# FLORIDA DEPARTMENT OF TRANSPORTATION

AVIATION AND SPACEPORT OFFICE





# TABLE OF CONTENTS

Exe	ecutive Summary	1
1.	Introduction	5
2.	Airfield Pavement Network Definition and Pavement Inventory	17
3.	Airfield Pavement Condition	23
4.	Pavement Performance	33
5.	Airfield Pavement Maintenance Policies and Costs	37
6.	Major Pavement Rehabilitation Needs	45
7.	Preventative and Major Rehabilitation Planning	47
8.	Visual Aid Exhibits	49
9.	Recommendations	51
LIS	ST OF TABLES	
Tak	ole I: Condition Summary by Branch	2
Tak	ole II: Condition Summary by Pavement Facility Use	2
Tak	ole III: Year-1 Major Rehabilitation Needs for Boca Raton Airport	3
Tak	ole IV: 10-Year Preventative Maintenance and Major Rehabilitation	4
Tak	ole 1-1: Sampling Rate Schedule for SAPMP PCI Survey Inspections	13
Tak	ole 2-1: Previous and/or Anticipated Airfield Pavement Construction	19
Tak	ole 2-2: Pavement Inventory Summary	20
Tak	ole 2-3: Airfield Pavement Inventory Details	21
Tak	ole 3-1: Airfield Pavement Distresses for Asphalt Concrete	26
Tak	ole 3-2: Airfield Pavement Distresses for Portland Cement Concrete	27
Tak	ole 3-3: Pavement Condition Index Rating Summary	29
Tak	ole 5-1: Recommended AC, AAC, and APC Maintenance and Repair Policy	38
Tak	ole 5-2: Recommended PCC Maintenance and Repair Policy	39
Tak	ole 5-3: Critical and Minimum Service Level PCI for Regional Reliever Airports	41
Tak	ole 5-4: Maintenance and Major Rehabilitation Activity Based on PCI	41
Tak	ole 5-5: AC Maintenance Unit Costs	43
Tak	ole 5-6: PCC Maintenance Unit Costs	43
	ole 5-7: Rehabilitation Activities and Unit Costs by Condition for Regional Reliever	44
	ole 6-1: Summary of Major Rehabilitation	
	ole 7-1: 10-Year Preventative and Major Rehabilitation Summary	47



# LIST OF FIGURES

Figure 1-1: Pavement Life Cycle	11
Figure 1-2: Flexible Pavement, Asphalt Concrete	14
Figure 1-3: Rigid Pavement, Portland Cement Concrete	15
Figure 2-1: Airfield Pavement Type	21
Figure 3-1: Airfield Pavement Condition Index Rating Summary	28
Figure 3-2: Percentage of Pavement Area by Condition Rating by Use	30
Figure 4-1: Runway Pavement Performance Prediction Summary	34
Figure 4-2: Taxiway Pavement Performance Prediction Summary	34
Figure 4-3: Apron Pavement Performance Prediction Summary	35
Figure 6-1: 10-Year Major Rehabilitation Budget Scenario Analysis	46
Figure 7-1: 10-Year Preventative and Major Rehabilitation Summary	48

# **APPENDICES**

Appendix A Airfield Pavement Network Definition Exhibit			
	Airfield Pavement System Inventory Exhibit		
	Pavement Geometry Inventory		
	Work History Report		
Appendix B	Airfield Pavement Condition Index Rating Exhibit		
	Pavement Condition Index Inventory		
Appendix C	Branch Condition Report		
	Section Condition Report		
Appendix D	Pavement Performance Prediction Table		
	Pavement Performance by Pavement Use		
Appendix E	Year-1 Preventative Activities		
Appendix F	Airfield Pavement 10-Year Major Rehabilitation Exhibit		
	Airfield Pavement 10-Year Major Rehabilitation Table		
Appendix G	Photographs		
Appendix H	Distress Data - Re-inspection Report		



#### **EXECUTIVE SUMMARY**

In 2012, the Florida Department of Transportation (FDOT) Central Aviation Office selected a team lead by Kimley-Horn and Associates, Inc. and including their subconsultants Penuel Consulting and LLC, Roy D. McQueen & Associates, LTD, to provide services in support of FDOT in the continued efforts of updating the existing Statewide Airfield Pavement Management Program (SAPMP). This work is to be completed over the fiscal years of 2013 through 2015.

The tasks required to achieve this objective at each participating airport specifically included the following:

- Obtain recent construction history from the airport to update the Pavement Network Definition Exhibits using CADD from the previous SAPMP update.
- Update the airport pavement inventory data (construction history, geometry, identification, and classification) based on airport provided information.
- Update the FDOT SAPMP MicroPAVER database files and system tables for the purpose of analyzing field data for Pavement Condition Index (PCI) calculation of current pavement condition
- Development of pavement performance models for the approximation of future pavement performance.
- Development of a maintenance and repair plan, and a 10-year major rehabilitation program to address the pavement needs based on condition.
- Development of planning level opinions of probable costs for pavement preservation and rehabilitation.

In October 2014, a PCI survey inspection was performed at Boca Raton Airport. The results of the inspection indicate that, based on ASTM D 5340-12, the airport's airfield pavement facilities had an overall area-weighted average PCI of 94, representing a Good overall network condition. Table I summarizes the overall condition summary by network level branch in comparison to the FDOT recommended minimum service level and action recommendations for either major rehabilitation or maintenance level activities.



Table I: Cond	dition Summary	by Branch
---------------	----------------	-----------

Branch Name	Area Weighted PCI	PCI Range	Average Condition Rating	FDOT Minimum Service Level	MicroPAVER Minimum PCI	Action Required
RUN-UP APRONS	90	87 - 95	GOOD	65	65	
RUNWAY 5-23	95	86 - 97	GOOD	75	65	
Taxiway alpha	93	93	GOOD	70	65	
TAXIWAY BRAVO	97	97	GOOD	70	65	
TAXIWAY CHARLIE	97	97	GOOD	70	65	
CONNECTOR TAXIWAY TO APRONS	94	91 - 96	GOOD	70	65	
TAXIWAY ECHO	74	74	SATISFACTORY	70	65	
TAXIWAY FOXTROT	97	97	GOOD	70	65	
TAXIWAY GOLF	97	97	GOOD	70	65	
TAXIWAY HOTEL	92	92	GOOD	70	65	
TAXIWAY PAPA	94	89 - 97	GOOD	70	65	

"Action Required" in Table I is triggered when a section within the identified Branch Facility falls below the FDOT Minimum Service Level. Year 1 Major Rehabilitation needs are triggered in Table III when a section in the identified Branch falls below the MicroPAVER Minimum PCI. Major Rehabilitation is also triggered in Table III when the section PCI is above critical and the section exhibits significant structural related distresses.

For project level planning and inspection development; the airfield pavement facilities have been divided at the branch level based on facility use and designation, and at the section level based on pavement construction history, composition (e.g. asphalt versus concrete), aircraft traffic operations, and pavement surface conditions. Table II provides the overall area weighted condition of the pavement based on facility branch use.

Table II: Condition Summary by Pavement Facility Use

Use Average Area-Weighted PCI		Condition Rating
Runway	95	GOOD
Taxiway	93	GOOD
Apron	90	GOOD



Based on the inspection performed at the airport for this SAPMP update; the current conditions were determined using the collected PCI distress data. PCI values were computed and used to identify pavement facilities that were below the defined critical PCI as sections that would benefit from immediate major rehabilitation activity. These pavement sections that were determined to be below the critical PCI would most likely benefit from long-term major rehabilitative construction activity rather than localized, short-term maintenance and repairs.

The Year-1 Major Rehabilitation Needs, or projects that are recommended to be completed because the pavement is below the critical PCI, were developed on the assumption that there is an unlimited repair budget. These projects include:

NO MAJOR REHABILITATION NEEDS IN 2015

The section level projects that were identified as Year-1 Major Rehabilitation Needs are in Table III.

Branch ID	Section ID	Major Rehabilitation Costs	PCI Before M&R	Rehabilitation Activity	PCI After M&R		
NO MAJOR REHABILITATION IDENTIFIED							
	Total =	\$ -					

Table III: Year-1 Major Rehabilitation Needs for Boca Raton Airport

The SAPMP uses historic pavement condition data from the previous inspections to develop pavement performance models. These pavement performance models are used to create PCI prediction curves to estimate future pavement conditions based on the historic trends. The section areas, prediction curves, and current condition data were used to develop a 10-year major rehabilitation program. Major rehabilitation costs for each year of the 10-year program are based on general unit costs for pavement repairs and not detailed cost estimates that are typically prepared for a construction set of bid documents. Additionally, preventative maintenance level repair budgets were estimated for a 10-year duration. Table IV provides an annual summary of the 10-year Preventative Maintenance and Major Rehabilitation planning level cost opinions for the airfield pavement facilities at the airport. Refer to Section 6 of this report for additional information.

Since the previous update performed in 2012, significant updates to the ASTM D 5340 Standard Test Method for Airport Pavement Condition Index Surveys have



affected the analysis of the program. These include the separation of Weathering and Raveling into two distinct flexible pavement distresses, and the addition of the Alkali-Silica Reaction distress for rigid pavement distresses. Additionally, the deterioration associated with the rigid pavement distress Scaling/Map Cracking has been modified. The change in distress classification, as described in ASTM D 5340-12, may result in small variances in the PCI values from the previous inspection analysis. The update included changes in distress deduction values that may be less than the previous analysis. Please refer to Section 3 Airfield Pavement Condition Index for additional information.

Additionally, pavement repair and rehabilitation work reported by the airports are entered into the SAPMP which can improve PCI values.

Table 1V. 10-1 call Treventative Maintenance and Major Kenabilitation								
Year	Preventative		Major M&R		Total Year Cost			
2015	\$	14,465.78	\$	-	\$	14,465.78		
2016	\$	19,740.15	\$	-	\$	19,740.15		
2017	\$	36,249.13	\$	-	\$	36,249.13		
2018	\$	84,964.19	\$	-	\$	84,964.19		
2019	\$	149,756.98	\$	-	\$	149,756.98		
2020	\$	218,691.55	\$	-	\$	218,691.55		
2021	\$	291,062.02	\$	-	\$	291,062.02		
2022	\$	359,733.51	\$	271,722.25	\$	631,455.76		
2023	\$	430,030.69	\$	-	\$	430,030.69		
2024	\$	481,535.98	\$	-	\$	481,535.98		
Total	\$	2,086,229.98	\$	271,722.25	\$	2,357,952.23		

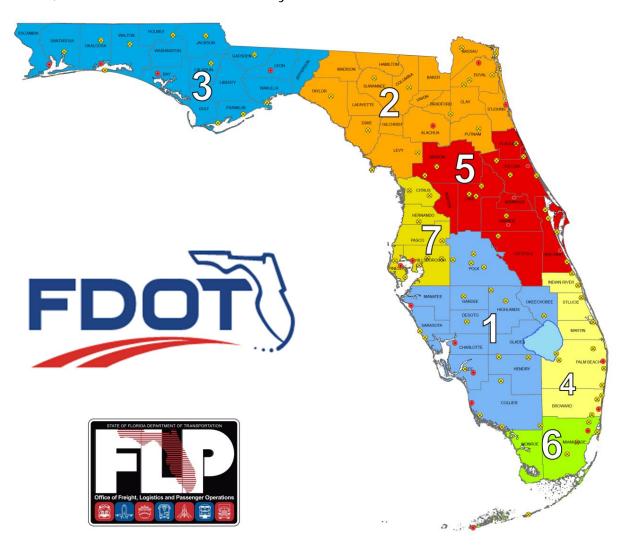
Table IV: 10-Year Preventative Maintenance and Major Rehabilitation

The success of the repair program for your airport depends on the timely implementation of preservation, localized maintenance and repairs, and major rehabilitation work activities. If work is completed as scheduled, your airport should experience an improvement to the overall area-weighted average PCI. Though this analysis was performed with the assumption of an "unlimited budget", the purpose has been to identify specific projects over the course of 10-years for each pavement section where the condition is projected to fall below the critical PCI. The costs depicted in this study are intended to aid the airports in planning level budgets. Prior to construction work, it is recommended that the airport perform additional investigation at the design level to better estimate costs associated with the maintenance, repair, and major rehabilitation activity discussed.



#### 1. INTRODUCTION

The State of Florida has more than 100 public airports that are vital to the Florida economy as well as the economy of the United States. The aviation system in Florida allows the State to capitalize on an increasingly global marketplace. Florida's system of commercial service and general aviation airports are important to businesses throughout the entire State. Air travel is essential to tourism, Florida's number one industry.



There are millions of square feet of pavement infrastructure that consists of runways, taxiways, aprons, ramps, and other areas of airports that are vital to the support and safety of aircraft operations. Timely pavement maintenance repair and major rehabilitation of these pavements will support the airport in operating safely, efficiently, economically and without excessive down time.



The Florida Department of Transportation (FDOT) Central Aviation and Spaceport Office implemented the Statewide Airfield Pavement Management Program (SAPMP) in 1992. In 2012, the FDOT Central Aviation and Spaceport Office selected a team led by Kimley-Horn and Associates, Inc. and including Penuel Consulting, LLC and Roy D. McQueen & Associates, LTD, to provide services in support of the Central Aviation and Spaceport Office Program Manager. The continued evaluation and update of the existing SAPMP is to be completed over fiscal years 2013 through 2015.

This individual airport airfield pavement evaluation report discusses the work performed, a summary of findings, condition analysis results, and recommendations for maintenance repair and major rehabilitation planning associated with the SAPMP update. It also briefly describes the procedures used to ensure that the appropriate engineering and scientific standards of care, quality, budget, schedules, and safety requirements were implemented during the performance of this work.

## 1.1 Purpose of Pavement Evaluation Report

The purpose of this Airfield Pavement Evaluation Report is to:

- Briefly describe the SAPMP goals, procedures, and responsibilities of the program's participants.
- Provide a technical explanation on pavement management principles, standard practices, objectives, and benefits of implementation.
- Outline procedures used to coordinate, collect, evaluate and report pavement inspection results at this airport.
- Analyze and utilize condition results for the development of maintenance, repair, and major rehabilitation based on pavement performance trends.

# 1.2 FDOT Statewide Airfield Pavement Management Program

In 1992, the FDOT implemented the SAPMP to improve the knowledge of pavement conditions at public airports in the Florida Airports System, identify maintenance and rehabilitation needs at each airport, automate pavement infrastructure information management, and establish standards to address future needs. The 1992 SAPMP implementation provided the FDOT and the participating airports valuable information for establishing and performing timely and appropriate pavement rehabilitation.

During the 1992-1993 implementation and again during the 1998-1999 updates; the SAPMP performed the development with proprietary software for pavement



management system analysis. This development allowed for the creation of pavement management database file system populated with airport attributes and condition data. The pavement management database was used to establish maintenance, repair, and rehabilitation (M&R) policies, M&R budget costs, and the development of recommendations for performing routine pavement preservation maintenance. This system, known as AIRPAV, was initially developed during the 1992-1993 SAPMP implementation for the analysis of distress data. The AIRPAV system was used again in the 1998-1999 SAPMP update.

In 2004, the SAPMP update included the review of the AIRPAV software compared to other industry available non-proprietary software packages. As a result of this review, MicroPAVER was selected for implementation of the system update. MicroPAVER was developed by the U.S. Army Corps of Engineers Construction Engineering Research Laboratory for the purpose of pavement management. Data from the 1998-1999 FDOT SAPMP update, which was built upon the initial 1992-1993 implementation of AIRPAV, was reviewed and converted to be compatible with the MicroPAVER system. This data conversion included all documented pavement facility, classification, type, history, geometry, PCI condition data and pertinent attributes gathered from airport feedback at the time. This information was used to develop the inventory of each participating airport's pavement facilities in a consistent format. This was the development of Airfield Pavement Network Definition Exhibits. These inventory exhibits visually depicted the branch, section, and sample units that were based upon the pavement construction history and composition information provided by each airport.

In 2006-2008, the SAPMP was updated again with continued use of the MicroPAVER system. Based on the distress data collected, a maintenance repair and major rehabilitation planning program was developed for each airport. As part of this SAPMP update, the procedures for the inspection and the collection of the pavement distress data were documented, and an interactive website (<a href="http://www.dot.state.fl.us/aviation/pavement.shtm">http://www.dot.state.fl.us/aviation/pavement.shtm</a>) was established for input of data.

In 2010-2012, the SAPMP was updated using new GPS integrated technology to digitally collect pavement distress data. Interactive GIS map files were developed from updated Airfield Pavement Network Definition Maps to aid pavement condition inspectors in the collection of sample distress data. The data collected was utilized to develop pavement performance models to predict future pavement PCI values and make recommendations for major rehabilitation.



Currently, airports participating in the Airport Improvement Program (AIP) Grant Program are required by the Federal Aviation Administration (FAA) to develop and implement a pavement maintenance program to be eligible for funding (FAA Advisory Circular 150/5380-6C Guidelines and Procedures for Maintenance of Airport Pavements). This program requires detailed inspection of airfield pavement conditions by trained personnel. The inspections are required to be performed at least once a year or every three years, if the pavement is inspected in accordance to the PCI survey procedure (such as ASTM International D 5340 Standard Test Method for Airport Pavement Condition Index Surveys). The previous 2010-2012 SAPMP update utilized the ASTM D 5340-04 released in 2004, in lieu of the 2010/2011 edition, in order to maintain consistent database integrity and benefit of pavement performance models from previous inspections.

# 1.3 Organization

#### FDOT Central Aviation Office Program Manager

The FDOT Central Office Airport Engineering Manager serves as the Aviation and Spaceport Office Program Manager (ASO-PM) for the SAPMP. The ASO-PM monitors the work performed by the Consultant. The ASO-PM has review and approval authority for each program task and manages the day-to-day details of the SAPMP and the pertinent updates.

The ASO-PM reports updates and milestones to the FDOT State Aviation and Spaceport Manager and Development Administrator.

#### Consultant

The Consultant, Kimley-Horn and Associates, Inc. and their team consisting of Penuel Consulting, LLC and Roy D. McQueen & Associates, LTD, provides technical and administrative assistance to the ASO-PM during the execution of the update to the SAPMP. The efforts include updating the airport pavement inventory data, performing the condition survey inspections, evaluating the airfield pavement conditions and updating the SAPMP based upon procedures outlined in the FAA Advisory Circular 150/5380-6C Guidelines and Procedures for Maintenance of Airport Pavements and ASTM D 5340.

#### Airport Role

The airports are the ultimate beneficiary for each condition survey inspection performed at their respective airfields as part of the SAPMP. The individual airports will be provided final deliverables prepared by the Consultant that have been reviewed and approved by the ASO-PM. The airport should have provided a



current Airport Layout Plan (ALP) to the Consultant and, if they participated in the previous SAPMP, indicate any construction activity that was performed since the previous inspections.

#### **FDOT District Offices**

The seven FDOT District Offices, specifically the Aviation Representatives, provide vital support to the SAPMP update and the ASO-PM. Each District supports the SAPMP's on-going efforts by providing representative construction trend costs and practices through the Florida Airports System. Each District Office receives copies of individual Airfield Pavement Evaluation Reports for the airport facilities located within their respective districts.

## 1.4 Introduction to Pavement Types and Pavement Management

#### **Pavement Basics**

A pavement is a prepared surface designed to provide a continuous smooth ride at all taxi, takeoff, and landing speeds and to support an estimated amount of traffic loading for a certain number of years. Pavements are composed of a combination of constructed layers of subgrade soils, subbases, base course material, and surface level courses. There are two primary types of pavements:

- Flexible Pavement, composed of bituminous asphalt concrete (AC) surface, base, and subbase layers.
- Rigid Pavement, composed of Portland Cement Concrete (PCC) surface, base, and subbase layers.

Both pavement types use a combination of layered materials and thicknesses in order to support the traffic loads (both magnitude and repeated application) and protect the underlying subgrade soil. Flexible pavements dissipate applied loads from layer to layer until the load magnitude is small enough to be supported by the subgrade soil. In rigid pavements, the PCC layer supports the majority of the structural load applied, and the base or subbase layer is constructed to provide a smooth, level, and continuous platform that provides uniform support for PCC slabs.

A small percentage of airfield pavements within the Florida Airports System are composed of hybrid 'composite pavement' sections that may include both AC pavement and PCC pavement. The two known composite pavements are AC surface over PCC (APC) and PCC over AC (White Topping).

Due to the different nature of the pavement types, construction, and their materials; flexible and rigid pavements have different modes of failure and



fatigue. This results in varying deterioration and distress development. Understanding the mechanics and modes of failure of the pavement types assists the engineers in making timely, adequate and consistent observations, and in recommending economical maintenance repairs and major rehabilitation to the pavement structures at each airfield.

#### The Concept of an Airfield Pavement Management System

The SAPMP is a program that provides the Florida Airports System an opportunity to implement and/or maintain a proactive Airfield Pavement Management System (APMS) in a consistent manner at a regular schedule. The SAPMP Airfield Pavement Management System consists of pavement inventory, pavement construction and history, condition survey inspections, pavement performance modeling, maintenance recommendations, and major rehabilitation planning. The various elements of the APMS are used by experienced engineers to identify critical pavements, make pavement preservation or rehabilitation recommendations, and approximate pavement performance. The APMS as a whole is used by an airport's stakeholders, managing agencies, engineers, and planners as a tool in decision making for future project planning, budgeting, and scheduling of activities for its airfield pavement infrastructure.

A benefit of an active APMS is it provides an understanding of an airport's pavement performance trends for the purpose of project planning. Based on the performance trend of their pavements, an airport can schedule pavement maintenance and rehabilitation prior to when the pavement section has deteriorated to a condition that would require reconstruction. The use of pavement performance trends will help airports plan M&R and Rehabilitation projects in a manner and sequence that maximizes benefit and minimizes costs. Figure 1-1, which is based upon the FAA Advisory Circular 150 5380-7B Airport Pavement Management Program, illustrates how pavement generally deteriorates over time and the relative cost of rehabilitation and reconstruction throughout its life.



