FLORIDA DEPARTMENT OF TRANSPORTATION | **AVIATION OFFICE**

2022

Statewide Airfield Pavement Management Program

Airport Pavement Evaluation Report

X60 - Williston Municipal Airport | *District 2*

FDOT | AVIATION

Florida Department of Transportation

Statewide Airfield Pavement Management Program

Airport Pavement Evaluation Report

Prepared by:

FDOT Aviation Office
605 Suwannee Street
Tallahassee, Florida 32399-0450

Website: FDOT Aviation Office

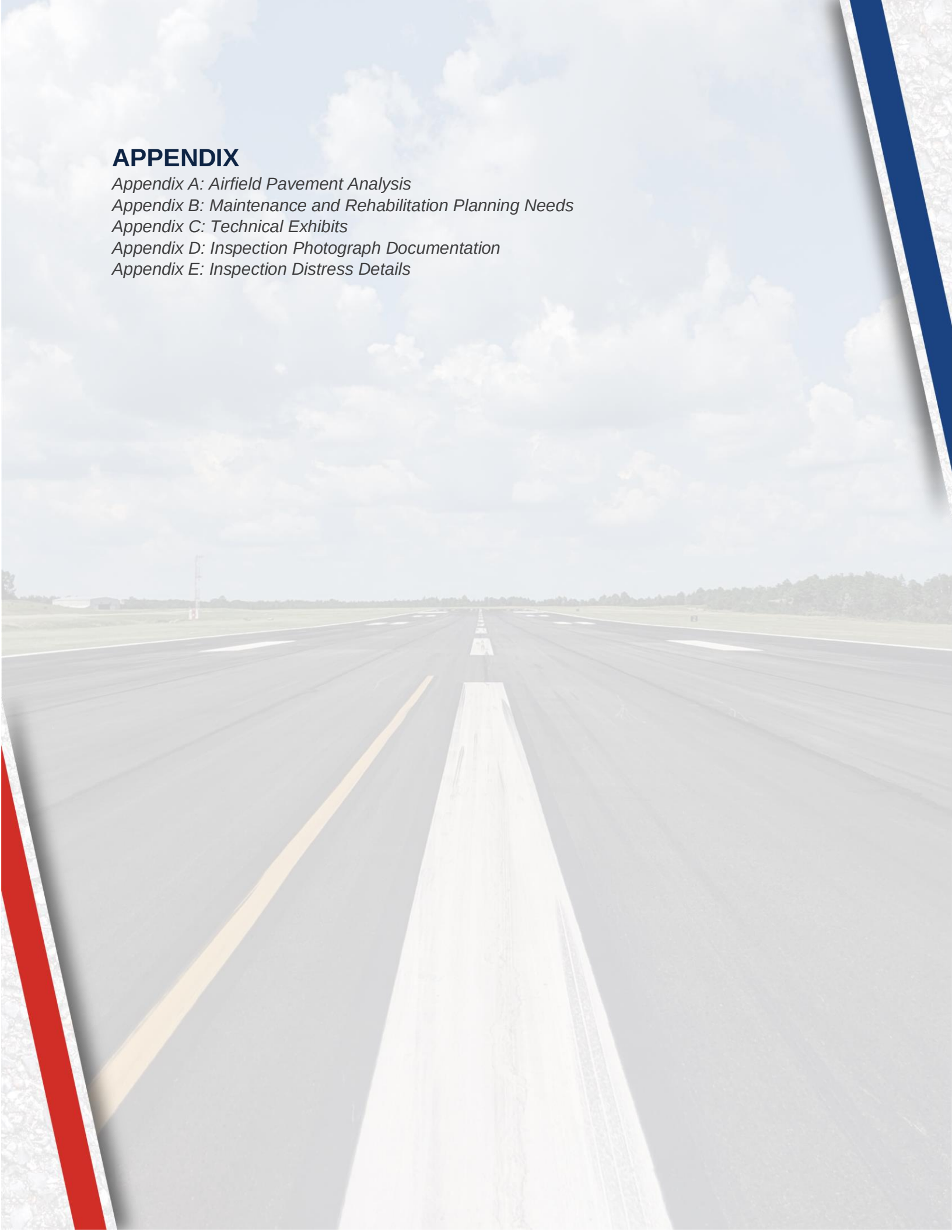
Interactive Web Application: FDOT SAPMP Interactive Web Application

FDOT AVIATION

TABLE OF CONTENTS

APPENDIX

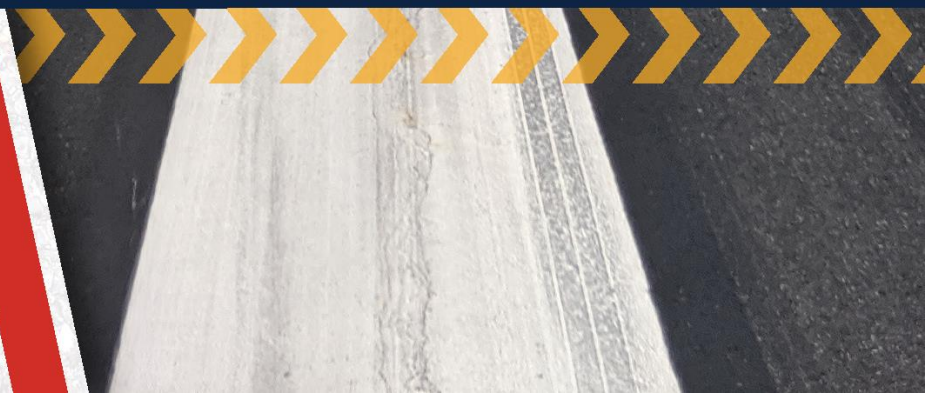
Appendix A: Airfield Pavement Analysis
Appendix B: Maintenance and Rehabilitation Planning Needs
Appendix C: Technical Exhibits
Appendix D: Inspection Photograph Documentation
Appendix E: Inspection Distress Details



LIST OF TABLES

LIST OF FIGURES

Executive Summary



Executive Summary

Program Background

The FDOT Aviation Office (AO) has a mission to provide a safe and secure air transportation system that ensures the mobility of people and goods, enhances economic prosperity, and preserves the quality of our environment and communities. As part of ongoing efforts in fulfilling this mission, the Aviation Office is executing a System Update to the Statewide Airfield Pavement Management Program (SAPMP). The scope of the SAPMP encompasses 95 public-use airport facilities distributed throughout the seven (7) participating FDOT Districts. Williston Municipal Airport's System Update results are presented in this report and can be utilized by FDOT and the Federal Aviation Administration (FAA) to identify, prioritize, and schedule pavement maintenance, repair, and major rehabilitation projects.

Pavement condition was assessed utilizing the pavement condition index (PCI) methodology as defined in FAA Advisory Circular 150/5380-7B "Airport Pavement Management Program (PMP)" using the procedures documented in ASTM D5340-20 **"**Standard Test Method for Airport Pavement Condition Index Surveys".

The PCI methodology provides a means for systematically assessing pavement condition and provides an indication of the degree of maintenance, repair, rehabilitation, or reconstruction efforts required to sustain functional pavement conditions. Pavement deterioration, in accordance with ASTM D5340-20, is characterized in terms of distinct distress types, distress severity levels, and quantity of distress. This information is utilized to calculate a PCI value ranging from 0 to 100, which provides an indication of the overall condition of the pavement, with "100" indicating a pavement in new condition and "0" indicating a failed pavement section. This is graphically depicted in **Figure E.1 (a)**.

Figure E.1 (a): PCI Rating

Color	Range	Condition Rating
	86-100	Good
	71-85	Satisfactory
	56-70	Fair
	41-55	Poor
	26-40	Very Poor
	11-25	Serious
	0-10	Failed

Williston Municipal Airport has a unique composite pavement section known as “whitetopping” within their airport pavement system inventory. Whitetopping is a pavement construction technique otherwise known as “Concrete Overlay” that does not adhere to the current FAA AC 150/5320-6 guidance for concrete overlays and therefore is not suitable to be evaluated using the PCI methodology. Based on the guidance stated in FAA AC 150/5320-17A “Airfield Pavement Surface Evaluation and Rating Manuals”, the FDOT SAPMP has adopted the PASER Manual in Appendix B of the Advisory Circular for specific use on the whitetopping pavements.

PASER is a visual rating system that utilizes a 0 to 5 rating scale, with a value of 5 representing new pavement and a value of 1 representing a failed pavement. This is graphically depicted in **Figure E.1 (b)**.

Figure E.1 (b): PASER Rating

Color	PASER Value	Surface Rating
	5	Excellent
	4	Good
	3	Fair
	2	Poor
	1	Failed

Current Pavement Conditions

In July 2022, approximately 1.8 million square feet of pavement was assessed as part of the airside pavement network PCI survey at Williston Municipal Airport (X60). In general, airfield pavements at X60 are in Satisfactory condition with an area-weighted PCI of 71. The area-weighted average PCI values of the runways, taxiways, taxilanes, and aprons are 75, 67, 69, and 82, respectively. **Figure E.2** and **Table E.1 (a)** summarize the current PCI values for X60, while **Table E.1 (b)** summarizes the PASER surface ratings for the whitetopping pavements.

Figure E.2: Current Condition Summary – Branch-Level

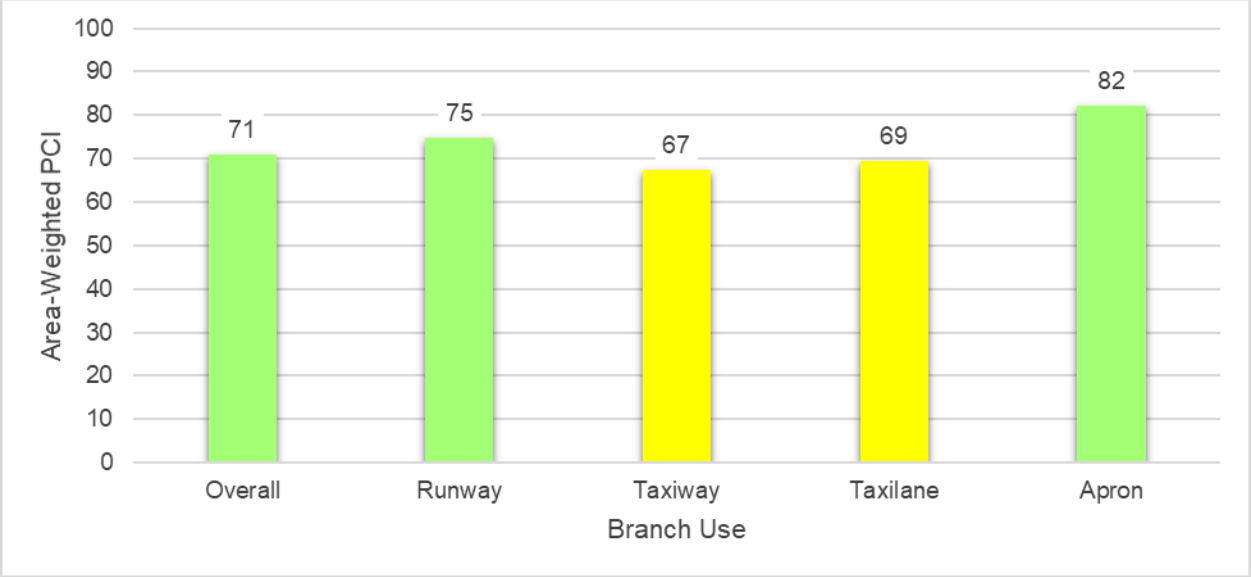


Table E.1 (a): Pavement Condition Index Summary (Current PCI Survey) – Section Level

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	PCI	Condition Rating
X60	RW 5-23	Runway	6110	7,500	60	Fair
X60	RW 5-23	Runway	6112	15,000	42	Poor
X60	RW 14-32	Runway	6205	24,688	70	Fair
X60	RW 14-32	Runway	6215	254,982	77	Satisfactory
X60	RW 14-32	Runway	6235	22,894	76	Satisfactory
X60	RW 14-32	Runway	6250	15,631	82	Satisfactory
X60	TW A	Taxiway	205	159,607	86	Good
X60	TW A	Taxiway	220	287,885	87	Good
X60	TW A1	Taxiway	255	34,316	87	Good
X60	TW AP	Taxiway	905	22,769	100	Good
X60	TW B	Taxiway	305	101,269	80	Satisfactory
X60	TW C	Taxiway	105	65,023	56	Fair
X60	TW C	Taxiway	115	35,409	84	Satisfactory
X60	TW D	Taxiway	505	61,793	80	Satisfactory
X60	TW D	Taxiway	510	8,500	89	Good
X60	TW D1	Taxiway	405	57,110	77	Satisfactory

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	PCI	Condition Rating
X60	TW E	Taxiway	705	55,768	81	Satisfactory
X60	TW F	Taxiway	550	128,837	7	Failed
X60	TW F	Taxiway	555	11,250	30	Very Poor
X60	TW F	Taxiway	565	33,640	84	Satisfactory
X60	TW G	Taxiway	450	94,473	7	Failed
X60	TL T-HANG	Taxilane	4320	18,657	78	Satisfactory
X60	TL T-HANG	Taxilane	4325	21,796	62	Fair
X60	AP	Apron	4105	86,922	100	Good
X60	AP	Apron	4110	101,074	68	Fair
X60	AP HANG	Apron	4205	10,495	77	Satisfactory
X60	AP HANG	Apron	4210	6,628	89	Good
X60	AP RU 23	Apron	5105	28,165	89	Good
X60	AP T-HANG	Apron	4315	3,900	50	Poor
X60	AP T-HANG	Apron	4316	2,867	24	Serious

Table E.1 (b): PASER Surface Rating – Section Level - Whitetopping Pavements

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	PASER Value	Surface Rating
X60	RW 5-23	Runway	6115	500,000	4	Good
X60	RW 5-23	Runway	6125	130,000	4	Good
X60	RW 5-23	Runway	6127	40,650	4	Good

Forecasted Pavement Conditions

Table E.2 provides section-level details for PCI forecasts. Pavement condition forecasts should be used for planning purposes only, as the actual condition of sections is subject to sensitivities in changes of traffic and maintenance frequency.

The estimation of forecasted PCI values gives no assurance of future pavement conditions as PCI values represent an engineering estimation to be used as a planning tool. Forecasted PCI data should not be the sole metric for determining the year in which a project should be planned. Design-level planning should be undertaken by the responsible engineer prior to the development of airfield design plans.

Table E.2: Forecasted PCI Values 2023-2032 – Section-Level

Network ID	Branch ID	Section ID	Current PCI	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
X60	RW 5-23	6110	60	59	59	58	57	56	56	55	54	53	52
X60	RW 5-23	6112	42	40	38	36	34	32	30	29	27	25	23
X60	RW 14-32	6205	70	69	69	68	67	66	66	65	64	63	62
X60	RW 14-32	6215	77	75	73	71	69	67	65	64	62	60	58
X60	RW 14-32	6235	76	75	75	74	73	72	72	71	70	69	68
X60	RW 14-32	6250	82	80	79	77	75	74	72	70	69	67	66
X60	TW A	205	86	84	82	81	79	77	76	74	73	72	70
X60	TW A	220	87	85	83	82	80	78	77	75	74	72	71
X60	TW A1	255	87	85	83	82	80	78	77	75	74	72	71
X60	TW AP	905	100	97	95	93	91	88	86	85	83	81	79
X60	TW B	305	80	78	77	75	74	73	71	70	69	67	66
X60	TW C	105	56	55	53	51	50	48	46	44	42	39	37
X60	TW C	115	84	82	81	79	77	76	74	73	72	70	69
X60	TW D	505	80	78	77	75	74	73	71	70	69	67	66
X60	TW D	510	89	87	85	83	81	80	78	76	75	74	72
X60	TW D1	405	77	76	74	73	71	70	69	68	66	65	64
X60	TW E	705	81	79	78	76	75	73	72	71	69	68	67
X60	TW F	550	7	5	3	2	0	0	0	0	0	0	0
X60	TW F	555	30	29	29	28	27	26	26	25	24	23	22
X60	TW F	565	84	82	81	79	77	76	74	73	72	70	69
X60	TW G	450	7	5	3	2	0	0	0	0	0	0	0
X60	TL T-HANG	4320	78	77	75	74	72	71	70	69	67	66	65
X60	TL T-HANG	4325	62	61	60	60	59	58	58	57	57	56	56
X60	AP	4105	100	97	95	92	90	88	86	84	82	80	78
X60	AP	4110	68	67	65	64	63	61	60	59	58	57	56
X60	AP HANG	4205	77	75	73	71	69	67	65	64	62	60	58
X60	AP HANG	4210	89	87	85	83	81	79	77	75	74	72	70
X60	AP RU 23	5105	89	87	85	83	81	79	77	75	74	72	70
X60	AP T-HANG	4315	50	49	49	48	47	47	46	46	45	44	44
X60	AP T-HANG	4316	24	22	20	18	16	14	12	11	9	7	5

Major Rehabilitation Planning 2023-2032

Localized maintenance and repair policies identified within this report are categorized as preventive or stopgap based on FDOT SAPMP and FAA maintenance policies and recommendations. Major rehabilitation is identified within the FDOT SAPMP as a major construction activity that results in a reset of a pavement section's PCI to a value of 100. Major rehabilitation activities can include mill and Asphalt Concrete (AC) overlay, Portland cement concrete (PCC) pavement repair and slab replacement, and full-depth reconstruction. It is recommended that the Airport use this report as a planning tool for future project development and prioritization. Localized maintenance, repair, and major rehabilitation recommendations should be considered as planning-level only. Final localized maintenance, repair, and major rehabilitation recommendations are subject to change based on Airport prioritization and further design-level evaluations.

Due to FAA Order 5100.38D Change 1 Airport Improvement Program (AIP) Handbook (February 26, 2019), a substantial update to the FDOT SAPMP policy on identifying major rehabilitation work has been incorporated in this System Update. In previous System Updates, major rehabilitation had been identified for pavement sections below a PCI Value of 65; however, based on the thresholds identified by the FAA in the AIP Handbook, major rehabilitation will now be identified for pavement sections below a PCI value of 70.

The results of the maintenance, repair, and major rehabilitation analysis identified approximately $14.57M in major rehabilitation needs for the 10-year forecast period. Year 1 major needs are $6.61M and localized maintenance needs for Year 1 are $1.18M.

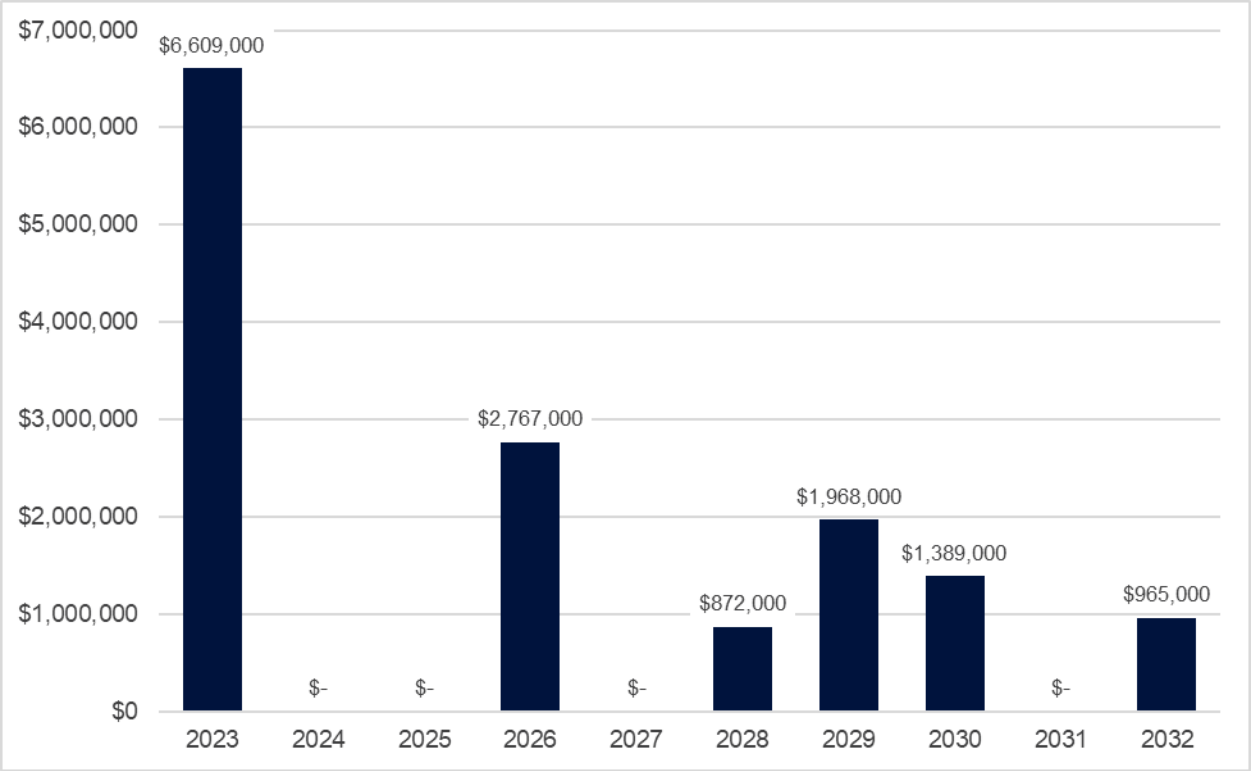
Table E.3: Major Rehabilitation Planning 2023-2032

Program Year	Network ID	Branch ID	Section ID	Surface	Area (SF)	PCI Before	Rehabilitation Type	Planning Cost Estimate
2023	**X60**	RW 5-23	6110	PCC	7,500	59	PCC Rehabilitation	$ 113,000
2023	**X60**	RW 5-23	6112	APC	15,000	40	AC Reconstruction	$ 240,000
2023	**X60**	RW 14-32	6205	PCC	24,688	69	PCC Rehabilitation	$ 371,000
2023	**X60**	TW C	105	AAC	65,023	55	AC Reconstruction	$ 768,000
2023	**X60**	TW F	550	AC	128,837	5	AC Reconstruction	$ 2,062,000
2023	**X60**	TW F	555	PCC	11,250	29	PCC Reconstruction	$ 327,000
2023	**X60**	TW G	450	AC	94,473	5	AC Reconstruction	$ 1,512,000
2023	**X60**	TL T-HANG	4325	AC	21,796	61	AC Rehabilitation	$ 197,000
2023	**X60**	AP	4110	AC	101,074	67	AC Rehabilitation	$ 910,000
2023	**X60**	AP T-HANG	4315	AC	3,900	49	AC Reconstruction	$ 63,000
2023	**X60**	AP T-HANG	4316	APC	2,867	22	AC Reconstruction	$ 46,000
2026	**X60**	RW 14-32	6215	AAC	254,982	69	AC Rehabilitation	$ 2,657,000
2026	**X60**	AP HANG	4205	AAC	10,495	69	AC Rehabilitation	$ 110,000
2028	**X60**	TW D1	405	AAC	57,110	69	AC Rehabilitation	$ 657,000
2028	**X60**	TL T-HANG	4320	AC	18,657	70	AC Rehabilitation	$ 215,000
2029	**X60**	TW B	305	AAC	101,269	70	AC Rehabilitation	$ 1,222,000
2029	**X60**	TW D	505	AAC	61,793	70	AC Rehabilitation	$ 746,000
2030	**X60**	RW 14-32	6235	PCC	22,894	70	PCC Rehabilitation	$ 484,000
2030	**X60**	RW 14-32	6250	AC	15,631	69	AC Rehabilitation	$ 198,000

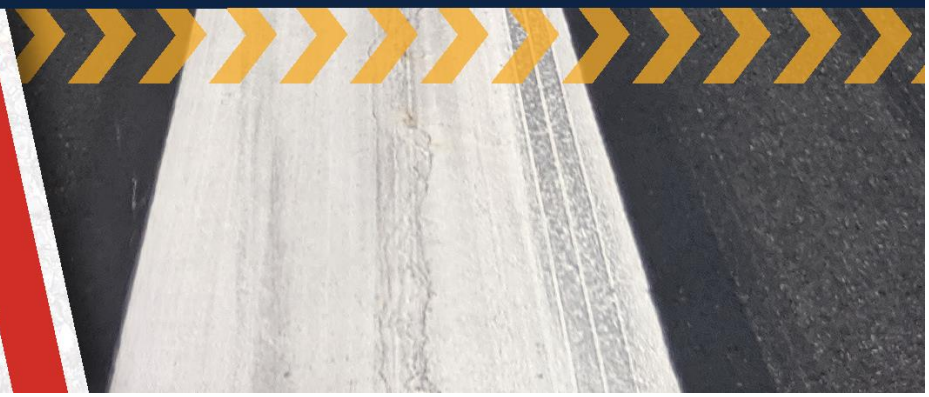
Program Year	Network ID	Branch ID	Section ID	Surface	Area (SF)	PCI Before	Rehabilitation Type	Planning Cost Estimate
2030	**X60**	TW E	705	AAC	55,768	69	AC Rehabilitation	$ 707,000
2032	**X60**	TW C	115	AAC	35,409	69	AC Rehabilitation	$ 495,000
2032	**X60**	TW F	565	AC	33,640	69	AC Rehabilitation	$ 470,000

**All planning cost values have been rounded up to the nearest thousand dollars.*

Figure E.3: 10-Year Major Rehabilitation Needs by Program Year



Chapter 1: Introduction



Chapter 1 – Introduction

The State of Florida has 128 public airports, 100 of which are recognized as part of the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS). These public-use airports are vital to Florida's economy as well as the economy of the United States. The Florida Airport System (FAS) provides opportunities for 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 State as air travel is essential to tourism, Florida's most prominent industry.

1.1 Background

In 1992, the Florida Department of Transportation (FDOT) established the Statewide Airfield Pavement Management Program (SAPMP) to provide program managers, District Aviation Offices, and Airport operators with a system to proactively manage airfield pavement infrastructure within the FAS. The SAPMP includes network-level Pavement Condition Index (PCI) surveys for Airport facilities that are categorized as General Aviation (GA), Reliever (RL), and Primary/Commercial (PR). Currently, the SAPMP includes 95 participating public-use airports with pavement facilities and provides its users with comprehensive data to better manage their pavement assets.

There are millions of square feet of pavement infrastructure at airports across a network of runways, taxiways, aprons, and other areas. This pavement infrastructure is vital to the support and safety of aircraft operations. Timely maintenance, repair, and major rehabilitation of pavement infrastructure allows the Airport to operate safely, efficiently, and economically without excessive down time.

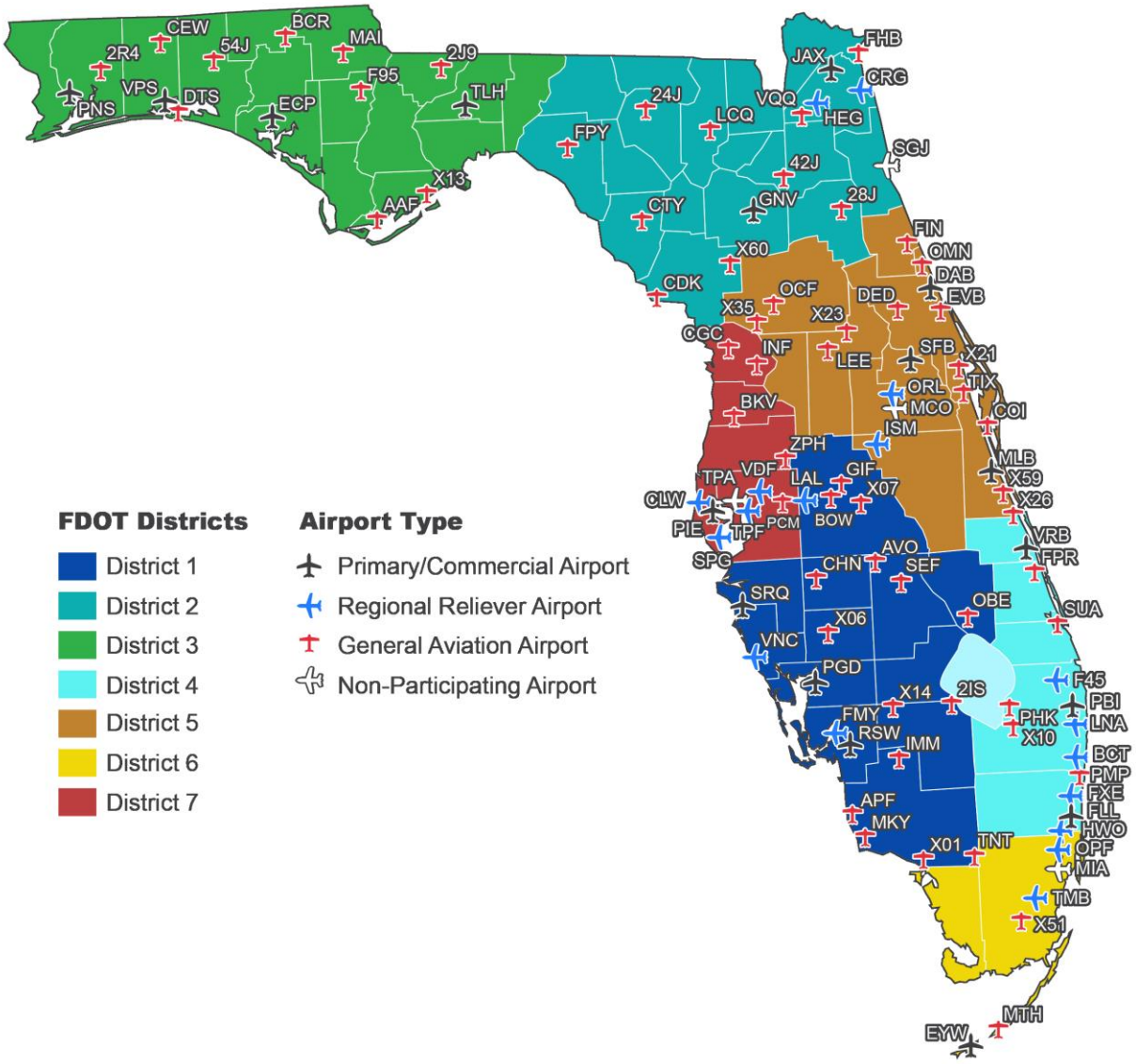
Airports participating in the Airport Improvement Program (AIP) Grant Program are required by the FAA to develop and implement a pavement maintenance program in order to be eligible for funding, per FAA Advisory Circulars 150/5380-6C "Guidelines and Procedures for Maintenance of Airport Pavements" and 150/5380-7B "Airport Pavement Management Program (PMP)". The AIP program requires detailed assessments of airfield pavements at least once a year for a pavement management program. The frequency of the detailed inspections may be extended to every three years if the pavement is assessed according to the PCI survey procedure described in ASTM D5340-20 "Standard Test Method for Airport Pavement Condition Index Surveys".

In general, adherence to the FAA Advisory Circulars is mandatory for projects funded with federal grant monies through the AIP program and with revenue from the Passenger Facilities Charges (PFC) Program. Further information is detailed in FAA Grant Assurance No. 11 "Pavement Maintenance," No. 34 "Policies, Standards, and Specifications," and PFC Assurance No. 9 "Standards and Specifications." The FDOT performs the SAPMP System Updates for the benefit of participating public-use and publicly-owned airports through the Aviation Office (AO).

The SAPMP addresses the requirements of maintaining an effective pavement management program for participating airports at the network level. Network-level management of pavement assets provides insight for short-term and long-term budget needs, understanding of the overall condition of the network (current and future), and knowledge of the pavement facilities that are

under consideration for projects. A network-level evaluation can support the identification of maintenance, repair, and major rehabilitation needs and budgetary planning-level opinions of probable construction costs.

Figure 1.1: Florida Aviation System (Facilities with Pavement) and FDOT Districts



1.2 Stakeholders

The SAPMP is performed for the benefit of the stakeholders. The table below outlines the primary stakeholders of the FDOT SAPMP and their role in the program.

Table 1.2: FDOT SAPMP Stakeholders

Role	Description
FAA Orlando Airports District Office (Orlando ADO)	Key Stakeholder: local ADO Program Manager personnel that oversees the grant administration of AIP grant with Planning Agency Sponsor (Florida Department of Transportation).
Florida Department of Transportation (FDOT)	Key Stakeholder: the FDOT is the "Sponsor" for the AIP grant agreement. Specifically, the Aviation Office (AO) provides development and operations support for the Florida Airport System.
FDOT District Offices	The seven (7) FDOT District Offices, specifically the Aviation representatives, provide essential support to the SAPMP System Update and the AO Program Manager (AO-PM). Each District supports the SAPMP's ongoing efforts by providing local construction cost information throughout the State, which is used as the basis of development for maintenance, repair, and major rehabilitation opinions of probable construction costs for planning purposes.
Participating Public-Use and Publicly-Owned Airports	The airports are the end-user and primary beneficiary of the SAPMP. The SAPMP provides a specific Airport Pavement Evaluation Report that meets the requirements of the FAA AC 150/5380-7B. Individual participating airports are provided a final Airport Pavement Evaluation Report by the Consultant that is specific to each airport's airfield PCI assessment.
Aviation Office Program Manager (AO-PM)	FDOT AO Airport Engineering Manager: oversees and manages the overall Program System Update.

