



**AGENDA
AIRPORT ADVISORY COMMISSION
REGULAR MEETING
MAY 10, 2018
6:00 PM
CITY HALL COMMISSION CHAMBERS
204 ASH STREET
FERNANDINA BEACH, FL 32034**

- 1. CALL TO ORDER**
- 2. ROLL CALL**
- 3. APPROVAL OF MINUTES**
 - 3.1 Approval of February 8, 2018 Airport Advisory Commission Minutes
- 4. PUBLIC COMMENT REGARDING ITEMS NOT ON THE AGENDA**
- 5. OLD BUSINESS**
 - 5.1 Airport Terminal Construction Project and Ribbon Cutting Event Update(s)
 - 5.2 GPS Approach Procedure Development Update
 - 5.3 Airport Financial Report
- 6. NEW BUSINESS**
 - 6.1 Airport Customs and Border Protection Services Update
 - 6.2 Non-Voting Member Position Appointment Recommendation
 - 6.3 Voting Member Position Appointment Recommendation
 - 6.4 Application for Hangar Development - Eight Flags Aviation, LLC
- 7. AIRPORT MANAGER AND STAFF REPORTS**
 - 7.1 Airport Manager's Report
 - 7.2 Pavement Classification Number (PCN) Report
- 8. COMMISSION MEMBER REPORTS/COMMENTS**
- 9. NEXT MEETING DATE**
- 10. ADJOURNMENT**

All members of the public are invited to be present and be heard. Persons with disabilities requiring accommodations in order to participate in this program or activity should contact the City Clerk at (904) 310-3115 or TTY/TDD 711 (for the hearing or speech impaired). All interested parties may appear at said meeting and be heard as to the advisability of any action, which may be considered with respect to such matter. For information regarding this matter, please contact the Airport Manager.

1. **Call to Order:** Chairperson Chuck Colcord called the meeting to order at 6:00 pm.
2. **Members Present:** Chuck Colcord (Chair), Don Edlin, Aaron Morgan, David Austin, Paul Behan
Members Absent: Kent Mckee, Two Vacancies (Non-Voting Member and (1) Voting Member Position)

Others Present: Tom Piscitello, Brad Wente, Andrew Holesko, Art Waczkowski, Brian Echard, Commissioner Ross, Mickey Baity, Brian Bridwell, Coleman Langshaw

3. **Approval of Minutes:** The minutes of the January 11, 2018 regular meeting were presented for approval. **A motion was made by Member Behan, seconded by Member Edlin, to approve the minutes. A vote upon passage of the motion was taken by ayes and nays and being all ayes, carried.**
4. **Public Comment Regarding Items Not On The Agenda:** No Public Comment was provided.
5. **Old Business:**

Member Edlin asked for clarification on the plan for disposition of the McGill hangar and office facility. Airport Manager Coyle stated that the AAC had given a recommendation to remove the office space, however there is still planning and investigation needed before a final decision would be made.

6. New Business:

6.1 Recommend Appointment of Non-Voting Member to Airport Advisory Commission

Airport Manager Coyle introduced the discussion topic and history, that he knew of, regarding this discussion item. Mr. Coyle stated that three applications had been received and that one applicant currently resides outside the City limits. Mr. Coyle introduced Brian Bridwell, Tom Piscitello, and Coleman Langshaw to the advisory commission.

Airport Manager Coyle mentioned that the language within the Airport Advisory Commission Roles and Responsibilities regarding member eligibility seemed a bit unclear to him and asked for input and history from AAC members on the matter. Chair Colcord stated that he recalled that Colleen Baker had been the non-voting members, as a non-City resident. Mr. Colcord understood that the intent of the non-voting position was to allow individuals to participate while not being a resident of the City of Fernandina Beach.

Member Edlin also recalled that the intent of the charter allowed for non-residents to apply for the position. Member Behan called out a subsequent paragraph which stated that all members of the AAC should reside within City limits.

Mr. Colcord identified additional documents which indicated that further discussion had occurred on the matter when the last revision to the charter was completed. Mr. Coyle stated that he was not aware of the additional information and that he would review the documents and bring them back to the AAC for further discussion, if needed. Mr. Coyle also stated that he would publish the voting-member position due to Mr. Haffey's recent resignation and return to the AAC with applications for that position following posting.

6.2 Airport Capital Planning Discussion

Airport Manager Coyle provided the presentation as found attached to these minutes, overviewing funding sources, pavement conditions, and planned projects at the airport. AAC members asked questions and discussed each project throughout the presentation. Following the presentation, Mr. Coyle asked for input from AAC members.

Chair Colcord stated that the airport should consider building instrument procedures to additional runways within the planning period for the airport. Mr. Coyle stated that Flight Procedures is moving forward with design of a procedure to Runway 4, but asked the AAC if the group would desire procedures to Runways 9, 27, or 31. Mr. Holesko mentioned that tree impacts would be a consideration for development of procedures to these runways. AAC members recommended that Mr. Coyle proceed with feasibility for procedure development to Runways 9, 27, and 31.

Chair Colcord recommended consideration of non-aeronautical uses and the improvements needed to support those events given their financial benefit to the airport.

Member Edlin recommended considering any avenue available to move forward project(s) to construct new hangars on the airport. Mr. Coyle stated that the airport will explore opportunities to move hangar development forward before completion of other projects on the capital improvement list. All AAC members agreed with Member Edlin's recommendation. Mr. Holesko stated that Passero Associates is currently analyzing potential hangar development projects to prepare for hangar construction. Member Behan recommended considering construction of new hangars while keeping the remaining FBO hangar to maximize availability of hangar space. Mr. Coyle agreed that this concept would provide the best availability of hangar space.

Member Behan asked about the project for obstacle mitigation and property acquisition within the Runway Protection Zone for Rwy 22. Mr. Coyle stated that there are tree penetrations affecting the RNAV to Rwy 22 but that there were new tree penetrations within the approach zone to Rwy 22 that were identified within the annual inspection for Rwy 22.

7. Airport Manager and Staff Reports:

Airport Manager Coyle provided an update to the terminal facility construction and stated that there would be an upcoming budget amendment for the project. Mr. Coyle stated that the funding sources and expense are not changing as a part of the budget amendment, but that this request is due to the amount of expense in the preceding fiscal year being different than the amount projected during the budget development process.

Mr. Coyle stated that the FDOT inspection was completed and went well, but that a number of tree penetrations were identified during the inspection.

Mr. Coyle stated that a planning group has been developed to plan a terminal ribbon cutting event, and that the group would begin meeting to plan this event. He also stated that updates would be given to the AAC as this group began planning the event.

8. Commission Member Reports and Comments:

Member Edlin mentioned that he is concerned about the condition of the grounding at the fuel farm. Mr. Coyle stated that he would stop by and speak to the FBO about this issue.

The group agreed that it would cancel the March meeting due to upcoming Concours/Bonhams events.

No other comments were received.

9. Next Meeting Date: The group agreed that the next meeting date would be held on Thursday April 12, 2018, and that the March meeting would be cancelled due to the upcoming Concours/Bonhams events.

10. Adjournment: There being no further business to come before the Airport Advisory Commission, the meeting was adjourned at 7:45 p.m.

Attachment:

Airport Capital Improvement Plan Presentation

Secretary

Chuck Colcord, Chairperson



FHB Airport CIP

Presentation to
Airport
Advisory
Commission
(Feb 8, 2018)



Agenda

2

- **Mission and Vision**
- **Project Needs**
- **Funding Sources**
- **Project Years and Funding**
 - ▣ **2018-2022**
 - ▣ **2023+**
- **Q-A (Input throughout)**



Airport Mission (Statement)

3

- **Mission** – *Fernandina Beach Municipal Airport is a coastal resort, general aviation airport, which is operated, maintained, and preserved for the benefit of the community and airport users.*
- *Input – Review?*



Airport Vision (Statement)

4

- **Vision** – *The Fernandina Beach Municipal Airport is committed to supporting the economic, environmental, and recreational needs of the community through safe and secure operations and fiscal self-sustainment*
- *Input - Review?*



Project Needs

5

- Master Plan/ALP
 - ▣ Chp 9 and Technical Drawings
- Funding Sources
 - ▣ Airport (source)
 - ▣ FAA (source)
 - ▣ FDOT (source)
 - ▣ Other (sources)
- Pavement Management Program (FDOT)
- The JACIP



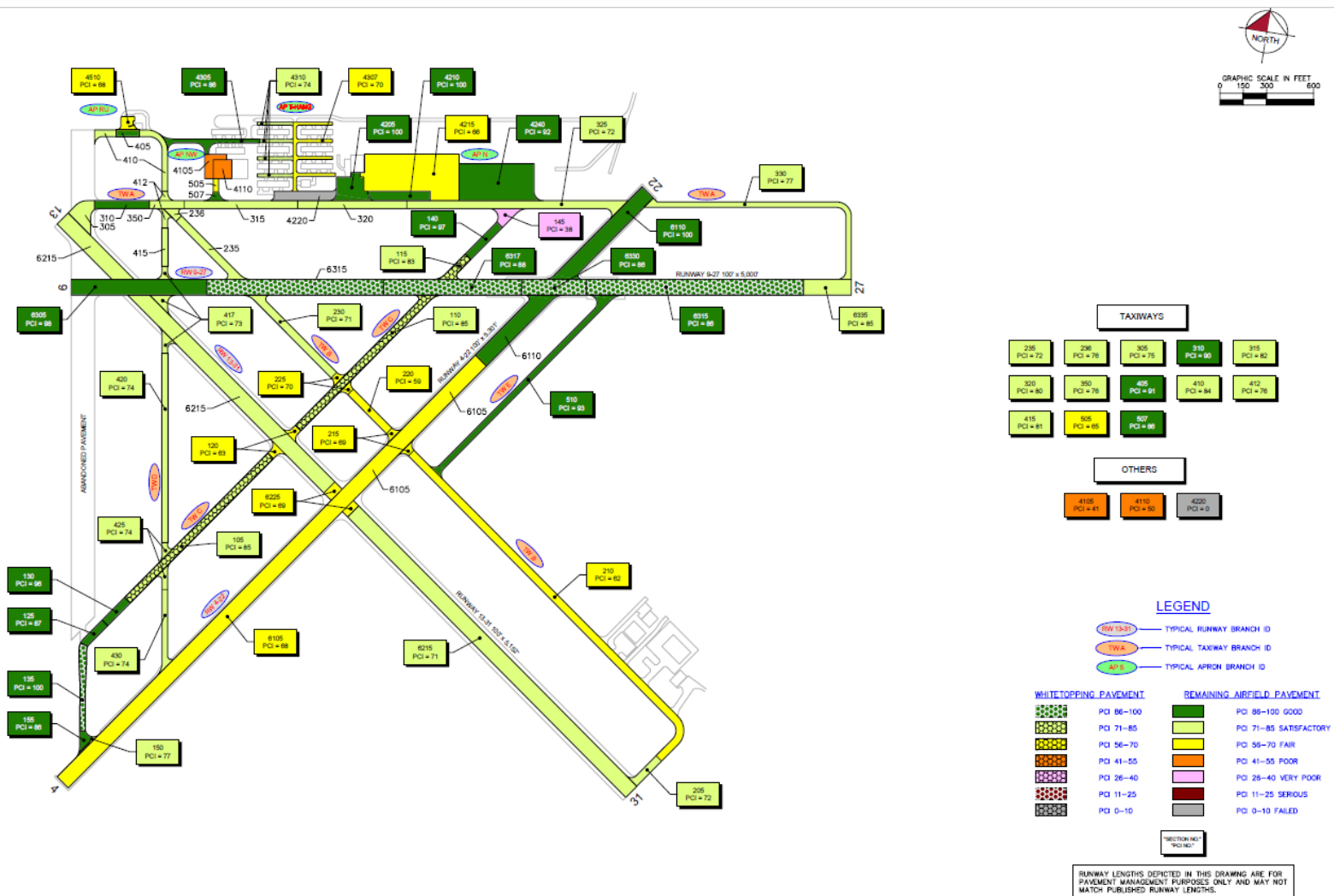
Funding Sources

6

- ▣ Airport
 - Enterprise Fund (source)
 - 5-20-50% of Capital Improvements
- ▣ FAA
 - Airport Improvement Program (or AIP)
 - 90% funding, minimum \$150K / year
- ▣ FDOT
 - Aviation Capital Program (\$200M+)
 - 5-50-80-100% funding
- ▣ Other (sources)
 - FL – DEO (Terminal), other

Pavement Management Program

7





The JACIP

8

- Joint-Automated-Capital-Improvement-Program (JACIP)
- All FAA and FDOT project requests, reviews and programming
- FDOT PM (implementation) tool



Short-Term CIP (2018-2022)

9

- 2018: AWOS Upgrade (Commission approval required)
- 2019: Fuel Farm; Runway 4-22 Design (Pavement-Lighting); Welcome Center (Public areas); Hangar B Renovations
- 2020: T-hangars; Runway 4/22 Rehabilitation
- 2021: Main Apron Rehabilitation, Runway Protection Zone (RPZ) to 4-22
- 2022: Bulk hangar(s); Jamestown Road Improvements



2018 Projects

10

- 2018: AWOS Upgrade/Replacement
- Upgrade/Replace AWOS
- Total Cost: \$150,000
 - ▣ FAA (90%): \$135,000
 - ▣ FDOT (5%): \$7,500* (contingent on funding)
 - ▣ Airport (5%): \$7,500* (contingent on FDOT); or \$15,000 if FDOT funding not available



2019 Projects

11

- Fuel Farm (2019-2020)
- Install self-serve fuel farm adjacent to transient aircraft parking apron
- Total Cost: \$400,000
 - ▣ FAA (0%): \$0
 - ▣ FDOT (80%): \$320,000
 - ▣ Airport (20%): \$80,000



2019 Projects

12

- Runway 4-22 Design (Pavement-Lighting);
- Design rehabilitation project for Runway 4/22 pavement and lighting
- Total Cost: \$110,000
 - ▣ FAA (90%): \$99,000
 - ▣ FDOT (5%): \$5,500
 - ▣ Airport (5%): \$5,500



2019 Projects

13

- Terminal Building (Public areas);
- Install Public Reception Area (Quonset Hut) adjacent to terminal building
- Total Cost: \$300,000
 - ▣ FAA (0%): \$0
 - ▣ FDOT (0%): \$0
 - ▣ Airport-City (100%): \$300,000



2019 Projects

14

- Hangar B Renovations (currently 2018 in City CIP)
- Execute facility repairs to maintain and extend the life of Hangar B
- Total Cost: \$150,000
 - ▣ FAA (0%): \$0
 - ▣ FDOT (0%): \$0
 - ▣ Airport (100%): \$150,000



2020 Projects

15

- Construct T-Hangars (2020-2021)
- Construct new T-Hangars to meet aircraft storage demand
- Total Cost: \$1,056,250
 - ▣ FAA (0%): \$0
 - ▣ FDOT (80%): \$845,000
 - ▣ Airport (20%): \$211,250



2020 Projects

16

- Runway 4/22 Rehabilitation
- Rehabilitate South 4,300' (NE section rehabilitated in 2013) of Runway 4/22 pavement and runway lighting
- Total Cost: \$2,000,000
 - ▣ FAA (90%): \$1,800,000
 - ▣ FDOT (5%): \$100,000
 - ▣ Airport (5%): \$100,000



2021 Projects

17

- Main Apron Rehabilitation (2021-2022)
- Rehabilitate main/transient aircraft parking apron;
Design 2021, Construct 2022
- Total Cost (request): \$1,250,000
 - ▣ FAA (90%): \$1,125,000
 - ▣ FDOT (5%): \$62,500
 - ▣ Airport (5%): \$62,500



2021 Projects

18

- Mitigate and Protect RPZ to 4/22
- Mitigate obstacles and/or purchase property in RPZ
- Total Cost (request): \$650,000
 - ▣ FAA (90%): \$585,000
 - ▣ FDOT (5%): \$32,500
 - ▣ Airport (5%): \$32,500



2022 Projects

19

- Construct Bulk Hangars (2022 and 2023)
- Construct bulk hangars in the North area
- Total Cost: \$3,000,000
 - ▣ FAA (0%): \$0
 - ▣ FDOT (50%): \$1,500,000
 - ▣ Airport (50%): \$1,500,000



2022 Projects

20

- Jamestown Road Improvements
- Make Improvements to Jamestown Road to support potential future activity/use of property along Jamestown Road
- Total Cost: \$500,000
 - ▣ FAA (0%): \$0
 - ▣ FDOT (80%): \$400,000
 - ▣ Airport (20%): \$100,000



Mid-term CIP (2023+)

21

- ❑ Taxiway A-B-C-D Drainage (continuous)
- ❑ Taxiway E Lighting
- ❑ Wildlife Hazard Assessment
- ❑ Hangars – East Area
- ❑ Runway 4-22 Extension
- ❑ Aircraft-Rescue-Firefighting (ARFF)
- ❑ Long-Term (Runway 13-31 Rehabilitation)
- ❑ Airport Photovoltaic/Solar
- ❑ Airport Playground/Park



Questions-Answers-Input

AIRPORT 420

**AIRPORT
420-**

	ACTUAL 2012-2013	ACTUAL 2013-2014	ACTUAL 2014-2015	ACTUAL 2015-2016	YTD 2017-2018	BUDGET 2017-2018	
REVENUES							
331.1000 AIRPORT CERT GRANT							
331.2000 FEMA GRANT	(335)						
332.2000 FAA GRANT	1,238,855	251,363	283,842	20,676	320,720	500,000	Additional
331.2010 FAA GRANT ADMINISTRATION							
332.3000 FDOT GRANT	485,060	526,806	327,761	84,023	747,238	1,625,000	
332.3010 FDOT - ADMINISTRATION							
332.5000 OTHER					294,932	470,000	
349.7000 FBO LEASE							
349.7010 FUEL SALES	46,104	41,744	40,074	29,626	19,549	35,000	55.9%
349.7050 LEASE PAYMENTS							
349.7051 LEASE PAYMENTS - LAND LEASE	38,145	36,492	36,554	36,554	30,371	37,240	81.6%
349.7052 LEASE PAYMENTS - BUILDING LEASE				(3,758)			
349.7053 LAND LEASE - AMELIA RIVER	182,916	182,803	183,358	199,431	113,018	199,500	56.7%
349.7054 LAND LEASE PAYMENTS - NON-TAXABLE	28,568	27,846	28,067	32,682	19,475	33,295	58.5%
349.7500 RENT/LEASE PAYMENTS - City Built	227,587	261,831	279,529	306,264	158,257	306,503	51.6%
361.1000 INTEREST							
362.0000 LOSS							
364.4200 INSURANCE PROCEEDS	478,375				131,455		
384.1000 PROCEEDS FROM LOAN					1,000,000	1,000,000	
384.1100 PROCEEDS - LOAN FR/FORGIVENESS							
GENERAL FUND							
369.9000 OTHER REVENUE	59,287	24,853	32,313	59,308	44,956	90,000	
369.9100 LATE FEES	659	438	956	3,083	1,147		
369.9200 Gain on Sale of Assets	100,000						
381.1000 TRANSFERS IN GENERAL FUND							
389.1000 CASH BALANCE FORWARD	209,969	662,146	744,145	865,339	1,081,100	1,020,700	
TOTAL	3,095,190	2,016,322	1,956,599	1,633,228	3,962,216	5,317,238	

AIRPORT 420**AIRPORT
420-4200-542.**

	ACTUAL 2012-2013	ACTUAL 2013-2014	ACTUAL 2014-2015	ACTUAL 2015-2016	YTD 2017-2018	BUDGET 2017-2018
PERSONNEL SERVICES						
1200 SALARIES	33,074	43,536	52,905	84,567	66,190	119,340
1300 TEMPORARY	-		-			-
1350 PART TIME	-	343	505	72		-
1400 OVERTIME	-					-
1600 LONGEVITY	-					
2100 FICA	2,530	3,400	4,135	5,888	4,739	9,130
2200 RETIREMENT	8,134	9,995	13,638	16,886	23,683	40,600
2300 HEALTH	5,706	7,992	8,497	9,029	16,496	18,448
2301 LIFE	156	224	270	325	346	743
2350 OPEB COSTS	-	669	1,813	708	1,021	785
2400 WORKERS' COMP	2,210	1,270	1,345	930	1,206	2,067
2500 UNEMPLOYMENT						
TOTAL	51,810	67,429	83,108	118,405	113,681	191,113
OPERATING EXPENSES						
3100 PROFESSIONAL SERVICES	19,073	18,511	5,422	14,565	7,084	40,000
3200 AUDIT	7,182	6,255	6,615	6,795	3,964	6,795
3400 CONTRACTUAL	33,692	24,580	43,573	27,669	31,957	53,535
3900 AUTO ALLOWANCE/ Housing				500	-	
3910 HOUSING ALLOWANCE					2,000	2,000
4000 TRAINING/TRAVEL	725	1,375	2,250	378	-	3,000
4100 COMMUNICATIONS	2,192	996	959	883	499	1,922
4101 COMMUNICATIONS - CELL	411	479	412	453	863	2,000
4103 COMMUNICATIONS - INTERNET	461	531	443	2,152	1,113	5,750
4200 POSTAGE	-	19	65	23	43	100
4300 UTILITIES - ELECTRIC	35,400	28,579	20,836	20,503	9,897	20,000
4310 UTILITIES - WATER & SEWER			8,129	8,254	5,191	11,000
4400 RENTALS/LEASES	-					-
4500 INSURANCE	42,796	46,968	39,556	44,576	27,958	47,928
4610 R/M GROUNDS	31,774	16,792	33,203	51,276	253,845	280,850
4620 R/M EQUIPMENT	227	538	484	2,006	650	1,500
4630 R/M VEHICLES-LABOR	2,177	2,579	1,908	2,505	2,309	3,500

AIRPORT 420**AIRPORT
420-4200-542.**

	ACTUAL 2012-2013	ACTUAL 2013-2014	ACTUAL 2014-2015	ACTUAL 2015-2016	YTD 2017-2018	BUDGET 2017-2018
4640 R/M VEHICLES-MATERIALS	3,332	3,363	3,970	2,489	1,599	3,500
4700 PRINTING	300	1,455	890	702	-	2,500
4800 PROMOTIONAL	-	94			-	1,500
4900 OTHER CURRENT						
4910 BILLING COST	5,000	5,000	6,000	7,700	4,083	7,000
5100 OFFICE SUPPLIES	232	35	23	247	-	300
5200 OPERATING SUPPLIES	2,858	4,338	471	2,087	1,209	4,810
5210 UNIFORMS	86		86	129	22	300
5230 FUEL	7,585	6,807	3,929	5,513	3,630	8,500
5240 CHEMICALS/MEDICAL SUPPL						
5400 BOOKS/SUBS/DUES	641	605	605	605	605	725
TOTAL	196,144	169,899	179,829	202,010	358,520	509,015
CAPITAL OUTLAY						
6200 BUILDINGS	-				2,352,750	4,280,000
6300 IMPROVEMENTS	1,606,349	927,207	672,338	125,919	124	225,000
6400 MACH./EQUIP.	-			25,389	-	-
6401 MACH./EQUIP. Non-CAP	284,551				4,829	5,500
TOTAL	1,890,900	927,207	672,338	151,308	2,357,703	4,510,500
7000 JUDGMENT						
7100 PRINCIPAL	262,384	80,000	130,000	60,000	-	198,000
7200 INTEREST	31,806	27,641	24,006	19,688	15,143	52,266
7300 FINANCING COSTS					39,972	36,000
TOTAL	294,190	107,641	154,006	79,688	55,116	286,266
9100 TRANS TO G F / Repay GF Loan			-			-
9900 CONTINGENCY	-	-	-	-	-	-
9950 CONTINGENCY - Reserve						
	-	-	-	-	-	-
DEPARTMENT TOTAL	2,433,044	1,272,176	1,089,281	551,411	2,885,020	5,496,894

Item 6.2 - Non-Voting Member Position Appointment Recommendation

Note/Update - After the February 8, 2018 meeting, the Airport Manager conferred with the City Attorney, who stated that the non-voting member position is normally intended to allow for appointment of individuals who reside outside of City Limits. The City Attorney interprets the existing language of the airport's roles/responsibilities as allowing appointment of an individual who resides outside of City limits.

Sec. 2-122. - Appointment, term of office, and filling board vacancies.

(a) *Appointment, term, attendance.*

- (1) All members and alternate members shall be appointed by the city commission;
- (2) Each board shall have the opportunity to review each applicant's resume and may make a recommendation on the appointment;
- (3) All members shall reside within the city limits;
- (4) Elected officials and employees of the city shall not be eligible to serve on city boards or committees, unless otherwise provided herein;
- (5) Each member serves at the pleasure of the city commission;
- (6) The term of office for all regular board or committee members shall be three years, and a vacancy shall occur at the end of the three-year term;
- (7) All applicants for a specific board or committee appointments shall be considered at the time a vacancy occurs;
- (8) A member of a board who is seeking re- appointment shall continue to be a voting member for two months to allow for the finalization of the appointment or re- appointment by the city commission; and
- (9) Each appointed member shall attend all regular and called meetings.

(b) *Officers and subcommittees.*

- (1) Each board or committee shall have a chairperson and a vice-chairperson;
- (2) The chairperson and vice-chairperson shall serve one-year terms. Officers shall not serve more than two consecutive terms; and
- (3) A board or committee may create whatever sub-committees it deems necessary to carry out its purposes. The chairperson of the board or committee shall appoint the membership of each sub-committee from the members of that board or committee.

(c) *Removal and vacancies.*

- (1) When a position on a board or committee becomes vacant before the end of the term; an alternate shall fill the vacancy;
- (2) When no alternate member is available to fill the vacancy; the city commission shall appoint a member to fill the vacancy for the duration of the term;
- (3) When the unexpired term is two months or less, the city commission may appoint a new member to fill the unexpired term and the following full term;
- (4) A member who moves outside of the city or no longer meets eligibility requirements shall be removed immediately;
- (5) Any member who has been absent for three regular meetings in one calendar year shall be subject to removal; and
- (6) Vacancy shall occur upon death, resignation, removal, conviction of a felony, or

expiration of term.

- (d) *Term limits and reappointment.* Term limits do not apply to appointed board or committee members. The city clerk's office shall provide all board or committee members eligible for reappointment at least 30 days' notice prior to their term expiring. Board or committee members seeking reappointment must provide the city with updated contact information and statement of interest at least 15 days prior to expiration of their term. New board or committee members shall complete an application and provide a resume and statement of interest to the city at least 15 days before consideration for appointment.

(Ord. No. 2013-17, § 1, 8-6-13)

ORDINANCE 2014-05

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF FERNANDINA BEACH, FLORIDA REPEALING ORDINANCE 671; INCORPORATING HEREIN AND AMENDING RESOLUTION 2011-45 REGARDING THE AIRPORT ADVISORY COMMISSION (AAC) BY ADDING ONE (1) NON-VOTING MEMBER; REQUESTING PERIODIC INFORMATION FROM THE CITY MANAGER; PROVIDING FOR SEVERABILITY; REPEALING ORDINANCES IN CONFLICT HEREWITH; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City Commission initially created the Airport Advisory Commission (AAC) in 1984 via Ordinance 671; and

WHEREAS, the City Commission incorporated the roles and responsibilities of the AAC into City Code in 1984 and later into a newly created Land Development Code in 2006; however, Ordinance 671 was never formally repealed; and

WHEREAS, in March 2011, the City Commission decided that the roles and responsibilities of the AAC should be removed from the provisions of the Land Development Code since it does not oversee or rule on land development issues throughout the City; and

WHEREAS, the City Commission recreated the AAC via Resolution 2011-45 and clarified its roles and responsibilities as a standing committee serving as an advisory body to the City Commission; and

WHEREAS, the AAC has reviewed Resolution 2011-45 and recommends it be amended and incorporated into this Ordinance.

NOW, THEREFORE, BE IT ENACTED BY THE CITY COMMISSION OF THE CITY OF FERNANDINA BEACH, FLORIDA, THAT:

SECTION 1. The City Commission hereby repeals, in its entirety, Ordinance 671 adopted July 17, 1984.

SECTION 2. The City Commission incorporates herein and amends Resolution 2011-45 regarding the Airport Advisory Commission, which is officially designated as a standing committee and an advisory board to the City Commission, and is responsible for adhering to the following:

- a) The AAC shall consist of seven (7) members appointed by the City Commission and may include one (1) non-voting member appointed by the City Commission;
- b) All members shall reside within the City limits; and a member who moves outside of the City shall be removed immediately;
- c) Each member of the AAC serves at the pleasure of the City Commission;
- d) The term of office for all board members shall be three (3) years effective with October 1 of year appointed unless appointed to fill a vacancy then appointment continues for the term of the vacancy;
- e) Members shall attend all regular and called meetings. Any member who has been absent without being excused for three (3) regular meetings in one (1) fiscal year shall be subject to removal;
- f) The AAC shall have a chair and a vice-chair to conduct each meeting, but the non-voting member shall not serve as chair or vice-chair, the Airport Manager or his/her designee shall attend each meeting;
- g) The chair and vice-chair shall serve one (1) year terms;
- h) For the purpose of transacting business at any meeting, a majority of AAC members shall constitute a quorum;

- i) A member who is seeking re-appointment shall continue to be a voting member for two (2) months beyond the existing term, if necessary, to allow for the finalization of the re-appointment by the City Commission;
- j) The AAC meetings are open to the public and its members are subject to the Florida Sunshine Law and Public Records Act;
- k) All meetings will be conducted in accordance with parliamentary procedures as set forth and explained in the latest revised edition of Robert's Rules of Order, which shall serve as a guide for the rules of procedure of the meetings;
- l) Minutes of its proceedings, indicating the attendance of each member and decision of each member, shall be kept, signed by the chair and filed with the City Clerk;
- m) Members shall serve without compensation;
- n) The AAC shall request/expect/receive information from the Airport Manager which is necessary in order to carry out specific roles and responsibilities in section (o) below;
- o) The AAC shall provide advice and make recommendations to the City Commission as follows:
 - 1. Make recommendations regarding planning for the physical development and betterment of the Airport;
 - 2. Make recommendations on the operation of the Airport and for the improvement of the operation;
 - 3. Make recommendations regarding the sale or lease of City-owned property located on or adjacent to the Airport and land use of property adjacent to the Airport or land use of nearby property that could reasonably affect or prevent safe operations at the Airport;
 - 4. Make recommendations regarding the requested use or proposed grant of concessions on the Airport property;
 - 5. Make recommendations regarding policies, such as Airport Rules and Regulations and Airport Minimum Standards, and rates to be charged for the use of Airport property, including hangar rent, Airport use fees, landing fees, parking fees, and other charges to the general public for the use of the Airport; and
 - 6. Perform all acts requested by the City Commission to advise and assist in the continued operation and betterment of the Airport.

SECTION 3. SEVERABILITY. If any section, subsection, sentence, clause, phrase of this Ordinance, or the particular application thereof, shall be held invalid by any court, administrative agency or other body with appropriate jurisdiction, the remaining sections, subsections, sentences, clauses and phrases under application shall not be affected thereby.

SECTION 4. Ordinances in conflict herewith are hereby repealed to the extent of such conflict

SECTION 5. This Ordinance shall take effect immediately after its final adoption.

ADOPTED this 18th day of March, 2014.

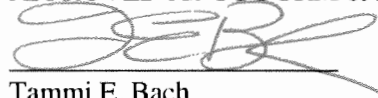
ATTEST:


Caroline Best
City Clerk

CITY OF FERNANDINA BEACH


Edward E. Boner
Mayor – Commissioner

APPROVED AS TO FORM & LEGALITY:


Tammi E. Bach
City Attorney

Advisory Board/Committee Application

This application is intended to provide information that will enable the City Commission to select the most qualified Board/Committee members. Please complete all applicable sections and return the form along with your current résumé to the City Clerk's Office.

City of Fernandina Beach
City Clerk's Office
204 Ash Street
Fernandina Beach, FL 32034
(904) 310-3115

Name	Thomas Piscitello
------	-------------------

Home Mailing Street Address	foxflyer@bellsouth.net
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City	YULEE
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Zip Code	32097
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Primary Phone	9045830698
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Secondary Phone	<i>Field not completed.</i>
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Please note that board materials are distributed electronically.

Email to receive board materials	foxflyer@bellsouth.net
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Employer	Retired
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Position Title	<i>Field not completed.</i>
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Business Address	96209 Sweetbriar Ln,
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City	Yulee
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Zip	32097
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Select the board you are applying for:	Airport Advisory Commission
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	None
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Additional board that you
are applying for:

Why are you interested in
serving on this Board?
Please explain.

As an airport tenant and aviator, I have a sincere interest in the betterment of the airport. I feel I can positively contribute to the work of the Airport Advisory Commission.

Eligibility

Are you a resident of the
City?

No

Length of time:

Field not completed.

Do you hold a public
office?

No

Office name:

Field not completed.

Are you employed by the
City?

No

Position:

Field not completed.

Are you currently serving
on a Board?

No

Board Name:

Field not completed.

Potential Conflict of Interest:

Have you ever been
engaged in the
management/ownership
of any business enterprise
that has a financial
interest with the City of
Fernandina Beach?

No

Field not completed.

If yes, please provide
details:

Major Affiliations:

List community, professional, or other applicable policy-making Boards on which you have served. Note the length of service and office held (if any):

I recently became Chairman of the Nassau County Aerospace Advisory Board. I've been a board member for the past two years. I'm currently serving my sixth year as President of Experimental Aircraft Association Chapter 943.

Qualifications:

Please list any specific qualifications, education or experience that would directly relate to the Board for which you are being recommended:

Retired USAF, with 20 years experience in aircraft control. Commercial pilot and Certified Flight Instructor with 40 years of flight experience. My second 25 year career as a Quality Assurance professional in the commercial nuclear industry with direct experience in power plant construction and as a certified inspector in the electrical, mechanical, and civil disciplines. I have also served on committees in support of the Fernandina Airport Rules and Regulations rewrite, the Airport Master Plan update, and the new terminal design.

Organization or Commissioner sponsoring nomination (if applicable):

Airport Advisory Commission

Educational Background: (Check all that apply)

High School

Other:

Field not completed.

Major areas of study:

Field not completed.

Florida's Public Records Law, Chapter 119, Florida Statutes, states:

"It is the policy of this state that all state, county, and municipal records shall at all times be open for a personal inspection by any person." Your application when filed will become a public record and subject to the above statute. In addition, any appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes

I understand that if I am appointed to one of the City's boards, I will be required to file a financial disclosure form - Form 1, as described above, and I am willing to comply with this requirement.

I understand that any false, incomplete or misleading information given by me on the application is sufficient cause for rejection of this application. I understand and agree that any such false, incomplete or misleading information discovered on this application at any time after appointment to a Board may result in my removal.

I also understand that all board appointments are for voluntary, uncompensated services. Additionally, if appointed, I am able to attend meetings and otherwise fulfill the duties of the office.

