convenient access for airport users. (Amended by Ordinance No. 99-15)

POLICY 47.5.3: The county will coordinate with private investors by reviewing plans and otherwise providing technical assistance in the development of aviation facilities in Lee County to ensure land use, airspace, and environmental compatibility. (Amended by Ordinance No. 99-15)

POLICY 47.5.4: The county will consider land use compatibility when reviewing development proposals within the vicinity of existing or proposed aviation facilities. (Amended by Ordinance No. 99-15)

POLICY 47.5.5: Locations adjacent to or near aviation facilities are identified in the Future Land Use Map as suitable for commerce movement support facilities such as warehouses, cargo handling facilities, and other transfer points, and will be periodically reviewed and updated. (Amended by Ordinance No. 98-09)

POLICY 47.5.6: The Port Authority will encourage cargo and freight development at the Southwest Florida International Airport by implementing domestic and international cargo marketing programs and by expanding airport facilities, as needed, in order to accommodate large domestic and international cargo carriers. (Amended by Ordinance No. 99-15)

POLICY 47.5.7: The County will protect existing and proposed aviation facilities from the encroachment of incompatible land uses by updating the Future Land Use Map as needed to achieve consistency with revisions to the respective FAR Part 150 Studies (if applicable), and Airport Layout Plans for Southwest Florida International Airport and Page Field, as proposed by the Port Authority. (Amended by Ordinance No. 99-15, 04-16)

POLICY 47.5.8: The county will encourage the provision of warehouses, cargo handling facilities, and freight transfer points at aviation facilities needed for the movement of commerce by local industries, trade, and commercial enterprises. (Amended by Ordinance No. 99-15).

RESPONSE: This proposed amendment is consistent with the above referenced Objective and Policies. No new development is proposed as part of this amendment. The Port Authority will continue coordinating with local, state and federal transportation agencies. All future development approvals will be obtained through applicable permitting agencies as required.

OBJECTIVE 47.6: AGENCY COORDINATION. Ensure that existing and future air system needs can be met safely and with a minimum of land use conflict by coordinating aviation facility plans with appropriate federal, state, regional, and local review and permitting agencies. (Amended by Ordinance No. 99-15)

POLICY 47.6.1: The Port Authority will coordinate and obtain approval for airport development from the County through the annual capital improvement planning and programming process; local permitting process; Airport Master Plan Update process; and, the Lee Plan amendment process to ensure compatibility with other County programs. The Port Authority will provide Lee County copies of the annual Capital Improvement Plan or other similar document for the Southwest Florida International Airport and Page Field General Aviation Airport. Airport development will remain consistent with the MPO Long Range Transportation Plan and will support the provision of regional transportation facilities for the efficient use and operation of the transportation system and airports. Additional specific coordination requirements are contained in Objective 151.4 and subsequent policies. (Amended by Ordinance No. 99-15, 04-16, 09-14)

POLICY 47.6.2: While airport facilities will be operated in conformance with applicable state and federal regulations, the Port Authority will strive to ensure that Lee County environmental and other regulations are also implemented to the greatest extent possible. (Amended by Ordinance No. 99-15)

POLICY 47.6.3: The Port Authority will develop plans for aviation in the county that are consistent with the Continuing Florida Aviation System Planning Process and the National Plan of Integrated Airport Systems. (Amended by Ordinance No. 99-15)

POLICY 47.6.4: The safety of aircraft operators, aircraft passengers, and persons on the ground will guide the Port Authority in the operation of county airports, and hazardous wildlife attractants on or near the airports will be avoided. (Added by Ordinance No. 99-15)

POLICY 47.6.5: The county will maintain the tall structure permitting process to ensure that proponents of potential structural hazards to aviation coordinate with the Port Authority and the Federal Aviation Administration to properly place, mark and light potential obstructions as necessary. (Added by Ordinance No. 99-15

POLICY 47.6.6: In the interest of the safety of air commerce, the county will not approve a temporary or permanent structure that exceeds the height limitation standards, or does not comply with placement, lighting and marking standards, established by the Port Authority, Florida Statutes, or the Federal Aviation Administration rules and regulations. (Added by Ordinance No. 99-15, Amended by Ordinance No. 07-09)

RESPONSE: The proposed amendment is consistent with this Objective and Policies. The Port Authority coordinates with FAA, FDOT, Metropolitan Planning Organization (MPO), and Lee County.

The proposed amendment addresses the need for the Port Authority to consider potential hazards on and near airports, which is necessary to preclude obstructions to airport operations that can be caused by wildlife and to ensure land use compatibility as outlined in the FDOT "Airport Compatible Land Use Guidebook."