1.3 General Scope of Work

The SAPMP is limited to performing tasks in adherence to the key elements of an effective pavement management program on a statewide level. The primary tasks undertaken to update the FDOT SAPMP include, but are not limited to:

- Research and evaluation of existing record documentation;
- Establishment of a pavement system inventory;
- Development of a pavement network definition map and supplemental GIS model;
- Functional pavement evaluations via the PCI assessment method;
- Customization of PAVER™ software including prioritization, policies, and performance models;
- Analysis of condition data; and
- Maintenance, repair, and rehabilitation planning.

1.4 FDOT SAPMP Objectives

The SAPMP enables the FDOT AO and FAA to monitor pavement conditions at airports in the Florida Airport System. The SAPMP provides objective condition information needed to make informed decisions regarding the significant capital investment that the public-use airport pavement infrastructure represents.

Airport staff are responsible for making decisions regarding the timing and type of maintenance and rehabilitation activities that should be completed in order to maintain an acceptable operational condition and adequate load-carrying capacity. Utilizing the SAPMP will help Airport staff better understand the relative condition of their pavement facilities and when those facilities should be rehabilitated. The data collected from the SAPMP can be used for project programming for the next 10 years. This report summarizes the data collection, analysis, program update, and implementation of the FDOT SAPMP.

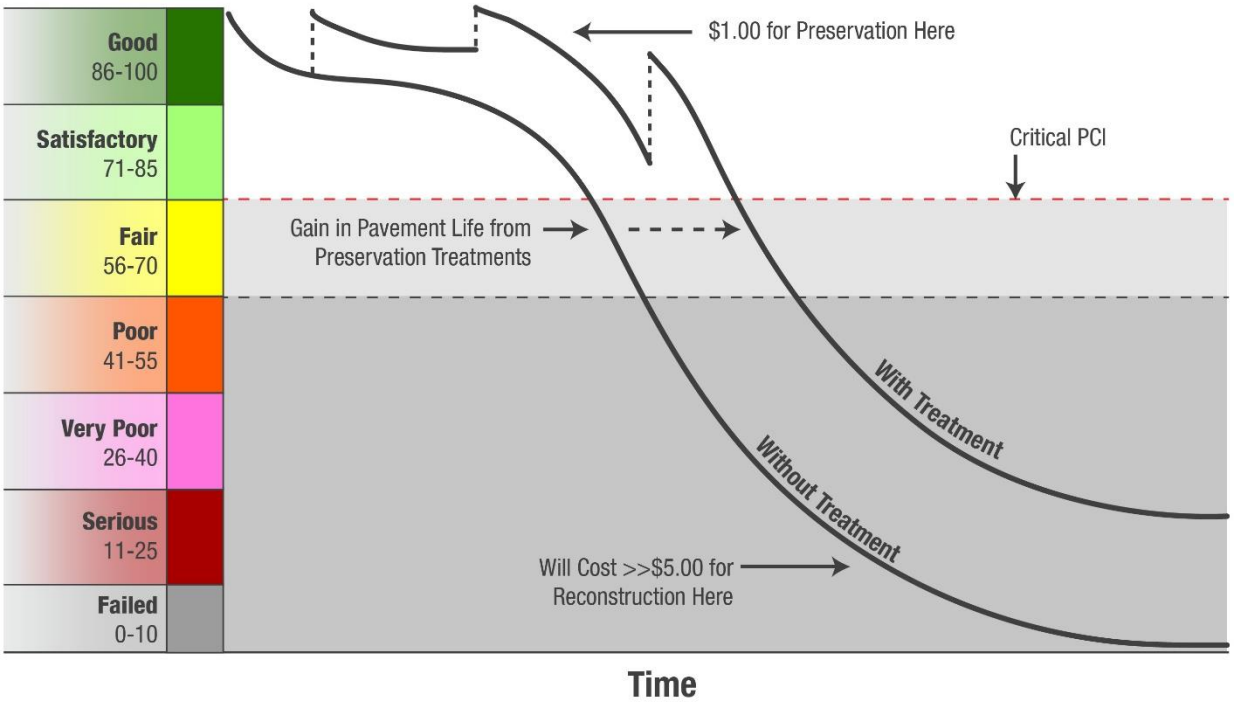
A comprehensive SAPMP provides information that assists with the project programming process. The primary objectives of the FDOT SAPMP consist of the following:

- Assist airports in meeting the requirements of Public Law 103-305;
- Assist airports in complying with FAA Grant Assurances 11 and 19;
- Provide airports with functional pavement condition in accordance with ASTM D5340-20 (current) and with the FAA AC 150/5380-7B (current) based on visual assessment efforts;
- Provide airports with planning-level guidance on maintenance, repair, and rehabilitation in accordance with the FAA AC 150/5380-6C (current) based on pavement conditions and distress data in terms of type, severity, and extent; and
- Provide airports, FDOT Districts, FDOT AO, and the FAA Airports District Office with long-term, planning-level forecasts of pavement performance and rehabilitation budgetary needs (e.g., maintenance, repair, and major reconstruction) through reports.

From a pavement management perspective, one of the most valuable aspects of the PCI methodology is the ability to save money by effectively prioritizing the rehabilitation of pavement assets before they reach critical condition. Critical PCI values are assigned to deterioration models for pavement assets based on their respective use and rank. The concept of critical PCI will be further discussed in **Chapter 5**, but it is used as a benchmark to help identify pavement assets that should receive rehabilitation. In doing so, the PCI methodology can help create a proactive maintenance and rehabilitation (M&R) strategy to effectively address pavement projects before the cost of these projects increases significantly.

With M&R costs escalating over time, the consequences of inadequate maintenance practices can result in an inefficient allocation of funding. If maintenance is conducted before a significant decline in pavement condition occurs, substantial repair and/or rehabilitation costs may be avoided or delayed. **Figure 1.4** illustrates how the cost of pavement repairs can significantly increase if M&R activities are delayed.

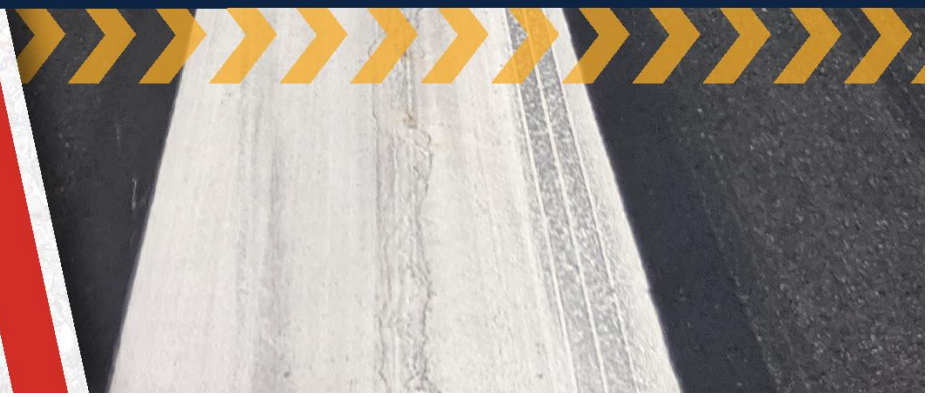
Figure 1.4: Pavement Life and the Effect of Treatments



FAA Eligibilty Thresholds: ☐ **>70:** Routine Maintenance ☐ **55-70:** Rehabilitation Eligible ☐ **<55:** Reconstruction Eligible

**Figure is for conceptual purposes only – unit costs are not specific to airfield pavements*

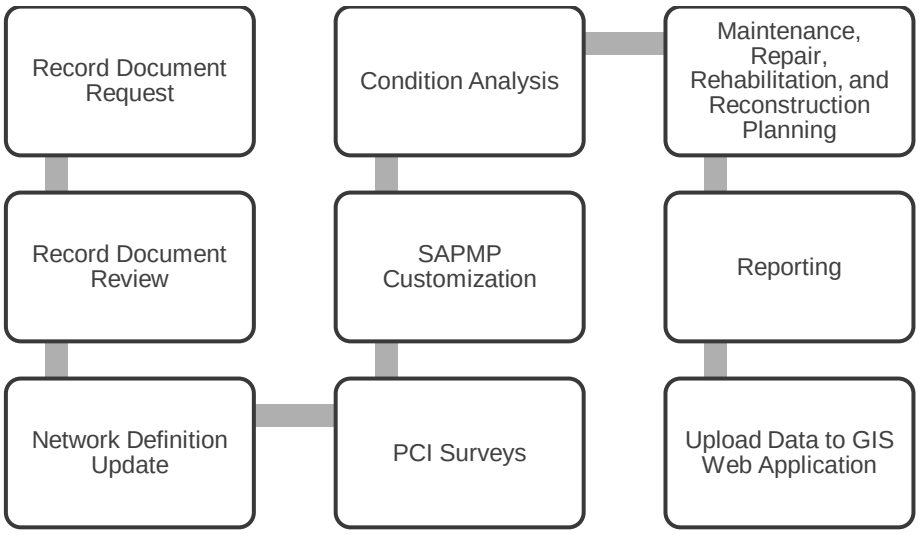
Chapter 2: Methodology



Chapter 2 – Methodology

An effective pavement management program incorporates both the regular collection of pavement condition information and communication of information to appropriate sponsors. This chapter of the report defines the specific methods utilized as part of the SAPMP System Update to meet the requirements of an effective pavement management system as defined by the FAA AC 150/5380-7B. **Figure 2** summarizes the overall process for the FDOT SAPMP.

Figure 2: FDOT SAPMP General Process



2.1 Airfield Pavement Database

This SAPMP utilizes PAVER™ 7.0 software as its airfield pavement database. The PAVER™ software application was developed by the U.S. Army Construction Engineering Research Laboratory and sponsored by the FAA, Federal Highway Administration, U.S. Army, U.S. Air Force, and U.S. Navy to meet the objectives of an effective pavement management system. The PAVER™ database includes a network-level inventory of the participating airport's eligible airfield pavement facilities. PAVER™ can achieve the following pavement management objectives:

- Create a manageable inventory system;
- Analyze the current condition of pavements in accordance with ASTM D5340-20;
- Develop pavement performance models to forecast conditions; and
- Generate maintenance, repair, and major rehabilitation recommendations based on budgetary scenarios.

PAVER™ inventory management is based on a tiered organizational structure consisting of networks, branches, sections, and samples, with the sample being the smallest unit of management. Critical elements of an effective pavement management program are maintained within the network-level PAVER™ database and typically consist of pavement inventory

characteristics, pavement structure, work history, historic condition records, and analytical customization.

2.2 Airfield Pavement Record Keeping (Historical Records Research)

In accordance with the FAA AC 150/5380-7B, it is a best practice that airports maintain records of all airfield construction and maintenance (routine, emergency, and proactive) related to the pavement facilities. These records should consist of:

- Location and limits of work;
- Types and severities of repaired distresses;
- Work type and cost; and
- Supporting documents (e.g., contract documents, construction drawings, specifications, bid tabulations, repair products, and photograph records).

As part of the SAPMP, participating airport's staff was asked to provide documentation regarding the historical work performed at the Airport, including construction drawings and bid tabulations. This information is used to identify location, limits, type of work, pavement cross-sections, and representative material costs.

Updated historical data collected during this task was entered into the PAVER™ database. This database includes the following fields for historical information:

- Date of last construction/rehabilitation
- Work type performed
- Comments for documenting pavement cross-section
- Pavement surface type
- Section area (limits of work)

The SAPMP PAVER™ database accuracy is limited to the record documentation provided by the participating airports. Airport Sponsors should rely on this information as a planning tool and defer to final as-built plans, record drawings, and/or engineer's construction report for pavement construction records.

2.3 Airfield Pavement Structure

A pavement is a prepared surface designed to provide a continuous, smooth ride at a certain speed and to support an estimated amount of traffic for a certain number of years. A pavement structure is composed of constructed layers consisting of subgrade, subbase, base, structural, and surface courses. For the FDOT SAPMP, two (2) predominant pavement types are classified for evaluation and analysis: Asphalt Concrete (AC) and Portland cement concrete (PCC). Composite Structures, known as Whitetopping Pavements consisting of PCC on AC, are also present at limited airports in Florida and are evaluated separately.

2.3.1 Asphalt Concrete

Asphalt concrete is a pavement comprised of aggregate mixture with an asphalt cement binder. The FDOT SAPMP categorizes three (3) Asphalt Concrete surface types: Asphalt Concrete (AC), Asphalt Concrete overlaid on Asphalt Concrete (AAC), and Asphalt Concrete overlaid on Portland cement concrete (APC).

Asphalt Concrete (AC)

A flexible pavement section consisting of aggregate mixture with asphalt cement binder layered on engineered base course material that is layered on subbase and subgrade soil material.

Asphalt Concrete Overlaid on Asphalt Concrete (AAC)

A flexible pavement section consisting of aggregate mixture with asphalt cement binder layered on an existing flexible AC pavement section. Airfield pavement sections are considered to be AAC when a pavement rehabilitation includes a pavement milling and resurfacing operation or a direct overlay of Asphalt Concrete without surface preparation.

Asphalt Concrete Overlaid on Portland Cement Concrete (APC)

A flexible pavement section consisting of aggregate mixture with asphalt cement binder layered on an existing PCC pavement section. This unique pavement composition may result in distinct pavement distress manifestations known as reflective joint cracking.

2.3.2 Portland Cement Concrete

Portland cement concrete is a pavement comprised of aggregate mixture with a Portland cement binder. The FDOT SAPMP categorizes Portland cement concrete (PCC) as the primary rigid pavement section.

Portland Cement Concrete (PCC)

A rigid pavement section composed of Portland cement concrete placed on a granular or treated base course that is supported on a compacted subgrade. The concrete surface provides a texture of nonskid qualities, prevents the infiltration of surface water into the subgrade, and provides structural support for airplane loading. Rigid pavement construction requires the layout of appropriately designed joints. Concrete overlays built in accordance with the FAA Advisory Circular 150/5320-6F “Airport Pavement Design and Evaluation” are recognized as PCC pavement.

2.3.3 Composite Structure – Whitetopping Pavement

Whitetopping pavement is a composite pavement comprised of relatively thin PCC overlaid on an existing AC pavement structure. There are three (3) types of Whitetopping Pavements: Conventional (WT), Thin (TWT), and Ultra-Thin (UWT).

Conventional Whitetopping (WT)

A composite pavement structure consisting of a modified PCC overlaid on an existing AC pavement section. The modified PCC layer is typically greater than 6 inches in thickness.

Thin Whitetopping (TWT)
A composite pavement structure consisting of modified PCC overlaid on an existing AC pavement section. The modified PCC layer is typically between 4 and 6 inches in thickness.

Ultra-Thin Whitetopping (UWT)
A composite pavement structure consisting of a modified PCC overlaid on an existing AC pavement section. The modified PCC layer is typically between 2 and 4 inches in thickness.

2.4 Airfield Pavement Traffic

A pavement section is typically designed to meet the needs of the user (airlines, air cargo, general aviation, and/or military) in providing a safe, smooth, operational surface. Pavement deterioration generally occurs gradually from aircraft loading and environmental conditions.

This System Update does not involve a study or analysis of X60's aircraft fleet mix or traffic operations. However, it is strongly recommended that the Airport incorporate the requirements of the FAA AC 150/5320-6F when developing design-level rehabilitation activities; this AC provides guidance on incorporation of aircraft traffic fleet mix data.

2.5 Pavement Management Program Network Definition Terminology

To facilitate an effective pavement management program, a pavement network must be established and subdivided into smaller, manageable working units. Sectioning of the pavement network was established in a prior System Update and was revised during this SAPMP to account for work that has been performed on the airfield since the previous Update. Information from historic records is used to help define the limits of the smaller working units. A critical input for a pavement inventory and network definition is the date of last major construction or rehabilitation, as this type of work will reset the section PCI to a value of 100.

The following sections define the common terms used in pavement management systems and cover their application for this SAPMP System Update.

2.5.1 Pavement Network Identification

Establishing the pavement network is the first step in organizing pavements into a structure for pavement management. The network is the starting point of the hierarchy of pavement management organization. A network typically consists of one or more pavement *branches*, which have one or more pavement *sections*. For example, a network can be all the pavements within an Airport's airfield or all the pavements in a statewide program. For the FDOT SAPMP, a network represents an individual Airport's airfield pavement facilities maintained by the Airport.

2.5.2 Pavement Branch Identification

A pavement branch, also known as a facility, is a logical unit of generally identifiable pavement within a network that has a distinct functional classification. For example, within an airfield, each runway, taxiway, or apron is considered a branch. Each branch contains at least one section but may contain more if pavement feature characteristics are distinct throughout the branch.

2.5.3 Pavement Section Identification

A pavement section, or feature, is a subdivision of a branch and has consistent characteristics throughout its length or area. These characteristics include structural composition (pavement layer material type and thickness), construction history, age, traffic type, traffic frequency, and pavement condition. A section is the basic management unit of a pavement network and is the level at which maintenance, repair, or major rehabilitation treatments are considered.

2.5.4 Pavement Sample Unit Identification

A pavement sample unit is an arbitrarily defined subdivision of a pavement section that has a standard size range of 20 contiguous slabs (±8 slabs) for PCC pavement and 5,000 contiguous square feet (±2,000 SF) for AC. A sample unit is the smallest subdivision of a pavement network and is analyzed during field assessments to establish condition ratings.

2.5.5 Terminology Summary

Below is a summary table, **Table 2.5.5**, with definitions and examples of common SAPMP terminology.

Table 2.5.5: SAPMP Terminology

SAPMP Terminology	Common Definition	Airport Example
Network	Totality of pavement assets maintained by the Airport.	"Tallahassee International Airport – Airfield Pavements"
Branch Name	Commonly defined asset name as established by Airport and by use.	"Runway 18-36"
Branch ID	Codified shorthand name for commonly defined asset established for database identification.	"RW 18-36" RW, Branch Use, "Runway" "Runway 18-36", Runway Facility
Section ID	Codified identification for pavement asset that is distinct by pavement composition, work history, aircraft loading, or condition.	"6105"
Sample Unit	A numeric identification of an area of pavement (5,000 ± 2,000 SF of AC or 20 ± 8 slabs of PCC) that has been inspected in accordance with ASTM D5340-20.	"300"

2.6 Airfield PCI Survey Methodology

In adherence to the FAA AC 150/5380-7B, the FDOT SAPMP utilizes the PCI survey method to collect pavement distress data and analyze the condition. The PCI survey procedure is a visual statistical sampling of pavements for recording primary distress types (e.g., cracking and deformation), associated severities, and quantities as defined by the ASTM D5340-20. This effort is the primary means of obtaining and recording pavement distress data. The PCI survey consists primarily of visual assessments of pavement surfaces for signs of distress and deterioration resulting from loading (aircraft) and environmental influences.

Overall, a visual pavement condition survey provides an indication of the cause and rate of deterioration of a pavement section from a functional point of view and can help identify if any underlying structural deficiencies are present. Although a visual PCI survey does not predict the remaining structural life of a pavement section or its ability to support loads, it does assess the rating of the operational surface. Functional condition, determined by the PCI method, can provide a cost-effective means to plan for pavement rehabilitation projects. Timely application of pavement rehabilitation may lead to the extension of functional life of individual pavement sections. This method varies from structural evaluation; functional condition is limited to visually observed distresses and indicative modes of pavement deterioration. A formal structural evaluation analyzes subsurface conditions, material characteristics, and qualitative pavement structure attributes. A structural evaluation may consist of subsurface geotechnical exploration, falling weight deflectometer testing, petrographic testing, material coring, and/or flexural testing.

2.6.1 Pavement Distress Types

For each sample, the severity and quantity of defined distresses are recorded and then analyzed in accordance with the ASTM D5340-20 standard, which identifies 17 AC distress types and 16 PCC distress types. **Tables 2.6.1 (a)** and **2.6.1 (b)** identify these distresses and their common causes or mechanisms.

Table 2.6.1 (a): Pavement Distress Types – Asphalt Concrete

Distress Mechanism	Distress Type
Load	Alligator Cracking Rutting
Climate/Durability	Block Cracking Joint Reflection Cracking Longitudinal and Transverse Cracking (LT) Raveling Shoving Weathering
Construction/Material	Bleeding Corrugation Depression Polished Aggregate Slippage Cracking Swelling
Other	Jet Blast Erosion Oil Spillage Patching and Utility Cut Patching

Table 2.6.1 (b): Pavement Distress Types – Portland Cement Concrete

Distress Mechanism	Distress Type
Load	Corner Break Longitudinal, Transverse, and Diagonal Cracking (LTD) Pumping Shattered Slab/Intersecting Cracks
Climate/Durability	Blowup Durability "D" Cracking Joint Seal Damage Popouts
Construction/Material	Alkali Silica Reaction (ASR) Scaling Shrinkage Cracking
Other	Corner Spalling Joint Spalling Large Patching and Utility Cut Settlement or Faulting Small Patching

2.6.2 PCI Survey Procedures

PCI surveys are conducted on sample units defined in previous System Updates. Sample units are subject to change at the discretion of field personnel and/or to major pavement rehabilitation treatments. Furthermore, access to sample units based on accessibility or operational impacts may affect the overall sampling rate effort at each airport. **Tables 2.6.2 (a)** and **(b)** define the sampling criteria used by the FDOT SAPMP. A higher sampling rate may be utilized to achieve greater statistical confidence, should the Airport have the available resources to perform PCI survey independent of the FDOT SAPMP.

Table 2.6.2 (a): Recommended Sampling Rates for Asphalt Concrete

Number of Total Sample Units in Section	Runway Sampling Rate	Taxiways, Aprons, and Others Sampling Rate
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 or more	20% but ≤ 20	10% but ≤ 10

Table 2.6.2 (b): Recommended Sampling Rates for Portland Cement Concrete

Number of Total Sample Units in Section	Runway Sampling Rate	Taxiways, Aprons, and Others Sampling Rate
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 or more	20% but ≤ 20	10% but ≤ 10

The FDOT SAPMP is limited to select sample units for each section identified in each airport's Airfield Pavement Network Definition. The intent is to perform a limited amount of sample unit PCI surveys to reasonably reflect the functional condition. Due to the limited sampling criteria, there may be instances of pavement distress and deterioration outside of the inspected sample units that were not observed.

2.7 Airfield PASER Survey Methodology

Of the 95 participating airports, there are three (3) airports, including X60, that have a unique composite pavement section known as "whitetopping" within their airfield pavement system inventory that deviates from the current FAA Advisory Circular 150/5320-6F "Airport Pavement Design and Evaluation." Whitetopping is a pavement construction technique otherwise known as "Concrete Overlay" that does not adhere to the current FAA AC 150/5320-6 guidance for concrete overlays based on material specification, documented concrete strength, concrete minimum thickness, joint type, joint sealant, joint layout, and load transfer. Therefore, it is recognized that the ASTM D5340-20 (current version) may not be suitable to utilize as means to evaluate condition for the whitetopping concrete overlays.

The FAA recommends the **PA**vement **S**urface **E**valuation and **R**ating (PASER) procedure to evaluate the surface condition of rigid concrete and flexible concrete pavement facilities when it is not possible to complete a more detailed PCI Survey as part of a more comprehensive pavement maintenance management program. PASER was developed for the FAA by the Engineering Professional Development, College of Engineering, University of Wisconsin-Madison. Based on the guidance stated in FAA AC 150/5320-17A "Airfield Pavement Surface Evaluation and Rating Manuals", the FDOT SAPMP has adopted the PASER Manual in Appendix B of the Advisory Circular for specific use on the whitetopping pavements.

2.7.1 PASER Rating for Airfield Rigid Pavements

For the FDOT SAPMP, the PASER system will be limited to concrete overlay pavement sections, identified as whitetopping. PASER is a visual rating system that utilizes a 0 to 5 rating scale, with a value of 5 representing new pavement (or recent major concrete rehabilitation, like-new

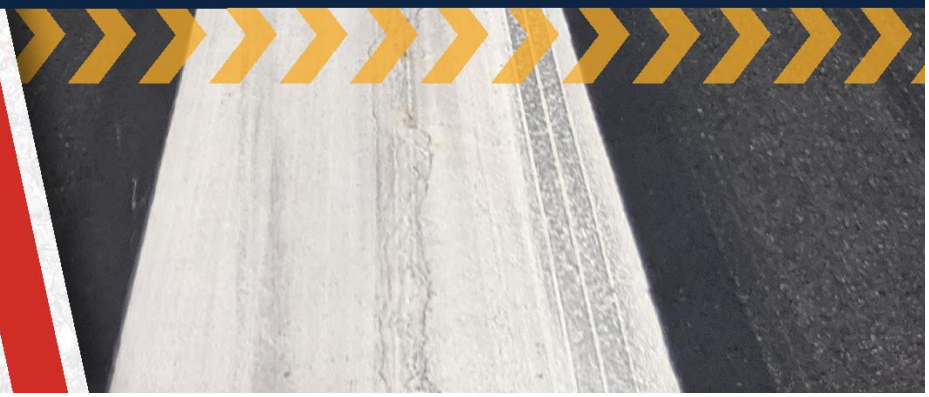
condition, typically less than 5 years old, and/or no maintenance required) and a value of 1 representing extensive full-depth joint repairs or slab replacements, extensive patching and one (1) complete overlay, and/or complete reconstruction needed. The PASER condition ratings are assigned by monitoring the type and amount of visual deterioration/distress within a defined feature (section). The PASER system interprets the visual observations into a condition rating. **Table 2.7.1. PASER Rating for Airfield Rigid Pavement** provides an organization of the PASER rating system for airfield pavements constructed with a rigid concrete surface layer.

Each rating in the PASER value has a corresponding surface rating written descriptor (Excellent, Good, Fair, Poor, Failed). The PASER surface rating is not based on the ASTM D5430-20. They should not be confused with the formal definitions of the PCI survey method.

Table 2.7.1: PASER Rating for Airfield Rigid Pavement

PASER Value	Surface Rating	Visual Distress	General Conditions	Treatment Measures
5	Excellent	None.	New pavement or recent major concrete rehabilitation. Like-new condition. Less than 5 years old. No maintenance required.	No maintenance required.
4	Good	Hairline or sealed cracks 1⁄8" wide or less. Map cracking. Pop-outs.	Concrete over 5 years old. Signs of wear. Minor spot repair of cracks or joint sealant.	Minor routine maintenance, crack or joint sealing.
3	Fair	Several slabs broken into two pieces by slab cracks. Corner cracking on several slabs, 1⁄4" wide with no spalling. Joint sealant mostly in good condition, less than 10% needing replacement. Several patches in fair to good condition. Map cracking or scaling on 10% or less of the surface area. Slight faulting, less than 1⁄4", in several locations.	First sign of significant slab cracking, corner cracking, scaling, or faulting. Several patches. Joint sealant repair required. Isolated repair of joint or patch.	More crack or joint sealing. Isolated joint repairs or slab patching.
2	Poor	Many slab cracks, some breaking the slab into three or more pieces. Cracks open 1/8" or cracks with spalling. D-cracks at several joints. Sealant failure over 10% of joints. Several patches in fair to poor condition with cracks in patch and uneven surface. Faulting ¼" to ½" in several locations. Severe or extensive scaling.	Needs sealant replacement on more than 10% of cracks or joints. Partial depth or full-depth joint repairs or patch replacement. Repair faulted joints. Replace or overlay slabs with severe scaling. Bonded or unbonded concrete overlay.	Extensive crack or joint sealing. Repair severe joint deterioration. Partial and full-depth slab repairs.
1	Failed	Many wide cracks with failed sealant and grass. Extensive crack and joint spalling. Slabs extensively cracked or shattered. Many corner breaks with spalling. D-cracks with spalling. Patches in poor condition with spalling. Numerous faults over 1⁄2".	Extensive full-depth joint repairs or slab replacements. Extensive patching and complete overlay. Complete reconstruction.	Reconstruction.

Chapter 3: Airfield Pavement System Inventory



Chapter 3 – Airfield Pavement System Inventory

This chapter discusses the inventory data collected from the Airport and summarizes network-level characteristics of the Airport's airfield pavements. At the start of each FDOT SAPMP System Update, all airports are asked to review the existing Airfield Pavement Network Definition Exhibit for accuracy. Furthermore, participating airports are asked to provide documentation of any recent or anticipated construction related to their airfield pavements.

3.1 Airfield Pavement Network Information

3.1.1 Previous and/or Anticipated Airfield Pavement Construction

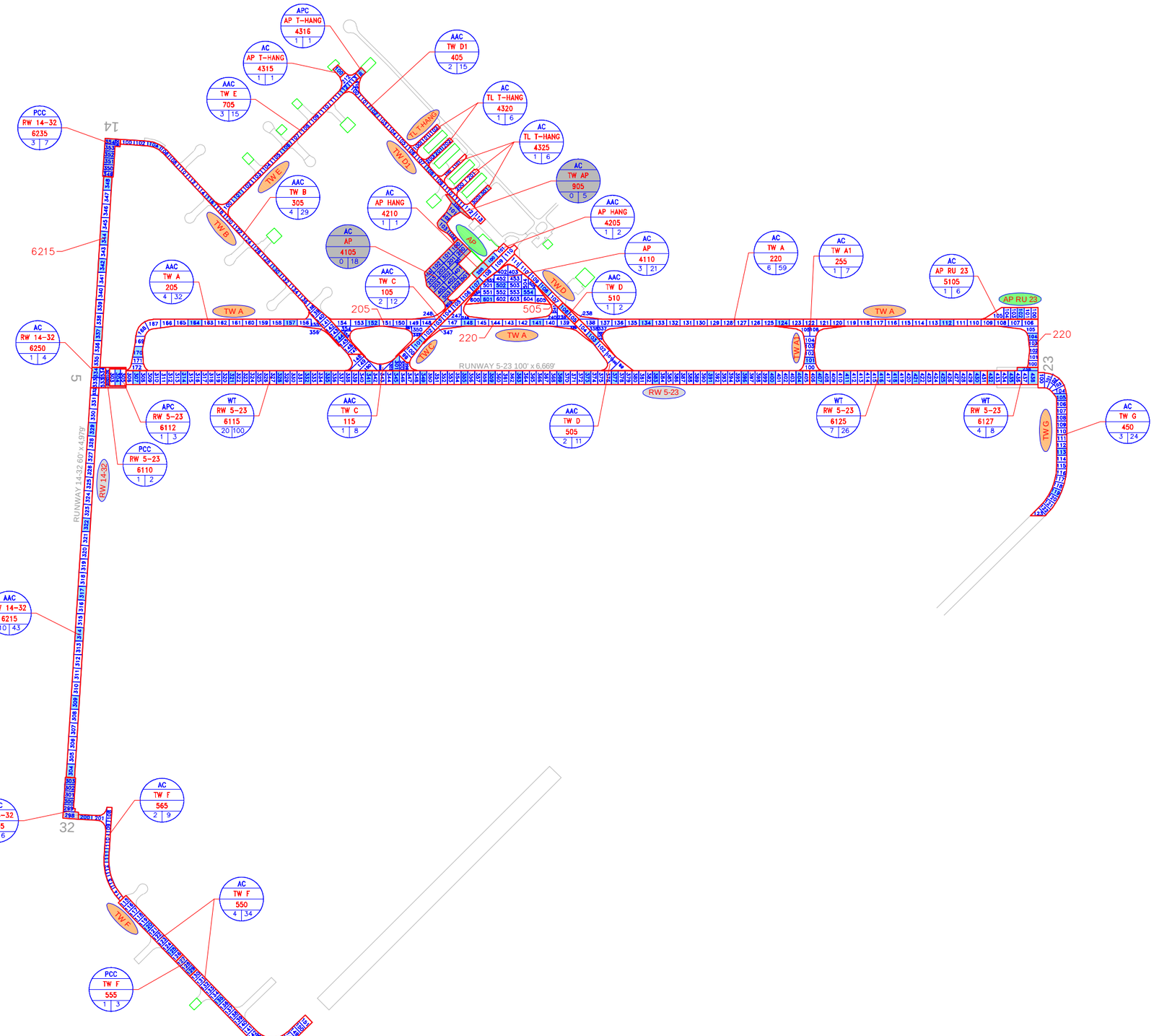
Based on information provided by the Airport, **Table 3.1.1** summarizes recent or anticipated airfield pavement construction projects since 2017.

Table 3.1.1: Summary of Previous and/or Anticipated Airfield Pavement Construction

Construction Year	Location	Work Type / Pavement Section
2019	AP HANG	New Construction - AC
2022	TW AP	New Construction - AC | 4" P-401, 6" P-211
	AP	Complete Reconstruction - AC | 4" P-401, 6" P-211

The Airport provided a combination of record drawings, reports, and staff input, which aided in developing the construction history of the Airport's pavements since inception. Major rehabilitation and construction activities performed in the last 24 months, or anticipated in the next 24 months, are assumed to restore the PCI to 100. These activities include pavement overlay, mill and overlay, new construction, and/or complete reconstruction. These pavements were not formally subject to a PCI assessment and actual conditions may vary. Furthermore, any localized maintenance or repair performed in the assessment areas that would improve the PCI are considered in the condition analysis.