Applications are submitted to the City Commission when vacancies occur and are effective for two years from date of completion.

Do you understand the duties and responsibilities of the Board/Committee that you are applying for?

Yes

By submitting this form, I declare the foregoing facts to be true, correct, and complete.

Date 01/31/2018

Applicant's Signature Thomas Piscitello

Advisory Board/Committee Application

This application is intended to provide information that will enable the City Commission to select the most qualified Board/Committee members. Please complete all applicable sections and return the form along with your current résumé to the City Clerk's Office.

City of Fernandina Beach
City Clerk's Office
204 Ash Street
Fernandina Beach, FL 32034
(904) 310-3115

Name	COLEMAN C LANGSHAW
------	--------------------

Home Mailing Street Address	308 South 15th Street
-----------------------------	-----------------------

City	FERNANDINA BEACH
------	------------------

Zip Code	32034
----------	-------

Primary Phone	904-556-1575
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Secondary Phone	<i>Field not completed.</i>
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Please note that board materials are distributed electronically.

Email to receive board materials	cclangshaw@gmail.com
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Employer	Dungeness Charters
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Position Title	Owner and Captain
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Business Address	308 South 15th Street
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City	Fernandina Beach
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Zip	32034
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Select the board you are applying for:	Airport Advisory Commission
--	-----------------------------

	None
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Additional board that you
are applying for:

Why are you interested in
serving on this Board?
Please explain.

I am a City resident, who has no financial interest in the airport, do not have an aircraft nor a pilot's license, but feel that the airport is an important asset to the community. I have a layman's knowledge of aviation, but as the former Marina Director, I am very familiar with working with environmental regulatory agencies (DEP, USACE, etc), with enterprise funds in the city, and the City Commission. I have lived in Fernandina Beach for 35 years, and I understand and appreciate the social and economic history of our community. Not being affiliated with aviation directly, I think I can offer an unbiased and fair perspective on matters concerning the airport and the community.

Eligibility

Are you a resident of the
City? Yes

Length of time: 35 years

Do you hold a public
office? No

Office name: *Field not completed.*

Are you employed by the
City? No

Position: *Field not completed.*

Are you currently serving
on a Board? *Field not completed.*

Board Name: *Field not completed.*

Potential Conflict of Interest:

Have you ever been
engaged in the
management/ownership
of any business enterprise
that has a financial No

interest with the City of
Fernandina Beach?

Field not completed.

If yes, please provide
details:

Major Affiliations:

List community,
professional, or other
applicable policy-making
Boards on which you
have served.
Note the length of service
and office held (if any):

Former board member and chair of Amelia Island Montessori
School (5 years); Former General Partner of Greyfield, LTD (25
years);

Qualifications:

Please list any specific
qualifications, education
or experience that would
directly relate to the
Board for which you are
being recommended:

As the former Marina Director, I am very familiar with working
with environmental regulatory agencies (DEP, USACE, etc),
with enterprise funds in the city, and the City Commission.

Organization or
Commissioner sponsoring
nomination (if
applicable):

none

Educational Background:
(Check all that apply)

High School

Other:

Although I do not have an Associates Degree, I have 95
college credit hours at the University of North Florida.

Major areas of study:

Communications and Visual Arts

Florida's Public Records Law, Chapter 119, Florida Statutes, states:

"It is the policy of this state that all state, county, and municipal records shall at all
times be open for a personal inspection by any person." Your application when filed
will become a public record and subject to the above statute. In addition, any

appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes

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I also understand that all board appointments are for voluntary, uncompensated services. Additionally, if appointed, I am able to attend meetings and otherwise fulfill the duties of the office.

Applications are submitted to the City Commission when vacancies occur and are effective for two years from date of completion.

Do you understand the duties and responsibilities of the Board/Committee that you are applying for?

Yes

By submitting this form, I declare the foregoing facts to be true, correct, and complete.

Date 01/30/2018

Applicant's Signature Coleman C. Langshaw

Advisory Board/Committee Application

This application is intended to provide information that will enable the City Commission to select the most qualified Board/Committee members. Please complete all applicable sections and return the form along with your current résumé to the City Clerk's Office.

City of Fernandina Beach
City Clerk's Office
204 Ash Street
Fernandina Beach, FL 32034
(904) 310-3115

Name	Brian H. Bridwell
------	-------------------

Home Mailing Street Address	110 S. 15th St.
-----------------------------	-----------------

City	Fernandina Beach
------	------------------

Zip Code	32034
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Primary Phone	904-557-8159
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Secondary Phone	<i>Field not completed.</i>
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Please note that board materials are distributed electronically.

Email to receive board materials	t75atc@gmail.com
----------------------------------	--

Employer	FAA - Retired
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Position Title	Air Traffic Control Specialist
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Business Address	<i>Field not completed.</i>
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City	<i>Field not completed.</i>
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Zip	<i>Field not completed.</i>
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Select the board you are applying for:	Airport Advisory Commission
--	-----------------------------

	None
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Additional board that you are applying for:

Why are you interested in serving on this Board?
Please explain.

I have a life long interest in aviation. I retired in 2012 from a 35 year career as an Air Traffic Controller. I'm a licensed private pilot though not current. I served on the NATCA, National Air Traffic Controllers Association, Safety Committee as the National Rep for the Central Region for several years. I was the Vice President of the Local for NATCA for 1 year. I grew up around airplanes, traveling all over the country in my fathers private planes. Served as the team rep and local safety rep for the union for many years. I recently served as a sub-contractor to the FAA traveling around the US helping with the testing and certification of new automated clearance delivery equipment in control towers and training controllers in the use of the equipment. I have an interest in seeing that our local airport is the best it can be, in safety, equipment and, services to both local and transient pilots. I love aviation and anything to do with it. I feel my experience would be of benefit to the commission and the community. I miss being involved in aviation.

Eligibility

Are you a resident of the City? Yes

Length of time: 5+ years

Do you hold a public office? No

Office name: *Field not completed.*

Are you employed by the City? No

Position: *Field not completed.*

Are you currently serving on a Board? No

Board Name: *Field not completed.*

Potential Conflict of Interest:

Have you ever been engaged in the management/ownership of any business enterprise that has a financial interest with the City of Fernandina Beach?

No

If yes, please provide details:

Field not completed.

Major Affiliations:

List community, professional, or other applicable policy-making Boards on which you have served. Note the length of service and office held (if any):

National Air Traffic Controllers Association - National Safety Committee
National Air Traffic Controllers Association - Local T75 - Executive Board, Safety Committee and Crew Representative

Qualifications:

Please list any specific qualifications, education or experience that would directly relate to the Board for which you are being recommended:

35 years as a professional Air Traffic Controller. 4 years in the USAF and 31 years in the FAA. I'm a licensed private pilot though not current. Worked as sub-contractor to the FAA, testing, certifying and training controllers on new automated clearance delivery equipment in control towers. Served as the national rep. to the Safety Committee of NATCA, the National Air Traffic Controllers Association. Was the union local Vice President for one year. Served as the local union crew rep. and safety rep. for several years. I have been to Washington, D.C. several times as a union representative to lobby Congress for improvements to the National Airspace System.

Organization or Commissioner sponsoring nomination (if applicable):

Field not completed.

Educational Background: (Check all that apply)

High School

Field not completed.

Other:

Field not completed.

Major areas of study:

Florida's Public Records Law, Chapter 119, Florida Statutes, states:

"It is the policy of this state that all state, county, and municipal records shall at all times be open for a personal inspection by any person." Your application when filed will become a public record and subject to the above statute. In addition, any appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes

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Applications are submitted to the City Commission when vacancies occur and are effective for two years from date of completion.

Do you understand the duties and responsibilities of the Board/Committee that you are applying for?

Yes

By submitting this form, I declare the foregoing facts to be true, correct, and complete.

Date January 20, 2018

Applicant's Signature Brian H. Bridwell

I applied on the Fernandina Beach city website for the opening on the Airport Advisory Commission.
Enclosed is my current resume.

Thank you very much for your consideration,

A handwritten signature in blue ink, appearing to read 'Bridwell', with a stylized initial 'B' and a long horizontal stroke.

Brian H. Bridwell

110 S. 15th St.

Fernandina Beach, FL 32034

t75atc@gmail.com

904-557-8159

Resume – Brian H. Bridwell

Brian H. Bridwell

110 S. 15th St.

Fernandina Beach, FL 32034

USA

Home phone: None

Cell phone: (904) 557-8159

E-mail: t75atc@gmail.com

Work Experience:

Retired Air Traffic Controller September 3, 2012 to present. Retired with 34 years 10 months experience as an Air Traffic Controller which included 4 years in the USAF and 30 years 10 months with the FAA.

CGH Technologies, Inc., Washington, DC

Technical Support Services – ATC Subject Matter Expert

October 2015 – October 2016

As an independent contractor, I traveled to many FAA ATCT's around the USA to provide on-site support of the DATACOMM program. Helped with testing and certification of CPDLC (Controller Pilot Data Link Communications) equipment and training controllers in the use of this equipment.

Federal Aviation Administration

Air Traffic Control Specialist – St. Louis TRACON (Terminal RADAR Approach Control)

July 1991 – September 2012

Responsible for the safe and expeditious separation of IFR and VFR arrival, departure and overflight air traffic within a 40 mile radius of St. Louis, MO from the surface to 15,000 ft. That airspace is split into 11 individual sectors. Worked with 3 FAA and 1 contract air traffic control towers as well as one military control tower. I also worked with 2 adjacent RADAR approach controls and 7 adjacent ARTCC sectors. We have 7 uncontrolled airports within our airspace that have published instrument approaches. I also trained air traffic controllers.

Resume – Brian H. Bridwell

Air Traffic Control Specialist – Kansas City ARTCC (Air Route Traffic Control Center)

October 1981 – June 1991

Responsible for the safe and expeditious separation and flow of IFR and VFR air traffic within 5 low altitude sectors from the surface to FL230 and 2 high altitude sectors from FL240 and up. Had several MOA's (Military Operating Areas) and refueling tracks within this airspace as well as 2 non-radar approach controls and 1 RADAR approach control and 2 FAA air traffic control towers and 2 military air traffic control towers. We worked with 4 adjacent ARTCC's. I also trained air traffic controllers.

United States Air Force

Air Traffic Control Specialist – Castle AFB RAPCON (RADAR Approach Control)

September 1977 – September 1981

Responsible for the safe and expeditious separation and flow of IFR and VFR air traffic in a 60 mile long, 35 mile wide piece of airspace from the surface to 6000 ft. That airspace was split into 5 individual sectors. We worked with 1 FAA ARTCC, 1 FAA RADAR approach control and 1 FAA non-radar approach control as well as 1 military and 1 FAA air traffic control towers. I also helped train air traffic controllers, some of which were sent to us from Iran for us to train.

Education:

Merced Community College

September 1979 – May 1980

Francis Howell High School

Graduated June 1977

Skills:

I was the NATCA air traffic controllers union local vice-president Oct 2005 – Oct 2006 as well as the NATCA National Safety Committee Representative for the Central Region from 1997 – 2001. I served as the local NATCA Crew Representative during that time also. While at Kansas City ARTCC I was the NATCA Facility Safety Representative from 1986 – 1991 as well as the NATCA Crew Representative during the same time. I served on several airspace and procedures committees while at Kansas City ARTCC and St. Louis TRACON.

I have my Private pilot's license.

Interests/Hobbies:

I have collected and restored antique/classic cars for many years. I do much of the mechanical work myself. I am self-taught. I also have a keen interest and love of aviation and its history. I am especially

Resume – Brian H. Bridwell

interested in antique/classic airplanes. I also am a member of a local competition BBQ team comprised of current and retired Air Traffic Controllers. I also do part-time carpentry/handyman work for a close friend on an as needed basis.

Sec. 2-122. - Appointment, term of office, and filling board vacancies.

(a) *Appointment, term, attendance.*

- (1) All members and alternate members shall be appointed by the city commission;
- (2) Each board shall have the opportunity to review each applicant's resume and may make a recommendation on the appointment;
- (3) All members shall reside within the city limits;
- (4) Elected officials and employees of the city shall not be eligible to serve on city boards or committees, unless otherwise provided herein;
- (5) Each member serves at the pleasure of the city commission;
- (6) The term of office for all regular board or committee members shall be three years, and a vacancy shall occur at the end of the three-year term;
- (7) All applicants for a specific board or committee appointments shall be considered at the time a vacancy occurs;
- (8) A member of a board who is seeking re- appointment shall continue to be a voting member for two months to allow for the finalization of the appointment or re- appointment by the city commission; and
- (9) Each appointed member shall attend all regular and called meetings.

(b) *Officers and subcommittees.*

- (1) Each board or committee shall have a chairperson and a vice-chairperson;
- (2) The chairperson and vice-chairperson shall serve one-year terms. Officers shall not serve more than two consecutive terms; and
- (3) A board or committee may create whatever sub-committees it deems necessary to carry out its purposes. The chairperson of the board or committee shall appoint the membership of each sub-committee from the members of that board or committee.

(c) *Removal and vacancies.*

- (1) When a position on a board or committee becomes vacant before the end of the term; an alternate shall fill the vacancy;
- (2) When no alternate member is available to fill the vacancy; the city commission shall appoint a member to fill the vacancy for the duration of the term;
- (3) When the unexpired term is two months or less, the city commission may appoint a new member to fill the unexpired term and the following full term;
- (4) A member who moves outside of the city or no longer meets eligibility requirements shall be removed immediately;
- (5) Any member who has been absent for three regular meetings in one calendar year shall be subject to removal; and
- (6) Vacancy shall occur upon death, resignation, removal, conviction of a felony, or

expiration of term.

- (d) *Term limits and reappointment.* Term limits do not apply to appointed board or committee members. The city clerk's office shall provide all board or committee members eligible for reappointment at least 30 days' notice prior to their term expiring. Board or committee members seeking reappointment must provide the city with updated contact information and statement of interest at least 15 days prior to expiration of their term. New board or committee members shall complete an application and provide a resume and statement of interest to the city at least 15 days before consideration for appointment.

(Ord. No. 2013-17, § 1, 8-6-13)

Advisory Board/Committee Application

This application is intended to provide information that will enable the City Commission to select the most qualified Board/Committee members. Please complete all applicable sections and return the form along with your current résumé to the City Clerk's Office.

City of Fernandina Beach
City Clerk's Office
204 Ash Street
Fernandina Beach, FL 32034
(904) 310-3115

Name	COLEMAN C LANGSHAW
------	--------------------

Home Mailing Street Address	308 South 15th Street
-----------------------------	-----------------------

City	FERNANDINA BEACH
------	------------------

Zip Code	32034
----------	-------

Primary Phone	904-556-1575
---------------	--------------

Secondary Phone	<i>Field not completed.</i>
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Please note that board materials are distributed electronically.

Email to receive board materials	cclangshaw@gmail.com
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Employer	Dungeness Charters
----------	--------------------

Position Title	Owner and Captain
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Business Address	308 South 15th Street
------------------	-----------------------

City	Fernandina Beach
------	------------------

Zip	32034
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Select the board you are applying for:	Airport Advisory Commission
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	None
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Additional board that you are applying for:

Why are you interested in serving on this Board? Please explain.

I am a City resident, who has no financial interest in the airport, do not have an aircraft nor a pilot's license, but feel that the airport is an important asset to the community. I have a layman's knowledge of aviation, but as the former Marina Director, I am very familiar with working with environmental regulatory agencies (DEP, USACE, etc), with enterprise funds in the city, and the City Commission. I have lived in Fernandina Beach for 35 years, and I understand and appreciate the social and economic history of our community. Not being affiliated with aviation directly, I think I can offer an unbiased and fair perspective on matters concerning the airport and the community.

Eligibility

Are you a resident of the City? Yes

Length of time: 35 years

Do you hold a public office? No

Office name: *Field not completed.*

Are you employed by the City? No

Position: *Field not completed.*

Are you currently serving on a Board? *Field not completed.*

Board Name: *Field not completed.*

Potential Conflict of Interest:

Have you ever been engaged in the management/ownership of any business enterprise that has a financial No

interest with the City of
Fernandina Beach?

Field not completed.

If yes, please provide
details:

Major Affiliations:

List community,
professional, or other
applicable policy-making
Boards on which you
have served.
Note the length of service
and office held (if any):

Former board member and chair of Amelia Island Montessori
School (5 years); Former General Partner of Greyfield, LTD (25
years);

Qualifications:

Please list any specific
qualifications, education
or experience that would
directly relate to the
Board for which you are
being recommended:

As the former Marina Director, I am very familiar with working
with environmental regulatory agencies (DEP, USACE, etc),
with enterprise funds in the city, and the City Commission.

Organization or
Commissioner sponsoring
nomination (if
applicable):

none

Educational Background:
(Check all that apply)

High School

Other:

Although I do not have an Associates Degree, I have 95
college credit hours at the University of North Florida.

Major areas of study:

Communications and Visual Arts

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"It is the policy of this state that all state, county, and municipal records shall at all
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Do you understand the duties and responsibilities of the Board/Committee that you are applying for?

Yes

By submitting this form, I declare the foregoing facts to be true, correct, and complete.

Date 01/30/2018

Applicant's Signature Coleman C. Langshaw

Advisory Board/Committee Application

This application is intended to provide information that will enable the City Commission to select the most qualified Board/Committee members. Please complete all applicable sections and return the form along with your current résumé to the City Clerk's Office.

City of Fernandina Beach
City Clerk's Office
204 Ash Street
Fernandina Beach, FL 32034
(904) 310-3115

Name	Brian H. Bridwell
------	-------------------

Home Mailing Street Address	110 S. 15th St.
-----------------------------	-----------------

City	Fernandina Beach
------	------------------

Zip Code	32034
----------	-------

Primary Phone	904-557-8159
---------------	--------------

Secondary Phone	<i>Field not completed.</i>
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Please note that board materials are distributed electronically.

Email to receive board materials	t75atc@gmail.com
----------------------------------	--

Employer	FAA - Retired
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Position Title	Air Traffic Control Specialist
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Business Address	<i>Field not completed.</i>
------------------	-----------------------------

City	<i>Field not completed.</i>
------	-----------------------------

Zip	<i>Field not completed.</i>
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Select the board you are applying for:	Airport Advisory Commission
--	-----------------------------

	None
--	------

Additional board that you are applying for:

Why are you interested in serving on this Board?
Please explain.

I have a life long interest in aviation. I retired in 2012 from a 35 year career as an Air Traffic Controller. I'm a licensed private pilot though not current. I served on the NATCA, National Air Traffic Controllers Association, Safety Committee as the National Rep for the Central Region for several years. I was the Vice President of the Local for NATCA for 1 year. I grew up around airplanes, traveling all over the country in my fathers private planes. Served as the team rep and local safety rep for the union for many years. I recently served as a sub-contractor to the FAA traveling around the US helping with the testing and certification of new automated clearance delivery equipment in control towers and training controllers in the use of the equipment. I have an interest in seeing that our local airport is the best it can be, in safety, equipment and, services to both local and transient pilots. I love aviation and anything to do with it. I feel my experience would be of benefit to the commission and the community. I miss being involved in aviation.

Eligibility

Are you a resident of the City? Yes

Length of time: 5+ years

Do you hold a public office? No

Office name: *Field not completed.*

Are you employed by the City? No

Position: *Field not completed.*

Are you currently serving on a Board? No

Board Name: *Field not completed.*

Potential Conflict of Interest:

Have you ever been engaged in the management/ownership of any business enterprise that has a financial interest with the City of Fernandina Beach?

No

If yes, please provide details:

Field not completed.

Major Affiliations:

List community, professional, or other applicable policy-making Boards on which you have served. Note the length of service and office held (if any):

National Air Traffic Controllers Association - National Safety Committee
National Air Traffic Controllers Association - Local T75 - Executive Board, Safety Committee and Crew Representative

Qualifications:

Please list any specific qualifications, education or experience that would directly relate to the Board for which you are being recommended:

35 years as a professional Air Traffic Controller. 4 years in the USAF and 31 years in the FAA. I'm a licensed private pilot though not current. Worked as sub-contractor to the FAA, testing, certifying and training controllers on new automated clearance delivery equipment in control towers. Served as the national rep. to the Safety Committee of NATCA, the National Air Traffic Controllers Association. Was the union local Vice President for one year. Served as the local union crew rep. and safety rep. for several years. I have been to Washington, D.C. several times as a union representative to lobby Congress for improvements to the National Airspace System.

Organization or Commissioner sponsoring nomination (if applicable):

Field not completed.

Educational Background: (Check all that apply)

High School

Field not completed.

Other:

Field not completed.

Major areas of study:

Florida's Public Records Law, Chapter 119, Florida Statutes, states:

"It is the policy of this state that all state, county, and municipal records shall at all times be open for a personal inspection by any person." Your application when filed will become a public record and subject to the above statute. In addition, any appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes

I understand that if I am appointed to one of the City's boards, I will be required to file a financial disclosure form - Form 1, as described above, and I am willing to comply with this requirement.

I understand that any false, incomplete or misleading information given by me on the application is sufficient cause for rejection of this application. I understand and agree that any such false, incomplete or misleading information discovered on this application at any time after appointment to a Board may result in my removal.

I also understand that all board appointments are for voluntary, uncompensated services. Additionally, if appointed, I am able to attend meetings and otherwise fulfill the duties of the office.

Applications are submitted to the City Commission when vacancies occur and are effective for two years from date of completion.

Do you understand the duties and responsibilities of the Board/Committee that you are applying for?

Yes

By submitting this form, I declare the foregoing facts to be true, correct, and complete.

Date January 20, 2018

Applicant's Signature Brian H. Bridwell

I applied on the Fernandina Beach city website for the opening on the Airport Advisory Commission.
Enclosed is my current resume.

Thank you very much for your consideration,

A handwritten signature in blue ink, appearing to read 'Bridwell', with a stylized initial 'B' and a long horizontal stroke.

Brian H. Bridwell

110 S. 15th St.

Fernandina Beach, FL 32034

t75atc@gmail.com

904-557-8159

Resume – Brian H. Bridwell

Brian H. Bridwell

110 S. 15th St.

Fernandina Beach, FL 32034

USA

Home phone: None

Cell phone: (904) 557-8159

E-mail: t75atc@gmail.com

Work Experience:

Retired Air Traffic Controller September 3, 2012 to present. Retired with 34 years 10 months experience as an Air Traffic Controller which included 4 years in the USAF and 30 years 10 months with the FAA.

CGH Technologies, Inc., Washington, DC

Technical Support Services – ATC Subject Matter Expert

October 2015 – October 2016

As an independent contractor, I traveled to many FAA ATCT's around the USA to provide on-site support of the DATACOMM program. Helped with testing and certification of CPDLC (Controller Pilot Data Link Communications) equipment and training controllers in the use of this equipment.

Federal Aviation Administration

Air Traffic Control Specialist – St. Louis TRACON (Terminal RADAR Approach Control)

July 1991 – September 2012

Responsible for the safe and expeditious separation of IFR and VFR arrival, departure and overflight air traffic within a 40 mile radius of St. Louis, MO from the surface to 15,000 ft. That airspace is split into 11 individual sectors. Worked with 3 FAA and 1 contract air traffic control towers as well as one military control tower. I also worked with 2 adjacent RADAR approach controls and 7 adjacent ARTCC sectors. We have 7 uncontrolled airports within our airspace that have published instrument approaches. I also trained air traffic controllers.

Resume – Brian H. Bridwell

Air Traffic Control Specialist – Kansas City ARTCC (Air Route Traffic Control Center)

October 1981 – June 1991

Responsible for the safe and expeditious separation and flow of IFR and VFR air traffic within 5 low altitude sectors from the surface to FL230 and 2 high altitude sectors from FL240 and up. Had several MOA's (Military Operating Areas) and refueling tracks within this airspace as well as 2 non-radar approach controls and 1 RADAR approach control and 2 FAA air traffic control towers and 2 military air traffic control towers. We worked with 4 adjacent ARTCC's. I also trained air traffic controllers.

United States Air Force

Air Traffic Control Specialist – Castle AFB RAPCON (RADAR Approach Control)

September 1977 – September 1981

Responsible for the safe and expeditious separation and flow of IFR and VFR air traffic in a 60 mile long, 35 mile wide piece of airspace from the surface to 6000 ft. That airspace was split into 5 individual sectors. We worked with 1 FAA ARTCC, 1 FAA RADAR approach control and 1 FAA non-radar approach control as well as 1 military and 1 FAA air traffic control towers. I also helped train air traffic controllers, some of which were sent to us from Iran for us to train.

Education:

Merced Community College

September 1979 – May 1980

Francis Howell High School

Graduated June 1977

Skills:

I was the NATCA air traffic controllers union local vice-president Oct 2005 – Oct 2006 as well as the NATCA National Safety Committee Representative for the Central Region from 1997 – 2001. I served as the local NATCA Crew Representative during that time also. While at Kansas City ARTCC I was the NATCA Facility Safety Representative from 1986 – 1991 as well as the NATCA Crew Representative during the same time. I served on several airspace and procedures committees while at Kansas City ARTCC and St. Louis TRACON.

I have my Private pilot's license.

Interests/Hobbies:

I have collected and restored antique/classic cars for many years. I do much of the mechanical work myself. I am self-taught. I also have a keen interest and love of aviation and its history. I am especially

Resume – Brian H. Bridwell

interested in antique/classic airplanes. I also am a member of a local competition BBQ team comprised of current and retired Air Traffic Controllers. I also do part-time carpentry/handyman work for a close friend on an as needed basis.

APR 30 2018 AM 8:39

CITY CLERK'S OFFICE

CITY OF FERNANDINA BEACH



**City of Fernandina Beach
Advisory Board/Committee Application**

This application is intended to provide information that will enable the City Commission to select the most qualified Board/Committee members. Please complete all applicable sections and return the form along with your current résumé to the City Clerk's Office.

City of Fernandina Beach
City Clerk's Office
204 Ash Street
Fernandina Beach, FL 32034
904/277-7305
904/277-7308 (Fax)

Nominee Information: (Please type or print)

Name PRUDENCE HOSTETTER
Home Address: Street (Do not use P. O. Box) 2749 SEA GROVE LANE
City FB. Zip 32034
Home Phone (561) 379-8447 Email N54195@gmail.com

Please note that board materials are distributed electronically; please check if you require a paper copy: ☐

Employer RETIRED - AMERICAN AIRLINES Position Title CAPTAIN
Business Address (Street) _____
City _____ Zip _____
Business Phone _____ Fax _____ Email _____

Preferred Mailing Address: ☒ Residence ☐ Business

How long have you lived in the City of Fernandina Beach? 2 1/2 YEARS

Select the board(s) you are applying for:

AIRPORT ADVISORY COMMISSION

Other

Reset Form

Submit by Email

Print Form

Why are you interested in serving on this Board? Please explain.

FOFA, MICKEY BAITY & PAUL CONDOT SUGGESTED I WOULD BE INTERESTED AS A RETIRED PILOT / PERSON I HAVE TIME & INTEREST IN KEEPING AIRPORT VIABLE.

Major Affiliations:

List community, professional, or other applicable policy-making Boards on which you have served. Note the length of service and office held (if any):

OFFICE
BEDMINSTER (NJ) PLANNING BOARD & ENVIRONMENTAL COMMISSION (3 YRS)
MANAGER OF SOMERSET AIRPORT (NSZ) (4 YRS)

Qualifications:

Please list any specific qualifications, education or experience that would directly relate to the Board for which you are being recommended:

RETIRED PILOT / AVIATION PERSON
STEM ADVOCATE AT MIDDLE & HIGH SCHOOL LEVEL LOCALLY

List all (Board) related experience (Board, staff, volunteer, etc.):

Organization or Commissioner sponsoring nomination (if applicable):

FRIENDS OF FERNANDINA AIRPORT

Educational Background: (Check all that apply)

High School

☒ AA

☒ BS/A

☐ MS/A

☐ Ph.D.

☐ J.D.

Other

Major areas of study:

MATH / ROMANCE LANGUAGES

Other experience or skills that may be valuable to the Board:

Attendance:

Are you willing to meet at least monthly for a Board meeting?

☒ Yes

☐ No

Are you generally available should a special meeting of the Board be necessary?

☒ Yes

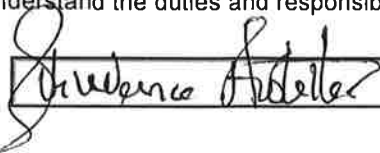
☐ No

Do you understand the duties and responsibilities of the Board?

☒ Yes

☐ No

Signature



Date

4/20/18

Commission to select the most qualified Board/Committee members. Please complete all applicable sections and return the form along with your current résumé to the City Clerk's Office.

City of Fernandina Beach
City Clerk's Office
204 Ash Street
Fernandina Beach, FL 32034
(904) 310-3115

Name Robert Q Jameson

Home Mailing Street Address 2844 Rachael Ave

City Fernandina Beach

Zip Code 32034

Primary Phone 9042773770

Secondary Phone *Field not completed.*

Please note that board materials are distributed electronically.

Email to receive board materials captwidget@gmail.com

Employer Delta Airlines

Position Title Retired Pilot

Business Address Atlanta Airport

City Atlanta

Zip *Field not completed.*

Select the board you are applying for: Airport Advisory Commission

Select the board you are applying for:

Additional board that you are applying for: None

Why are you interested in serving on this Board? This airport is very valuable to our local community and I wish to help preserve it.

Please explain.

Eligibility

Are you a resident of the City? Yes

Length of time: 20 years

Do you hold a public office? No

Office name: *Field not completed.*

Are you employed by the City? *Field not completed.*

Position: *Field not completed.*

Are you currently serving on a Board? No

Board Name: *Field not completed.*

Potential Conflict of Interest:

Have you ever been engaged in the management/ownership of any business enterprise that has a financial interest with the City of Fernandina Beach? No

Field not completed.
If yes, please provide details:

Major Affiliations:

Field not completed.
List community, professional, or other applicable policy-making Boards on which you have served.
Note the length of service and office held (if any):

Qualifications:

Please list any specific qualifications, education or experience that would directly relate to the Board for which you are being recommended:

US Navy - 8 years US Naval Reserve - 13 years Delta Airlines - 32 years

Organization or Commissioner sponsoring nomination (if applicable):

Field not completed.

Educational Background: (Check all that apply)

BS/A

Other:

Field not completed.

Major areas of study:

Business

Florida's Public Records Law, Chapter 119, Florida Statutes, states:

"It is the policy of this state that all state, county, and municipal records shall at all times be open for a personal inspection by any person." Your application when filed will become a public record and subject to the above statute. In addition, any appointed member of a board of any political subdivision (except members of solely advisory bodies) and all members of bodies exercising planning or zoning, are required to file a financial disclosure form (Form1) within 30 days after appointment and annually thereafter, for the duration of the appointment as required by Chapter 112, Florida Statutes

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Applications are submitted to the City Commission when vacancies occur and are

effective for two years from date of completion.

Do you understand the duties and responsibilities of the Board/Committee that you are applying for?	Yes
--	-----

By submitting this form, I declare the foregoing facts to be true, correct, and complete.

Date	4/27/2018
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Applicant's Signature	Robert Q Jameson
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Email not displaying correctly? [View it in your browser.](#)

This agenda item is to discuss a proposal by Eight Flags Aviation, LLC to construct bulk hangars on the airport. Mr. Echard will provide an overview of proposed development during the meeting on May 10th. Mr. Echard is interested primarily in development within the Core 3 area of the Master Plan (see the attached Master Plan excerpt). This conversation is introductory in nature and intended to review the general area of interest for discussion in relation to the Master Plan. A more detailed site plan would be prepared and presented at a later time.

Application for Airport Commercial Lease or Airport Operating Permit Aeronautical or Non-Aeronautical

This submission is to assist the City of Fernandina Beach to make a meaningful assessment of the costs and the benefits of committing airport land or improvements to a potential lessee. Also helps to determine if the commercial activity proposed is consistent with the Master Plan, the Airport Layout Plan, the Airport Business Plan, other plans associated with the airport, and/or are deemed in the best interests of the City. Required information for commercial activity lease shall include:

1. The legal name of the entity submitting this application and its business name (if different):
8 FLAGS AVIATION, LLC
2. The address and telephone number of the entity and primary contact person:
680 AIRPORT RD. BRIAN ECHARD 904 849 4321
3. The names, addresses, phone numbers and short resume all owners of five (5) per cent or more equity interest, management control, or debt in the entity:
BRIAN ECHARD - 50%, KATHRYN ECHARD 50%.
4. A comprehensive listing of all activities proposed to be offered, along with copies of all applicable Federal, State, or local operating certificates and licenses held:
BUILD HANGAR STORAGE
5. Evidence of past experience and technical ability to perform and/or develop the proposed services and facilities:
CURRENT FBO OPERATING AT FHB.
6. Amount of land to lease: 5 Acres +
Building space to lease or facilities to construct: CONSTRUCT BULK STORAGE HANGARS
Will there be any subleasing of building space: YES - FBO LEASE.
7. The estimated cost of any structure or facilities to be constructed or furnished, proposed specifications, and the means and method of financing such construction. EST. 1.8 million
8. The dates for commencement and completion of proposed development or the proposed date for commencement of the intended activities and proposed term for conducting same: TBD - 4th QTR 2018
9. The equipment, any special tooling required, vehicles, and inventory proposed to be utilized in connection with the intended activities: N/A
10. Will there be any hazardous materials located on site:
If yes describe: NO

11. The number of persons to be employed, including the names and qualifications of each management/supervisory person, and specifications as to whether the employees will be full-time, part-time, or seasonal: *will utilize FBO STAFF.*
12. Periods (days and hours) of proposed operation: *24/7*
13. The number of aircraft to be utilized in connection with the proposed activities and the make, model, passenger seating capacity, cargo capacity, aircraft registration number, and copies of applicable operating certificates for each aircraft: *N/A*
14. Amounts and types of insurance coverage to be maintained (no less than required under Minimum Standards): *3,000,000.*
15. For proposed agreements for lease of unimproved or improved Airport areas, a layout (to scale) of the size, configuration, and location of the property proposed for occupancy and a preliminary drawing(s) of the building(s) and improvements to be constructed, together with the identification of vehicle parking areas (See Ground Leasehold Development Process): *TBD.*
16. For proposed agreements to lease existing structures or improvements, a description of the size, location, and proposed utilization of office, hangar, tie-downs, and vehicle parking areas to be utilized (See Ground Leasehold Development Process): *SEE ATTACHED.*
17. Evidence of a written business plan to include: *N/A*
 - a. Business projections for the first year by quarter and the succeeding 4 years annualized.
 - b. A current balance sheet and previous fiscal year's balance sheet.
 - c. Methods to be used to attract new business (advertising and incentives).
 - d. Amenities to be provided to attract business.
 - e. Plans for physical expansion, if business should warrant such expansion.
18. Contact information of three references (name, title, company, telephone):
 - a. *DAVE AUSTIN - FNF - 904-741 6005*
 - b. *TIM PUGHNER - CAFE KARISO - 904 277 5269*
 - c. *DION SEWA - LTC COLE Mgt. - 305-757-2360*
19. Contact information of three credit references (name, title, company, telephone):
 - a. *AvFuel - TOM OWEN, Vice President 800-466-2778*
 - b. *Regions Bank, KRISTINA DILL - ~~727~~, 800-734-4667*
 - c. *JOE OFFERMAN, Merrill Lynch - 904, 634-6164*

Updated May 21, 2007

Architecture and Building

Design Standards for Development on the Airport

(Included within Land Development Code by Reference)

These architecture and building design standards shall be applied to airport construction or improvement on or within Fernandina Beach Municipal Airport boundaries. These design standards have been incorporated by reference into the Airport Overlay section of the City of Fernandina Beach Land Development Code. The City of Fernandina Beach Land Development Code applies to all tenant and lessee construction on the Airport. These design standards are used by the City's Technical Review Committee (TRC) as its basis for beginning the approval process for any construction on the Airport. All construction must meet current adopted Florida Building Codes, City Building Ordinances, and National Fire Prevention Association (NFPA) requirements. In cases of conflict with other City codes or regulations, the more stringent provisions shall apply unless specifically addressed within the terms of any written agreement with the City.