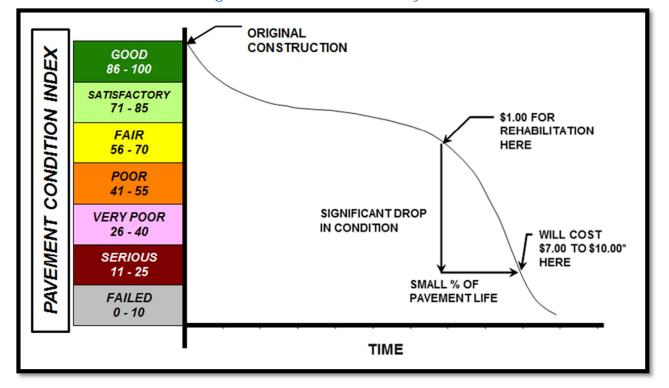


Figure 1-1: Pavement Life Cycle

Source: FAA Advisory Circular 150 5380-7B Airport Pavement Management Program

Note that during approximately the first 75% of a pavement's life, it performs relatively well. After that, however, it begins to deteriorate rapidly. The number of years a pavement stays in 'Good' and 'Satisfactory' conditions depends on how well it is proactively maintained. As the Figure 1-1 demonstrates, the cost of maintaining the pavement above critical condition before rapid deterioration occurs is much less compared to maintaining pavements after substantial deterioration has occurred.

Pavements tend to deteriorate at an accelerated rate when actual traffic loading exceeds the original design assumptions and when limited resources are available for maintenance and repair (M&R) efforts. Planned maintenance and rehabilitation, essentially preserving pavements and delaying condition deterioration, help airport managers, agencies, and engineers maximize the use of their budgets and prolong the life of their pavements. An APMS provides a tool to schedule planned maintenance and major rehabilitation efforts based on a consistent methodology of condition assessment. This consistent methodology of pavement condition assessment allows for the development of pavement performance models to help forecast future pavement conditions.



Part of the implementation of the APMS is the clear identification and inventorying of pavement infrastructure that needs to be managed specifically within the airport owner, manager, and agency responsibility. Another aspect of the APMS is development of maintenance, repair, and major rehabilitation policies that align with the expectations of pavement performance and are based on ability to fund the types of work identified. Once there is an understanding of the cause and extent of pavement distresses, appropriate maintenance and rehabilitation can be planned. By using representative construction costs based on historic bid trends; planning level budget costs can be developed on a multiyear duration.

#### Airfield Pavement Inspection Methodology for the SAPMP

Pavement condition assessment requires the application of professional judgments regarding the condition of the pavement. The SAPMP airfield pavement condition survey inspections assess pavement, comparing it to a set of standards in ASTM D 5340-12. As part of this update, SAPMP has adopted the changes made in updates to ASTM D 5340-12. These include the separation of Weathering and Raveling into two distinct flexible pavement distresses, and the addition of the Alkali-Silica Reaction distress for rigid pavement distresses. Additionally, the deterioration associated with the rigid pavement distress Scaling/Map Cracking has been modified which results in moving Map Cracking from Scaling to ASR. In the newest version of ASTM D 5340-12, there are two kinds of Shrinkage Cracking, Drying Shrinkage and Plastic Shrinkage. The difference between these two is that the depth of first one may extend through the entire depth of the slab while the thickness of the latter one normally does not extend very deep into the pavement's surface. Furthermore, the Plastic Shrinkage consists of two subcategories: Plastic shrinkage (caused by atmosphere) and Plastic shrinkage (caused by construction). Another kind of Map Cracking is listed under Plastic shrinkage that is caused by construction, as well as Crazing. This additional type of Shrinkage change in distress classification, as described in ASTM D 5340-12, may result in small variances in the PCI values from the previous inspection analysis.

The pavement condition surveys assess the functional condition of the pavement surface based on surface distresses as defined by the ASTM D 5340-12. Typically, deficiencies within a pavement structure will eventually reflect to the pavement surface as distresses described within ASTM D 5340-12. The SAPMP is specifically a visual evaluation and analysis based on the ASTM D 5340-12. The structural condition and relative support of the pavement layers can be directly quantified



using non-destructive deflection testing (NDT) as well as other in-depth engineering evaluation or sampling and testing methods.

For the SAPMP update, only visual surveys were performed. Further structural and geotechnical testing should be conducted to determine design level rehabilitation and/or reconstruction needs should the airport proceed to the design process.

In preparation for the PCI survey inspections, the airfield pavements for each airport are divided into branches, sections, and sample units as established by FAA Advisory Circular 150/5380-6C and ASTM D 5340. Further discussion of the process of inventorying and categorizing pavement facilities by use, composition, and history can be found in SECTION 2 AIRFIELD PAVEMENT NETWORK DEFINITION and PAVEMENT INVENTORY.

Sample units are uniformly divided areas of pavement that are defined for inspection. Sample unit sizes are approximately  $5,000 \pm 2,000$  square feet for flexible AC pavements and  $20 \pm 8$  slabs for rigid PCC pavements. Prior to conducting the field condition survey inspections, the sampling plan was developed for the airfield pavements based on updates to the previous inspection sampling based on the available knowledge of construction updates. The sample rate adopted for the SAPMP is depicted on Table 1-1.

Table 1-1: Sampling Rate Schedule for SAPMP PCI Survey Inspections

Flexible Pavements Asphalt Concrete						
Number of Sample Units in Section	Runway  Runway					
1 - 4	1	1				
5 - 10	2	1				
11 - 15	3	2				
16 - 30	5	3				
31 - 40	7	4				
41 - 50	8	5				
≥ 51	20% but ≤ 20	10% but ≤ 10				

Rigid Pavements Portland Cement Concrete							
	Number of Sample Units to Inspect						
Number of Sample Units in Section	Runway	Taxiways, Aprons, Others					
1 - 3	1	1					
4 - 6	2	1					
7 - 10	3	2					
11 - 15	4	2					
16 - 20	5	3					
21 - 30	7	3					
31 - 40	8	4					
41 - 50	10	5					
≥ 51	20% but ≤ 20	10% but ≤ 10					



The sample units to be inspected were determined through a systematic random sampling technique to provide an unbiased representation of sample units for each pavement facility. The sample unit locations had been determined in such a way that they are distributed evenly throughout each defined pavement section area. In certain cases when no representative distresses are observed in the field, additional sample units were added.

The distress quantities and severity levels from each inspected sample unit are used to compute the PCI value and rating for each Section using the ASTM D 5340-12 and MicroPAVER (also known currently as PAVER) software. Figures 1-2 and 1-3 depict graphical representations of the color ranges associated with PCI values and ranges with a photograph of airfield pavement that exhibited the conditions for both flexible and rigid pavements respectively.

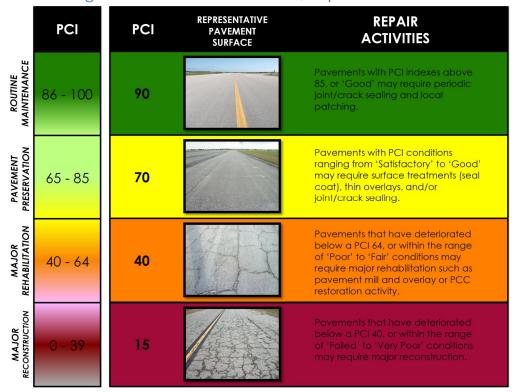


Figure 1-2: Flexible Pavement, Asphalt Concrete



REPRESENTATIVE PAVEMENT SURFACE REPAIR **PCI** PCI **ACTIVITIES** ROUTINE MAINTENANCE Pavements with PCI indexes above 85, or 'Good' may require periodic 86 - 100 90 joint/crack sealing and local PAVEMENT PRESERVATION Pavements with PCI conditions ranging from 'Satisfactory' to 'Good' 70 65 - 85 may require surface treatments, patches, and/or joint/crack sealing. MAJOR REHABILITATION Pavements that have deteriorated below a PCI 64, or within the range of 'Poor' to 'Fair' conditions may 40 40 - 64 require major rehabilitation such as Slab replacement and PCC restoration activity. MAJOR RECONSTRUCTION 15

Figure 1-3: Rigid Pavement, Portland Cement Concrete

Using the ASTM D 5340-12 standard seven qualitative ranges, the SAPMP provides a PCI value and a standard qualitative condition rating for the pavement facilities inspected.



# 2. AIRFIELD PAVEMENT NETWORK DEFINITION AND PAVEMENT INVENTORY

Boca Raton Airport (BCT) is located in Palm Beach County approximately two miles northwest of the City of Boca Raton and directly east of I-95. It is owned by the State of Florida and governed by a seven member Authority appointed by the City of Boca Raton and the Palm Beach County Commission. The Airport is served by Runway 5-23, which is 150-ft wide by 6,276-ft long. The runway is served by parallel Taxiway Papa, connectors, and run-up aprons. The aprons north of the movement areas are privately maintained. The airport is designated as a Regional Reliever airport and is located in District 4 of the Florida Department of Transportation.

It is important to note that the aforementioned runway data in addition to the remaining airfield pavement facilities geometric attributes may vary slightly from the geometry used in the condition exhibit in Appendix B and the major rehabilitation exhibit in Appendix F based on field measurements.

The Boca Raton Airport was established in 1936. In 1941, the Airport was repurposed as the Boca Raton Army Airfield. The Army Airfield was deactivated in 1946 at the conclusion of World War II, but 800 acres were retained as an Air Force Auxiliary Field. In 1959, the remainder of the base was granted to the City of Boca Raton and the State of Florida. A single runway was retained for the Airport. The remaining land became the campus of Florida Atlantic University. Today the Airport serves the corporate, recreational, and flight training needs of the community with 125 T-Hangars, an FAA contract tower, FBOs, and larger hangar facilities.

#### 2.1 Network Definition

The airfield pavements within each airport network are separated into manageable units within the FDOT SAPMP MicroPAVER database system, organizing pavement data by similar use and constructive history.

#### Branch and Section Identification

Each airport's airfield pavement network is generally subdivided into separate Branches (runways, taxiways, aprons/ramps, or others) that have distinctly different functional identifications and uses. Each Branch is further subdivided into Sections as defined by pavement location, composition, and construction history. A Section is typically understood to be a project level subdivision within a Branch



feature. Sections are manageable units to organize data collection and are treated individually during the maintenance and major rehabilitation planning process. A pavement rank (primary, secondary, or tertiary) is assigned to each Section based on its importance and type of use to airport operations. The pavement rankings designated for each section at this airport were defined by the previous SAPMP, unless changes were communicated by the airport. These Sections are further subdivided into condition survey sample units based on the methodology described in ASTM D 5340.

#### Airfield Pavement System Inventory and Network Definition Update

The Airfield Pavement System Inventory and Airfield Pavement Network Definition Exhibits are developed individually for each participating airport. Based on information requested of and provided by the airport, the airfield pavements are evaluated on designation updates, and recent or anticipated pavement construction activity. As mentioned previously, a Section is defined partially by its construction history of which is factored in the performance and condition of the pavement section.

The Airfield Pavement System Inventory Exhibit, Figure A-2 in Appendix A, is a snapshot of recent and anticipated airfield pavement construction activity communicated by the airport since the last SAPMP update. Construction activities identified include maintenance and repair activity, major rehabilitation, and airfield pavement expansion efforts. Maintenance and repair activity may include; surface treatments, crack sealing, patching, slab replacement, and others. Both maintenance and rehabilitation activities are identified at the pavement section level. This type of work may result in an increase in overall Section PCI since the last inspection. Major rehabilitation efforts may include; asphalt milling and overlay, and full depth pavement reconstruction. This type of effort will result in a resetting of the pavement section PCI value to 100 due to the nature of the work. Lastly, airfield pavement expansions are accounted for as new inventory and assigned a section PCI of 100. Typically the new pavement sections are not inspected due to its condition; however these pavements are incorporated into the SAPMP pavement database. When possible, these changes are reflected in the Airfield Pavement Network Definition Exhibit, in Appendix A, prior to the field inspection. The updates are typically discussed and confirmed with airport personnel at the beginning and end of condition survey inspections to ensure accuracy.

The Airfield Pavement Network Definition Exhibit depicts the airport's pavement limits with Branch and Section delineations. This exhibit also includes the Page | 18



subdivision on Section areas into sample units and is used to identify those sample units that are to be inspected. The previous SAPMP Airfield Pavement Network Definition Exhibits were used as a base. Updates and information provided by each airport was reviewed and the exhibits were revised appropriately. Characteristics that are considered include; airfield configuration, branch designations (magnetic declination, Airport Layout Plan updates) and pavement composition. The exhibit serves not only as a primary guide for the airfield inspectors but also allows specific distresses found in the re-inspection report to be geographically located.

Due to recent and anticipated construction efforts; pavement area sections may have been consolidated or created which will affect the total number of sample units to be inspected based upon the methods described in ASTM D 5340 and from the sampling rate schedule. Table 2-1 summarizes the recent and anticipated airfield pavement construction efforts communicated by the airport.

Table 2-1: Previous and/or Anticipated Airfield Pavement Construction

Construction Year	Section Location	Work Type/Pavement Section
2010	RUNWAY 5-23 TAXIWAY P AND ALL CONNECTORS	ASPHALT REHABILITATION
2014	RUNWAY 5 RUN- UP PAD	ASPHALT REPAIR

# Airfield Pavement Network Definition & Geographic Information System (GIS)

As part of this SAPMP update, geographic information system (GIS), global positioning system (GPS), and digital data collection were integrated into the Pavement Inspection Methodology at each airport. Using AutoCAD Civil 3D, ArcMap, ArcPad, and FDOT Survey and Mapping Office Aerial Photography; digital navigation maps have been developed for each airport to represent the SAPMP pavement inventory attributes. These navigation maps were used with field data tablets to assist survey teams as they performed condition inspections by navigating pavement infrastructure and collecting distress data.



# 2.2 Pavement Inventory

The detailed pavement inventory database was updated to reflect the updates to the Airfield Pavement Network Definition Exhibit, in Appendix A, and field inspection results. Table 2-2 and Figure 2-1 provides a summary of the pavement inventory attributes at Boca Raton Airport for this SAPMP update.

Table 2-2: Pavement Inventory Summary

Table 2-2. Pavernent inventory summary							
Airfield Pavement Network Definition							
Number of Branches	11						
Number of Sections		30					
Sample Units		71					
Airfield	Pavement L	Ise					
Use	Area (SF)	Relative Area (%)					
Runway	941,550	69%					
Taxiway	365,665	27%					
Apron	63,210	5%					
Total =	1,370,425	100%					
Airfield F	Pavement Ty	/pe					
Туре	Area (SF)	Relative Area (%)					
Asphalt Concrete (AC)	26,516	2%					
Asphalt Overlay (AAC)	1,343,909	98%					
Portland Cement Concrete (PCC)	0	0%					
AC over PCC (APC)	0	0%					



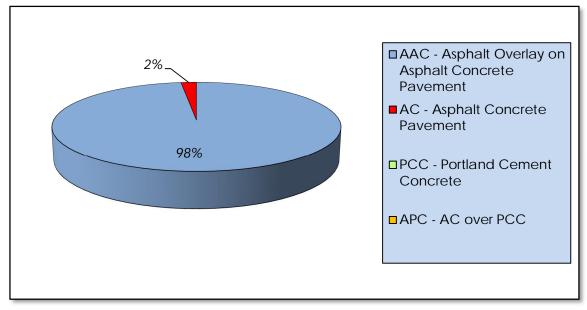


Figure 2-1: Airfield Pavement Type

Specific details to each Branch and Section such as; name, geometry, age, rank, surface type, and construction history are provided in Table 2-3.

Table 2-3: Airfield Pavement Inventory Details

	Table 2 3. Afficial Laverment inventory betails							
Branch Name	Branch ID	Section ID	True Area (SF)	Section Rank	Surface Type	Last Const. Date	Total Samples Inspected	Total Samples
RUNWAY 5-23	RW 5-23	6112	17,500	Р	AAC	1/1/2010	1	4
RUNWAY 5-23	RW 5-23	6111	36,350	Р	AAC	1/1/2010	2	8
RUNWAY 5-23	RW 5-23	6110	260,000	Р	AAC	1/1/2010	10	52
RUNWAY 5-23	RW 5-23	6107	35,000	Р	AAC	1/1/2010	2	7
RUNWAY 5-23	RW 5-23	6106	72,700	Р	AAC	1/1/2010	3	14
RUNWAY 5-23	RW 5-23	6105	520,000	Р	AAC	1/1/2010	21	104
RUN-UP APRONS	AP RU	5115	11,787	Р	AC	1/1/2010	1	3
RUN-UP APRONS	AP RU	5110	24,879	Р	AAC	1/1/2010	2	5
RUN-UP APRONS	AP RU	5105	26,544	Р	AAC	1/1/2010	2	5
CONNECTOR TAXIWAY TO AP	TW CONN	260	3,165	Р	AAC	1/1/2010	1	1



Branch Name	Branch ID	Section ID	True Area (SF)	Section Rank	Surface Type	Last Const. Date	Total Samples Inspected	Total Samples
CONNECTOR	TW			_			_	_
TAXIWAY TO AP	CONN	250	4,078	Р	AAC	1/1/2010	1	1
CONNECTOR	TW	0.40	4.070	_		4 /4 /0040		
TAXIWAY TO AP	CONN	240	4,073	Р	AAC	1/1/2010	1	1
CONNECTOR	TW							
TAXIWAY TO AP	CONN	230	4,056	Р	AAC	1/1/2010	1	1
CONNECTOR	TW	005	0.700	_		4 /4 /0040		
TAXIWAY TO AP	CONN	225	2,723	Р	AAC	1/1/2010	1	1
CONNECTOR	TW	004	0.540			4 /4 /0040		
TAXIWAY TO AP	CONN	221	3,548	Р	AAC	1/1/2010	1	1
CONNECTOR	TW	000	0.504			4 /4 /0040		
TAXIWAY TO AP	CONN	220	3,501	Р	AAC	1/1/2010	1	1
TAXIWAY P	TW P	131	12,673	Р	AAC	1/1/2010	1	2
TAXIWAY A	TW A	130	7,946	Р	AAC	1/1/2010	1	2
TAXIWAY B	TW B	125	9,396	Р	AAC	1/1/2010	1	2
TAXIWAY C	TW C	120	7,946	Р	AAC	1/1/2010	1	2
TAXIWAY E	TW E	116	14,729	Р	AC	1/1/2010	1	4
TAXIWAY F	TW F	115	7,946	Р	AAC	1/1/2010	1	2
TAXIWAY P	TW P	113	4,000	Р	AAC	1/1/2010	1	1
TAXIWAY P	TW P	112	12,673	Р	AAC	1/1/2010	1	2
TAXIWAY H	TW H	111	7,946	Р	AAC	1/1/2010	1	2
TAXIWAY G	TW G	110	7,945	Р	AAC	1/1/2010	1	2
TAXIWAY P	TW P	108	10,940	Р	AAC	1/1/2010	1	3
TAXIWAY P	TW P	107	14,241	Р	AAC	1/1/2010	1	4
TAXIWAY P	TW P	106	29,080	Р	AAC	1/1/2010	2	7
TAXIWAY P	TW P	105	193,060	Р	AAC	1/1/2010	6	48

Note: If new construction, then survey date = last construction date and PCI is set to 100 by MicroPAVER.

<sup>\*</sup> Sections not surveyed due to reasons such as re-sectioning, no escort, not accessible at the time of survey. Please refer to Section 3 for discussion on the updates to the ASTM D 5640 that may affect PCI in comparison to previous program update.



#### 3. AIRFIELD PAVEMENT CONDITION

Airfield pavement distresses and condition were surveyed in accordance with the methods outlined in FAA Advisory Circular 150/5380-6C and ASTM D 5340-12. These procedures define distress type, severity, and quantity for sampling areas within each defined pavement section area to analyze and determine the PCI value and condition rating.

The program has been updated from ASTM D 5340-04, released in 2004, to ASTM D 5340-12, released in 2013, for this SAPMP update. The primary updates include the separation of certain distress types and the addition of new types with corresponding changes to PCI calculation. These changes in distress classification may result in small variances in the PCI values from the previous inspection analysis.

Below is a brief description of the changes to the distresses presented in the ASTM D 5340 methodology and a table summarizing the deduction affected.

- a) Flexible Asphalt Concrete Pavement distresses for airfield pavements: The previous methodology which featured "(52) Weathering and Raveling" distress has been separated into two distresses "(52) Raveling" and "(57) Weathering". Previously, areas that were recorded as "Weathering and Raveling" were considered as one distress with a high deduction. Based on the updated methodology, in certain situations where "Weathering" only exists and does not meet the definition of "Raveling", the PCI deduction is not as high as the former "Weathering and Raveling". Therefore, areas identified only as "(57) Weathering" based on current ASTM standards, which were previously identified as "(52) Weathering and Raveling", may be subject to an improvement in PCI. In instances where pavement PCI has increased due to this update, it is not due to an improvement in actual condition, however indicative of the adjusted distress deterioration effects.
- b) Rigid Portland Cement Concrete Pavement distresses for airfield pavements: The previous methodology defined "(70) Scaling" as a distress that consisted of surface deterioration caused by construction defects, material defects, and environmental factors. The distress included Alkali-Silica Reaction, also known as ASR. The current methodology has separated Alkali-Silica Reaction as a distress identified as "(76) Alkali-Silica Reaction / ASR". As a result the previous "(70) Scaling" numerical deduction



contribution to the PCI has been reduced. Previous inspections that recorded "(70) Scaling", and currently do not exhibit "(76) Alkali-Silica Reactivity / ASR" may potentially see an increase in PCI. Additionally, (73) Shrinkage Cracks has been redefined as (73) Shrinkage Cracking. Shrinkage Cracking is characterized in two forms; drying shrinkage and plastic shrinkage. Drying shrinkage occurs over time as moisture leaves the pavement, it develops when hardened pavement continues to shrink as excess water not needed for cement hydration evaporates. It forms when subsurface resistance to the shrinkage is present and may extend through the entire depth of the slab. Plastic shrinkage develops when there is rapid loss of water in the surface of recently placed pavement or can form from over finishing/overworking of the pavement during construction. These shrinkage cracks appear as a series of inter-connected hairline cracks, or pattern cracking, and are often observed throughout the majority of the slab surface. This condition is also referred to as map cracking or crazing.