Figure 3.1.1 (a), the Airfield Pavement Network Definition Exhibit, provides details of the PCI assessment efforts. The Exhibit identifies pavement facilities, surface types, section definitions, and sample unit delineations. **Figure 3.1.1 (b)**, the Airfield Pavement System Inventory Exhibit, provides details of the work history updates communicated by the Airport. The Exhibit provides the approximate limits of recent and/or anticipated construction on the airfield pavement facilities. The limits are based on documentation provided by the Airport and, if constructed, are confirmed during field surveys.



LEGEND

- RW 13-31 — TYPICAL RUNWAY BRANCH ID
- TW A — TYPICAL TAXIWAY BRANCH ID
- AP S — TYPICAL APRON BRANCH ID
- AAC / AP MAIN / 4105 / 10 | 100 — PAVEMENT SURFACE TYPE; PAVEMENT BRANCH ID; SECTION NUMBER; NUMBER OF SAMPLE UNITS IN SECTION; NUMBER OF SAMPLE UNITS TO BE INSPECTED
- AAC / AP MAIN / 4105 / 0 | 100 — SECTION NOT INSPECTED DUE TO RECENT CONSTRUCTION. SEE SYSTEM INVENTORY MAP FOR CONSTRUCTION DATES.
- 100 — INSPECTED SAMPLE UNITS.

TOTAL SAMPLES INSPECTED = 95
AC: 57 PCC: 7 WT:31

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

X60

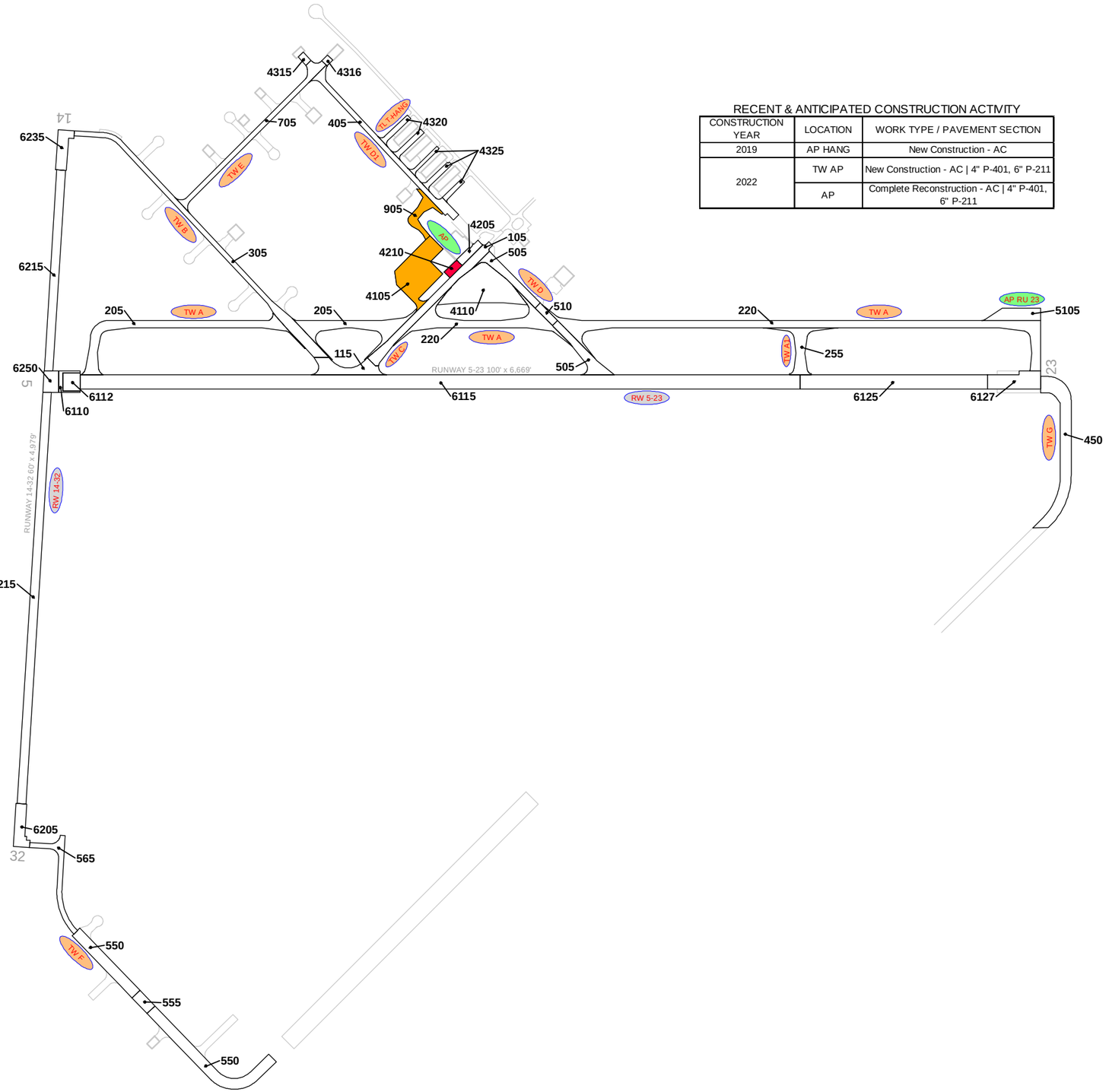
AIRFIELD PAVEMENT NETWORK DEFINITION EXHIBIT

Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

FDOT

2022



RECENT & ANTICIPATED CONSTRUCTION ACTIVITY

CONSTRUCTION YEAR	LOCATION	WORK TYPE / PAVEMENT SECTION
2019	AP HANG	New Construction - AC
2022	TW AP	New Construction - AC | 4" P-401, 6" P-211
	AP	Complete Reconstruction - AC | 4" P-401, 6" P-211

LEGEND

RW 13-31 — TYPICAL RUNWAY BRANCH ID

TW A — TYPICAL TAXIWAY BRANCH ID

AP S — TYPICAL APRON BRANCH ID

PROJECT YEAR

2017	2022
2018	2023
2019	2024
2020	2025
2021	2026

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

X60

AIRFIELD PAVEMENT SYSTEM INVENTORY EXHIBIT

Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

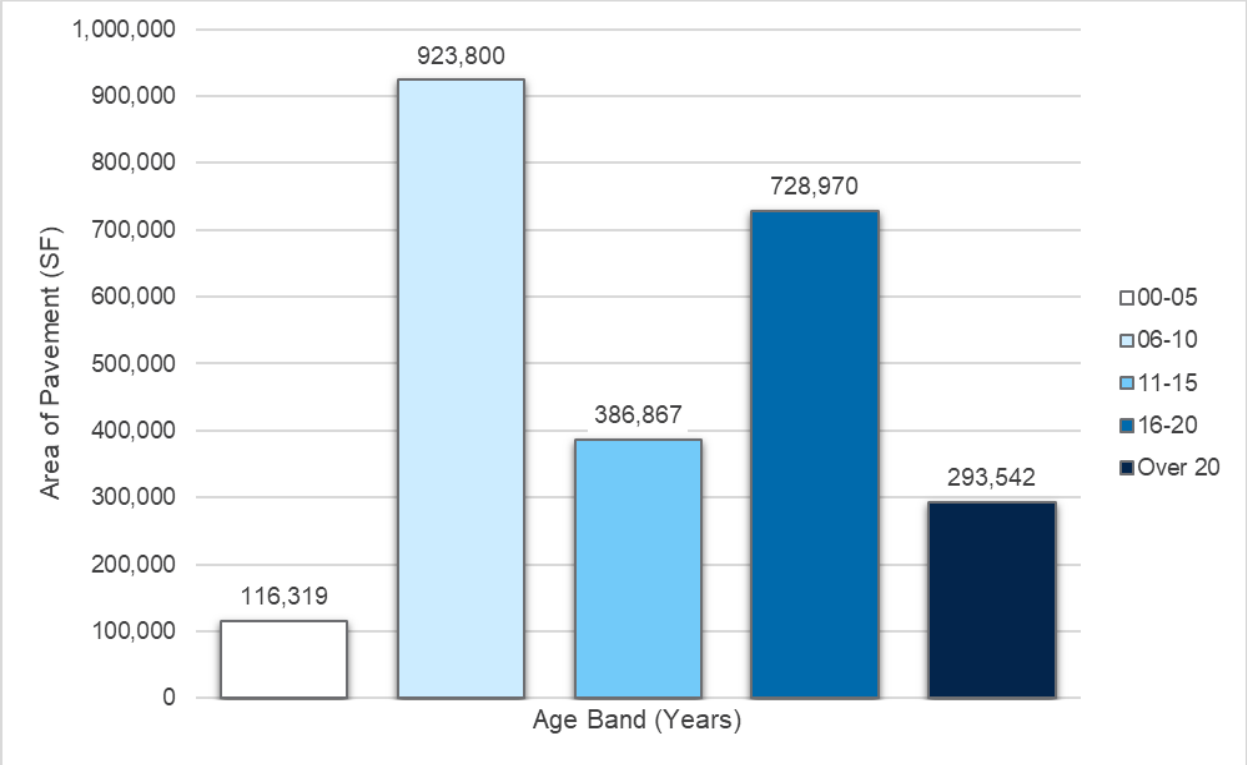
FDOT

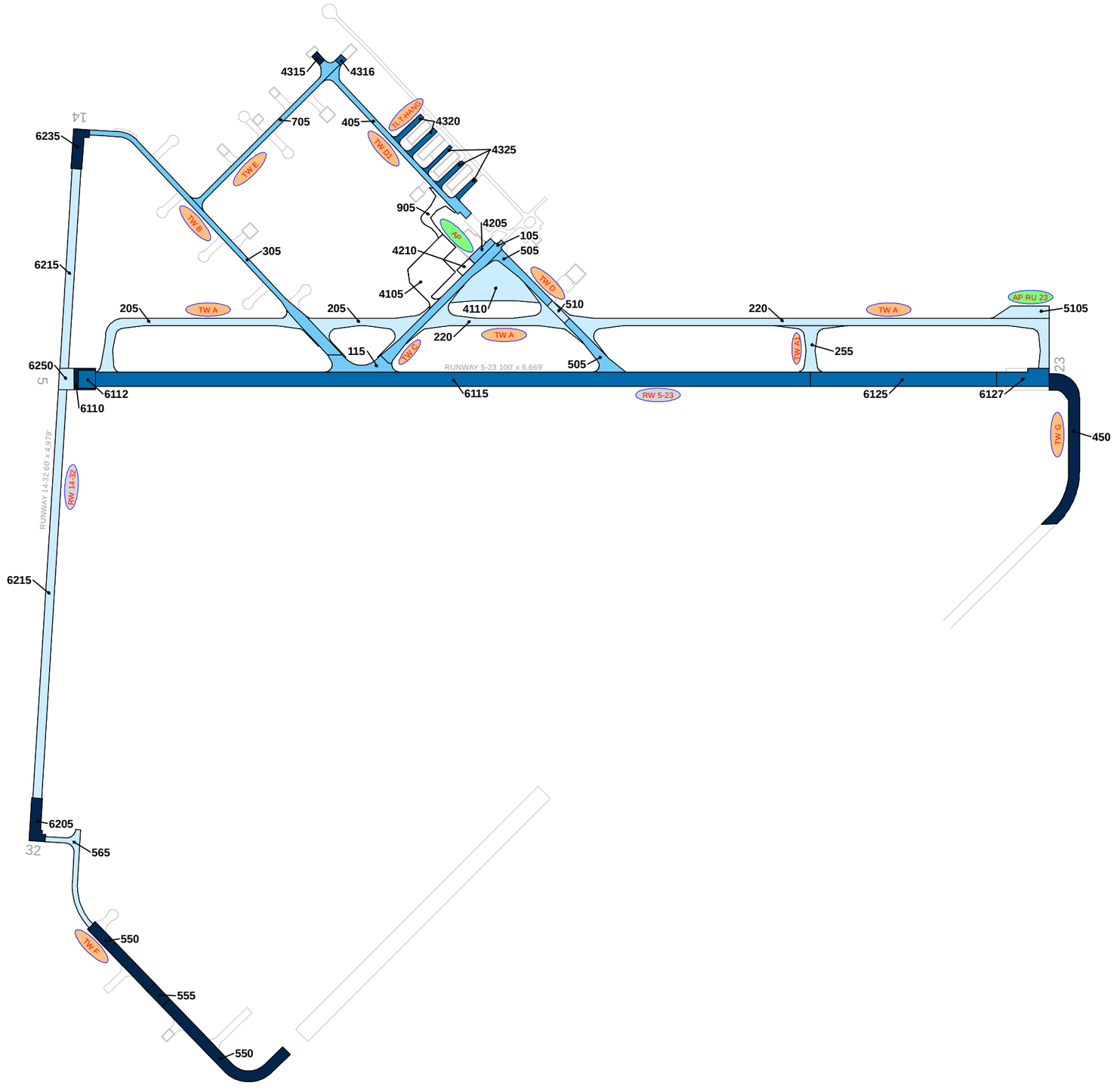
2022

3.1.2 Estimated Pavement Age

Standard pavement design practice considers a design life of 20 years. Design inputs typically require subgrade soil conditions, pavement layer material characteristics, and anticipated loading (aircraft fleet mix) for the design-life period. Based on the review of historic airfield pavement construction activities, **Figure 3.1.2 (a)** summarizes the age of the pavement sections since the last major construction activity has occurred. **Figure 3.1.2 (b)** provides the approximate limits of those age ranges on the airfield pavement facilities. This is intended to be a rough estimate based on interpretation of the limited data available at the time of report. The estimation of pavement age is based on information requested from the Airport.

Figure 3.1.2 (a): Age of Pavements at PCI Survey





LEGEND

- RW 13-31 — TYPICAL RUNWAY BRANCH ID
- TW A — TYPICAL TAXIWAY BRANCH ID
- AP S — TYPICAL APRON BRANCH ID

AGE AT INSPECTION

- 0-5 Years
- 6-10 Years
- 11-15 Years
- 16-20 Years
- > 20 Years

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

X60

AIRFIELD PAVEMENT
ESTIMATED AGE EXHIBIT

Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

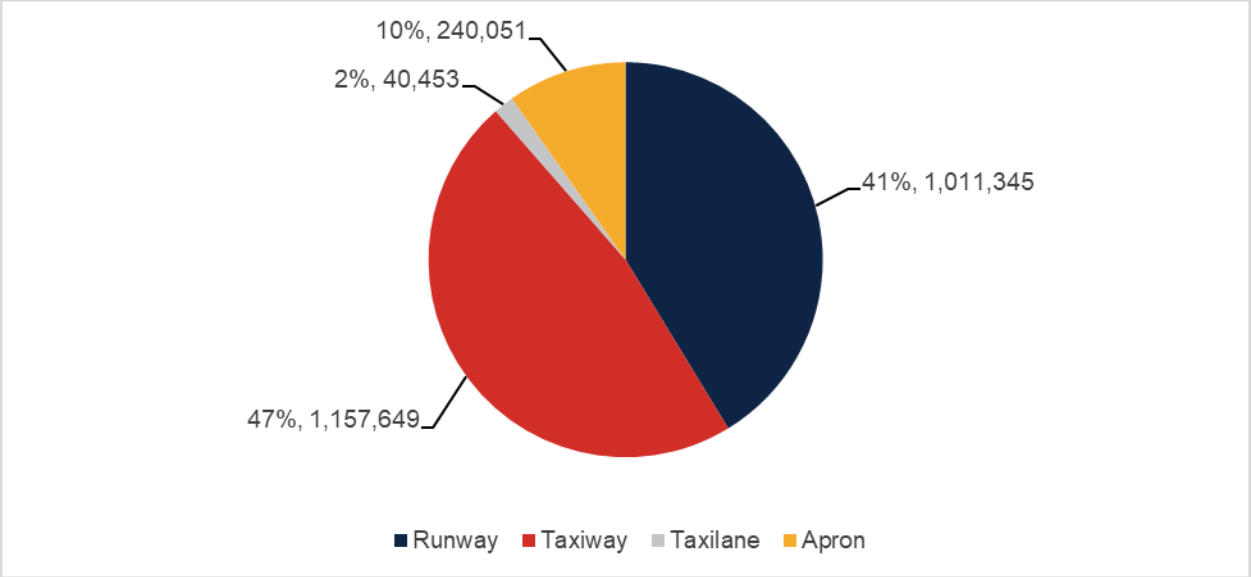
FDOT

2022

3.1.3 Functional Use

Pavements are subject to variations in aircraft loading patterns based on use and overall operations. This is termed "functional use" or "branch use." For this SAPMP System Update, the following categories of pavement functional use are identified: runway, taxiway, taxilane, and apron. **Figure 3.1.3** summarizes pavement functional use by area and excludes paved shoulders.

Figure 3.1.3: Airfield Pavement Branch Use by Area (SF)

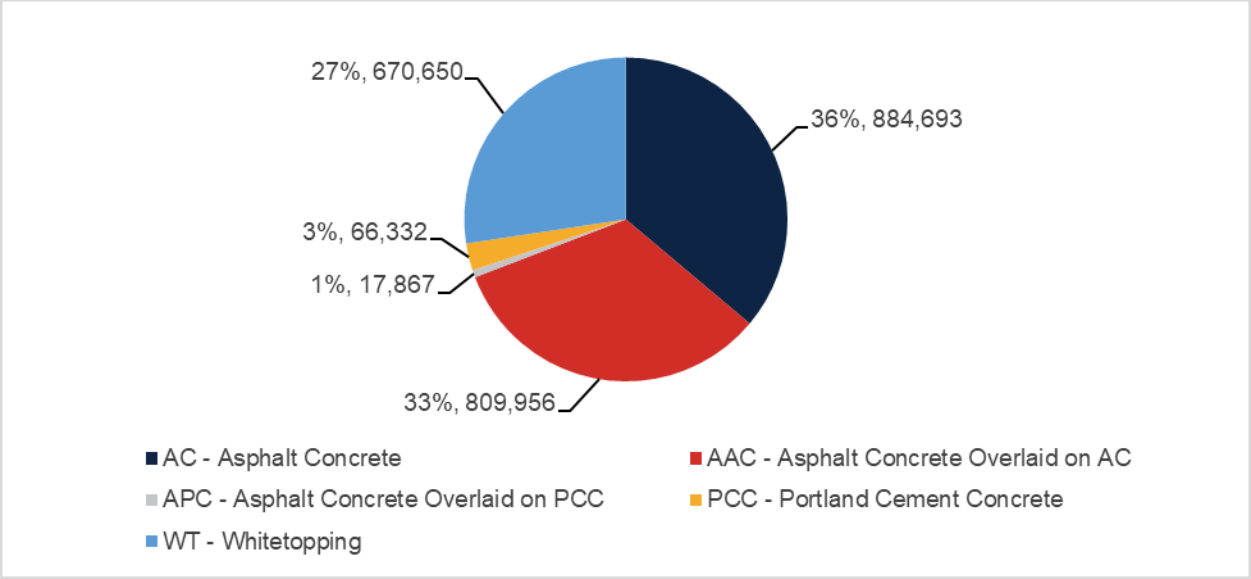


3.1.4 Pavement Surface Type

The airfield pavement facility surface types within the SAPMP include four (4) common types of pavement: Asphalt Concrete (AC), Asphalt Concrete overlaid on Asphalt Concrete (AAC), Asphalt Concrete overlaid on Portland cement concrete (APC), and Portland cement concrete (PCC). X60 is one of three airports participating in the FDOT SAPMP that also have one (1) uncommon type of composite pavement, known as Whitetopping (WT), consisting of PCC overlaid on AC.

Based on the record documentation incorporated within the SAPMP database and as observed during airfield pavement field assessments, pavement surface types have been assigned to the various pavement sections. **Figure 3.1.4** summarizes the applicable pavement types observed at X60.

Figure 3.1.4: Airfield Pavement Surface Type by Area (SF)



3.1.5 Pavement System Inventory Details

The pavement inventory scope includes updates to existing pavement geometry and the development of an AutoCAD model with spatial projection for use within GIS. **Appendix C** includes the Airfield Pavement Network Definition Exhibit and the Airfield Pavement System Inventory Exhibit, which visually summarize the results of the airfield pavement system inventory analysis.

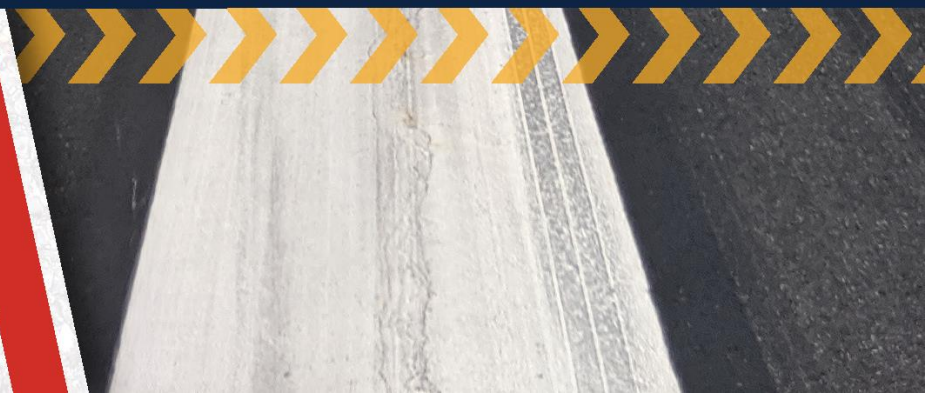
Table 3.1.5 displays the section-level pavement inventory data, which is based on record documentation provided by the airports and from previous System Updates. The information presented relies on the accuracy and the adequacy of data provided. In some cases, characteristics such as pavement area may be estimated based on aerial interpretation of spatially-projected imagery. Additionally, if the last construction date is unknown, a date of January 1 of the estimated year was assigned to the section. The accuracy of data is appropriate for this network-level planning document. Should the Airport perform rehabilitation work, it is recommended that project-level investigations be performed to support the data accuracy needed for design and construction.

Table 3.1.5: Pavement System Inventory Details

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface Type	Estimate of Last Construction Date
X60	RW 5-23	Runway	6110	7,500	PCC	1/1/1942
X60	RW 5-23	Runway	6112	15,000	APC	1/1/2006
X60	RW 5-23	Runway	6115	500,000	WT	1/1/2005
X60	RW 5-23	Runway	6125	130,000	WT	1/1/2005
X60	RW 5-23	Runway	6127	40,650	WT	1/1/2005
X60	RW 14-32	Runway	6205	24,688	PCC	1/1/1942
X60	RW 14-32	Runway	6215	254,982	AAC	2/1/2015
X60	RW 14-32	Runway	6235	22,894	PCC	1/1/1942

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface Type	Estimate of Last Construction Date
X60	RW 14-32	Runway	6250	15,631	AC	2/1/2015
X60	TW A	Taxiway	205	159,607	AAC	1/1/2013
X60	TW A	Taxiway	220	287,885	AC	1/1/2013
X60	TW A1	Taxiway	255	34,316	AC	1/1/2013
X60	TW AP	Taxiway	905	22,769	AC	6/1/2022
X60	TW B	Taxiway	305	101,269	AAC	1/1/2009
X60	TW C	Taxiway	105	65,023	AAC	1/1/2009
X60	TW C	Taxiway	115	35,409	AAC	1/1/2009
X60	TW D	Taxiway	505	61,793	AAC	1/1/2009
X60	TW D	Taxiway	510	8,500	AAC	1/1/2013
X60	TW D1	Taxiway	405	57,110	AAC	1/1/2009
X60	TW E	Taxiway	705	55,768	AAC	1/1/2009
X60	TW F	Taxiway	550	128,837	AC	1/1/1942
X60	TW F	Taxiway	555	11,250	PCC	1/1/1942
X60	TW F	Taxiway	565	33,640	AC	2/1/2015
X60	TW G	Taxiway	450	94,473	AC	1/1/1942
X60	TL T-HANG	Taxilane	4320	18,657	AC	1/1/2005
X60	TL T-HANG	Taxilane	4325	21,796	AC	1/1/2003
X60	AP	Apron	4105	86,922	AC	6/1/2022
X60	AP	Apron	4110	101,074	AC	2/1/2015
X60	AP HANG	Apron	4205	10,495	AAC	1/1/2009
X60	AP HANG	Apron	4210	6,628	AC	1/1/2019
X60	AP RU 23	Apron	5105	28,165	AC	1/1/2013
X60	AP T-HANG	Apron	4315	3,900	AC	1/1/1986
X60	AP T-HANG	Apron	4316	2,867	APC	1/1/2003

Chapter 4: Airfield Pavement Condition Analysis



Chapter 4 – Airfield Pavement Condition Analysis

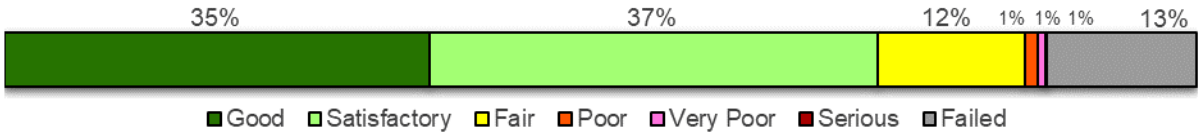
The Pavement Condition Index (PCI) provides insight to possible causes of deterioration to help support pavement maintenance and rehabilitation planning. Distress type, severity, and extent are required in the computation of a PCI value. The PCI method of pavement condition evaluation is strictly a visual review of surface condition, also referred to as a functional evaluation. Further evaluation of pavement conditions may be necessary, such as structural evaluation, for design- and/or project-level determination of pavement rehabilitation needs. It should be noted that the condition information summarized in this chapter, unless specifically identified, excludes whitetopping pavement, as whitetopping is evaluated based on the PASER surface rating methodology as detailed in **Section 2.7 Airfield PASER Survey Methodology**.

4.1 Airfield Pavement Condition Index

4.1.1 Network-Level Analysis

The following figure, **Figure 4.1.1**, summarizes the network-level pavement condition analysis based on the most recent survey results. On a network level, approximately 72% of inspected pavements are in Good or Satisfactory condition. Presently, roughly 12% of inspected pavements are in Fair condition and the remaining 16% of inspected pavements are in Poor or worse condition.

Figure 4.1.1: Current Condition – Overall Network



4.1.2 Branch-Level Analysis

The following **Figures 4.1.2 (a)-(e)** summarize branch-level pavement conditions according to the most recent PCI assessment results.

Figure 4.1.2 (a): Current Condition Summary – Branch-Level

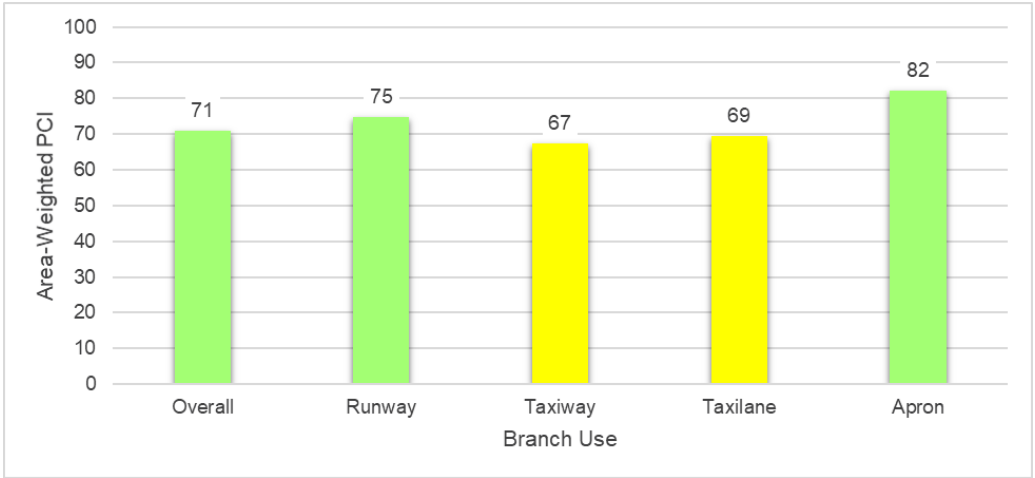


Figure 4.1.2 (b): Current Condition – Runway

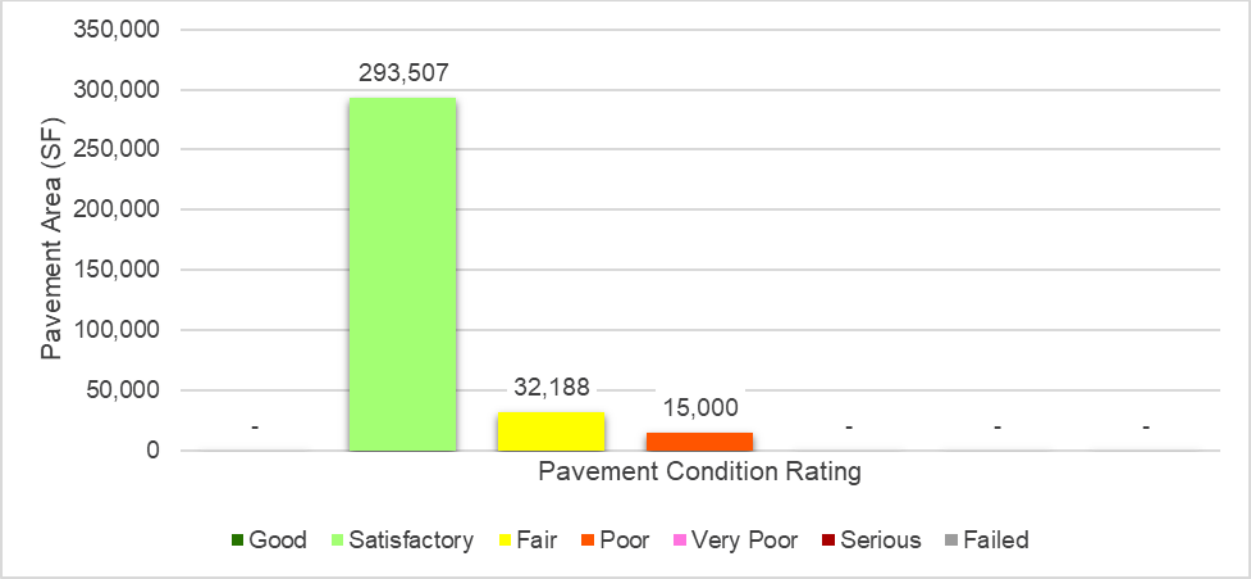


Figure 4.1.2 (c): Current Condition – Taxiway

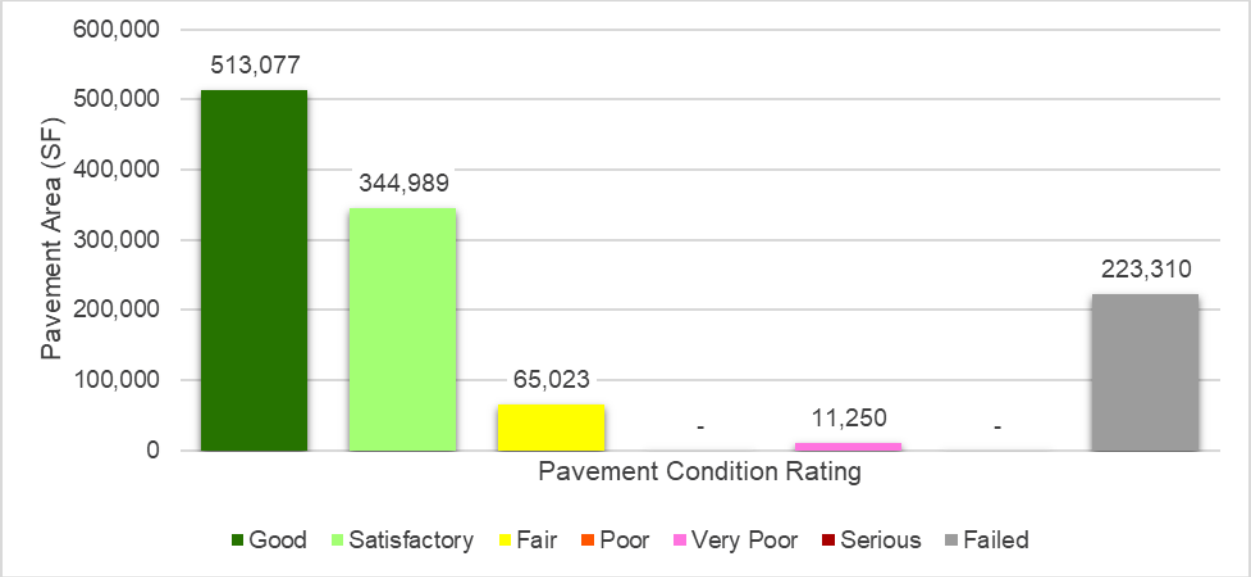


Figure 4.1.2 (d): Current Condition – Taxilane

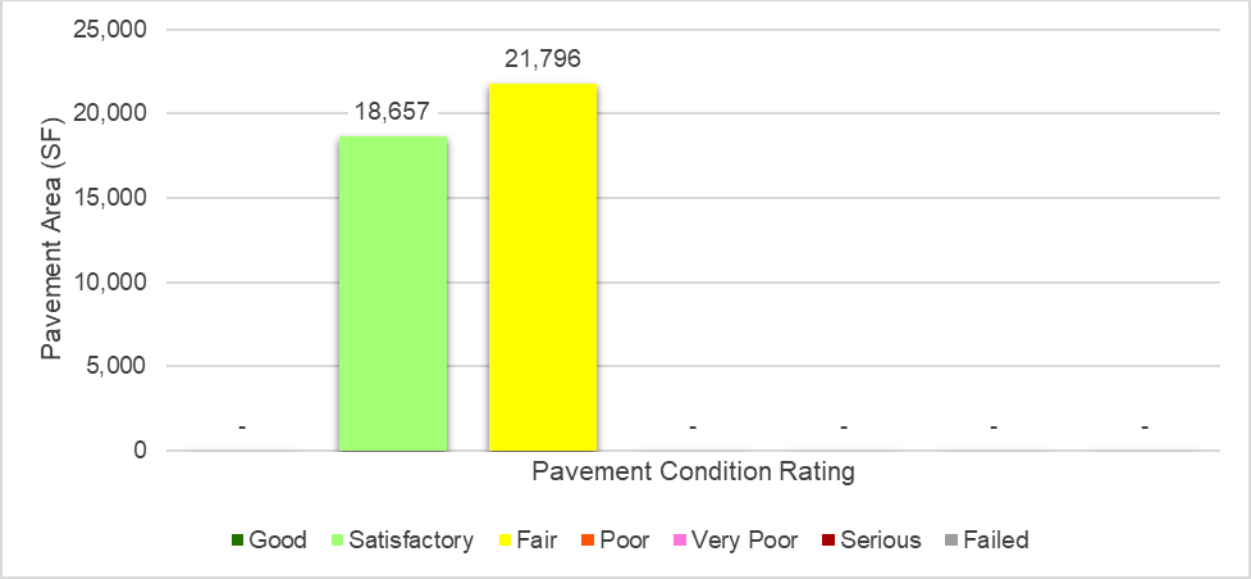


Figure 4.1.2 (e): Current Condition – Apron

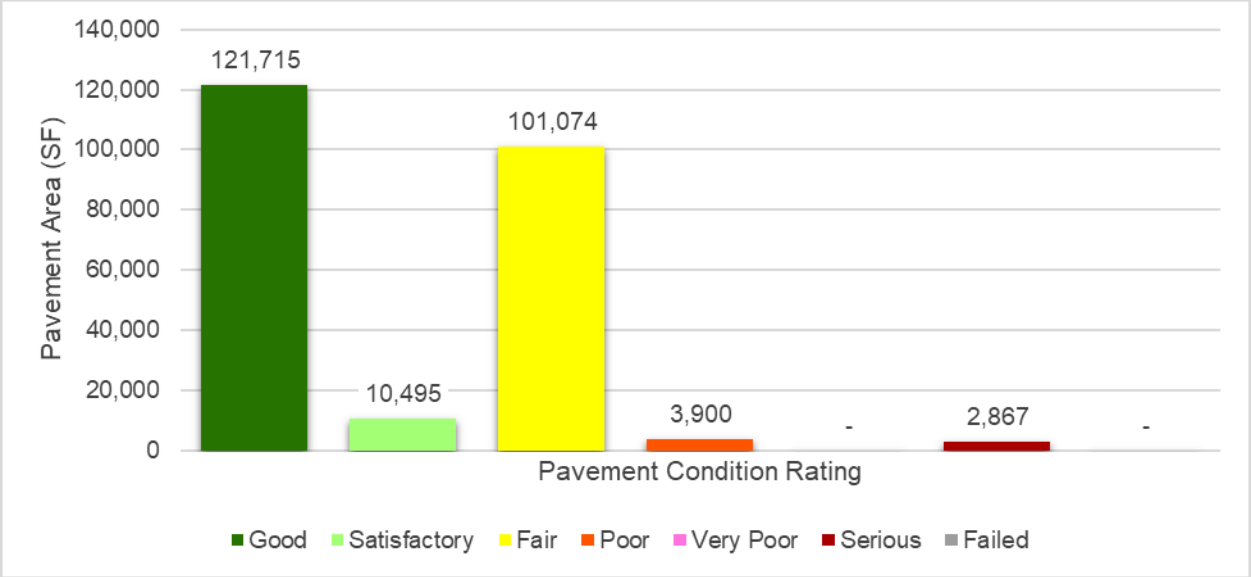


Table 4.1.2 details the branch-level condition for each airfield pavement branch.