Hangar/Building on any Area of the Airport:

1. A primary building is an aircraft hangar with use as addressed in the lease.
2. Stand alone non hangar buildings are not permitted within the airport perimeter fence unless for aeronautical use and/or approved by City.
3. Outbuildings may be permitted as an ancillary to the primary building. An outbuilding must be attached or in near proximity to the primary building. Such outbuildings must be directly related to the operation of the primary building and limited to office(s), storage area, or related work area.
4. The location of the hangar door designates the front of the building.
5. Minimum bulk hangar size is 40 x 40 feet (1,600 square feet) and may be private or City construction; t-hangar construction permitted only by City.
6. Any hangar must have a concrete floor; any building must have finished flooring.
7. Any hangar constructed, unless an individual hangar or separated hangar units within a structural building and built for non-commercial use only and not exceeding 2,000 square feet per unit or individual hangar, requires an oil/water separator to discharge water and oil by-products, as appropriate, into either a sanitary sewer or into a holding tank.
8. Hangars/buildings shall meet all appropriate fire codes for the proposed use of building.
9. No residential occupancy is permitted.
10. Maximum building height is 45 feet. New construction may require a Form 7460 be submitted to FAA for review.
11. Since roofs are highly visible from aircraft using the Airport, roofs shall be attractively designed and constructed. Signs, lettering, designs, or other graphics shall not be placed, painted or otherwise located on roofs.
12. Roof materials shall be non-reflective, not create glare, and be of a neutral color.

Aprons/Pavement:

1. Taxi lanes within hangar areas provided by the City are generally designed to accommodate an aircraft with a wing span no greater than 49 feet. Facilities designed for larger wingspan aircraft shall have direct access to taxiways.
2. Pavement, at a minimum, is required from the hangar door to the taxi lane or taxiway and shall be at least 20 feet wide.
3. Under no circumstances shall required apron/ramp areas encroach into the taxi lane or taxiway objective free area (TOFA) except for the entrance pavement.
4. Any individual hangar having less than 3,000 square feet shall have an area available for an apron between the hangar door and the taxi lane or taxiway object free area (TOFA), at a minimum, equal to the distance of the depth of its hangar floor area.
5. Any hangar having 3,000 square feet or greater but not more than 7,999 square feet of hangar floor space shall have an area available for an apron between the hangar door and the taxi lane or taxiway object free area (TOFA), at a minimum, of a size at least 50% of its hangar floor area.
6. Any hangar with 8,000 square feet or greater of hangar floor space shall have an area available for an apron between the hangar door and the taxi lane or taxiway object free area (TOFA), at a minimum, of a size at least 75% of its hangar floor area.
7. Sidewalks are permitted only to provide for internal circulation on leasehold property.
8. Airside pavement shall have a compatible look and performance as to any airport taxi lanes/taxiways/apron to which it may abut. All leasehold pavement must be of sufficient quality and weight bearing capacity for the aircraft to be parked on the leasehold.
9. Landside pavement shall have a compatible look and performance as to any street/driveway pavement it shall abut.
10. All pavements shall be designed for a minimum 20 year life using the following guidelines – airside to meet FAA standards for the aircraft to be parked and landside to meet equivalent axel load projections.
11. Any permitted airside access routes are to be a minimum of 12 feet wide.

Leasehold Size:

1. Parcel length is determined from edge of taxi lane or taxiway object free area (TOFA) to edge of roadway or established property line unless parcel already plotted.
2. Minimum parcel width is determined by width of hangar/out buildings coupled with required setbacks unless parcel already plotted.
3. Should a hangar back up to another hangar or building there are minimum separation requirements set forth by NFPA 409 standards irrespective of lease line location from back of hangar or outbuilding (from whichever structure may extend out furthest).
4. Individually built hangars shall have a minimum 25 foot setback on each side or side of outbuilding (from whichever structure may extend out furthest) to establish the side yard and minimum leasehold area unless one side abuts the runway restriction line.
5. Adjoining hangars sharing a common center wall shall be built by the same lessee. Such hangars shall have a minimum 25 foot side setback on the unattached opposite side from parcel property line. Adjoining hangar aprons may or may not abut to each other.

Hangar/Building Characteristics:

1. At least one toilet is required for any stand alone hangar/outbuilding development whether personal or commercial use. Any commercial use of building will require the toilet to be American Disabilities Act (ADA) compliant as required by local building code.
2. Hangar/building materials shall be a metal building or concrete block or related material. No wood or aluminum. The roof may be aluminum.
3. Hangar/building materials that produce glare or other effects that are hazardous to aircraft operation shall not be permitted.
4. Hangar/building colors shall be neutral tones.
5. The location of outside storage areas and materials used for screening shall be a part of the site plan submitted by lessee. All materials used for screening shall be opaque and the same as or similar to the main or primary building or by installation of berms and landscaping acceptable to the City.
6. All electrical wiring shall be in conduit and placed underground from the electrical power source to the hangar/building.
7. Any hangar over 10,000 square feet will require an approved NFPA sprinkler system.
8. All mechanical equipment shall be housed within the building when possible. When roof mounted equipment is required, it must be concealed by parapet walls sufficient to screen the equipment but no more than 42". Such parapet does not count against building height restriction. Plumbing vents are the only non-screened roof penetrations allowed.
9. Any exterior equipment shall be enclosed or screened so as to be an integral part of the architectural design and not in public view. Large pieces of equipment shall be located at ground level.
10. Any hangar or building abutting or a part of the Airport Operation Area (AOA) is also considered part of the security fence system. Such hangar or building shall provide the only entrance through the security fencing unless approved by the City. In addition lessee shall provide a chain link fence without gates separating the airside and the landside with not less than 6 feet chain link vinyl encased black between buildings to the property line to establish a security perimeter. If landscaping screening is provided, it shall be located on the landside and no closer than 6 feet from the fence and maintained in a manner to preclude overgrowth of the security fence.
11. The outside storage of hazardous materials or hazardous waste shall be prohibited as identified in the Airport Rules and Regulations.
12. Adequate lighting required for both airside and landside and in general shall be uniform style as determined by the City.

Landscaping:

1. Landscaping within the Air Operations Area for non-building and non-pavement areas shall have as a minimum natural ground covering and is limited to grass or very low lying vegetation for unpaved areas. For safety reasons no trees or shrubbery shall be permitted within the air operations area (within the airport security or perimeter fence.)
2. At least 20% of the total gross land area of a development site shall be landscaped and can include grass or ground cover for the calculation. The landscaped areas shall be located on

the site in such manner as to maximize preservation of existing trees with priority given to specimen trees. Such landscaping should not be on the airfield side of any hangar or building construction that is not accessible by the public.

3. Landscaping shall not block sight distance or pose a traffic hazard.
4. Any free standing signage shall not exceed a height of 5 feet from the ground, shall be monument style, and constructed per city code.

Parking:

1. Parking shall not be established or designated along the front of building.
2. All parking must be identified in site plan.
3. Spaces shall be sized by city code (currently 10 x 20 feet) and may be marked.
4. Commercial use of hangar must meet city code as to number and shall meet the dimensions and the number required under ADA requirements and to be located in areas convenient to building entrances.
5. Stand alone private non-commercial use hangar parking requires a minimum of two spaces for any total gross floor area (including any outbuilding floor area) not exceeding 2,000 square feet and a minimum of four spaces for a building exceeding 2,000 square feet up to 3,500 square feet. One additional parking space shall be required for each additional 1,500 square feet of gross floor area above 3,500 square feet. Such number of spaces shall be rounded up or down to the nearest 1,000 square feet.
6. Non-commercial use of hangar exempt from ADA requirements.
7. Any parking area next to a hangar or building shall have car stops or curbs placed at least five feet from the hangar or building.
8. All parking areas shall be setback at least 10 feet from other lessee lease lines.

East Area:

1. Stand alone non-hangar buildings are permitted on the non airfield side of Jamestown Road and must be an approved commercial only use.
2. A commercial building not attached to a hangar shall provide its parking behind the building. Such a building may not be located on the airfield side of Jamestown Road unless as part of a hangar development and then parking may be between the building and Jamestown Road.
3. For non hangar buildings the front yard is considered Jamestown Road.
4. Non-hangar buildings or hangars fronting Jamestown Road must have set back of at least 25 feet from the street.
5. Internal driveways off Jamestown Road shall be 20 feet wide.
6. Minimum curb cuts off Jamestown Road – in general use of joint-use driveway to serve several buildings will be required to provide access to a public street. Only in exceptional circumstances is more than one (1) curb cut permitted.
7. No parking permitted along Jamestown Road.
8. Common use driveways along Jamestown Road shall be used as much as possible.



Chapter Seven

Airport Development Plan

7. AIRPORT DEVELOPMENT PLAN

The primary objective of this chapter is to consider airport development options that will lead to a logical and feasible development plan for the Fernandina Beach Municipal Airport. The plan will meet the facility improvements identified and sustainability considerations made in the previous chapters and will support the overall development goals of the City of Fernandina Beach and Nassau County. To establish a formal vision for airport development over a 20-year period the technical advisory committee (TAC) established for this master planning study was heavily consulted. Airfield and landside needs were discussed individually and with respect to core development zones identified for Airport property. Furthermore, as part of the discussion the TAC was asked to consider the evaluation criteria outlines in **Table 7-1** in addition to the airfield development alternatives and the analysis of core development areas on airport property presented in the following sections.

Table 7-1. Evaluation Criteria for Future Development Initiatives

CRITERIA	DESCRIPTION
Operational	Any selected development plan should be capable of meeting the Airport's facility needs as they have been identified for the planning period. Further, the preferred plan must resolve any existing or future deficiencies as they relate to FAA design and safety criteria.
Environmental	Airport growth and development has the potential to impact the Airport's environs. The selected development plan should seek to minimize environmental impacts. The preferred development plan should also recognize sensitive environmental features; such as, wetlands, archeologically/historically significant areas, etc., that may be impacted by any proposed development.
Cost	Some alternatives may result in excessive costs as a result of expensive construction, acquisition, or other development and/or environmental requirements. In order for a preferred development plan to best serve the Airport and the community it must satisfy development needs at a reasonable cost.
Feasibility	The selected development plan should be capable of being implemented. Therefore, it must be acceptable to the FAA, FDOT, the City of Fernandina Beach, other local governments, and the community served by the Airport. The preferred development plan should proceed along a path that supports the area's long-term economic development and diversification objectives.
Sustainability	The airport development plan should seek to integrate the three primary sustainability considerations outlined in Chapter 6 – Socioeconomic and Community Relations, Planned Development, and Land Use.

Source: Passero, 2014.

7.1. Airfield Development Alternatives

As an initial step towards the creation of a long-term airport development vision, facility improvements to the runway and taxiway infrastructure must be explored. As outlined in Table 5-13 a number of improvements are recommended for the airfield system. The following sections detail the four airfield development alternatives explored by the TAC. Each design alternative included an engineered materials arresting system located just north of the Runway 22 end to mitigate existing RSA deficiencies to the Airport's primary runway.

7.1.1. Airfield Development Alternative One

As is prudent for long range planning studies, a no development option must be considered. Should the Airport not implement any airfield improvements over the planning period beyond regular maintenance activities, the airfield will fail to facilitate unrestricted operations by the design aircraft (Gulfstream G-IV) and a variety of other business jet aircraft making regular use of the facility. Without providing additional runway pavement these aircraft will, at times, continue to experience weight restrictions when departing the airfield. Additionally, should Taxiway Echo not be widened development of airport property on the east side of the airfield may be unattractive to potential tenants looking to base or provide facilities for business jet aircraft. Furthermore, should existing obstructions to the runway object free areas not be mitigated by either removal or by obtaining a modification to standard through the FAA existing runway utility could be affected.

7.1.2. Airfield Development Alternative Two

Airfield development alternative number two explores a 700-foot extension to Runway 4-22 to the southwest and the implementation of an engineered materials arrestor system (EMAS) to allow for a reduced length runway safety area (RSA) and provide the appropriate measure of safety for aircraft departing Runway 22 in the event of an overrun of the pavement. Engineered materials are defined in FAA Advisory Circular 150/5220-22A as high energy absorbing materials of selected strength, which will reliably and predictably crush under the weight of an aircraft. An EMAS arrestor bed can be installed to help slow or stop an aircraft that overruns the runway, even if less than a standard RSA length is available. Additionally, this airfield development alternative depicts an extension of Taxiway Charlie to the existing Runway 4 end as well as the proposed future Runway 4 end. Also shown is the widening of Taxiway Echo and extension of Taxiway Echo north to Taxiway Alpha. Furthermore, development of a new taxiway from Taxiway Echo south of Runway 9-27 to the Runway 27 end is also shown. **Figure 7-1** depicts this development alternative.

7.1.3. Airfield Development Alternative Three

Airfield development alternative number three explores the opportunities for extending Runway 13-31 to the northwest. Easterly runway extensions were ruled out as plausible development options due to the proximity of Amelia Island Parkway and the airport property boundary.

A 580-foot northwesterly extension to Runway 13-31 could also be achieved with an EMAS installation and not impact the existing access road to Crane Island or the future access of western airport properties. Without an EMAS system only a 180-foot extension could be achieved. Additionally, this airfield development alternative depicts an extension of Taxiway Charlie to the existing Runway 4 end as well as the widening and extension of Taxiway Echo and development of a new taxiway from Taxiway Echo south of Runway 9-27 to the Runway 27 end. **Figure 7-2** depicts this development alternative.

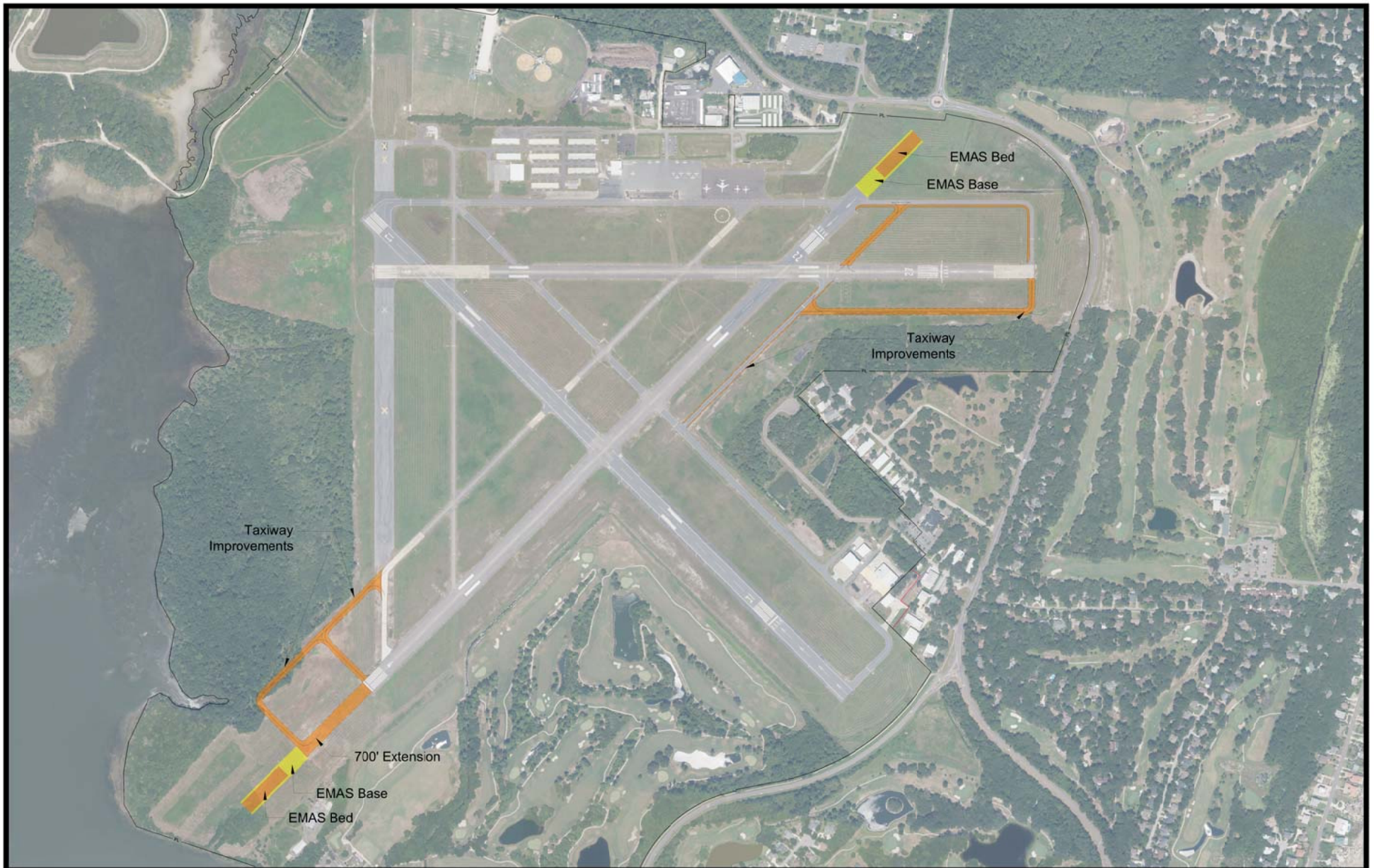
7.1.4. Airfield Development Alternative Four

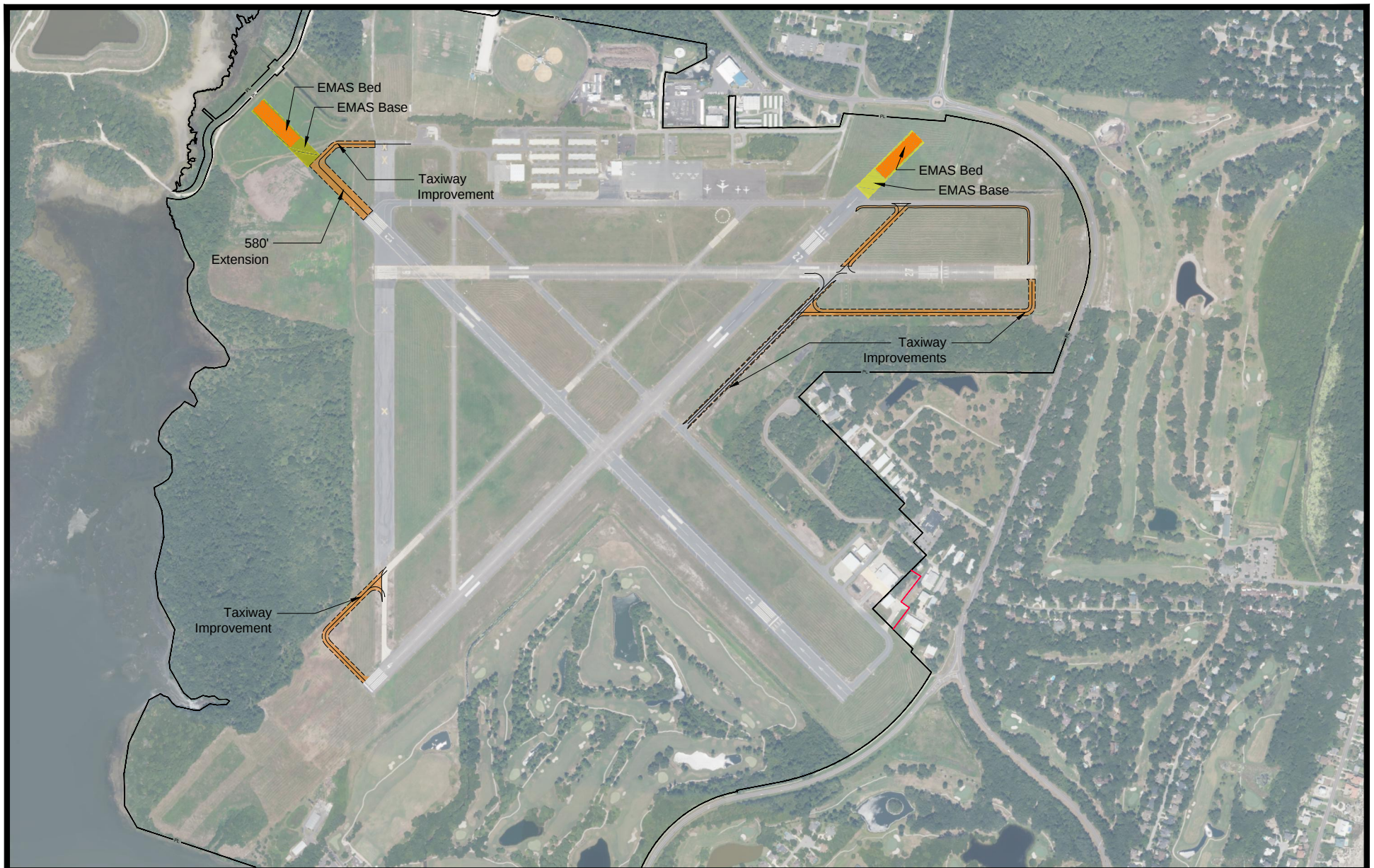
Airfield development alternative number four explores the opportunities for extending Runway 9-27 to the west. Easterly runway extensions were ruled out as plausible development options due to the proximity of Amelia Island Parkway and the airport property boundary.

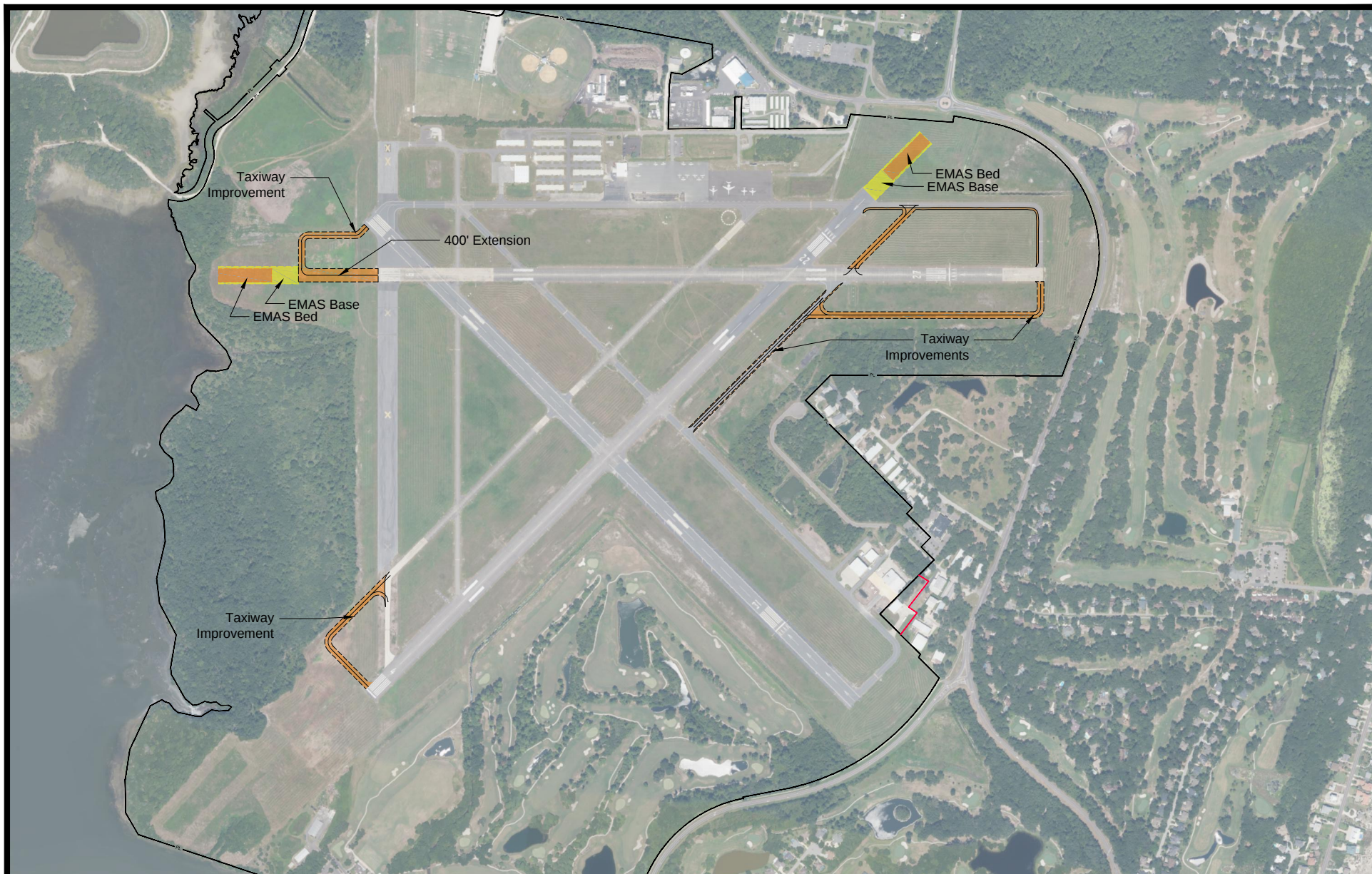
A 400-foot westerly extension to Runway 9-27 could be achieved with an EMAS installation without directly impacting any future opportunity to access the Airport's western properties. Any westerly extension to this runway without an EMAS installation would jeopardize future access to these properties. Additionally, this airfield development alternative depicts an extension of Taxiway Charlie to the existing Runway 4 end as well as the widening and extension of Taxiway Echo and development of a new taxiway from Taxiway Echo south of Runway 9-27 to the Runway 27 end. **Figure 7-3** depicts this development alternative.

7.1.5. Preferred Airfield Development Alternative

After discussion of the four alternatives the TAC concluded alternative two as the preferred development option for the airfield system. Additionally, a discussion was had regarding run-up areas and consensus was formed to develop run-up areas in the future. While the following sections of this chapter discuss on-airport land use for the purpose of on-airport development planning, off-airport land use considerations are discussed in **Appendix G** of this report which also presents existing and future noise contours taking into account the approved aeronautical forecast and the preferred development alternative (alternative 2) selected by the TAC.







7.2. Airport Property and On-Airport Land Use Cores

With an understanding of the future airfield layout and its spatial requirements consideration can be given to the development of airport property not committed to airfield infrastructure. As a means to determine the highest and best use of these areas existing airport property was reviewed in detail and divided into eight core development areas based on existing use and/or plausible future use. These core development areas were presented to the TAC via a web survey focused on discerning the committee's collective opinion as to both the plausibility and type of development for each. These core development areas are identified in **Figure 7-4** and are discussed in the following sections with **Figures 7-5** through **7-12** providing a more detailed view of each.

7.2.1. Overall Development Potential

As a means to gauge the plausibility for development of the identified core areas an electronic survey was disseminated to the technical advisory committee organized for this study effort in advance of the third committee meeting. This survey graphically identified each of the core development areas shown in Figure 7-4 and asked respondents two questions about each: what is the probability of development and what type of development they envisioned over the 20-year planning period. Overall development probability scores from this survey are detailed in **Table 7-2**. Survey responses regarding the type of development envisioned was used in technical advisory committee meeting #3 and #4 as a means to guide discussion and build consensus on what types of development is most appropriate to show on the Airport Layout Plan (ALP) given the forecast of aeronautical demands and the economic development initiatives of the City.

Table 7-2. Development Probability via TAC

Development Core	Development Probability Scores from Survey				
	Not Probable	Somewhat Improbable	Neutral	Somewhat Probable	Very Probable
1	0%	0%	14.29%	0%	85.71%
2	14.29%	28.57%	28.57%	14.29%	14.29%
3	0%	0%	0%	14.29%	85.71%
4	42.86%	28.57%	28.57%	0%	0%
5	57.14%	14.29%	0%	28.57%	20%
6	14.29%	42.86%	14.29%	14.29%	14.29%
7	28.57%	57.14%	14.29%	0%	0%
8	14.29%	0%	28.57%	42.86%	14.29%

Source: SurveyMonkey Core Development Area Survey to TAC Members.

7.2.2. Core Development Area One

Core Development Area One includes approximately 38 acres of south of Airport road and outside of the TOFA boundaries of the airfield. Additionally, this core includes the existing parachute drop zone area located north of the Runway 13 end. This area is envisioned to continue to promote and support aeronautical use developments such as t-hangars and the future airport welcome center and operations building. Some apron frontage space may also be available for a limited number of conventional/corporate style hangars.

This area is depicted in **Figure 7-5**.

7.2.3. Core Development Area Two

Core Development Area Two includes a small 8.6 acre parcel bounded by the Runway 4-22 ROFA and RSA, the Taxiway Alpha TOFA and the Airport property boundary. While this area has both high visibility from Amelia Island Parkway and convenient airfield access, concerns were raised by the TAC regarding the feasibility of providing

ingress/egress routes from and development here and impacts that may have on the traffic flow on Amelia Island Parkway. As such the TAC group suggest that any development within Core Two should have a very limited impact on Amelia Island Parkway. One such option could include a solar array project provided the photovoltaic panels could be installed in such a way so as to not create a glare impact on pilots utilizing the local airspace.

This area is depicted in **Figure 7-6**.

7.2.4. Core Development Area Three

Core Development Area Three includes approximately 49 acres of airfield fronting property on the Airport's east side. This area is bordered by the Runway 9-27 ROFA, Runway 4-22 ROFA, the runway visibility zone (RVZ), and the Airport property line. The majority of this area is identified to be best suited for aviation related development, however, portions of the property north and east of Jamestown Road will not have airfield access and are best suited for non-aviation developments. Additionally connector roadways could be developed between Jamestown road to both Via Del Mar Road and Lynndale Road.

This area is depicted in **Figure 7-7**.

7.2.5. Core Development Area Four

Core Development Area consist of 163 acres of land on the Airport's south side bounded by the Runway 4-22 and Runway 13-31 ROFA and the Airport property line. This area is entirely leased and developed as the Amelia River Golf Course and not considered for any additional development as part of this planning effort.

This area is depicted in **Figure 7-8**.

7.2.6. Core Development Area Five

Core Development Area Five includes roughly 96 acres of land on the airports west side and removed from the airfield environment. This land is currently not accessible, however, the access road currently being developed for Crane Island could be extended to the south, remaining outside of the Runway 9-27 ROFA and RSA, to provide access. Portions of this land abut the river system and the southernmost, just north of the Runway 4 RPZ, section is preserved through a conservation easement. At this time this land area is under long-term lease to an airport non-aeronautical user and if, or when, development occurs it will most likely be privately funded. While this area does have significant potential for a variety of airport compatible non-aviation uses, the general consensus from the TAC was to not specify future development for this area but rather label the area as being reserved for future non-aviation development.

This area is depicted in **Figure 7-9**.

7.2.7. Core Development Area Six

Core Development Area Six is adjacent to Core Five and the airfield environment. This area consist of approximately 33 acres and would be ideal for aviation related development should the western properties ever be provided roadway access. Similar you Core Development Area Five, the TAC group desired to simply label this area as available for future aviation related development and not show any prescriptive development detail on the airport layout plan.

This area is depicted in **Figure 7-10**.

7.2.8. Core Development Area Seven

Core Development Area Seven includes two small parcels located along the Bailey Road extension on either side of the Runway 13-31 runway protection zone (RPZ). The northern most parcel is approximately 3.5 acres and the southernmost is just over 8 acres. These areas were identified by the TAC to have limited value overall, however, some plausible non-aviation developments did come to mind, such as a marina facility or even possibly a storage facility to support the future crane island development.

This area is depicted in **Figure 7-11**.

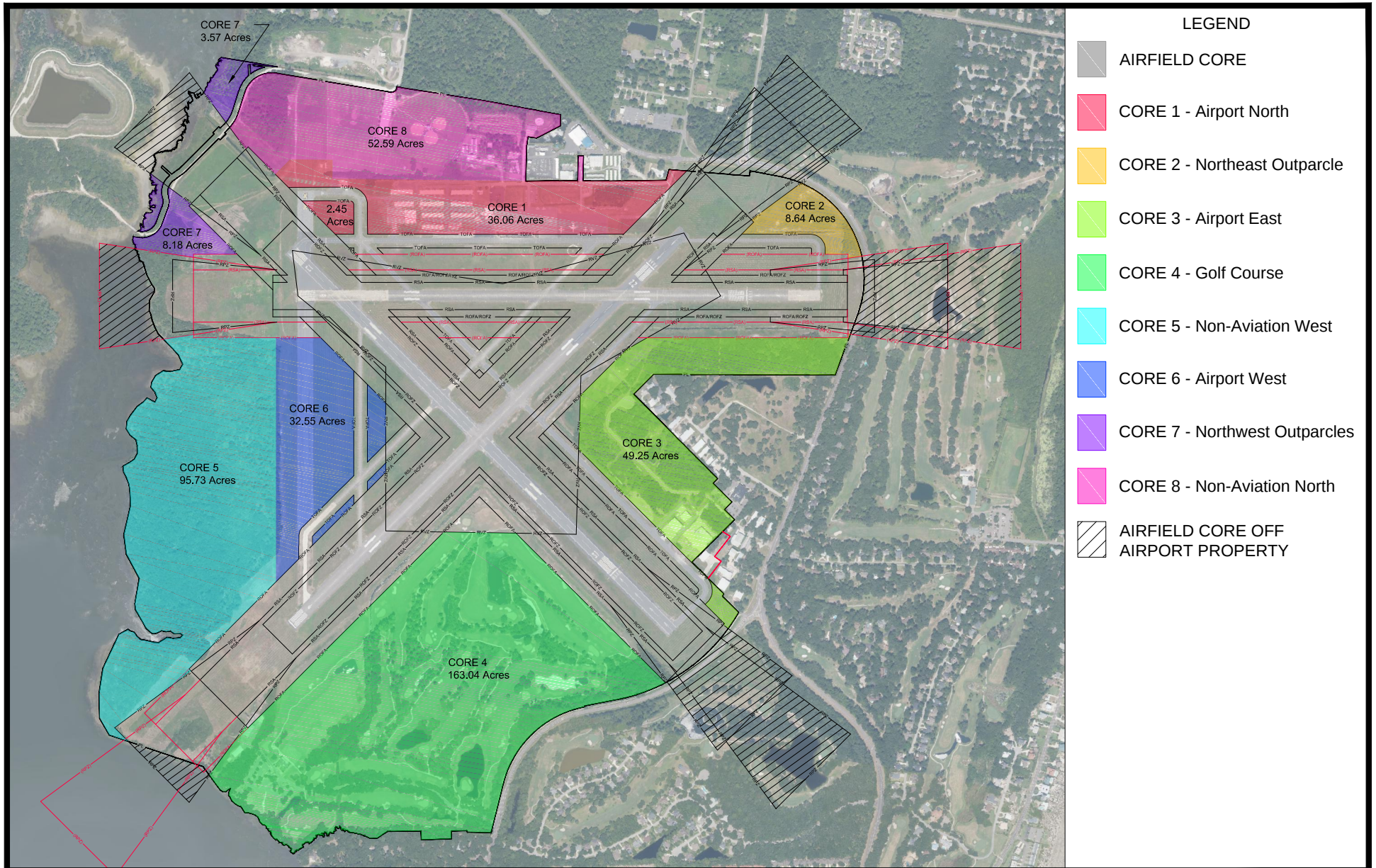
7.2.9. Core Development Area Eight

Core development Area Eight includes approximately 53 acres of land located north of Core One and within the Airport property boundary. While the majority of this land is currently developed by the Ybor Alvarez Sports Complex, Nassau County Humane Society, and Florida Public Utilities, open and available land does exist on the west side of this core. The TAC group identified this properties to be best suited for light industrial, office/research, and aviation business uses.