Distress Updates to Reflect ASTM 5340-12							
Use and Surface Type	Old 5340-04 Distress	New Distress	Deduct Curve				
	(52) Weathering & Raveling - Low	(52) Raveling - Low	No Change				
	(52) Weathering & Raveling - Medium	(52) Raveling - Medium	No Change				
AC/AAC/APC	(52) Weathering & Raveling - High	(52) Raveling - High	No Change				
Airfield	N/A	(57) Weathering - Low	New				
	N/A	(57) Weathering - Medium	New				
	N/A	(57) Weathering - High	New				
	(70) Scaling - Low	(70) Scaling - Low	New				
	(70) Scaling - Medium	(70) Scaling - Medium	New				
PCC	(70) Scaling - High	(70) Scaling - High	New				
Airfield	N/A	(76) Alkali Silica Reaction - Low	New				
	N/A	(76) Alkali Silica Reaction – Medium	New				
	N/A	(76) Alkali Silica Reaction - High	New				



## 3.1 Inspection Methodology

A pavement condition survey inspection is performed by measuring the amount and severity of defined pavement distresses observed within the boundaries of sample units. These distresses, as defined by ASTM D 5340, are generally caused by traffic fatigue loading, exposure to climate and elements, and other airfield specific factors. This data is collected by field personnel experienced in pavement condition survey inspection. Data collection is then transferred into the FDOT MicroPAVER database system. MicroPAVER (also known as PAVER) is used to calculate PCI values using the methodology described in ASTM D 5340-12. The values are calculated for each sample and extrapolated on a Section level to determine an area-weighted PCI value ranging from 0 to 100 and one of seven condition ratings. Tables 3-1 and 3-2 describe the distresses as defined by the ASTM D 5340-12 and adopted for the SAPMP procedures.



Table 3-1: Airfield Pavement Distresses for Asphalt Concrete

Code	Distress	Primary Mechanisms
41	Alligator Cracking	Load / Fatigue Failure
42	Bleeding	Construction Quality/ Mix Design
43	Block Cracking	Climate / Age
44	Corrugation	Load / Construction Quality
45	Depression	Subgrade Quality
46	Jet Blast	Aircraft
47	Joint Reflection - Cracking	Climate / Prior Pavement
48	Longitudinal/Transverse Cracking	Climate / Age
49	Oil Spillage	Aircraft / Vehicle
50	Patching	Utility / Pavement Repair
51	Polished Aggregate	Repeated Traffic Loading
52	Raveling	Climate / Load
53	Rutting	Repeated Traffic Loading
54	Shoving	PCC Pavement Growth / Movement
55	Slippage Cracking	Load / Pavement Bond
56	Swelling	Climate / Subgrade Quality
57	Weathering	Climate

Source: U.S. Army CERL, FDOT Airfield Inspection Reference Manual



Table 3-2: Airfield Pavement Distresses for Portland Cement Concrete

Code	Distress	Primary Mechanisms
61	Blow-up	Climate / Alkali Silica Reaction
62	Corner Break	Load Repetition / Curling Stresses
63	Linear Cracking	Load Repetition / Curling Stresses / Shrinkage Stresses
64	Durability Cracking	Freeze-Thaw Cycling
65	Joint Seal Damage	Material Deterioration / Construction Quality
66	Small Patch	Pavement Repair
67	Large Patch/Utility Cut	Utility / Pavement Repair
68	Popout	Freeze-Thaw Cycling
69	Pumping	Load Repetition / Poor Joint Sealant
70	Scaling/Crazing	Construction Quality / Freeze- Thaw Cycling
71	Faulting	Load Repetition / Subgrade Quality
72	Shattered Slab	Overloading
73	Shrinkage Cracking	Construction Quality / Load
74	Joint Spalling	Load Repetition / Infiltration of Incompressible Material
75	Corner Spalling	Load Repetition / Infiltration of Incompressible Material
76	Alkali-Silica Reaction	Construction Quality / Climate

Source: U.S. Army CERL, FDOT Airfield Inspection Reference Manual

# 3.2 Airfield Pavement Condition Index Rating Results

From the condition survey inspection performed in 2014 at Boca Raton Airport, the overall weighted average PCI value is 94 representing a condition rating of Good.

The airport's airfield pavements exhibited distresses typically associated with climate and age based distresses. The predominant AC and AAC pavement distresses observed include: weathering and raveling.

Runway 5-23 is paved with AC pavement and is in Good condition. The only typical distress was low severity weathering. A small amount of patching and raveling were observed, but were not indicative of the runway pavement as a whole.



The taxiways and run-ups were generally in Good condition, with low severity weathering being the only typical distress. The Runway 5 Run-Up had a large low severity patch due to a recent petroleum spill. Small amounts of raveling and longitudinal/transverse cracking were observed in various locations.

Appendix B contains Table B-1 which summarizes the Section Condition Values and an Airfield Pavement Condition Index Rating Exhibit, Figure B-1, which depicts the PCI results by Section. Appendix C contains MicroPAVER reports of PCI results by Branch and Section. Appendix H includes the most current detailed distress data generated by MicroPAVER for each inspected sample unit for this update.

The pavement condition at Boca Raton Airport is represented in Figure 3-1 in accordance with the condition categories and PCI scale referenced in ASTM D 5340. Further detail is provided in Table 3-3 which describes the breakdown of the airport's airfield conditions according to area and use.

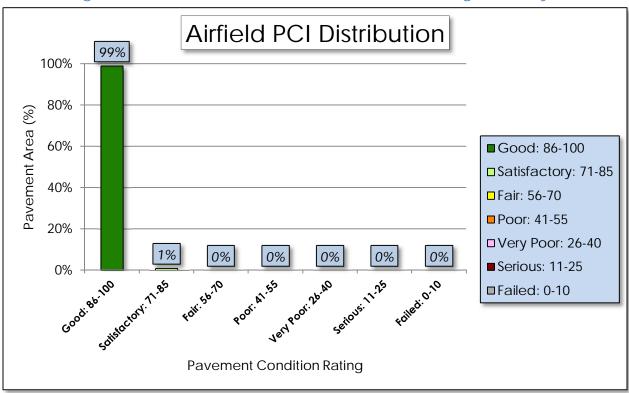


Figure 3-1: Airfield Pavement Condition Index Rating Summary



Table 3-3: Pavement Condition Index Rating Summary

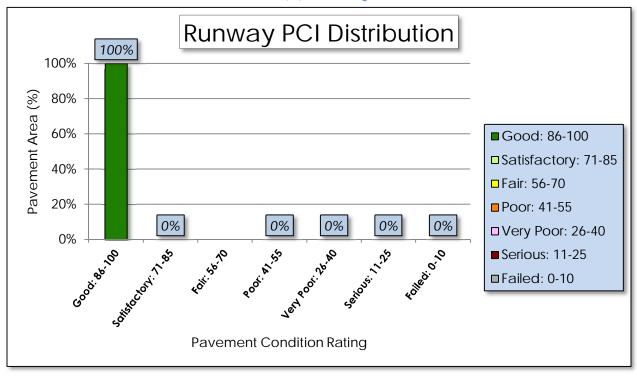
Airfield Pavement Use						
Use	Average Area- Weighted PCI	Condition Rating				
Runway	95	GOOD				
Taxiway	93	GOOD				
Apron	90	GOOD				
	Condition Area					
Condition Rating	Area (SF)	Relative Area (%)				
Good	1,355,696	99%				
Satisfactory	14,729	1%				
Fair	-	0%				
Poor	-	0%				
Very Poor	-	0%				
Serious	-	0%				
Failed	-	0%				

100% of the airfield network is in Good and Satisfactory condition. Table 3-3 provides a breakdown of total area for each pavement by condition rating. Figures 3.2 a, b, c depict the condition rating of the airfield pavement by Branch Use. Photographs taken during the condition survey inspection are included in Appendix G. The photographs included are intended to be representative of the distress observed.

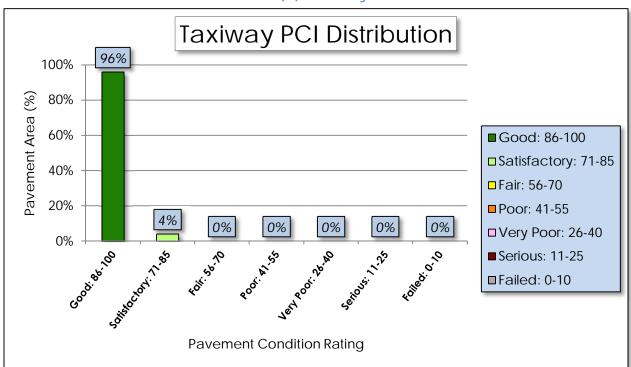


Figure 3-2: Percentage of Pavement Area by Condition Rating by Use

#### (a) Runway

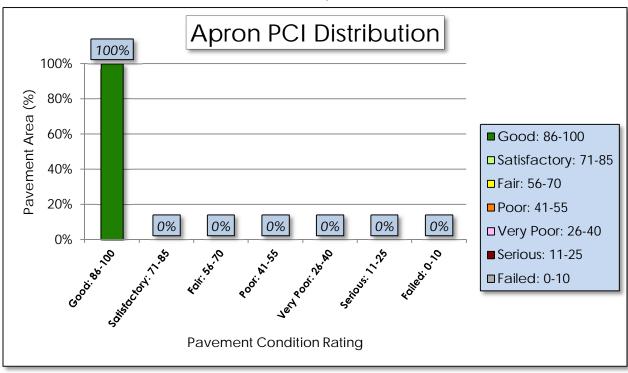


## (b) Taxiway





# (c) Apron





#### PAVEMENT PERFORMANCE

Pavement performance models are developed from the distress data collected for the SAPMP for the Florida Airports System. This data is consolidated in a database and organized by inspection date, pavement type, age, pavement use, and airport category. The pavement performance models are used to develop broad prediction models, also known as pavement condition deterioration curves.

The consolidation of the Florida Airports System's pavement infrastructure within the FDOT SAPMP is based on data that has been collected in a consistent method of measurement. The historic pavement condition, or performance trend, has been compiled throughout the system with data from the inception of the SAPMP. This data is processed into models that have been analyzed and developed into prediction curves based upon pavement characteristics. These characteristics include; climate, construction material, and operations. Each model has been developed based on the following criteria:

AIRPORT TYPE (Primary, Regional Reliever, or General Aviation)

>FACILITY USE (Runway, Taxiway, or Apron)

>>FACILITY SURFACE TYPE (AC, AAC, APC, or PCC)

The historic trends of pavement performance at Florida airport facilities for all performance models are consolidated within the program database. This information is utilized in the prediction of pavement performance based on the current PCI determined from the inspections that took place between 2013 and 2015. Major rehabilitation is planned based on the predicted PCI. The intent of this is for both the individual airport and the FDOT District personnel to be aware of anticipated major rehabilitation work based on condition.

Each airport's airfield pavement section condition, for a given inspection year, is one data point that was used as the basis of each performance trend using a performance model based on pavements of similar background. Figures 4-1, 4-2, and 4-3 represent the pavement performance prediction at Boca Raton Airport based on pavement use. Each figure depicts the FDOT recommended Minimum Service Level PCI value for each facility use.



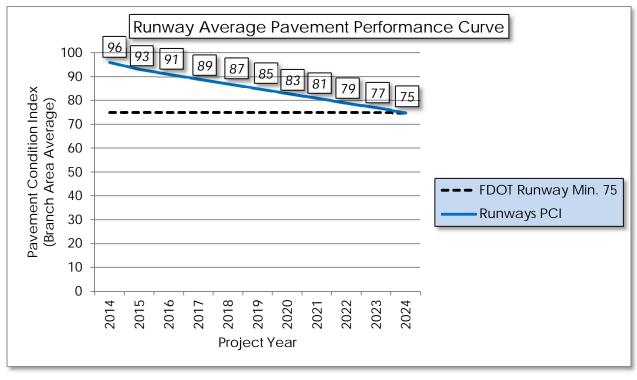
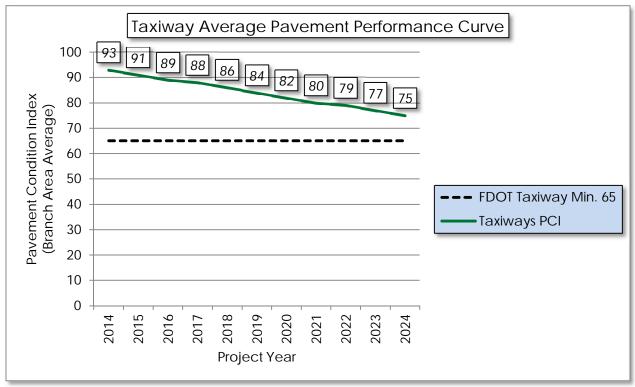


Figure 4-1: Runway Pavement Performance Prediction Summary







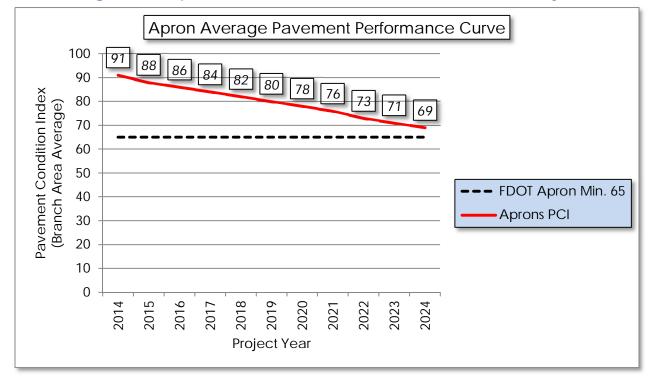


Figure 4-3: Apron Pavement Performance Prediction Summary

Pavement performance modeling to predict the future PCI is primarily done to predict PCI at the Section level for the purpose of planning Major Rehabilitation work. In Appendix D, Table D-1 represents the predicted area-weighted PCI by Section for the airport's airfield pavement infrastructure.



#### 5. AIRFIELD PAVEMENT MAINTENANCE POLICIES AND COSTS

#### 5.1 Policies

Airfield Pavement Maintenance policies are guidance on pavement construction methods used to develop, maintain, repair, and rehabilitate pavement infrastructure based on distresses encountered during the condition surveys.

Maintenance refers to the repair and preservation-type activities that are applied locally to specific distress types on the pavement. These activities for the SAPMP are considered preventative and corrective in nature and are highly recommended to help improve pavement performance and extend pavement life. The SAPMP maintenance policies are based on the FAA Advisory Circular 150/5380-6C and guidance provided in the FDOT Airfield Pavement Repair Manual.

For the purpose of the SAPMP; the maintenance repair needs that are identified and quantified are based solely on the pavement distresses observed and recorded at the time of the inspection. Based on a specific distress type and severity observed, a particular repair work type is recommended and quantified based on the extrapolated section distresses. The repair program identified is specific to the current distresses. Future maintenance planning budgets are based on this initial determination. Tables 5-1 and 5-2 provide the list of maintenance activities incorporated into the SAPMP MicroPAVER database to treat specific distress types and severities.



Table 5-1: Recommended AC, AAC, and APC Maintenance and Repair Policy

Surface Type	Distress Code	Distress Name	Severity	Maintenance Work Type	Work Unit
	41	Alligator Cracking	L, M, H	Full Depth Pavement Patch	Square Feet
	42	Bleeding	N/A	Partial Depth Pavement Patch	Square Feet
	43	Block Cracking	L	Seal Coat Treatment	Square Feet
	43	Block Cracking	M, H	Full Depth Pavement Patch	Square Feet
	44	Corrugation	L, M, H	Full Depth Pavement Patch	Square Feet
	45	Depression	L, M, H	Full Depth Pavement Patch	Square Feet
	46	Jet Blast Erosion	L, M, H	Full Depth Pavement Patch	Square Feet
	47	Joint Reflection Cracking	L	Crack Sealing	Linear Feet
0)	47	Joint Reflection Cracking	M, H	Full Depth Pavement Patch	Square Feet
Flexible Asphalt Concrete (AC, AAC, APC)	48	Longitudinal/Transverse Cracking	L, M, H	Crack Sealing	Linear Feet
ole Asphalt Cond (AC, AAC, APC)	49	Oil Spillage	L, M	Seal Coat Treatment	Square Feet
Aspha C, AA	49	Oil Spillage	Н	Full Depth Pavement Patch	Square Feet
exible (A(	50	Patch and Utility Patching	M	Full Depth Pavement Patch	Square Feet
H	50	Patch and Utility Patching	Н	Full Depth Pavement Patch	Square Feet
	51	Polished Aggregate	L, M, H	Slurry Seal Coat Treatment	Square Feet
	52	Raveling	L, M	Slurry Seal Coat Treatment	Square Feet
	52	Raveling	Н	Partial Depth Pavement Patch	Square Feet
	53	Rutting	L, M, H	Full Depth Pavement Patch	Square Feet
	54	Shoving	L, M, H	Grinding / Removal	Square Feet
	55	Slippage Cracking	L, M, H	Full Depth Pavement Patch	Square Feet
	56	Swelling	M, H	Full Depth Pavement Patch	Square Feet
	57	Weathering	M, H	Seal Coat Treatment	Square Feet



Table 5-2: Recommended PCC Maintenance and Repair Policy

Surface Type	Distress Code	Distress Name	Severity	Maintenance Work Type	Work Unit
	61	Blowup	L, M, H	Slab Replacement / Full Depth Patch	Square Feet
	62	Corner Break	L, M, H	Partial Slab Full Depth Patch - PCC	Square Feet
	63	Longitudinal/Transverse/Diagonal Cracking	Н	Crack Sealing - PCC	Linear Feet
	64	Durability Cracking	M, H	Slab Replacement / Full Depth Patch	Square Feet
	65	Joint Seal Damage	L, M, H	Joint Seal Repair (Local)	Linear Feet
	66	Patching, Small	M, H	Partial Slab Full Depth Patch - PCC	Square Feet
ment	67	Patching, Large	M, H	Partial Slab Full Depth Patch - PCC	Square Feet
Rigid Pavement (PCC)	69	Pumping	L, M, H	Slab Stabilization / Slab Jacking	Square Feet
Rig	70	Scaling/Map Cracking/Crazing	L, M	Micro-mill and Seal - PCC	Square Feet
	70	Scaling/Map Cracking/Crazing	Н	Slab Replacement / Full Depth Patch	Square Feet
	71	Settlement / Faulting	L	Micro-mill and Seal - PCC	Square Feet
	71 Se	Settlement / Faulting	M, H	Slab Stabilization / Slab Jacking	Square Feet
	72 Shattered Slab		L, M, H	Slab Replacement / Full Depth Patch	Square Feet
	73	Shrinkage Cracks	N/A	Crack Sealing - PCC	Linear Feet
	74	Longitudinal/Transverse Joint Spalling	L, M, H	Partial Patch - PCC	Square Feet



Surface Type	Distress Code	Distress Name	Severity	Maintenance Work Type	Work Unit
	75	Corner Spalling	L, M, H	Partial Patch - PCC	Square Feet
	76	Alkali-Silica Reaction	L	Seal Coat Treatment	Square Feet
	76	Alkali-Silica Reaction M		Micro-mill and Seal - PCC	Square Feet
	76	Alkali-Silica Reaction	Н	Slab Replacement / Full Depth Patch	Square Feet

Though proactive pavement maintenance and preservation is recommended in an APMS; it is recognized that pavement that has deteriorated below a certain PCI would benefit more from major rehabilitation rather than localized maintenance and repair work. Major rehabilitation is recommended when the pavement condition decreases below a critical point such that the deterioration is extensive or the rate of deterioration is so great that maintenance repair efforts are no longer cost-efficient. This critical point is called "Critical PCI". The critical PCI levels for different pavement and branch types were established by the FDOT and were used in this update to develop a maintenance and major rehabilitation plan for the airport. Sections that are above the "Critical PCI" levels will be recommended for maintenance, repair, and preservation treatments, assuming there are no significant load-related distresses. For those Sections below the Critical PCI, the recommended action will consist of major rehabilitation work. This approach is used for the Section's Current PCI value and the predicted PCI value for future rehabilitation.

The FDOT has recommended minimum service level PCI for airports based on pavement facility use, airport type, and expected loading frequency. This minimum service level PCI is recommended to ensure the pavement provides a safe operational surface and efficiently uses maintenance and rehabilitation budgets. Separately, the Critical PCI is a value based on historic pavement performance trends and costs. It is at a PCI value of 65, for most airports, at which major rehabilitation is recommended over maintenance level efforts. Table 5-3 identifies the FDOT recommended PCI by use and the critical PCI value for the most important pavements at the airport. This is due to the condition of the pavement and the cost effectiveness of the work. A very important concept of a good pavement management system is the proactive preservation of



pavements that are above Critical PCI condition. Conversely, allowing pavement to deteriorate beyond maintenance and performing "worst first" major rehabilitation may cost much more over the life of a pavement.

Table 5-3: Critical	and Minimum Service	Level PCI for Regional	Reliever Airports

Use	FDOT Recommended PCI	Critical PCI
Runway	75	65
Taxiway	65	65
Apron	65	65

Based on historic trends of pavement performance and industry standard practices in pavement maintenance and rehabilitation, the SAPMP included general guidance on construction activity based on condition PCI, as shown on Table 5-4. It is recommended that further investigation of underlying pavement conditions is performed at the design phase.

Table 5-4: Maintenance and Major Rehabilitation Activity Based on PCI

Category	Activity	PCI Range
	<ul><li>Crack Sealing (AC/PCC)</li><li>Partial Depth Patching (AC)</li></ul>	
Maintenance	• Full Depth Patching (AC/PCC)	75 - 90
	Surface Treatment (AC)	
	<ul><li>Mill and Overlay (AC)</li></ul>	
Rehabilitation	<ul><li>Concrete Pavement Restoration (PCC)</li></ul>	40 - 74
	Full Depth Pavement Reconstruction	0 - 39

The PCI standard scale ranges from a value of 0, typically representing a pavement in a failed condition, to a value of 100 which typically represents a pavement in new or good condition. Generally, airfield pavement sections with a PCI of 75 or higher that are not exhibiting distresses due to aircraft loading will benefit from maintenance activities such as crack sealing, patching, and surface treatments. Pavement sections with PCI values within the range of 40 to 74 may require major rehabilitation, such as a mill and overlay. Lastly, pavement sections with a PCI value of 40 or less are recommended to undergo pavement



reconstruction. Generally pavement reconstruction is the only practical means of restoration due to the substantial distresses observed in the pavement structure. Since PCI values are based solely on the visual determination of pavement distresses and deterioration, this method does not provide a direct measure of structural integrity.

#### 5.2 Unit Costs

The FDOT SAPMP developed and updated the maintenance and major rehabilitation costs based on public cost databases for airport and highway pavement construction. Additionally, cost data collected from FDOT and FAA sponsored projects in the Florida Airports System were utilized to identify construction cost trends across the state.

The maintenance, repair, and preservation activity costs have been updated and developed using readily available construction cost data at the time of this update. The costs depicted in this report for both maintenance and major rehabilitation are intended for planning purposes.