Table 4.1.2: Current Condition Summary – Branch-Level

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Area-Weighted Avg PCI	Condition Rating
RW 5-23	Runway	2	22,500	48	Poor
RW 14-32	Runway	4	318,195	77	Satisfactory
TW A	Taxiway	2	447,492	87	Good
TW A1	Taxiway	1	34,316	87	Good
TW AP	Taxiway	1	22,769	100	Good
TW B	Taxiway	1	101,269	80	Satisfactory
TW C	Taxiway	2	100,432	66	Fair
TW D	Taxiway	2	70,293	81	Satisfactory
TW D1	Taxiway	1	57,110	77	Satisfactory
TW E	Taxiway	1	55,768	81	Satisfactory
TW F	Taxiway	3	173,727	23	Serious
TW G	Taxiway	1	94,473	7	Failed
TL T-HANG	Taxilane	2	40,453	69	Fair
AP	Apron	2	187,996	83	Satisfactory
AP HANG	Apron	2	17,123	82	Satisfactory
AP RU 23	Apron	1	28,165	89	Good
AP T-HANG	Apron	2	6,767	39	Very Poor

4.1.3 Section-Level Analysis

Table 4.1.3 (a) provides each pavement section's area-weighted average PCI and the percent of distress related to load, climate, and other factors. The causes of condition deterioration help inform maintenance, repair, and rehabilitation decisions. For example, load-related distress can indicate that the pavement is reaching the end of its structural design life and the selected rehabilitation treatment should include either strengthening or reconstruction. **Figure 4.1.3 (a)** provides a technical exhibit that graphically depicts PCI values and ratings determined from this SAPMP System Update.

Pavement facilities that have been reconstructed within the past 24 months, or are anticipated for reconstruction within the next 24 months, may have been omitted from this assessment. Pavement that has received major rehabilitation will be set to a PCI of 100 for this analysis.

The results of the PASER surface rating for whitetopping pavements are presented separately in **Table 4.1.3 (b)** and **Figure 4.1.3 (b)**.

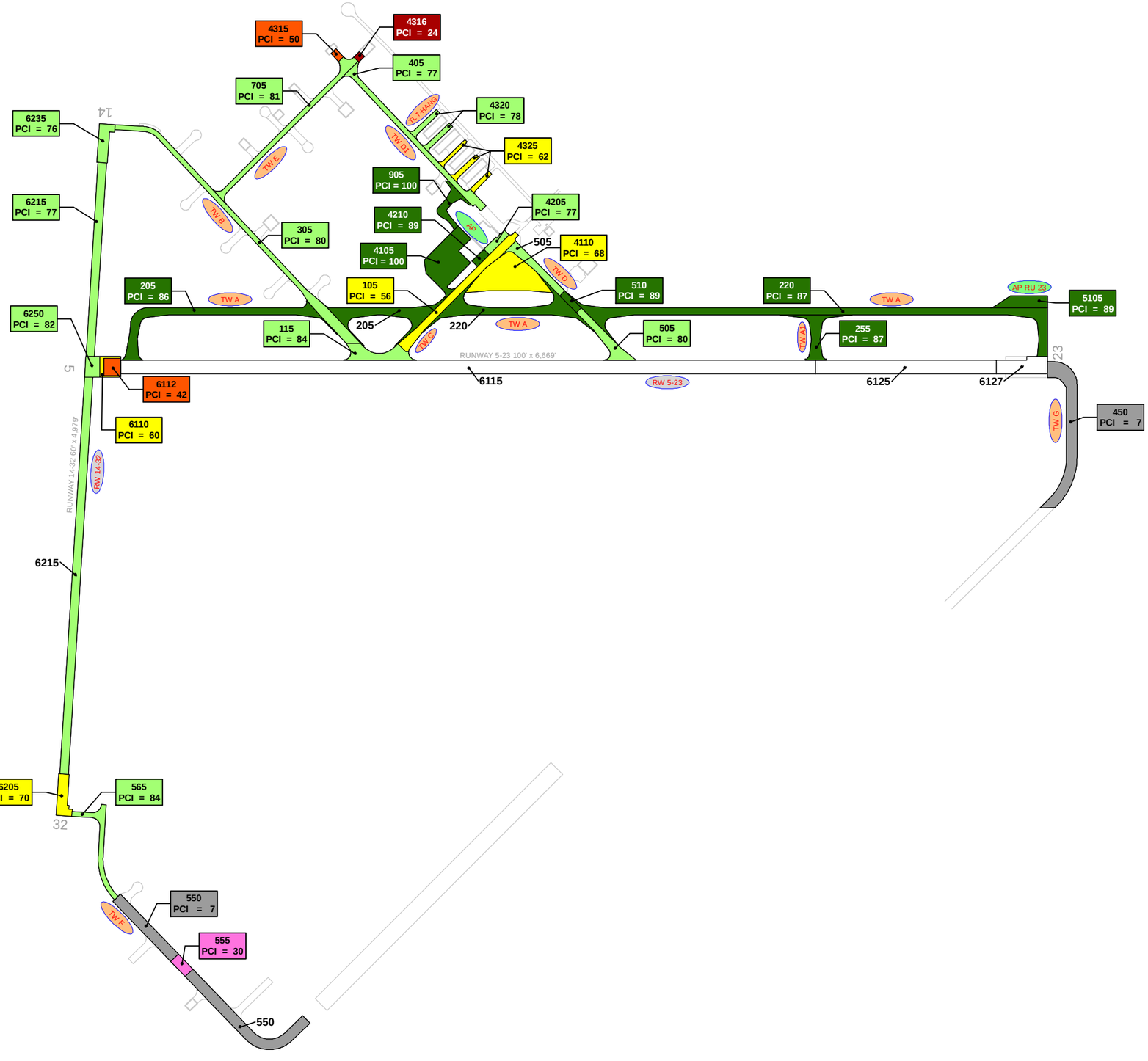
Table 4.1.3 (a): Latest Pavement Condition Index Summary – Section-Level

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other	Sample Units Inspected	Total Sample Units in Section
X60	RW 5-23	Runway	6110	7,500	PCC	60	Fair	21	50	29	1	2
X60	RW 5-23	Runway	6112	15,000	APC	42	Poor	100	0	0	1	3
X60	RW 14-32	Runway	6205	24,688	PCC	70	Fair	5	50	45	2	6
X60	RW 14-32	Runway	6215	254,982	AAC	77	Satisfactory	96	0	4	10	43
X60	RW 14-32	Runway	6235	22,894	PCC	76	Satisfactory	8	6	86	3	7
X60	RW 14-32	Runway	6250	15,631	AC	82	Satisfactory	100	0	0	1	4
X60	TW A	Taxiway	205	159,607	AAC	86	Good	92	0	8	4	32
X60	TW A	Taxiway	220	287,885	AC	87	Good	93	0	7	6	59
X60	TW A1	Taxiway	255	34,316	AC	87	Good	100	0	0	1	7
X60	TW AP	Taxiway	905	22,769	AC	100	Good	0	0	0	0	0
X60	TW B	Taxiway	305	101,269	AAC	80	Satisfactory	100	0	0	4	29
X60	TW C	Taxiway	105	65,023	AAC	56	Fair	84	0	16	2	12
X60	TW C	Taxiway	115	35,409	AAC	84	Satisfactory	100	0	0	1	8
X60	TW D	Taxiway	505	61,793	AAC	80	Satisfactory	100	0	0	2	11
X60	TW D	Taxiway	510	8,500	AAC	89	Good	100	0	0	1	2
X60	TW D1	Taxiway	405	57,110	AAC	77	Satisfactory	90	0	10	2	15
X60	TW E	Taxiway	705	55,768	AAC	81	Satisfactory	100	0	0	3	15
X60	TW F	Taxiway	550	128,837	AC	7	Failed	92	0	8	4	34
X60	TW F	Taxiway	555	11,250	PCC	30	Very Poor	11	76	13	1	3
X60	TW F	Taxiway	565	33,640	AC	84	Satisfactory	100	0	0	2	9
X60	TW G	Taxiway	450	94,473	AC	7	Failed	100	0	0	3	24
X60	TL T-HANG	Taxilane	4320	18,657	AC	78	Satisfactory	100	0	0	1	6
X60	TL T-HANG	Taxilane	4325	21,796	AC	62	Fair	100	0	0	1	6
X60	AP	Apron	4105	86,922	AC	100	Good	0	0	0	0	0
X60	AP	Apron	4110	101,074	AC	68	Fair	90	0	10	3	21
X60	AP HANG	Apron	4205	10,495	AAC	77	Satisfactory	73	0	27	1	2
X60	AP HANG	Apron	4210	6,628	AC	89	Good	100	0	0	1	1
X60	AP RU 23	Apron	5105	28,165	AC	89	Good	100	0	0	1	6
X60	AP T-HANG	Apron	4315	3,900	AC	50	Poor	100	0	0	1	1
X60	AP T-HANG	Apron	4316	2,867	APC	24	Serious	95	0	5	1	1

** Zero (0) Sample Units Inspected signifies that the pavement section was not inspected during this SAPMP System Update due to recent construction projects. These sections correlate with the gray sections on the Network Definition Exhibit.*

Table 4.1.3 (b): Latest PASER Surface Rating – Section Level - Whitetopping Pavements

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface	PASER Value	Surface Rating	Sample Units Inspected	Total Sample Units in Section
X60	RW 5-23	Runway	6115	500,000	WT	4	Good	20	100
X60	RW 5-23	Runway	6125	130,000	WT	4	Good	7	26
X60	RW 5-23	Runway	6127	40,650	WT	4	Good	4	8



NORTH

LEGEND

- RW 13-31 — TYPICAL RUNWAY BRANCH ID
- TW A — TYPICAL TAXIWAY BRANCH ID
- AP S — TYPICAL APRON BRANCH ID

2022 PAVEMENT CONDITION INDEX

- 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

"SECTION ID"
"PCI VALUE"

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

X60

AIRFIELD PAVEMENT CONDITION INDEX EXHIBIT

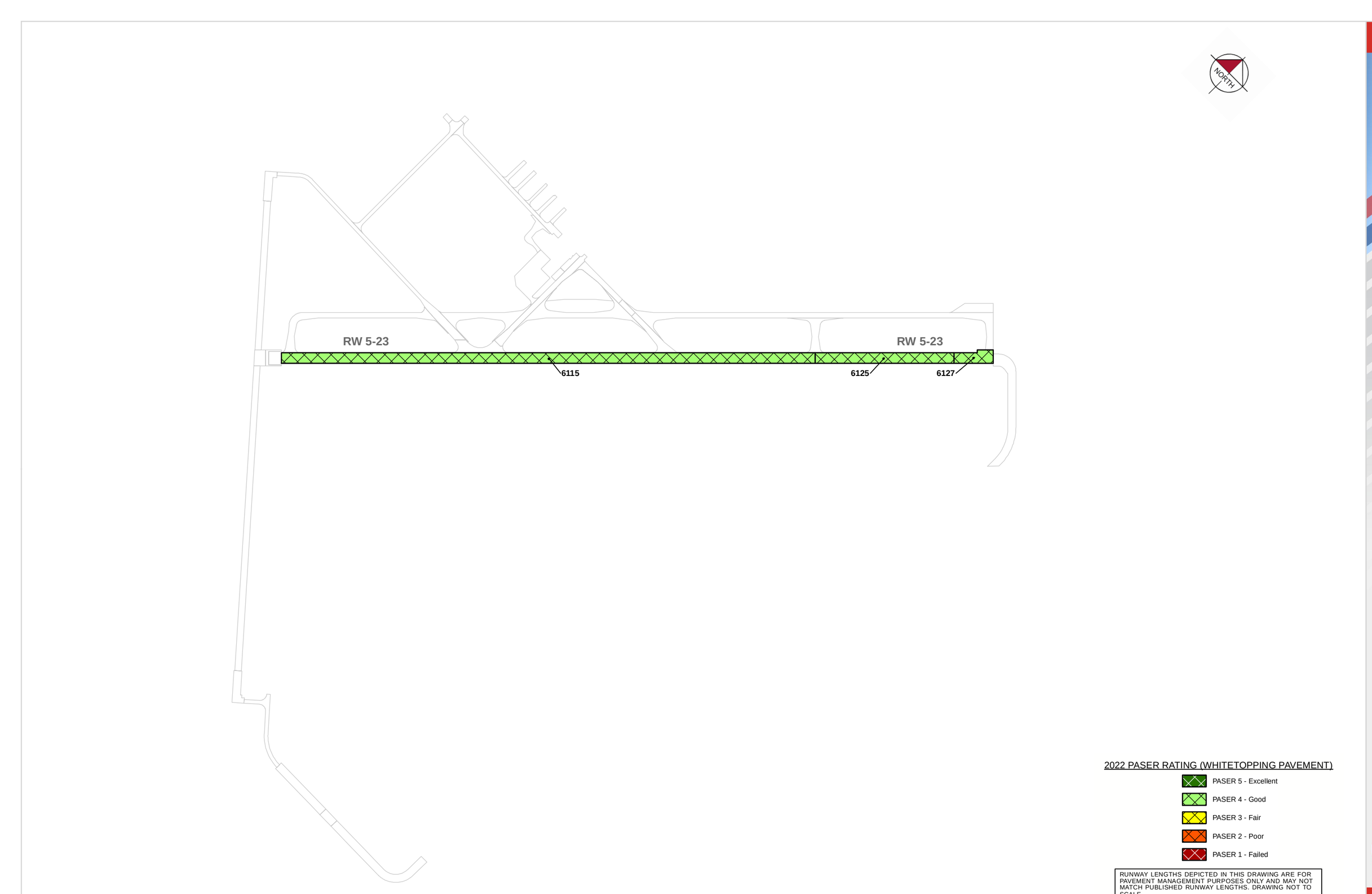
Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

FDOT

2022

X60



2022 PASER RATING (WHITETOPPING PAVEMENT)

- PASER 5 - Excellent
- PASER 4 - Good
- PASER 3 - Fair
- PASER 2 - Poor
- PASER 1 - Failed

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

AIRFIELD PASER SURFACE RATING EXHIBIT - WHITETOPPING

Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

FDOT

2022

4.2 Summary of Pavement Condition Evaluation Results

4.2.1 Network-Level Observations

The PCI assessment for Williston Municipal Airport (X60) was performed in July 2022. The overall area-weighted average PCI value of the network was 71, representing a condition rating of Satisfactory. A portion of the airfield pavement was not inspected due to recent construction in 2022. These areas include the Apron and associated Taxiway connecting to TW D1.

Based on the FAA 5010 Report as of 11/11/2022, the Airport has reported 16,250 operations for 12 months ending 9/21/2018.

4.2.2 Branch-Level Observations

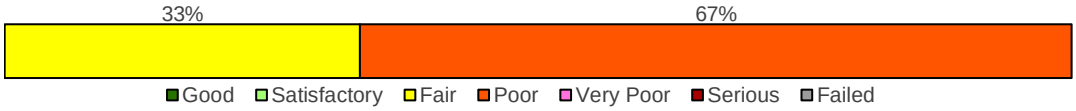
The following branch-level observations are a summary of select pavement facilities identified during the PCI assessment, including a discussion of general conditions and branch characteristics. The summary may not include all branches and/or sections within the Airport's airfield pavement network. Representative distress photographs of airfield pavements are presented in **Appendix D**. "Vicinity" photos refer to the approximate boundaries of an inspected sample unit within the section and provide an overview of the section condition but are not focused on a specific distress. The Re-inspection Report found in **Appendix E** provides listings of each sample unit and distress.

Runways

RW 5-23

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
RW 5-23	RUNWAY	2	22,500	48	Poor

The following bar graph shows proportional distribution (as % of area within branch) of condition categories among sections within the branch. Given the individual section data shown in the subsequent table, the distribution is as follows: 33% Fair (56-70 PCI), 67% Poor (41-55 PCI).



Section ID	Surface Type	Section Area (SF)	PCI	Condition Rating
6110	PCC	7,500	60	Fair
6112	APC	15,000	42	Poor

RW 5-23 consists of 1 flexible and 1 rigid pavement sections, totaling 22,500 sf. The last major construction dates range from 1942 to 2006, resulting in an area-weighted average age at inspection of 38 years old. Overall, RW 5-23 is in Poor condition with an area-weighted average PCI of 48.

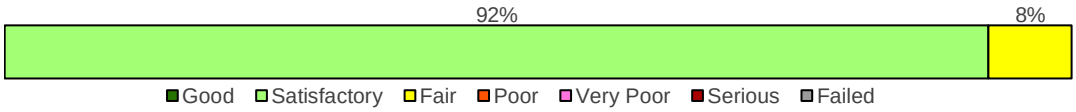
Section ID	Surface Type	Section Area (SF)	PASER Value	Surface Rating
6115	WT	500,000	4	Good
6125	WT	130,000	4	Good
6127	WT	40,650	4	Good

RW 5-23 whitetopping pavement consists of 3 whitetopping concrete overlay pavement sections, totaling 670,650 sf. The last major construction date for the whitetopping sections was 2005, resulting in an area-weighted average age of 17 years old. Overall, RW 5-23 Whitetopping pavement is in Good condition with an area-weighted average PASER value of 4 (out of 5).

RW 14-32

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
RW 14-32	RUNWAY	4	318,195	77	Satisfactory

The following bar graph shows proportional distribution (as % of area within branch) of condition categories among sections within the branch. Given the individual section data shown in the subsequent table, the distribution is as follows: 92% Satisfactory (71-85 PCI), 8% Fair (56-70 PCI).



Section ID	Surface Type	Section Area (SF)	PCI	Condition Rating
6205	PCC	24,688	70	Fair
6215	AAC	254,982	77	Satisfactory
6235	PCC	22,894	76	Satisfactory
6250	AC	15,631	82	Satisfactory

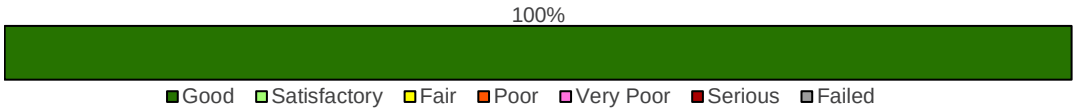
RW 14-32 consists of 2 flexible and 2 rigid pavement sections, totaling 318,195 sf. The last major construction dates range from 1942 to 2015, resulting in an area-weighted average age at inspection of 18 years old. Overall, RW 14-32 is in Satisfactory condition with an area-weighted average PCI of 77.

Taxiways

TW A

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TW A	TAXIWAY	2	447,492	87	Good

The following bar graph shows proportional distribution (as % of area within branch) of condition categories among sections within the branch. Given the individual section data shown in the subsequent table, the distribution is as follows: 100% Good (86-100 PCI).



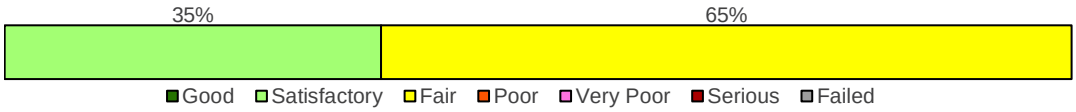
Section ID	Surface Type	Section Area (SF)	PCI	Condition Rating
205	AAC	159,607	86	Good
220	AC	287,885	87	Good

TW A consists of 2 flexible pavement sections, totaling 447,492 sf. The last major construction date for the branch was 2013, resulting in an area-weighted average age at inspection of 10 years old. Overall, TW A is in Good condition with an area-weighted average PCI of 87.

TW C

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TW C	TAXIWAY	2	100,432	66	Fair

The following bar graph shows proportional distribution (as % of area within branch) of condition categories among sections within the branch. Given the individual section data shown in the subsequent table, the distribution is as follows: 35% Satisfactory (71-85 PCI), 65% Fair (56-70 PCI).



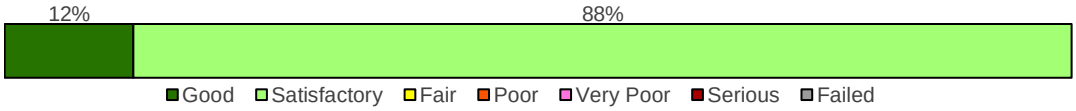
Section ID	Surface Type	Section Area (SF)	PCI	Condition Rating
105	AAC	65,023	56	Fair
115	AAC	35,409	84	Satisfactory

TW C consists of 2 flexible pavement sections, totaling 100,432 sf. The last major construction date for the branch was 2009, resulting in an area-weighted average age at inspection of 14 years old. Overall, TW C is in Fair condition with an area-weighted average PCI of 66.

TW D

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TW D	TAXIWAY	2	70,293	81	Satisfactory

The following bar graph shows proportional distribution (as % of area within branch) of condition categories among sections within the branch. Given the individual section data shown in the subsequent table, the distribution is as follows: 12% Good (86-100 PCI), 88% Satisfactory (71-85 PCI).



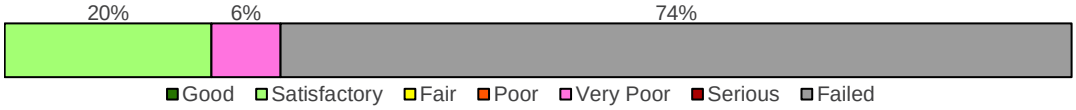
Section ID	Surface Type	Section Area (SF)	PCI	Condition Rating
505	AAC	61,793	80	Satisfactory
510	AAC	8,500	89	Good

TW D consists of 2 flexible pavement sections, totaling 70,293 sf. The last major construction dates range from 2009 to 2013, resulting in an area-weighted average age at inspection of 13 years old. Overall, TW D is in Satisfactory condition with an area-weighted average PCI of 81.

TW F

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TW F	TAXIWAY	3	173,727	23	Serious

The following bar graph shows proportional distribution (as % of area within branch) of condition categories among sections within the branch. Given the individual section data shown in the subsequent table, the distribution is as follows: 20% Satisfactory (71-85 PCI), 6% Very Poor (26-40 PCI), 74% Failed (0-10 PCI).



Section ID	Surface Type	Section Area (SF)	PCI	Condition Rating
550	AC	128,837	7	Failed
555	PCC	11,250	30	Very Poor
565	AC	33,640	84	Satisfactory

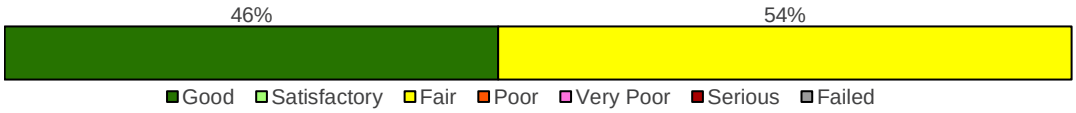
TW F consists of 2 flexible and 1 rigid pavement sections, totaling 173,727 sf. The last major construction dates range from 1942 to 2015, resulting in an area-weighted average age at inspection of 66 years old. Overall, TW F is in Serious condition with an area-weighted average PCI of 23.

Aprons

AP

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
AP	APRON	2	187,996	83	Satisfactory

The following bar graph shows proportional distribution (as % of area within branch) of condition categories among sections within the branch. Given the individual section data shown in the subsequent table, the distribution is as follows: 46% Good (86-100 PCI), 54% Fair (56-70 PCI).



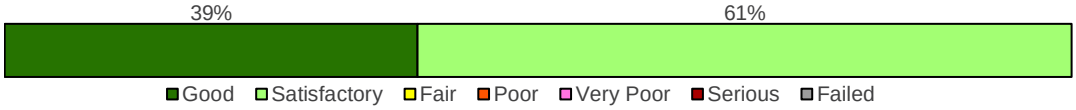
Section ID	Surface Type	Section Area (SF)	PCI	Condition Rating
4105	AC	86,922	100	Good
4110	AC	101,074	68	Fair

AP consists of 2 flexible pavement sections, totaling 187,996 sf. The last major construction dates range from 2015 to 2022, resulting in an area-weighted average age at inspection of 4 years old. Overall, AP is in Satisfactory condition with an area-weighted average PCI of 83.

AP HANG

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
AP HANG	APRON	2	17,123	82	Satisfactory

The following bar graph shows proportional distribution (as % of area within branch) of condition categories among sections within the branch. Given the individual section data shown in the subsequent table, the distribution is as follows: 39% Good (86-100 PCI), 61% Satisfactory (71-85 PCI).



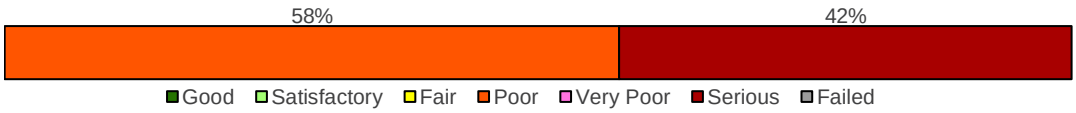
Section ID	Surface Type	Section Area (SF)	PCI	Condition Rating
4205	AAC	10,495	77	Satisfactory
4210	AC	6,628	89	Good

AP HANG consists of 2 flexible pavement sections, totaling 17,123 sf. The last major construction dates range from 2009 to 2019, resulting in an area-weighted average age at inspection of 10 years old. Overall, AP HANG is in Satisfactory condition with an area-weighted average PCI of 82.

AP T-HANG

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
AP T-HANG	APRON	2	6,767	39	Very Poor

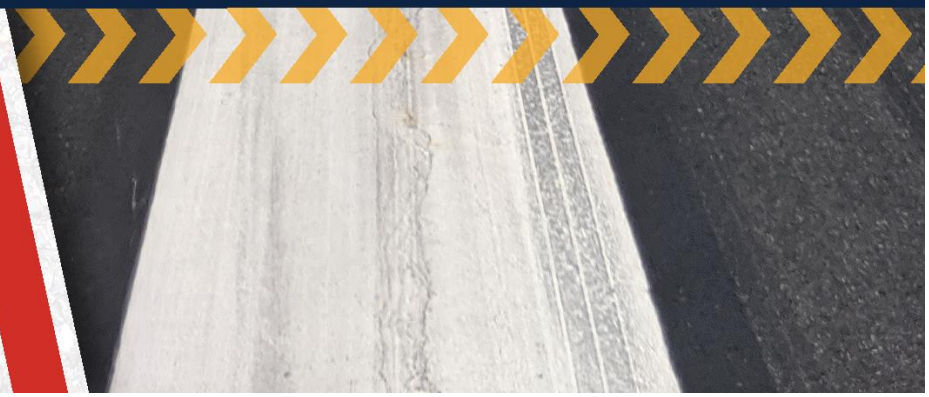
The following bar graph shows proportional distribution (as % of area within branch) of condition categories among sections within the branch. Given the individual section data shown in the subsequent table, the distribution is as follows: 58% Poor (41-55 PCI), 42% Serious (11-25 PCI).



Section ID	Surface Type	Section Area (SF)	PCI	Condition Rating
4315	AC	3,900	50	Poor
4316	APC	2,867	24	Serious

AP T-HANG consists of 2 flexible pavement sections, totaling 6,767 sf. The last major construction dates range from 1986 to 2003, resulting in an area-weighted average age at inspection of 29 years old. Overall, AP T-HANG is in Very Poor condition with an area-weighted average PCI of 39.

Chapter 5: SAPMP Customization



Chapter 5 – SAPMP Customization

Once the PAVER™ database is populated with inventory and condition data (including PCI and rank), it is further customized with key elements such as network-level attributes, performance models, critical PCI, maintenance policies, and unit costs that are specific to the FDOT SAPMP. Each of these factors play a role in the development of rehabilitation strategies as they help to identify maintenance and rehabilitation needs for long-term management.

The FDOT SAPMP is organized to provide airports with planning-level data and does not intend to preclude the responsible engineer from performing the appropriate level of investigation and analysis in determining the appropriate design details of a pavement rehabilitation. It would not be advisable to solely base design-level rehabilitation without the appropriate level of investigation and determination of pavement deterioration beyond that of a visual functional condition assessment.

5.1 Network-Level Customization

The network-level attribute fields used in the FDOT SAPMP PAVER™ database consist of the Network, Airport Classification, District, FAA ADO Area, Inspection Phase, and Continuing Florida Aviation System Planning Process (CFASPP) Center. Each of these elements are briefly defined below.