OBJECTIVE 47.7: COORDINATION OF ELEMENTS. Coordinate the expansion of existing airports and the proposed siting of any new airports with the Future Land Use and Conservation and Coastal Management elements. (Amended by Ordinance No. 99-15, 07-09)

POLICY 47.7.1: The use of existing and proposed aviation facilities will be promoted by the Port Authority consistent with the Future Land Use and Conservation and Coastal Management elements of the Lee Plan. (Amended by Ordinance No. 99-15)

POLICY 47.7.2: Ensure that adverse structural and non-structural impacts of aviation facilities upon natural resources and wildlife are mitigated consistent with FAA policies

and procedures and in coordination with federal, state, regional and local environmental agencies. (Amended by Ordinance No. 99-15)

POLICY 47.7.3: The Port Authority will abide by all other relevant parts of this comprehensive plan in the construction and operation of Page Field Airport and the Southwest Florida International Airport, especially the Future Land Use, Conservation and Coastal Management, and Transportation elements. (Amended by Ordinance by No. 98-09, Amended and Relocated by Ordinance No. 99-15, Amended by Ordinance No. 07-09)

RESPONSE: The proposed amendment is consistent with this Objective and Policies. There is no development proposed as part of this comprehensive plan amendment.

An environmental analysis which provides documentation of the environmental conditions and the FAA governing regulations about controlling wildlife attractants is included in this application package. The proposed amendment puts policies in place to ensure future development of airport facilities will be consistent with the Lee Plan, and all relevant state and federal statutes, rules, and regulations relating to wildlife hazards, environmental impacts and compatibility.

OBJECTIVE 107.4: ENDANGERED AND THREATENED SPECIES IN GENERAL. Lee County will continue to protect habitats of endangered and threatened species and species of special concern in order to maintain or enhance existing population numbers and distributions of listed species.

POLICY 107.4.1: Identify, inventory, and protect flora and fauna indicated as endangered, threatened, or species of special concern in the "Official Lists of Endangered and Potentially Endangered Fauna and Flora of Florida," Florida Game and Freshwater Fish Commission, as periodically updated. Lee County's Protected Species regulations will be enforced to protect habitat of those listed species found in Lee County that are vulnerable to development. There will be a funding commitment of one full-time environmental planner to enforce this ordinance through the zoning and development review process. (Amended by Ordinance No. 92-48, 94-30, 00-22)

POLICY 107.4.2: Conserve critical habitat of rare and endangered plant and animal species through development review, regulation, incentives, and acquisition.

POLICY 107.4.3: Require detailed inventories and assessments of the impacts of development where it threatens habitat of endangered and threatened species and species of special concern.

POLICY 107.4.4: Restrict the use of protected plant and wildlife species habitat to that which is compatible with the requirements of endangered and threatened species and species of special concern. New developments must protect remnants of viable habitats

when listed vegetative and wildlife species inhabit a tract slated for development, except where equivalent mitigation is provided. (Amended by Ordinance No. 94-30, 00-22)

RESPONSE: The proposed amendment is consistent with this Objective and supporting Policies. Consistent with FAA guidance, the environmental characteristics of airport property are identified and inventoried as part of the Airport Master Planning process. An Environmental Analysis is included in this application.

The proposed amendment establishes policies according to the Port Authority's need to limit natural habitat and manmade features that attract hazardous wildlife species that threaten air traffic safety per the FAA. For the reasons explained in the Summary of Text Changes included in this application, operation and future development of the airport facilities will be focused on the safety of aircraft and aircraft passengers to minimize threats to public health, safety and welfare in accordance with all federal and state directives related to plant and animal species and wildlife habitat on and near airports.

OBJECTIVE 117.2: XERISCAPE LANDSCAPE. The county will continue to promote xeriscape landscaping techniques. (Amended by Ordinance No. 94-30, 00-22)

RESPONSE: The proposed amendment is consistent with this Objective. The Port Authority is committed to utilizing drought-tolerant ground covers and shrubs that are on the Port Authority's "Compatible Native Landscape List for RSW and FMY" to ensure avoidance of hazardous wildlife attractants on airport property.

GOAL 151: SERVICE COORDINATION. To provide for efficient and effective coordination of provision of public services by Lee County and its special districts, bodies, boards, and other entities.