#### 5.3 Maintenance, Repair, and Major Rehabilitation

FDOT recognizes that although pavement mill and overlay is recommended for flexible asphalt concrete pavement within a PCI range from 40 to 74, it is conceivable that airports may not have adequate funding to perform this type of major rehabilitation. A comprehensive surface treatment; per the treatments described in FAA AC 150/5370-10G Standards for Specifying Construction of Airports, as a maintenance rehabilitation activity, can be used in lieu of asphalt concrete pavement mill and overlay. However, it should be understood that these measures provide only a short term extension of pavement life. While the cost of surface treatments are significantly lower than that of pavement mill and overlay, it is not intended or implied to be a full rehabilitative measure for long term benefit. Table 5-5 and Table 5-6 provide budget costs associated with the work types shown in the table.



Table 5-5: AC Maintenance Unit Costs

Surface Type	Maintenance Work Type	Cost	Work Unit
4)	Full Depth Pavement Patch	\$5.00	Square Feet
Concrete APC)	Partial Depth Pavement Patch	\$3.00	Square Feet
alt Co C, AP(	Seal Coat Treatment	\$0.55	Square Feet
Asph (C, AA	Crack Sealing	\$2.75	Linear Feet
Flexible Asphalt (AC, AAC, .	Slurry Seal Coat Treatment	\$0.55	Square Feet
	Grinding / Removal	\$2.10	Square Feet

Table 5-6: PCC Maintenance Unit Costs

Surface Type	Maintenance Work Type	Cost	Work Unit
	Slab Replacement / Full Depth Patch		
	Partial Patch - PCC	\$19.10	Square Feet
nent	Crack Sealing - PCC	\$4.25	Linear Feet
Rigid Pavement (PCC)	Joint Seal Repair (Local)		Linear Feet
	Slab Stabilization / Slab Jacking		Square Feet
	Micro-mill and Seal - PCC	\$1.00	Square Feet
	Seal Coat Treatment	\$1.00	Square Feet

As part of the SAPMP update, the distress data observed at each airport during the inspection is extrapolated on a section basis to make maintenance recommendations. These recommendations are a direct result of the distress types, severities, and quantities observed at the time of inspection. The maintenance recommendations and planning costs are correlated with the airport's airfield pavement network's overall area weighted PCI and used to plan



future maintenance costs. Future maintenance costs are planning budgets that are not specific to a pavement section, but are estimates for the entire airfield. Table 5-7 provides budget costs associated with the rehabilitation activities.

Table 5-7: Rehabilitation Activities and Unit Costs by Condition for Regional Reliever Airports

Category	Activity	PCI Range	Cost/SqFt
	Mill and Overlay (AC)	40 74	\$10.00
Rehabilitation	<ul> <li>Concrete Pavement Restoration (PCC)</li> </ul>	40 - 74	\$15.00
	Full Depth Pavement Reconstruction	0 - 39	\$20.00

A cost scale has been developed based on PCI to develop planning level budgets for the airfield pavements. The cost scale is adjusted by project year based on an assumed inflation rate of 3%. In Appendix E, Table E-1 summarizes the Year-1 maintenance and repair recommendations based on the most recent inspection. The summary in Table E-1 does not take into account any rehabilitation activities, but rather summarizes preventative activities for all PCI ranges, including below critical PCI sections.



#### MAJOR PAVEMENT REHABILITATION NEEDS

As part of the SAPMP, major pavement rehabilitation planning is developed based on current and predicted PCI in comparison with the Critical PCI. The Critical PCI has been determined based on the historic trends of pavement condition relative to the benefit of maintenance and repair activities. Pavement sections determined to have a PCI less than that of the Critical PCI are assumed to have deteriorated to a point at which maintenance and repair level activity would provide little benefit.

The objective of the major pavement rehabilitation needs analysis is to provide planning level projects within an airport's airfield pavement network. Major rehabilitation activities are recommended when a pavement section has deteriorated below the Critical PCI value from a functionality perspective. In addition, major rehabilitation is also recommended when the Section PCI is above the Critical PCI but the Section has load-related PCI distresses. However, most major rehabilitation work is recommended when the Section PCI is below the Critical PCI, which is when maintenance and repair level activities are not considered to be cost effective.

Major rehabilitation is identified within the SAPMP as major construction activity that would result in an improvement or "resetting" of the pavement section's PCI to a value of 100. Such activities could include; mill and hot-mix asphalt overlay and re-construction. This analysis was conducted with no constraints to budgets as a means to identify all pavement projects based on Critical PCI for a 10-year duration. It is recommended that the airport use this as a planning tool for future project development and prioritization. Table 6-1 depicts the major rehabilitation work identified on the pavement section level based on current and predicted pavement PCI.

Airports should consider the major rehabilitation work types of mill and overlay, PCC restoration, and reconstruction planning level classifications only. Additional design level investigation in accordance to the FAA Advisory Circulars will be required to identify specific areas within each section that are subject to reconstruction, mill and overlay, and PCC restoration. The work and budgets identified are intended for the planning level not the design level. Areas identified as mill and overlay may in fact require select areas of reconstruction should load-based distresses observed warrant it.



Year	Branch ID	Section ID	Major M&R Costs*	PCI Before M&R	M&R Activity	PCI After M&R
2022	TW E	116	\$ 271,722.00	63	Mill and Overlay	100
		Total =	\$ 271,722.00			

Table 6-1: Summary of Major Rehabilitation

The 10-year major rehabilitation program addresses those pavement sections that have a current or project PCI that is below the Critical PCI of 65 during the 10-year analysis period. The unconstrained or "unlimited budget" Major Rehabilitation Program is compared to a "No Major Rehabilitation Program" scenario in Figure 6-1. As shown, if no major rehabilitation work is completed in the next 10 years at your airport, the average PCI may be 3 points less than a plan that provides timely repairs to the airfield pavements.

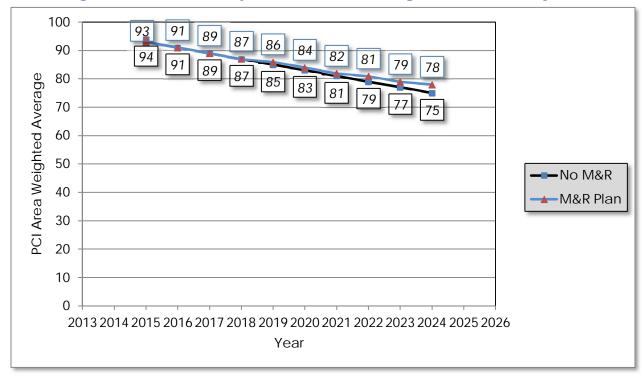


Figure 6-1: 10-Year Major Rehabilitation Budget Scenario Analysis

<sup>\*</sup>Costs are adjusted for inflation at 3%.



#### 7. PREVENTATIVE AND MAJOR REHABILITATION PLANNING

The preventative and major rehabilitation results include activities that are based on distresses observed and unconstrained by budget limits. FDOT recognizes that the projects identified as Year-1 needs in 2015, based on condition, may exceed a typical annual budget level. It is recommended that each airport further evaluate each project's feasibility and desirability based on the airport's future development plans and budgeting scenarios.

In an effort to identify appropriate budget levels, the 10-year Preventative and Major Rehabilitation analysis evaluated projected budget needs based on predicted PCI of each pavement section. Table 7-1 and Figure 7-1 provides a summary of the expected preventative and major rehabilitation for each program year.

Table 7-1: 10-Year Preventative and Major Rehabilitation Summary

Program Year	Р	reventative	Мај	or Rehabilitation	Total Year Costs
2015	\$	14,465.78	\$	-	\$ 14,465.78
2016	\$	19,740.15	\$	-	\$ 19,740.15
2017	\$	36,249.13	\$	-	\$ 36,249.13
2018	\$	84,964.19	\$	-	\$ 84,964.19
2019	\$	149,756.98	\$	-	\$ 149,756.98
2020	\$	218,691.55	\$	-	\$ 218,691.55
2021	\$	291,062.02	\$	-	\$ 291,062.02
2022	\$	359,733.51	\$	271,722.25	\$ 631,455.76
2023	\$	430,030.69	\$	-	\$ 430,030.69
2024	\$	481,535.98	\$	-	\$ 481,535.98
	•			Total =	\$ 2,357,952.23



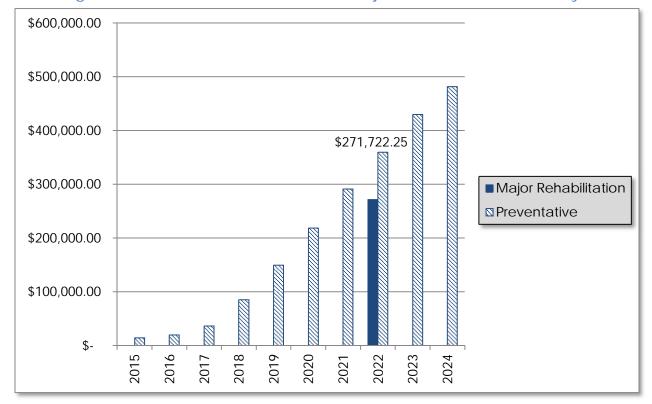


Figure 7-1: 10-Year Preventative and Major Rehabilitation Summary

According to the most recent inspections at the time of this update; the following pavement sections were identified as a Year-1 need for major rehabilitation:

No Major Rehabilitation Needs in 2015

Appendix E summarizes the preventative repair recommendations for Year-1 and Appendix F provides an exhibit, Airfield Pavement Major Rehabilitation that depicts the recommended major rehabilitation on the airfield pavement network according to work type and year.



#### 8. VISUAL AID EXHIBITS

#### 8.1 Airfield Pavement Network Definition Exhibit

The Airfield Pavement Network Definition Exhibit in Appendix A depicts the airfield layout in a manner that defines the airfield pavement infrastructure as branches, sections, and sample units in accordance with the ASTM D 5340-12. The exhibits are prepared and updated with information provided by the airport and from aerial imagery from the FDOT Surveying and Mapping publications.

#### 8.2 Airfield Pavement System Inventory Exhibit

The Airfield Pavement System Inventory Exhibit in Appendix A depicts any recent airfield pavement construction activity reported by the airport. The exhibit is intended to identify pavement sections that may have changed in geometry and pavement composition that would affect the section delineation. The information provided in the Airport Response Form was used as the basis of the changes and confirmed with the airport personnel at the time of inspection.

#### 8.3 Airfield Pavement Condition Index Rating Exhibit

The Airfield Pavement Condition Index Rating Exhibit in Appendix B has been prepared based on the section condition analysis of the distress data collected during the recent condition index rating survey. The exhibit graphically depicts the inventory with associated condition rating colors and PCI values.

#### 8.4 Airfield Pavement Major Rehabilitation Exhibit

The Airfield Pavement Major Rehabilitation Exhibit in Appendix F has been prepared based on the section pavement performance model and major rehabilitation analysis. The exhibit graphically depicts the inventory with associated rehabilitation activity, program year, and the planning level costs.

#### 8.5 Airfield Pavement Condition Survey Inspection Photographs

During the field condition survey inspection; inspectors photographed representative distress types observed. Select photographs are provided in Appendix G to provide visual support to special pavement conditions or distresses observed.



#### 9. RECOMMENDATIONS

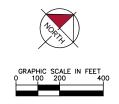
The recommendations developed are intended for the planning level for each airport. Additional project specific investigation in accordance with the FAA Advisory Circulars is recommended to further refine the project scope and budget requirements.

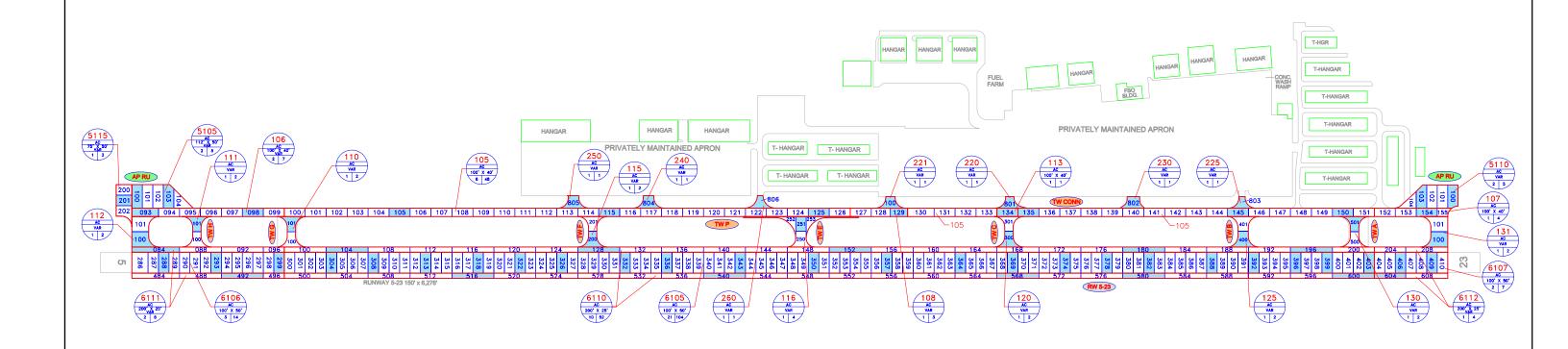
The following recommendations were made based on the 2014 condition survey inspection, condition analysis, and maintenance/rehabilitation analysis results:

- Taxiway E Section 116
  - Mill and Overlay attributed to climate and age of pavement.

## APPENDIX A

- AIRFIELD PAVEMENT NETWORK DEFINITION EXHIBIT
- AIRFIELD PAVEMENT SYSTEM INVENTORY EXHIBIT
- PAVEMENT GEOMETRY INVENTORY
- WORK HISTORY REPORT





#### LEGEND

TYPICAL RUNWAY BRANCH ID

TYPICAL TAXIWAY BRANCH ID

TYPICAL APRON BRANCH ID

SECTION NUMBER
PAVEMENT TYPE
PICAL SAMPLE UNIT INFORMATION
FLEXIBLE (AC) PAVEMENT LENGTH & WIDTH
RIGID (PCC) PAVEMENT NO. OF SLABS AND SLAB SIZE

NUMBER OF SAMPLE UNITS IN SECTION
NUMBER OF SAMPLE UNITS TO BE INSPECTED

INSPECTED SAMPLE UNITS. GPS COORDINATES
ARE AT THE CENTROID OF THE SAMPLE UNIT.

TOTAL SAMPLES INSPECTED = 71

RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS.

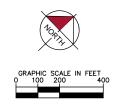
IC \WFB_Aviation\14217	\WFR_AMHINA\A2779022\CADD\PLAKHEET\BT - BOOA RATON AMPORT\DOMBITS\001-BIT-OFFRITION.deg PLOTED: May 1, 2015 - 11:45 AM, BY: Barus, A41						
DESIGNED:	KHA	DRAWN:	KHA	CHECKED:	KHA	DATE:	2015
NUMBER	DATE	REVISIONS					

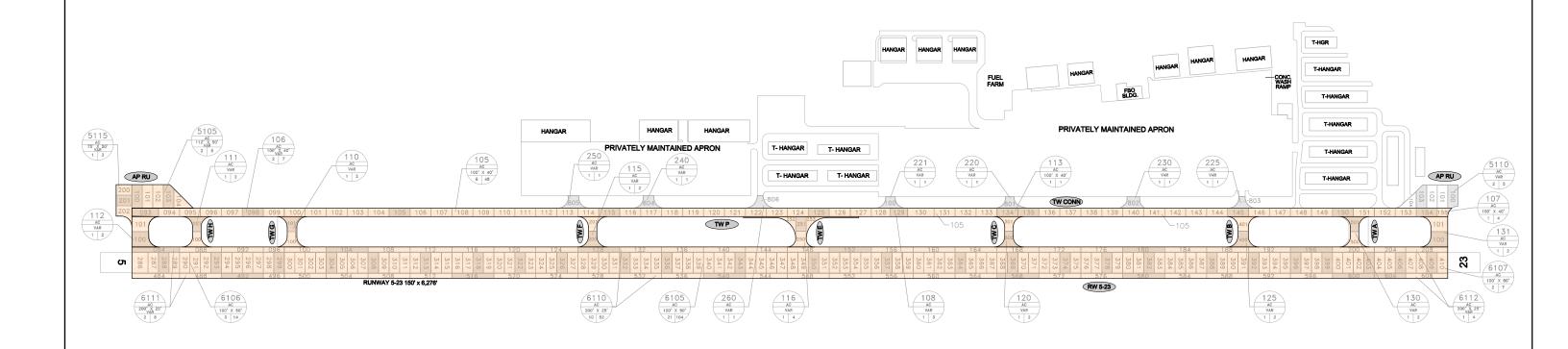




## AIRFIELD PAVEMENT NETWORK DEFINITION EXHIBIT BOCA RATON AIRPORT PALM BEACH COUNTY, FLORIDA FLORIDA DEPARTMENT OF TRANSPORTATION - AVIATION AND SPACEPORT OFFICE







#### CONSTRUCTION SINCE LAST INSPECTION & ANTICIPATED CONSTRUCTION ACTIVITY

CONSTRUCTION YEAR	LOCATION	WORK TYPE / PAVEMENT SECTION
2010	RUNWAY 5-23, TAXIWAY P AND ALL CONNECTORS	ASPHALT REHABILITATION
2014	RUNWAY 5 RUNUP PAD	ASPHALT REPAIR

#### **LEGEND**

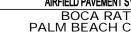
	PROJECTS	YEAR	2010
	PROJECTS	YEAR	2011
	PROJECTS	YEAR	2012
	PROJECTS	YEAR	2013
	PROJECTS	YEAR	2014
	PROJECTS	YEAR	2015
	PROJECTS	YEAR	2016
	PROJECTS	YEAR	2017
	PROJECTS	YEAR	2018
	PROJECTS	YEAR	2019

RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS.

IC \WPR_Aviation\142175	IC/MPR_AMARIAN/ASSYSTORY/CADDYPLANDEDTENDET - BOOK RATION AMPROTY/DOMBITS/000-BCT-INVENTER/amp PLOTED: May 1, 2015 - 11/44 AM, 871 Bayus, Art								
DESIGNED:	KHA	DRAWN:	KHA	CHECKED:	KHA	DATE:	2015		
NUMBER	DATE		REVISIONS						







AIRFIELD PAVEMENT SYSTEM INVENTORY EXHIBIT BOCA RATON AIRPORT PALM BEACH COUNTY, FLORIDA





Table A-1: Pavement Geometry Inventory

						- Connectify		<i>J</i>			
Branch Name	Branch ID	Branch Use	Section ID	Length (FT)	Width (FT)	True Area (FT²)	Section Rank	Surface Type	Last Const. Date	Last Insp. Date	Total Samples
RUNWAY 5-23	RW 5-23	RUNWAY	6112	700	25	17,500	Р	AAC	1/1/2010	10/1/2014	4
RUNWAY 5-23	RW 5-23	RUNWAY	6111	1,450	25	36,350	Р	AAC	1/1/2010	10/1/2014	8
RUNWAY 5-23	RW 5-23	RUNWAY	6110	10,400	25	260,000	Р	AAC	1/1/2010	10/1/2014	52
RUNWAY 5-23	RW 5-23	RUNWAY	6107	350	100	35,000	Р	AAC	1/1/2010	10/1/2014	7
RUNWAY 5-23	RW 5-23	RUNWAY	6106	725	100	72,700	Р	AAC	1/1/2010	10/1/2014	14
RUNWAY 5-23	RW 5-23	RUNWAY	6105	5,200	100	520,000	Р	AAC	1/1/2010	10/1/2014	104
RUN-UP APRONS	AP RU	APRON	5115	150	75	11,787	Р	AC	1/1/2010	10/1/2014	3
RUN-UP APRONS	AP RU	APRON	5110	240	110	24,879	Р	AAC	1/1/2010	10/1/2014	5
RUN-UP APRONS	AP RU	APRON	5105	240	120	26,544	Р	AAC	1/1/2010	10/1/2014	5
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	260	60	40	3,165	Р	AAC	1/1/2010	10/1/2014	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	250	60	56	4,078	Р	AAC	1/1/2010	10/1/2014	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	240	60	56	4,073	Р	AAC	1/1/2010	10/1/2014	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	230	60	55	4,056	P	AAC	1/1/2010	10/1/2014	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	225	55	30	2,723	Р	AAC	1/1/2010	10/1/2014	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	221	50	35	3,548	Р	AAC	1/1/2010	10/1/2014	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	220	50	35	3,501	Р	AAC	1/1/2010	10/1/2014	1
TAXIWAY P	TW P	TAXIWAY	131	140	80	12,673	Р	AAC	1/1/2010	10/1/2014	2
TAXIWAY A	TW A	TAXIWAY	130	140	90	7,946	Р	AAC	1/1/2010	10/1/2014	2
TAXIWAY B	TW B	TAXIWAY	125	140	40	9,396	Р	AAC	1/1/2010	10/1/2014	2
TAXIWAY C	TW C	TAXIWAY	120	140	40	7,946	Р	AAC	1/1/2010	10/1/2014	2

#### Pavement Evaluation Report - Boca Raton Airport

Branch Name	Branch ID	Branch Use	Section ID	Length (FT)	Width (FT)	True Area (FT²)	Section Rank	Surface Type	Last Const. Date	Last Insp. Date	Total Samples
TAXIWAY E	TW E	TAXIWAY	116	150	60	14,729	Р	AC	1/1/2010	10/1/2014	4
TAXIWAY F	TW F	TAXIWAY	115	140	40	7,946	Р	AAC	1/1/2010	10/1/2014	2
TAXIWAY P	TW P	TAXIWAY	113	50	40	4,000	Р	AAC	1/1/2010	10/1/2014	1
TAXIWAY P	TW P	TAXIWAY	112	140	80	12,673	Р	AAC	1/1/2010	10/1/2014	2
TAXIWAY H	TW H	TAXIWAY	111	140	40	7,946	Р	AAC	1/1/2010	10/1/2014	2
TAXIWAY G	TW G	TAXIWAY	110	140	90	7,945	Р	AAC	1/1/2010	10/1/2014	2
TAXIWAY P	TW P	TAXIWAY	108	225	40	10,940	Р	AAC	1/1/2010	10/1/2014	3
TAXIWAY P	TW P	TAXIWAY	107	400	40	14,241	Р	AAC	1/1/2010	10/1/2014	4
TAXIWAY P	TW P	TAXIWAY	106	725	40	29,080	Р	AAC	1/1/2010	10/1/2014	7
TAXIWAY P	TW P	TAXIWAY	105	4,930	40	193,060	Р	AAC	1/1/2010	10/1/2014	48

Note: If new construction, then survey date = last construction date and PCI is set to 100 by MicroPAVER.