This area is depicted in **Figure 7-12**.

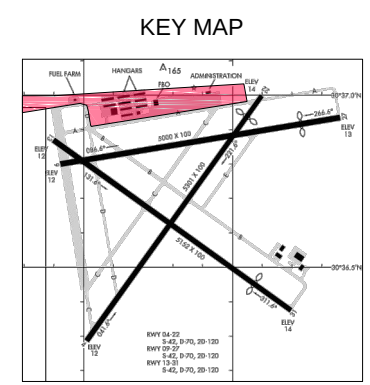
7.3. Summary

From TAC review, discussion and guidance developed in the preceding sections, the following chapter presents the formal airport layout plan (ALP) drawing set which details the 20-year development vision for the Airport. Although the ALP looks fairly detailed and prescriptive there is flexibility built into the plan, and while future development may not mirror precisely what is shown, the ALP set will serve as a valuable tool to the City to justify and garner funding support for airport development projects, but also to work with prospective tenants to locate at FHB, and express to FAA and FDOT the Airport's ability to meet design standards.



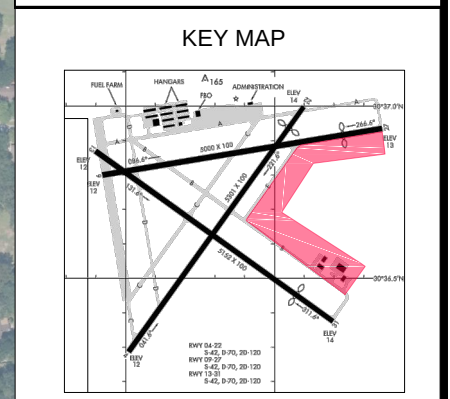


Potential Uses	Potential Limitations
Aviation Development	Nearly Built Out
- t-hangars	
- large hangars	
- GA terminal	
Improvements Needed	Likelihood for Development
	High
General Notes	





Potential Uses	Potential Limitations
Mixed-Use	Ingree/Egress
Aviation	Roadway
Development	interface with
GA Terminal	Amelia Island
Non-Aviation	Pkwy.
Out Parcels	
Improvements Needed	Likelihood for Development
Utility Extension	High
Roadway	
Improvement	
General Notes	





MEMORANDUM

TO: AIRPORT ADVISORY COMMISSION

FROM: AIRPORT MANAGER

DATE: May 10, 2018

RE: MONTHLY REPORT

- Airport terminal construction continued through the months of February, March, and April. At the March 20 City Commission meeting, a series of change orders were presented and approved by the City Commission for the terminal facility. The change orders included \$55,888 in requested changes to be funded by the City and \$10,101 in improvements to be funded by the FBO. I will provide a more detailed update of project timeline status at the meeting on May 10, 2018.
- The airport's new FBO, Bent Wing Flight Services, began providing services at the airport on April 1, 2018. The FBO is operating out of the temporary trailer on the north-side of the transient aircraft parking apron, and will continue to operate in this location until completion of the airport terminal building.

During the transition between FBOs, the airport aligned an inspection of the two above ground 12,000 gallon fuel tanks which store JET and AVGAS at the airport. We did note material at the bottom of each tank, which necessitated that the tanks be flushed and cleaned prior to use by Bent Wing Flight Services. During the inspection and cleaning process, we identified a number of structural repairs that were needed and implemented the repairs prior to returning the tanks to service.

- At the April 17th Commission meeting, the City Commission approved a budget amendment and Passero Work Order to support a project to replace the airport's AWOS under a grant from the FAA. I met with Passero and our NAVAID design team in the last week of April and began work to build a project and design to be bid in the coming months. I will keep the group updated with this project status.

- I have drafted an RFQ to request submittals of qualifications for continued architectural/engineering services at the airport (currently provided by Passero Associates). As previously mentioned, the plan is to release this RFQ following completion of the airport terminal building construction in June. I anticipate that the AWOS replacement project will be the final project executed by Passero Associates under the current selection period, and that the RFQ selection process will run in parallel with the AWOS replacement project, with selection occurring at/near the completion of the AWOS replacement project mentioned above. I would like to propose during our next meeting that the AAC consider participating on a review and selection committee as a part of this process. Other participants would include myself and a licensed engineer.
- As mentioned in our last meeting, Flight Procedures is continuing its work on the development of a procedure to Runway 4. I have corresponded with Flight Procedures and Jacksonville TRACON regarding the potential for development of procedures to Runways 9, 27, and/or 31. By request of ATC, the Flight Procedures office has drafted sketch procedures that will allow the ATC folks an ability to review these potential procedures for feasibility. Once this review is completed, I expect we will receive a concur or non-concur from ATC regarding the potential for additional procedures to Rwy 9, 27, and/or 31. I will keep the group updated with this process.
- The market rate analysis of aeronautical rates, conducted by Slack, Johnston, and Magenheimer Inc, has been completed, and was scheduled for presentation to the AAC during the April meeting. Due to lack of quorum, the April meeting was cancelled. The appraisal agency was not available to present on May 10th, but has confirmed availability for our June 14th AAC meeting.
- As I believe the group knows, Hangar B was vacated by Island Aviation in February. Airport staff is working to make repairs and clean the facility before releasing an RFP for submittals of parties interested in renting the hangar and office space. The repairs include installation of a new HVAC unit, replacement of non-functional lighting with new energy efficient lighting, and replacement of electrical components which are not currently to code. I have drafted an RFP which is currently under review by the City Attorney before release to the public.
- A planning committee was established to begin planning a Ribbon Cutting event for the new airport terminal building. The tentative date for the event is October 13th. I will provide updates to the group at our next meeting.
- I will provide the latest update regarding the property tax discussion as related to T-Hangars on the airport during the upcoming AAC meeting on May 10th.



FLORIDA DEPARTMENT OF TRANSPORTATION Aviation and Spaceports Office

Statewide Pavement Classification Number (PCN) Development Program

PCN EVALUATION REPORT



FERNANDINA BEACH MUNICIPAL AIRPORT (FHB)

April 2018



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EXECUTIVE SUMMARY

Introduction

The Florida Department of Transportation (FDOT) Aviation and Spaceports Office is providing statewide Pavement Classification Number Development (PCND) evaluations for runway pavements at Florida's public-use airports. These evaluations are to be conducted within approximately three years, from the execution of this agreement to June 30, 2018, in three sub-phases. This segment of the project, Phase 2c, started in August 2017, and is expected to be completed by March 23, 2018. During each phase, RDM International, Inc. (RDM) performed the Pavement Classification Number (PCN) calculations for approximately one-third of the total participating airports. Twenty-nine (29) airports are scheduled to be evaluated and completed by the end of Phase 2c.

CDM Smith Inc. (CDM) retained RDM International, Inc. (RDM) to perform the PCN evaluation at Fernandina Beach Municipal Airport (FHB), located in Fernandina Beach, Florida. The Federal Aviation Administration (FAA) Advisory Circular 150/5335-5C, "Standardized Method of Reporting Airport Pavement Strength – PCN," contains the standards for reporting gross weight and PCN data. Runway 4-22, Runway 9-27, and Runway 13-31 were included in this evaluation, which includes the following tasks:

- Geotechnical Investigation – Review records for existing pavement structures if available, or conduct pavement cores.
- Nondestructive Testing (NDT) – Perform NDT on existing runway pavement.
- Traffic Analysis – Analyze traffic information provided by the airport or develop a fleet mix using data from various websites.
- PCN and Allowable Load Computation – Calculate the PCN and allowable load for each runway, based on the guidelines in FAA Advisory Circular 150/5335-5C.
- Development of PCN Report – Describe the process and findings of the evaluation.

Pavement CompositionRunway 4-22

Runway 4-22 is 5,301 feet long and 100 feet wide, and is an Asphalt Concrete (AC) surfaced runway. The as-built drawings indicate that from Station 0+00 to 38+00, Runway 4-22 is composed of 8.0 to 9.0 inches of AC pavement, with no base course reported below the AC pavement. From Station 38+00 to Station 53+01, the runway is composed of 6.0 inches of AC pavement on 4.0 inches of a limerock base.

The existing pavement structure was converted to a standard evaluation section with a total thickness of approximately 12.0 inches, consisting of the AC surface, aggregate base, and subbase. The Subgrade California Bearing Ratio (CBR) used for this evaluation is 12.8%.

Runway 9-27

Runway 9-27 is 5,000 feet long and 100 feet wide, and is a Portland Cement Concrete (PCC) surfaced runway. The runway was rehabilitated in 2006. The as-built drawings indicate that the runway is composed of 6.0 to 11.0 inches of PCC pavement on 3.0 to 6.0 inches of an AC base.

The flexural strength of the PCC was assumed to be approximately 750 psi. The effective subgrade modulus of reaction (k -value) used for this evaluation is 345 psi/inch.

Runway 13-31

Runway 13-31 is 5,152 feet long and 100 feet wide, and is an Asphalt Concrete (AC) surfaced runway. The as-built drawings indicate that Runway 13-31 was rehabilitated using mill and replace option. Areas with less than 2.0 inches of AC were replaced with 2.0 inches of AC. As a result of the rehabilitation, the core data indicates that the majority of the runway pavements are composed of 2.0 to 6.0 inches of AC pavement on 4.0 to 8.5 inches of a base course.

The computations indicated that Section 1 of Runway 13-31, from Station 0+00 to 24+00, is structurally inadequate for the current annual departures used in the evaluation. The take-off weights of Dual Wheel-30 aircraft impact the structural life. It is recommended that the AC pavement in Section 1 be rehabilitated with thicker pavement sections.

The existing pavement structure was converted to a standard evaluation section with a total thickness of approximately 7.3 inches, consisting of the AC surface, aggregate base, and subbase. The CBR used for this evaluation is 8.47%.

Traffic Analysis

The traffic data, in terms of total aircraft operations, was provided by the airport. Evaluation traffic was developed based on information from www.aimnav.com and www.flightaware.com, along with operational data provided by the airport. Prior to evaluation, the traffic information data in terms of aircraft type, frequency, and departure weight was verified with the airport.

PCN and Allowable Load Computations

Based on an engineering analysis using the FAA's FAARFIELD and COMFAA programs, the following information may be published in the FAA's Form 5010, "Airport Master Record." The allowable gross aircraft weights and runway PCN data are shown in Table ES-1.

Table ES-1 PCN and Allowable Load Results (in kips)

Form 5010 Reporting Field	Runway 4-22	Runway 9-27	Runway 13-31
#35 S Gear	66	80	18
#36 D Gear	94	102	n/a
#37 DT Gear	n/a	n/a	n/a
#38 DDT Gear	n/a	n/a	n/a
#39 PCN	*24/F/B/W/T	*29/R/B/W/T	*5/F/B/Y/T

*PCN Reporting Format: PCN# / Pavement Type / Subgrade Category / Allowable Tire Pressure / Determination Method

Guidance for PCN Use

The airport can allow the operation of aircraft with Aircraft Classification Number (ACN) values equal to or less than the reported PCNs without limitations. If an occasional overload occurs, the aircraft in question should not have an ACN value greater than 10% of the reported PCN, with the caveat that overload movements should not exceed approximately 5% of total annual aircraft movements. However, normally overload aircraft should not be allowed if the pavements have already exhibited signs of distress, or if it is suspected that the subgrade is weakened by water. The occasional use for a dual-wheel aircraft should be limited to less than 100 departures per year. Note also that the traffic and pavement structure employed in the evaluation can have a substantial impact on the PCN results. If these inputs change significantly, the PCN should be re-evaluated.

SECTION 1.0 INTRODUCTION

RDM International, Inc. (RDM), under contract with CDM Smith Inc. (CDM), was tasked with performing a Pavement Classification Number (PCN) evaluation for Runway 4-22, Runway 9-27, and Runway 13-31 at Fernandina Beach Municipal Airport (FHB), located in Fernandina Beach, Florida.

1.1 ACN-PCN System

The International Civil Aviation Organization (ICAO) requires member states to publish information on pavement strengths using a standard methodology. ICAO has thus adopted the Aircraft Classification Number (ACN) and Pavement Classification Number (PCN) system. This system allows the user to express the effect of an individual aircraft on different pavements with a single unique number, which varies according to aircraft weight, gear configuration, pavement type, and subgrade strength.

The ACN expresses the relative effect of an aircraft on the runway pavement for a specified standard subgrade strength. Along with the ACN, the load-carrying capacity of a pavement can be expressed with a single unique number, the Pavement Classification Number (PCN), without specifying a particular aircraft or detailed information about the pavement structure. This method is designed so that a pavement with a particular PCN value can support an aircraft that has an ACN value equal to or less than the pavement's PCN.

As an ICAO member state, the United States is obligated to use this method for reporting pavement bearing strengths. FAA Advisory Circular 150/5335-5C, "Standardized Method of Reporting Airport Pavement Strength – PCN," provides detailed information on the ACN-PCN system and evaluation procedures.

1.1.1 Aircraft Classification Number (ACN)

FAA Advisory Circular 150/5335-5C defines the ACN as "a number that expresses the relative effect of an aircraft at a given configuration on a pavement structure for a specified standard subgrade strength." For flexible pavements, the aircraft's ACN is determined by the California Bearing Ratio (CBR) method for standard subgrade support categories. The pavement thickness required by an aircraft is computed at a loading frequency of 10,000 coverages. At the same frequency and the computed pavement thickness, the allowable load of a standard single wheel is

evaluated at a standard tire pressure of 181 lbs. per square inch (psi). The ACN of the aircraft is defined as twice the obtained single-wheel load, expressed in thousands of kilograms.

For rigid pavements, the aircraft's ACN is determined by the Portland Cement Association (PCA) method, which uses a Westergaard interior load solution for an elastic plate on a dense liquid foundation. The thickness of the concrete plate required by an aircraft is computed to cause a standard working stress of 399 psi, which is equivalent to 10,000 coverages. The same standard single wheel measurement used for the flexible pavement evaluation is applied to the concrete plate. The allowable single-wheel load to cause the same working stress of 399 psi is then computed. The ACN is derived in the same manner as for flexible pavements.

1.1.2 Pavement Classification Number (PCN)

FAA Advisory Circular 150/5335-5C defines the PCN as “a number that expresses the load-carrying capacity of a pavement for unrestricted operations.” The PCN is essentially the ACN of an aircraft that a pavement structure can support. For a specific pavement structure, all aircraft in the forecast fleet mix are evaluated to obtain a critical aircraft that the pavement can support based on applicable design procedures. The ACN of that critical aircraft is then computed as the PCN.

Therefore, it is possible to compare the PCN with the ACN of any aircraft to evaluate the loading capacity of the existing pavement. If the PCN is equal to or greater than the ACN, the existing pavement can support those aircraft operations without limitation.

The ACN-PCN is a coded index with the following formats:

PCN Reporting Format

<u>PCN Number</u>	<u>Pavement Type</u>	<u>Subgrade Strength</u>	<u>Tire Pressure</u>	<u>Determination Method</u>
Numerical	R-Rigid	A	W	T-Technical
Value	F-Flexible	B	X	U-Using Aircraft
		C	Y	
		D	Z	

Subgrade Strength Code

<u>Code</u>	<u>Category</u>	<u>Flexible Pavement CBR, %</u>	<u>Rigid Pavement k, psi/in</u>
A	High	≥ 13	≥ 442
B	Medium	> 8 and < 13	> 221 and < 442
C	Low	> 4 and ≤ 8	> 92 and ≤ 221
D	Ultralow	≤ 4	≤ 92

Tire Pressure Code

<u>Code</u>	<u>Category</u>	<u>Pressure, psi</u>
W	Unlimited	no limit
X	High	limited to 254
Y	Medium	limited to 181
Z	Low	limited to 73

It is necessary to analyze the existing pavement structure in terms of pavement materials, layer thicknesses, and subgrade strength for the PCN evaluation. The critical aircraft evaluation also requires traffic information in terms of aircraft types, operation frequencies, and weights from the airport's traffic forecast or actual experience.

SECTION 2.0 GEOTECHNICAL INVESTIGATION

The existing pavement structures for Runway 4-22, Runway 9-27, and Runway 13-31 were obtained from the as-built drawings and pavement core data provided by the airport. The pavement structure information provided by the airport is adequate, so additional pavement cores and borings were not required.

2.1 Runway 4-22

Runway 4-22 is 5,301 feet long and 100 feet wide, and is an Asphalt Concrete (AC) surfaced runway. A section of the runway, from Station 0+00 to 38+00, was rehabilitated in 2005. The as-built drawings indicate that this portion of the runway is composed of 8.0 to 9.0 inches of AC pavement with no base course reported below the AC pavement. Another section of the runway, from Station 38+00 to Station 53+01 was rehabilitated in 2013. Based on the as-built drawings, this portion of the runway is composed of 6.0 inches of AC pavement on 4.0 inches of a limerock base.

2.2 Runway 9-27

Runway 9-27 is 5,000 feet long and 100 feet wide, and is a Portland Cement Concrete (PCC) surfaced runway. The runway was rehabilitated in 2006. The as-built drawings indicate that the runway is composed of 6.0 to 11.0 inches of PCC pavement on 3.0 to 6.0 inches of an AC base.

2.3 Runway 13-31

Runway 13-31 is 5,152 feet long and 100 feet wide, and is an Asphalt Concrete (AC) surfaced runway. The runway was rehabilitated in 2010. According to the as-built drawings, a total of seven pavement cores were performed prior to the rehabilitation. These core results are shown in Table 2-1. The locations of the cores are referenced to the NDT stations for this project.

The as-built drawings indicate that Runway 13-31 was rehabilitated with various milling depths. Wherever the AC thickness was less than 2.0 inches, it was replaced with 2.0 inches of AC. The overall pavement structure of the runway after the rehabilitation is shown in Table 2-1.

As a result of the rehabilitation, the core data indicates that the majority of the runway pavements are composed of 2.0 to 6.0 inches of AC pavement on 4.0 to 8.5 inches of a base course.

Table 2-1 Pavement Cores for Runway 13-31

Boring Number	Approximate Station, Feet	Thickness, inches		Thickness, inches		Remark
		Before Rehabilitation (2009)		After Rehabilitation (2010)		
		AC	Base	AC	Base	
Runway 13-31,0+00 at Runway 13 end						
B-1	300	1.38	9.50	2.00	8.50	Sand Asphalt Base
B-2	1,100	1.00	6.50	2.00	5.50	Sand Asphalt Base
B-3	1,800	0.75	7.00	2.00	5.75	Sand Asphalt Base
B-4	2,500	6.30	7.50	6.00	7.50	Sand Asphalt Base
B-5	3,000	0.88	7.25	2.00	6.00	Sand Asphalt Base
B-6	3,500	4.00	3.00	4.00	4.00	Sand Asphalt Base
B-7	5,000	5.30	6.00	5.00	6.00	Limerock Base

SECTION 3.0 NONDESTRUCTIVE TESTING

Nondestructive tests (NDT) were conducted on Runway 4-22, Runway 9-27, and Runway 13-31 on September 06, 2017. The purpose of the NDT is to estimate the pavement layers and subgrade engineering properties through the analysis of the load response data of the existing pavements. NDT data can also be used to segment the pavement into different strengths qualitatively, and verify the pavement structure from the geotechnical investigations.

3.1 Equipment Requirements

RDM's Heavy Weight Deflectometer (HWD) was used for the NDT testing program. Approximately 478 individual NDT test points were conducted on the existing pavements of Runway 4-22, Runway 9-27, and Runway 13-31. The equipment was designed to generate a dynamic load on the pavement surface and measure the resultant vertical response of the pavement system, including subgrade, base courses, and surface layers. The measured deflection data can be used through back-calculation procedures to estimate pavement materials and subgrade elastic moduli (E) as PCN evaluation inputs.

The NDT equipment, test procedures, and data reduction methods conformed to the requirements of FAA Advisory Circular 150/5370-11B, "Use of Nondestructive Testing Equipment in the Evaluation of Airport Pavement." RDM's HWD in operation is shown in Figure 3-1.

3.2 NDT Procedures

NDTs were conducted on 4 test lanes on each runway. The 2 center lane tests were conducted in the runway keel approximately 8 feet left and right of Runway 4-22 centerlines at approximately 50 feet with staggered longitudinal spacing. The 2 side lanes were approximately 43 feet left and right of the centerlines, and NDTs were performed at 100 feet staggered spacing. For Runway 9-27, the keel was tested approximately 6 feet left and right of the centerline, and the 2 side lanes were at approximately 42 feet left and right of the centerline. For Runway 13-31, the keel was tested approximately 8 feet left and right of the centerline, and the 2 side lanes were at approximately 42 feet left and right of the centerline. The impulse load level was set at nominal force amplitude of 25,000 lbs., 30,000 lbs., and 15,000 lbs. for Runway 4-22, Runway 9-27, and Runway 13-31, respectively. Deflections were recorded by sensors at the center of the loading plate and at 8-inch, 12-inch, 24-inch, 36-inch, 48-inch, and 60-inch offsets from the center of the loading plate. NDT field data can be found in Appendix A.



Figure 3-1 HWD in Operation

3.3 Data Analysis

3.3.1 Impulse Stiffness Modulus (ISM)

As an index reflecting the overall strength of the pavement system, the Impulse Stiffness Modulus (ISM) in kips per inch was computed at each test point. The ISM was computed by dividing the impulse load by the response (deflection) at the loading plate. Since it reflects the influence of all pavement layers and subgrades, the computed ISM can be used to indicate variations in pavement strength along the runway. The ISM plots can be found in Appendix A.

For Runway 9-27, the variations in the ISMs are relatively consistent between the keel and side sections. Based on the pavement thickness data, these variations may be attributed mainly to the variations in the PCC and base thicknesses along the runway. The ISM plot shows that the pavements from Station 0+00 to Station 8+50 and from Station 47+00 to Station 50+00 have relatively higher ISMs than the rest of the runway pavement. The pavement thickness data shows that these portions of the runway consist of relatively thicker PCC compared to the remaining runway sections.

For Runway 4-22, the ISMs are generally consistent along the runway. From Station 38+00 to Station 51+52, the ISMs are lower than the rest of the runway pavement. The construction history data shows that this portion of the runway consists of thinner AC pavement.

For Runway 13-31, the variations in ISMs generally follow the pavement thickness changes.

Generally, the ISM variations may be attributed to the variation in the thicknesses of the AC and base materials. The condition of the existing AC and base materials may also contribute to the variations.

3.3.2 Back-Calculation of Material Properties

Layered elastic back-calculation procedures were used for NDT data analysis. The computer program BAKFAA was used to back-calculate the elastic moduli of the pavement materials and subgrade.

The runway pavements were separated into several sections based on the ISMs. The back-calculation results are summarized in Table 3-1, Table 3-2, and Table 3-3.

Runway 4-22

The elastic moduli of the AC pavement range from approximately 548,000 psi to 959,000 psi. The elastic moduli of the limerock base material range from 97,900 psi to 107,900 psi.

The average back-calculated subgrade elastic moduli range from 20,100 psi to 29,200 psi with varied coefficients of variation (CVs). The CV is generally less than 20%, which indicates consistent subgrade strength within each section.

Based on the FAA's design procedures, the design subgrade modulus should be one standard deviation from the average. The design moduli were computed as ranging from 16,750 psi to 25,000 psi. The CBR for PCN evaluation of the subgrade may be correlated to the moduli using $E = 1500 \cdot \text{CBR}$. The resulting CBRs range from 11.17% to 16.67%.

Runway 9-27

The elastic moduli of the PCC pavement range from approximately 6,888,000 psi to 7,983,000 psi. The elastic moduli of the AC base material range from 482,000 psi to 559,000 psi.

The average subgrade *k*-values range from 220 psi/inch to 425 psi/inch with varied coefficients of variation (CVs). The CV is generally less than 20%, which indicates consistent subgrade strength within each section.

Based on the FAA's design procedures, the design *k*-values should be one standard deviation from the average. The design subgrade *k*-values range from 190 psi/in. to 350 psi/in.

Runway 13-31

The elastic moduli of the AC pavement range from approximately 501,000 psi to 790,000 psi. The elastic moduli of the sand asphalt range from approximately 121,800 psi to 185,400 psi. The elastic moduli of the limerock base material range from 58,000 psi to 60,500 psi.

The average back-calculated subgrade elastic moduli range from 14,700 psi to 19,000 psi with varied coefficients of variation (CVs). The CV is generally less than 20%, which indicates consistent subgrade strength within each section.

Based on the FAA's design procedures, the design subgrade modulus should be one standard deviation from the average. The design moduli were computed as ranging from 11,850 psi to 16,100 psi. The CBR of the subgrade used for PCN evaluation of the subgrade may be correlated to the moduli using $E = 1500 \cdot \text{CBR}$. The resulting CBRs range from 7.90% to 10.73%.

Table 3-1 Runway 4-22 Back-Calculation Summary

NDT Station, feet		Evaluation	Elastic Modulus (E), psi			Subgrade, E		Design Subgrade	
From	To	Structure	AC	Base	Subgrade	Std. Dev.	CV	E, psi	CBR, %
<i>Runway 4-22, 0+00 at Runway 4 End, Keel</i>									
0+00	15+00	8.0" AC	959,000	N/A	23,500	4,300	18.30%	19,200	12.80
15+00	38+00	9.0" AC	851,179	N/A	20,300	3,200	15.76%	17,100	11.40
38+00	53+01	4.0" AC / 6.0" Limerock	701,000	107,900	27,900	3,200	11.47%	24,700	16.47
<i>Runway 4-22, Side</i>									
0+00	15+00	8.0" AC	733,000	N/A	21,700	3,850	17.74%	17,850	11.90
15+00	38+00	9.0" AC	628,000	N/A	20,100	3,350	16.67%	16,750	11.17
38+00	53+01	4.0" AC / 6.0" Limerock	548,000	94,900	29,200	4,200	14.38%	25,000	16.67

Table 3-2 Runway 9-27 Back-Calculation Summary

NDT Station, feet		Evaluation	Elastic Modulus (E), psi		Subgrade, k-value, psi/inch			
From	To	Structure	PCC	Base	Subgrade	Std. Dev.	CV	Design
<i>Runway 9-27, 0+00 at Runway 9 End, Keel</i>								
0+00	8+50	11" PCC / 3.0" AC	7,983,000	559,000	260	35	13.46%	225
8+50	29+00	6.0" PCC / 6.0" AC	6,888,000	482,000	390	45	11.54%	345
29+00	47+00	6.0" PCC / 6.0" AC	7,580,000	530,000	425	75	17.65%	350
47+00	50+00	11" PCC / 3.0" AC	7,298,000	510,000	220	30	13.64%	190
<i>Runway 9-27, Side</i>								
0+00	8+50	11" PCC / 3.0" AC	7,983,000	559,000	260	35	13.46%	225
8+50	29+00	6.0" PCC / 6.0" AC	6,888,000	482,000	390	45	11.54%	345
29+00	47+00	6.0" PCC / 6.0" AC	7,580,000	530,000	425	75	17.65%	350
47+00	50+00	11" PCC / 3.0" AC	7,298,000	510,000	220	30	13.64%	190

Table 3-3 Runway 13-31 Back-Calculation Summary

NDT Station, feet		Evaluation	Elastic Modulus (E), psi			Subgrade, E		Design Subgrade	
From	To	Structure	AC	Base	Subgrade	Std. Dev.	CV	E, psi	CBR, %
<i>Runway 13-31, 0+00 at Runway 13 End, Keel</i>									
0+00	24+00	2.0" AC / 5.5" Sand Asphalt	585,000	128,400	15,200	2,500	16.45%	12,700	8.47
24+00	38+00	3.0" AC / 6.0" Sand Asphalt	551,000	151,000	16,300	2,600	15.95%	13,700	9.13
38+00	51+52	5.0" AC / 6.0" Limerock	681,262	58,000	19,000	3,200	16.84%	15,800	10.53
<i>Runway 13-31, Side</i>									
0+00	24+00	2.0" AC / 5.5" Sand Asphalt	501,000	121,800	14,700	2,850	19.39%	11,850	7.90
24+00	38+00	3.0" AC / 6.0" Sand Asphalt	562,000	185,400	15,600	3,050	19.55%	12,550	8.37
38+00	51+52	5.0" AC / 6.0" Limerock	790,000	60,500	17,900	1,800	10.06%	16,100	10.73

3.4 Standard Section for Evaluation

For PCN evaluation, the weakest sections should generally be used to limit the pavement strength. Since full aircraft loadings occur at both runway ends, the first 1,000 feet of pavement at the runway ends are required to have the full pavement strength. Therefore, the weakest section can be selected from this area for PCN evaluation. For comparison purposes the middle portion of the runway may also be evaluated, especially for runways with displaced thresholds.

Based on guidance contained within the Advisory Circular, the existing AC pavements should be converted to a standard section composed of the AC surface, aggregate base, and subbase. The AC and aggregate base thicknesses for a standard section are 3 inches and 6 inches for single-wheel and dual-wheel aircraft, respectively. If the fleet mix includes aircraft with four or more wheels on the main gear, the standard AC is 5 inches and the aggregate base thickness is 8 inches. All remaining materials should be converted to subbase.

Based on the aircraft traffic discussed in Section 4.0, the standard section with 3 inches of AC and 6 inches of base is considered for all runways in this evaluation.

To convert the existing layer thicknesses to a standard section, the layer equivalency factor ranges in the Advisory Circular were applied. For example, one inch of AC material may be equivalent to 1.2 to 1.6 inches of aggregate base. For the existing pavement evaluation factors in the upper side of the range were considered, based on consistent and competent layer properties from the back-calculations. The CBR values used for the PCN computation for various runway pavement sections are summarized in Table 3-4.

Based on guidance contained within the Advisory Circular, the PCC pavement is characterized as the PCC surface on an effective subgrade support system. This requires correlating subgrade k -value to the bottom of the PCC slab based on the subbase material types and thicknesses. The effective subgrade k -values were estimated using FAA's procedures in the Advisory Circular and were shown in Table 3-5.

The flexural strength of the PCC is another important factor for PCN evaluation. For existing concrete pavement, flexural strength is generally greater than the value specified for construction. Typical flexural strength for existing concrete is generally greater than 700 psi and for this evaluation, the flexural strength of 750 is considered for all PCC sections.

Table 3-4 Pavement Structures for Runway 4-22 and Runway 13-31 PCN Evaluation

NDT Station, feet		Evaluation	Evaluation	Subgrade
From	To	Structure	Thickness, inches	CBR, %
<i>Runway 4-22, 0+00 at Runway 4 End</i>				
0+00	15+00	8.0" AC	12.0	12.80
15+00	38+00	9.0" AC	14.0	11.40
38+00	53+01	4.0" AC / 6.0" Limerock	11.2	15.00
<i>Runway 13-31, 0+00 at Runway 13 End</i>				
0+00	24+00	2.0" AC / 5.5" Sand Asphalt	7.3	8.47
24+00	38+00	3.0" AC / 6.0" Sand Asphalt	9.0	9.13
38+00	51+52	5.0" AC / 6.0" Limerock	12.9	10.53

Table 3-5 Pavement Structures for Runway 9-27 PCN Evaluation

NDT Station, feet		Evaluation	PCC Flexural	Effective Subgrade
From	To	Structure	Strength, psi	k-value, psi/inch
<i>Runway 9-27, 0+00 at Runway 9 End</i>				
0+00	8+50	11" PCC / 3.0" AC	750	225
8+50	29+00	6.0" PCC / 6.0" AC	750	345
29+00	47+00	6.0" PCC / 6.0" AC	750	350
47+00	50+00	11" PCC / 3.0" AC	750	190

SECTION 4.0 EVALUATION TRAFFIC

According to the airport, total aircraft operations in the past year were approximately 177,485. Assuming equal departures and arrivals, the annual departures are 88,742.

Runway 9-27 appears to be the primary runway due to its length and configuration, so 50% of the departure traffic was assumed for Runway 9-27. Also, based on information provided by the airport, all heavier aircraft operations were assumed to use Runway 9-27 or Runway 4-22. Detailed air traffic information found on www.airnav.com and www.flightaware.com was used to develop the evaluation traffic. The traffic distribution data is shown in Table 4-1. Prior to evaluation, the traffic information data in terms of aircraft type, frequency, and departure weight was verified with the airport.

The ACN values for the aircraft are also provided in Table 4-1 for a flexible pavement structure with subgrade strength category “A” and “B,” and for a rigid pavement structure with subgrade strength category “B” and “C.” The US Army Engineer Research and Development Center developed an online tool, available at <https://transportation.erd.c.dren.mil/acnpcn/>, which quickly computes the ACN of most commercial and military aircraft.