- The “Network” field identifies the airport being analyzed;
- The “Airport Classification” field classifies the Airport according to the type and volume of aircraft traffic;
  - “GA” for General Aviation, community airports
  - “RL” for Regional Relievers
  - “PR” for Primary/Commercial airports
- The “District” field identifies the FDOT District to which the Airport belongs;
- The “FAA ADO Area” is an area used by the Orlando ADO to assign airports within those areas to the responsible FAA ADO personnel (planners, engineers, and environmentalists);
- The “Inspection Phase” denotes which phase of the SAPMP the Airport is surveyed (Phase 1 or Phase 2); and
- The “CFASPP Center” identifies which Region or Metropolitan Area of the Continuing Florida Aviation Systems Planning Process an Airport falls within.

5.2 Pavement Condition Forecasts

Pavement performance models, alternatively known as forecast models, prediction curves, or family curves, are developed from past and current distress data, as well as age data. These prediction curves are used to develop forecasts of PCI values that then help determine optimum timing for pavement maintenance and rehabilitation for airfield pavements not including whitetopping pavements.

5.2.1 Forecasting PCI Considerations

Performance models will continue to be refined as the FDOT updates the SAPMP with subsequent PCI surveys. With the refinement of additional PCI and age data points, the forecasting of pavement conditions will continue to better reflect the performance trends of airfield pavements in the FAS. As a reminder, forecasting of pavement condition for the Airport is intended for planning purposes only. **The estimation of forecasted PCI values gives no assurance of future pavement conditions as PCI values represent an engineering estimation to be used as a planning tool. Forecasted PCI data should not be the sole metric for determining the year in which a project should be planned. Design-level planning should be undertaken by the responsible engineer prior to the development of airfield design plans.** Design-level recommendations for pavement rehabilitation and/or reconstruction will require the appropriate application of the procedures defined in the FAA AC 150/5320-6F.

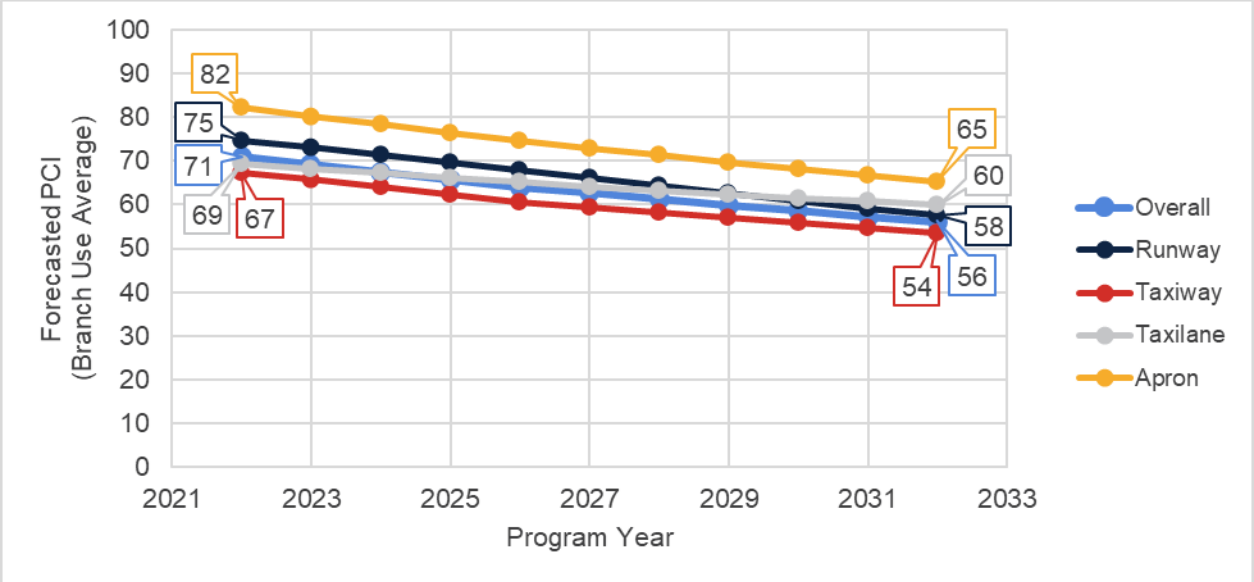
5.2.2 Performance Models

To develop pavement performance models, data for each section is combined into "groups" or "families" according to pavement type, traffic, and functional use. For the FDOT SAPMP, the models were defined for both PCC- and AC-surfaced pavements and further divided according to functional use. Based on average deterioration rates for different pavement types, each pavement section is assigned to a specific deterioration family to forecast the condition over a 10-year period.

5.2.3 Branch-Level Pavement Condition Forecast

Figure 5.2.3 depicts the branch-level pavement condition forecast for each branch use (Runway, Taxiway, Taxilane, and/or Apron) as well as the overall network. The condition forecasts are for a 10-year duration, starting in 2023 through 2032.

Figure 5.2.3: Forecasted Branch-Level Pavement Performance



5.2.4 Section-Level Pavement Condition Forecast

Table 5.2.4 provides section-level details for PCI forecasts. Pavement condition forecasts should be used for planning purposes only, as actual condition of sections is subject to the sensitivities in changes of traffic and maintenance frequency.

Table 5.2.4: Forecasted PCI Values 2023-2032 – Section-Level

Network ID	Branch ID	Section ID	Current PCI	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
X60	RW 5-23	6110	60	59	59	58	57	56	56	55	54	53	52
X60	RW 5-23	6112	42	40	38	36	34	32	30	29	27	25	23
X60	RW 14-32	6205	70	69	69	68	67	66	66	65	64	63	62
X60	RW 14-32	6215	77	75	73	71	69	67	65	64	62	60	58
X60	RW 14-32	6235	76	75	75	74	73	72	72	71	70	69	68
X60	RW 14-32	6250	82	80	79	77	75	74	72	70	69	67	66
X60	TW A	205	86	84	82	81	79	77	76	74	73	72	70
X60	TW A	220	87	85	83	82	80	78	77	75	74	72	71
X60	TW A1	255	87	85	83	82	80	78	77	75	74	72	71
X60	TW AP	905	100	97	95	93	91	88	86	85	83	81	79
X60	TW B	305	80	78	77	75	74	73	71	70	69	67	66
X60	TW C	105	56	55	53	51	50	48	46	44	42	39	37
X60	TW C	115	84	82	81	79	77	76	74	73	72	70	69
X60	TW D	505	80	78	77	75	74	73	71	70	69	67	66
X60	TW D	510	89	87	85	83	81	80	78	76	75	74	72
X60	TW D1	405	77	76	74	73	71	70	69	68	66	65	64
X60	TW E	705	81	79	78	76	75	73	72	71	69	68	67
X60	TW F	550	7	5	3	2	0	0	0	0	0	0	0
X60	TW F	555	30	29	29	28	27	26	26	25	24	23	22
X60	TW F	565	84	82	81	79	77	76	74	73	72	70	69
X60	TW G	450	7	5	3	2	0	0	0	0	0	0	0
X60	TL T-HANG	4320	78	77	75	74	72	71	70	69	67	66	65
X60	TL T-HANG	4325	62	61	60	60	59	58	58	57	57	56	56
X60	AP	4105	100	97	95	92	90	88	86	84	82	80	78
X60	AP	4110	68	67	65	64	63	61	60	59	58	57	56
X60	AP HANG	4205	77	75	73	71	69	67	65	64	62	60	58
X60	AP HANG	4210	89	87	85	83	81	79	77	75	74	72	70
X60	AP RU 23	5105	89	87	85	83	81	79	77	75	74	72	70
X60	AP T-HANG	4315	50	49	49	48	47	47	46	46	45	44	44
X60	AP T-HANG	4316	24	22	20	18	16	14	12	11	9	7	5

5.3 Critical PCI Value

An important concept in pavement management is the critical PCI value, a value that prompts major rehabilitation activities. It serves as a condition threshold that helps determine a section's suitability to receive major work. As soon as a section's PCI reaches the critical PCI value, the rate of PCI loss (deterioration) is expected to increase. The critical PCI concept assumes that once a pavement section deteriorates to this critical level, it is more cost-effective to complete a major rehabilitation project rather than continuing to apply preventive maintenance or deferring major work until more costly reconstruction activities are required. **Figure 5.3 (a)** illustrates the benefit of applying lower cost preventive maintenance to extend the life of the pavement.

Figure 5.3 (a): Pavement Life and the Effect of Treatments

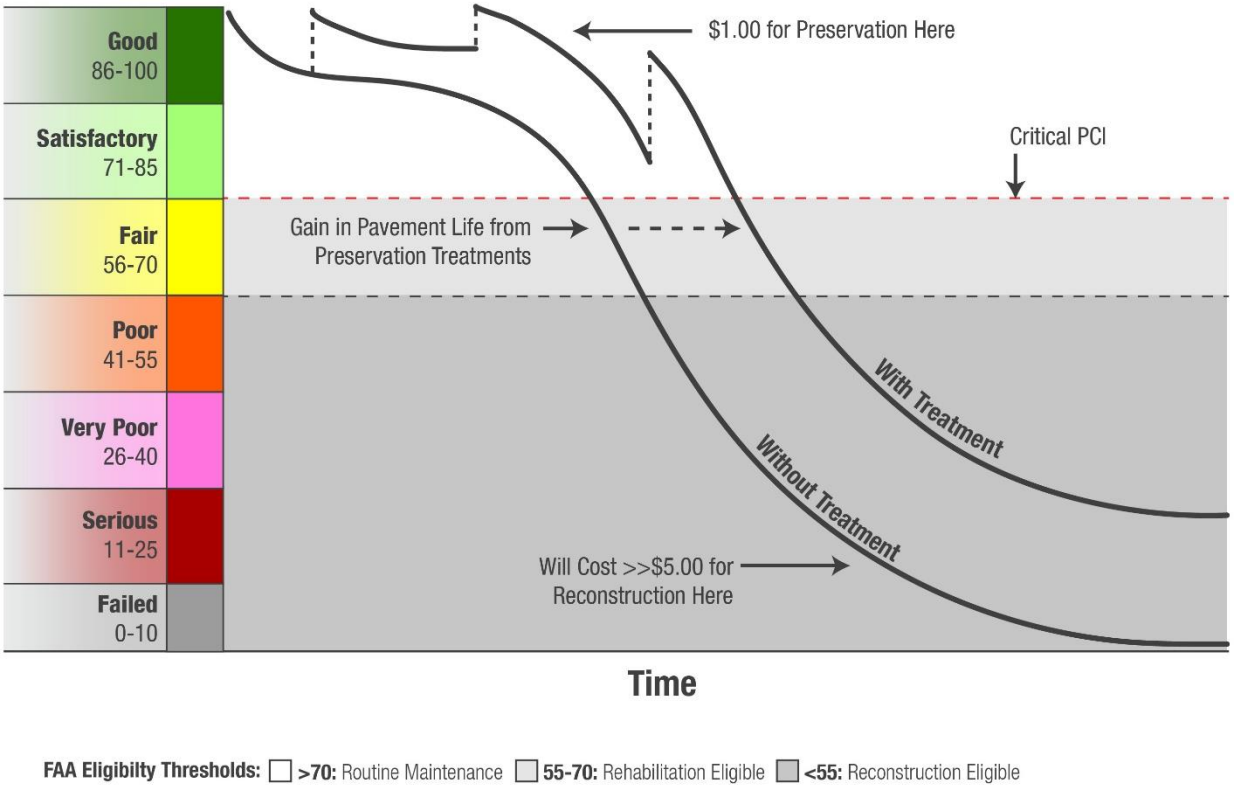


**Figure is for conceptual purposes only – unit costs are not specific to airfield pavements.*

Critical PCI values vary and are typically based on a pavement's surface type, functional use, and importance, or priority, in daily operations. Pavement priority is generally assigned based on the branch use of a pavement section. In previous System Updates, the critical PCI value was set to 65 for all functional uses. Now, based on FAA Order 5100.38D Change 1 Airport Improvement Handbook, issued February 26, 2019, the FAA has established pavement construction based on thresholds that distinguish Rehabilitation and Reconstruction. Pavement sections between PCI Values 55 and 70 will be considered for Rehabilitation and sections less than 55 will be considered for Reconstruction at the planning-level, as shown in **Table 5.3 (a)**. The FDOT SAPMP will

integrate the PCI thresholds for airfield pavement projects to maintain alignment with the FAA AIP and/or PFC eligibility for project planning. Moving forward, the critical PCI value will be defined at 70 for the FDOT SAPMP. Critical PCI values for this SAPMP System Update are shown in **Table 5.3 (b)**.

Table 5.3 (a): AIP Handbook PCI Requirements for Airfield Pavement Projects

Airfield Pavement Project Type	PCI Requirement
Reconstruction	PCI < 55 (Poor)
Rehabilitation	PCI < 70 (Fair)
Maintenance	N/A

**Source:* AIP Handbook, in reference to Runways, Taxiways, and Aprons as seen in table G-2, H-1, and I-1 respectively

Table 5.3 (b): Critical PCI Values by Branch Use

Runway	Taxiway	Apron
70	70	70

Figures 5.3 (b) and **5.3 (c)** depict the decision process for major rehabilitation project identification with the assumption of available funds (Shahin). Should funding be unavailable for pavement sections in need of major rehabilitation, the Airport may elect to apply appropriate localized stopgap repair strategies. As the figures show, once major rehabilitation has been applied, the PCI of the section is reset to 100.

Figure 5.3 (b): Major Rehabilitation Planning Decision Diagram, PCI < Critical PCI

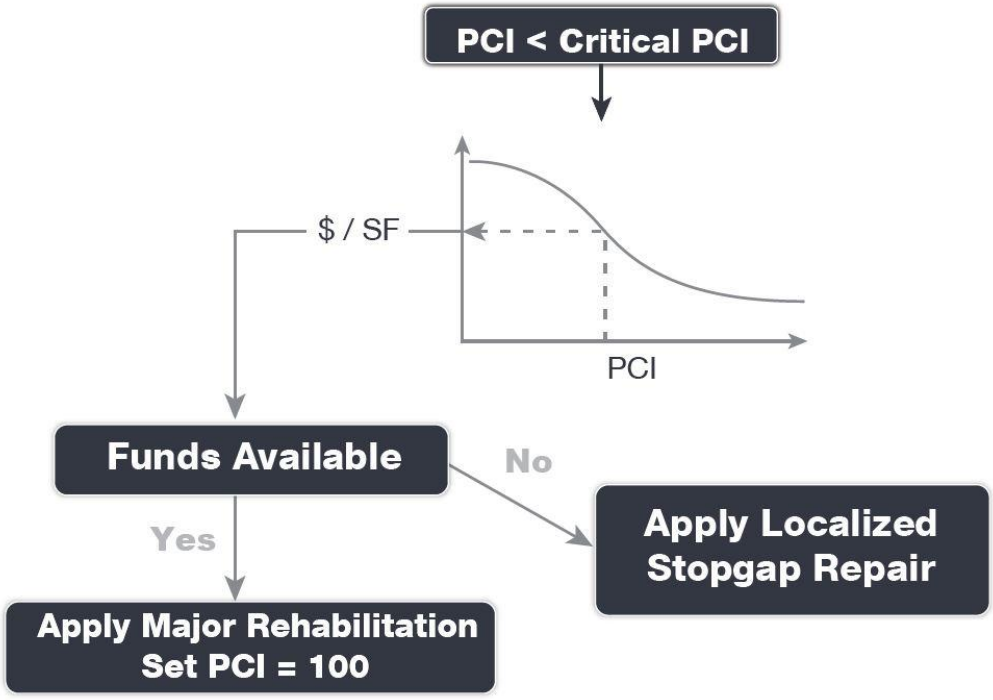
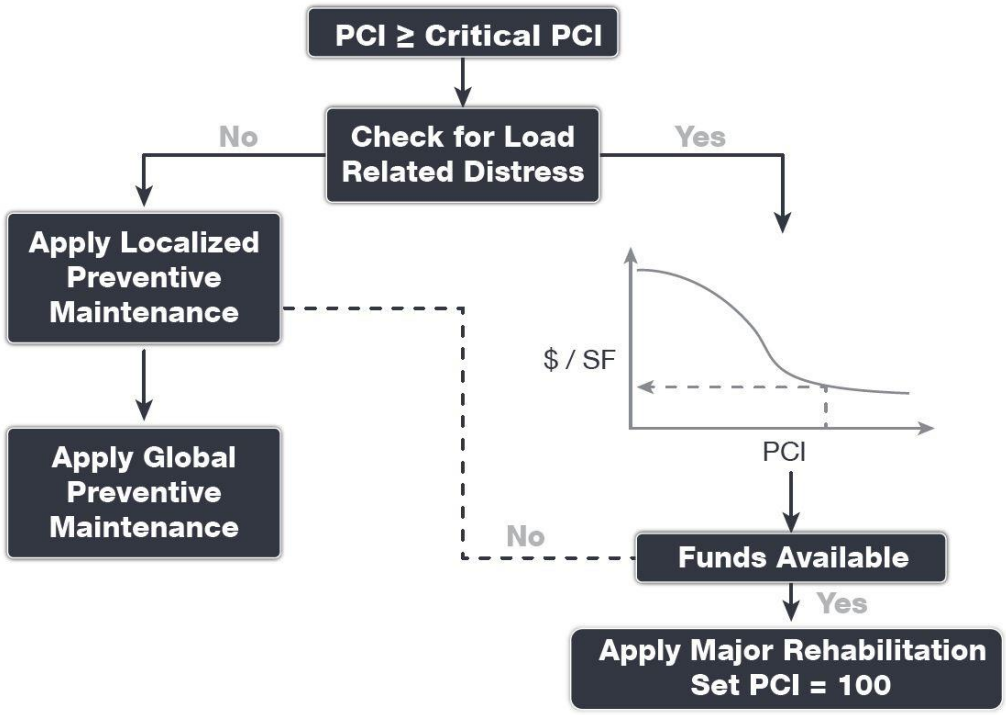


Figure 5.3 (c): Major Rehabilitation Planning Decision Diagram, PCI ≥ Critical PCI



5.4 Localized Maintenance and Repair

This section discusses both localized maintenance and major rehabilitation methods and how they may be most effectively applied to extend the life of the pavement network. General maintenance and rehabilitation (M&R) methods are characterized under two (2) broad categories: localized maintenance and major rehabilitation.

Localized maintenance is best applied as a conservation measure and is applied to slow the rate of pavement deterioration. It may, however, be applied as a temporary corrective measure in isolated areas. Proactive localized maintenance, and specifically preservation, is highly recommended to the Airport. However, it is recognized that once pavements have deteriorated below a certain condition threshold (the critical PCI value), the pavement benefits from more substantial rehabilitation in lieu of localized repairs.

Major rehabilitation is recommended when a pavement section falls below the critical PCI value or if a pavement section has a significant presence of load-related distress. Major rehabilitation efforts can correct or improve structural deficiencies and/or functional deterioration for pavement sections within a network.

M&R planning combines methods of repair to address the cause of the problem rather than just treating the symptom. For example, a PCC corner break may require slab under-sealing, full-depth patching, and joint sealing. While these repair methods apply to specific distress and pavement types, they also consider the impact of Foreign Object Debris (FOD) on aircraft operations. Untidy or improperly constructed repair activities may disintegrate and potentially create FOD at or near the repair site. Therefore, maintenance activities must include quality control monitoring to ensure that repairs are conducted properly and clean-up activities are undertaken to address this potential. The current version of the FAA Advisory Circular 150/5210-24 “Airport Foreign Object Debris (FOD) Management” provides additional guidance for developing and managing an airport FOD program.

For planning-level maintenance and repair consideration, concrete overlays should be treated like a rigid pavement section composed of portland cement concrete. However, no planning-level recommendations with estimated maintenance and repair quantities for whitetopping pavements will be provided herein.

5.4.1 Localized Maintenance and Repair Approach

Localized maintenance differs from major rehabilitation in that localized maintenance is applied based on the distresses observed and not an averaged or forecasted PCI value. Treatments are selected based on the appropriate corrective measure for a given distress type and severity level. Localized maintenance can be applied either as a preventive measure or a safety (“stopgap”) measure. The two (2) types of localized maintenance are described below in further detail.

- Localized Preventive Maintenance and Repair
  - Distress maintenance activities performed with the primary objective of slowing the rate of deterioration. These activities typically include crack sealing and patching.
- Localized Stopgap/Safety Maintenance and Repair

- Defined as the localized distress repair needed to keep a pavement in a safe and operational condition. These activities are typically applied to high-severity distresses or distresses impacting operations.

5.4.2 Localized Work Types

The following sections provide detailed descriptions of the maintenance policy work types identified in the Localized Maintenance Policy.

AC Crack Sealing

Crack sealing is the process of cleaning and sealing (or resealing) cracks in AC pavements. This repair is used to fill longitudinal and transverse cracks, including reflective cracks and block cracks that are wider than 1/8-inch. The purpose of this treatment is to prevent water and incompressible materials from entering cracks and causing further deterioration of the pavement structure. Accumulation of incompressible materials in cracks may lead to spalling and is a source of FOD. Crack sealing is cost-effective when used as a preventive measure. Depending on the size of the crack, routing and cleaning the crack may be necessary to remove the loose material within the crack for better adherence of the crack sealant to the crack face. Measurement of this work type is typically in linear feet.

AC Full-Depth Patching

This technique involves replacing the full thickness of the AC layer and may include replacement of the base and subbase layers. Full-depth patching is used to repair structural and material-related distresses, such as alligator cracking, corrugation, depressions, rutting, slippage cracking, and swelling in AC pavements. This repair may be limited to the top AC layer (partial-depth patch) if the base and subbase layers exhibit no signs of deterioration. Measurement of this work type is typically in square feet or square yards.

AC Partial-Depth AC Patching

This technique involves the removal of a given thickness of the surface layer using a milling machine and adding back a layer of AC pavement. This technique removes the deteriorated layer and provides a good bond for an overlay. It can correct or improve the structural capacity or functional requirement, such as skid resistance and ride quality. This repair is used for surface distresses that can occur over a large area, such as raveling, shoving, and bleeding. While mill and replace can be a major rehabilitation M&R method when applied at a large scale, its application in a localized capacity to treat specific distress types also classifies it under localized maintenance for the purpose of this study. After milling operations are completed, any cracks still present should be cleaned and sealed prior to the placement of a tack coat and AC overlay layer(s). Measurement of this work type is typically in square feet or square yards.

Grinding

Grinding is the process of removing a thin layer of the existing concrete by grinding it with a series of closely spaced, rotating saw blades. This method is used to re-profile jointed concrete pavements with poor ride quality due to faulting or warping. Grinding is also used to restore transverse drainage and to provide a textured pavement surface. The concern with this type of maintenance is that if too much material is removed, the overall structural composition of the pavement section may change, potentially reducing the overall life of the pavement. Measurement of this work type is typically in square feet or square yards.

Monitor Pavement

Monitor pavement is recommended when the distresses do not interfere with ride quality, do not have FOD potential, and do not pose an immediate safety concern.

PCC Crack Sealing

Crack sealing is the process of routing, cleaning, and sealing (or resealing) cracks in PCC pavement to prevent water from infiltrating into the pavement foundation and to stop the accumulation of incompressible materials in the cracks. Water entering cracks can weaken the subgrade, potentially leading to pumping, corner breaks, and/or shattered slabs. Accumulation of incompressible materials in cracks may lead to spalling and is a source of FOD. Routing and cleaning of the crack is often necessary to adhere the crack sealant to both sides of the crack. Measurement of this work type is typically in linear feet.

PCC Full-Depth Patching

This type of M&R activity involves full-depth replacement of a portion of a PCC slab. This repair is used for medium- and high-severity corner breaks, medium-severity durability cracking, medium-severity blowups and buckling, and high-severity large patches. This repair requires restoring load transfer if near a joint or crack. Measurement of this work type is typically in square feet or square yards.

PCC Joint Seal

Joint sealing is the process of cleaning and sealing (or resealing) joints in PCC pavement to prevent water from infiltrating into the pavement foundation and to stop the accumulation of incompressible materials in the joints. Water entering joints can weaken the subgrade, potentially leading to pumping, corner breaks, and/or shattered slabs. Accumulation of incompressible materials in joints leads to spalling of the concrete and is a source of FOD. In some cases, it may be necessary to re-saw the pavement joints to remove old material prior to resealing. Measurement of this work type is typically in linear feet.

PCC Partial-Depth Patching

Partial-depth patching involves removing shallow, localized areas of deteriorated or spalled PCC pavement and replacing them with a suitable patch-like cement concrete or epoxy concrete. This method is used to repair distresses that are confined to the top few inches of the slab, such as joint and corner spalling. This repair would require restoring the joint sealant if near a joint. Measurement of this work type is typically in square feet or square yards.

PCC Slab Replacement

This type of M&R activity involves full-depth replacement of an entire PCC slab. This repair is used to repair high-severity blowups and buckling, high-severity durability cracking, medium- and high-severity shattered slabs, and medium- and high-severity ASR. This repair requires restoring load transfer with adjacent slabs through dowels or similar means. Measurement of this work type is typically in square feet or square yards.

Surface Seal

Application of a surface treatment provides AC-surfaced pavements with an unoxidized layer of bituminous material that can help extend the life of a pavement that is experiencing climate-related distresses such as weathering and raveling. The surface treatment can also serve as a

repair that re-establishes a bond between aggregates, slowing pavement deterioration and reducing FOD potential. Measurement of this work type is typically in square feet or square yards.

5.4.3 Localized Maintenance Planning-Level Unit Costs

The activities identified here are based on research of practical pavement treatments in consideration of the FAA AC 150/5380-6C. The Localized Maintenance Policies and associated planning-level unit costs are developed in consideration of a network-level analysis.

The Localized Maintenance and Repair Policies and associated planning-level unit costs are based on a statewide consideration of pavement treatments and construction costs from both airfield pavements and the FDOT Historical Cost Information archives. Furthermore, a consideration of limited repair quantities is factored into the determination of conservative planning-level unit costs. Neither the FDOT nor the Consultant team have control over the cost of labor, materials, equipment, the Contractor's methods of determining prices, or over competitive bidding or market conditions. Opinions of probable construction costs provided herein are based on the information known to the FDOT at this time and represent only the Consultant team's judgment as a design professional familiar with the construction industry. This Report cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable construction costs.

Tables 5.4.3 (a) and **(b)** display the cost by maintenance activity for AC and PCC pavement types, respectively. Because the localized maintenance activities identified for both preventive and stopgap work types are based on a statewide network approach, project-specific evaluations and maintenance quantities should be developed prior to construction.

Table 5.4.3 (a): Localized M&R Planning-Level Unit Costs – Asphalt Concrete

Localized Work Type	General Aviation Costs	Work Type Unit
AC Crack Sealing	$ 4.00	LF
AC Full-Depth Patching	$ 10.00	SF
AC Partial-Depth Patching	$ 4.75	SF
Surface Seal	$ 0.75	SF

Table 5.4.3 (b): Localized M&R Planning-Level Unit Costs – Portland Cement Concrete

Localized Work Type	General Aviation Costs	Work Type Unit
Grinding	$ 2.00	SF
PCC Crack Sealing	$ 7.00	LF
PCC Joint Seal	$ 4.25	LF
PCC Full-Depth Patching	$ 50.00	SF
PCC Partial-Depth Patching	$ 169.00	SF
PCC Slab Replacement	$ 51.50	SF

**PCC Partial-Depth Patching considers high-early-strength and high-performing repair material.*

5.4.4 Localized Maintenance and Repair Policy

Table 5.4.4 and **Table 5.4.5** depicts the Localized Preventive Maintenance Policy and the Localized Stopgap Maintenance Policy for AC and PCC pavements. The resulting Localized Maintenance recommendations for this program are identified based on this policy.

Table 5.4.4: AC Pavement Localized Preventive& Stopgap Maintenance & Repair Policy

Distress	Severity	Description	AC Preventive Work Type	AC Stopgap Work Type
41	Low	Alligator Cracking	Monitor Pavement	Monitor Pavement
41	Medium	Alligator Cracking	AC Full Depth Patching	AC Full Depth Patching
41	High	Alligator Cracking	AC Full Depth Patching	AC Full Depth Patching
42	N/A	Bleeding	Monitor Pavement	Monitor Pavement
43	Low	Block Cracking	Monitor Pavement	Monitor Pavement
43	Medium	Block Cracking	AC Crack Sealing	Monitor Pavement
43	High	Block Cracking	AC Crack Sealing	AC Crack Sealing
44	Low	Corrugation	Monitor Pavement	Monitor Pavement
44	Medium	Corrugation	AC Full Depth Patching	Monitor Pavement
44	High	Corrugation	AC Full Depth Patching	AC Full Depth Patching
45	Low	Depression	Monitor Pavement	Monitor Pavement
45	Medium	Depression	AC Full Depth Patching	Monitor Pavement
45	High	Depression	AC Full Depth Patching	AC Full Depth Patching
46	N/A	Jet Blast	Monitor Pavement	Monitor Pavement
47	Low	Jt. Reflective Cracking	Monitor Pavement	Monitor Pavement
47	Medium	Jt. Reflective Cracking	AC Crack Sealing	Monitor Pavement
47	High	Jt. Reflective Cracking	AC Full Depth Patching	AC Full Depth Patching
48	Low	L&T Cracking	Monitor Pavement	Monitor Pavement
48	Medium	L&T Cracking	AC Crack Sealing	Monitor Pavement
48	High	L&T Cracking	AC Full Depth Patching	AC Full Depth Patching
49	N/A	Oil Spillage	Monitor Pavement	Monitor Pavement
50	Low	Patching	Monitor Pavement	Monitor Pavement
50	Medium	Patching	AC Full Depth Patching	Monitor Pavement
50	High	Patching	AC Full Depth Patching	AC Full Depth Patching
51	N/A	Polished Aggregate	Monitor Pavement	Monitor Pavement
52	Low	Raveling	Surface Seal	Monitor Pavement
52	Medium	Raveling	Surface Seal	Monitor Pavement
52	High	Raveling	AC Partial Depth Patching	AC Partial Depth Patching
53	Low	Rutting	Monitor Pavement	Monitor Pavement
53	Medium	Rutting	AC Full Depth Patching	Monitor Pavement
53	High	Rutting	AC Full Depth Patching	AC Full Depth Patching
54	Low	Shoving	Monitor Pavement	Monitor Pavement
54	Medium	Shoving	AC Partial Depth Patching	Monitor Pavement

Distress	Severity	Description	AC Preventive Work Type	AC Stopgap Work Type
54	High	Shoving	AC Full Depth Patching	AC Full Depth Patching
55	N/A	Slippage Cracking	AC Full Depth Patching	AC Full Depth Patching
56	Low	Swelling	Monitor Pavement	Monitor Pavement
56	Medium	Swelling	AC Full Depth Patching	Monitor Pavement
56	High	Swelling	AC Full Depth Patching	AC Full Depth Patching
57	Low	Weathering	Monitor Pavement	Monitor Pavement
57	Medium	Weathering	Surface Seal	Monitor Pavement
57	High	Weathering	AC Partial Depth Patching	Surface Seal

Table 5.4.5: PCC Pavement Localized Preventive& Stopgap Maintenance & Repair Policy

Distress	Severity	Description	PCC Preventive Work Type	PCC Stopgap Work Type
61	Low	Blow-up	PCC Full Depth Patching	Monitor Pavement
61	Medium	Blow-up	PCC Full Depth Patching	PCC Full Depth Patching
61	High	Blow-up	PCC Slab Replacement	PCC Slab Replacement
62	Low	Corner Break	Monitor Pavement	Monitor Pavement
62	Medium	Corner Break	PCC Full Depth Patching	PCC Full Depth Patching
62	High	Corner Break	PCC Full Depth Patching	PCC Full Depth Patching
63	Low	Linear Cracking	Monitor Pavement	Monitor Pavement
63	Medium	Linear Cracking	PCC Crack Sealing	PCC Crack Sealing
63	High	Linear Cracking	PCC Full Depth Patching	PCC Crack Sealing
64	Low	Durability Cracking	Monitor Pavement	Monitor Pavement
64	Medium	Durability Cracking	PCC Full Depth Patching	PCC Full Depth Patching
64	High	Durability Cracking	PCC Slab Replacement	PCC Slab Replacement
65	Low	Jt. Seal Damage	PCC Joint Seal	Monitor Pavement
65	Medium	Jt. Seal Damage	PCC Joint Seal	Monitor Pavement
65	High	Jt. Seal Damage	PCC Joint Seal	PCC Joint Seal
66	Low	Small Patch	Monitor Pavement	Monitor Pavement
66	Medium	Small Patch	PCC Partial Depth Patching	Monitor Pavement
66	High	Small Patch	PCC Partial Depth Patching	PCC Partial Depth Patching
67	Low	Large Patch	Monitor Pavement	Monitor Pavement
67	Medium	Large Patch	PCC Full Depth Patching	Monitor Pavement
67	High	Large Patch	PCC Full Depth Patching	PCC Full Depth Patching
68	N/A	Popouts	Monitor Pavement	Monitor Pavement
69	N/A	Pumping	Monitor Pavement	Monitor Pavement
70	Low	Scaling	Monitor Pavement	Monitor Pavement
70	Medium	Scaling	PCC Slab Replacement	Monitor Pavement
70	High	Scaling	PCC Slab Replacement	PCC Slab Replacement
71	Low	Faulting	Monitor Pavement	Monitor Pavement
71	Medium	Faulting	Grinding	Monitor Pavement

Distress	Severity	Description	PCC Preventive Work Type	PCC Stopgap Work Type
71	High	Faulting	PCC Slab Replacement	PCC Slab Replacement
72	Low	Shattered Slab	PCC Crack Sealing	Monitor Pavement
72	Medium	Shattered Slab	PCC Slab Replacement	PCC Crack Sealing
72	High	Shattered Slab	PCC Slab Replacement	PCC Slab Replacement
73	N/A	Shrinkage Cracking	Monitor Pavement	Monitor Pavement
74	Low	Joint Spall	Monitor Pavement	Monitor Pavement
74	Medium	Joint Spall	PCC Partial Depth Patching	PCC Partial Depth Patching
74	High	Joint Spall	PCC Partial Depth Patching	PCC Partial Depth Patching
75	Low	Corner Spall	Monitor Pavement	Monitor Pavement
75	Medium	Corner Spall	PCC Partial Depth Patching	PCC Partial Depth Patching
75	High	Corner Spall	PCC Partial Depth Patching	PCC Partial Depth Patching
76	Low	ASR	Monitor Pavement	Monitor Pavement
76	Medium	ASR	PCC Slab Replacement	PCC Slab Replacement
76	High	ASR	PCC Slab Replacement	PCC Slab Replacement

5.5 Major Rehabilitation

Major rehabilitation is recommended to correct or improve structural deficiencies and/or functional deterioration. Often, when pavements are subject to significant changes in the aircraft fleet mix (frequency and type), major rehabilitation is required to provide a pavement section that can meet the structural demands of traffic loading. Major rehabilitation is generally described as a pavement construction that removes and replaces the pavement surface, thus resetting the PCI value to 100, or a PASER value to 5, and the pavement age to zero. Typical policies include full- and partial-depth reconstruction and mill and overlay. Policies and recommendations related to the whitetopping pavement will be presented in **Section 6.2.2 Major Rehabilitation Needs – Whitetopping Pavements**.