<sup>\*</sup> Sections not surveyed due to reasons such as re-sectioning, no escort, not accessible at the time of survey. Please refer to Section 3 for discussion on the updates to the ASTM D 5640 that may affect PCI in comparison to previous program update.

Date:04/17/2015

Work

Date

Work

Code

Work

Description

#### **Work History Report**

1 of 6 Pavement Database:FDOT Network: BCT Branch: AP RU (RUN-UP APRONS) Section: 5105 Surface: AAC L.C.D.: 01/01/2010 Use: APRON Rank P Length: 240.00 Ft Width: 120.00 Ft True Area: 26,544.00 SqF Work Work Work Thickness Major Comments Cost Date Code Description ( in) M&R MILL and OVERLAY 01/01/2010 ML-OV \$0 0.00 True MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING COURSE 1996: 2" AC ON 6" LIMEROCK 01/01/1996 **IMPORTED BUILT** 2.00 True Network: BCT Branch: AP RU (RUN-UP APRONS) Section: 5110 Surface: AAC L.C.D.: 01/01/2010 Use: APRON Rank P Length: 240.00 Ft Width: True Area: 24,879.00 SqF 110.00 Ft Work Work Work Thickness Major Comments Cost Date Code Description M&R ( in) MILL AND OVERLAY: 1.5" P-401, 01/01/2010 ML-OV MILL and OVERLAY \$0 0.00 True VARIABLE (~1.5") P-401 LEVELING COURSE **IMPORTED BUILT** 1996: 2" AC ON 6" LIMEROCK 01/01/1996 2.00 True (RUN-UP APRONS) Network: BCT Branch: AP RU Section: 5115 Surface: AC L.C.D.: 01/01/2010 Use: APRON Rank P Length: 150.00 Ft Width: 75.00 Ft True Area: 11,787.00 SqF Work Work Work Thickness Major Cost Comments Date Code Description M&R ( in) NU-IN 01/01/2010 New Construction - Initial \$0 0.00 True 4" P-401, 12" P-211, 6" P-152 Surface: AAC Network: BCT Branch: RW 5-23 (RUNWAY 5-23) Section: 6105 L.C.D.: 01/01/2010 Use: RUNWAY Rank P Length: 5.200.00 Ft Width: 100.00 Ft True Area:520.000.00 SqF Work Work Work Thickness Major Comments Cost M&R Date Code Description ( in) MILL AND OVERLAY: 1.5" P-401, 01/01/2010 ML-OV MILL and OVERLAY \$0 0.00 True /ARIABLE (~1.5") P-401 LEVELING COURSE 01/01/1984 **IMPORTED OVERLAY** True SOIL: SP 01/01/1984 **IMPORTED** 1984: 2.5" - 6" P-401 OVERLAY **OVERLAY** 2.50 True 01/01/1974 **IMPORTED BUILT** 2.50 1974: 2.5" AC ON 6" LIME ROCK BASE True Network: BCT Branch: RW 5-23 (RUNWAY 5-23) Section: 6106 Surface: AAC L.C.D.: 01/01/2010 Use: RUNWAY Rank P Length: Width: 100.00 Ft True Area: 72,700.00 SqF 725.00 Ft Work Work Work Thickness Major Comments Cost Date Code Description M&R ( in) 01/01/2010 ML-OV MILL and OVERLAY 0.00 True MILL AND OVERLAY: 1.5" P-401, \$0 VARIABLE (~1.5") P-401 LEVELING COURSE **IMPORTED BUILT** 1996: 2" AC ON 6" LIMEROCK 01/01/1996 2.00 True Network: BCT Branch: RW 5-23 (RUNWAY 5-23) Section: 6107 Surface: AAC L.C.D.: 01/01/2010 Use: RUNWAY Rank P Length: 350.00 Ft Width: 100.00 Ft True Area: 35,000.00 SqF Work Work Work Thickness Major Comments Date Code Description Cost M&R ( in) MILL and OVERLAY MILL AND OVERLAY: 1.5" P-401, 01/01/2010 MI -OV \$0 0.00 True /ARIABLE (~1.5") P-401 LEVELING COURSE 1996: 2" AC ON 6" LIMEROCK 01/01/1996 **IMPORTED BUILT** 2.00 True Network: BCT Branch: RW 5-23 (RUNWAY 5-23) Section: 6110 Surface: AAC L.C.D.: 01/01/2010 Use: RUNWAY Rank P Length: 10,400.00 Ft Width: 25.00 Ft True Area:260,000.00 SqF

Thickness

( in)

Cost

Major

M&R

Comments

Date:04/17/2015 Work History Report  Pavement Database:FDOT  2 of 6									
01/01/2010	ML-OV	MILL and OVERLAY	<u>t Dalabase.FD</u> \$0	0.00	V	MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING COURSE			
01/01/1984 01/01/1984 01/01/1974	IMPORTED IMPORTED IMPORTED	OVERLAY OVERLAY BUILT		2.50 2.50	True 1	984: 2.5" P-401 OVERLAY SOIL: SP 974: 2.5" AC ON 6" LIME ROCK BASE			
Network: B	_	anch: RW 5-23 (RUNWA	V 5 23 <b>)</b>	2.30		etion: 6111 Surface: AAC			
	1/2010 <b>Use:</b> RL		•	Width:		00 Ft			
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments			
01/01/2010	ML-OV	MILL and OVERLAY	\$0	0.00		MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING COURSE			
01/01/1996	IMPORTED	BUILT		2.00	True 1	996: 2" AC ON 6" LIMEROCK			
<b>Network:</b> Bt <b>L.C.D.:</b> 01/01	CT <b>Br</b> 1/2010 <b>Use:</b> RU	anch: RW 5-23 (RUNWA JNWAY Rank P Length:	Y 5-23 <b>)</b> 700.00 Ft	Width:		stion: 6112 Surface: AAC 00 Ft True Area: 17,500.00 SqF			
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments			
01/01/2010	ML-OV	MILL and OVERLAY	\$0	0.00		/IILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING COURSE			
01/01/1996	IMPORTED	BUILT		2.00		996: 2" AC ON 6" LIMEROCK			
Network:         BCT         Branch:         TW A         (TAXIWAY A)         Section:         130         Surface:         Additional Application           L.C.D.:         01/01/2010         Use:         TAXIWAY         Rank P Length:         140.00 Ft         Width:         90.00 Ft         True Area:         7.946.00									
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments			
01/01/2010	ML-OV	MILL and OVERLAY	\$0	0.00	V	MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING			
01/01/1984	IMPORTED	OVERLAY		2.50	True 1	COURSE 984: 2.5" AC OVERLAY			
01/01/1974	IMPORTED	BUILT		2.00		974: 2" AC ON 6" LIME ROCK ON 4" VORK PLATFORM (100% DENSITY)			
Network: B		anch: TW B (TAXIWA	Y B <b>)</b>		Sec	etion: 125 Surface: AAC			
<b>L.C.D.</b> : 01/0 <sup>-</sup>	1/2010 <b>Use:</b> TA	Trainer Longin	140.00 Ft	Width:		00 Ft True Area: 9.396.00 SqF			
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments			
01/01/2010	ML-OV	MILL and OVERLAY	\$0	0.00		MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING COURSE			
01/01/1984	IMPORTED	OVERLAY		0.50	True	SOIL: SP			
01/01/1984 01/01/1974	IMPORTED IMPORTED	OVERLAY BUILT		2.50 2.00	True 1	984: 2.5" AC OVERLAY 974: 2" AC ON 6" LIME ROCK BASE ON " WORK PLATFORM (100% DENSITY)			
<b>Network:</b> Be <b>L.C.D.:</b> 01/0	CT <b>Br</b> 1/2010 <b>Use:</b> TA	anch: TW C (TAXIWA XIWAY Rank P Length:	Y C <b>)</b> 140.00 Ft	Width:		ction: 120 Surface: AAC 00 Ft True Area: 7.946.00 SaF			
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments			
01/01/2010	ML-OV	MILL and OVERLAY	\$0			/IILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING			
01/01/1984	IMPORTED	OVERLAY				COURSE SOIL: SP			
01/01/1984 01/01/1974	IMPORTED IMPORTED	OVERLAY BUILT		2.50 2.00	True 1	984: 2.5" AC OVERLAY 974: 2" AC ON 6" LIME ROCK BASE ON			
01/01/10/4	OKILD	DOIL		2.00		"WORK PLATFORM (100% DENSITY)			

Date:04/17/2015

#### **Work History Report**

Pavement Database:FDOT

3 of 6

Network: BCT Branch: TW CONN (CONNECTOR TAXIWAY TO AP) Section: 220 Surface: AAC L.C.D.: 01/01/2010 Use: TAXIWAY 35.00 Ft Rank P Length: 50.00 Ft Width: True Area: 3,501.00 SqF Work Work Work Thickness Major Comments Cost Date Code Description ( in) M&R MILL and OVERLAY 01/01/2010 ML-OV \$0 0.00 True MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING COURSE 01/01/1984 **IMPORTED BUILT** True ESTIMATE 1984 AC PAVEMENT Network: BCT Branch: TW CONN (CONNECTOR TAXIWAY TO AP) Surface: AAC Section: 221 L.C.D.: 01/01/2010 Use: TAXIWAY Rank P Length: 50.00 Ft 35.00 Ft True Area: 3.548.00 SqF Work Work Work Thickness Major Comments Cost Date Code Description M&R ( in) ML-OV MILL and OVERLAY MILL AND OVERLAY: 1.5" P-401, 01/01/2010 \$0 0.00 True VARIABLE (~1.5") P-401 LEVELING COURSE **IMPORTED BUILT** 1996: 2" AC ON 6" LIMEROCK 01/01/1996 2.00 True (CONNECTOR TAXIWAY TO AP) Network: BCT Branch: TW CONN Surface: AAC Section: 225 L.C.D.: 01/01/2010 Use: TAXIWAY Rank P Length: 55.00 Ft Width: 30.00 Ft True Area: 2,723.00 SqF Work Work Work Thickness Major Cost Comments Date Code Description M&R ( in) 01/01/2010 ML-OV MILL and OVERLAY \$0 0.00 True MILL AND OVERLAY: 1.5" P-401, VARIABLE (~1.5") P-401 LEVELING COURSE **BUILT** ESTIMATE 1984 AC OVERLAY ON 01/01/1984 **IMPORTED** EXISTING AC Branch: TW CONN (CONNECTOR TAXIWAY TO AP) Surface: AAC Network: BCT Section: 230 L.C.D.: 01/01/2010 Use: TAXIWAY Rank P Length: 55.00 Ft 60.00 Ft Width: True Area: 4,056.00 SqF Work Work Work Thickness Major Comments Cost M&R Date Code Description ( in) MILL AND OVERLAY: 1.5" P-401. 01/01/2010 ML-OV MILL and OVERLAY \$0 0.00 True VARIABLE (~1.5") P-401 LEVELING COURSE 01/01/1984 **IMPORTED BUILT** ESTIMATE 1984 AC OVERLAY ON True EXISTING AC Surface: AAC Network: BCT Branch: TW CONN (CONNECTOR TAXIWAY TO AP) Section: 240 L.C.D.: 01/01/2010 Use: TAXIWAY Rank P Length: 60.00 Ft Width: 56.00 Ft True Area: 4.073.00 SqF Work Work Work Thickness Major Comments Cost Date Code Description ( in) M&R MILL AND OVERLAY: 1.5" P-401, 01/01/2010 MI -OV MILL and OVERLAY \$0 0.00 True VARIABLE (~1.5") P-401 LEVELING COURSE 01/01/2002 NC-AC New Construction - AC 0.00 True (CONNECTOR TAXIWAY TO AP) Branch: TW CONN Network: BCT Section: 250 Surface: AAC L.C.D.: 01/01/2010 Use: TAXIWAY True Area: 4,078.00 SqF Rank P Length: 60.00 Ft Width: 56.00 Ft Work Work Work Thickness Major Comments Cost Date Code Description ( in) M&R MILL AND OVERLAY: 1.5" P-401, 01/01/2010 ML-OV MILL and OVERLAY \$0 0.00 True VARIABLE (~1.5") P-401 LEVELING COURSE New Construction - AC 01/01/2002 NC-AC \$0 0.00 True Network: BCT Branch: TW CONN (CONNECTOR TAXIWAY TO AP) Section: 260 Surface: AAC Rank P Length: L.C.D.: 01/01/2010 Use: TAXIWAY True Area: 3.165.00 SqF 60.00 Ft 40.00 Ft Width: Work Work Work Major Thickness Comments Cost Date Code Description ( in) M&R

Date:04/	/17/2015		story Re	•		4 of 6	
01/01/2010	ML-OV	MILL and OVERLAY	\$0			MILL AND OVERLAY: 1.5" P-401, VARIABLE (~1.5") P-401 LEVELING COURSE	
01/01/1998  Network: BC L.C.D.: 01/01	INITIAL  CT Bra  1/2010 Use: TA	Initial Construction  anch: TW E (TAXIWA  XIWAY Rank P Length:	\$0 Y E <b>)</b> 150.00 Ft	0.00 Width:		<b>ction:</b> 116 <b>Surface:</b> AC 00 Ft <b>True Area:</b> 14,729.00 SqF	
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
01/01/2010	NU-IN	New Construction - Initial	\$0	0.00	True	3" P-401, 18" P-211, 6" P-152	
Network:         BCT         Branch:         TW F         (TAXIWAY F)         Section:         115         Surface:         AAC           L.C.D.:         01/01/2010         Use:         TAXIWAY         Rank P Length:         140.00 Ft         Width:         40.00 Ft         True Area:         7.946.00 SqF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
01/01/2010	ML-OV	MILL and OVERLAY  OVERLAY	\$0	0.00 2.50		MILL AND OVERLAY: 1.5" P-401, VARIABLE (~1.5") P-401 LEVELING COURSE 1984: 2.5" AC OVERLAY	
01/01/1984 01/01/1974	IMPORTED IMPORTED	OVERLAY BUILT		2.00	True True	SOIL: SP 1974: 2" AC ON 6" LIME ROCK BASE ON 4" WORK PLATFORM (100% DENSITY)	
Network: B0 L.C.D.: 01/01	CT <b>Br</b> a 1/2010 <b>Use</b> : TA	Y G <b>)</b> 140.00 Ft	Section: 110 Surface: AAC				
Work Date	Work Code	XIWAY Rank P Length:  Work Description	Cost	Thickness (in)	Major M&R	Comments	
01/01/2010	ML-OV	MILL and OVERLAY	\$0	0.00		MILL AND OVERLAY: 1.5" P-401, VARIABLE (~1.5") P-401 LEVELING COURSE	
01/01/1984 01/01/1984 01/01/1974	IMPORTED IMPORTED IMPORTED	OVERLAY OVERLAY BUILT		2.50 2.00	True True	SOIL: SP 1984: 2.5" AC OVERLAY 1974: 2" AC ON 6" LIME ROCK BASE ON	
Network:         BCT         Branch:         TW H         (TAXIWAY H)         Section:         111         Surface:         AAC           L.C.D.:         01/01/2010         Use:         TAXIWAY         Rank P Length:         140.00 Ft         Width:         40.00 Ft         True Area:         7,946.00 SqF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
01/01/2010	ML-OV	MILL and OVERLAY	\$0	0.00		MILL AND OVERLAY: 1.5" P-401, VARIABLE (~1.5") P-401 LEVELING COURSE	
01/01/1996	IMPORTED	BUILT		2.00		1996: 2" AC ON 6" LIMEROCK	
Network:         BCT         Branch:         TW P         (TAXIWAY P)         Section:         105         Surface:         AAC           L.C.D.:         01/01/2010         Use:         TAXIWAY         Rank P Length:         4,930.00 Ft         Width:         40.00 Ft         True Area:193.060.00 SqF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments	
01/01/2010	ML-OV	MILL and OVERLAY	\$0	0.00		MILL AND OVERLAY: 1.5" P-401, VARIABLE (~1.5") P-401 LEVELING COURSE	
01/01/1984 01/01/1984 01/01/1974	IMPORTED IMPORTED IMPORTED	OVERLAY OVERLAY BUILT		2.50 2.00	True True	SOIL: SP 1984: 2.5" AC OVERLAY 1974: 2" AC ON 6" LIME ROCK BASE ON 4" WORK PLATFORM (COMPACTED TO	
Network:         BCT         Branch:         TW P         (TAXIWAY P)         Section:         106         Surface:         AAC           L.C.D.:         01/01/2010         Use:         TAXIWAY         Rank P Length:         725.00 Ft         Width:         40.00 Ft         True Area:         29.080.00 SqF							
Work	Work	Work		Thickness	Major	Comments	
Work Date	Work Code	Work Description		Thickness (in)	Major M&R	Comments	

Date:04/17/2015		Work History Report			5 of 6		
Pavement Database:FDOT							
01/01/2010	ML-OV	MILL and OVERLAY	\$0	0.00		MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING COURSE	
01/01/1996	IMPORTED	BUILT		2.00	True	1996: 2" AC 0N 6" LIMEROCK	
<b>Network:</b> B0 <b>L.C.D.:</b> 01/01	CT <b>Br</b> 1/2010 <b>Use:</b> TA	Y P <b>)</b> 400.00 Ft	Width:		ction: 107 Surface: AAC 00 Ft True Area: 14,241.00 SqF		
Work Date	Work Code	Work Description	Cost	hickness (in)	Major M&R	Comments	
01/01/2010	ML-OV	MILL and OVERLAY	\$0	0.00	\	MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING COURSE	
01/01/1996	IMPORTED	BUILT		2.00	True	996: 2" AC ON 6" LIMEROCK	
Network:         BCT         Branch:         TW P         (TAXIWAY P)         Section:         108         Surface:         AAC           L.C.D.:         01/01/2010         Use:         TAXIWAY         Rank P Length:         225.00 Ft         Width:         40.00 Ft         True Area:         10.940.00 St							
Work Date	Work Code	Work Description	Cost	hickness (in)	Major M&R	Comments	
01/01/2010	ML-OV	MILL and OVERLAY	\$0	0.00		MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING COURSE	
						CONOL	
01/01/1996	IMPORTED	BUILT				1996: AC OVERLAY	
Network: BC		anch: TW P (TAXIWA	Y P <b>)</b> 140.00 Ft	Width:	True 1		
Network: BC	CT Br	anch: TW P (TAXIWA	140.00 Ft	Width: hickness (in)	True 1	1996: AC OVERLAY ction: 112 Surface: AAC	
Network: BC L.C.D.: 01/01 Work	CT Bra 1/2010 Use: TA Work	anch: TWP (TAXIWA XIWAY Rank PLength: Work	140.00 Ft	hickness	Sec 80.0 Major M&R	1996: AC OVERLAY  Surface: AAC  O Ft True Area: 12,673.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING	
Network: BC L.C.D.: 01/01 Work Date	CT Br: 1/2010 Use: TA Work Code	anch: TWP (TAXIWA XIWAY Rank P Length: Work Description	140.00 Ft  Cost	hickness (in)	Sec 80.0 Major M&R	1996: AC OVERLAY  ction: 112 Surface: AAC  00 Ft True Area: 12,673.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401,	
Network: BC L.C.D.: 01/01 Work Date 01/01/2010 01/01/1996 Network: BC	CT Brain 1/2010 Use: TA Work Code ML-OV IMPORTED	anch: TW P (TAXIWA XIWAY Rank P Length:  Work Description  MILL and OVERLAY  BUILT  anch: TW P (TAXIWA	140.00 Ft  Cost  \$0	hickness (in)	Sec 80.0 Major M&R True True	ction: 112 Surface: AAC 20 Ft True Area: 12,673.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401, //ARIABLE (~1.5") P-401 LEVELING COURSE	
Network: BC L.C.D.: 01/01 Work Date 01/01/2010 01/01/1996 Network: BC	CT Brain 1/2010 Use: TA  Work Code  ML-OV  IMPORTED  CT Brain 1/2010 Use: TA	anch: TW P (TAXIWA XIWAY Rank P Length:  Work Description  MILL and OVERLAY  BUILT  anch: TW P (TAXIWA	140.00 Ft  Cost  \$0  Y P)  50.00 Ft	hickness (in) 0.00	Sec 80.0 Major M&R True True	ction: 112 Surface: AAC 20 Ft True Area: 12,673.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401, //ARIABLE (~1.5") P-401 LEVELING COURSE 1996: 2" AC ON 6" LIMEROCK  ction: 113 Surface: AAC	
Network: BC L.C.D.: 01/01 Work Date 01/01/2010 01/01/1996 Network: BC L.C.D.: 01/01	Work Code  ML-OV  IMPORTED  CT Br. I/2010 Use: TA	anch: TW P (TAXIWA Rank P Length:  Work Description  MILL and OVERLAY  BUILT  anch: TW P (TAXIWA Rank P Length:  Work	140.00 Ft  Cost  \$0  Y P)  50.00 Ft	hickness (in)  0.00  2.00  Width:	Sec 80.0  Major M&R  True  Sec 40.0  Major M&R  True	ction: 112 Surface: AAC 00 Ft True Area: 12,673.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401, /ARIABLE (~1.5") P-401 LEVELING COURSE 1996: 2" AC ON 6" LIMEROCK  ction: 113 Surface: AAC 00 Ft True Area: 4.000.00 SqF	
Network: BC L.C.D.: 01/01 Work Date 01/01/2010 01/01/1996 Network: BC L.C.D.: 01/01 Work Date	Work Code  ML-OV  IMPORTED  CT Br. 1/2010 Use: TA	anch: TW P (TAXIWA XIWAY Rank P Length:  Work Description  MILL and OVERLAY  BUILT  anch: TW P (TAXIWA XIWAY Rank P Length:  Work Description	140.00 Ft  Cost  \$0  Y P)  50.00 Ft  Cost	Chickness (in)  0.00  2.00  Width: Chickness (in)	Sec 80.0 Major M&R True  Sec 40.0 Major M&R True	ction: 112 Surface: AAC 20 Ft True Area: 12,673.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401, //ARIABLE (~1.5") P-401 LEVELING COURSE 1996: 2" AC ON 6" LIMEROCK  ction: 113 Surface: AAC 20 Ft True Area: 4.000.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401, //ARIABLE (~1.5") P-401 LEVELING	
Network: BC L.C.D.: 01/01  Work Date  01/01/2010  01/01/1996  Network: BC L.C.D.: 01/01  Work Date  01/01/2010  01/01/2010  01/01/1996  Network: BC	Work Code  ML-OV  IMPORTED  CT Br. I/2010 Use: TA  Work Code  ML-OV  IMPORTED	anch: TW P (TAXIWA Rank P Length:  Work Description  MILL and OVERLAY  BUILT  anch: TW P (TAXIWA Rank P Length:  Work Description  MILL and OVERLAY  BUILT  BUILT  WORK DESCRIPTION  MILL and OVERLAY  BUILT  anch: TW P (TAXIWA	140.00 Ft  Cost  \$0  Y P)  50.00 Ft  Cost  \$0	Chickness (in)  0.00  2.00  Width: Chickness (in)	Sec 80.0  Major M&R  True  Sec 40.0  Major M&R  True  True  True  Sec 50.0  True  True  Sec 60.0	ction: 112 Surface: AAC 20 Ft True Area: 12,673.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401,  /ARIABLE (~1.5") P-401 LEVELING  COURSE 1996: 2" AC ON 6" LIMEROCK  ction: 113 Surface: AAC 20 Ft True Area: 4,000.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401,  /ARIABLE (~1.5") P-401 LEVELING  COURSE  MILL AND OVERLAY: 1.5" P-401,  /ARIABLE (~1.5") P-401 LEVELING  COURSE	
Network: BC L.C.D.: 01/01  Work Date  01/01/2010  01/01/1996  Network: BC L.C.D.: 01/01  Work Date  01/01/2010  01/01/2010  01/01/1996  Network: BC	Work Code  ML-OV  IMPORTED  CT Brain 1/2010 Use: TA  Work Code  ML-OV  IMPORTED  CT Brain 1/2010 Use: TA  Work Code  ML-OV  IMPORTED	anch: TW P (TAXIWA Rank P Length:  Work Description  MILL and OVERLAY  BUILT  anch: TW P (TAXIWA Rank P Length:  Work Description  MILL and OVERLAY  BUILT  BUILT  Anch: TW P (TAXIWA Rank P Length:  Work Description  MILL and OVERLAY  BUILT  BUILT  Anch: TW P (TAXIWA	140.00 Ft  Cost  \$0  Y P)  50.00 Ft  Cost  \$0  Y P)  140.00 Ft	Vidth:	Sec 80.0  Major M&R  True  Sec 40.0  Major M&R  True  True  True  Sec 50.0  True  True  Sec 60.0	ction: 112 Surface: AAC 20 Ft True Area: 12,673.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401,  /ARIABLE (~1.5") P-401 LEVELING  COURSE 1996: 2" AC ON 6" LIMEROCK  ction: 113 Surface: AAC 20 Ft True Area: 4,000.00 SqF  Comments  MILL AND OVERLAY: 1.5" P-401,  /ARIABLE (~1.5") P-401 LEVELING  COURSE EST 1996: PATCH  ction: 131 Surface: AAC	