Table 4-1 Pavement Evaluation Traffic

Aircraft	Departure	Forecast Operations		Annual Departures	RW 9-27	RW 4-22	RW 13-31	ACN			
	Weight,lbs.	Daily	Annual					F/A	F/B	R/B	R/C
SnglWhl-5	7,000	162	59,130	29,565	14,783	11,826	2,957	2	3	4	4
SnglWhl-10	10,000	26	9,490	4,745	2,373	1,898	475	4	5	6	6
SnglWhl-15	15,000	26	9,490	4,745	2,373	1,898	475	3	4	4	4
Dual Wheel-20	20,000	36	13,140	6,570	3,285	2,628	657	3	4	5	5
Dual Wheel-30	30,000	26	9,490	712	356	285	71	6	7	8	8
Citation X	36,000	4	1,424	712	356	356	0	10	11	12	13
Challenger 600	48,200	4	1,424	712	356	356	0	12	12	14	15
Gulfstream IV	73,200	4	1,424	712	427	427	0	22	24	26	27
Gulfstream V	90,500	--	86	43	26	26	0	26	28	31	32
Total		288	105,098	48,516	24,334	19,700	4,634				

SECTION 5.0 EVALUATION RESULTS

For PCN evaluation, the combined traffic is converted to the equivalent traffic of a critical aircraft. This is necessary since the procedure used to calculate an ACN allows only one aircraft at a time. By combining all of the aircraft in the traffic mix into an equivalent critical aircraft, it becomes possible to calculate a PCN that includes the effects of all traffic. Once a critical aircraft is determined, all other aircraft are converted to the selected aircraft. Based on Advisory Circular 150/5335-5C, the highest ACN can generally be considered for reporting pavement strength. The computations can be performed using the computer software COMFAA, developed by the FAA.

To obtain the critical aircraft allowable weight, the cumulative damage factor (CDF) concept is adopted in the Advisory Circular. The sum of the CDF from all aircraft in the fleet mix indicates whether the pavement can support the evaluated traffic during a 20-year life span. If the CDF is less than or equal to one, the existing pavement is considered structurally adequate. Otherwise, the existing pavement may not have adequate strength.

However, using the total CDF from the COMFAA evaluations can sometimes yield different results and conclusions from the current design and evaluation procedures prescribed in FAA's Advisory Circular 150/5320-6F, "Airport Pavement Design and Evaluation." The computer software FAARFIELD can be used for the computations, following Advisory Circular 150/5320-6F procedures. Although Advisory Circular 150/5320-6F also uses the CDF concept to evaluate existing pavement's structural capability, the total CDF from the fleet mix is different from the total CDF obtained from the COMFAA program. While COMFAA evaluates a standard pavement section to compute the CDF, FAARFIELD evaluates the actual in-situ pavement structure. This difference in evaluation procedures can result in different CDF values. Therefore, it is necessary to perform evaluation using Advisory Circular 150/5320-6F and the FAARFIELD program methods to cross-check the COMFAA results, and to select a reasonable PCN from the COMFAA evaluation.

The structural conditions of Runway 4-22, Runway 9-27, and Runway 13-31 were evaluated using FAARFIELD. The remaining structural life was also estimated. From a pavement maintenance point of view, if the remaining life is greater than 10 years, the existing structure is considered structurally adequate. In that case, structural strengthening may not be necessary in the near-term. Otherwise, strengthening may be considered to prolong the life of the pavement based upon aircraft use.

5.1 Analysis of Computation Results

Runway 4-22

As discussed in Section 3.0, three pavement sections were evaluated for Runway 4-22 using FAARFIELD. The computations indicate that Runway 4-22 is structurally adequate for the evaluation traffic.

COMFAA computations provided a total CDF value lower than 1 for the evaluation section. The PCN for the Gulfstream-IV aircraft was selected as the controlling PCN.

The PCNs for the three analyzed sections are shown in Table 5-1. COMFAA computation outputs are included in Appendix B.

Table 5-1 Runway 4-22 PCN Results

NDT Station, feet		Evaluation	Evaluation	Subgrade	PCN
From	To	Structure	Thickness, inches	CBR, %	
Runway 4-22, 0+00 at Runway 4 End					
0+00	15+00	8.0" AC	12.0	12.80	24/F/B/W/T
15+00	38+00	9.0" AC	14.0	11.40	27/F/B/W/T
38+00	53+01	4.0" AC / 6.0" Limerock	11.2	15.00	24/F/A/X/T

As discussed before, runway strength is generally represented by the weakest pavement section at the two runway ends due to departure aircraft weights. Therefore, the PCN for Runway 4-22 is:

$$\text{PCN} = 24/\text{F}/\text{B}/\text{W}/\text{T}.$$

Runway 9-27

As discussed in Section 3.0, four pavement sections were evaluated for Runway 9-27 using FAARFIELD. The computations indicate that Runway 9-27 is structurally adequate for the evaluation traffic.

COMFAA computations provided a total CDF value lower than 1 for the evaluation traffic. The PCN for the Gulfstream G-IV aircraft was selected as the controlling PCN.

The PCNs for the four analyzed sections are shown in Table 5-2. COMFAA computation outputs are included in Appendix B.

Table 5-2 Runway 9-27 PCN Results

NDT Station, feet		Evaluation	PCC Flexural	Effective Subgrade	PCN
From	To	Structure	Strength, psi	k-value, psi/inch	
Runway 9-27, 0+00 at Runway 27 End					
0+00	8+50	11" PCC / 3.0" AC	750	225	42/R/B/W/T
8+50	29+00	6.0" PCC / 6.0" AC	750	345	29/R/B/W/T
29+00	47+00	6.0" PCC / 6.0" AC	750	350	29/R/B/W/T
47+00	50+00	11" PCC / 3.0" AC	750	190	41/R/C/W/T

As discussed earlier, runway strength is generally represented by the weakest pavement section at the two runway ends due to departure aircraft weights. The first 1,000 feet of pavement at the runway ends are required to have the full pavement strength, and the lowest PCN should usually be selected from the first 1,000 feet. However, the Runway 9 end has a higher PCN and is only 300 feet long. As a result, a 700-ft segment of the middle section, the weakest section, was selected for the reporting PCN for Runway 9-27. Therefore, the PCN for Runway 9-27 is:

$$\text{PCN} = 29/\text{R}/\text{B}/\text{W}/\text{T}.$$

Runway 13-31

For Runway 13-31, three pavement sections were evaluated using FAARFIELD. The computations indicate that Section 1 of Runway 13-31, from Station 0+00 to 24+00, is structurally inadequate for the current annual departures. The take-off weights of Dual Wheel-30 aircraft impact the structural life. It is recommended that the Section 1 AC pavement be rehabilitated with thicker pavement sections.

For Section 1, the COMFAA computations provided a total CDF value of much higher than 1 for the evaluation traffic, which indicates that the AC section is structurally inadequate, consistent with the FAARFIELD results. The PCN for the Dual Wheel-30 aircraft was selected as the controlling PCN.

The PCNs for the three analyzed sections are shown in Table 5-3. COMFAA computation outputs are included in Appendix B.

Table 5-3 Runway 13-31 PCN Results

NDT Station, feet		Evaluation	Evaluation	Subgrade	PCN
From	To	Structure	Thickness, inches	CBR, %	
Runway 13-31, 0+00 at Runway 13 End					
0+00	24+00	2.0" AC / 5.5" Sand Asphalt	7.3	8.47	5/F/B/Y/T
24+00	38+00	3.0" AC / 6.0" Sand Asphalt	9.0	9.13	10/F/B/Y/T
38+00	51+52	5.0" AC / 6.0" Limerock	12.9	10.53	27/F/B/X/T

As discussed before, runway strength is generally represented by the weakest pavement section at the two runway ends due to departure aircraft weights. Therefore, the PCN for Runway 13-31 is:

$$\text{PCN} = 5/\text{F}/\text{B}/\text{Y}/\text{T}.$$

5.2 Runway Strength Reporting

Based on the discussions above, the PCNs and allowable gross weights for standard gear configurations, for Runway 4-22, Runway 9-27, and Runway 13-31 at FHB, can be reported as shown in Table 5-4. This information should be published in the FAA's Form 5010, "Airport Master Record."

Table 5-4 PCN and Allowable Load Results (in kips)

Form 5010 Reporting Field	Runway 4-22	Runway 9-27	Runway 13-31
#35 S Gear	66	80	18
#36 D Gear	94	102	n/a
#37 DT Gear	n/a	n/a	n/a
#38 DDT Gear	n/a	n/a	n/a
#39 PCN	*24/F/B/W/T	*29/R/B/W/T	*5/F/B/Y/T

*PCN Reporting Format: PCN# / Pavement Type / Subgrade Category / Allowable Tire Pressure / Determination Method

SECTION 6.0 GUIDANCE FOR UTILIZING PCN RESULTS

Generally, the ACN-PCN system can be used by an airport to determine aircraft operational requests. When the ACN of an aircraft in question is equal to or less than the pavement's PCN, that aircraft can be allowed to use the facility without limitations.

During the lifetime of a pavement, the assigned PCN may be exceeded from occasional overweight aircraft use. For flexible pavements, occasional use by aircraft with ACN not exceeding 10% of the PCN may be allowed and 5% for PCC pavements. According to FAA Advisory Circular 150/5335-5C, the total annual occasional use should not exceed 5% of the total annual aircraft operations. This may be equated to 500 total coverages. Depending on the aircraft in question, the 500 coverages may be equated to approximately 100 annual departures of dual-wheel aircraft. However, normally overloaded aircraft should not be allowed if the pavements have already exhibited signs of distress, or if it is suspected that the subgrade is weakened by water.

For Runway 4-22, occasional use of aircraft with ACNs greater than 24 but less than 26 (1.1×24) may be allowed. Light aircraft, as considered in the PCN evaluations, may be allowed to operate without restrictions.

For Runway 9-27, occasional use of aircraft with ACNs greater than 29 but less than 31 (1.05×29) may be allowed. Light aircraft, as considered in the PCN evaluations, may be allowed to operate without restrictions.

For Runway 13-31, occasional use of aircraft with ACNs greater than 5 but less than 6 (1.1×5) may be allowed. Light aircraft, as considered in the PCN evaluations, may be allowed to operate without restrictions.

As the sensitivity analysis indicates, the evaluated traffic and pavement structures can have a great impact on the computed PCN. Reevaluation should be performed if there are significant changes in pavement structures due to rehabilitation, aircraft fleet mix changes, or runway usage changes.

APPENDIX A NONDESTRUCTIVE TESTING DATA

Fernandina Beach Municipal Airport

Runway 4-22

NDT Field Data

NDT	Lane	NDT Station	Force	Displacement Sensors (mils)								Pvmnt	ISM	Remark
No.	No.	Distance	Offset	(kip)	d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")	Temp (F)	(kip/in)	
<i>0+00 at Runway 4 end</i>														
1	1	25	43' L	25	19.18	16.82	14.83	10.50	7.89	5.78	4.35	80.7	1,304	
2	1	226	43' L	25	20.95	19.29	17.17	11.97	8.36	5.81	4.56	83.4	1,193	
3	1	425	43' L	25	15.49	14.15	12.46	8.92	6.38	4.39	3.34	83.4	1,614	
4	1	626	43' L	25	16.70	14.75	13.45	9.65	7.04	4.79	3.67	82.7	1,497	
5	1	827	43' L	25	18.93	16.97	14.60	9.20	6.05	4.22	3.24	82.1	1,321	
6	1	1027	43' L	25	14.06	12.35	10.95	7.63	5.31	3.72	2.87	81.1	1,778	
7	1	1225	43' L	25	19.73	16.96	16.14	10.61	7.24	4.80	3.62	83.7	1,267	
8	1	1425	43' L	25	23.48	20.01	17.95	11.73	7.52	4.88	3.68	82.1	1,065	
9	1	1625	43' L	25	23.03	20.28	18.08	11.86	7.83	5.18	3.88	83.1	1,086	
10	1	1826	43' L	25	23.56	19.98	18.29	11.69	7.33	4.67	3.64	83.7	1,061	
11	1	2026	43' L	25	13.51	11.79	10.96	7.96	5.81	4.13	3.05	83.4	1,850	
12	1	2225	43' L	25	19.06	17.39	16.18	12.19	9.08	6.37	4.68	82.1	1,312	
13	1	2425	43' L	25	19.24	17.31	15.71	11.71	8.38	5.61	3.99	84.7	1,299	
14	1	2624	43' L	25	16.21	13.83	12.78	9.07	6.34	4.23	3.09	83.1	1,542	
15	1	2830	43' L	25	18.34	16.52	14.90	10.93	7.98	5.62	4.16	84.4	1,363	
16	1	3025	43' L	25	22.57	20.15	17.60	12.38	8.69	5.94	4.18	85.7	1,108	
17	1	3225	43' L	25	26.16	20.72	19.64	13.63	9.36	6.18	4.35	84.0	956	
18	1	3424	43' L	25	20.17	17.12	14.92	9.78	6.56	4.35	3.15	84.4	1,240	
19	1	3625	43' L	25	31.28	26.33	22.65	14.33	9.11	5.78	3.98	85.0	799	
20	1	3826	43' L	25	27.57	21.52	17.73	8.90	5.18	3.48	2.80	83.4	907	
21	1	4026	43' L	25	26.39	20.23	17.18	9.08	5.39	3.58	2.77	85.0	947	
22	1	4226	43' L	25	16.53	11.65	8.92	5.03	3.67	2.76	2.36	86.0	1,513	
23	1	4429	43' L	25	7.15	6.70	6.41	5.47	4.46	3.61	3.32	85.0	3,499	
24	1	4626	43' L	25	23.16	17.84	14.25	7.35	4.56	3.17	2.45	86.0	1,079	
25	1	4827	43' L	25	24.44	19.58	15.29	7.47	4.35	3.07	2.49	83.7	1,023	
26	1	5026	43' L	25	22.26	17.35	14.16	7.38	4.44	2.98	2.43	85.7	1,123	
27	1	5226	43' L	25	26.64	18.45	15.31	7.52	4.53	3.23	2.50	84.7	939	
28	1	5288	43' L	25	30.26	23.46	19.16	9.47	5.80	3.97	3.23	87.0	826	
29	2	51	8' L	25	12.22	10.32	9.50	7.87	6.26	4.90	3.90	81.4	2,046	
30	2	151	8' L	25	12.30	10.57	9.43	7.17	5.52	4.23	3.53	80.7	2,033	
31	2	251	8' L	25	13.94	12.20	10.79	8.03	6.09	4.51	3.57	86.0	1,793	
32	2	354	8' L	25	15.19	13.85	12.58	9.36	6.98	4.98	4.05	85.7	1,646	
33	2	451	8' L	25	17.10	15.73	14.44	10.76	7.78	5.49	4.35	85.0	1,462	
34	2	551	8' L	25	16.18	14.66	13.59	9.84	7.08	4.94	3.74	84.0	1,545	
35	2	652	8' L	25	16.24	14.41	13.08	9.71	7.18	5.09	3.92	84.7	1,540	
36	2	750	8' L	25	14.43	12.87	11.81	8.84	6.43	4.64	3.60	84.7	1,733	
37	2	851	8' L	25	13.36	11.72	10.91	7.84	5.73	4.06	3.18	86.0	1,871	
38	2	950	8' L	25	12.51	10.88	9.98	7.27	5.32	3.81	3.03	86.4	1,998	
39	2	1052	8' L	25	12.52	10.98	9.90	7.21	5.35	3.85	2.97	85.7	1,997	
40	2	1151	8' L	25	15.32	13.52	12.07	8.97	6.58	4.68	3.46	85.7	1,632	
41	2	1251	8' L	25	17.49	15.08	13.77	9.36	6.53	4.57	3.47	84.0	1,429	
42	2	1351	8' L	25	16.51	14.93	13.56	9.89	7.06	4.91	3.78	85.4	1,514	
43	2	1453	8' L	25	20.77	18.36	16.23	10.06	6.37	4.26	3.41	85.0	1,204	
44	2	1550	8' L	25	21.28	19.01	16.47	10.59	6.85	4.49	3.41	85.4	1,175	
45	2	1651	8' L	25	24.38	21.81	18.65	12.44	8.19	5.63	4.35	85.4	1,025	
46	2	1751	8' L	25	17.89	16.50	14.80	10.99	8.15	5.84	4.42	84.7	1,397	
47	2	1850	8' L	25	16.50	14.91	13.44	10.02	7.59	5.34	4.01	85.7	1,515	

Fernandina Beach Municipal Airport

Runway 4-22

NDT Field Data

NDT No.	Lane No.	NDT Station		Force (kip)	Displacement Sensors (mils)							Pvmnt	ISM	Remark
		Distance	Offset		d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")	Temp (F)	(kip/in)	
0+00 at Runway 4 end														
48	2	1950	8' L	25	13.96	12.14	11.01	8.18	6.07	4.31	3.52	86.0	1,791	
49	2	2051	8' L	25	13.54	11.84	10.84	8.07	6.08	4.34	3.27	86.0	1,846	
50	2	2150	8' L	25	16.97	15.39	13.71	9.70	6.84	4.69	3.63	86.0	1,473	
51	2	2251	8' L	25	22.77	20.88	18.92	13.98	9.98	6.94	4.72	86.4	1,098	
52	2	2351	8' L	25	20.02	17.99	16.41	12.51	9.30	6.67	5.01	86.7	1,249	
53	2	2451	8' L	25	21.79	19.38	17.22	12.43	9.15	6.51	4.98	86.4	1,147	
54	2	2551	8' L	25	17.40	15.59	14.18	10.81	8.04	5.81	4.26	87.0	1,437	
55	2	2650	8' L	25	20.49	17.93	15.70	10.48	7.09	4.79	3.40	86.0	1,220	
56	2	2751	8' L	25	15.09	13.32	12.24	9.28	7.02	4.96	3.75	86.0	1,656	
57	2	2852	8' L	25	15.64	14.39	13.16	10.11	7.77	5.59	4.15	85.4	1,599	
58	2	2952	8' L	25	16.65	15.01	13.75	10.38	7.65	5.44	4.04	85.4	1,502	
59	2	3051	8' L	25	16.81	15.23	13.95	10.80	8.18	5.81	4.29	85.7	1,487	
60	2	3151	8' L	25	18.28	16.58	15.33	11.66	8.77	6.28	4.73	87.0	1,367	
61	2	3252	8' L	25	18.25	17.05	15.73	11.88	8.96	6.40	4.65	87.3	1,370	
62	2	3352	8' L	25	17.20	15.74	14.29	10.76	7.74	5.40	3.92	88.3	1,453	
63	2	3450	8' L	25	19.66	17.59	15.93	11.42	8.03	5.41	3.75	88.0	1,271	
64	2	3552	8' L	25	19.22	17.77	16.25	11.76	8.39	5.79	4.13	87.0	1,301	
65	2	3651	8' L	25	21.47	19.32	18.12	12.74	9.10	6.10	4.37	87.7	1,165	
66	2	3750	8' L	25	19.15	17.08	15.31	11.21	8.16	5.77	4.12	87.7	1,305	
67	2	3851	8' L	25	23.35	18.49	15.57	8.97	5.71	3.91	3.04	88.3	1,071	
68	2	3950	8' L	25	26.10	20.87	17.12	9.32	5.71	3.86	2.93	89.0	958	
69	2	4050	8' L	25	24.63	20.30	16.60	9.24	5.74	3.93	3.07	89.0	1,015	
70	2	4153	8' L	25	30.01	22.55	18.62	10.06	6.20	4.31	3.36	90.0	833	
71	2	4252	8' L	25	26.27	20.61	18.07	10.31	6.72	4.76	3.70	88.7	952	
72	2	4351	8' L	25	21.11	16.95	14.18	8.10	5.29	3.69	2.90	90.3	1,184	
73	2	4451	8' L	25	8.02	7.56	7.26	6.00	4.97	3.99	3.29	88.3	3,118	
74	2	4551	8' L	25	21.77	16.93	13.54	7.73	5.14	3.67	2.80	90.3	1,148	
75	2	4652	8' L	25	21.93	17.21	14.33	7.86	4.96	3.42	2.70	87.0	1,140	
76	2	4752	8' L	25	21.48	16.56	13.61	7.47	4.79	3.41	2.71	87.0	1,164	
77	2	4853	8' L	25	22.98	18.18	14.48	7.54	4.79	3.41	2.78	89.6	1,088	
78	2	4951	8' L	25	23.36	18.38	14.92	7.61	4.65	3.24	2.64	90.6	1,070	
79	2	5052	8' L	25	35.85	15.80	12.78	6.70	4.27	3.05	2.42	91.0	697	
80	2	5151	8' L	25	22.33	17.62	14.14	7.25	4.67	3.28	2.71	89.3	1,120	
81	2	5250	8' L	25	26.92	22.09	17.77	9.39	5.57	3.83	2.95	89.3	929	
82	2	5292	8' L	25	28.86	22.51	18.24	9.85	5.89	4.18	3.28	89.6	866	
83	3	101	8' R	25	14.78	12.49	10.80	7.86	5.77	4.25	3.54	85.4	1,692	
84	3	202	8' R	25	13.85	12.31	11.58	8.58	6.37	4.66	4.06	90.0	1,805	
85	3	302	8' R	25	16.78	14.97	13.39	9.64	7.06	5.12	4.06	89.6	1,490	
86	3	399	8' R	25	19.97	17.70	16.09	11.36	7.93	5.41	4.32	88.7	1,252	
87	3	500	8' R	25	16.74	15.11	13.66	9.89	7.19	5.03	3.95	88.7	1,493	
88	3	600	8' R	25	18.89	17.06	15.55	11.60	8.33	5.86	4.40	89.6	1,324	
89	3	702	8' R	25	17.53	15.75	14.09	10.46	7.55	5.22	3.88	89.3	1,426	
90	3	801	8' R	25	15.94	14.09	12.91	9.44	6.76	4.71	3.55	88.7	1,569	
91	3	901	8' R	25	12.95	11.15	10.11	7.37	5.41	3.85	3.04	90.6	1,931	
92	3	1000	8' R	25	11.87	10.41	9.39	6.92	5.16	3.70	2.95	90.6	2,106	
93	3	1102	8' R	25	17.47	15.88	13.99	9.27	6.37	4.37	3.28	89.3	1,431	
94	3	1200	8' R	25	15.08	13.42	12.21	9.08	6.60	4.67	3.40	88.7	1,657	

Fernandina Beach Municipal Airport

Runway 4-22

NDT Field Data

NDT No.	Lane No.	NDT Station		Force (kip)	Displacement Sensors (mils)							Pvmnt	ISM	Remark
		Distance	Offset		d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")	Temp (F)	(kip/in)	
0+00 at Runway 4 end														
95	3	1300	8' R	25	15.40	13.63	12.35	8.72	6.24	4.33	3.35	91.0	1,624	
96	3	1401	8' R	25	15.78	14.01	12.49	8.94	6.40	4.45	3.46	90.0	1,585	
97	3	1503	8' R	25	21.03	16.84	14.04	7.97	5.11	3.54	2.86	89.3	1,189	
98	3	1600	8' R	25	19.72	17.31	15.81	10.91	7.56	5.06	3.80	88.3	1,268	
99	3	1702	8' R	25	22.48	19.62	17.76	12.11	8.03	5.50	4.24	90.3	1,112	
100	3	1800	8' R	25	15.80	13.82	12.58	9.20	6.69	4.65	3.38	88.3	1,583	
101	3	1903	8' R	25	12.58	11.19	10.29	7.91	5.90	4.20	3.26	89.6	1,987	
102	3	2002	8' R	25	12.56	10.67	9.70	7.22	5.38	3.88	2.99	89.6	1,990	
103	3	2101	8' R	25	12.83	11.27	10.60	7.49	5.63	3.97	2.99	90.6	1,948	
104	3	2200	8' R	25	14.35	12.64	11.36	8.42	6.22	4.46	1.47	90.0	1,742	
105	3	2300	8' R	25	18.74	16.83	15.49	11.34	8.28	5.79	4.18	89.6	1,334	
106	3	2402	8' R	25	18.39	16.59	14.81	10.59	7.70	5.49	4.16	89.6	1,360	
107	3	2500	8' R	25	16.13	14.31	13.60	10.09	7.42	5.22	3.95	90.0	1,550	
108	3	2605	8' R	25	13.76	12.57	11.53	9.07	6.74	4.77	3.50	92.6	1,817	
109	3	2700	8' R	25	20.93	18.04	16.55	11.13	7.62	5.24	3.80	91.0	1,195	
110	3	2802	8' R	25	18.05	15.72	14.65	10.24	6.01	3.60	2.79	91.3	1,385	
111	3	2902	8' R	25	17.44	14.75	13.44	9.44	6.71	4.42	3.16	90.3	1,434	
112	3	3000	8' R	25	10.55	9.52	8.69	6.38	4.66	3.31	2.74	90.6	2,369	
113	3	3100	8' R	25	21.43	18.66	17.00	13.06	9.59	6.74	4.88	91.6	1,166	
114	3	3200	8' R	25	18.90	16.30	15.04	10.82	7.51	5.01	3.70	91.6	1,323	
115	3	3300	8' R	25	21.52	18.25	17.10	11.73	8.03	5.18	3.67	92.0	1,162	
116	3	3400	8' R	25	23.16	18.73	16.93	11.78	7.84	5.07	3.69	92.3	1,079	
117	3	3502	8' R	25	25.44	21.58	19.31	12.73	8.59	5.64	4.15	91.3	983	
118	3	3602	8' R	25	25.39	20.92	18.74	12.54	8.35	5.46	3.91	91.6	985	
119	3	3700	8' R	25	25.06	22.32	20.03	13.85	9.42	6.19	4.35	91.3	998	
120	3	3801	8' R	25	29.49	26.00	22.90	15.24	10.07	6.40	4.07	93.6	848	
121	3	3900	8' R	25	21.94	17.03	13.75	7.63	4.98	3.54	3.00	93.3	1,139	
122	3	4002	8' R	25	22.33	18.02	14.70	8.24	5.26	3.67	2.96	94.6	1,120	
123	3	4101	8' R	25	23.53	19.29	15.54	8.87	5.74	4.12	3.36	93.6	1,063	
124	3	4202	8' R	25	23.35	18.99	15.67	9.42	6.25	4.41	3.55	95.3	1,071	
125	3	4301	8' R	25	21.41	17.32	14.11	8.28	5.64	3.92	3.13	95.3	1,168	
126	3	4407	8' R	25	10.30	9.31	8.69	6.72	5.17	3.80	3.17	91.6	2,427	
127	3	4501	8' R	25	8.89	8.77	8.60	6.93	5.42	4.13	3.38	90.3	2,812	
128	3	4602	8' R	25	25.40	18.91	14.80	8.22	5.43	3.76	2.94	89.6	984	
129	3	4703	8' R	25	24.31	19.28	15.58	8.56	5.28	3.55	2.68	91.6	1,029	
130	3	4804	8' R	25	26.76	22.14	17.77	9.48	5.65	3.81	3.06	91.6	934	
131	3	4901	8' R	25	27.44	22.34	18.12	9.18	5.30	3.67	3.07	92.6	911	
132	3	5002	8' R	25	29.96	19.09	15.26	7.80	4.84	3.31	2.71	95.3	834	
133	3	5100	8' R	25	25.61	21.13	16.61	8.50	5.06	3.42	2.71	95.9	976	
134	3	5200	8' R	25	31.05	26.33	20.47	10.60	6.10	4.05	3.27	96.2	805	
135	3	5293	8' R	25	33.83	27.07	21.17	10.51	6.05	4.05	3.71	95.6	739	
136	4	75	43' R	25	21.29	19.34	17.35	12.43	8.90	6.23	4.73	92.0	1,174	
137	4	277	43' R	25	24.13	20.87	17.73	11.43	7.49	4.87	3.70	92.9	1,036	
138	4	476	43' R	25	31.01	27.19	23.63	15.78	10.52	6.86	4.88	93.3	806	
139	4	677	43' R	25	24.20	21.57	19.78	13.16	8.92	5.80	4.24	93.3	1,033	
140	4	876	43' R	25	20.41	17.61	15.29	10.01	6.54	4.40	3.26	93.6	1,225	
141	4	1076	43' R	25	17.65	15.16	13.21	8.82	5.93	3.81	2.82	92.0	1,417	

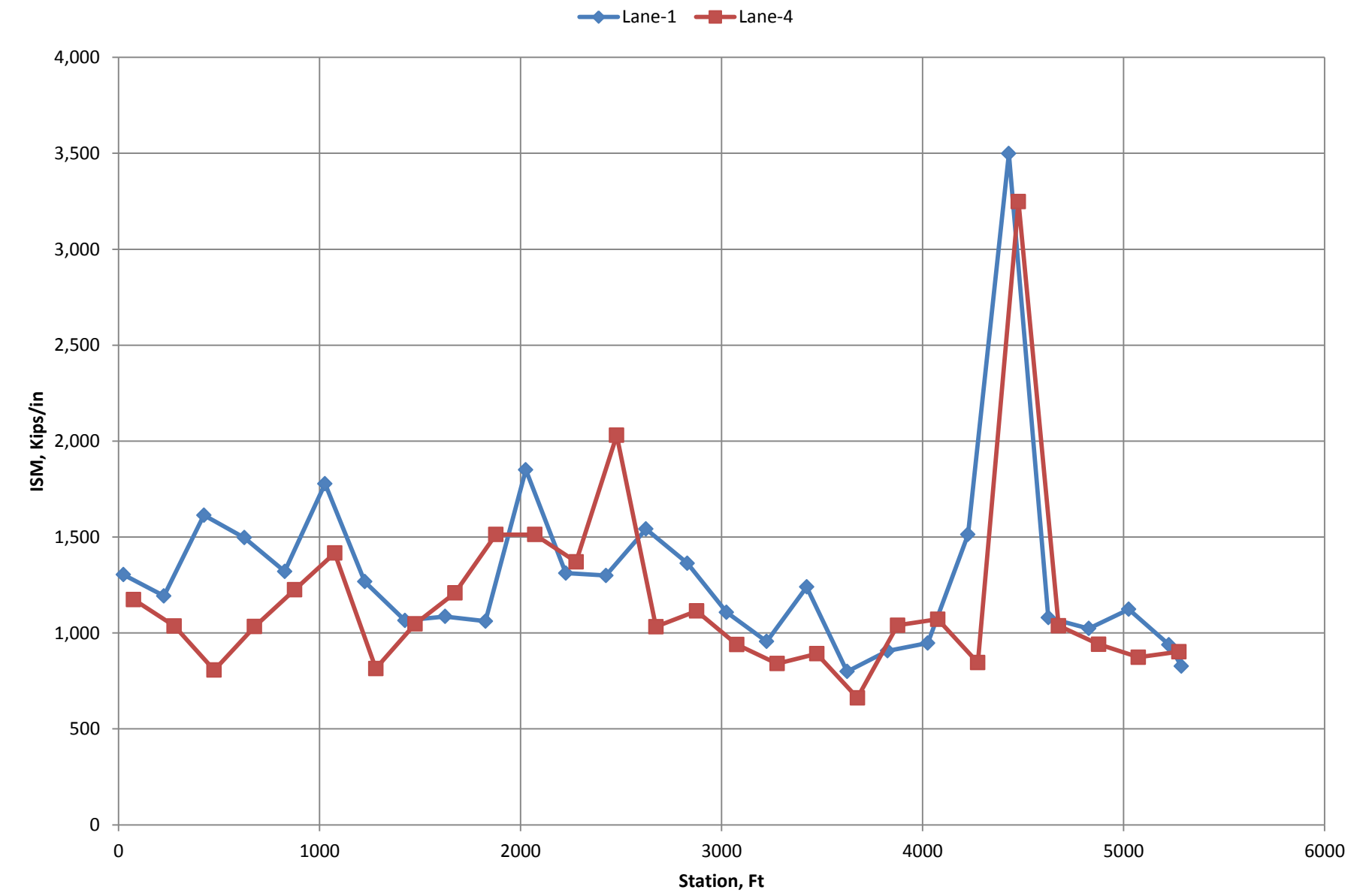
Fernandina Beach Municipal Airport

Runway 4-22

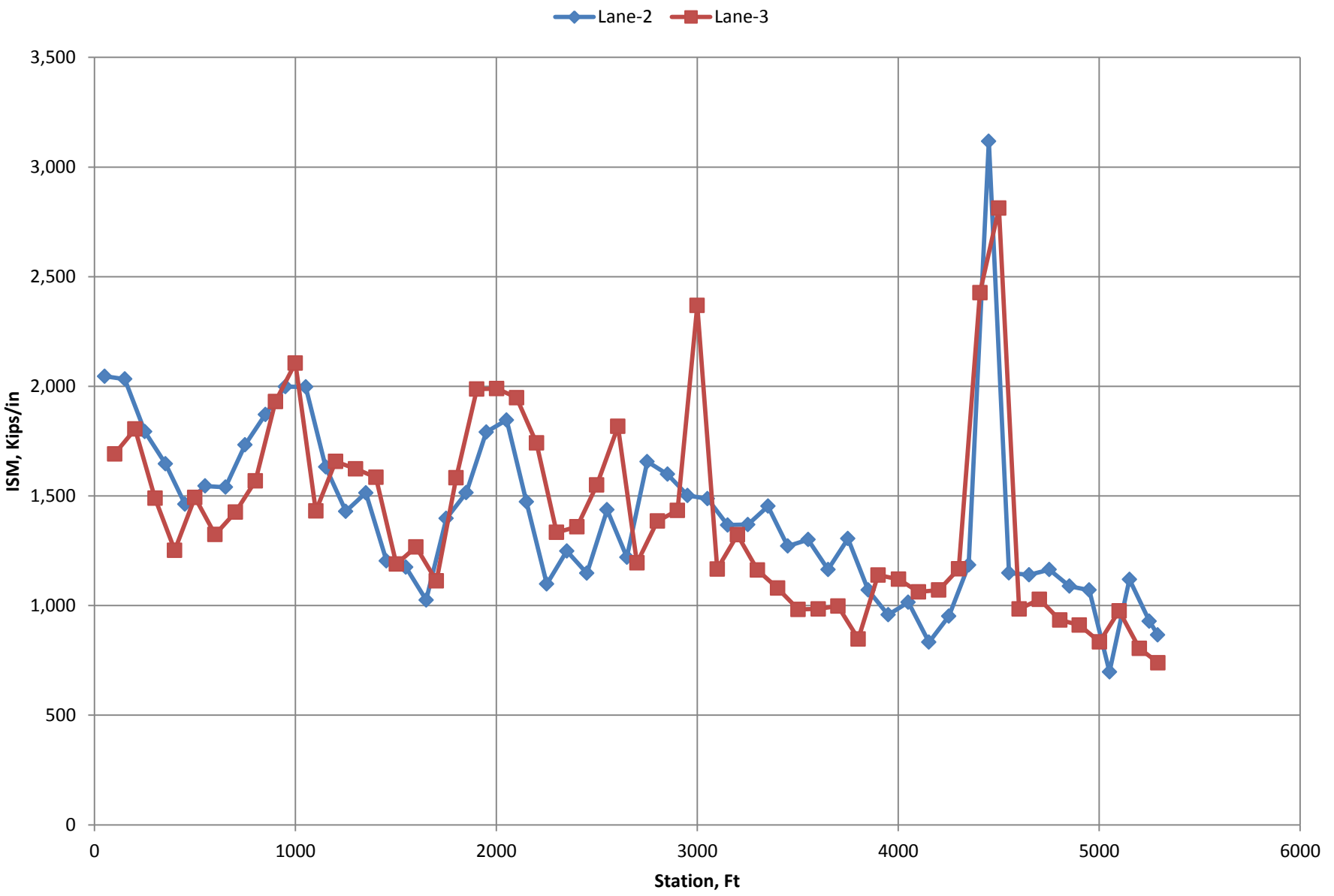
NDT Field Data

NDT No.	Lane No.	NDT Station Distance	Offset	Force (kip)	Displacement Sensors (mils)							Pvmnt Temp (F)	ISM (kip/in)	Remark
					d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")			
<i>0+00 at Runway 4 end</i>														
142	4	1280	43' R	25	30.70	24.18	20.57	12.60	8.10	5.03	3.63	93.3	814	
143	4	1475	43' R	25	23.87	20.69	18.23	11.37	7.42	4.84	3.62	92.9	1,047	
144	4	1674	43' R	25	20.69	18.13	15.80	10.27	6.81	4.52	3.45	93.3	1,208	
145	4	1877	43' R	25	16.52	15.20	13.52	9.70	6.92	4.69	3.41	92.9	1,513	
146	4	2071	43' R	25	16.52	15.20	13.52	9.70	6.92	4.69	3.41	93.3	1,513	
147	4	2277	43' R	25	18.24	15.83	14.08	9.89	6.87	4.67	3.63	93.9	1,371	
148	4	2478	43' R	25	12.31	11.43	10.71	8.01	6.08	4.30	3.22	92.0	2,031	
149	4	2674	43' R	25	24.22	21.48	18.75	11.35	7.38	4.81	3.45	94.3	1,032	
150	4	2876	43' R	25	22.43	19.78	17.25	11.30	7.30	4.66	3.24	94.3	1,114	
151	4	3076	43' R	25	26.60	22.60	20.18	13.30	8.62	5.53	3.95	93.6	940	
152	4	3277	43' R	25	29.75	23.92	22.91	14.63	8.91	5.40	3.70	93.6	840	
153	4	3474	43' R	25	28.05	24.89	22.27	14.64	9.40	5.82	3.91	93.9	891	
154	4	3676	43' R	25	37.77	33.58	29.78	19.27	12.09	7.33	4.98	94.3	662	
155	4	3876	43' R	25	24.03	18.51	15.04	8.05	5.02	3.57	2.78	95.6	1,040	
156	4	4076	43' R	25	23.34	18.71	15.36	8.22	5.15	3.50	2.84	96.6	1,071	
157	4	4275	43' R	25	29.57	22.10	17.28	8.77	5.63	3.95	3.14	96.9	845	
158	4	4477	43' R	25	7.70	7.51	7.27	6.84	4.65	3.62	3.02	93.9	3,248	
159	4	4677	43' R	25	24.10	18.69	15.20	7.66	4.63	3.27	2.62	97.6	1,037	
160	4	4876	43' R	25	26.56	21.35	16.56	7.99	4.77	3.33	2.64	97.2	941	
161	4	5074	43' R	25	28.63	22.16	16.48	7.71	4.50	3.22	2.58	96.6	873	
162	4	5276	43' R	25	27.71	22.59	17.98	9.01	5.13	3.51	2.86	98.2	902	