5.5.1 Major Rehabilitation Pavement Section Development

Once the timing of the major rehabilitation activity is determined based on the PCI value, existing as-built record documentation is used to determine typical rehabilitation processes and pavement sections. Refinement of the pavement section layers is performed in consideration of the FAA AC 150/5320-6F. It should be noted that no subsurface geotechnical investigation, American Land Title Association (ALTA)/American Congress on Surveying and Mapping (ACSM) Survey, topographic survey, utilities survey, environmental, or site-specific air traffic study(s) have been utilized in the development of the design criteria. No warranty or assurance is implied in this document for final design nor construction for any airfield pavements discussed within this Report.

Major rehabilitation is divided into two (2) policy categories as part of this System Update: Full-Depth Reconstruction (Reconstruction) and Intermediate Major Rehabilitation (Rehabilitation). Based on the pavement type, the general categories are defined as AC Reconstruction and AC Rehabilitation for AC, AAC, and APC pavement types, and PCC Reconstruction and PCC Rehabilitation for PCC pavement types. The pavement sections are based on the average General Aviation Airport Type requirements; no pavement design has been performed in

accordance with the FAA AC 150/5320-6F for the determined conceptual sections. **Table 5.5.1** provide details on the conceptual pavement sections developed for this study.

Table 5.5.1: Conceptual Pavement Sections for Major Rehabilitation

Rehabilitation Type	General Aviation Pavement Section
AC Reconstruction	
Full-depth asphalt pavement section reconstruction. Removal of existing pavement section and construction of a new section. **PCI < 55**	Pavement Removal
	Unclassified Excavation
	Subgrade Stabilization (12")
	Limerock Base Course (6")
	Prime Coat
	Tack Coat
	P-401 Surface Course (3")
	Excludes any paved shoulder features
AC Rehabilitation	
Combination of asphalt pavement milling and replacement overlay with 15% of the areas subject to full-depth reconstruction. **PCI = 55 to 70**	**15% AC Reconstruction**
	Mill and Overlay
	AC Milling (3")
	Tack Coat
	P-401 Surface Course (3")
	Excludes any paved shoulder features
PCC Reconstruction	
Full-depth rigid pavement section reconstruction. **PCI < 55**	Pavement Removal
	Unclassified Excavation
	Subgrade Stabilization (6")
	Limerock Base Course (6")
	P-501 PCC Pavement (8")
	PCC Joint Seal
PCC Rehabilitation	
Rehabilitation of PCC pavement with a combination of crack sealing, joint seal replacement, limited patching, and replacement of 15% of slab panels. **PCI = 55 to 70**	**15% Slab Replacement**
	Joint and Crack Seal
	Limited Patching

The identification of rehabilitation needs and conceptual pavement sections have been determined at the planning level. Design-level investigation is recommended prior to developing construction-level design documents and budgets. **This type of construction typically warrants consideration for non-pavement efforts that may include drainage, turfing, electrical lighting, pavement marking, construction contingency, mobilization costs, and project soft costs.**

Reconstruction (AC or PCC)

Reconstruction is the removal and replacement of the existing AC or PCC pavement and base layer and includes preparation of the existing subgrade material. This technique is utilized when the pavement is badly deteriorated or a structural improvement is required. Reconstruction is used when the pavements are structurally deficient and an overlay is not possible due to adjacent pavement grades.

AC Rehabilitation

AC Rehabilitation, for the purposes of this SAPMP, is a removal of all or a portion of the asphalt surface through milling and replacing the milled depth with an overlay of asphalt. This rehabilitation activity is typically applied to pavement that does not require a structural improvement and does not display an extensive amount of load-related distresses. However, this work type conservatively accounts for 15% of the planned area to receive a full-depth replacement of the pavement structure. This is meant to capture any deficiencies that may not be apparent from a visual evaluation of the surface of the pavement. This work type occurs on pavement sections with a PCI value between 55 and 70. As a general rule of thumb, intermediate rehabilitation activities have a shorter pavement life compared to a full-depth reconstruction, but AC Rehabilitation will still reset the pavement to a PCI of 100.

PCC Rehabilitation

PCC Rehabilitation, for the purposes of this SAPMP, is a planning-level estimate of several concurrent PCC maintenance activities intended to raise the PCI above Critical without reconstructing the entire area. This work type accounts for the replacement of 15% of the slabs as well as a PCC patching, crack sealing, and joint sealing for areas outside of the panel replacement. This work type occurs on pavement sections with a PCI value between 55 and 70.

5.5.2 Major Rehabilitation Planning-Level Unit Costs

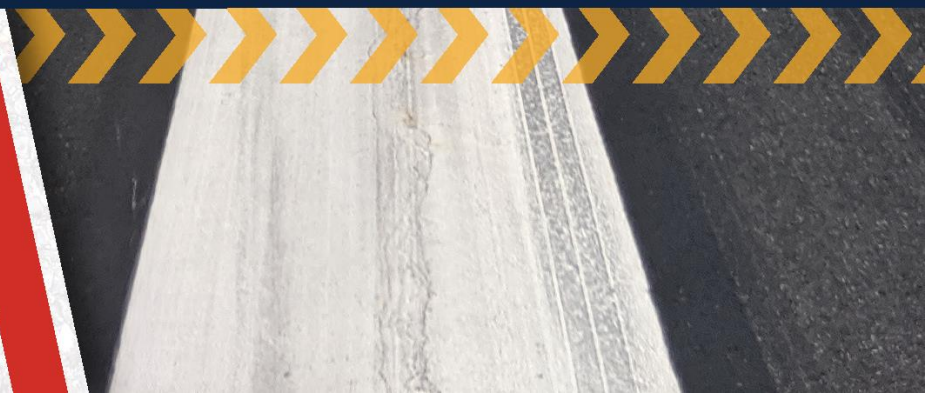
Planning-level opinions of probable construction cost developed for this System Update are based on archived bid tabulations and records from airfield pavement projects provided by participating airports. A review of cost trends and cost factors have been incorporated to assist airports in planning for project budgets.

Neither the FDOT nor the Consultant team have control over the cost of labor, materials, equipment, Contractor's methods of determining prices, or over competitive bidding or market conditions. Opinions of probable construction costs provided herein are based on the information known to the FDOT at this time and represent only the Consultant team's judgment as a design professional familiar with the construction industry. This Report cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable construction costs. **Table 5.5.2** depicts the associated work type planning-level unit costs for Major Rehabilitation for each pavement type.

Table 5.5.2: GA Major Rehabilitation Planning-Level Unit Cost by Pavement Type

Rehabilitation Type	PCI Range	Asphalt Concrete Cost per SF	Portland Cement Concrete Cost Per SF
Rehabilitation	55 to 70	$9.00	$15.00
Reconstruction	0 to 55	$16.00	$29.00

Chapter 6: M&R Planning and Budget Scenario Analysis



Chapter 6 – M&R Planning and Budget Scenario Analysis

6.1 Localized Maintenance and Repair Analysis and Recommendations

This FDOT SAPMP System Update provides a planning-level estimation of Localized Maintenance and Repair costs based on the results of the latest PCI assessment performed at the Airport. Due to the limited sample units inspected in certain pavement sections, a statistical extrapolation of distresses is used to estimate the quantities of recommended repair activities at the section level, based the policies defined in **5.4.4 Localized Maintenance and Repair Policy**. These work quantities are limited to a near-term application since they were determined directly from the PCI assessment efforts. As pavements continue to deteriorate year-to-year, quantities and/or distress severities may increase, which will affect the amount and type of localized maintenance required. This analysis can be utilized as a planning tool to assist Airport staff in determining an annual budget allocation for maintenance activities that will help maintain Airport pavements above the critical PCI value and extend the life of the pavement.

Table 6.1 (a) provides a summary of the anticipated planning-level costs for Year 1 Localized Preventive Maintenance and Localized Stopgap Maintenance. The following table depicts planning-level costs rounded up to the next 10-dollar increment.

Table 6.1 (a): Year 1 Summary of Localized Maintenance

Work Category	Cost	
Preventive	$	56,230
Stopgap	$	1,124,760
Planning-Level Localized M&R Needs =	***$***	***1,180,990***

Localized Preventive Maintenance is typically applied to pavements that are in a condition above the critical PCI value of the pavement section. Localized Stopgap Maintenance is typically applied to pavement sections that are at or below the critical PCI value. Application of localized maintenance and repair should be coordinated with the planning of major rehabilitation efforts identified through the Major Rehabilitation analysis. Pavements with stopgap recommendations that are subject to near-term major rehabilitation efforts may remove the need to perform localized (stopgap) maintenance efforts in subsequent years.

Table 6.1 (b) summarizes the anticipated Year 1 Localized Maintenance recommendations by work type, based on the PCI assessment efforts performed as part of this SAPMP System Update. The following table depicts planning-level costs rounded up to the next 10-dollar increment.

Table 6.1 (b): Year 1 Localized Maintenance by Work Type Summary

Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
Localized Preventive Maintenance	Surface Seal	52,740	SF	$ 39,630
	PCC Joint Seal	3,088	LF	$ 13,130
	PCC Partial-Depth Patching	21	SF	$ 3,470
Localized Stopgap Maintenance	AC Crack Sealing	12,192	LF	$ 48,780
	AC Partial-Depth Patching	222,984	SF	$ 1,059,190
	AC Full-Depth Patching	402	SF	$ 4,020
	PCC Crack Sealing	371	LF	$ 2,610
	PCC Joint Seal	2,388	LF	$ 10,160

Table 6.1 (c) provides a breakdown of the anticipated planning-level costs by section for those areas exhibiting distresses that would benefit from Year 1 Localized M&R. The table shows the approximate improved "End Condition" PCI value of the section after the application of Localized M&R. This approximation is intended to depict a planning-level estimate of the effect of the localized M&R on the section-level PCI; the performance of the work does not guarantee the pavement will not deteriorate in other ways outside of the described treatment. The following table depicts planning-level costs rounded up to the next 10-dollar increment.

Table 6.1 (c): Section-Level Year 1 Localized M&R Planning Cost Summary

Network ID	Branch ID	Section ID	Area (SF)	Start PCI	End PCI	Cost
X60	RW 5-23	6110	7,500	60	72	$ 5,410
X60	RW 5-23	6112	15,000	42	42	$ -
X60	RW 14-32	6205	24,688	70	70	$ -
X60	RW 14-32	6215	254,982	77	80	$ 9,570
X60	RW 14-32	6235	22,894	76	80	$ 16,590
X60	RW 14-32	6250	15,631	82	85	$ 590
X60	TW A	205	159,607	86	87	$ 1,500
X60	TW A	220	287,885	87	87	$ -
X60	TW A1	255	34,316	87	87	$ -
X60	TW AP	905	22,769	100	100	$ -
X60	TW B	305	101,269	80	84	$ 6,610
X60	TW C	105	65,023	56	56	$ -
X60	TW C	115	35,409	84	90	$ 3,990
X60	TW D	505	61,793	80	85	$ 5,790
X60	TW D	510	8,500	89	89	$ -
X60	TW D1	405	57,110	77	81	$ 3,220
X60	TW E	705	55,768	81	86	$ 4,190
X60	TW F	550	128,837	7	33	$ 643,440
X60	TW F	555	11,250	30	71	$ 7,340
X60	TW F	565	33,640	84	87	$ 1,270
X60	TW G	450	94,473	7	38	$ 468,540
X60	TL T-HANG	4320	18,657	78	84	$ 2,110
X60	TL T-HANG	4325	21,796	62	62	$ -
X60	AP	4105	86,922	100	100	$ -

Network ID	Branch ID	Section ID	Area (SF)	Start PCI	End PCI	Cost
X60	AP	4110	101,074	68	68	$ -
X60	AP HANG	4205	10,495	77	82	$ 790
X60	AP HANG	4210	6,628	89	89	$ -
X60	AP RU 23	5105	28,165	89	89	$ -
X60	AP T-HANG	4315	3,900	50	50	$ -
X60	AP T-HANG	4316	2,867	24	24	$ -

6.2 Major Rehabilitation Needs

Major rehabilitation is identified within the FDOT SAPMP as a major construction activity that results in a substantial improvement to the pavement condition and resets the pavement section's PCI value to 100. Major rehabilitation recommendations (AC Rehabilitation, AC Reconstruction, PCC Rehabilitation, and PCC Reconstruction) should be considered as planning-level only. Additional design-level investigation in accordance with FAA Advisory Circulars is required. Recommendations identified within this planning document do not imply final design.

The objective of the Major Pavement Rehabilitation Needs analysis is to develop planning-level projects within an Airport's airfield pavement network. As depicted in **Figures 5.3 (b)** and **(c)** in **Chapter 5**, major rehabilitation activities are recommended when a pavement section has deteriorated below the critical PCI value, a point at which localized maintenance and repair activities may not be a cost-effective solution. In addition, major rehabilitation is also recommended when the section's PCI value is above the critical PCI value with the section exhibiting a significant amount of load-related distresses. Identification of rehabilitation needs is done at the section-level. This, however, does not limit the Airport from further refining limits of project planning areas.

6.2.1 10-Year Unconstrained Budget Major Rehabilitation Needs

Major rehabilitation needs are identified by analyzing the Airport's pavement condition in relationship to critical PCI values, major rehabilitation policies, and unit costs, assuming there are no budget constraints. This is done over a 10-year analysis period. While this is financially impractical, it does yield the unbiased pavement needs over a 10-year time frame at the Airport given current and forecasted pavement conditions. The FDOT recognizes that airports are constrained by budgets and does not intend to convey an unrealistic approach of addressing pavement rehabilitation. Each airport has a unique set of challenges and FDOT's goals are to provide it with the data needed to formulate a practical Capital Improvement Program and identify needs in the Joint Automated Capital Improvement Program (JACIP). This includes:

- An estimation of current pavement condition;
- Major pavement rehabilitation needs based on condition and policies; and
- Planning-level cost estimates for the major rehabilitation needs.

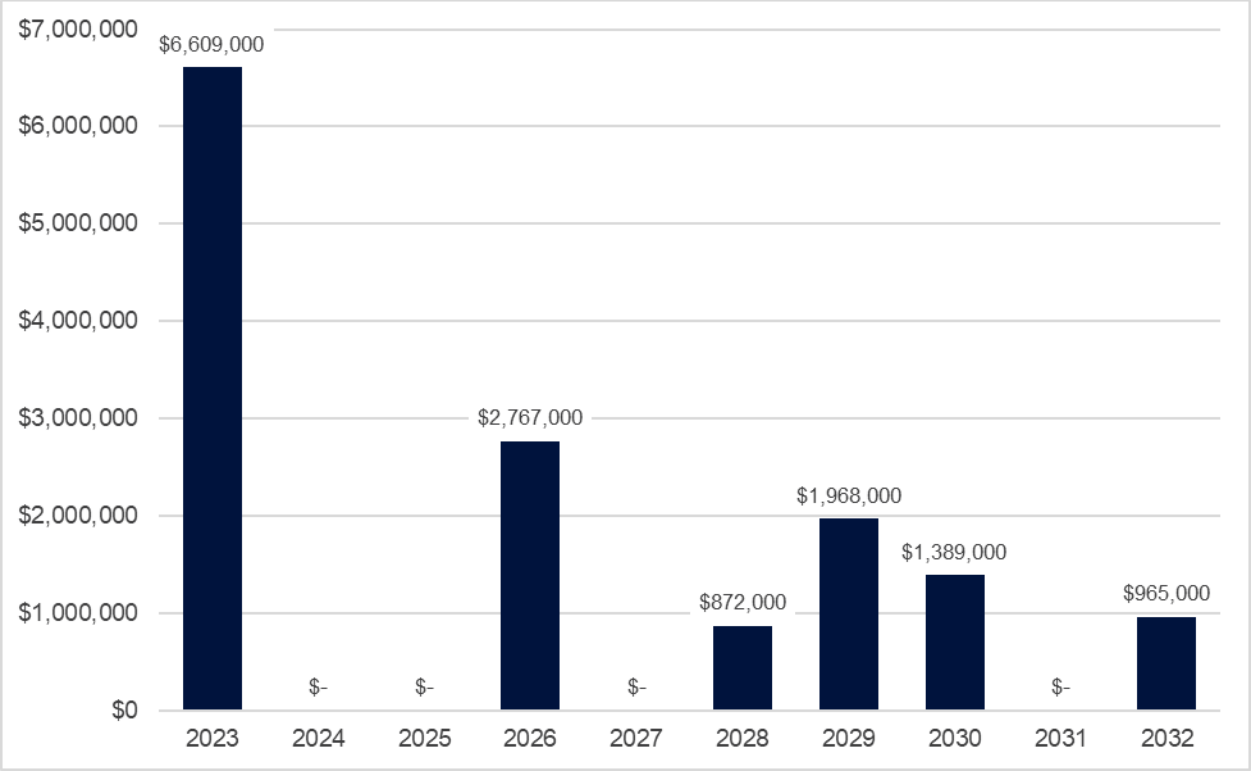
Table 6.2.1 (a) summarizes section-level major rehabilitation needs forecasted for a 10-year period. It should be noted that the following table depicts planning-level costs and has been rounded up to the nearest $1,000 for planning purposes.

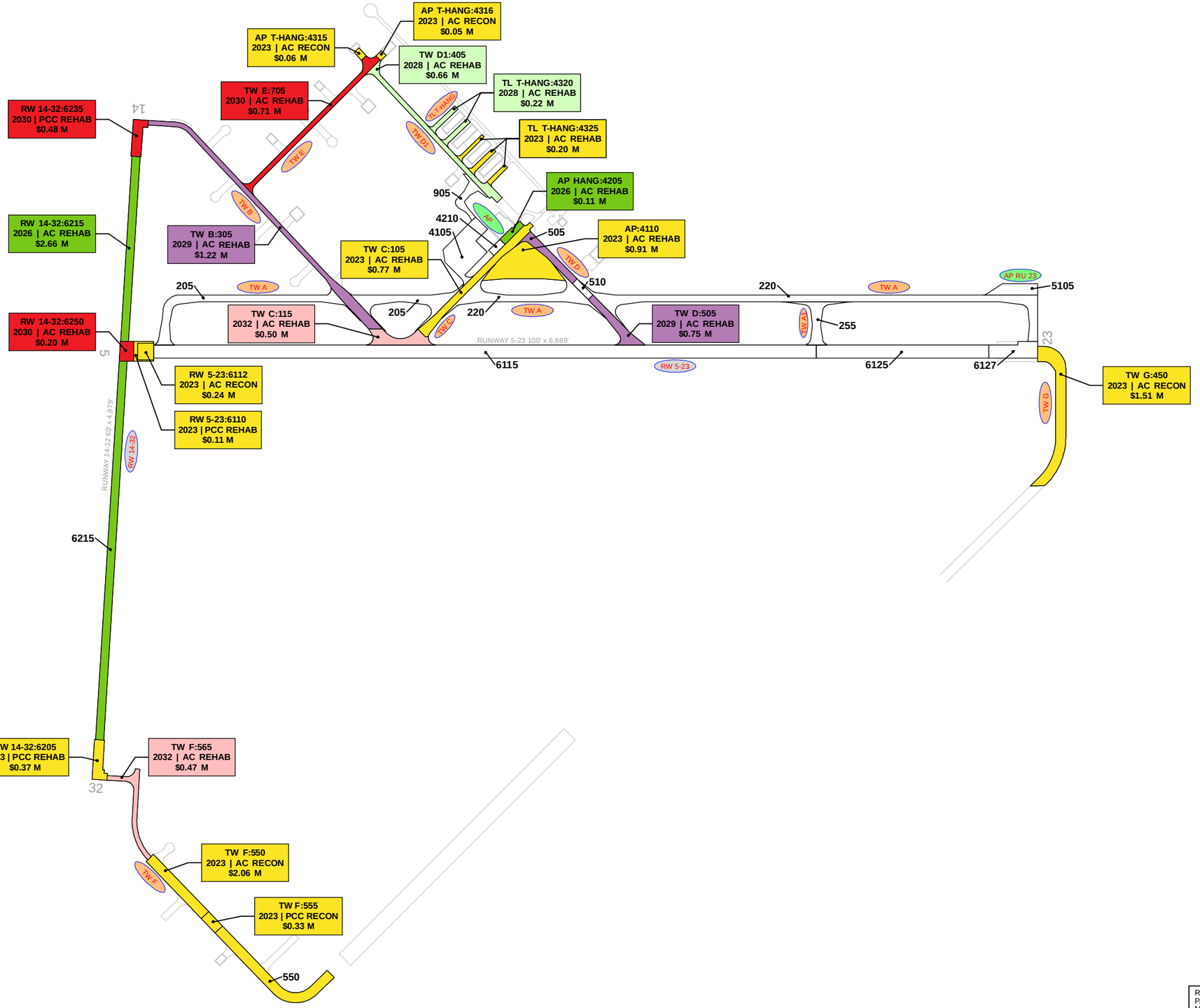
Table 6.2.1 (a): Section-Level 10-Year Major Rehabilitation Needs

Program Year	Network ID	Branch ID	Section ID	Surface	Area (SF)	PCI Before	Rehabilitation Type	Planning Cost Estimate
2023	**X60**	RW 5-23	6110	PCC	7,500	59	PCC Rehabilitation	$ 113,000
2023	**X60**	RW 5-23	6112	APC	15,000	40	AC Reconstruction	$ 240,000
2023	**X60**	RW 14-32	6205	PCC	24,688	69	PCC Rehabilitation	$ 371,000
2023	**X60**	TW C	105	AAC	65,023	55	AC Reconstruction	$ 768,000
2023	**X60**	TW F	550	AC	128,837	5	AC Reconstruction	$ 2,062,000
2023	**X60**	TW F	555	PCC	11,250	29	PCC Reconstruction	$ 327,000
2023	**X60**	TW G	450	AC	94,473	5	AC Reconstruction	$ 1,512,000
2023	**X60**	TL T-HANG	4325	AC	21,796	61	AC Rehabilitation	$ 197,000
2023	**X60**	AP	4110	AC	101,074	67	AC Rehabilitation	$ 910,000
2023	**X60**	AP T-HANG	4315	AC	3,900	49	AC Reconstruction	$ 63,000
2023	**X60**	AP T-HANG	4316	APC	2,867	22	AC Reconstruction	$ 46,000
2026	**X60**	RW 14-32	6215	AAC	254,982	69	AC Rehabilitation	$ 2,657,000
2026	**X60**	AP HANG	4205	AAC	10,495	69	AC Rehabilitation	$ 110,000
2028	**X60**	TW D1	405	AAC	57,110	69	AC Rehabilitation	$ 657,000
2028	**X60**	TL T-HANG	4320	AC	18,657	70	AC Rehabilitation	$ 215,000
2029	**X60**	TW B	305	AAC	101,269	70	AC Rehabilitation	$ 1,222,000
2029	**X60**	TW D	505	AAC	61,793	70	AC Rehabilitation	$ 746,000
2030	**X60**	RW 14-32	6235	PCC	22,894	70	PCC Rehabilitation	$ 484,000
2030	**X60**	RW 14-32	6250	AC	15,631	69	AC Rehabilitation	$ 198,000
2030	**X60**	TW E	705	AAC	55,768	69	AC Rehabilitation	$ 707,000
2032	**X60**	TW C	115	AAC	35,409	69	AC Rehabilitation	$ 495,000
2032	**X60**	TW F	565	AC	33,640	69	AC Rehabilitation	$ 470,000

Figure 6.2.1 (a) summarizes the section-level major rehabilitation needs for a 10-year period between 2023 and 2032. **Figure 6.2.1 (b)**, the Airfield Pavement Major Rehabilitation Exhibit, graphically depicts the major rehabilitation needs with rounded costs. As suggested previously, this is planning-level data that can be used by the Airport to support developing a practical CIP.

Figure 6.2.1 (a): 10-Year Major Rehabilitation Needs by Program Year





LEGEND

RW 13-31 — TYPICAL RUNWAY BRANCH ID

TW A — TYPICAL TAXIWAY BRANCH ID

AP S — TYPICAL APRON BRANCH ID

PROGRAM YEAR

2023	2028
2024	2029
2025	2030
2026	2031
2027	2032

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

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

X60

AIRFIELD PAVEMENT MAJOR REHABILITATION EXHIBIT

Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

FDOT

2022

6.2.2 Major Rehabilitation Needs – Whitetopping Pavements

Major rehabilitation for whitetopping concrete overlays is divided into two policy categories as part of this program: Full-Depth Reconstruction (Reconstruction) and Intermediate-Level Major Rehabilitation (Rehabilitation).

- Rehabilitation is recommended for whitetopping pavement with a PASER rating of 'Poor'.
- Reconstruction is recommended for whitetopping pavement with a PASER rating of 'Failed'.

Major rehabilitation is recommended based on current PASER Surface Rating as no formal PASER rating forecasting is performed. The conceptual pavement sections and unit costs developed for the whitetopping pavement is consistent with that which was developed for PCC pavement and presented in **Chapter 5.5 Major Rehabilitation**.

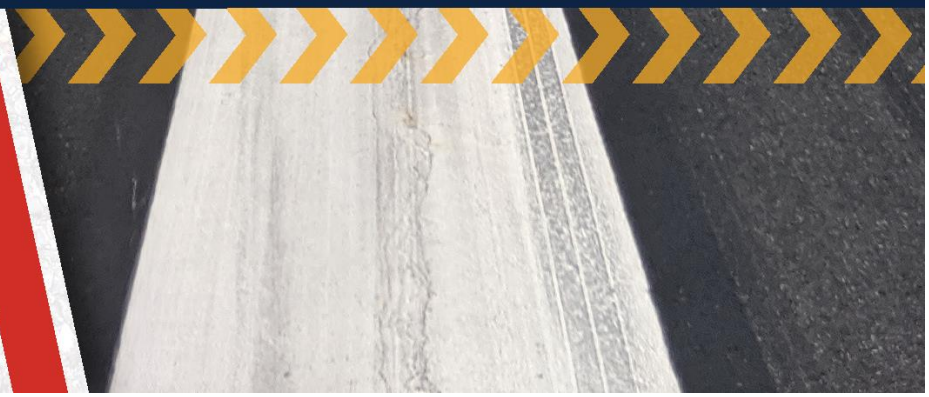
Table 6.2.2 summarizes section-level major rehabilitation for the whitetopping pavements. **Figure 6.2.1 (b)** graphically depicts the major rehabilitation needs for the whitetopping pavements.

As a result of the current PASER condition analysis, the major rehabilitation policies identified no major rehabilitation needs for the whitetopping pavements at X60.

Table 6.2.2: Section-Level Major Rehabilitation Needs – Whitetopping Pavements

Network ID	Branch ID	Section ID	Surface	Area (SF)	PASER Value Before	Rehabilitation Type	Planning Cost Estimate
No Whitetopping Major Rehabilitation Needs							

Chapter 7: Conclusion



Chapter 7 – Conclusion

7.1 Recommendations

7.1.1 Continued PCI Surveys

It is recommended that the Airport continue to perform regularly scheduled PCI surveys in accordance with the ASTM D5340-20 (or latest edition) to monitor the condition of airfield pavement facilities.

A high priority should be placed on maintaining good record keeping and re-inspecting the Airport's maintained pavement facilities to ensure continued safe aircraft operations. Per the FAA AC 150/5380-7B, a series of scheduled periodic inspections must be carried out for an effective maintenance program. Re-inspection of pavements should be scheduled in a timely manner to ensure that all areas, particularly those that may not come under day-to-day observation, are thoroughly evaluated and reported.

7.1.2 Localized Maintenance and Repair

While deterioration of the pavements due to usage and exposure to the environment cannot be prevented, applying timely and effective maintenance efforts can slow the anticipated rate of deterioration. Lack of adequate and timely maintenance is a significant factor in pavement deterioration. **Chapter 6** identified localized maintenance and repair needs. It is recommended that Airport sponsors coordinate with their respective Airport maintenance staff and Airport engineer when developing project-level maintenance and repair efforts.

7.1.3 Major Rehabilitation

Chapter 6 also identified major pavement rehabilitation project needs from 2023-2032. Identification of these rehabilitation needs are performed at the section level for manageable project areas and assume an unconstrained budget scenario. Given the uncertainty in Airport-specific budget information and prioritization goals, the unconstrained budget scenario represents a conservative scenario and identifies pavement needs over a 10-year period. Certainly, it is understood that most airports are faced with constrained budgets, thus further evaluation of projects based on prioritization, operational criticality, funding availability, and practicality is recommended.

7.1.4 Pavement Management System

The following recommendations are made to fully implement an effective pavement management program for the Airport:

- Develop a detailed preventive maintenance program for the Airport based on the recommendations provided in **Section 6.1**;
- Further refine and implement the identified 10-year major rehabilitation needs provided in **Section 6.2**;
- Maintain detailed records on pavement maintenance, construction, and inspection; and
- Maintain records on major pavement construction projects (year, scope, cost, and construction documents).

7.2 Supporting Documents

Airfield Pavement Network Definition Exhibit

The Airfield Pavement Network Definition Exhibit is located in **Chapter 3** and **Appendix C**. The Exhibit depicts the airfield layout in a manner that defines the airfield pavement infrastructure as branches, sections, and sample units in accordance with the ASTM D5340-20. The Exhibit is intended for planning purposes only. Further details can be found on the Airport's adopted Airport Layout Plan. Detailed characteristics are tabulated in **Appendix A.**

Airfield Pavement System Inventory Exhibit

The Airfield Pavement System Inventory Exhibit is located in **Chapter 3** and **Appendix C**. The Exhibit depicts recent and/or anticipated construction activity within the airfield pavement facilities reported by Airport staff. The Exhibit is intended to schematically identify the pavement limits of work and general work description. The information reported on the Airport Response Form provided by each participating airport was used as the basis of the changes. Furthermore, changes are confirmed at the Airport with Airport staff during the in-brief and debrief meeting.

Airfield Pavement Estimated Age Exhibit

The Airfield Pavement Estimated Age Exhibit is located in **Chapter 3** and **Appendix C**. Based on the review of historic airfield pavement construction activities, the Exhibit provides the approximate limits of the age of the pavement sections since the last major construction activity has occurred. This is intended to be a rough estimate based on interpretation of the limited data available at the time of report.

Airfield Pavement Condition Index Exhibit

The Airfield Pavement Condition Index Exhibit is located in **Chapter 4** and **Appendix C**. The Exhibit is a visual summary of the latest conditions reported from the PCI assessment performed at the Airport. Distress analysis occurred in accordance with ASTM D5340-20 (referenced in **Appendix E**), with results being analyzed using PAVER™ software to determine PCI values. The PCI values are identified in the Exhibit and graphically represented using the standard ASTM D5340-20 condition rating categories.

Airfield PASER Surface Rating Exhibit

The Airfield PASER Surface Rating Exhibit is located in **Chapter 4** and **Appendix C**. The Exhibit is a visual summary of the latest conditions of the airfield whitetopping pavements reported from the PASER assessment performed at the Airport. The PASER values are identified in the Exhibit and graphically represented using the standard PASER surface rating categories.