OBJECTIVE 151.4: COORDINATION OF AIRPORT DEVELOPMENT ANDIMPROVEMENTS AT THE SOUTHWEST FLORIDA INTERNATIONAL AIRPORT AND PAGE FIELD GENERAL AVIATION AIRPORT WITH ALL PERMITTING AGENCIES. The Port Authority will coordinate with Lee County, the Southwest Florida Regional Planning Council, the Florida Department of Community Affairs, Federal Aviation Administration, and the Florida Department of Transportation to ensure that the development of the Southwest Florida International Airport and the Page Field General Aviation Airport is consistent with the Lee Plan. (Added by Ordinance No. 04-16, Amended by Ordinance No. 09-14)

POLICY 151.4.1: Port Authority staff will ensure that Lee County staff is directly involved in the review and approval process related to the ongoing update of the Airport Master Plan for Southwest Florida International Airport and Page Field General Aviation Airport. This mandatory inter-agency coordination will provide an official means for scheduled review and comment regarding Airport Master Plan Updates, related Lee Plan amendments, annual updates of the Airport Layout Plan and Capital Improvement

Program, permitting for scheduled capital improvement projects, amendments to the Airport zoning approvals and compliance with the Lee County Land Development Code. (Added by Ordinance No. 04-16, Amended by Ordinance No. 09-14)

POLICY 151.4.2: The Port Authority will submit and County staff will review and provide comments regarding the following:

1. Scope and content of ongoing updates to the Airport Master Plan for Southwest Florida International Airport and Page Field General Aviation Airport pursued in accordance with Federal Aviation Administration Advisory Circular 150/5070-6 and the Florida Department of Transportation Guidebook for Airport Master Planning.

2. Consistency of proposed amendments to the Airport Master Plan and resulting Airport Layout Plan for Southwest Florida International Airport (Map 3F) and Page Field General Aviation Airport (Map 3G) with the Lee Plan, Land Development Code (LDC) and local zoning approvals.

3. Compatibility and compliance of individual CIP projects with the Lee Plan, LDC regulations, zoning approvals and other applicable regulations.

4. Proposed Lee Plan Amendments necessary to support revisions to the Airport Layout Plan for Southwest Florida International Airport (Map 3F) and Page Field General Aviation Airport (Map 3G), the Southwest Florida International Airport Proposed Development Schedule (Table 5(a)), the Page Field General Aviation Airport Proposed Development Schedule (Table 5(b)), the Airport Master Plans for Southwest Florida International Airport and Page Field General Aviation Airport, or CIP project list. (Added by Ordinance No. 04-16, Amended by Ordinance No. 09-14)

POLICY 151.4.3: Prior to submittal of any application to amend the Lee Plan, the Port Authority staff must obtain an endorsement of the proposed plan amendment application package, including the Airport Layout Plan, from the Board of Port Commissioners. Written evidence of this endorsement must be included in the plan amendment application package. The Port Authority staff will coordinate the date and time the endorsement request will be presented to the Port Commissioners with the County in order to provide County staff with ample opportunity to attend the meeting and address the Port Commissioners as necessary. (Added by Ordinance No. 04-16)

POLICY 151.4.4: Prior to formal submittal of any Lee Plan amendment package, rezoning request, or development order application, the Port Authority staff will informally present the proposed application to Lee County staff for initial comments and input regarding consistency with the Lee Plan and County regulations. (Added by Ordinance No. 04-16)

POLICY 151.4.5: The Port Authority is the lead agency in coordinating efforts to obtain approval for Southwest Florida International Airport access improvements with agencies participating in the Lee County Metropolitan Planning Organization. This includes the

incorporation of improvements into the Financially Feasible Transportation Plan (Map 3A) and the Lee County Metropolitan Planning Organization Financially Feasible Highway Plan and Needs Assessment. The Port Authority will work with local, state, and federal transportation agencies to identify and obtain funding for access improvements to the airport. (Added by Ordinance No. 04-16).

RESPONSE: The proposed amendment is consistent with this Goal, Objective and Policies. The request is consistent with the Airport Master Plans and Airport Layout Plans that are developed according to FAA guidance and that have been incorporated into the Lee Plan, thereby assuring consistency.

No aspects of this request necessitate amendments to the Airport Master Plans and Airport Layout Plans. Coordination of any future updates shall be accomplished in accordance with the policies of the Lee Plan.

Port Authority staff presented the proposed comprehensive plan amendment to Lee County staff for initial comments on March 22, 2012. Prior to submittal of this comprehensive plan amendment application, the Port Authority has obtained an endorsement of the proposed plan amendment application package from the Board of Port Commissioners, and written evidence of the endorsement accompanies this application.

GOAL 152: GROWTH MANAGEMENT. To coordinate the plans and policies of Lee County, its municipalities, and adjacent local governments so as to guide, manage, and regulate urban growth in a compatible fashion.