Date:04/17/2015

### **Work History Report**

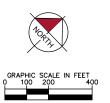
6 of 6 Pavement Database:FDOT

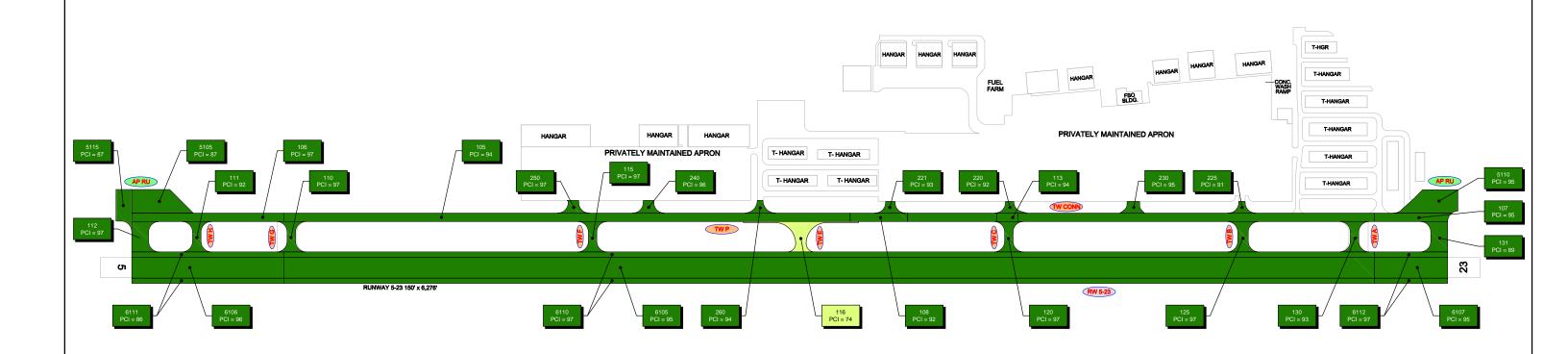
### Summary:

Work Description	Section Count	Area Total (SqFt)	Thickness Avg (in)	Thickness STD (in)
BUILT	25	1,332,593.00	2.05	.15
Initial Construction	1	3,165.00	.00	
MILL and OVERLAY	28	1,343,909.00	.00	.00
New Construction - AC	2	8,151.00	.00	.00
New Construction - Initial	2	26,516.00	.00	.00
OVERLAY	15	2,020,532.00	2.50	.00

# APPENDIX B

- AIRFIELD PAVEMENT CONDITION INDEX RATING EXHIBIT
- PAVEMENT CONDITION INDEX INVENTORY





#### **LEGEND**

TYPICAL RUNWAY BRANCH ID

TYPICAL TAXIWAY BRANCH ID

APS

TYPICAL APRON BRANCH ID

PCI 86-100 GOOD

PCI 71-85 SATISFACTORY

PCI 56-70 FAIR

PCI 41-55 POOR

PCI 26-40 VERY POOR

PCI 11-25 SERIOUS

PCI 0-10 FAILED

TSECTION NO.\*

RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS.

DESIGNED:	KHA	DRAWN:	KHA	CHECKED:	KHA	DATE:	2015
NUMBER	DATE			REVI	SIONS		











Table B-1: Pavement Condition Index Inventory

Branch Name	Branch ID	Branch Use	Section ID	True Area (FT²)	Section Rank	Surface Type	PCI	PCI Category	Total Inspection Samples	Total Samples
RUNWAY 5-23	RW 5-23	RUNWAY	6112	17,500	Р	AAC	97	Good	1	4
RUNWAY 5-23	RW 5-23	RUNWAY	6111	36,350	Р	AAC	86	Good	2	8
RUNWAY 5-23	RW 5-23	RUNWAY	6110	260,000	Р	AAC	97	Good	10	52
RUNWAY 5-23	RW 5-23	RUNWAY	6107	35,000	Р	AAC	95	Good	2	7
RUNWAY 5-23	RW 5-23	RUNWAY	6106	72,700	Р	AAC	96	Good	3	14
RUNWAY 5-23	RW 5-23	RUNWAY	6105	520,000	Р	AAC	95	Good	21	104
RUN-UP APRONS	AP RU	APRON	5115	11,787	Р	AC	87	Good	1	3
RUN-UP APRONS	AP RU	APRON	5110	24,879	Р	AAC	95	Good	2	5
RUN-UP APRONS	AP RU	APRON	5105	26,544	Р	AAC	87	Good	2	5
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	260	3,165	Р	AAC	94	Good	1	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	250	4,078	Р	AAC	97	Good	1	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	240	4,073	Р	AAC	96	Good	1	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	230	4,056	Р	AAC	95	Good	1	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	225	2,723	Р	AAC	91	Good	1	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	221	3,548	Р	AAC	93	Good	1	1
CONNECTOR TAXIWAY TO AP	TW CONN	TAXIWAY	220	3,501	Р	AAC	92	Good	1	1
TAXIWAY P	TW P	TAXIWAY	131	12,673	Р	AAC	89	Good	1	2
TAXIWAY A	TW A	TAXIWAY	130	7,946	Р	AAC	93	Good	1	2
TAXIWAY B	TW B	TAXIWAY	125	9,396	Р	AAC	97	Good	1	2
TAXIWAY C	TW C	TAXIWAY	120	7,946	Р	AAC	97	Good	1	2

#### Pavement Evaluation Report - Boca Raton Airport

Branch Name	Branch ID	Branch Use	Section ID	True Area (FT²)	Section Rank	Surface Type	PCI	PCI Category	Total Inspection Samples	Total Samples
TAXIWAY E	TW E	TAXIWAY	116	14,729	Р	AC	74	Satisfactory	1	4
TAXIWAY F	TW F	TAXIWAY	115	7,946	Р	AAC	97	Good	1	2
TAXIWAY P	TW P	TAXIWAY	113	4,000	Р	AAC	94	Good	1	1
TAXIWAY P	TW P	TAXIWAY	112	12,673	Р	AAC	97	Good	1	2
TAXIWAY H	TW H	TAXIWAY	111	7,946	Р	AAC	92	Good	1	2
TAXIWAY G	TW G	TAXIWAY	110	7,945	Р	AAC	97	Good	1	2
TAXIWAY P	TW P	TAXIWAY	108	10,940	Р	AAC	92	Good	1	3
TAXIWAY P	TW P	TAXIWAY	107	14,241	Р	AAC	95	Good	1	4
TAXIWAY P	TW P	TAXIWAY	106	29,080	Р	AAC	97	Good	2	7
TAXIWAY P	TW P	TAXIWAY	105	193,060	Р	AAC	94	Good	6	48

Note: If new construction, then survey date = last construction date and PCI is set to 100 by MicroPAVER.

<sup>\*</sup> Sections not surveyed due to reasons such as re-sectioning, no escort, not accessible at the time of survey. Please refer to Section 3 for discussion on the updates to the ASTM D 5640 that may affect PCI in comparison to previous program update.

# APPENDIX C

- BRANCH CONDITION REPORT
- SECTION CONDITION REPORT

#### **Branch Condition Report**

Pavement Database: FDOT NetworkID: BCT

Sum Section Avg Section PCI Number of Weighted **True Area** Average **Branch ID** Use **Sections** Length Width Standard Average (SqFt) PCI PCI (Ft) (Ft) Deviation AP RU (RUN-UP APRONS) 3 630.00 101.67 63,210.00 **APRON** 89.67 3.77 90.15 RW 5-23 (RUNWAY 5-23) 6 18,825.00 941,550.00 **RUNWAY** 62.50 94.33 3.82 95.32 TW A (TAXIWAY A) 1 140.00 90.00 7,946.00 **TAXIWAY** 93.00 0.00 93.00 TW B (TAXIWAY B) 140.00 9,396.00 **TAXIWAY** 0.00 97.00 1 40.00 97.00 TW C (TAXIWAY C) 1 140.00 40.00 7,946.00 **TAXIWAY** 97.00 0.00 97.00 TW CONN (CONNECTOR TAXIWAY 7 395.00 43.86 25,144.00 **TAXIWAY** 2.00 94.23 94.00 TO AP) TW E (TAXIWAY E) 1 150.00 60.00 14,729.00 **TAXIWAY** 74.00 0.00 74.00 TW F (TAXIWAY F) 140.00 7,946.00 **TAXIWAY** 1 40.00 97.00 0.00 97.00 TW G (TAXIWAY G) 140.00 7,945.00 **TAXIWAY** 97.00 1 90.00 97.00 0.00 7,946.00 TW H (TAXIWAY H) 140.00 **TAXIWAY** 92.00 0.00 1 40.00 92.00 TW P (TAXIWAY P) **TAXIWAY** 7 6,610.00 51.43 276,667.00 94.00 2.62 94.20

## **Branch Condition Report**

Pavement Database: FDOT

Use Category	Number of Sections	Total Area (SqFt)	Arithmetic Average PCI	Average PCI STD.	Weighted Average PCI
APRON	3	63,210.00	89.67	3.77	90.15
RUNWAY	6	941,550.00	94.33	3.82	95.32
TAXIWAY	21	365,665.00	93.48	4.93	93.57
All	30	1,370,425.00	93.27	4.79	94.61

#### **Section Condition Report**

Pavement Database: FDOT

NetworkID: BCT

Last Age Section ID Hee Branch ID Last Surface Rank Lanes True Area **PCI** Inspection Αt Const. (SqFt) Date Inspection Date AP RU (RUN-UP APRONS) Ρ 5105 01/01/2010 AAC **APRON** 0 26,544.00 10/01/2014 87.00 AP RU (RUN-UP APRONS) 5110 01/01/2010 AAC **APRON** Ρ 24,879.00 10/01/2014 4 95.00 AP RU (RUN-UP APRONS) 5115 01/01/2010 **APRON** Р 11,787.00 10/01/2014 87.00 RW 5-23 (RUNWAY 5-23) 6105 01/01/2010 AAC **RUNWAY** Ρ 0 520.000.00 10/01/2014 4 95.00 RW 5-23 (RUNWAY 5-23) 6106 01/01/2010 AAC **RUNWAY** Р 0 72,700.00 10/01/2014 4 96.00 RW 5-23 (RUNWAY 5-23) 01/01/2010 Р 6107 AAC RUNWAY 0 35,000.00 10/01/2014 95.00 4 RW 5-23 (RUNWAY 5-23) Ρ 6110 01/01/2010 AAC **RUNWAY** 0 260,000.00 10/01/2014 4 97.00 RW 5-23 (RUNWAY 5-23) 6111 01/01/2010 AAC **RUNWAY** Ρ 0 36,350.00 10/01/2014 4 86.00 RW 5-23 (RUNWAY 5-23) 6112 01/01/2010 AAC **RUNWAY** Ρ 17,500.00 10/01/2014 4 97.00 TW A (TAXIWAY A) **TAXIWAY** Ρ 130 01/01/2010 AAC 0 7.946.00 10/01/2014 4 93.00 TW B (TAXIWAY B) 125 01/01/2010 AAC **TAXIWAY** Ρ 0 9.396.00 10/01/2014 4 97.00 TW C (TAXIWAY C) 01/01/2010 **TAXIWAY** Р AAC 0 7,946.00 10/01/2014 120 4 97.00 TW CONN (CONNECTOR TAXIWAY TO 220 01/01/2010 AAC **TAXIWAY** Ρ 0 3,501.00 10/01/2014 4 92.00 TW CONN (CONNECTOR TAXIWAY TO 221 01/01/2010 AAC **TAXIWAY** Р 0 3,548.00 10/01/2014 4 93.00 AP) TW CONN (CONNECTOR TAXIWAY TO **TAXIWAY** Ρ 225 01/01/2010 AAC 0 2,723.00 10/01/2014 4 91.00 TW CONN (CONNECTOR TAXIWAY TO 230 01/01/2010 **TAXIWAY** Ρ 4,056.00 10/01/2014 95.00 AP) TW CONN (CONNECTOR TAXIWAY TO Ρ 240 01/01/2010 AAC **TAXIWAY** 0 4,073.00 10/01/2014 4 96.00 TW CONN (CONNECTOR TAXIWAY TO Р **TAXIWAY** 250 01/01/2010 AAC 0 4,078.00 10/01/2014 97.00 AP) TW CONN (CONNECTOR TAXIWAY TO **TAXIWAY** Ρ 260 01/01/2010 AAC 0 3,165.00 10/01/2014 4 94.00 TW E (TAXIWAY E) 116 01/01/2010 AC **TAXIWAY** Ρ 14,729.00 10/01/2014 4 74.00 TW F (TAXIWAY F) **TAXIWAY** Ρ 7,946.00 10/01/2014 115 01/01/2010 AAC 4 97.00 TW G (TAXIWAY G) 01/01/2010 AAC **TAXIWAY** Ρ 4 110 0 7,945.00 10/01/2014 97.00 TW H (TAXIWAY H) **TAXIWAY** Р 01/01/2010 AAC 0 7,946.00 10/01/2014 4 92.00 111 TW P (TAXIWAY P) 105 01/01/2010 AAC **TAXIWAY** Ρ 0 193,060.00 10/01/2014 4 94.00 TW P (TAXIWAY P) 106 01/01/2010 AAC **TAXIWAY** Ρ 0 29,080.00 10/01/2014 97.00 TW P (TAXIWAY P) 107 01/01/2010 AAC **TAXIWAY** 0 14,241.00 10/01/2014 95.00

#### **Section Condition Report**

Pavement Database: FDOT NetworkID: BCT

Last Age Use **Branch ID** Section ID Last Surface Rank Lanes True Area PCI Inspection Αt Const. (SqFt) Date Inspection Date TW P (TAXIWAY P) **TAXIWAY** Ρ 10,940.00 10/01/2014 108 01/01/2010 AAC 0 92.00 TW P (TAXIWAY P) 01/01/2010 AAC **TAXIWAY** Ρ 0 12,673.00 10/01/2014 4 97.00 112 TW P (TAXIWAY P) 01/01/2010 **TAXIWAY** Ρ 4,000.00 10/01/2014 113 AAC 0 4 94.00 TW P (TAXIWAY P) 131 01/01/2010 AAC **TAXIWAY** Ρ 0 12,673.00 10/01/2014 4 89.00

## **Section Condition Report**

3 of 3

Pavement Database: FDOT

Age Category	Average Age At Inspection	Total Area (SqFt)	Number of Sections	Arithmetic Average PCI	PCI Standard Deviation	Weighted Average PCI
03-05	4.00	1,370,425.00	30	93.27	4.87	94.61
All	4.00	1,370,425.00	30	93.27	4.87	94.61

## APPENDIX D

- PAVEMENT PERFORMANCE PREDICTION
- PAVEMENT PERFORMANCE BY PAVEMENT USE



Table D-1: Pavement Performance Prediction

Branch	Section	2014			Pave	ment F	Perform	nance	Model	- PCI		
ID	ID	PCI	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AP RU	5105	87	86	83	81	79	77	75	73	70	68	66
AP RU	5110	95	94	91	89	87	85	83	81	78	76	74
AP RU	5115	87	86	84	82	80	78	76	74	72	70	68
RW 5-23	6105	95	94	92	90	88	86	84	82	80	78	76
RW 5-23	6106	96	95	93	91	89	87	85	83	81	79	77
RW 5-23	6107	95	94	92	90	88	86	84	82	80	78	76
RW 5-23	6110	97	96	94	92	90	88	86	84	82	80	78
RW 5-23	6111	86	85	83	81	79	77	75	73	71	69	67
RW 5-23	6112	97	96	94	92	90	88	86	84	82	80	78
TW A	130	93	92	90	88	86	84	83	81	79	77	75
TW B	125	97	96	94	92	90	88	87	85	83	81	79
TW C	120	97	96	94	92	90	88	87	85	83	81	79
TW CONN	220	92	91	89	87	85	83	82	80	78	76	74
TW CONN	221	93	92	90	88	86	84	83	81	79	77	75
TW CONN	225	91	90	88	86	84	82	81	79	77	75	73
TW CONN	230	95	94	92	90	88	86	85	83	81	79	77
TW CONN	240	96	95	93	91	89	87	86	84	82	80	78
TW CONN	250	97	96	94	92	90	88	87	85	83	81	79
TW CONN	260	94	93	91	89	87	85	84	82	80	78	76
TW E	116	74	73	72	70	69	68	66	65	63	62	61
TW F	115	97	96	94	92	90	88	87	85	83	81	79
TW G	110	97	96	94	92	90	88	87	85	83	81	79
TW H	111	92	91	89	87	85	83	82	80	78	76	74
TW P	105	94	93	91	89	87	85	84	82	80	78	76
TW P	106	97	96	94	92	90	88	87	85	83	81	79
TW P	107	95	94	92	90	88	86	85	83	81	79	77
TW P	108	92	91	89	87	85	83	82	80	78	76	74
TW P	112	97	96	94	92	90	88	87	85	83	81	79



#### Pavement Evaluation Report - Boca Raton Airport

Branch	Section	2014			Pave	ment F	erform	nance	Model	- PCI		
ID	ID	PCI	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
TW P	113	94	93	91	89	87	85	84	82	80	78	76
TW P	131	89	88	86	84	82	80	79	77	75	73	71

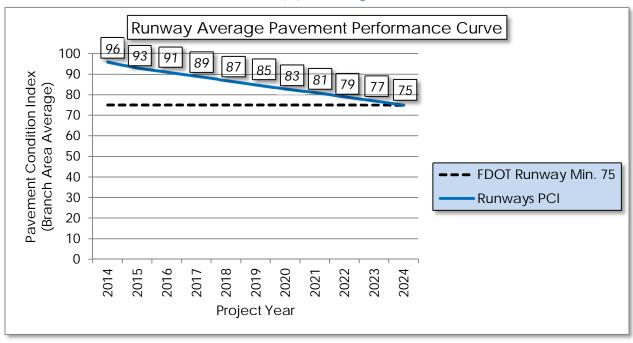
Note: If new construction, then survey date = last construction date and PCI is set to 100 by MicroPAVER.

\* Sections not surveyed due to reasons such as re-sectioning, no escort, not accessible at the time of survey. Please refer to Section 3 for discussion on the updates to the ASTM D 5640 that may affect PCI in comparison to previous program update.