ISM Plot for Runway 4-22 (Side)



ISM Plot for Runway 4-22 (Keel)



Fernandina Beach Municipal Airport

Runway 9-27

NDT Field Data

NDT	Lane	NDT Station		Force	Displacement Sensors (mils)							Pvmnt	ISM	Remark
No.	No.	Distance	Offset	(kip)	d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")	Temp (F)	(kip/in)	
0+00 at Runway 9 end														
1	1	26	43' L	30	6.82	6.49	6.29	5.60	4.91	3.94	3.55	91.0	4,397	12 by 12 slab
2	1	228	43' L	30	6.26	5.89	5.66	4.98	4.41	3.50	3.02	95.6	4,794	
3	1	420	43' L	30	6.65	6.18	5.99	5.18	4.54	3.89	3.24	96.9	4,512	
4	1	626	43' L	30	6.55	6.08	5.67	4.75	4.06	3.17	2.80	94.9	4,580	
6	1	827	43' L	30	7.01	6.49	6.23	5.30	4.35	3.31	3.10	96.6	4,280	
7	1	1025	43' L	30	11.34	10.71	10.21	8.40	6.68	4.91	4.03	95.3	2,645	5 by 5 slab
8	1	1226	43' L	30	13.63	12.65	12.21	9.64	7.79	3.30	2.92	97.2	2,201	
9	1	1428	43' L	30	13.05	12.04	11.32	8.66	6.51	4.54	3.68	96.9	2,298	
10	1	1625	43' L	30	11.02	10.63	10.34	8.75	7.35	5.69	4.87	99.2	2,722	
11	1	1823	43' L	30	15.25	14.30	13.49	10.35	7.60	4.90	2.98	98.9	1,968	
12	1	2023	43' L	30	14.98	13.74	13.19	10.63	7.88	5.14	3.94	98.2	2,003	
13	1	2224	43' L	30	17.09	15.83	14.67	11.84	9.44	7.11	6.03	98.5	1,756	
14	1	2425	43' L	30	16.44	15.28	14.21	10.99	7.98	5.25	4.20	96.9	1,825	
15	1	2623	43' L	30	17.19	16.00	15.27	12.34	9.42	6.17	4.47	97.9	1,745	
16	1	2824	43' L	30	15.39	15.24	14.50	12.42	10.05	7.15	5.25	97.2	1,949	
17	1	3021	43' L	30	6.87	6.85	6.45	5.52	4.64	3.56	3.12	98.9	4,365	
18	1	3226	43' L	30	8.01	7.49	7.17	6.04	4.99	3.76	3.22	94.9	3,744	
19	1	3423	43' L	30	10.24	9.70	9.42	8.03	6.23	4.39	3.57	99.5	2,929	
20	1	3625	43' L	30	14.84	13.92	13.01	10.60	8.33	5.90	4.70	97.9	2,022	
21	1	3821	43' L	30	15.35	14.43	13.48	10.53	7.68	4.97	3.80	97.6	1,954	
22	1	4026	43' L	30	17.37	17.24	13.25	9.43	6.70	4.20	3.42	97.2	1,727	
23	1	4223	43' L	30	13.27	12.33	11.50	9.50	7.33	5.14	4.01	99.9	2,261	
24	1	4425	43' L	30	15.17	14.05	13.30	10.91	8.63	6.36	5.00	98.5	1,977	
25	1	4626	43' L	30	13.88	12.95	12.12	9.96	8.13	5.53	4.54	98.2	2,161	
26	1	4823	43' L	30	7.40	6.86	6.48	5.61	4.70	3.75	3.09	98.9	4,057	12 by 12 slab
27	1	4975	43' L	30	6.24	6.01	5.73	5.19	4.42	3.66	3.40	97.6	4,809	
28	2	51	6' L	30	6.29	6.14	5.84	5.39	4.79	3.90	3.38	97.2	4,771	12 by 12 slab
29	2	150	6' L	30	7.21	6.88	6.66	5.99	5.25	4.36	3.70	93.9	4,161	
30	2	252	6' L	30	6.95	6.76	6.48	5.88	5.02	4.11	3.41	94.3	4,315	
31	2	352	6' L	30	6.71	6.52	6.43	5.69	5.04	4.17	3.54	95.3	4,473	
32	2	454	6' L	30	7.03	6.78	6.55	5.85	5.07	4.17	3.45	96.6	4,268	
33	2	554	6' L	30	6.40	6.34	5.85	5.31	4.51	3.63	3.07	94.9	4,691	
35	2	654	6' L	30	6.77	6.53	6.24	5.74	4.83	4.00	3.45	98.9	4,431	
36	2	755	6' L	30	6.41	6.19	5.94	5.41	4.60	3.78	3.25	94.9	4,680	
37	2	851	6' L	30	7.06	6.53	6.17	5.05	4.10	3.19	2.64	94.6	4,250	
38	2	947	6' L	30	12.96	12.44	11.91	10.31	8.60	6.69	5.84	99.2	2,314	5 by 5 slab
39	2	1053	6' L	30	11.98	11.65	11.25	9.42	7.67	6.00	4.98	98.5	2,504	
40	2	1148	6' L	30	11.80	11.06	10.66	8.91	7.15	5.36	4.02	99.9	2,542	
41	2	1249	6' L	30	12.68	12.23	11.64	9.99	8.36	6.46	5.06	97.9	2,367	
42	2	1348	6' L	30	12.62	12.35	11.54	9.67	7.95	5.94	4.48	98.2	2,378	
43	2	1448	6' L	30	15.24	14.46	13.78	11.10	8.82	6.57	4.93	98.5	1,969	
44	2	1554	6' L	30	13.71	13.14	12.37	10.38	8.30	6.29	4.86	98.5	2,188	
45	2	1653	6' L	30	12.85	11.27	10.36	8.11	6.22	4.64	3.73	99.5	2,335	
46	2	1750	6' L	30	11.79	11.00	10.45	9.05	7.36	5.76	4.62	99.5	2,545	
47	2	1855	6' L	30	11.77	11.20	10.66	8.73	6.84	4.73	3.17	97.6	2,549	
48	2	1951	6' L	30	12.69	11.85	11.11	8.68	6.36	4.72	3.85	98.2	2,365	
49	2	2054	6' L	30	12.19	11.66	11.35	9.45	7.64	5.85	4.54	98.5	2,461	
50	2	2150	6' L	30	16.53	13.92	12.99	9.37	6.78	4.71	3.65	99.5	1,814	
51	2	2249	6' L	30	14.81	14.18	13.52	11.23	8.87	6.54	4.86	98.5	2,025	

Fernandina Beach Municipal Airport

Runway 9-27

NDT Field Data

NDT No.	Lane No.	NDT Station Distance	Force Offset	Force (kip)	Displacement Sensors (mils)							Pvmnt Temp (F)	ISM (kip/in)	Remark
					d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")			
<i>0+00 at Runway 9 end</i>														
52	2	2348	6' L	30	12.17	11.72	11.02	9.40	7.56	5.81	4.63	98.9	2,464	
53	2	2448	6' L	30	13.19	12.42	11.64	9.97	7.80	5.84	4.77	97.9	2,274	
54	2	2545	6' L	30	15.75	14.97	14.63	12.03	10.29	8.23	7.08	97.6	1,905	
55	2	2651	6' L	30	16.38	15.01	13.90	11.33	9.19	7.04	5.61	99.5	1,832	
56	2	2756	6' L	30	13.84	12.99	12.57	10.37	8.33	6.27	4.95	97.6	2,168	
57	2	2850	6' L	30	12.84	12.07	11.46	10.04	8.30	6.64	5.48	98.2	2,337	
58	2	2951	6' L	30	9.38	8.93	8.40	6.99	6.00	4.65	3.92	97.9	3,199	
59	2	3049	6' L	30	9.99	9.47	8.91	7.61	6.30	4.13	3.51	99.9	3,004	
60	2	3154	6' L	30	9.93	8.96	8.43	6.70	5.62	3.76	3.62	100.5	3,021	
61	2	3253	6' L	30	9.98	9.58	9.15	7.92	6.45	4.81	4.30	100.9	3,005	
62	2	3349	6' L	30	9.76	9.23	8.66	7.44	6.03	4.38	4.04	100.9	3,074	
63	2	3449	6' L	30	11.58	11.34	10.96	9.75	6.82	4.80	4.13	98.9	2,591	
64	2	3550	6' L	30	11.76	11.23	10.92	9.21	7.83	5.74	5.13	99.9	2,552	
65	2	3654	6' L	30	13.50	13.10	12.38	10.41	8.69	6.60	6.08	98.9	2,221	
66	2	3748	6' L	30	13.87	13.32	13.01	10.69	8.87	6.79	5.21	99.5	2,163	
67	2	3853	6' L	30	11.47	10.95	10.43	8.59	6.56	4.92	3.85	99.2	2,617	
68	2	3948	6' L	30	11.50	11.50	11.09	7.96	5.91	4.27	3.57	100.9	2,609	
69	2	4048	6' L	30	14.02	13.80	13.60	7.92	5.97	4.35	3.39	99.5	2,139	
70	2	4148	6' L	30	11.82	11.27	10.58	8.86	7.14	5.45	4.44	98.2	2,538	
71	2	4249	6' L	30	11.91	11.22	10.53	8.38	6.57	5.03	4.19	97.2	2,518	
72	2	4351	6' L	30	11.91	11.76	11.03	9.21	7.74	6.09	4.90	97.6	2,518	
73	2	4449	6' L	30	12.07	11.58	11.00	9.12	7.38	5.81	4.54	100.9	2,485	
74	2	4550	6' L	30	12.72	12.25	11.56	9.80	8.16	6.15	4.99	101.5	2,358	
75	2	4653	6' L	30	11.73	11.29	10.98	8.89	7.25	5.76	4.93	100.9	2,557	
76	2	4753	6' L	30	7.35	7.03	6.72	6.12	5.06	4.24	3.62	101.5	4,080	12 by 12 slab
77	2	4854	6' L	30	7.27	6.98	6.61	5.98	5.11	4.25	3.56	98.2	4,127	
78	2	4954	6' L	30	6.77	6.46	6.23	5.51	4.79	3.97	3.28	99.9	4,429	
79	3	100	6' R	30	6.98	6.78	6.47	5.83	5.11	4.35	3.71	96.6	4,297	12 by 12 slab
80	3	200	6' R	30	7.15	7.10	6.82	6.27	5.33	4.47	4.00	100.9	4,199	
81	3	300	6' R	30	6.73	6.50	6.31	5.65	4.95	4.07	3.47	102.2	4,456	
82	3	401	6' R	30	7.35	7.11	7.02	6.22	5.47	4.51	3.86	100.5	4,084	
83	3	501	6' R	30	6.88	6.66	6.44	5.75	4.94	4.15	3.51	100.9	4,362	
85	3	601	6' R	30	6.95	6.77	6.46	5.91	5.01	4.17	3.60	100.2	4,317	
86	3	702	6' R	30	6.38	6.29	5.95	5.60	4.60	3.87	3.39	100.5	4,699	
87	3	803	6' R	30	5.94	5.75	5.53	5.01	4.32	3.59	3.08	101.2	5,051	
88	3	898	6' R	30	17.35	15.13	13.96	11.04	8.60	6.43	5.22	103.8	1,729	5 by 5 slab
89	3	1001	6' R	30	12.17	11.71	11.31	10.17	6.43	5.06	4.05	102.2	2,466	
90	3	1099	6' R	30	13.67	13.26	12.78	11.24	9.41	7.53	6.08	102.2	2,195	
91	3	1196	6' R	30	13.79	13.64	12.96	11.34	9.28	7.17	5.45	102.5	2,176	
92	3	1299	6' R	30	15.24	14.74	14.40	11.78	9.26	6.69	4.72	101.8	1,969	
93	3	1397	6' R	30	14.32	13.42	12.40	9.70	7.06	5.00	4.24	100.9	2,095	
94	3	1498	6' R	30	13.62	12.78	12.25	10.59	9.01	7.41	6.05	102.5	2,202	
95	3	1602	6' R	30	14.10	13.56	12.78	10.60	8.25	6.04	4.15	102.8	2,128	
96	3	1699	6' R	30	11.00	10.68	9.84	8.49	6.81	5.52	4.44	100.5	2,727	
97	3	1795	6' R	30	12.61	11.84	11.16	9.62	7.98	6.51	5.13	102.8	2,379	
98	3	1900	6' R	30	11.69	11.05	10.28	8.90	7.37	5.82	4.65	100.9	2,567	
99	3	2001	6' R	30	14.80	14.35	13.52	11.34	9.31	7.16	5.31	99.9	2,027	
100	3	2100	6' R	30	13.68	12.84	11.97	9.60	7.50	5.20	3.30	101.2	2,193	
101	3	2202	6' R	30	12.31	12.02	11.13	9.40	6.33	4.82	3.82	102.2	2,437	

Fernandina Beach Municipal Airport

Runway 9-27

NDT Field Data

NDT No.	Lane No.	NDT Station Distance	Force Offset	Force (kip)	Displacement Sensors (mils)							Pvmnt Temp (F)	ISM (kip/in)	Remark
					d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")			
<i>0+00 at Runway 9 end</i>														
102	3	2301	6' R	30	15.25	14.25	13.42	10.71	8.10	5.98	4.10	102.5	1,967	
103	3	2402	6' R	30	13.54	13.07	12.40	10.46	8.48	6.44	5.15	102.2	2,216	
104	3	2500	6' R	30	12.18	12.23	11.76	9.51	7.62	5.78	4.72	103.2	2,462	
105	3	2502	6' R	30	11.38	10.96	10.35	8.80	7.45	5.98	5.66	103.5	2,636	
106	3	2600	6' R	30	11.50	11.31	10.95	9.81	8.47	7.05	6.04	101.5	2,610	
107	3	2700	6' R	30	12.46	12.33	11.88	10.40	7.65	5.64	4.31	102.5	2,407	
108	3	2804	6' R	30	16.22	14.24	13.11	10.24	8.06	5.88	4.65	101.8	1,850	
109	3	2901	6' R	30	9.51	9.35	8.69	7.85	6.79	5.31	4.45	101.8	3,155	
110	3	3001	6' R	30	9.41	9.17	8.66	7.51	6.45	4.56	3.70	103.5	3,187	
111	3	3101	6' R	30	10.29	9.69	8.90	7.12	5.66	4.38	3.58	103.8	2,916	
112	3	3202	6' R	30	10.90	10.59	9.87	8.27	6.70	5.26	4.36	104.2	2,753	
113	3	3300	6' R	30	11.75	11.54	11.27	8.85	7.08	5.34	4.19	102.2	2,552	
114	3	3398	6' R	30	10.77	10.35	9.98	8.88	7.63	6.07	4.76	104.2	2,785	
115	3	3501	6' R	30	12.81	12.58	11.93	10.67	8.58	6.94	5.77	104.5	2,342	
116	3	3599	6' R	30	12.26	11.85	11.23	9.74	8.35	6.63	5.33	104.5	2,448	
117	3	3701	6' R	30	12.59	12.02	11.36	9.59	7.66	6.06	5.07	104.2	2,382	
118	3	3797	6' R	30	15.20	14.80	14.64	11.96	8.63	6.16	4.61	104.2	1,974	
119	3	3897	6' R	30	13.61	13.15	12.51	10.39	8.03	5.91	4.35	105.1	2,204	
120	3	3998	6' R	30	15.45	14.88	14.22	11.92	9.28	6.95	5.09	104.2	1,942	
121	3	4101	6' R	30	15.06	13.96	13.37	10.65	8.34	5.84	4.86	104.2	1,992	
122	3	4200	6' R	30	15.48	15.07	14.14	11.46	9.09	6.79	5.32	100.9	1,939	
123	3	4304	6' R	30	13.54	13.36	12.78	10.80	6.93	5.02	4.00	98.2	2,215	
124	3	4405	6' R	30	14.41	13.91	13.19	11.17	8.97	6.75	5.17	104.8	2,082	
125	3	4501	6' R	30	14.27	14.00	13.42	11.76	9.69	7.23	5.63	104.5	2,102	
126	3	4600	6' R	30	14.55	13.77	12.79	10.29	7.78	5.84	4.83	104.5	2,062	
127	3	4703	6' R	30	17.18	15.46	14.83	11.60	8.72	5.56	3.47	104.2	1,746	
128	3	4803	6' R	30	6.97	6.65	6.28	5.76	4.91	4.08	3.66	104.5	4,302	12 by 12 slab
129	3	4917	6' R	30	7.25	7.01	6.86	6.23	5.27	4.25	3.64	103.8	4,136	
130	3	4974	6' R	30	7.32	6.82	6.48	5.65	4.76	3.91	3.34	103.2	4,096	
131	4	75	42' R	30	6.35	6.12	5.93	5.29	4.75	3.99	3.41	98.9	4,722	12 by 12 slab
132	4	276	42' R	30	7.02	7.00	6.62	6.11	5.43	4.48	3.92	102.8	4,271	
133	4	476	42' R	30	7.48	7.38	7.14	6.64	5.72	4.83	4.15	103.2	4,011	
134	4	678	42' R	30	7.06	6.91	6.70	6.03	5.18	4.30	3.62	101.8	4,251	
136	4	1077	42' R	30	10.56	10.49	10.14	8.72	6.86	5.27	4.27	97.6	2,840	
137	4	1271	42' R	30	14.63	13.46	12.62	9.75	7.02	4.63	3.78	106.8	2,050	
138	4	1473	42' R	30	14.04	13.85	13.27	11.32	9.30	7.18	5.68	107.1	2,137	
139	4	1674	42' R	30	15.33	14.36	13.80	11.15	8.64	6.45	4.82	106.8	1,957	
140	4	1871	42' R	30	13.05	12.78	12.44	11.19	9.24	7.47	6.19	107.4	2,300	
141	4	2070	42' R	30	20.88	18.88	17.50	13.38	9.48	5.86	4.59	106.5	1,437	
142	4	2274	42' R	30	16.37	14.68	13.63	10.89	8.43	6.24	4.92	106.5	1,832	
143	4	2474	42' R	30	14.06	13.04	12.36	9.77	7.34	5.12	4.11	108.1	2,133	
144	4	2677	42' R	30	14.20	13.61	12.83	10.50	8.34	6.20	4.84	105.5	2,113	
145	4	2879	42' R	30	9.37	8.98	8.74	7.87	5.68	4.64	3.96	106.8	3,200	
146	4	3073	42' R	30	11.76	10.83	10.05	7.87	6.25	4.77	4.14	106.8	2,551	
147	4	3271	42' R	30	10.16	9.86	9.58	8.35	7.02	5.58	4.58	100.9	2,952	
148	4	3477	42' R	30	11.75	11.09	11.00	8.67	6.79	5.29	4.35	107.1	2,554	
149	4	3674	42' R	30	16.03	15.79	15.17	11.56	8.56	6.19	4.74	105.5	1,871	
150	4	3872	42' R	30	17.24	15.99	14.81	11.48	8.24	5.19	3.42	107.4	1,741	
151	4	4070	42' R	30	14.85	14.09	13.43	11.15	8.72	6.43	4.85	105.8	2,020	

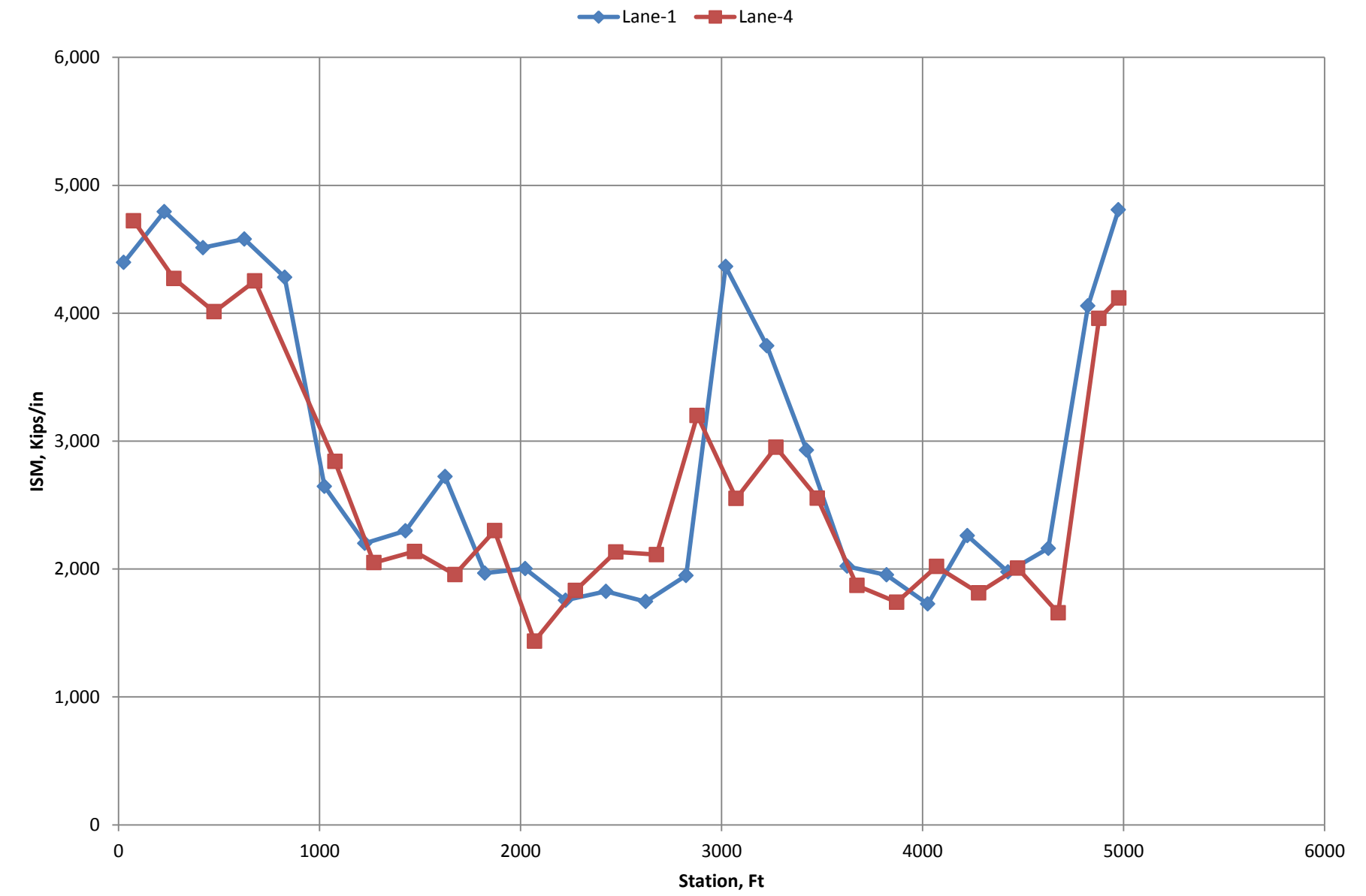
Fernandina Beach Municipal Airport

Runway 9-27

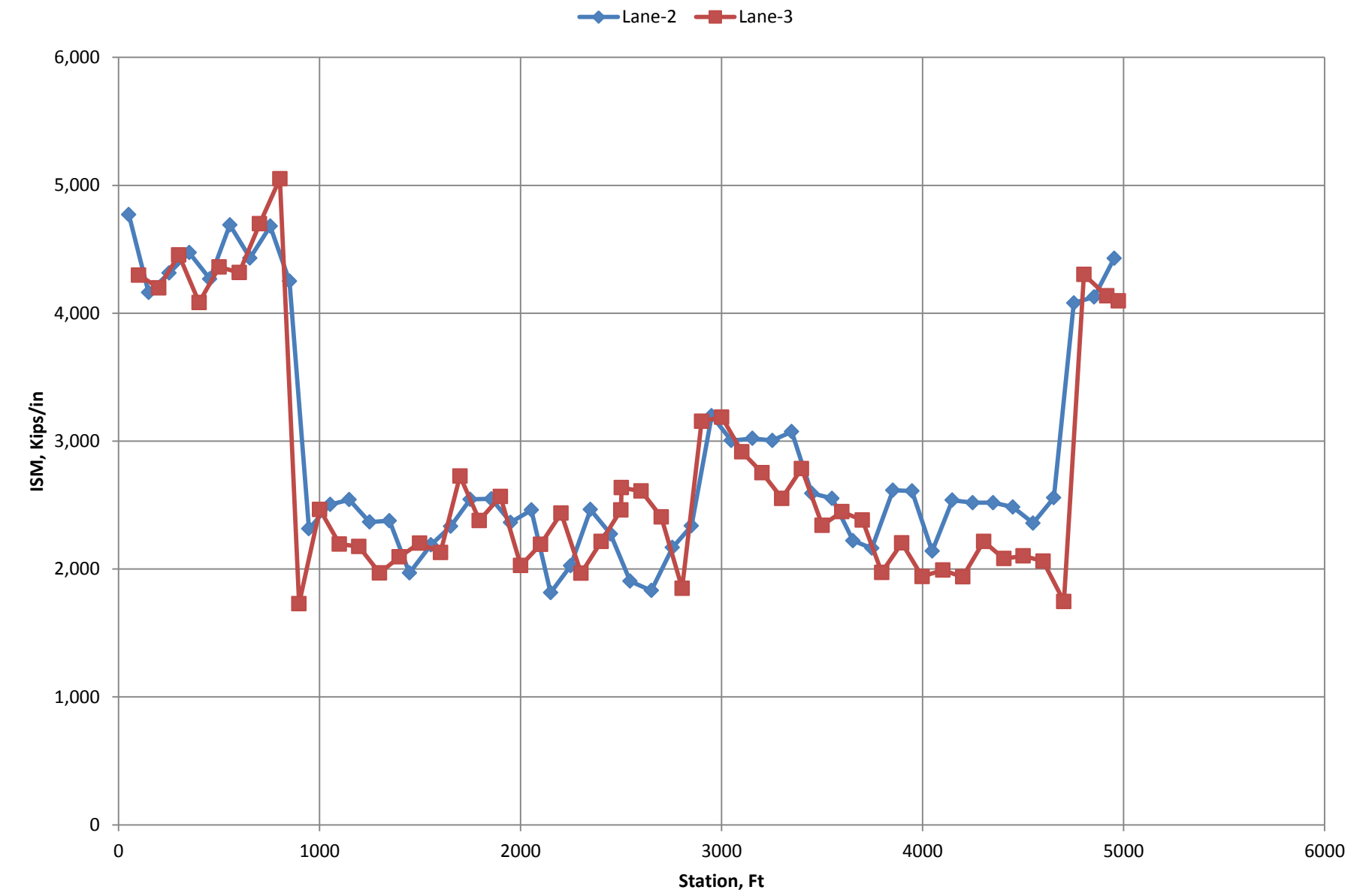
NDT Field Data

NDT	Lane	NDT Station		Force	Displacement Sensors (mils)							Pvmnt	ISM	Remark
No.	No.	Distance	Offset	(kip)	d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")	Temp (F)	(kip/in)	
<i>0+00 at Runway 9 end</i>														
152	4	4279	42' R	30	16.54	15.59	14.03	10.44	7.86	5.56	4.06	105.1	1,813	
153	4	4473	42' R	30	14.95	14.22	13.56	10.55	7.69	4.66	3.74	105.5	2,007	
154	4	4675	42' R	30	18.11	15.57	14.82	12.36	9.73	7.21	5.13	106.1	1,657	
155	4	4878	42' R	30	7.58	7.55	7.19	6.70	5.87	4.93	4.24	103.2	3,959	12 by 12 slab
156	4	4977	42' R	30	7.29	6.93	6.71	6.04	5.29	4.49	3.70	103.5	4,118	

ISM Plot for Runway 9-27 (Side)



ISM Plot for Runway 9-27 (Keel)



Fernandina Beach Municipal Airport

Runway 13-31

NDT Field Data

NDT No.	Lane No.	NDT Station Distance	Force Offset	Force (kips)	Displacement Sensors (mils)							Pvmnt Temp (F)	ISM (kips/in)	Remark
					d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")			
1	1	26	42' L	15	31.99	26.78	22.03	12.26	7.32	4.58	3.37	111.7	469	
2	1	226	42' L	15	17.40	14.06	12.46	7.67	5.28	3.56	2.65	112.7	862	
3	1	425	42' L	15	23.75	19.68	15.98	8.46	5.20	3.45	2.82	114.4	632	
4	1	626	42' L	15	4.33	4.21	3.96	3.54	3.08	2.52	2.19	106.1	3,465	RW int.
5	1	826	42' L	15	29.60	26.09	22.55	13.25	7.53	4.35	3.07	115.0	507	
6	1	1026	42' L	15	34.88	29.27	23.95	12.50	6.39	3.60	2.82	108.8	430	
7	1	1225	42' L	15	32.45	28.69	23.77	13.07	7.13	4.18	3.14	115.7	462	
8	1	1424	42' L	15	42.35	39.57	31.72	14.23	6.42	3.45	2.96	113.0	354	
9	1	1626	42' L	15	52.62	47.50	24.31	10.50	5.30	3.09	2.69	115.7	285	
10	1	1631	42' L	15	34.23	28.68	23.29	9.40	4.73	3.08	2.52	112.4	438	
11	1	1826	42' L	15	26.18	21.64	17.77	6.40	4.15	2.63	2.20	114.4	573	
12	1	2024	42' L	15	25.46	21.45	17.74	9.59	5.29	3.06	2.45	113.4	589	
13	1	2226	42' L	15	23.43	20.48	16.88	6.68	4.12	2.62	2.11	117.0	640	
14	1	2425	42' L	15	25.84	23.09	18.99	9.78	5.07	3.05	2.38	114.0	580	
15	1	2625	42' L	15	13.17	11.51	10.11	6.98	4.62	3.02	2.16	114.0	1,139	
16	1	2823	42' L	15	28.72	25.57	22.67	12.03	6.96	3.95	2.70	117.0	522	
17	1	3027	42' L	15	20.72	17.53	15.46	9.39	5.64	3.22	2.28	117.0	724	
18	1	3229	42' L	15	30.30	25.99	22.72	13.58	7.55	4.05	2.76	111.1	495	
19	1	3425	42' L	15	25.51	21.44	18.20	9.93	5.50	2.93	2.04	116.0	588	
20	1	3623	42' L	15	15.81	13.81	12.35	7.65	4.46	2.52	1.89	117.3	949	
21	1	3824	42' L	15	33.36	27.87	24.00	14.12	7.82	4.03	2.61	116.3	450	
22	1	4024	42' L	15	28.24	23.58	19.97	11.01	5.63	2.84	1.98	117.0	531	
23	1	4224	42' L	15	34.05	28.87	24.73	13.71	7.28	3.48	2.27	110.7	441	
24	1	4425	42' L	15	19.10	16.97	14.71	9.03	5.52	3.52	2.61	116.0	785	
25	1	4627	42' L	15	19.95	16.85	14.52	9.15	5.98	3.78	2.80	116.3	752	
26	1	4825	42' L	15	17.67	15.05	13.13	8.09	5.10	3.16	2.34	117.3	849	
27	1	5026	42' L	15	20.48	15.77	12.40	5.80	3.45	2.48	2.00	114.7	733	
28	1	5139	42' L	15	17.81	14.31	11.14	5.44	3.40	2.44	1.99	116.7	842	
29	2	51	8' L	15	23.07	20.31	17.73	11.78	7.85	4.99	3.39	109.1	650	
30	2	152	8' L	15	17.24	14.38	12.36	7.77	5.45	3.84	3.02	106.5	870	
31	2	257	8' L	15	20.00	16.32	13.45	8.61	5.73	3.75	2.77	110.7	750	
32	2	354	8' L	15	21.19	18.26	15.68	9.79	6.21	4.04	3.05	117.0	708	
33	2	451	8' L	15	23.54	20.37	17.28	10.05	6.34	4.20	3.21	116.0	637	
34	2	550	8' L	15	9.15	7.70	6.55	4.22	2.76	1.88	1.52	113.7	1,639	RW int.
35	2	646	8' L	15	4.11	4.01	3.81	3.24	2.78	2.34	2.17	108.8	3,653	
36	2	755	8' L	15	27.23	22.61	18.47	8.95	5.18	3.22	2.45	117.3	551	
37	2	854	8' L	15	34.20	28.17	23.62	12.82	7.19	4.30	3.07	116.3	439	
38	2	951	8' L	15	33.10	27.93	23.40	12.51	7.03	4.22	2.98	115.7	453	
39	2	1050	8' L	15	41.16	32.39	28.16	13.26	6.24	3.75	3.06	118.3	364	
40	2	1056	8' L	15	39.79	32.02	26.50	12.65	6.29	3.83	3.05	118.7	377	
41	2	1153	8' L	15	33.72	29.60	23.91	11.81	6.54	4.15	3.25	116.3	445	
42	2	1250	8' L	15	33.06	28.34	22.86	12.86	8.24	5.54	4.10	116.3	454	
43	2	1355	8' L	15	36.39	30.55	24.27	11.88	7.14	4.76	3.66	117.0	412	
44	2	1450	8' L	15	33.84	28.04	23.36	12.24	6.36	3.64	2.96	118.7	443	
45	2	1554	8' L	15	37.93	31.69	25.13	11.47	5.84	3.59	2.88	117.3	395	
46	2	1652	8' L	15	35.76	27.71	23.03	10.91	6.03	3.63	2.74	118.3	419	
47	2	1756	8' L	15	66.93	27.04	21.11	9.64	4.86	3.11	2.47	117.7	224	