RESPONSE: The requested comprehensive plan amendment is consistent with this Goal. The airport properties are designated Airport on the Future Land Use Map, and are considered Urban areas. Coordination with local jurisdictions shall continue through policy updates to ensure safety consistent with FAA guidance and the FDOT "Airport Compatible Land Use Guidebook."

3. Describe how the proposal affects adjoining local governments and their comprehensive plans.

SWFIA and Page Field are major assets to surrounding local governments in the region, as it contributes to the economic base by providing mobility of goods and people.

The City of Fort Myers city limits are within close proximity to both Airport properties. Pursuant to Lee Plan Policy, the City of Fort Myers and Lee County coordinate to ensure land use regulations on lands surrounding airport property promote compatibility between uses. Because Page Field property falls within City of Fort Myers limits, the Page Field Airport Master Plan has been incorporated in the City's Comprehensive Plan to further support and ensure consistency between airport operations and development and the policies of the City of Fort Myers.

The proposed amendment promotes safety for aircraft and air travelers by the avoidance of wildlife hazards and hazardous wildlife attractants. This amendment provides a public safety benefit to Lee County and the City of Fort Myers. The County and City will continue to update their comprehensive plans as Airport Master Plans are updated, and will continue to adhere to Intergovernmental Coordination goals, objectives and policies of their Comprehensive Plans.

4. List State Policy Plan and Regional Policy Plan goals and policies which are relevant to this application.

This application furthers the following State Policy Plan (SPP) goals and policies and Regional Policy Plan (RPP) strategy and action:

SPP Goal 15(a) In recognition of the importance of preserving the natural resources and enhancing the quality of life of the state, development shall be directed to those areas which have in place, or have agreements to provide, the land and water resources, fiscal abilities, and service capacity to accommodate growth in an environmentally acceptable manner.

SPP Policy 15(b)1. Promote state programs, investments, and development and redevelopment activities which encourage efficient development and occur in areas which will have the capacity to service new population and commerce.

SPP Policy 15(b)3. Enhance the livability and character of urban areas through the encouragement of an attractive and functional mix of living, working, shopping, and recreational activities.

SPP Policy 15(b)6. Consider, in land use planning and regulation, the impact of land use on water quality and quantity; the availability of land, water, and other natural resources to meet demands; and the potential for flooding.

SPP Goal 17(a) Florida shall protect the substantial investments in public facilities that already exist and shall plan for and finance new facilities to serve residents in a timely, orderly, and efficient manner.

SPP Policy 17(b)1. Provide incentives for developing land in a way that maximizes the uses of existing public facilities.

SPP Policy 17(b)5. Encourage local government financial self-sufficiency in providing public facilities.

SPP Policy 17(b)6. Identify and implement innovative but fiscally sound and cost-effective techniques for financing public facilities.

SPP Policy 19(b)5. Ensure that existing port facilities and airports are being used to the maximum extent possible before encouraging the expansion or development of new port facilities and airports to support economic growth.

SPP Policy 21(b)13. Promote coordination among Florida's ports to increase their utilization.

SPP Policy 24(b)5. Ensure that the transportation system provides maximum access to jobs and markets.

RPP Economic Development Strategy: Ensure the adequacy of lands for commercial and industrial centers, with suitable services provided.

RPP Transportation Strategy: Assist as possible agencies responsible for the airports in the Region so as to assure that they will be expanded to meet the regional aviation systems needs for foreseeable demand in passengers and cargo and in private small plane operations.

Exhibit IV.G.
Sound Planning Principles
for
Lee County Port Authority
Hazardous Wildlife Comprehensive Plan Amendment

Florida's growth management law is designed to ensure sound planning for the proper placement of growth and protection of the state's land, water, and other natural resources since such resources are essential to our collective quality of life and a strong economy. Documented evidence of the importance of airport activity to the health and viability of the region's economy is provided in the 2010 Florida Statewide Aviation Economic Impact Study conducted by Florida Department of Transportation. This study determined the total contribution from the International Airport's operations to the region's economy through direct and indirect sources is $3.8 billion annually. Page Field further contributes to the economy as a reliever to the International Airport, and as a general aviation facility.

The foundation of all governmental planning activities is the authority to exercise police powers to promote principles of general welfare, health, and safety of the public. From the Federal level to the local level, public safety is a primary principle of planning and policy development. The policy review provided in Exhibit IV.A.1 outlines how Federal and state policies are constructed according to public safety objectives to ensure airport operators engage in wildlife hazard and hazardous wildlife attractant avoidance activities, based on the growing body of information about the risks posed to aircraft by certain wildlife species. The proposed Lee Plan amendment furthers the principle of public safety by aligning local policies with those of the Federal government and the State of Florida.