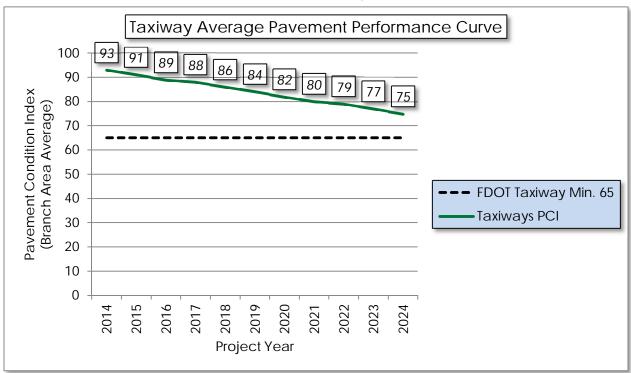


Figure D-1: Pavement Performance by Pavement Use

#### (a) Runway

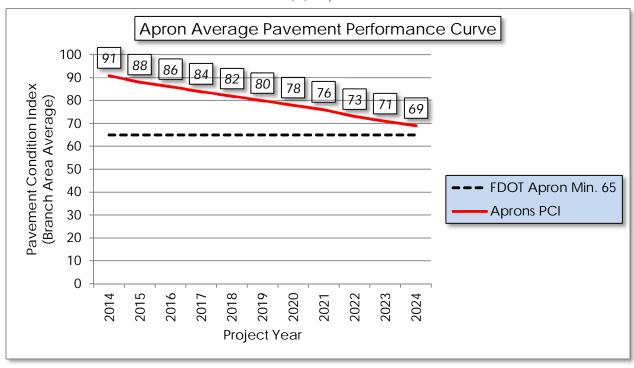


#### (b) Taxiway





#### (c) Apron



# APPENDIX E

YEAR-1 PREVENTATIVE ACTIVITIES



Table E-1: Year-1 Preventative Activities

Branch Name	Branch ID	Section ID	Distress Description	Distress Severity	Work Description	Work Quantity	Work Unit	Unit Cost	W	ork Cost
RUNWAY 5-23	RW 5-23	6105	RAVELING	L	Surface Seal	39.60	SqFt	\$0.55	\$	21.79
TAXIWAY CONNECTOR TO APRON	TW CONN	260	RAVELING	L	Surface Seal	1.00	SqFt	\$0.55	\$	0.55
TAXIWAY CONNECTOR TO APRON	TW CONN	240	RAVELING	L	Surface Seal	4.00	SqFt	\$0.55	\$	2.20
TAXIWAY CONNECTOR TO APRON	TW CONN	225	RAVELING	L	Surface Seal	50.00	SqFt	\$0.55	\$	27.50
TAXIWAY CONNECTOR TO APRON	TW CONN	221	RAVELING	L	Surface Seal	4.00	SqFt	\$0.55	\$	2.20
TAXIWAY CONNECTOR TO APRON	TW CONN	220	L&TCR	L	Crack Sealing - AC	2.00	Ft	\$2.75	\$	5.50
TAXIWAY PAPA	TW P	131	L&TCR	L	Crack Sealing - AC	10.00	Ft	\$2.75	\$	27.50
TAXIWAY PAPA	TW P	131	RAVELING	М	Surface Seal	96.00	SqFt	\$0.55	\$	52.80
TAXIWAY PAPA	TW P	131	RAVELING	L	Surface Seal	34.00	SqFt	\$0.55	\$	18.70
Taxiway Alpha	TW A	130	L&TCR	L	Crack Sealing - AC	4.00	Ft	\$2.75	\$	10.98
TAXIWAY ECHO	TW E	116	DEPRESSION	L	Patching - AC Full Depth	831.60	SqFt	\$5.00	\$	4,157.94
TAXIWAY ECHO	TW E	116	L&TCR	L	Crack Sealing - AC	16.80	Ft	\$2.75	\$	46.29

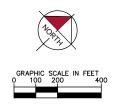


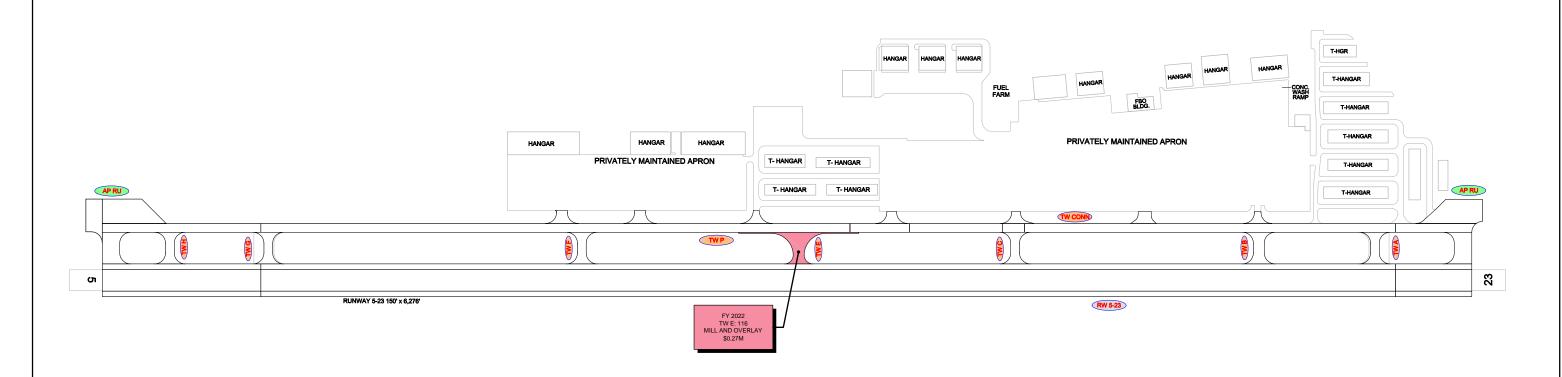
### Pavement Evaluation Report - Boca Raton Airport

Branch Name	Branch ID	Section ID	Distress Description	Distress Severity	Work Description	Work Quantity	Work Unit	Unit Cost	W	ork Cost
TAXIWAY HOTEL	TW H	111	L&TCR	L	Crack Sealing - AC	52.00	Ft	\$2.75	\$	143.00
TAXIWAY PAPA	TW P	108	L&TCR	L	Crack Sealing - AC	10.00	Ft	\$2.75	\$	27.52
TAXIWAY PAPA	TW P	105	BLEEDING	N	Patching - AC Partial Depth	72.40	SqFt	\$3.00	\$	217.19
TAXIWAY PAPA	TW P	105	L&TCR	L	Crack Sealing - AC	40.20	Ft	\$2.75	\$	110.61
Total =							\$	4,872.27		

## APPENDIX F

- AIRFIELD PAVEMENT 10-YEAR MAJOR REHABILITATION
   EXHIBIT
- AIRFIELD PAVEMENT 10-YEAR MAJOR REHABILITATION
   TABLE





# TYPICAL RUNWAY BRANCH ID TWA TYPICAL TAXIWAY BRANCH ID TYPICAL APRON BRANCH ID PROGRAM YEAR 2015 2020 2016 2021 2017 2022 2018 2023 2019 2024

**LEGEND** 

RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS.

"PROGRAM YEAR"
"BRANCH":"SECTION"
"REHAB ACTIVITY"
"EST. COST"

II: \WPR_Aviotion\1421	IN NETBURNAL AND THE STREET OF							
DESIGNED:	KHA	DRAWN:	KHA	CHECKED:	KHA	DATE:	2015	
NUMBER	DATE			REVI	SIONS			





	AIRFIELD PAVEMENT 10-YEAR MAJOR REHABILITATION EXHIBIT	ī
	BOCA RATON AIRPORT	1
)	PALM BEACH COUNTY, FLORIDA	ŀ
	FLORIDA DEPARTMENT OF TRANSPORTATION - AVIATION AND SPACEPORT OFFICE	1





Table F-1: Airfield Pavement 10-Year Major Rehabilitation Table

Year	Branch ID	Section ID	Major M&R Costs*	PCI Before M&R	M&R Activity	PCI After M&R
2022	TW E	116	\$ 271,722.00	63	Mill and Overlay	100
		Total =	\$ 271,722.00			

<sup>\*</sup> Costs are adjusted for inflation AT 3%

# APPENDIX G

PHOTOGRAPHS





Runway 5-23, Section 6107, Sample Unit 409 - Low Severity (57) Weathering



Taxiway Bravo, Section 125, Sample Unit 400 - Low Severity (57) Weathering



Taxiway Charlie, Section 120, Sample Unit 300 - Low Severity (57) Weathering



Runway 5-23, Section 6105, Sample Unit 357 - Low Severity (57) Weathering





Runway 5-23, Section 6105, Sample Unit 350 – Low Severity (52) Raveling, Low Severity (57) Weathering



Runway 5-23, Section 6111, Sample Unit 84 – Low Severity (50) Patching, Low Severity (57) Weathering



Taxiway Papa, Section 112, Sample Unit 100 - Low Severity (57) Weathering



Apron Run-Up, Section 5115, Sample Unit 201 – Low Severity (50) Patching, Low Severity (57) Weathering





Taxiway Papa, Section 105, Sample Unit 105 - (42) Bleeding, Low Severity (57) Weathering



Taxiway Connector, Section 225, Sample Unit 803 – Low Severity (57) Weathering, Medium Severity (57) Weathering



Taxiway Papa, Section 105, Sample Unit 150 - Low Severity (57) Weathering



Taxiway Papa, Section 131, Sample Unit 100 - Low Severity (52) Raveling, Medium Severity (52) Raveling, Low Severity (57) Weathering

# APPENDIX H

DISTRESS DATA – RE-INSPECTION REPORT

#### FDOT

Report Generated Date: April 17, 2015

Network:	BCT	Name: E	BOCA RATO	ON AIRPORT	Γ						
Branch:	AP RU	Name: F	RUN-UP AP	RONS			Use: APRON	N	Area:	63,210.00SqFt	
Section: Surface:	5105 AAC	of 3 Family:	From:	- APMP-RL-AF	P-AAC		То: -		Zone:	Last Const.: Category:	01/01/2010 Rank: P
Area:	26,544.00SqFt	Ler	igth:	240.00Ft		Widt	n: 120.00Ft				
Shoulder:	Street T		Grade:	0.00	Lanes:	0					
Condition	Date: 10/01/20	)14 Total Sai	mples: 5	Surv	veyed: 2	2					
Last Insp. Condition	Date: 10/01/20 as: PCI: 87 Comments:		mples: 5	Surv	veyed: 2 Area:		,600.00SqFt	PCI	I = 77		
Last Insp. Condition Inspection Sample N Sample Con	Date: 10/01/20 as: PCI: 87 Comments: 100 mments:			Surv		5	-				
Last Insp. Condition Inspection Sample N Sample Cor 50 PAT	Date: 10/01/20 as: PCI: 87 Comments: 100 mments:			Surv			,600.00SqFt 1,080.00 SqI 1,400.00 SqI	Ft	[=77 Comment Comment		
Last Insp. Condition Inspection Sample N Sample Cor 50 PAT	Date: 10/01/20 is: PCI: 87 Comments: 100 mments: PCHING THERING	Тур		Surv		5 L L	1,080.00 SqI	Ft Ft	Comment		

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT	Name: I	BOCA RATO	ON AIRPORT						
Branch: AP RU	Name: I	RUN-UP API	RONS			Use: APRON	Area:	63,210.00SqFt	
Section: 5110	of 3	From:	-			То: -		Last Const.:	01/01/2010
Surface: AAC	Family	FDOT-SA	APMP-RL-AP-	·AAC			Zone:	Category:	Rank: P
Area: 24,879.00SqFt	Lei	igth:	240.00Ft		Wid	th: 110.00Ft			
Shoulder: Street 7	Гуре:	Grade:	0.00	Lanes:	0				
Section Comments:  Last Insp. Date: 10/01/20	014 Total Sa	mples: 5	Surv	eyed: 2	2				
Last Insp. Date: 10/01/20 Conditions: PCI:95	014 Total Sa	mples: 5	Surv	eyed: 2	2				
Last Insp. Date: 10/01/20 Conditions: PCI: 95 Inspection Comments: Sample Number: 100		mples: 5	Surv	eyed: 2 Area:		5,245.00SqFt	PCI = 95		
Last Insp. Date: 10/01/20 Conditions: PCI: 95 Inspection Comments: Sample Number: 100 Sample Comments:			Surv			5,245.00SqFt 2,623.00 SqFt	PCI = 95 Comment	cs:	
Last Insp. Date: 10/01/20 Conditions: PCI: 95 Inspection Comments:  Sample Number: 100 Sample Comments:	Тур		Surv		L	•		cs:	

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT Branch: AP RU Name: RUN-UP APRONS Use: APRON Area: 63,210.00SqFt Section: 5115 3 From: -То: -Last Const.: 01/01/2010 of Family: FDOT-SAPMP-RL-AP-AC Surface: Zone: Category: Rank: P ACArea: 11,787.00SqFt Length: 150.00Ft Width: 75.00Ft Shoulder: Grade: 0.00 Lanes: 0 Street Type:

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 3 Surveyed: 1

Conditions: PCI: 87 Inspection Comments:

Sample Number: 201 Type: R Area: 3,750.00SqFt PCI = 87

Sample Comments:

50 PATCHING L 180.00 SqFt Comments: 57 WEATHERING L 938.00 SqFt Comments:

#### **FDOT**

Report Generated Date:	1 ,				
Network: BCT	Name: BOCA RATON AIRP	ORT			
Branch: RW 5-23	Name: RUNWAY 5-23		Use: RUNWAY	Area: 9	41,550.00SqFt
Section: 6105 Surface: AAC Area: 520,000.00SqFt	of 6 From: - Family: FDOT-SAPMP-RI Length: 5,200.00	Ft W	To: - idth: 100.00Ft	Zone:	Last Const.: 01/01/2010 Category: Rank: P
Shoulder: Street	Type: Grade: 0.00	Lanes: 0			
Section Comments:					
Last Insp. Date: 10/01/2 Conditions: PCI: 95 Inspection Comments:	014 Total Samples: 104	Surveyed: 21			
Sample Number: 304	Type: R	Area:	5,000.00SqFt	PCI = 95	
Sample Comments: 57 WEATHERING		L	2,500.00 SqFt	Comments:	
Sample Number: 308	Type: R	Area:	5,000.00SqFt	PCI = 95	
Sample Comments: 57 WEATHERING		L	2,500.00 SqFt	Comments:	
Sample Number: 313	Type: R	Area:	5,000.00SqFt	PCI = 95	
Sample Comments: 57 WEATHERING		L	2,500.00 SqFt	Comments:	
Sample Number: 318	Type: R	Area:	5,000.00SqFt	PCI = 95	
Sample Comments: 57 WEATHERING		L	2,500.00 SqFt	Comments:	
Sample Number: 322 Sample Comments:	Type: R	Area:	5,000.00SqFt	PCI = 95	
57 WEATHERING		L	2,500.00 SqFt	Comments:	
Sample Number: 326 Sample Comments:	Type: R	Area:	5,000.00SqFt	PCI = 95	
57 WEATHERING		L	2,500.00 SqFt	Comments:	
Sample Number: 332 Sample Comments:	Type: R	Area:	5,000.00SqFt	PCI = 95	
57 WEATHERING		L	2,500.00 SqFt	Comments:	
Sample Number: 336 Sample Comments:	Type: R	Area:	5,000.00SqFt	PCI = 95	
57 WEATHERING		L	2,500.00 SqFt	Comments:	
Sample Number: 343 Sample Comments:	Type: R	Area:	5,000.00SqFt	PCI = 95	
57 WEATHERING		L	2,500.00 SqFt	Comments:	
Sample Number: 350 Sample Comments:	Type: R	Area:	5,000.00SqFt	PCI = 93	
52 RAVELING 57 WEATHERING		L L	8.00 SqFt 4,992.00 SqFt	Comments:	

#### FDOT

Sample Number: 3 Sample Comments:	357	Type:	R	Area:		5,000.00SqFt	PCI = 95
57 WEATHERING	ţ				L	2,500.00 SqFt	Comments:
Sample Number: 3 Sample Comments:	364	Type:	R	Area:		5,000.00SqFt	PCI = 95
57 WEATHERING	1				L	2,500.00 SqFt	Comments:
Sample Number: 3 Sample Comments:	369	Type:	R	Area:		5,000.00SqFt	PCI = 95
57 WEATHERING	;				L	2,500.00 SqFt	Comments:
Sample Number: 3 Sample Comments:	374	Type:	R	Area:		5,000.00SqFt	PCI = 95
57 WEATHERING	<del>!</del>				L	2,500.00 SqFt	Comments:
Sample Number: 3 Sample Comments:	378	Type:	R	Area:		5,000.00SqFt	PCI = 95
57 WEATHERING	<del>!</del>				L	2,500.00 SqFt	Comments:
Sample Number: 3 Sample Comments:	382	Type:	R	Area:		5,000.00SqFt	PCI = 95
57 WEATHERING	1				L	2,500.00 SqFt	Comments:
Sample Number: 3 Sample Comments:	388	Type:	R	Area:		5,000.00SqFt	PCI = 95
57 WEATHERING	<del>}</del>				L	2,500.00 SqFt	Comments:
Sample Number: 3 Sample Comments:	392	Type:	R	Area:		5,000.00SqFt	PCI = 95
57 WEATHERING	i T				L	2,500.00 SqFt	Comments:
1	396	Type:	R	Area:		5,000.00SqFt	PCI = 95
Sample Comments: 57 WEATHERING	ij				L	2,500.00 SqFt	Comments:
Sample Number: 3 Sample Comments:	399	Type:	R	Area:		5,000.00SqFt	PCI = 95
57 WEATHERING	i T				L	2,500.00 SqFt	Comments:
	403	Type:	R	Area:		5,000.00SqFt	PCI = 95
Sample Comments: 57 WEATHERING	i,				L	2,500.00 SqFt	Comments:

#### **FDOT**

Network: BCT	Name:	BOCA RATO	ON AIRPORT						
Branch: RW 5-23	Name:	RUNWAY 5-2	-23			Use: RUNWAY	Area:	941,550.00SqFt	
Section: 6106 Surface: AAC	of 6 Famil	From: y: FDOT-SA	- APMP-RL-RW-	-AAC		То: -	Zone:	Last Const.: Category:	01/01/2010 Rank: P
Area: 72,700.00SqFt Shoulder: Street		ength: Grade:	725.00Ft 0.00	Lanes:	Widt 0	h: 100.00Ft			
Section Comments:									
Conditions: PCI: 96	014 Total S	amples: 14	4 Surve	eyed: 3	3				
Last Insp. Date: 10/01/20 Conditions: PCI: 96 Inspection Comments:  Sample Number: 288		amples: 14	4 Surve	eyed: 3  Area:		5,000.00SqFt	PCI = 97		
Conditions: PCI: 96 Inspection Comments:  Sample Number: 288			4 Surve			5,000.00SqFt 1,250.00 SqFt	PCI = 97 Comment:	s:	
Conditions: PCI: 96 Inspection Comments:  Sample Number: 288 Sample Comments: 57 WEATHERING  Sample Number: 293	Ту		4 Surve		L	•		s:	
Conditions: PCI: 96 Inspection Comments:  Sample Number: 288 Sample Comments: 57 WEATHERING  Sample Number: 293	Ту	pe: R	4 Surve	Area:	L	1,250.00 SqFt	Comment		
Conditions: PCI: 96 Inspection Comments:  Sample Number: 288 Sample Comments: 57 WEATHERING  Sample Number: 293 Sample Comments:	Ту	pe: R	4 Surve	Area:	L S	1,250.00 SqFt 5,000.00SqFt	Comment:		

FDOT

Report Generated Date: April 17, 2015

Network: B	ВСТ	Name:	BOCA RATO	ON AIRPORT							
Branch: R	RW 5-23	Name:	RUNWAY 5	-23			Use: RUNWAY	Area:	94	1,550.00SqFt	
Section: 6	5107	of 6	From:	-			То: -			Last Const.:	01/01/2010
Surface: A	AAC	Famil	ly: FDOT-SA	APMP-RL-RW	-AAC			Zone:		Category:	Rank: P
Area: 35	,000.00SqFt	L	ength:	350.00Ft		Widt	h: 100.00Ft				
Shoulder:	Street T	ype:	Grade:	0.00	Lanes:	0					
Last Insp. Da	te: 10/01/20	14 Total S	Samples: 7	' Surve	eyed: 2						
	te: 10/01/20 PCI: 95	14 Total S	Samples: 7	y Surve	eyed: 2						
Last Insp. Da Conditions: Inspection Con	te: 10/01/20 PCI: 95 nments: ber: 406		Samples: 7	' Surve	eyed: 2		5,000.00SqFt	PCI = 95			
Last Insp. Da Conditions: Inspection Con	te: 10/01/20 PCI: 95 nments: ber: 406 ents:			' Survo			5,000.00SqFt 2,500.00 SqFt		nts:		
Last Insp. Da Conditions: Inspection Con Sample Numl Sample Commo	te: 10/01/20 PCI: 95 nments: ber: 406 ents: ERING ber: 409	Ту		' Surv		5 L	•		nts:		

#### **FDOT**

Network: BCT	Name: BOCA RATON AIR	PORT				
Branch: RW 5-23	Name: RUNWAY 5-23		Use: RUNWAY	Area: 94	1,550.00SqFt	
Section: 6110 Surface: AAC Area: 260,000.00SqFt Shoulder: Street T	of 6 From: - Family: FDOT-SAPMP-R Length: 10,400.0  ype: Grade: 0.00		To: - dth: 25.00Ft	Zone:	Last Const.: Category:	01/01/2010 Rank: P
Section Comments:						
Last Insp. Date: 10/01/20 Conditions: PCI: 97 Inspection Comments:	114 Total Samples: 52	Surveyed: 10				
Sample Number: 104	Type: R	Area:	5,000.00SqFt	PCI = 97		
Sample Comments: 57 WEATHERING		L	1,250.00 SqFt	Comments:		
Sample Number: 128	Type: R	Area:	5,000.00SqFt	PCI = 97		
Sample Comments: 57 WEATHERING		L	1,250.00 SqFt	Comments:		
Sample Number: 152	Type: R	Area:	5,000.00SqFt	PCI = 97		
Sample Comments: 57 WEATHERING		L	1,250.00 SqFt	Comments:		
Sample Number: 180	Type: R	Area:	5,000.00SqFt	PCI = 97		
Sample Comments: 57 WEATHERING		L	1,250.00 SqFt	Comments:		
Sample Number: 196	Type: R	Area:	5,000.00SqFt	PCI = 97		
Sample Comments: 57 WEATHERING		L	1,250.00 SqFt	Comments:		
Sample Number: 516	Type: R	Area:	5,000.00SqFt	PCI = 97		
Sample Comments: 57 WEATHERING		L	1,250.00 SqFt	Comments:		
Sample Number: 540	Type: R	Area:	5,000.00SqFt	PCI = 97		
Sample Comments: 57 WEATHERING		L	1,250.00 SqFt	Comments:		
Sample Number: 568	Type: R	Area:	5,000.00SqFt	PCI = 97		
Sample Comments: 57 WEATHERING		L	1,250.00 SqFt	Comments:		
Sample Number: 580	Type: R	Area:	5,000.00SqFt	PCI = 97		
Sample Comments: 57 WEATHERING		L	1,250.00 SqFt	Comments:		
Sample Number: 600	Type: R	Area:	5,000.00SqFt	PCI = 97		
Sample Comments: 57 WEATHERING		L	1,250.00 SqFt	Comments:		