Fernandina Beach Municipal Airport

Runway 13-31

NDT Field Data

NDT No.	Lane No.	NDT Station Distance	Force Offset	Force (kips)	Displacement Sensors (mils)							Pvmnt Temp (F)	ISM (kips/in)	Remark
					d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")			
48	2	1750	8' L	15	29.73	25.00	20.28	9.25	4.64	2.93	2.46	117.7	505	
49	2	1853	8' L	15	27.24	22.21	17.60	7.60	4.02	2.75	2.29	116.7	551	
50	2	1952	8' L	15	13.63	11.97	10.61	6.85	4.38	2.83	2.12	117.3	1,100	
51	2	2050	8' L	15	33.63	26.13	22.14	10.61	5.44	3.24	2.54	117.0	446	
52	2	2156	8' L	15	29.48	23.36	18.82	8.86	4.77	3.16	2.39	115.7	509	
53	2	2252	8' L	15	29.41	24.41	19.69	8.77	4.72	2.84	2.17	116.7	510	
54	2	2352	8' L	15	33.12	24.86	21.50	10.04	5.09	3.20	2.62	117.7	453	
55	2	2450	8' L	15	18.03	15.23	13.22	8.03	4.78	2.86	2.20	113.7	832	
56	2	2549	8' L	15	12.79	11.46	10.40	7.79	5.68	3.88	2.94	113.4	1,173	
57	2	2650	8' L	15	26.13	22.85	19.49	11.58	6.52	3.86	2.71	118.3	574	
58	2	2752	8' L	15	31.63	26.49	22.63	12.78	7.11	4.32	3.10	117.7	474	
59	2	2861	8' L	15	12.70	10.09	8.18	4.63	3.15	2.40	2.08	117.3	1,181	
60	2	2951	8' L	15	26.25	22.31	18.36	10.42	5.86	3.35	2.53	118.0	572	
61	2	3053	8' L	15	22.34	18.22	15.43	8.69	5.07	3.17	2.35	119.0	671	
62	2	3153	8' L	15	29.91	25.57	21.73	12.27	6.66	3.80	2.85	119.0	502	
63	2	3250	8' L	15	31.68	25.63	21.04	11.05	5.75	3.18	2.44	117.7	474	
64	2	3351	8' L	15	22.40	18.00	15.32	8.37	4.84	2.91	2.19	118.7	670	
65	2	3453	8' L	15	22.19	18.32	16.01	9.24	5.30	2.98	2.05	118.0	676	
66	2	3552	8' L	15	19.68	16.35	13.99	8.44	5.11	3.16	2.26	119.0	762	
67	2	3651	8' L	15	27.07	21.99	18.24	9.69	5.14	2.87	2.28	118.7	554	
68	2	3751	8' L	15	25.87	21.60	18.18	10.57	6.17	3.62	2.58	117.3	580	
69	2	3852	8' L	15	26.40	21.04	17.65	9.94	5.72	3.55	2.68	119.3	568	
70	2	3956	8' L	15	29.43	25.79	22.46	13.14	7.45	4.20	2.76	119.0	510	
71	2	4052	8' L	15	20.01	16.26	14.02	8.36	4.95	2.88	1.98	118.7	750	
72	2	4157	8' L	15	19.83	17.11	14.87	9.07	5.24	2.99	2.12	109.1	756	
73	2	4252	8' L	15	20.61	16.22	13.83	7.95	4.72	2.81	2.05	112.1	728	
74	2	4353	8' L	15	19.40	15.85	13.38	7.59	4.40	2.63	1.98	119.3	773	
75	2	4451	8' L	15	20.66	16.83	13.89	7.82	4.72	2.99	2.34	119.3	726	
76	2	4552	8' L	15	16.51	13.42	10.89	6.10	3.87	2.63	2.06	119.3	908	
77	2	4652	8' L	15	22.90	19.29	16.76	10.62	6.60	3.93	2.71	118.7	655	
78	2	4751	8' L	15	19.88	15.32	12.32	7.00	4.35	2.85	2.29	118.7	754	
79	2	4850	8' L	15	21.54	17.71	14.81	8.46	5.30	3.51	2.72	119.3	696	
80	2	4952	8' L	15	20.03	17.21	14.47	7.84	4.94	3.20	2.44	120.3	749	
81	2	5053	8' L	15	18.98	14.76	11.78	5.69	3.46	2.50	2.15	118.3	790	
82	2	5150	8' L	15	18.00	13.67	10.63	5.27	3.33	2.41	2.05	117.3	833	
83	3	100	8' R	15	27.11	21.14	17.20	10.14	6.51	4.37	3.41	110.7	553	
84	3	201	8' R	15	20.88	18.10	15.51	9.03	5.76	3.79	2.96	117.0	718	
85	3	301	8' R	15	27.43	20.86	17.00	8.96	5.70	3.91	3.08	118.7	547	
86	3	400	8' R	15	26.22	22.65	19.30	10.72	6.52	4.13	3.27	117.7	572	
87	3	501	8' R	15	22.25	18.71	16.02	8.94	5.06	3.12	2.75	118.3	674	
88	3	601	8' R	15	3.99	3.84	3.71	3.38	3.01	2.49	2.18	109.1	3,757	RW int.
89	3	710	8' R	15	32.45	27.04	22.08	10.99	6.24	4.00	3.19	119.3	462	
90	3	801	8' R	15	32.28	26.97	22.77	10.92	6.32	3.97	3.03	118.3	465	
91	3	901	8' R	15	27.86	24.52	21.05	12.05	7.53	4.63	3.37	118.0	538	
92	3	1000	8' R	15	37.22	30.42	25.08	11.30	6.21	3.69	3.00	117.7	403	
93	3	1100	8' R	15	40.87	34.22	27.48	12.39	6.74	3.52	2.53	119.6	367	
94	3	1201	8' R	15	41.87	32.01	25.85	12.13	6.12	3.90	3.35	119.3	358	

Fernandina Beach Municipal Airport

Runway 13-31

NDT Field Data

NDT No.	Lane No.	NDT Station Distance	Force Offset	Force (kips)	Displacement Sensors (mils)							Pvmnt Temp (F)	ISM (kips/in)	Remark
					d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")			
95	3	1300	8' R	15	43.98	37.69	28.30	12.85	7.68	5.17	4.13	120.3	341	
96	3	1400	8' R	15	48.59	30.28	24.84	12.11	7.65	5.21	3.96	118.3	309	
97	3	1501	8' R	15	35.41	28.13	24.63	12.36	6.28	3.68	3.16	120.0	424	
98	3	1603	8' R	15	35.11	30.83	24.76	11.79	5.93	3.72	2.89	118.3	427	
99	3	1702	8' R	15	32.46	25.93	20.71	9.86	4.88	2.88	2.23	117.7	462	
100	3	1800	8' R	15	19.52	16.23	13.59	7.80	4.62	2.75	2.07	120.3	769	
101	3	1901	8' R	15	26.72	21.16	16.98	7.47	4.24	3.02	2.49	118.3	561	
102	3	2001	8' R	15	31.06	26.55	22.21	11.04	5.91	3.54	2.66	119.6	483	
103	3	2109	8' R	15	32.57	31.72	21.78	11.59	6.21	3.65	2.68	121.3	460	
104	3	2202	8' R	15	24.10	19.60	15.98	8.45	4.77	2.83	2.19	119.6	622	
105	3	2301	8' R	15	37.90	23.32	18.06	7.72	3.92	2.72	2.40	119.6	396	
106	3	2402	8' R	15	31.11	26.31	20.80	9.83	5.12	3.11	2.41	117.7	482	
107	3	2500	8' R	15	15.11	12.21	10.39	6.73	4.36	2.78	2.10	114.0	993	
108	3	2606	8' R	15	14.59	12.61	11.08	7.38	4.87	3.18	2.25	116.7	1,028	
109	3	2700	8' R	15	33.33	27.61	23.36	13.02	7.40	4.14	3.07	119.3	450	
110	3	2801	8' R	15	35.52	30.81	25.82	14.68	8.08	4.53	3.41	119.6	422	
111	3	2902	8' R	15	25.35	21.29	18.05	10.64	6.02	3.62	2.66	118.3	592	
112	3	3000	8' R	15	23.58	20.45	17.52	10.19	5.75	3.18	2.13	118.7	636	
113	3	3101	8' R	15	24.41	20.30	17.00	9.49	5.32	3.02	2.23	120.3	614	
114	3	3202	8' R	15	32.92	27.79	22.65	11.77	6.29	3.52	2.45	118.0	456	
115	3	3303	8' R	15	21.49	17.73	15.08	8.76	5.08	2.91	2.05	119.0	698	
116	3	3402	8' R	15	19.70	16.09	13.49	7.78	4.55	2.75	2.04	119.0	762	
117	3	3502	8' R	15	21.34	17.50	14.86	8.28	4.73	2.86	2.11	119.3	703	
118	3	3599	8' R	15	18.23	14.98	12.53	7.11	4.24	2.68	2.11	120.0	823	
119	3	3700	8' R	15	26.72	18.18	14.90	8.05	4.50	2.72	2.20	118.7	561	
120	3	3800	8' R	15	23.49	19.57	16.37	9.11	5.11	3.12	2.36	118.0	639	
121	3	3904	8' R	15	23.10	19.44	16.36	9.63	5.74	3.58	2.70	119.0	649	
122	3	4002	8' R	15	25.96	22.00	18.65	10.58	5.87	3.34	2.42	119.6	578	
123	3	4101	8' R	15	26.44	22.84	19.14	10.62	5.75	3.16	2.44	111.1	567	
124	3	4200	8' R	15	23.35	18.88	15.67	8.57	4.74	2.73	2.04	112.7	642	
125	3	4301	8' R	15	19.82	16.61	14.11	8.13	4.71	2.86	2.11	110.4	757	
126	3	4400	8' R	15	24.45	18.35	15.39	8.30	4.65	2.79	2.33	114.4	613	
127	3	4501	8' R	15	25.32	20.84	17.66	10.48	6.51	4.16	3.10	117.3	592	
128	3	4601	8' R	15	21.21	17.78	15.36	9.83	6.35	4.00	2.94	116.3	707	
129	3	4703	8' R	15	25.58	21.77	18.17	10.55	6.16	3.56	2.57	117.0	586	
130	3	4800	8' R	15	22.12	18.27	15.51	8.94	5.46	3.39	2.52	118.7	678	
131	3	4901	8' R	15	22.96	18.84	15.62	8.87	5.23	3.26	2.61	116.7	653	
132	3	5002	8' R	15	17.87	14.47	11.88	6.28	3.73	2.52	2.08	116.7	840	
133	3	5100	8' R	15	17.61	13.85	11.02	5.32	3.27	2.37	1.98	115.4	852	
134	4	75	42' R	15	19.21	16.66	14.78	10.12	6.92	4.42	2.99	110.1	781	
135	4	282	42' R	15	21.56	17.83	15.59	9.75	5.98	3.90	2.91	119.0	696	
136	4	476	42' R	15	35.47	29.41	24.42	13.36	7.49	4.38	3.42	120.3	423	
137	4	675	42' R	15	35.65	31.03	25.43	12.07	6.74	4.18	3.02	120.3	421	
138	4	873	42' R	15	38.44	31.22	27.28	14.06	7.85	4.65	3.43	122.3	390	
139	4	1076	42' R	15	35.67	32.47	27.39	15.33	8.16	3.60	2.88	117.7	420	
140	4	1278	42' R	15	42.68	37.85	29.92	15.48	8.84	5.18	3.93	121.3	351	
141	4	1475	42' R	15	72.77	36.89	30.56	14.07	6.71	3.75	3.02	121.9	206	

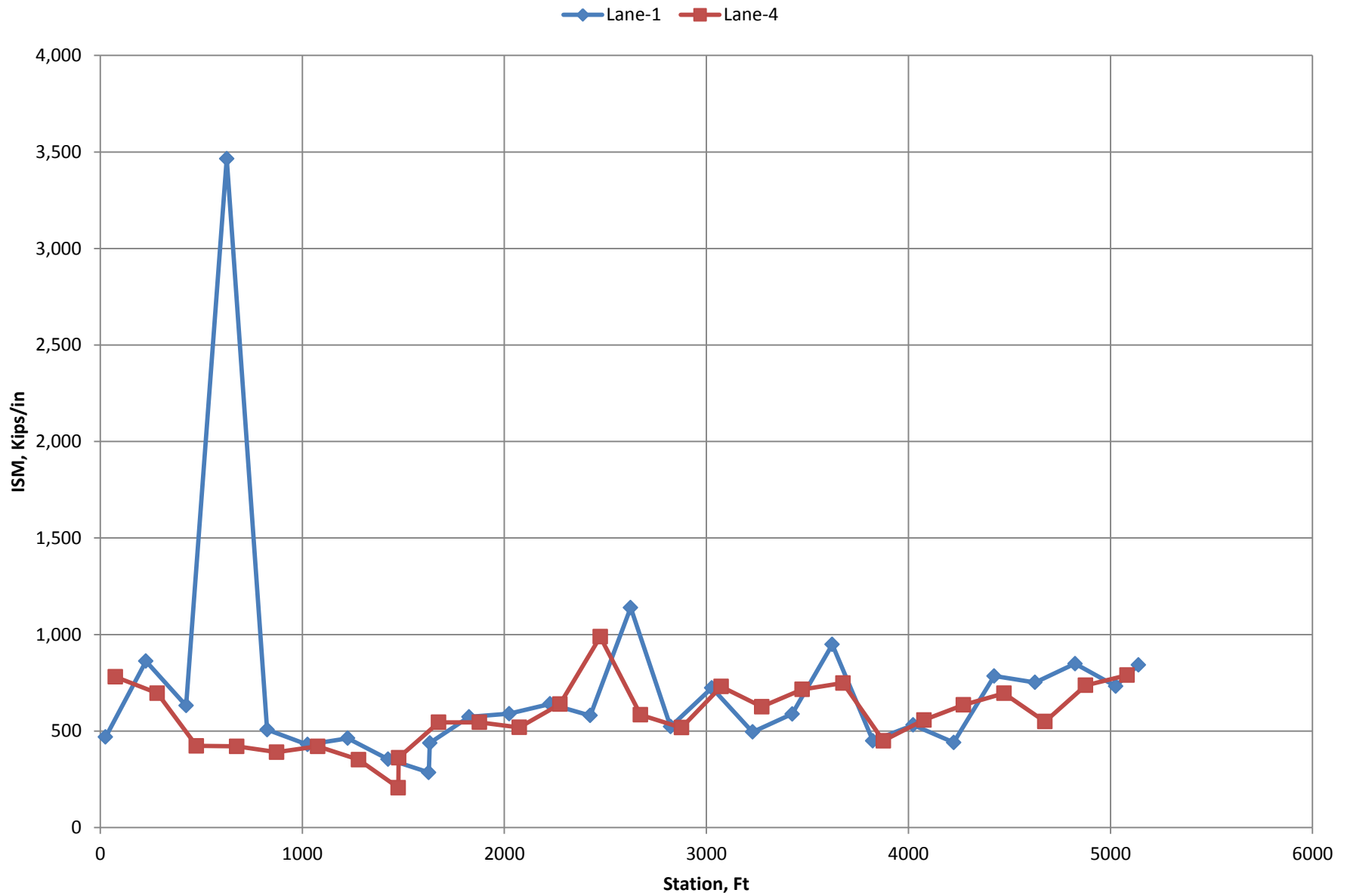
Fernandina Beach Municipal Airport

Runway 13-31

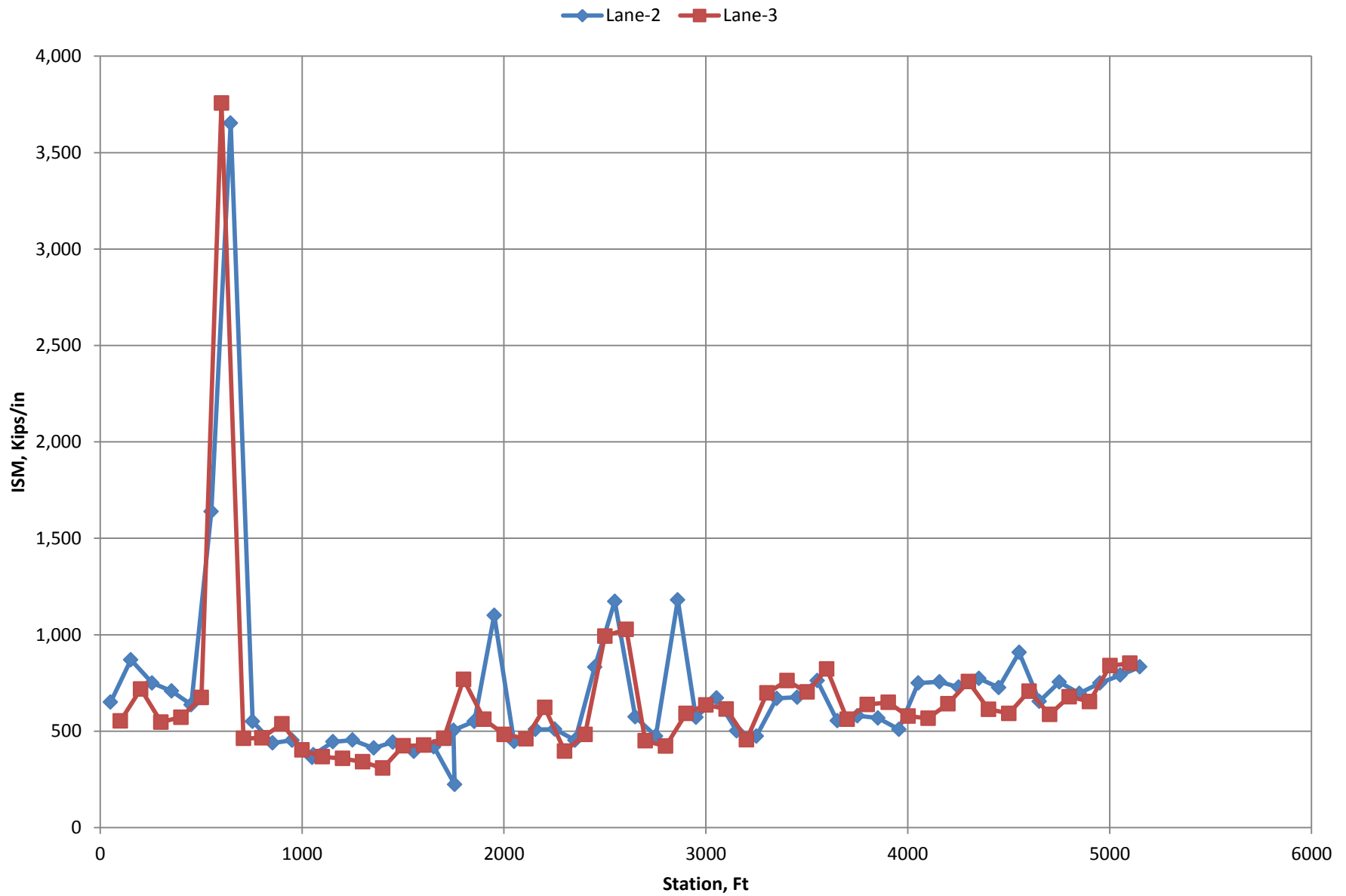
NDT Field Data

NDT	Lane	NDT Station	Force	Displacement Sensors (mils)								Pvmnt	ISM	Remark
No.	No.	Distance	Offset	(kips)	d1 (0)	d2 (8")	d3 (12")	d4 (24")	d5 (36")	d6 (48")	d7 (60")	Temp (F)	(kips/in)	
142	4	1477	42' R	15	41.51	41.49	30.50	14.52	6.98	3.73	3.01	121.3	361	
143	4	1675	42' R	15	27.52	22.87	19.78	10.70	5.57	2.99	2.20	121.3	545	
144	4	1877	42' R	15	27.52	22.87	19.78	10.70	5.57	2.99	2.20	118.3	545	
145	4	2074	42' R	15	28.92	24.15	20.36	10.02	5.35	2.91	2.44	117.3	519	
146	4	2275	42' R	15	23.47	19.89	16.28	8.48	4.55	2.58	2.08	114.0	639	
147	4	2475	42' R	15	15.17	11.88	9.84	6.18	4.07	2.62	2.21	111.1	989	
148	4	2674	42' R	15	25.68	21.73	18.80	11.86	7.39	4.39	2.87	115.4	584	
149	4	2877	42' R	15	28.98	23.84	20.17	10.87	6.01	3.52	2.60	116.7	518	
150	4	3073	42' R	15	20.53	16.89	14.03	7.65	4.37	2.57	1.84	116.0	731	
151	4	3274	42' R	15	23.97	22.23	19.97	7.05	4.22	2.57	1.96	116.0	626	
152	4	3474	42' R	15	20.96	17.58	15.16	8.68	4.56	2.74	1.97	118.0	716	
153	4	3676	42' R	15	20.04	18.48	15.49	7.13	4.05	2.50	1.90	118.3	749	
154	4	3876	42' R	15	33.40	27.97	23.70	12.78	5.89	2.45	2.06	116.3	449	
155	4	4077	42' R	15	26.92	22.16	18.30	9.84	5.33	2.90	2.21	118.3	557	
156	4	4272	42' R	15	23.60	19.61	16.97	9.13	4.26	2.62	1.91	107.4	635	
157	4	4473	42' R	15	21.57	18.15	15.43	8.89	5.12	3.07	2.30	114.4	696	
158	4	4676	42' R	15	27.33	23.17	19.24	10.75	5.96	3.20	2.12	117.3	549	
159	4	4877	42' R	15	20.36	17.78	15.14	8.58	4.87	2.89	2.25	118.0	737	
160	4	5082	42' R	15	19.00	14.23	10.74	4.85	3.00	2.21	1.84	114.0	789	

ISM Plot for Runway 13-31 (Side)



ISM Plot for Runway 13-31 (Keel)



APPENDIX B COMFAA OUTPUTS

This file name = PCN Results Rigid 2-11-2018 23;27;54.txt

Library file name = C:\Users\shirin\Desktop\FHB Airport PCN\FHB RW 9-27-1.Ext

Units = English

Evaluation pavement type is rigid

Equivalent coverages computed with the AC 150/5320-6C/D edge stress design method.

Maximum gross weight computed with the AC 150/5320-6C/D edge stress design method.

k Value = 225.0 lbs/in³ (Subgrade Category is B(295))

flexural strength = 750.0 psi

Evaluation pavement thickness = 11.00 in

Pass to Traffic Cycle (PtoTC) Ratio = 1.00

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	14,783	42,880	4.02
2	Single Wheel 10	10,000	100.00	50.0	2,373	7,792	4.35
3	Single Wheel 15	15,000	95.00	50.0	2,373	6,591	3.73
4	Dual Wheel 20	20,000	95.00	65.0	3,285	12,849	4.32
5	Dual Wheel 30	30,000	95.00	85.0	356	1,475	4.88
6	Citation-X	36,000	95.00	189.0	356	1,096	6.16
7	Challenger-CL-604	48,200	95.00	145.0	356	1,416	6.65
8	Gulfstream-G-IV	75,000	95.00	185.0	427	1,889	8.84
9	Gulfstream-G-V	90,900	95.00	188.0	26	124	8.77

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on B(295)
1	Single Wheel 5	>5,000,000	10.10	8,586	4.17	0.0000	4.8
2	Single Wheel 10	>5,000,000	9.92	12,810	5.10	0.0000	7.3
3	Single Wheel 15	>5,000,000	10.06	18,559	4.31	0.0000	5.1
4	Dual Wheel 20	>5,000,000	9.96	24,291	4.75	0.0000	6.3
5	Dual Wheel 30	>5,000,000	9.70	38,156	5.97	0.0000	10.3
6	Citation-X	3,660,378	9.34	48,948	7.67	0.0000	17.6
7	Challenger-CL-604	684,647	9.22	67,888	8.39	0.0000	21.4
8	Gulfstream-G-IV	2,400	8.91	112,494	11.55	0.0178	42.5
9	Gulfstream-G-V	589	9.24	127,834	12.04	0.0048	46.5
Total CDF =						0.0226	

Results Table 3. Rigid ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on B(295)
1	Single Wheel 5	7,000	100.00	45.0	3.80	3.9
2	Single Wheel 10	10,000	100.00	50.0	4.56	5.8
3	Single Wheel 15	15,000	95.00	50.0	3.92	4.2
4	Dual Wheel 20	20,000	95.00	65.0	4.25	5.0
5	Dual Wheel 30	30,000	95.00	85.0	5.21	7.7

PCN Results Rigid 2-11-2018 23;27;54					
6 Citation-X	36,000	95.00	189.0	6.48	12.3
7 Challenger-CL-604	48,200	95.00	145.0	6.95	14.2
8 Gulfstream-G-IV	75,000	95.00	185.0	9.24	26.3
9 Gulfstream-G-V	90,900	95.00	188.0	9.97	31.0

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

```

Num,Plane,GWin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDFt,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
1,Single Wheel 5,7000.000,3.9,14783,4.02,4.28800E+004,2.30361E+017,10.10,8585.772,4.8,11.0,B,225.00,1.00,R
2,Single Wheel 10,10000.000,5.8,2373,4.35,7.79245E+003,9.89562E+013,9.92,12809.877,7.3,11.0,B,225.00,1.00,R
3,Single Wheel 15,15000.000,4.2,2373,3.73,6.59107E+003,3.51754E+016,10.06,18559.255,5.1,11.0,B,225.00,1.00,R
4,Dual Wheel 20,20000.000,5.0,3285,4.32,1.28495E+004,4.69833E+014,9.96,24291.393,6.3,11.0,B,225.00,1.00,R
5,Dual Wheel 30,30000.000,7.7,356,4.88,1.47462E+003,1.60475E+011,9.70,38155.776,10.3,11.0,B,225.00,1.00,R
6,Citation-X,36000.000,12.3,356,6.16,1.09578E+003,1.61900E+008,9.34,48948.397,17.6,11.0,B,225.00,1.00,R
7,Challenger-CL-604,48200.000,14.2,356,6.65,1.41646E+003,3.02822E+007,9.22,67888.337,21.4,11.0,B,225.00,1.00,R
8,Gulfstream-G-IV,75000.000,26.3,427,8.84,1.88908E+003,1.06134E+005,8.91,112494.401,42.5,11.0,B,225.00,1.00,R
9,Gulfstream-G-V,90900.000,31.0,26,8.77,1.23971E+002,2.60647E+004,9.24,127833.782,46.5,11.0,B,225.00,1.00,R

```

PCN Results Rigid 2-11-2018 23;27;25

This file name = PCN Results Rigid 2-11-2018 23;27;25.txt

Library file name = C:\Users\shirin\Desktop\FHB Airport PCN\FHB RW 9-27-1.Ext

Units = English

Evaluation pavement type is rigid

Equivalent coverages computed with the AC 150/5320-6C/D edge stress design method.

Maximum gross weight computed with the AC 150/5320-6C/D edge stress design method.

k Value = 190.0 lbs/in³ (Subgrade Category is C(147))

flexural strength = 750.0 psi

Evaluation pavement thickness = 11.00 in

Pass to Traffic Cycle (PtoTC) Ratio = 1.00

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	14,783	42,880	4.14
2	Single Wheel 10	10,000	100.00	50.0	2,373	7,792	4.47
3	Single Wheel 15	15,000	95.00	50.0	2,373	6,591	3.82
4	Dual Wheel 20	20,000	95.00	65.0	3,285	12,849	4.42
5	Dual Wheel 30	30,000	95.00	85.0	356	1,475	4.99
6	Citation-X	36,000	95.00	189.0	356	1,096	6.27
7	Challenger-CL-604	48,200	95.00	145.0	356	1,416	6.77
8	Gulfstream-G-IV	75,000	95.00	185.0	427	1,889	9.01
9	Gulfstream-G-V	90,900	95.00	188.0	26	124	8.90

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on C(147)
1	Single Wheel 5	>5,000,000	10.15	8,484	4.44	0.0000	5.0
2	Single Wheel 10	>5,000,000	9.98	12,620	5.42	0.0000	7.7
3	Single Wheel 15	>5,000,000	10.12	18,219	4.57	0.0000	5.3
4	Dual Wheel 20	>5,000,000	10.02	24,075	5.07	0.0000	6.7
5	Dual Wheel 30	>5,000,000	9.78	37,807	6.37	0.0000	10.8
6	Citation-X	3,209,803	9.45	47,954	8.01	0.0000	17.5
7	Challenger-CL-604	615,973	9.34	66,015	8.81	0.0001	21.5
8	Gulfstream-G-IV	2,361	9.07	108,556	11.97	0.0246	41.4
9	Gulfstream-G-V	628	9.40	122,885	12.48	0.0061	45.3
Total CDF =						0.0308	

Results Table 3. Rigid ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on C(147)
1	Single Wheel 5	7,000	100.00	45.0	4.07	4.2
2	Single Wheel 10	10,000	100.00	50.0	4.88	6.1
3	Single Wheel 15	15,000	95.00	50.0	4.18	4.4
4	Dual Wheel 20	20,000	95.00	65.0	4.58	5.4

PCN Results Rigid 2-11-2018 23;27;25

5 Dual Wheel 30	30,000	95.00	85.0	5.61	8.2
6 Citation-X	36,000	95.00	189.0	6.85	12.6
7 Challenger-CL-604	48,200	95.00	145.0	7.41	14.9
8 Gulfstream-G-IV	75,000	95.00	185.0	9.79	26.9
9 Gulfstream-G-V	90,900	95.00	188.0	10.59	31.9

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

Num,Plane,GWin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDFt,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
1,Single Wheel 5,7000.000,4.2,14783,4.14,4.28800E+004,6.60284E+016,10.15,8483.907,5.0,11.0,C,190.00,1.00,R
2,Single Wheel 10,10000.000,6.1,2373,4.47,7.79245E+003,3.51123E+013,9.98,12619.679,7.7,11.0,C,190.00,1.00,R
3,Single Wheel 15,15000.000,4.4,2373,3.82,6.59107E+003,1.20767E+016,10.12,18219.377,5.3,11.0,C,190.00,1.00,R
4,Dual Wheel 20,20000.000,5.4,3285,4.42,1.28495E+004,1.76025E+014,10.02,24074.774,6.7,11.0,C,190.00,1.00,R
5,Dual Wheel 30,30000.000,8.2,356,4.99,1.47462E+003,7.51501E+010,9.78,37806.688,10.8,11.0,C,190.00,1.00,R
6,Citation-X,36000.000,12.6,356,6.27,1.09578E+003,1.04273E+008,9.45,47954.120,17.5,11.0,C,190.00,1.00,R
7,Challenger-CL-604,48200.000,14.9,356,6.77,1.41646E+003,2.00104E+007,9.34,66015.251,21.5,11.0,C,190.00,1.00,R
8,Gulfstream-G-IV,75000.000,26.9,427,9.01,1.88908E+003,7.67101E+004,9.07,108556.173,41.4,11.0,C,190.00,1.00,R
9,Gulfstream-G-V,90900.000,31.9,26,8.90,1.23971E+002,2.04067E+004,9.40,122884.549,45.3,11.0,C,190.00,1.00,R

This file name = PCN Results Rigid 2-11-2018 23;25;16.txt

Library file name = C:\Users\shirin\Desktop\FHB Airport PCN\FHB RW 9-27-1.Ext

Units = English

Evaluation pavement type is rigid

Equivalent coverages computed with the AC 150/5320-6C/D edge stress design method.