Airfield Pavement Major Rehabilitation Exhibit

The Airfield Pavement Major Rehabilitation Exhibit is located in **Chapter 6** and **Appendix C**. The Exhibit has been prepared based on the section condition analysis, pavement condition forecasts, and major rehabilitation needs analysis. The Exhibit graphically depicts the inventory with the associated rehabilitation type activity, program year, and the planning-level costs. Area limits, rehabilitation type, and planning-level costs should not be considered a design-level recommendation. A tabulation of the 10-Year Major Rehabilitation is located in **Appendix B**.

Airfield Pavement Major Rehabilitation Exhibit – Whitetopping Pavements

The Airfield Pavement Major Rehabilitation Exhibit – Whitetopping Pavements is located in **Chapter 6** and **Appendix C**. The Exhibit has been prepared based on the PASER surface rating and major rehabilitation needs analysis. The Exhibit graphically depicts the inventory with the associated rehabilitation type activity and the planning-level costs. Area limits, rehabilitation type, and planning-level costs should not be considered a design-level recommendation.

Inspection Photograph Documentation

Representative field conditions from the PCI assessment are documented with digital photographs located in **Appendix D**. Select photographs are provided with a limited caption on the distress(es) observed. “Vicinity” photos refer to the approximate boundaries of an inspected sample unit within the section and provide an overview of the section condition but are not focused on a specific distress. The Appendix does not contain photographs for every section and sample unit.

7.3 Conclusion

The FDOT SAPMP System Update Phase 2 2021-2023 was completed for the Airport on behalf of the FDOT AO in accordance with the FAA AC 150/5380-7B and 150/5380-6C. FDOT’s implementation of the SAPMP has assisted public airports with this requirement in performing PCI survey inspections and analysis in accordance with the ASTM D5340-20.

7.4 References

The following documents are referenced as specific guidelines and procedures for maintaining Airport pavements, establishing an effective pavement maintenance program, and identifying specific pavement distresses, probable causes of distresses, survey guidelines, and recommended methods of repair.

- ASTM D5340-20, Standard Test Method for Airport Pavement Condition Index Surveys, American Society for Testing and Materials, West Conshohocken, PA, 2018.
- AC 150/5210-24 Airport Foreign Object Debris (FOD) Management, Federal Aviation Administration, Washington, D.C., 2010.
- AC 150/5320-6F, Airport Pavement Design and Evaluation, Federal Aviation Administration, Washington, D.C., 2016.
- AC 150/5380-7B, Airport Pavement Management Program (PMP), Federal Aviation Administration, Washington, D.C., 2014.
- AC 150/5380-6C, Guidelines and Procedures for Maintenance of Airport Pavements, Federal Aviation Administration, Washington, D.C., 2014.
- AC 150/5370-10H, Standard Specifications for Construction of Airports, Federal Aviation Administration, Washington, D.C., 2018.
- Airport Improvement Program Handbook, Order 5100.38D, Change 1, Federal Aviation Administration, Washington, D.C., 2019.

- Tri-Service Pavements Working Group (TSPWG) Manual 3-270-08. 14-03, Preventive Maintenance Plan (PMP) for Airfield Pavements, Department of Defense, Washington, D.C., 2019.
- Unified Facilities Criteria (UFC) 3-260-16, O&M Manual: Standard Practice for Airfield Pavement Condition Surveys, Department of Defense, Washington, D.C., 2019.
- Unified Facilities Criteria (UFC) 3-260-03, Airfield Pavement Evaluation, Department of Defense, Washington, D.C., 2001.
- Shahin, Mohamed Y., Pavement Management for Airports, Roads, and Parking Lots, Springer, 2005.

Appendix A: Airfield Pavement Analysis

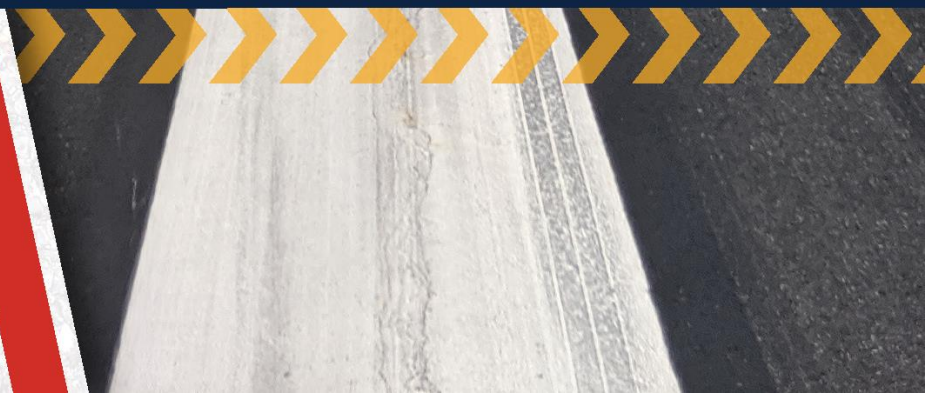


Table A.1: Pavement System Inventory Details

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface Type	Estimate of Last Construction Date
X60	RW 5-23	Runway	6110	7,500	PCC	1/1/1942
X60	RW 5-23	Runway	6112	15,000	APC	1/1/2006
X60	RW 5-23	Runway	6115	500,000	WT	1/1/2005
X60	RW 5-23	Runway	6125	130,000	WT	1/1/2005
X60	RW 5-23	Runway	6127	40,650	WT	1/1/2005
X60	RW 14-32	Runway	6205	24,688	PCC	1/1/1942
X60	RW 14-32	Runway	6215	254,982	AAC	2/1/2015
X60	RW 14-32	Runway	6235	22,894	PCC	1/1/1942
X60	RW 14-32	Runway	6250	15,631	AC	2/1/2015
X60	TW A	Taxiway	205	159,607	AAC	1/1/2013
X60	TW A	Taxiway	220	287,885	AC	1/1/2013
X60	TW A1	Taxiway	255	34,316	AC	1/1/2013
X60	TW AP	Taxiway	905	22,769	AC	6/1/2022
X60	TW B	Taxiway	305	101,269	AAC	1/1/2009
X60	TW C	Taxiway	105	65,023	AAC	1/1/2009
X60	TW C	Taxiway	115	35,409	AAC	1/1/2009
X60	TW D	Taxiway	505	61,793	AAC	1/1/2009
X60	TW D	Taxiway	510	8,500	AAC	1/1/2013
X60	TW D1	Taxiway	405	57,110	AAC	1/1/2009
X60	TW E	Taxiway	705	55,768	AAC	1/1/2009
X60	TW F	Taxiway	550	128,837	AC	1/1/1942
X60	TW F	Taxiway	555	11,250	PCC	1/1/1942
X60	TW F	Taxiway	565	33,640	AC	2/1/2015
X60	TW G	Taxiway	450	94,473	AC	1/1/1942
X60	TL T-HANG	Taxilane	4320	18,657	AC	1/1/2005
X60	TL T-HANG	Taxilane	4325	21,796	AC	1/1/2003
X60	AP	Apron	4105	86,922	AC	6/1/2022
X60	AP	Apron	4110	101,074	AC	2/1/2015
X60	AP HANG	Apron	4205	10,495	AAC	1/1/2009
X60	AP HANG	Apron	4210	6,628	AC	1/1/2019
X60	AP RU 23	Apron	5105	28,165	AC	1/1/2013
X60	AP T-HANG	Apron	4315	3,900	AC	1/1/1986
X60	AP T-HANG	Apron	4316	2,867	APC	1/1/2003

Table A.2: Pavement Condition Index Summary (Current PCI Survey) – Section Level

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	PCI	Condition Rating
X60	RW 5-23	Runway	6110	7,500	60	Fair
X60	RW 5-23	Runway	6112	15,000	42	Poor
X60	RW 14-32	Runway	6205	24,688	70	Fair
X60	RW 14-32	Runway	6215	254,982	77	Satisfactory
X60	RW 14-32	Runway	6235	22,894	76	Satisfactory
X60	RW 14-32	Runway	6250	15,631	82	Satisfactory
X60	TW A	Taxiway	205	159,607	86	Good
X60	TW A	Taxiway	220	287,885	87	Good
X60	TW A1	Taxiway	255	34,316	87	Good
X60	TW AP	Taxiway	905	22,769	100	Good
X60	TW B	Taxiway	305	101,269	80	Satisfactory
X60	TW C	Taxiway	105	65,023	56	Fair
X60	TW C	Taxiway	115	35,409	84	Satisfactory
X60	TW D	Taxiway	505	61,793	80	Satisfactory
X60	TW D	Taxiway	510	8,500	89	Good
X60	TW D1	Taxiway	405	57,110	77	Satisfactory
X60	TW E	Taxiway	705	55,768	81	Satisfactory
X60	TW F	Taxiway	550	128,837	7	Failed
X60	TW F	Taxiway	555	11,250	30	Very Poor
X60	TW F	Taxiway	565	33,640	84	Satisfactory
X60	TW G	Taxiway	450	94,473	7	Failed
X60	TL T-HANG	Taxilane	4320	18,657	78	Satisfactory
X60	TL T-HANG	Taxilane	4325	21,796	62	Fair
X60	AP	Apron	4105	86,922	100	Good
X60	AP	Apron	4110	101,074	68	Fair
X60	AP HANG	Apron	4205	10,495	77	Satisfactory
X60	AP HANG	Apron	4210	6,628	89	Good
X60	AP RU 23	Apron	5105	28,165	89	Good
X60	AP T-HANG	Apron	4315	3,900	50	Poor
X60	AP T-HANG	Apron	4316	2,867	24	Serious

Table A.3: PASER Surface Rating – Section Level - Whitetopping Pavements

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	PASER Value	Surface Rating
X60	RW 5-23	Runway	6115	500,000	4	Good
X60	RW 5-23	Runway	6125	130,000	4	Good
X60	RW 5-23	Runway	6127	40,650	4	Good

Table A.4: Forecasted PCI Values 2023-2032 – Section-Level

Network ID	Branch ID	Section ID	Current PCI	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
X60	RW 5-23	6110	60	59	59	58	57	56	56	55	54	53	52
X60	RW 5-23	6112	42	40	38	36	34	32	30	29	27	25	23
X60	RW 14-32	6205	70	69	69	68	67	66	66	65	64	63	62
X60	RW 14-32	6215	77	75	73	71	69	67	65	64	62	60	58
X60	RW 14-32	6235	76	75	75	74	73	72	72	71	70	69	68
X60	RW 14-32	6250	82	80	79	77	75	74	72	70	69	67	66
X60	TW A	205	86	84	82	81	79	77	76	74	73	72	70
X60	TW A	220	87	85	83	82	80	78	77	75	74	72	71
X60	TW A1	255	87	85	83	82	80	78	77	75	74	72	71
X60	TW AP	905	100	97	95	93	91	88	86	85	83	81	79
X60	TW B	305	80	78	77	75	74	73	71	70	69	67	66
X60	TW C	105	56	55	53	51	50	48	46	44	42	39	37
X60	TW C	115	84	82	81	79	77	76	74	73	72	70	69
X60	TW D	505	80	78	77	75	74	73	71	70	69	67	66
X60	TW D	510	89	87	85	83	81	80	78	76	75	74	72
X60	TW D1	405	77	76	74	73	71	70	69	68	66	65	64
X60	TW E	705	81	79	78	76	75	73	72	71	69	68	67
X60	TW F	550	7	5	3	2	0	0	0	0	0	0	0
X60	TW F	555	30	29	29	28	27	26	26	25	24	23	22
X60	TW F	565	84	82	81	79	77	76	74	73	72	70	69
X60	TW G	450	7	5	3	2	0	0	0	0	0	0	0
X60	TL T-HANG	4320	78	77	75	74	72	71	70	69	67	66	65
X60	TL T-HANG	4325	62	61	60	60	59	58	58	57	57	56	56
X60	AP	4105	100	97	95	92	90	88	86	84	82	80	78
X60	AP	4110	68	67	65	64	63	61	60	59	58	57	56
X60	AP HANG	4205	77	75	73	71	69	67	65	64	62	60	58
X60	AP HANG	4210	89	87	85	83	81	79	77	75	74	72	70
X60	AP RU 23	5105	89	87	85	83	81	79	77	75	74	72	70
X60	AP T-HANG	4315	50	49	49	48	47	47	46	46	45	44	44
X60	AP T-HANG	4316	24	22	20	18	16	14	12	11	9	7	5

Network: WILLISTON MUNIC **Branch:** AP HANG HANGAR APRO **Section:** 4205 **Surface:**AAC

L.C.D. 1/1/2009 **Use:** APRON **Rank:** P **Length:** 200.00 (Ft) **Width:** 56.00 (Ft) **True Area:** 10495.00000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2009	ML-OVL	Mill and Overlay	0.00	0.00	☑	
1/1/1985	IMPORTED	OVERLAY	0.00	0.00	☑	ESTIMATE 1985 AC OVERLAY
1/1/1942	IMPORTED	BUILT	0.00	2.00	☑	ASSUME: 1942 2" AC ON 6" LIME ROCK BASE

Network: WILLISTON MUNIC **Branch:** AP HANG HANGAR APRO **Section:** 4210 **Surface:**AC

L.C.D. 1/1/2019 **Use:** APRON **Rank:** P **Length:** 119.00 (Ft) **Width:** 56.00 (Ft) **True Area:** 6628.000002 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2019	NC-AC	New Construction - AC	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** AP RU 23 RUN-UP APRON **Section:** 5105 **Surface:**AC

L.C.D. 1/1/2013 **Use:** APRON **Rank:** P **Length:** 400.00 (Ft) **Width:** 50.00 (Ft) **True Area:** 28165.00000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2013	NU-IN	New Construction - Initial	0.00	4.00	☑	4" P-401 ON 6" P-211 ON 12" P-160

Network: WILLISTON MUNIC **Branch:** AP T-HANG APRON AT T-HA **Section:** 4315 **Surface:**AC

L.C.D. 1/1/1986 **Use:** APRON **Rank:** P **Length:** 80.00 (Ft) **Width:** 50.00 (Ft) **True Area:** 3900.000001 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/1986	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** AP T-HANG APRON AT T-HA **Section:** 4316 **Surface:**APC

L.C.D. 1/1/2003 **Use:** APRON **Rank:** P **Length:** 65.00 (Ft) **Width:** 50.00 (Ft) **True Area:** 2867.000000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2003	OL-AS	Overlay - AC Structural	0.00	0.00	☑	EST 2003 AC OVERLAY. UNKNO
1/1/1986	NC-PC	New Construction - PCC	0.00	0.00	☑	EST 1986 PCC PAVEMENT

Network: WILLISTON MUNIC **Branch:** AP APRON **Section:** 4105 **Surface:**AC

L.C.D. 6/1/2022 **Use:** APRON **Rank:** P **Length:** 400.00 (Ft) **Width:** 250.00 (Ft) **True Area:** 86922.00002 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
6/1/2022	CR-AC	Complete Reconstruction - AC	0.00	0.00	☑	4" P-401, 6" P-211
1/1/2009	ML-OVL	Mill and Overlay	0.00	0.00	☑	
1/1/1990	IMPORTED	BUILT	0.00	0.00	☑	ESTIMATE 1990 AC PAVEMENT WITH EMULSION SEAL

Network: WILLISTON MUNIC **Branch:** AP APRON **Section:** 4110 **Surface:**AC

L.C.D. 2/1/2015 **Use:** APRON **Rank:** P **Length:** 1,000.00 (Ft) **Width:** 100.00 (Ft) **True Area:** 101074.0000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
2/1/2015	NU-IN	New Construction - Initial	0.00	0.00	☑	4" P-601 SUPERPAVE, 6" LIMERO

Network: WILLISTON MUNIC **Branch:** RW 14-32 RUNWAY 14-32 **Section:** 6205 **Surface:**PCC

L.C.D. 1/1/1942 **Use:** RUNWAY **Rank:** P **Length:** 300.00 (Ft) **Width:** 75.00 (Ft) **True Area:** 24688.00000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
2/1/2015	JS-PC	Joint Seal - PCC	0.00	0.00	☐	JOINT SEAL AND CRACK SEAL
1/1/1942	IMPORTED	BUILT	0.00	8.00	☑	1942: 8" PCC PAVEMENT

Network: WILLISTON MUNIC **Branch:** RW 14-32 RUNWAY 14-32 **Section:** 6215 **Surface:**AAC

L.C.D. 2/1/2015 **Use:** RUNWAY **Rank:** P **Length:** 4,300.00 (Ft) **Width:** 100.00 (Ft) **True Area:** 254982.0000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
2/1/2015	ML-OVL	Mill and Overlay	0.00	0.00	☑	0.5" MILL & 2.5" P-401 OVERLAY
1/1/1942	IMPORTED	BUILT	0.00	2.00	☑	1942: 2" AC ON 6" LIME ROCK BASE

Network: WILLISTON MUNIC **Branch:** RW 14-32 RUNWAY 14-32 **Section:** 6235 **Surface:**PCC

L.C.D. 1/1/1942 **Use:** RUNWAY **Rank:** P **Length:** 275.00 (Ft) **Width:** 75.00 (Ft) **True Area:** 22894.00000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
2/1/2015	JS-PC	Joint Seal - PCC	0.00	0.00	☐	JOINT SEAL AND CRACK SEAL
1/1/1942	IMPORTED	BUILT	0.00	8.00	☑	1942: 8" PCC PAVEMENT

Network: WILLISTON MUNIC **Branch:** RW 14-32 RUNWAY 14-32 **Section:** 6250 **Surface:**AC

L.C.D. 2/1/2015 **Use:** RUNWAY **Rank:** P **Length:** 303.00 (Ft) **Width:** 100.00 (Ft) **True Area:** 15631.00000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
2/1/2015	CR-AC	Complete Reconstruction - AC	0.00	0.00	☑	FULL RECON. 2.5" P-401, 6" P-211,
1/1/1942	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** RW 5-23 RUNWAY 5-23 **Section:** 6110 **Surface:**PCC

L.C.D. 1/1/1942 **Use:** RUNWAY **Rank:** P **Length:** 600.00 (Ft) **Width:** 25.00 (Ft) **True Area:** 7500.000002 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/1942	IMPORTED	BUILT	0.00	8.00	☑	1942: 8" PCC PAVEMENT

Network: WILLISTON MUNIC **Branch:** RW 5-23 RUNWAY 5-23 **Section:** 6112 **Surface:**APC

L.C.D. 1/1/2006 **Use:** RUNWAY **Rank:** P **Length:** 150.00 (Ft) **Width:** 100.00 (Ft) **True Area:** 15000.00000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2006	OL-AS	Overlay - AC Structural	0.00	0.00	☑	
1/1/1942	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** RW 5-23 RUNWAY 5-23 **Section:** 6115 **Surface:**PCC

L.C.D. 1/1/2005 **Use:** RUNWAY **Rank:** P **Length:** 5,000.00 (Ft) **Width:** 100.00 (Ft) **True Area:** 500000.0001 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2005	OL-PC	Overlay - PCC	0.00	4.00	☑	Whitetopping
1/1/1987	IMPORTED	OVERLAY	0.00	0.00	☑	ESTIMATE 1987 AC OVERLAY
1/1/1942	IMPORTED	BUILT	0.00	2.00	☑	1942: 2" AC ON 6" LIME ROCK BASE

Network: WILLISTON MUNIC **Branch:** RW 5-23 RUNWAY 5-23 **Section:** 6125 **Surface:**PCC

L.C.D. 1/1/2005 **Use:** RUNWAY **Rank:** P **Length:** 1,300.00 (Ft) **Width:** 100.00 (Ft) **True Area:** 130000.0000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2005	OL-PC	Overlay - PCC	0.00	0.00	☑	
1/1/1942	IMPORTED	BUILT	0.00	2.00	☑	1942: 2" AC ON 6" LIME ROCK BASE

Network: WILLISTON MUNIC **Branch:** RW 5-23 RUNWAY 5-23 **Section:** 6127 **Surface:**PCC

L.C.D. 1/1/2005 **Use:** RUNWAY **Rank:** P **Length:** 350.00 (Ft) **Width:** 100.00 (Ft) **True Area:** 40650.00001 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2005	OL-PC	Overlay - PCC	0.00	0.00	☑	
1/2/1942	ST-SC	Surface Treatment - Seal Coat	0.00	0.00	☐	SLURRY SEAL/SAND SEAL ON
1/1/1942	IMPORTED	BUILT	0.00	2.00	☑	1942: 2" AC ON 6" LIME ROCK BASE

Network: WILLISTON MUNIC **Branch:** TL T-HANG APRON AT T-HA **Section:** 4320 **Surface:**AC

L.C.D. 1/1/2005 **Use:** TAXILAN **Rank:** P **Length:** 507.00 (Ft) **Width:** 35.00 (Ft) **True Area:** 18657.00000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2005	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** TL T-HANG APRON AT T-HA **Section:** 4325 **Surface:**AC

L.C.D. 1/1/2003 **Use:** TAXILAN **Rank:** P **Length:** 709.00 (Ft) **Width:** 35.00 (Ft) **True Area:** 21796.00000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2003	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** TW A1 TAXIWAY A1 **Section:** 255 **Surface:**AC

L.C.D. 1/1/2013 **Use:** TAXIWAY **Rank:** P **Length:** 600.00 (Ft) **Width:** 50.00 (Ft) **True Area:** 34316.00001 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2013	NU-IN	New Construction - Initial	0.00	4.00	☑	4" P-401 ON 6" P-211 ON 12" P-160

Network: WILLISTON MUNIC **Branch:** TW A TAXIWAY A **Section:** 205 **Surface:**AAC

L.C.D. 1/1/2013 **Use:** TAXIWAY **Rank:** P **Length:** 1,990.00 (Ft) **Width:** 35.00 (Ft) **True Area:** 159607.0000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2013	ML-OVL	Mill and Overlay	0.00	0.00	☑	1.5" MILL WITH 1.5" OVERLAY A
1/1/1986	IMPORTED	BUILT	0.00	0.00	☑	ESTIMATE 1986 AC PAVEMENTT

Network: WILLISTON MUNIC **Branch:** TW A TAXIWAY A **Section:** 220 **Surface:**AC

L.C.D. 1/1/2013 **Use:** TAXIWAY **Rank:** P **Length:** 3,000.00 (Ft) **Width:** 50.00 (Ft) **True Area:** 287885.0000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2013	NU-IN	New Construction - Initial	0.00	4.00	☑	4" P-401 ON 6" P-211 ON 12" P-160

Network: WILLISTON MUNIC **Branch:** TW AP TAXIWAY AP **Section:** 905 **Surface:**AC

L.C.D. 6/1/2022 **Use:** TAXIWAY **Rank:** P **Length:** 455.00 (Ft) **Width:** 50.00 (Ft) **True Area:** 22769.00000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
6/1/2022	NC-AC	New Construction - AC	0.00	0.00	☑	4" P-401, 6" P-211

Network: WILLISTON MUNIC **Branch:** TW B TAXIWAY B **Section:** 305 **Surface:**AAC

L.C.D. 1/1/2009 **Use:** TAXIWAY **Rank:** P **Length:** 2,900.00 (Ft) **Width:** 35.00 (Ft) **True Area:** 101269.0000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2009	ML-OVL	Mill and Overlay	0.00	0.00	☑	
1/1/1942	IMPORTED	BUILT	0.00	2.00	☑	1942: 2" AC ON 6" LIME ROCK BASE

Network: WILLISTON MUNIC **Branch:** TW C TAXIWAY C **Section:** 105 **Surface:**AAC

L.C.D. 1/1/2009 **Use:** TAXIWAY **Rank:** P **Length:** 1,165.00 (Ft) **Width:** 50.00 (Ft) **True Area:** 65023.00001 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2009	ML-OVL	Mill and Overlay	0.00	0.00	☑	
1/1/1982	IMPORTED	OVERLAY	0.00	0.00	☑	ESTIMATE 1982 AC OVERLAY
1/1/1942	IMPORTED	BUILT	0.00	2.00	☑	1942: 2" AC ON 6" LIME ROCK BASE

Network: WILLISTON MUNIC **Branch:** TW C TAXIWAY C **Section:** 115 **Surface:**AAC

L.C.D. 1/1/2009 **Use:** TAXIWAY **Rank:** P **Length:** 416.00 (Ft) **Width:** 70.00 (Ft) **True Area:** 35409.00001 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2009	ML-OVL	Mill and Overlay	0.00	0.00	☑	
1/1/1982	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** TW D1 TAXIWAY D1 **Section:** 405 **Surface:**AAC

L.C.D. 1/1/2009 **Use:** TAXIWAY **Rank:** P **Length:** 1,384.00 (Ft) **Width:** 35.00 (Ft) **True Area:** 57110.00001 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2009	ML-OVL	Mill and Overlay	0.00	0.00	☑	
1/1/1942	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** TW D TAXIWAY D **Section:** 505 **Surface:**AAC

L.C.D. 1/1/2009 **Use:** TAXIWAY **Rank:** P **Length:** 1,100.00 (Ft) **Width:** 50.00 (Ft) **True Area:** 61793.00001 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2009	ML-OVL	Mill and Overlay	0.00	0.00	☑	
12/25/1999	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** TW D TAXIWAY D **Section:** 510 **Surface:**AAC

L.C.D. 1/1/2013 **Use:** TAXIWAY **Rank:** P **Length:** 170.00 (Ft) **Width:** 50.00 (Ft) **True Area:** 8500.000002 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2013	ML-OVL	Mill and Overlay	0.00	0.00	☑	
1/1/2009	ML-OVL	Mill and Overlay	0.00	0.00	☑	
12/25/1999	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** TW E TAXIWAY E **Section:** 705 **Surface:**AAC

L.C.D. 1/1/2009 **Use:** TAXIWAY **Rank:** P **Length:** 1,384.00 (Ft) **Width:** 35.00 (Ft) **True Area:** 55768.00001 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/2009	ML-OVL	Mill and Overlay	0.00	0.00	☑	
1/1/1942	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** TW F TAXIWAY F **Section:** 550 **Surface:**AC

L.C.D. 1/1/1942 **Use:** TAXIWAY **Rank:** P **Length:** 2,450.00 (Ft) **Width:** 75.00 (Ft) **True Area:** 128837.0000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/1942	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** TW F TAXIWAY F **Section:** 555 **Surface:**PCC

L.C.D. 1/1/1942 **Use:** TAXIWAY **Rank:** P **Length:** 150.00 (Ft) **Width:** 75.00 (Ft) **True Area:** 11250.00000 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/1942	NU-IN	New Construction - Initial	0.00	0.00	☑	

Network: WILLISTON MUNIC **Branch:** TW F TAXIWAY F **Section:** 565 **Surface:**AC

L.C.D. 2/1/2015 **Use:** TAXIWAY **Rank:** P **Length:** 1,000.00 (Ft) **Width:** 35.00 (Ft) **True Area:** 33640.00001 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
2/1/2015	NU-IN	New Construction - Initial	0.00	0.00	☑	2" FDOT SP-12.5, 8" LIMEROCK, 12

Network: WILLISTON MUNIC **Branch:** TW G TAXIWAY G **Section:** 450 **Surface:**AC

L.C.D. 1/1/1942 **Use:** TAXIWAY **Rank:** P **Length:** 1,173.00 (Ft) **Width:** 75.00 (Ft) **True Area:** 94473.00002 (SqFt

Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R	Comments
1/1/1942	NU-IN	New Construction - Initial	0.00	0.00	☑	

Summary:

Work Description	Section Count	Area Total (SqFt)	Thickness Avg (in)	Thickness STD (in)
BUILT	12	1,404,030.00	3.17	2.88
Complete Reconstruction - AC	2	102,553.00	0.00	0.00
Joint Seal - PCC	2	47,582.00	0.00	0.00
Mill and Overlay	12	905,378.00	0.00	0.00
New Construction - AC	2	29,397.00	0.00	0.00
New Construction - Initial	18	1,013,204.00	0.67	1.49
New Construction - PCC	1	2,867.00	0.00	0.00
OVERLAY	3	575,518.00	0.00	0.00
Overlay - AC Structural	2	17,867.00	0.00	0.00
Overlay - PCC	3	670,650.00	1.33	1.89
Surface Treatment - Seal Coat	1	40,650.00	0.00	0.00

Branch Condition Report

Pavement Database: FDOT

Branch ID	Number of Sections	Sum Section Length (Ft)	Avg Section Width (Ft)	True Area (SqFt)	Use	Average PCI	Standard Deviation PCI	Weighted Average PCI
AP	2	1,400.00	175.00	187,996.00	APRON	84.00	16.00	82.80
AP HANG	2	319.00	56.00	17,123.00	APRON	83.00	6.00	81.64
AP RU 23	1	400.00	50.00	28,165.00	APRON	89.00	0.00	89.00
AP T-HANG	2	145.00	50.00	6,767.00	APRON	37.00	13.00	38.98
RW 14-32	4	5,178.00	87.50	318,195.00	RUNWAY	76.25	4.26	76.63
RW 5-23	2	750.00	62.50	22,500.00	RUNWAY	51.00	9.00	48.00
TL T-HANG	2	1,216.00	35.00	40,453.00	TAXILANE	70.00	8.00	69.38
TW A	2	4,990.00	42.50	447,492.00	TAXIWAY	86.50	0.50	86.64
TW A1	1	600.00	50.00	34,316.00	TAXIWAY	87.00	0.00	87.00
TW AP	1	455.00	50.00	22,769.00	TAXIWAY	100.00	0.00	100.00
TW B	1	2,900.00	35.00	101,269.00	TAXIWAY	80.00	0.00	80.00
TW C	2	1,581.00	60.00	100,432.00	TAXIWAY	70.00	14.00	65.87
TW D	2	1,270.00	50.00	70,293.00	TAXIWAY	84.50	4.50	81.09
TW D1	1	1,384.00	35.00	57,110.00	TAXIWAY	77.00	0.00	77.00
TW E	1	1,384.00	35.00	55,768.00	TAXIWAY	81.00	0.00	81.00
TW F	3	3,600.00	61.67	173,727.00	TAXIWAY	40.33	32.27	23.40
TW G	1	1,173.00	75.00	94,473.00	TAXIWAY	7.00	0.00	7.00

Pavement Database: FDOT

Use Category	Number of Sections	Total Area (SqFt)	Arithmetic Average PCI	Average STD PCI	Weighted Average PCI
APRON	7	240,051.00	71.00	24.45	82.21
RUNWAY	6	340,695.00	67.83	13.45	74.74
TAXILANE	2	40,453.00	70.00	8.00	69.38
TAXIWAY	15	1,157,649.00	69.00	28.96	67.46
ALL	30	1,778,848.00	69.30	24.50	70.89

Pavement Database: FDOT *NetworkId: X60*

Branch ID	Section ID	Last Const. Date	Surface	Use	Rank	Lanes	True Area (SqFt)	Last Inspection Date	Age At Inspection	PCI
AP	4105	6/1/2022	AC	APRON	P	0	86,922.00	6/1/2022	0	100
AP	4110	2/1/2015	AC	APRON	P	0	101,074.00	7/25/2022	7	68
AP HANG	4205	1/1/2009	AAC	APRON	P	0	10,495.00	7/25/2022	13	77
AP HANG	4210	1/1/2019	AC	APRON	P	0	6,628.00	7/25/2022	3	89
AP RU 23	5105	1/1/2013	AC	APRON	P	0	28,165.00	7/25/2022	9	89
AP T-HANG	4315	1/1/1986	AC	APRON	P	0	3,900.00	7/25/2022	36	50
AP T-HANG	4316	1/1/2003	APC	APRON	P	0	2,867.00	7/25/2022	19	24
RW 14-32	6205	1/1/1942	PCC	RUNWAY	P	0	24,688.00	7/25/2022	80	70
RW 14-32	6215	2/1/2015	AAC	RUNWAY	P	0	254,982.00	7/25/2022	7	77
RW 14-32	6235	1/1/1942	PCC	RUNWAY	P	0	22,894.00	7/25/2022	80	76
RW 14-32	6250	2/1/2015	AC	RUNWAY	P	0	15,631.00	7/25/2022	7	82
RW 5-23	6110	1/1/1942	PCC	RUNWAY	P	0	7,500.00	7/25/2022	80	60
RW 5-23	6112	1/1/2006	APC	RUNWAY	P	0	15,000.00	7/25/2022	16	42
TL T-HANG	4320	1/1/2005	AC	TAXILANE	P	0	18,657.00	7/25/2022	17	78
TL T-HANG	4325	1/1/2003	AC	TAXILANE	P	0	21,796.00	7/25/2022	19	62
TW A	205	1/1/2013	AAC	TAXIWAY	P	0	159,607.00	7/25/2022	9	86
TW A	220	1/1/2013	AC	TAXIWAY	P	0	287,885.00	7/25/2022	9	87
TW A1	255	1/1/2013	AC	TAXIWAY	P	0	34,316.00	7/25/2022	9	87
TW AP	905	6/1/2022	AC	TAXIWAY	P	0	22,769.00	6/1/2022	0	100
TW B	305	1/1/2009	AAC	TAXIWAY	P	0	101,269.00	7/25/2022	13	80
TW C	105	1/1/2009	AAC	TAXIWAY	P	0	65,023.00	7/25/2022	13	56
TW C	115	1/1/2009	AAC	TAXIWAY	P	0	35,409.00	7/25/2022	13	84
TW D	505	1/1/2009	AAC	TAXIWAY	P	0	61,793.00	7/25/2022	13	80
TW D	510	1/1/2013	AAC	TAXIWAY	P	0	8,500.00	7/25/2022	9	89
TW D1	405	1/1/2009	AAC	TAXIWAY	P	0	57,110.00	7/25/2022	13	77
TW E	705	1/1/2009	AAC	TAXIWAY	P	0	55,768.00	7/25/2022	13	81
TW F	550	1/1/1942	AC	TAXIWAY	P	0	128,837.00	7/25/2022	80	7
TW F	555	1/1/1942	PCC	TAXIWAY	P	0	11,250.00	7/25/2022	80	30
TW F	565	2/1/2015	AC	TAXIWAY	P	0	33,640.00	7/25/2022	7	84
TW G	450	1/1/1942	AC	TAXIWAY	P	0	94,473.00	7/25/2022	80	7