**FDOT** 

Report Generated Date: April 17, 2015

Network:	BCT	Name:	BOCA RATO	ON AIRPORT	Γ						
Branch:	RW 5-23	Name:	RUNWAY 5	5-23			Use: RUN	NWAY	Area:	941,550.00SqFt	
Section:	6111	of 6	From:	-			То: -			Last Const.:	01/01/2010
Surface:	AAC	Family	: FDOT-SA	APMP-RL-RV	V-AAC				Zone:	Category:	Rank: P
Area:	36,350.00SqFt	Le	ngth:	1,450.00Ft		Widt	h: 25.00Ft	t			
Shoulder:	Street T	ype:	Grade:	0.00	Lanes:	0					
	Date: 10/01/20	14 Total Sa	mples: 8	3 Surv	veyed:	2					
Last Insp. I	Date: 10/01/20	14 Total Sa	mples: 8	3 Surv	veyed: 2	2					
Last Insp. I Conditions Inspection C Sample Nu	Date: 10/01/20 :: PCI : 86 Comments:		mples: 8	3 Surv	veyed:		,675.00SqFt		PCI = 76		
Last Insp. I Conditions Inspection C Sample Nu Sample Com	Date: 10/01/20 s: PCI: 86 Comments: nmber: 84 nments:			3 Surv			•			<b>.</b>	
Last Insp. I Conditions: Inspection C Sample Nu Sample Com 57 WEAT	Date: 10/01/20 :: PCI: 86 Comments: umber: 84 nments: FHERING			3 Surv			2,338.00 S 1,000.00 S	SqFt	PCI = 76  Comments Comments		
Last Insp. I Conditions Inspection C Sample Nu	Date: 10/01/20 s: PCI: 86 Comments: umber: 84 nments: FHERING CHING	Тур		3 Surv		L L	2,338.00 \$	SqFt SqFt	Comments		

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT Branch: RW 5-23 Name: RUNWAY 5-23 Use: RUNWAY Area: 941,550.00SqFt Section: 6112 From: -То: -Last Const.: 01/01/2010 of 6 Family: FDOT-SAPMP-RL-RW-AAC Surface: Zone: Category: Rank: P AAC Area: 17,500.00SqFt Length: 700.00Ft Width: 25.00Ft Shoulder: Grade: 0.00 Lanes: 0 Street Type:

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 4 Surveyed: 1

Conditions: PCI: 97 Inspection Comments:

Sample Number: 604 Type: R Area: 3,750.00SqFt PCI = 97

Sample Comments:

57 WEATHERING L 938.00 SqFt Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT Branch: TW A Name: TAXIWAY A Use: TAXIWAY Area: 7,946.00SqFt Section: 130 From: -То: -Last Const.: 01/01/2010 of 1

Zone:

Category:

Rank: P

Surface: AAC Family: FDOT-SAPMP-RL-TW-AAC

Area: 7,946.00SqFt Length: 140.00Ft Width: 90.00Ft

Shoulder: Street Type: Grade: 0.00 Lanes: 0

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 2 Surveyed: 1

Conditions: PCI: 93 Inspection Comments:

Sample Number: 501 Type: R Area: 3,979.00SqFt PCI = 93

Sample Comments:

48 LONGITUDINAL/TRANSVERSE CRACKING L 2.00 Ft Comments:

57 WEATHERING L 1,990.00 SqFt Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT

Branch: TW B Name: TAXIWAY B Use: TAXIWAY Area: 9,396.00SqFt

Section: 125 of 1 From: - To: - Last Const.: 01/01/2010
Surface: AAC Family: FDOT-SAPMP-RL-TW-AAC Zone: Category: Rank: P

Area: 9,396.00SqFt Length: 140.00Ft Width: 40.00Ft

Shoulder: Street Type: Grade: 0.00 Lanes: 0

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 2 Surveyed: 1

Conditions: PCI: 97 Inspection Comments:

Sample Number: 400 Type: R Area: 4,823.00SqFt PCI = 97

Sample Comments:

57 WEATHERING L 1,206.00 SqFt Comments:

FDOT

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT

Branch: TW C Name: TAXIWAY C Use: TAXIWAY Area: 7,946.00SqFt

Section: 120 of 1 From: - To: - Last Const.: 01/01/2010
Surface: AAC Family: FDOT-SAPMP-RL-TW-AAC Zone: Category: Rank: P

Area: 7,946.00SqFt Length: 140.00Ft Width: 40.00Ft

Shoulder: Street Type: Grade: 0.00 Lanes: 0

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 2 Surveyed: 1

Conditions: PCI: 97 Inspection Comments:

Sample Number: 300 Type: R Area: 4,073.00SqFt PCI = 97

Sample Comments:

57 WEATHERING L 1,018.00 SqFt Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT Branch: TW CONN Name: CONNECTOR TAXIWAY TO AP Use: TAXIWAY Area: 25,144.00SqFt Section: From: -То: -Last Const.: 01/01/2010 220 of 7

Zone:

Category:

Rank: P

Family: FDOT-SAPMP-RL-TW-AAC Surface: AAC

Area: 3,501.00SqFt Length: 50.00Ft Width: 35.00Ft

Shoulder: Grade: 0.00 Lanes: 0 Street Type:

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: Surveyed: 1

Conditions: PCI: 92 Inspection Comments:

PCI = 92Sample Number: 801 Type: R Area: 3,501.00SqFt

Sample Comments:

3,501.00 SqFt 57 WEATHERING L Comments:

2.00 Ft 48 LONGITUDINAL/TRANSVERSE CRACKING L Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network:	BCT	Name: BOCA RATON AIRPORT			
Branch:	TW CONN	Name: CONNECTOR TAXIWAY TO AP	Use: TAXIWAY	Area:	25,144.00SqFt
Section: Surface:	221 AAC	of 7 From: - Family: FDOT-SAPMP-RL-TW-AAC	То: -	Zone:	Last Const.: 01/01/2010 Category: Rank: P
Area: Shoulder:	3,548.00SqFt Street Ty	Length: 50.00Ft rpe: Grade: 0.00 Lanes:	Width: 35.00Ft 0		

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 1 Surveyed: 1

Conditions: PCI: 93 Inspection Comments:

Sample Number: 100 Type: R Area: 3,548.00SqFt PCI = 93

Sample Comments:

57 WEATHERING L 3,544.00 SqFt Comments: 52 RAVELING L 4.00 SqFt Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network:	BCT	Name: BO	CA RATO	N AIRPORT						
Branch:	TW CONN	Name: CO	NNECTO	R TAXIWAY	TO AP		Use: TAXIWAY	Area:	25,144.00SqFt	
Section: Surface:	225 AAC	of 7 Family:	From: FDOT-SA	- APMP-RL-TW	-AAC		То: -	Zone:	Last Const.: Category:	01/01/2010 Rank: P
Area: Shoulder:	2,723.00SqFt Street Ty	Lengt	h: Grade:	55.00Ft 0.00	Lanes:	Width:	30.00Ft			

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 1 Surveyed: 1

Conditions: PCI: 91 Inspection Comments:

Sample Number: 803 Type: R Area: 2,723.00SqFt PCI = 91

Sample Comments:

52 RAVELING L 50.00 SqFt Comments: 57 WEATHERING L 1,362.00 SqFt Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT Branch: TW CONN Name: CONNECTOR TAXIWAY TO AP Use: TAXIWAY Area: 25,144.00SqFt Section: From: -То: -Last Const.: 01/01/2010 230 of 7

Zone:

Category:

Rank: P

Surface: AAC Family: FDOT-SAPMP-RL-TW-AAC

Area: 4,056.00SqFt Length: 60.00Ft Width: 55.00Ft

Shoulder: Street Type: Grade: 0.00 Lanes: 0

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 1 Surveyed: 1

Conditions: PCI: 95 Inspection Comments:

Sample Number: 802 Type: R Area: 4,056.00SqFt PCI = 95

Sample Comments:

57 WEATHERING L 2,028.00 SqFt Comments:

**FDOT** 

Report Generated Date: April 17, 2015

rteport of	merate a Bate 171	pm 17, 2018						
Network:	BCT	Name: BOCA RATO	ON AIRPORT					
Branch:	TW CONN	Name: CONNECTO	OR TAXIWAY TO AP		Use: TAXIWAY	Area:	25,144.00SqFt	
Section:	240	of 7 From:	-		То: -		Last Const.:	01/01/2010
Surface:	AAC	Family: FDOT-SA	APMP-RL-TW-AAC			Zone:	Category:	Rank: P
Area:	4,073.00SqFt	Length:	60.00Ft	Width:	56.00Ft			
Shoulder:	Street Ty	pe: Grade:	0.00 Lanes:	0				

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 1 Surveyed: 1

Conditions: PCI: 96 Inspection Comments:

Sample Number: 804 Type: R Area: 4,073.00SqFt PCI = 96

Sample Comments:

52 RAVELING L 4.00 SqFt Comments: 57 WEATHERING L 1,018.00 SqFt Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT Branch: TW CONN Name: CONNECTOR TAXIWAY TO AP Use: TAXIWAY Area: 25,144.00SqFt Section: From: -То: -Last Const.: 01/01/2010 250 of 7 Family: FDOT-SAPMP-RL-TW-AAC Surface: Zone: Category: Rank: P AAC Area: 4,078.00SqFt Length: 60.00Ft Width: 56.00Ft Shoulder: Grade: 0.00 Lanes: 0 Street Type:

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 1 Surveyed: 1

Conditions: PCI: 97 Inspection Comments:

Sample Number: 805 Type: R Area: 4,078.00SqFt PCI = 97

Sample Comments:

57 WEATHERING L 1,020.00 SqFt Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT Branch: TW CONN Name: CONNECTOR TAXIWAY TO AP Use: TAXIWAY Area: 25,144.00SqFt Section: From: -То: -Last Const.: 01/01/2010 260 of 7 Family: FDOT-SAPMP-RL-TW-AAC Surface: Zone: Category: Rank: P AAC Area: 3,165.00SqFt Length: 60.00Ft Width: 40.00Ft Shoulder: Grade: 0.00 Lanes: 0 Street Type:

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 1 Surveyed: 1

Conditions: PCI: 94 Inspection Comments:

Sample Number: 806 Type: R Area: 3,165.00SqFt PCI = 94

Sample Comments:

57 WEATHERING L 1,583.00 SqFt Comments: 52 RAVELING L 1.00 SqFt Comments:

#### **FDOT**

Sample Number:

Sample Comments:

45 DEPRESSION

45 DEPRESSION

57 WEATHERING

Report Generated Date: April 17, 2015

251

48 LONGITUDINAL/TRANSVERSE CRACKING

Type: R

Network:	BCT	Name: BOCA RATON AIRPORT			
Branch:	TW E	Name: TAXIWAY E	Use: TAXIWAY	Area:	14,729.00SqFt
Section: Surface:	116 AC	of 1 From: - Family: FDOT-SAPMP-RL-TW-AC	То: -	Zone:	Last Const.: 01/01/2010 Category: Rank: P
Area: Shoulder: Section Con	14,729.00SqFt Street T	Length: 150.00Ft Width: Type: Grade: 0.00 Lanes: 0	60.00Ft		
Last Insp. 1 Conditions Inspection C	: PCI : 74	O14 Total Samples: 4 Surveyed: 1			

Area:

L

L

L

L

3,500.00SqFt

28.00 SqFt

4.00 Ft

143.00 SqFt

1,750.00 SqFt

PCI = 74

Comments:

Comments:

Comments:

Comments:

FDOT

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT Branch: TW F Name: TAXIWAY F Use: TAXIWAY Area: 7,946.00SqFt Section: of From: -То: -Last Const.: 01/01/2010 115 1 Family: FDOT-SAPMP-RL-TW-AAC Surface: Zone: Category: Rank: P AAC

40.00Ft

Area: 7,946.00SqFt Length: 140.00Ft Width:

Shoulder: Street Type: Grade: 0.00 Lanes: 0

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 2 Surveyed: 1

Conditions: PCI: 97 Inspection Comments:

Sample Number: 200 Type: R Area: 4,073.00SqFt PCI = 97

Sample Comments:

57 WEATHERING L 1,018.00 SqFt Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT

Branch: TW G Name: TAXIWAY G Use: TAXIWAY Area: 7,945.00SqFt

Section: 110 of From: -То: -Last Const.: 01/01/2010 1 Family: FDOT-SAPMP-RL-TW-AAC

Zone:

Category:

Rank: P

Surface: AAC Area: 7,945.00SqFt Length: 140.00Ft Width: 90.00Ft

Shoulder: Grade: 0.00 Lanes: 0 Street Type:

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: Surveyed: 1

Conditions: PCI: 97 Inspection Comments:

Type: R 3,973.00SqFt PCI = 97Sample Number: 101 Area:

Sample Comments:

993.00 SqFt 57 WEATHERING  $_{\rm L}$ Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT Branch: TW H Name: TAXIWAY H Use: TAXIWAY Area: 7,946.00SqFt Section: From: -То: -Last Const.: 01/01/2010 111 of 1 Family: FDOT-SAPMP-RL-TW-AAC Surface: Zone: Category: Rank: P AAC Area: 7,946.00SqFt Length: 140.00Ft Width: 40.00Ft

Shoulder: Street Type: Grade: 0.00 Lanes: 0

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 2 Surveyed: 1

Conditions: PCI: 92 Inspection Comments:

 $Sample \ Number: \quad 101 \qquad \qquad Type: \ R \qquad \qquad Area: \qquad 3,973.00 SqFt \qquad \qquad PCI = 92$ 

Sample Comments:

48 LONGITUDINAL/TRANSVERSE CRACKING L 26.00 Ft Comments:

57 WEATHERING L 993.00 SqFt Comments:

#### **FDOT**

57 WEATHERING

Report Generated Date: April 17, 2015

Report Generated Date: April 17, 2015							
Network: BCT Name: BOCA RATON AIRPORT							
Branch: TW P Name: TAXIWAY P			Use: TA	AXIWAY	Area:	276,667.00SqFt	
Section: 105 of 7 From: - Surface: AAC Family: FDOT-SAPMP-RL-TW-AA	AC		То: -		Zone:	Last Const.: Category:	01/01/2010 Rank: P
Area: 193,060.00SqFt Length: 4,930.00Ft		Width:	40.00	Ft			
Shoulder: Street Type: Grade: 0.00 L	anes:	0					
Section Comments:							
Last Insp. Date: 10/01/2014 Total Samples: 48 Surveye Conditions: PCI: 94 Inspection Comments:	ed: 6						
Sample Number: 105 Type: R A Sample Comments:	rea:	4,000.	00SqFt		PCI = 93		
42 BLEEDING		N	9.00	SqFt	Comments	; <b>:</b>	
48 LONGITUDINAL/TRANSVERSE CRACKING		L	4.00	Ft	Comments	; <b>:</b>	
57 WEATHERING		L 1,	000.00	SqFt	Comments	ş:	
Sample Number: 115 Type: R A Sample Comments:	rea:	4,000.	00SqFt		PCI = 97		
57 WEATHERING		L 1,	000.00	SqFt	Comments	:	
Sample Number: 125 Type: R A Sample Comments:	rea:	4,000.	00SqFt		PCI = 95		
57 WEATHERING		L 2,	000.00	SqFt	Comments	<b>;</b> :	
Sample Number: 135 Type: R A Sample Comments:	rea:	4,000.	00SqFt		PCI = 94		
57 WEATHERING		L 4,	000.00	SqFt	Comments	; <b>:</b>	
Sample Number: 145 Type: R A	rea:	4,000.	00SqFt		PCI = 95		
57 WEATHERING		L 2,	000.00	SqFt	Comments	<b>;</b> :	
Sample Number: 150 Type: R A Sample Comments:	rea:	4,000.	00SqFt		PCI = 93		
48 LONGITUDINAL/TRANSVERSE CRACKING		L	1.00	Ft	Comments	; <b>:</b>	
57 WEATHERING		L 2,	000.00	SaFt	Comments	; <b>:</b>	

2,000.00 SqFt

Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT	Name: 1	BOCA RATO	ON AIRPORT							
Branch: TW P	Name:	ΓAXIWAY F	•			Use: TAXIWAY	Area:	276,667.0	00SqFt	
Section: 106 Surface: AAC	of 7 Family	From: : FDOT-SA	- APMP-RL-TW	-AAC		То: -	Zone:		st Const.: tegory:	01/01/2010 Rank: P
Area: 29,080.00SqFt	Lei	ngth:	725.00Ft		Widt	h: 40.00Ft				
Shoulder: Street 7	Гуре:	Grade:	0.00	Lanes:	0					
	014 Total Sa	mples: 7	Surv	eyed: 2	<u> </u>					
Last Insp. Date: 10/01/20 Conditions: PCI: 97	014 Total Sa	mples: 7	Surv	eyed: 2						
Section Comments:  Last Insp. Date: 10/01/20 Conditions: PCI: 97 Inspection Comments:  Sample Number: 93		mples: 7	Surv	eyed: 2  Area:		5,080.00SqFt	PCI = 97			
Last Insp. Date: 10/01/20 Conditions: PCI: 97 Inspection Comments: Sample Number: 93 Sample Comments:			Surv			5,080.00SqFt 1,270.00 SqFt	PCI = 97	ts:		
Last Insp. Date: 10/01/20 Conditions: PCI: 97 Inspection Comments:	Тур		Surv		L	•		ts:		

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT

Branch: TW P Name: TAXIWAY P Use: TAXIWAY Area: 276,667.00SqFt

Section: 107 of From: -То: -Last Const.: 01/01/2010 7 Family: FDOT-SAPMP-RL-TW-AAC

Zone:

Category:

Rank: P

Surface: AAC Area: 14,241.00SqFt Length: 400.00Ft Width: 40.00Ft

Shoulder: Grade: 0.00 Lanes: 0

Street Type:

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: Surveyed: 1

Conditions: PCI: 95 Inspection Comments:

Type: R 4,000.00SqFt PCI = 95Sample Number: 154 Area:

Sample Comments:

2,000.00 SqFt 57 WEATHERING  $_{\rm L}$ Comments:

**FDOT** 

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT

Branch: TW P Name: TAXIWAY P Use: TAXIWAY Area: 276,667.00SqFt

Section: 108 of 7 From: - To: - Last Const.: 01/01/2010
Surface: AAC Family: FDOT-SAPMP-RL-TW-AAC Zone: Category: Rank: P

Area: 10,940.00SqFt Length: 225.00Ft Width: 40.00Ft

Shoulder: Street Type: Grade: 0.00 Lanes: 0

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 3 Surveyed: 1

Conditions: PCI: 92 Inspection Comments:

Sample Number: 129 Type: R Area: 3,280.00SqFt PCI = 92

Sample Comments:

48 LONGITUDINAL/TRANSVERSE CRACKING L 3.00 Ft Comments:

57 WEATHERING L 3,280.00 SqFt Comments:

FDOT

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT

Branch: TW P Name: TAXIWAY P Use: TAXIWAY Area: 276,667.00SqFt

Section: 112 of 7 From: - To: - Last Const.: 01/01/2010

Zone:

Category:

Rank: P

Surface: AAC Family: FDOT-SAPMP-RL-TW-AAC

Area: 12,673.00SqFt Length: 140.00Ft Width: 80.00Ft

Shoulder: Street Type: Grade: 0.00 Lanes: 0

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 2 Surveyed: 1

Conditions: PCI: 97 Inspection Comments:

Sample Number: 100 Type: R Area: 6,337.00SqFt PCI = 97

Sample Comments:

57 WEATHERING L 1,584.00 SqFt Comments:

**FDOT** 

Surface:

Report Generated Date: April 17, 2015

Network: BCT Name: BOCA RATON AIRPORT

Branch: TW P Name: TAXIWAY P Use: TAXIWAY Area: 276,667.00SqFt

Section: of From: -То: -Last Const.: 01/01/2010 113 7 Family: FDOT-SAPMP-RL-TW-AAC

Zone:

Category:

Rank: P

Area: 4,000.00SqFt Length: 50.00Ft Width: 40.00Ft

Shoulder: Grade: 0.00 Lanes: 0 Street Type:

Section Comments:

AAC

Last Insp. Date: 10/01/2014 Total Samples: Surveyed: 1

Conditions: PCI: 94 Inspection Comments:

Type: R 4,000.00SqFt PCI = 94Sample Number: 134 Area:

Sample Comments:

4,000.00 SqFt 57 WEATHERING  $_{\rm L}$ Comments:

#### **FDOT**

Report Generated Date: April 17, 2015

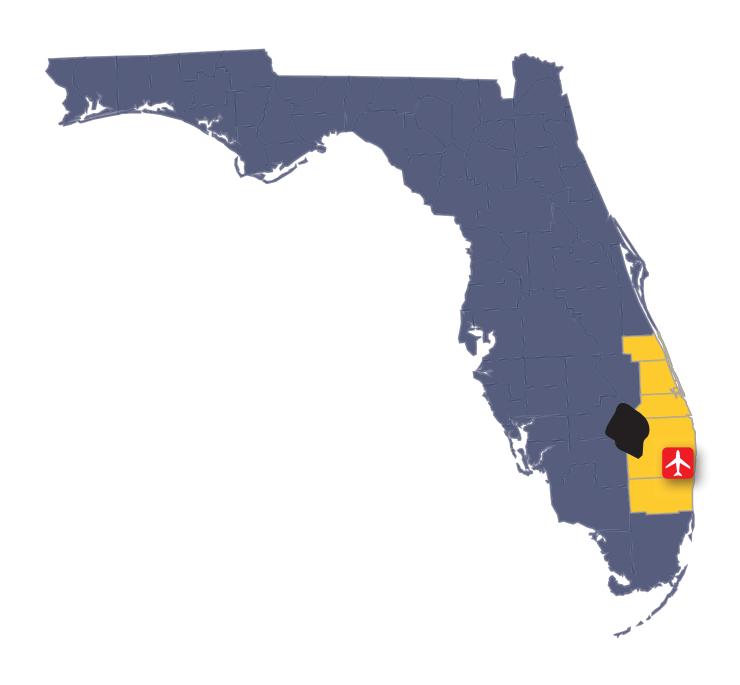
Network:	BCT	Name: BOCA RA	TON AIRPORT	Γ					
Branch:	TW P	Name: TAXIWA	Y P			Use: TAXIWAY	Area:	276,667.00SqFt	
Section:	131	of 7 Fro	n: -			То: -		Last Const.:	01/01/2010
Surface:	AAC	Family: FDOT	-SAPMP-RL-TV	V-AAC			Zone:	Category:	Rank: P
Area:	12,673.00SqFt	Length:	140.00Ft		Width:	80.00Ft			
Shoulder:	Street T	ype: Grac	e: 0.00	Lanes:	0				

Section Comments:

Last Insp. Date: 10/01/2014 Total Samples: 2 Surveyed: 1

Conditions: PCI: 89 Inspection Comments:

Sample Number:	100	Type: R	Area:	6,337.00SqFt		PCI = 89
Sample Comments:						
52 RAVELING			IM.	48.00	SqFt	Comments:
52 RAVELING			I	17.00	SqFt	Comments:
48 LONGITUDI	NAL/	TRANSVERSE CRACKING	} L	5.00	Ft	Comments:



# FLORIDA DEPARTMENT OF TRANSPORTATION AVIATION AND SPACEPORT OFFICE