Maximum gross weight computed with the AC 150/5320-6C/D edge stress design method.

k Value = 345.0 lbs/in³ (Subgrade Category is B(295))

flexural strength = 750.0 psi

Evaluation pavement thickness = 9.00 in

Pass to Traffic Cycle (PtoTC) Ratio = 1.00

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	14,783	42,880	3.74
2	Single Wheel 10	10,000	100.00	50.0	2,373	7,792	4.05
3	Single Wheel 15	15,000	95.00	50.0	2,373	6,591	3.48
4	Dual Wheel 20	20,000	95.00	65.0	3,285	12,849	4.03
5	Dual Wheel 30	30,000	95.00	85.0	356	1,475	4.57
6	Citation-X	36,000	95.00	189.0	356	1,096	5.92
7	Challenger-CL-604	48,200	95.00	145.0	356	1,416	6.30
8	Gulfstream-G-IV	75,000	95.00	185.0	427	1,889	8.46
9	Gulfstream-G-V	90,900	95.00	188.0	26	124	8.36

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on B(295)
1	Single Wheel 5	>5,000,000	8.77	7,470	3.92	0.0000	4.2
2	Single Wheel 10	>5,000,000	8.72	10,805	4.72	0.0000	6.2
3	Single Wheel 15	>5,000,000	8.75	16,037	4.04	0.0000	4.5
4	Dual Wheel 20	>5,000,000	8.73	21,209	4.39	0.0000	5.4
5	Dual Wheel 30	>5,000,000	8.66	32,368	5.44	0.0000	8.4
6	Citation-X	1,313,716	8.55	39,709	6.84	0.0003	13.8
7	Challenger-CL-604	429,560	8.53	53,268	7.34	0.0011	16.0
8	Gulfstream-G-IV	2,759	8.57	82,446	9.73	0.2369	29.4
9	Gulfstream-G-V	398	8.69	97,368	10.36	0.1077	33.6
Total CDF =						0.3461	

Results Table 3. Rigid ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on B(295)
1	Single Wheel 5	7,000	100.00	45.0	3.80	3.9
2	Single Wheel 10	10,000	100.00	50.0	4.56	5.8
3	Single Wheel 15	15,000	95.00	50.0	3.92	4.2
4	Dual Wheel 20	20,000	95.00	65.0	4.25	5.0

PCN Results Rigid 2-11-2018 23;25;16

5 Dual Wheel 30	30,000	95.00	85.0	5.21	7.7
6 Citation-X	36,000	95.00	189.0	6.48	12.3
7 Challenger-CL-604	48,200	95.00	145.0	6.95	14.2
8 Gulfstream-G-IV	75,000	95.00	185.0	9.24	26.3
9 Gulfstream-G-V	90,900	95.00	188.0	9.97	31.0

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

Num,Plane,GWin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDFt,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
1,Single Wheel 5,7000.000,3.9,14783,3.74,4.28800E+004,8.73735E+014,8.77,7469.709,4.2,9.0,B,345.00,1.00,R
2,Single Wheel 10,10000.000,5.8,2373,4.05,7.79245E+003,9.42562E+011,8.72,10805.298,6.2,9.0,B,345.00,1.00,R
3,Single Wheel 15,15000.000,4.2,2373,3.48,6.59107E+003,1.50568E+014,8.75,16036.693,4.5,9.0,B,345.00,1.00,R
4,Dual Wheel 20,20000.000,5.0,3285,4.03,1.28495E+004,3.29653E+012,8.73,21208.760,5.4,9.0,B,345.00,1.00,R
5,Dual Wheel 30,30000.000,7.7,356,4.57,1.47462E+003,2.69738E+009,8.66,32367.736,8.4,9.0,B,345.00,1.00,R
6,Citation-X,36000.000,12.3,356,5.92,1.09578E+003,3.79588E+006,8.55,39708.611,13.8,9.0,B,345.00,1.00,R
7,Challenger-CL-604,48200.000,14.2,356,6.30,1.41646E+003,1.24118E+006,8.53,53268.353,16.0,9.0,B,345.00,1.00,R
8,Gulfstream-G-IV,75000.000,26.3,427,8.46,1.88908E+003,7.97290E+003,8.57,82445.719,29.4,9.0,B,345.00,1.00,R
9,Gulfstream-G-V,90900.000,31.0,26,8.36,1.23971E+002,1.15085E+003,8.69,97367.900,33.6,9.0,B,345.00,1.00,R

This file name = PCN Results Rigid 2-11-2018 23;23;53.txt

Library file name = C:\Users\shirin\Desktop\FHB Airport PCN\FHB RW 9-27-1.Ext

Units = English

Evaluation pavement type is rigid

Equivalent coverages computed with the AC 150/5320-6C/D edge stress design method.

Maximum gross weight computed with the AC 150/5320-6C/D edge stress design method.

k Value = 190.0 lbs/in³ (Subgrade Category is C(147))

flexural strength = 750.0 psi

Evaluation pavement thickness = 11.00 in

Pass to Traffic Cycle (PtoTC) Ratio = 5.00 (non-standard)

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	14,783	214,400	4.53
2	Single Wheel 10	10,000	100.00	50.0	2,373	38,962	4.94
3	Single Wheel 15	15,000	95.00	50.0	2,373	32,955	4.23
4	Dual Wheel 20	20,000	95.00	65.0	3,285	64,247	4.88
5	Dual Wheel 30	30,000	95.00	85.0	356	7,373	5.33
6	Citation-X	36,000	95.00	189.0	356	5,479	6.61
7	Challenger-CL-604	48,200	95.00	145.0	356	7,082	7.21
8	Gulfstream-G-IV	75,000	95.00	185.0	427	9,445	9.68
9	Gulfstream-G-V	90,900	95.00	188.0	26	620	9.40

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on C(147)
1	Single Wheel 5	>5,000,000	10.54	7,745	4.26	0.0000	4.6
2	Single Wheel 10	>5,000,000	10.45	11,298	5.16	0.0000	6.9
3	Single Wheel 15	>5,000,000	10.52	16,604	4.38	0.0000	4.9
4	Dual Wheel 20	>5,000,000	10.47	22,036	4.83	0.0000	6.0
5	Dual Wheel 30	>5,000,000	10.34	33,799	5.99	0.0000	9.5
6	Citation-X	>5,000,000	10.17	41,734	7.43	0.0001	14.9
7	Challenger-CL-604	3,079,862	10.11	56,814	8.11	0.0004	18.0
8	Gulfstream-G-IV	11,807	9.82	93,063	11.01	0.1231	34.6
9	Gulfstream-G-V	3,141	9.90	111,382	11.83	0.0304	40.4
Total CDF =						0.1539	

Results Table 3. Rigid ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on C(147)
1	Single Wheel 5	7,000	100.00	45.0	4.07	4.2
2	Single Wheel 10	10,000	100.00	50.0	4.88	6.1
3	Single Wheel 15	15,000	95.00	50.0	4.18	4.4
4	Dual Wheel 20	20,000	95.00	65.0	4.58	5.4
5	Dual Wheel 30	30,000	95.00	85.0	5.61	8.2

PCN Results Rigid 2-11-2018 23;23;53

6 Citation-X	36,000	95.00	189.0	6.85	12.6
7 Challenger-CL-604	48,200	95.00	145.0	7.41	14.9
8 Gulfstream-G-IV	75,000	95.00	185.0	9.79	26.9
9 Gulfstream-G-V	90,900	95.00	188.0	10.59	31.9

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

Num,Plane,GWin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDft,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
 1,Single Wheel 5,7000.000,4.2,73915,4.53,2.14400E+005,6.60283E+016,10.54,7745.377,4.6,11.0,C,190.00,5.00,R
 2,Single Wheel 10,10000.000,6.1,11865,4.94,3.89623E+004,3.51122E+013,10.45,11298.308,6.9,11.0,C,190.00,5.00,R
 3,Single Wheel 15,15000.000,4.4,11865,4.23,3.29554E+004,1.20767E+016,10.52,16603.776,4.9,11.0,C,190.00,5.00,R
 4,Dual Wheel 20,20000.000,5.4,16425,4.88,6.42474E+004,1.76025E+014,10.47,22036.128,6.0,11.0,C,190.00,5.00,R
 5,Dual Wheel 30,30000.000,8.2,1780,5.33,7.37312E+003,7.51499E+010,10.34,33799.146,9.5,11.0,C,190.00,5.00,R
 6,Citation-X,36000.000,12.6,1780,6.61,5.47892E+003,1.04273E+008,10.17,41734.361,14.9,11.0,C,190.00,5.00,R
 7,Challenger-CL-604,48200.000,14.9,1780,7.21,7.08230E+003,2.00104E+007,10.11,56813.557,18.0,11.0,C,190.00,5.00,R
 8,Gulfstream-G-IV,75000.000,26.9,2135,9.68,9.44541E+003,7.67100E+004,9.82,93063.229,34.6,11.0,C,190.00,5.00,R
 9,Gulfstream-G-V,90900.000,31.9,130,9.40,6.19857E+002,2.04067E+004,9.90,111382.347,40.4,11.0,C,190.00,5.00,R

PCN Results Rigid 2-11-2018 23;23;25

This file name = PCN Results Rigid 2-11-2018 23;23;25.txt

Library file name = C:\Users\shirin\Desktop\FHB Airport PCN\FHB RW 9-27-1.Ext

Units = English

Evaluation pavement type is rigid

Equivalent coverages computed with the AC 150/5320-6C/D edge stress design method.

Maximum gross weight computed with the AC 150/5320-6C/D edge stress design method.

k Value = 225.0 lbs/in³ (Subgrade Category is B(295))

flexural strength = 750.0 psi

Evaluation pavement thickness = 11.00 in

Pass to Traffic Cycle (PtoTC) Ratio = 5.00 (non-standard)

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	14,783	214,400	4.41
2	Single Wheel 10	10,000	100.00	50.0	2,373	38,962	4.81
3	Single Wheel 15	15,000	95.00	50.0	2,373	32,955	4.13
4	Dual Wheel 20	20,000	95.00	65.0	3,285	64,247	4.76
5	Dual Wheel 30	30,000	95.00	85.0	356	7,373	5.20
6	Citation-X	36,000	95.00	189.0	356	5,479	6.50
7	Challenger-CL-604	48,200	95.00	145.0	356	7,082	7.08
8	Gulfstream-G-IV	75,000	95.00	185.0	427	9,445	9.51
9	Gulfstream-G-V	90,900	95.00	188.0	26	620	9.26

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on B(295)
1	Single Wheel 5	>5,000,000	10.48	7,856	4.01	0.0000	4.4
2	Single Wheel 10	>5,000,000	10.38	11,495	4.86	0.0000	6.6
3	Single Wheel 15	>5,000,000	10.46	16,914	4.14	0.0000	4.7
4	Dual Wheel 20	>5,000,000	10.40	22,304	4.52	0.0000	5.7
5	Dual Wheel 30	>5,000,000	10.25	34,296	5.62	0.0000	9.0
6	Citation-X	>5,000,000	10.05	42,684	7.12	0.0000	15.0
7	Challenger-CL-604	3,423,231	9.98	58,329	7.72	0.0002	17.8
8	Gulfstream-G-IV	11,998	9.65	96,322	10.60	0.0890	35.4
9	Gulfstream-G-V	2,946	9.73	115,759	11.40	0.0238	41.3
Total CDF =						0.1130	

Results Table 3. Rigid ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on B(295)
1	Single Wheel 5	7,000	100.00	45.0	3.80	3.9
2	Single Wheel 10	10,000	100.00	50.0	4.56	5.8
3	Single Wheel 15	15,000	95.00	50.0	3.92	4.2
4	Dual Wheel 20	20,000	95.00	65.0	4.25	5.0

PCN Results Rigid 2-11-2018 23;23;25

5 Dual Wheel 30	30,000	95.00	85.0	5.21	7.7
6 Citation-X	36,000	95.00	189.0	6.48	12.3
7 Challenger-CL-604	48,200	95.00	145.0	6.95	14.2
8 Gulfstream-G-IV	75,000	95.00	185.0	9.24	26.3
9 Gulfstream-G-V	90,900	95.00	188.0	9.97	31.0

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

Num,Plane,Gwin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDft,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
1,Single Wheel 5,7000.000,3.9,73915,4.41,2.14400E+005,2.30361E+017,10.48,7855.726,4.4,11.0,B,225.00,5.00,R
2,Single Wheel 10,10000.000,5.8,11865,4.81,3.89623E+004,9.89562E+013,10.38,11495.210,6.6,11.0,B,225.00,5.00,R
3,Single Wheel 15,15000.000,4.2,11865,4.13,3.29554E+004,3.51754E+016,10.46,16913.561,4.7,11.0,B,225.00,5.00,R
4,Dual Wheel 20,20000.000,5.0,16425,4.76,6.42474E+004,4.69833E+014,10.40,22303.899,5.7,11.0,B,225.00,5.00,R
5,Dual Wheel 30,30000.000,7.7,1780,5.20,7.37312E+003,1.60475E+011,10.25,34295.909,9.0,11.0,B,225.00,5.00,R
6,Citation-X,36000.000,12.3,1780,6.50,5.47892E+003,1.61899E+008,10.05,42684.262,15.0,11.0,B,225.00,5.00,R
7,Challenger-CL-604,48200.000,14.2,1780,7.08,7.08230E+003,3.02821E+007,9.98,58328.668,17.8,11.0,B,225.00,5.00,R
8,Gulfstream-G-IV,75000.000,26.3,2135,9.51,9.44541E+003,1.06134E+005,9.65,96322.093,35.4,11.0,B,225.00,5.00,R
9,Gulfstream-G-V,90900.000,31.0,130,9.26,6.19857E+002,2.60647E+004,9.73,115759.386,41.3,11.0,B,225.00,5.00,R

This file name = PCN Results Flexible 2-12-2018 00;20;32.txt

Library file name = C:\Users\shirin\Desktop\FHB Airport PCN\FHB RW4-22-1.Ext

Units = English

Evaluation pavement type is flexible and design procedure is CBR.

Alpha Values are those approved by the ICAO in 2007.

CBR = 11.40 (Subgrade Category is B(10))

Evaluation pavement thickness = 14.00 in

Pass to Traffic Cycle (PtoTC) Ratio = 1.00

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

No aircraft have 4 or more wheels per gear. The FAA recommends a reference section assuming 3 inches of HMA and 6 inches of crushed aggregate for equivalent thickness calculations.

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	11,826	34,303	5.86
2	Single Wheel 10	10,000	100.00	50.0	1,898	6,233	6.59
3	Single Wheel 15	15,000	95.00	50.0	1,898	5,272	5.49
4	Dual Wheel 20	20,000	95.00	65.0	2,628	10,280	6.25
5	Dual Wheel 30	30,000	95.00	85.0	285	1,181	6.77
6	Citation-X	36,000	95.00	189.0	285	877	8.27
7	Challenger-CL-604	48,200	95.00	145.0	285	1,134	9.21
8	Gulfstream-G-IV	75,000	95.00	185.0	285	1,261	12.76
9	Gulfstream-G-V	90,900	95.00	188.0	17	81	9.68

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on B(10)
1	Single Wheel 5	>5,000,000	10.83	11,694	7.96	0.0000	5.4
2	Single Wheel 10	>5,000,000	13.63	10,551	7.96	0.0000	5.4
3	Single Wheel 15	>5,000,000	11.50	22,214	7.96	0.0000	5.4
4	Dual Wheel 20	>5,000,000	10.64	31,240	9.57	0.0000	7.8
5	Dual Wheel 30	>5,000,000	13.60	31,282	9.21	0.0000	7.3
6	Citation-X	>5,000,000	13.74	37,156	11.44	0.0000	11.2
7	Challenger-CL-604	670,129	13.59	50,410	12.36	0.0007	13.1
8	Gulfstream-G-IV	1,443	12.94	84,045	17.77	0.3821	27.0
9	Gulfstream-G-V	651	12.89	103,725	19.55	0.0544	32.7
Total CDF =						0.4373	

Results Table 3. Flexible ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on B(10)
1	Single Wheel 5	7,000	100.00	45.0	6.16	3.2
2	Single Wheel 10	10,000	100.00	50.0	7.75	5.1
3	Single Wheel 15	15,000	95.00	50.0	6.54	3.7
4	Dual Wheel 20	20,000	95.00	65.0	7.06	4.3
5	Dual Wheel 30	30,000	95.00	85.0	8.94	6.9

PCN Results Flexible 2-12-2018 00;20;32					
6 Citation-X	36,000	95.00	189.0	11.21	10.8
7 Challenger-CL-604	48,200	95.00	145.0	12.01	12.4
8 Gulfstream-G-IV	75,000	95.00	185.0	16.59	23.6
9 Gulfstream-G-V	90,900	95.00	188.0	18.03	27.9

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

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Num,Plane,GWin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDFt,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
1,Single Wheel 5,7000.000,3.2,11826,5.86,3.43028E+004,1.01423E+304,10.83,11693.864,5.4,14.0,B,11.40,1.00,F
2,Single Wheel 10,10000.000,5.1,1898,6.59,6.23265E+003,3.03203E+243,13.63,10551.427,5.4,14.0,B,11.40,1.00,F
3,Single Wheel 15,15000.000,3.7,1898,5.49,5.27175E+003,2.70740E+195,11.50,22213.508,5.4,14.0,B,11.40,1.00,F
4,Dual Wheel 20,20000.000,4.3,2628,6.25,1.02796E+004,1.01423E+304,10.64,31239.629,7.8,14.0,B,11.40,1.00,F
5,Dual Wheel 30,30000.000,6.9,285,6.77,1.18053E+003,1.01423E+304,13.60,31281.563,7.3,14.0,B,11.40,1.00,F
6,Citation-X,36000.000,10.8,285,8.27,8.77242E+002,2.57359E+007,13.74,37155.800,11.2,14.0,B,11.40,1.00,F
7,Challenger-CL-604,48200.000,12.4,285,9.21,1.13396E+003,1.53233E+006,13.59,50410.167,13.1,14.0,B,11.40,1.00,F
8,Gulfstream-G-IV,75000.000,23.6,285,12.76,1.26086E+003,3.29978E+003,12.94,84044.890,27.0,14.0,B,11.40,1.00,F
9,Gulfstream-G-V,90900.000,27.9,17,9.68,8.10582E+001,1.48873E+003,12.89,103725.400,32.7,14.0,B,11.40,1.00,F

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This file name = PCN Results Flexible 2-12-2018 00;20;04.txt

Library file name = C:\Users\shirin\Desktop\FHB Airport PCN\FHB RW4-22-1.Ext

Units = English

Evaluation pavement type is flexible and design procedure is CBR.

Alpha Values are those approved by the ICAO in 2007.

CBR = 12.80 (Subgrade Category is B(10))

Evaluation pavement thickness = 12.00 in

Pass to Traffic Cycle (PtoTC) Ratio = 1.00

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

No aircraft have 4 or more wheels per gear. The FAA recommends a reference section assuming 3 inches of HMA and 6 inches of crushed aggregate for equivalent thickness calculations.

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	11,826	34,303	5.22
2	Single Wheel 10	10,000	100.00	50.0	1,898	6,233	5.89
3	Single Wheel 15	15,000	95.00	50.0	1,898	5,272	4.91
4	Dual Wheel 20	20,000	95.00	65.0	2,628	10,280	5.63
5	Dual Wheel 30	30,000	95.00	85.0	285	1,181	6.18
6	Citation-X	36,000	95.00	189.0	285	877	7.64
7	Challenger-CL-604	48,200	95.00	145.0	285	1,134	8.57
8	Gulfstream-G-IV	75,000	95.00	185.0	285	1,261	11.81
9	Gulfstream-G-V	90,900	95.00	188.0	17	81	8.99

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on B(10)
1	Single Wheel 5	>5,000,000	9.64	10,836	7.66	0.0000	5.0
2	Single Wheel 10	>5,000,000	12.00	10,001	7.75	0.0000	5.1
3	Single Wheel 15	>5,000,000	10.29	20,401	7.63	0.0000	5.0
4	Dual Wheel 20	>5,000,000	9.47	28,296	8.95	0.0000	6.9
5	Dual Wheel 30	>5,000,000	12.00	30,002	8.94	0.0000	6.9
6	Citation-X	1,526,541	11.99	36,047	11.22	0.0006	10.8
7	Challenger-CL-604	234,577	11.99	48,275	12.02	0.0047	12.4
8	Gulfstream-G-IV	1,442	11.97	75,275	16.63	0.8527	23.7
9	Gulfstream-G-V	674	11.97	91,293	18.08	0.1173	28.0
Total CDF =						0.9753	

Results Table 3. Flexible ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on B(10)
1	Single Wheel 5	7,000	100.00	45.0	6.16	3.2
2	Single Wheel 10	10,000	100.00	50.0	7.75	5.1
3	Single Wheel 15	15,000	95.00	50.0	6.54	3.7
4	Dual Wheel 20	20,000	95.00	65.0	7.06	4.3

PCN Results Flexible 2-12-2018 00;20;04

5 Dual Wheel 30	30,000	95.00	85.0	8.94	6.9
6 Citation-X	36,000	95.00	189.0	11.21	10.8
7 Challenger-CL-604	48,200	95.00	145.0	12.01	12.4
8 Gulfstream-G-IV	75,000	95.00	185.0	16.59	23.6
9 Gulfstream-G-V	90,900	95.00	188.0	18.03	27.9

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

Num,Plane,GWin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDFt,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
 1,Single Wheel 5,7000.000,3.2,11826,5.22,3.43028E+004,1.01423E+304,9.64,10835.884,5.0,12.0,B,12.80,1.00,F
 2,Single Wheel 10,10000.000,5.1,1898,5.89,6.23265E+003,3.60954E+025,12.00,10000.634,5.1,12.0,B,12.80,1.00,F
 3,Single Wheel 15,15000.000,3.7,1898,4.91,5.27175E+003,1.01423E+304,10.29,20401.397,5.0,12.0,B,12.80,1.00,F
 4,Dual Wheel 20,20000.000,4.3,2628,5.63,1.02796E+004,1.01423E+304,9.47,28296.041,6.9,12.0,B,12.80,1.00,F
 5,Dual Wheel 30,30000.000,6.9,285,6.18,1.18053E+003,2.18528E+016,12.00,30002.429,6.9,12.0,B,12.80,1.00,F
 6,Citation-X,36000.000,10.8,285,7.64,8.77242E+002,1.56526E+006,11.99,36046.956,10.8,12.0,B,12.80,1.00,F
 7,Challenger-CL-604,48200.000,12.4,285,8.57,1.13396E+003,2.40527E+005,11.99,48274.581,12.4,12.0,B,12.80,1.00,F
 8,Gulfstream-G-IV,75000.000,23.6,285,11.81,1.26086E+003,1.47874E+003,11.97,75274.571,23.7,12.0,B,12.80,1.00,F
 9,Gulfstream-G-V,90900.000,27.9,17,8.99,8.10582E+001,6.90843E+002,11.97,91293.119,28.0,12.0,B,12.80,1.00,F

This file name = PCN Results Flexible 2-12-2018 00;19;39.txt

Library file name = C:\Users\shirin\Desktop\FHB Airport PCN\FHB RW4-22-1.Ext

Units = English

Evaluation pavement type is flexible and design procedure is CBR.

Alpha Values are those approved by the ICAO in 2007.

CBR = 15.00 (Subgrade Category is A(15))

Evaluation pavement thickness = 11.20 in

Pass to Traffic Cycle (PtoTC) Ratio = 1.00

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

No aircraft have 4 or more wheels per gear. The FAA recommends a reference section assuming 3 inches of HMA and 6 inches of crushed aggregate for equivalent thickness calculations.

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	11,826	34,303	4.40
2	Single Wheel 10	10,000	100.00	50.0	1,898	6,233	5.04
3	Single Wheel 15	15,000	95.00	50.0	1,898	5,272	4.20
4	Dual Wheel 20	20,000	95.00	65.0	2,628	10,280	4.80
5	Dual Wheel 30	30,000	95.00	85.0	285	1,181	5.34
6	Citation-X	36,000	95.00	189.0	285	877	6.86
7	Challenger-CL-604	48,200	95.00	145.0	285	1,134	7.70
8	Gulfstream-G-IV	75,000	95.00	185.0	285	1,261	10.58
9	Gulfstream-G-V	90,900	95.00	188.0	17	81	8.11

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on A(15)
1	Single Wheel 5	>5,000,000	8.13	13,294	5.60	0.0000	4.4
2	Single Wheel 10	>5,000,000	10.42	11,547	5.60	0.0000	4.4
3	Single Wheel 15	>5,000,000	8.80	24,309	5.60	0.0000	4.4
4	Dual Wheel 20	>5,000,000	8.21	32,206	6.89	0.0000	6.6
5	Dual Wheel 30	>5,000,000	10.56	32,420	6.61	0.0000	6.1
6	Citation-X	3,852,820	11.06	36,739	8.53	0.0001	10.2
7	Challenger-CL-604	350,320	11.02	49,610	9.27	0.0020	12.0
8	Gulfstream-G-IV	1,451	10.72	79,904	13.11	0.5501	24.1
9	Gulfstream-G-V	637	10.67	98,002	14.26	0.0806	28.5
Total CDF =						0.6329	

Results Table 3. Flexible ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on A(15)
1	Single Wheel 5	7,000	100.00	45.0	4.06	2.3
2	Single Wheel 10	10,000	100.00	50.0	5.21	3.8
3	Single Wheel 15	15,000	95.00	50.0	4.40	2.7
4	Dual Wheel 20	20,000	95.00	65.0	4.79	3.2
5	Dual Wheel 30	30,000	95.00	85.0	6.30	5.6

PCN Results Flexible 2-12-2018 00;19;39

6 Citation-X	36,000	95.00	189.0	8.40	9.9
7 Challenger-CL-604	48,200	95.00	145.0	9.10	11.6
8 Gulfstream-G-IV	75,000	95.00	185.0	12.58	22.2
9 Gulfstream-G-V	90,900	95.00	188.0	13.57	25.8

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

Num,Plane,GWin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDft,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
1,Single Wheel 5,7000.000,2.3,11826,4.40,3.43028E+004,1.01423E+304,8.13,13293.978,4.4,11.2,A,15.00,1.00,F
2,Single Wheel 10,10000.000,3.8,1898,5.04,6.23265E+003,1.01423E+304,10.42,11546.933,4.4,11.2,A,15.00,1.00,F
3,Single Wheel 15,15000.000,2.7,1898,4.20,5.27175E+003,1.01423E+304,8.80,24309.235,4.4,11.2,A,15.00,1.00,F
4,Dual Wheel 20,20000.000,3.2,2628,4.80,1.02796E+004,1.01423E+304,8.21,32205.927,6.6,11.2,A,15.00,1.00,F
5,Dual Wheel 30,30000.000,5.6,285,5.34,1.18053E+003,6.52110E+171,10.56,32420.144,6.1,11.2,A,15.00,1.00,F
6,Citation-X,36000.000,9.9,285,6.86,8.77242E+002,6.08792E+006,11.06,36738.935,10.2,11.2,A,15.00,1.00,F
7,Challenger-CL-604,48200.000,11.6,285,7.70,1.13396E+003,5.53548E+005,11.02,49610.022,12.0,11.2,A,15.00,1.00,F
8,Gulfstream-G-IV,75000.000,22.2,285,10.58,1.26086E+003,2.29211E+003,10.72,79903.959,24.1,11.2,A,15.00,1.00,F
9,Gulfstream-G-V,90900.000,25.8,17,8.11,8.10582E+001,1.00591E+003,10.67,98001.739,28.5,11.2,A,15.00,1.00,F

This file name = PCN Results Flexible 2-12-2018 00;16;29.txt

Library file name = C:\Users\shirin\Desktop\FHB Airport PCN\FHB RW13-31-1.Ext

Units = English

Evaluation pavement type is flexible and design procedure is CBR.

Alpha Values are those approved by the ICAO in 2007.

CBR = 10.53 (Subgrade Category is B(10))

Evaluation pavement thickness = 12.90 in

Pass to Traffic Cycle (PtoTC) Ratio = 1.00

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

No aircraft have 4 or more wheels per gear. The FAA recommends a reference section assuming 3 inches of HMA and 6 inches of crushed aggregate for equivalent thickness calculations.

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	2,957	8,577	5.80
2	Single Wheel 10	10,000	100.00	50.0	475	1,560	6.31
3	Single Wheel 15	15,000	95.00	50.0	475	1,319	5.24
4	Dual Wheel 20	20,000	95.00	65.0	657	2,570	6.06
5	Dual Wheel 30	30,000	95.00	85.0	71	294	6.20

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on B(10)
1	Single Wheel 5	>5,000,000	11.73	8,470	6.77	0.0000	3.9
2	Single Wheel 10	849,878	9.27	19,358	10.78	0.0000	9.9
3	Single Wheel 15	>5,000,000	12.36	16,332	6.82	0.0000	4.0
4	Dual Wheel 20	>5,000,000	11.31	24,531	8.12	0.0000	5.7
5	Dual Wheel 30	295	6.21	91,007	17.97	0.0000	27.6
Total CDF =						0.0000	

Results Table 3. Flexible ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on B(10)
1	Single Wheel 5	7,000	100.00	45.0	6.16	3.2
2	Single Wheel 10	10,000	100.00	50.0	7.75	5.1
3	Single Wheel 15	15,000	95.00	50.0	6.54	3.7
4	Dual Wheel 20	20,000	95.00	65.0	7.06	4.3
5	Dual Wheel 30	30,000	95.00	85.0	8.94	6.9

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

Num,Plane,GWin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDFt,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
 1,Single Wheel 5,7000.000,3.2,2957,5.80,8.57715E+003,1.01423E+304,11.73,8470.195,3.9,12.9,B,10.53,1.00,F
 2,Single Wheel 10,10000.000,5.1,475,6.31,1.55980E+003,9.05972E+012,9.27,19358.344,9.9,12.9,B,10.53,1.00,F

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3,Single Wheel 15,15000.000,3.7,475,5.24,1.31933E+003,1.01423E+304,12.36,16332.109,4.0,12.9,B,10.53,1.00,F
4,Dual Wheel 20,20000.000,4.3,657,6.06,2.56990E+003,1.01423E+304,11.31,24530.849,5.7,12.9,B,10.53,1.00,F
5,Dual Wheel 30,30000.000,6.9,71,6.20,2.94096E+002,3.14084E+009,6.21,91006.904,27.6,12.9,B,10.53,1.00,F

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Units = English

Evaluation pavement type is flexible and design procedure is CBR.

Alpha Values are those approved by the ICAO in 2007.

CBR = 9.13 (Subgrade Category is B(10))

Evaluation pavement thickness = 9.00 in

Pass to Traffic Cycle (PtoTC) Ratio = 1.00

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

No aircraft have 4 or more wheels per gear. The FAA recommends a reference section assuming 3 inches of HMA and 6 inches of crushed aggregate for equivalent thickness calculations.

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	2,957	8,577	6.66
2	Single Wheel 10	10,000	100.00	50.0	475	1,560	7.22
3	Single Wheel 15	15,000	95.00	50.0	475	1,319	6.00
4	Dual Wheel 20	20,000	95.00	65.0	657	2,570	6.82
5	Dual Wheel 30	30,000	95.00	85.0	71	294	6.94

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on B(10)
1	Single Wheel 5	522,928	8.35	8,130	6.63	0.0023	3.8
2	Single Wheel 10	4,153	7.85	13,129	8.88	0.0521	6.7
3	Single Wheel 15	134,515	8.25	17,852	7.13	0.0014	4.4
4	Dual Wheel 20	25,326	8.07	23,276	7.83	0.0141	5.3
5	Dual Wheel 30	592	7.51	39,415	10.72	0.0689	9.8
Total CDF =						0.1387	

Results Table 3. Flexible ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on B(10)
1	Single Wheel 5	7,000	100.00	45.0	6.16	3.2
2	Single Wheel 10	10,000	100.00	50.0	7.75	5.1
3	Single Wheel 15	15,000	95.00	50.0	6.54	3.7
4	Dual Wheel 20	20,000	95.00	65.0	7.06	4.3
5	Dual Wheel 30	30,000	95.00	85.0	8.94	6.9

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

Num,Plane,GWin,ACNin,ADout,6Dt,COV20yr,COVtoF,CDFt,GWcdf,PCNcdf,EVALt,SUBcode,KorCBR,PtoTC,FlexOrRig
 1,Single Wheel 5,7000.000,3.2,2957,6.66,8.57715E+003,3.77131E+006,8.35,8129.547,3.8,9.0,B,9.13,1.00,F
 2,Single Wheel 10,10000.000,5.1,475,7.22,1.55980E+003,2.99516E+004,7.85,13129.412,6.7,9.0,B,9.13,1.00,F
 3,Single Wheel 15,15000.000,3.7,475,6.00,1.31933E+003,9.70109E+005,8.25,17851.587,4.4,9.0,B,9.13,1.00,F

4,Dual Wheel 20,20000.000,4.3,657,6.82,2.56990E+003,1.82651E+005,8.07,23275.602,5.3,9.0,B,9.13,1.00,F
5,Dual Wheel 30,30000.000,6.9,71,6.94,2.94096E+002,4.26984E+003,7.51,39414.689,9.8,9.0,B,9.13,1.00,F

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Library file name = C:\Users\shirin\Desktop\FHB Airport PCN\FHB RW13-31-1.Ext

Units = English

Evaluation pavement type is flexible and design procedure is CBR.

Alpha Values are those approved by the ICAO in 2007.

CBR = 8.47 (Subgrade Category is B(10))

Evaluation pavement thickness = 7.30 in

Pass to Traffic Cycle (PtoTC) Ratio = 1.00

Maximum number of wheels per gear = 2

Maximum number of gears per aircraft = 2

No aircraft have 4 or more wheels per gear. The FAA recommends a reference section assuming 3 inches of HMA and 6 inches of crushed aggregate for equivalent thickness calculations.

Results Table 1. Input Traffic Data

No.	Aircraft Name	Gross Weight	Percent Gross Wt	Tire Press	Annual Deps	20-yr Coverages	6D Thick
1	Single Wheel 5	7,000	100.00	45.0	2,957	8,577	7.11
2	Single Wheel 10	10,000	100.00	50.0	475	1,560	7.68
3	Single Wheel 15	15,000	95.00	50.0	475	1,319	6.38
4	Dual Wheel 20	20,000	95.00	65.0	657	2,570	7.29
5	Dual Wheel 30	30,000	95.00	85.0	71	294	7.37

Results Table 2. PCN Values

No.	Aircraft Name	Critical Aircraft Total Equiv. Covs.	Thickness for Total Equiv. Covs.	Maximum Allowable Gross Weight	ACN Thick at Max. Allowable Gross Weight	CDF	PCN on B(10)
1	Single Wheel 5	58,097	8.02	5,804	5.61	0.6853	2.7
2	Single Wheel 10	4,277	8.37	7,612	6.76	1.6930	3.9
3	Single Wheel 15	30,587	8.09	12,226	5.90	0.2002	3.0
4	Dual Wheel 20	12,031	8.21	16,784	6.27	0.9916	3.4
5	Dual Wheel 30	1,274	8.58	23,046	7.53	1.0719	4.9
Total CDF =						4.6421	

Results Table 3. Flexible ACN at Indicated Gross Weight and Strength

No.	Aircraft Name	Gross Weight	% GW on Main Gear	Tire Pressure	ACN Thick	ACN on B(10)
1	Single Wheel 5	7,000	100.00	45.0	6.16	3.2
2	Single Wheel 10	10,000	100.00	50.0	7.75	5.1
3	Single Wheel 15	15,000	95.00	50.0	6.54	3.7
4	Dual Wheel 20	20,000	95.00	65.0	7.06	4.3
5	Dual Wheel 30	30,000	95.00	85.0	8.94	6.9

Results Table 4. Summary Output for Copy and Paste Into the Support Spread Sheet

Num, Plane, Gwin, ACNin, ADout, 6Dt, COV20yr, COVtoF, CDFt, GWcdf, PCNcdf, EVALt, SUBcode, KorCBR, PtoTC, FlexOrRig
 1, Single Wheel 5, 7000.000, 3.2, 2957, 7.11, 8.57715E+003, 1.25152E+004, 8.02, 5804.263, 2.7, 7.3, B, 8.47, 1.00, F
 2, Single Wheel 10, 10000.000, 5.1, 475, 7.68, 1.55980E+003, 9.21318E+002, 8.37, 7612.237, 3.9, 7.3, B, 8.47, 1.00, F

PCN Results Flexible 2-12-2018 00;15;05

3,Single Wheel 15,15000.000,3.7,475,6.38,1.31933E+003,6.58902E+003,8.09,12225.899,3.0,7.3,B,8.47,1.00,F
4,Dual Wheel 20,20000.000,4.3,657,7.29,2.56990E+003,2.59166E+003,8.21,16784.171,3.4,7.3,B,8.47,1.00,F
5,Dual Wheel 30,30000.000,6.9,71,7.37,2.94096E+002,2.74366E+002,8.58,23046.019,4.9,7.3,B,8.47,1.00,F