Pavement Database: FDOT

Age Category	Average Age at Inspection	Total Area (SqFt)	Number of Sections	Arithmetic Average PCI	Standard Deviation PCI	Weighted Average PCI
00-02		109,691.00	2	100.00	0.00	100.00
03-05	3	6,628.00	1	89.00	0.00	89.00
06-10	8	923,800.00	9	83.22	6.46	81.87
11-15	13	386,867.00	7	76.43	8.63	75.95
16-20	18	58,320.00	4	51.50	20.37	60.11
36-40	36	3,900.00	1	50.00	0.00	50.00
50+	80	289,642.00	6	41.67	28.45	20.09
ALL	25	1,778,848.00	30	69.30	24.50	70.89

Appendix B: Maintenance and Rehabilitation Planning Needs

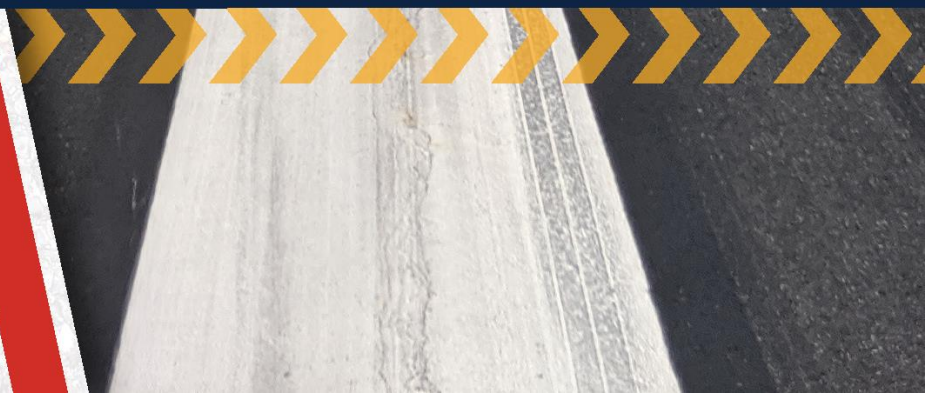


Table B.1: Localized Maintenance and Repair Needs Based on Current Distresses

Network ID	Branch ID	Section ID	Description	Severity	Distress Qty	Distress Unit	Distress Density	Policy Type	Localized Work Type	Work Qty	Work Unit	Unit Cost	Work Cost
X60	RW 14-32	6215	WEATHERING	Medium	12,749	SF	5.0%	Preventive	Surface Seal	12,749	SF	$ 0.75	$ 9,570
X60	RW 14-32	6235	JT SEAL DMG	Low	159	Slabs	100.0%	Preventive	PCC Joint Seal	3,088	LF	$ 4.25	$ 13,130
X60	RW 14-32	6235	JOINT SPALL	Medium	2	Slabs	1.4%	Preventive	PCC Partial-Depth Patching	14	SF	$ 169.00	$ 2,450
X60	RW 14-32	6235	CORNER SPALL	Medium	2	Slabs	1.4%	Preventive	PCC Partial-Depth Patching	7	SF	$ 169.00	$ 1,020
X60	RW 14-32	6250	WEATHERING	Medium	781	SF	5.0%	Preventive	Surface Seal	782	SF	$ 0.75	$ 590
X60	TW A	205	WEATHERING	Medium	1,989	SF	1.3%	Preventive	Surface Seal	1,989	SF	$ 0.75	$ 1,500
X60	TW B	305	WEATHERING	Medium	8,803	SF	8.7%	Preventive	Surface Seal	8,803	SF	$ 0.75	$ 6,610
X60	TW C	115	WEATHERING	Medium	5,312	SF	15.0%	Preventive	Surface Seal	5,312	SF	$ 0.75	$ 3,990
X60	TW D	505	WEATHERING	Medium	7,712	SF	12.5%	Preventive	Surface Seal	7,712	SF	$ 0.75	$ 5,790
X60	TW D1	405	WEATHERING	Medium	4,283	SF	7.5%	Preventive	Surface Seal	4,283	SF	$ 0.75	$ 3,220
X60	TW E	705	WEATHERING	Medium	5,577	SF	10.0%	Preventive	Surface Seal	5,577	SF	$ 0.75	$ 4,190
X60	TW F	565	WEATHERING	Medium	1,682	SF	5.0%	Preventive	Surface Seal	1,681	SF	$ 0.75	$ 1,270
X60	TL T-HANG	4320	RAVELING	Low	2,802	SF	15.0%	Preventive	Surface Seal	2,802	SF	$ 0.75	$ 2,110
X60	AP HANG	4205	WEATHERING	Medium	1,050	SF	10.0%	Preventive	Surface Seal	1,051	SF	$ 0.75	$ 790
X60	RW 5-23	6110	LINEAR CR	Medium	2	Slabs	6.3%	Stopgap	PCC Crack Sealing	29	LF	$ 7.00	$ 210
X60	RW 5-23	6110	JT SEAL DMG	High	25	Slabs	100.0%	Stopgap	PCC Joint Seal	1,225	LF	$ 4.25	$ 5,210
X60	TW F	550	BLOCK CR	High	25,802	SF	20.0%	Stopgap	AC Crack Sealing	7,865	LF	$ 4.00	$ 31,460
X60	TW F	550	RAVELING	High	128,837	SF	100.0%	Stopgap	AC Partial-Depth Patching	128,837	SF	$ 4.75	$ 611,980
X60	TW F	555	LINEAR CR	Medium	15	Slabs	41.7%	Stopgap	PCC Crack Sealing	285	LF	$ 7.00	$ 2,000
X60	TW F	555	LINEAR CR	High	3	Slabs	8.3%	Stopgap	PCC Crack Sealing	57	LF	$ 7.00	$ 400
X60	TW F	555	JT SEAL DMG	High	37	Slabs	100.0%	Stopgap	PCC Joint Seal	1,162	LF	$ 4.25	$ 4,950
X60	TW G	450	BLOCK CR	High	14,199	SF	15.0%	Stopgap	AC Crack Sealing	4,328	LF	$ 4.00	$ 17,320
X60	TW G	450	PATCHING	High	325	SF	0.3%	Stopgap	AC Full-Depth Patching	402	SF	$ 10.00	$ 4,020
X60	TW G	450	RAVELING	High	94,148	SF	99.7%	Stopgap	AC Partial-Depth Patching	94,148	SF	$ 4.75	$ 447,210

Table B.2: Section-Level 10-Year Major Rehabilitation Needs

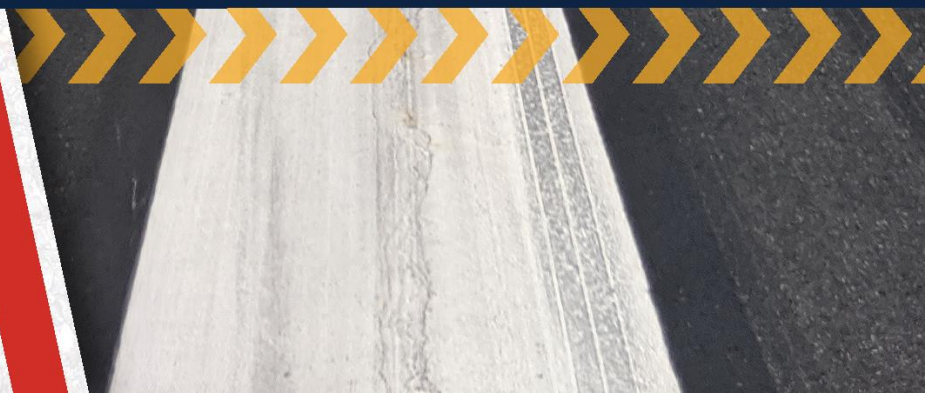
Program Year	Network ID	Branch ID	Section ID	Surface	Area (SF)	PCI Before	Rehabilitation Type	Planning Cost Estimate
2023	X60	RW 5-23	6110	PCC	7,500	59	PCC Rehabilitation	$ 113,000
2023	X60	RW 5-23	6112	APC	15,000	40	AC Reconstruction	$ 240,000
2023	X60	RW 14-32	6205	PCC	24,688	69	PCC Rehabilitation	$ 371,000
2023	X60	TW C	105	AAC	65,023	55	AC Reconstruction	$ 768,000
2023	X60	TW F	550	AC	128,837	5	AC Reconstruction	$ 2,062,000
2023	X60	TW F	555	PCC	11,250	29	PCC Reconstruction	$ 327,000
2023	X60	TW G	450	AC	94,473	5	AC Reconstruction	$ 1,512,000
2023	X60	TL T-HANG	4325	AC	21,796	61	AC Rehabilitation	$ 197,000
2023	X60	AP	4110	AC	101,074	67	AC Rehabilitation	$ 910,000
2023	X60	AP T-HANG	4315	AC	3,900	49	AC Reconstruction	$ 63,000
2023	X60	AP T-HANG	4316	APC	2,867	22	AC Reconstruction	$ 46,000
2026	X60	RW 14-32	6215	AAC	254,982	69	AC Rehabilitation	$ 2,657,000
2026	X60	AP HANG	4205	AAC	10,495	69	AC Rehabilitation	$ 110,000
2028	X60	TW D1	405	AAC	57,110	69	AC Rehabilitation	$ 657,000
2028	X60	TL T-HANG	4320	AC	18,657	70	AC Rehabilitation	$ 215,000
2029	X60	TW B	305	AAC	101,269	70	AC Rehabilitation	$ 1,222,000
2029	X60	TW D	505	AAC	61,793	70	AC Rehabilitation	$ 746,000
2030	X60	RW 14-32	6235	PCC	22,894	70	PCC Rehabilitation	$ 484,000
2030	X60	RW 14-32	6250	AC	15,631	69	AC Rehabilitation	$ 198,000
2030	X60	TW E	705	AAC	55,768	69	AC Rehabilitation	$ 707,000
2032	X60	TW C	115	AAC	35,409	69	AC Rehabilitation	$ 495,000
2032	X60	TW F	565	AC	33,640	69	AC Rehabilitation	$ 470,000

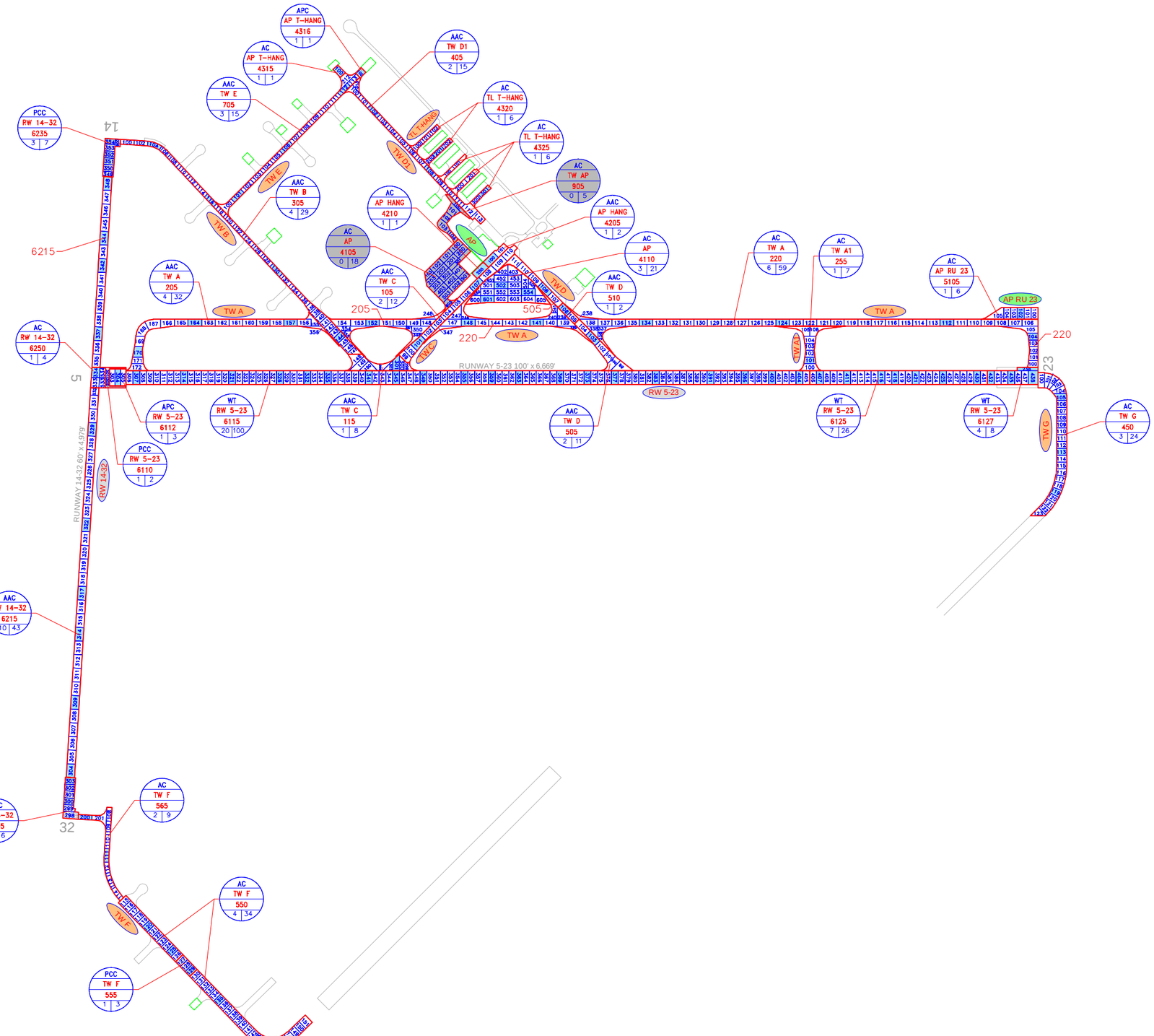
**All planning cost values have been rounded up to the nearest thousand dollars.*

Table B.3: Section-Level Major Rehabilitation Needs – Whitetopping Pavements

Network ID	Branch ID	Section ID	Surface	Area (SF)	PASER Value Before	Rehabilitation Type	Planning Cost Estimate
No Whitetopping Major Rehabilitation Needs							

Appendix C: Technical Exhibits





LEGEND

- RW 13-31 — TYPICAL RUNWAY BRANCH ID
- TW A — TYPICAL TAXIWAY BRANCH ID
- AP S — TYPICAL APRON BRANCH ID
- AAC / AP MAIN / 4105 / 10 | 100 — PAVEMENT SURFACE TYPE; PAVEMENT BRANCH ID; SECTION NUMBER; NUMBER OF SAMPLE UNITS IN SECTION; NUMBER OF SAMPLE UNITS TO BE INSPECTED
- AAC / AP MAIN / 4105 / 0 | 100 — SECTION NOT INSPECTED DUE TO RECENT CONSTRUCTION. SEE SYSTEM INVENTORY MAP FOR CONSTRUCTION DATES.
- 100 — INSPECTED SAMPLE UNITS.

TOTAL SAMPLES INSPECTED = 95
AC: 57 PCC: 7 WT:31

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

X60

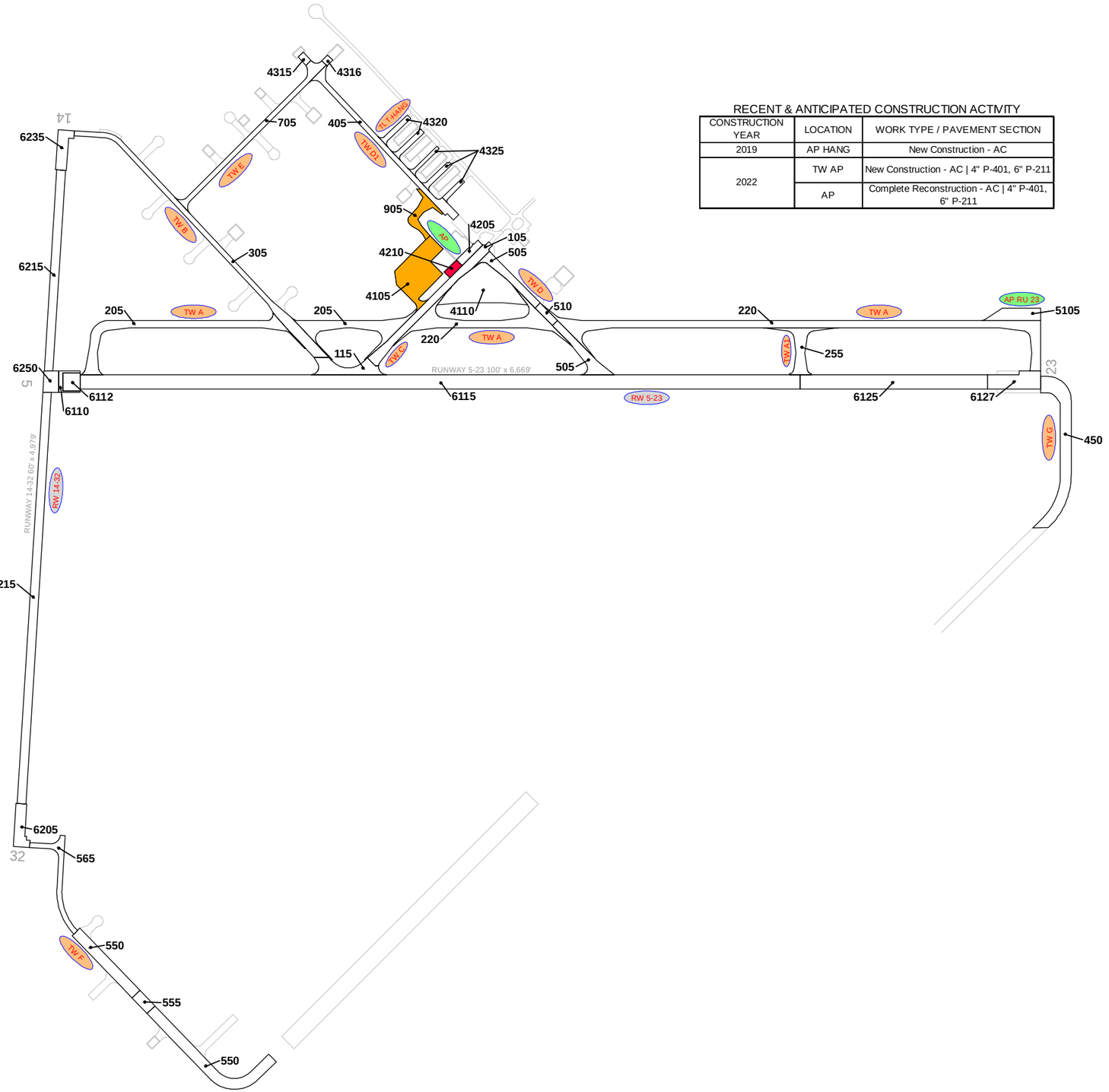
AIRFIELD PAVEMENT NETWORK DEFINITION EXHIBIT

Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

FDOT

2022



RECENT & ANTICIPATED CONSTRUCTION ACTIVITY

CONSTRUCTION YEAR	LOCATION	WORK TYPE / PAVEMENT SECTION
2019	AP HANG	New Construction - AC
2022	TW AP	New Construction - AC | 4" P-401, 6" P-211
	AP	Complete Reconstruction - AC | 4" P-401, 6" P-211

LEGEND

RW 13-31 — TYPICAL RUNWAY BRANCH ID

TW A — TYPICAL TAXIWAY BRANCH ID

AP S — TYPICAL APRON BRANCH ID

PROJECT YEAR

2017	2022
2018	2023
2019	2024
2020	2025
2021	2026

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

X60

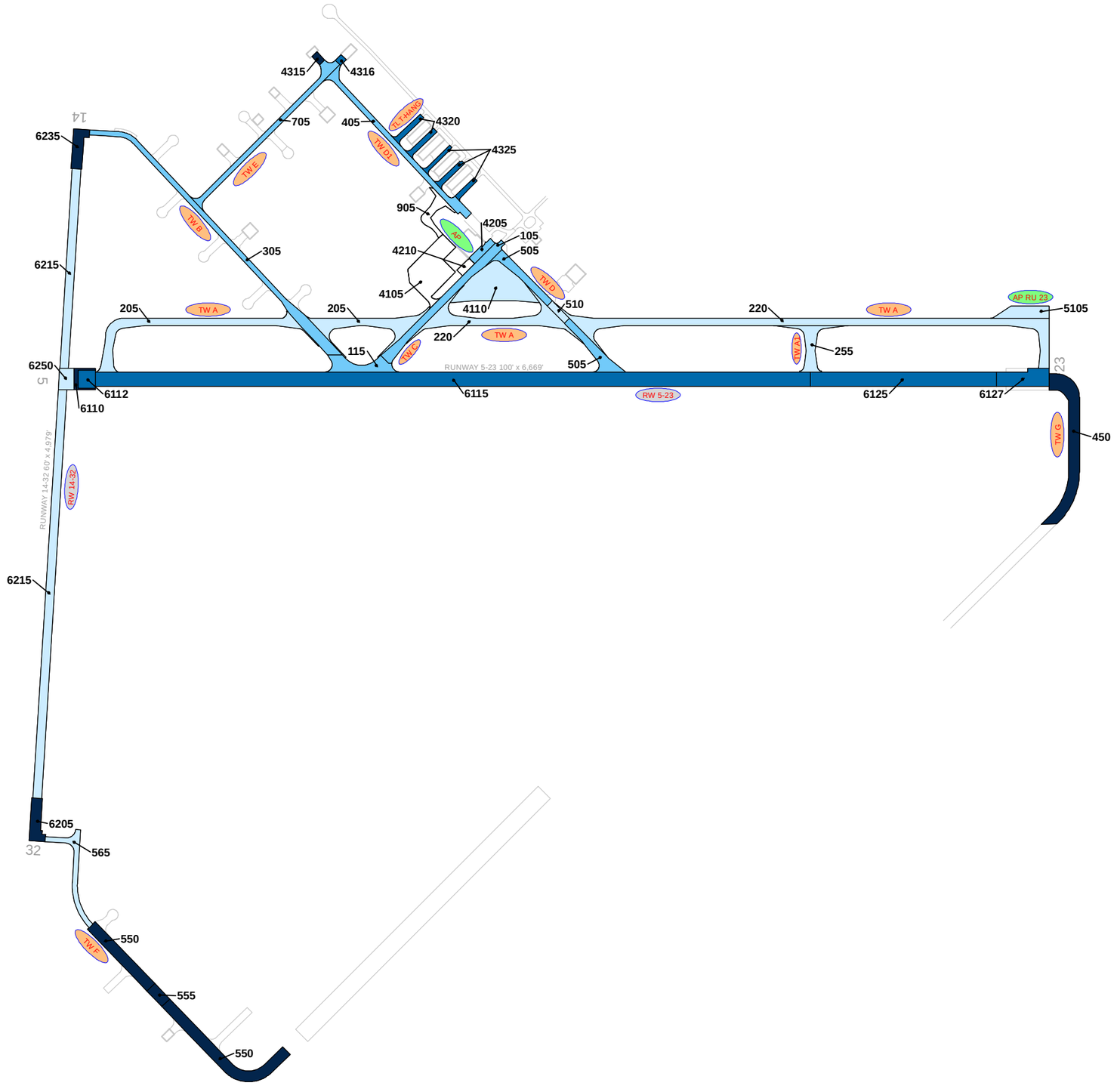
AIRFIELD PAVEMENT SYSTEM INVENTORY EXHIBIT

Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

FDOT

2022



LEGEND

- RW 13-31 — TYPICAL RUNWAY BRANCH ID
- TW A — TYPICAL TAXIWAY BRANCH ID
- AP S — TYPICAL APRON BRANCH ID

AGE AT INSPECTION

- 0-5 Years
- 6-10 Years
- 11-15 Years
- 16-20 Years
- > 20 Years

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

X60

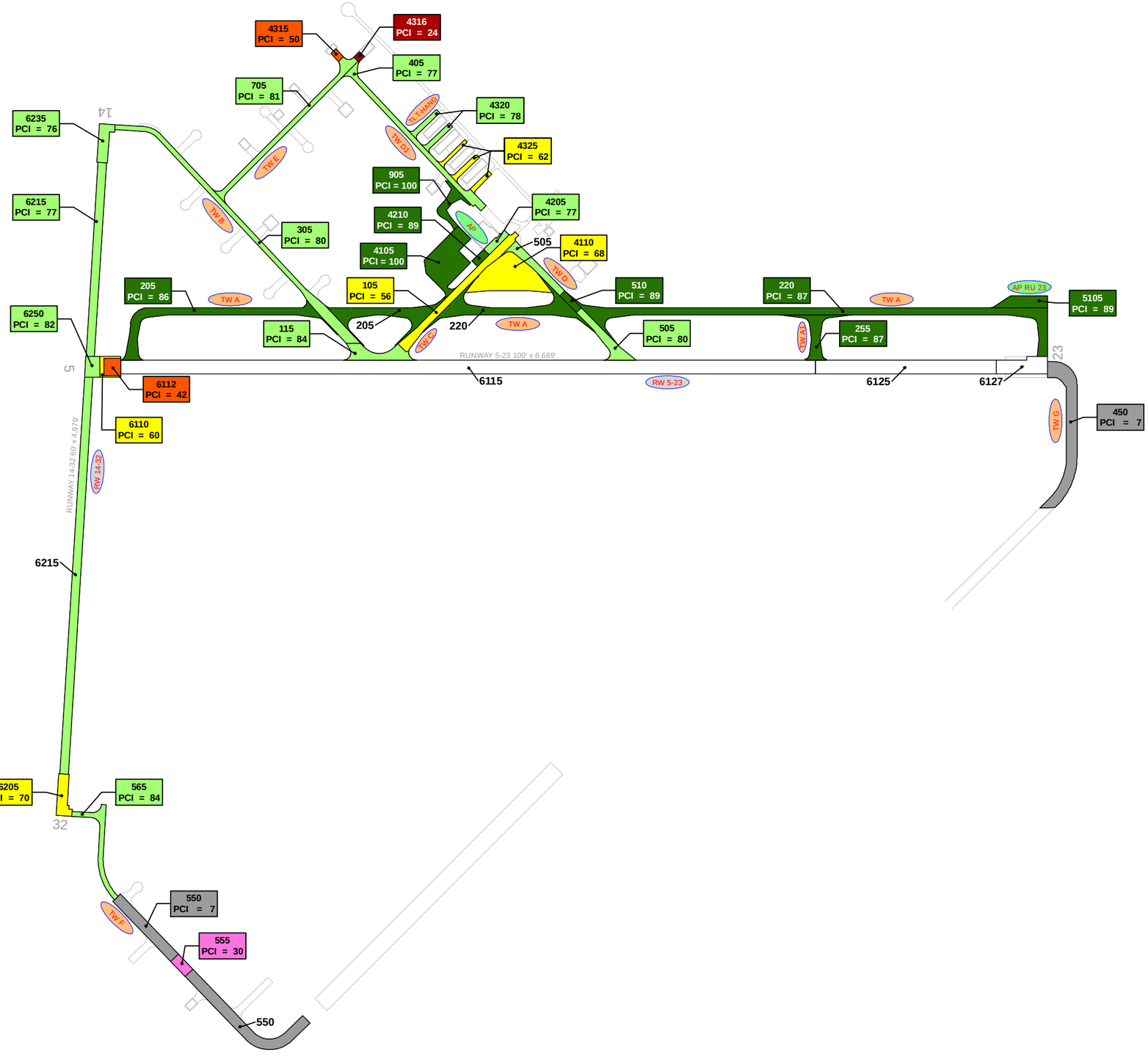
AIRFIELD PAVEMENT
ESTIMATED AGE EXHIBIT

Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

FDOT

2022



NORTH

LEGEND

- RW 13-31 — TYPICAL RUNWAY BRANCH ID
- TW A — TYPICAL TAXIWAY BRANCH ID
- AP S — TYPICAL APRON BRANCH ID

2022 PAVEMENT CONDITION INDEX

- 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

"SECTION ID"
"PCI VALUE"

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

X60

AIRFIELD PAVEMENT CONDITION INDEX EXHIBIT

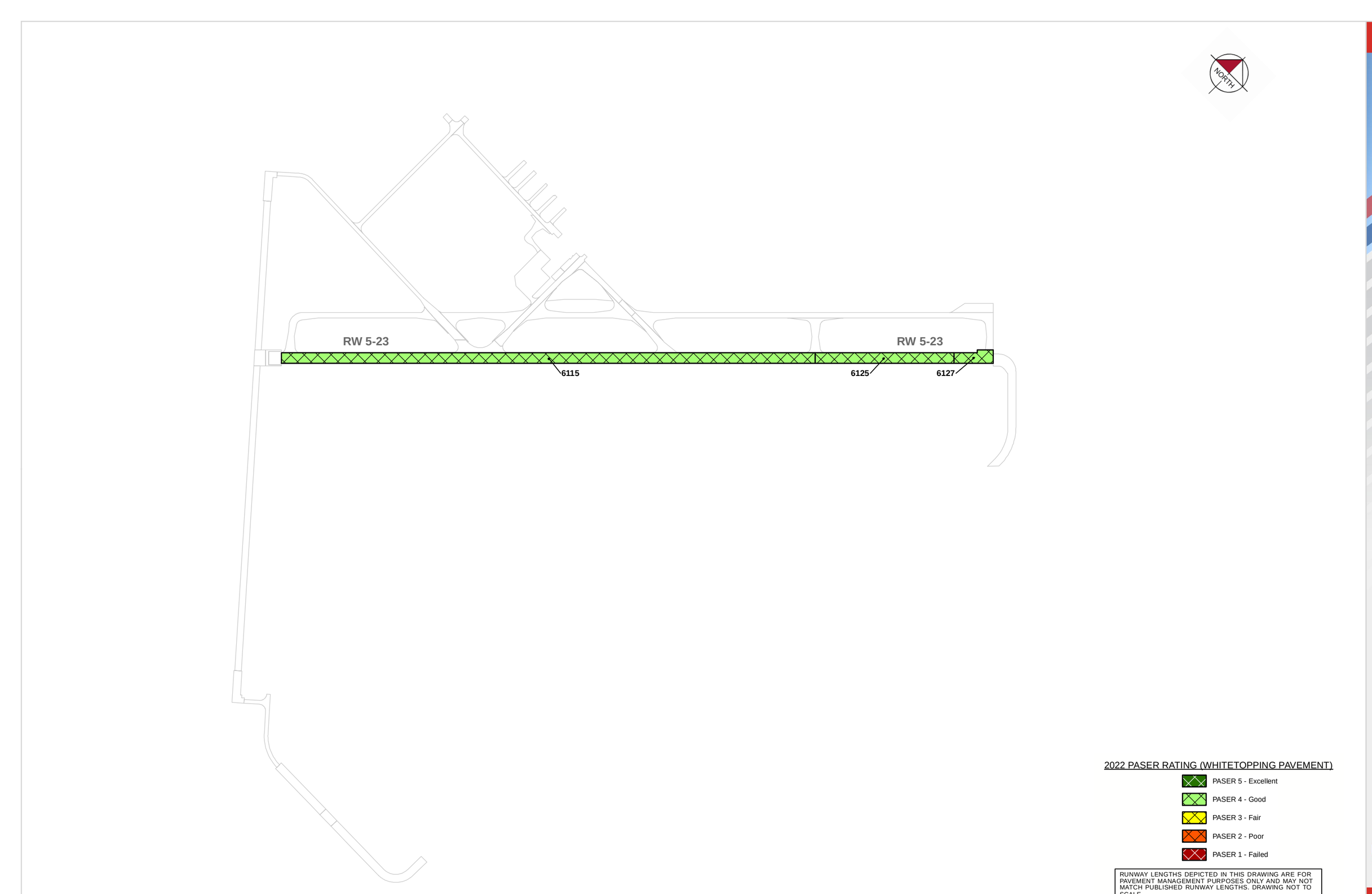
Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

FDOT

2022

X60



2022 PASER RATING (WHITETOPPING PAVEMENT)

- PASER 5 - Excellent
- PASER 4 - Good
- PASER 3 - Fair
- PASER 2 - Poor
- PASER 1 - Failed

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

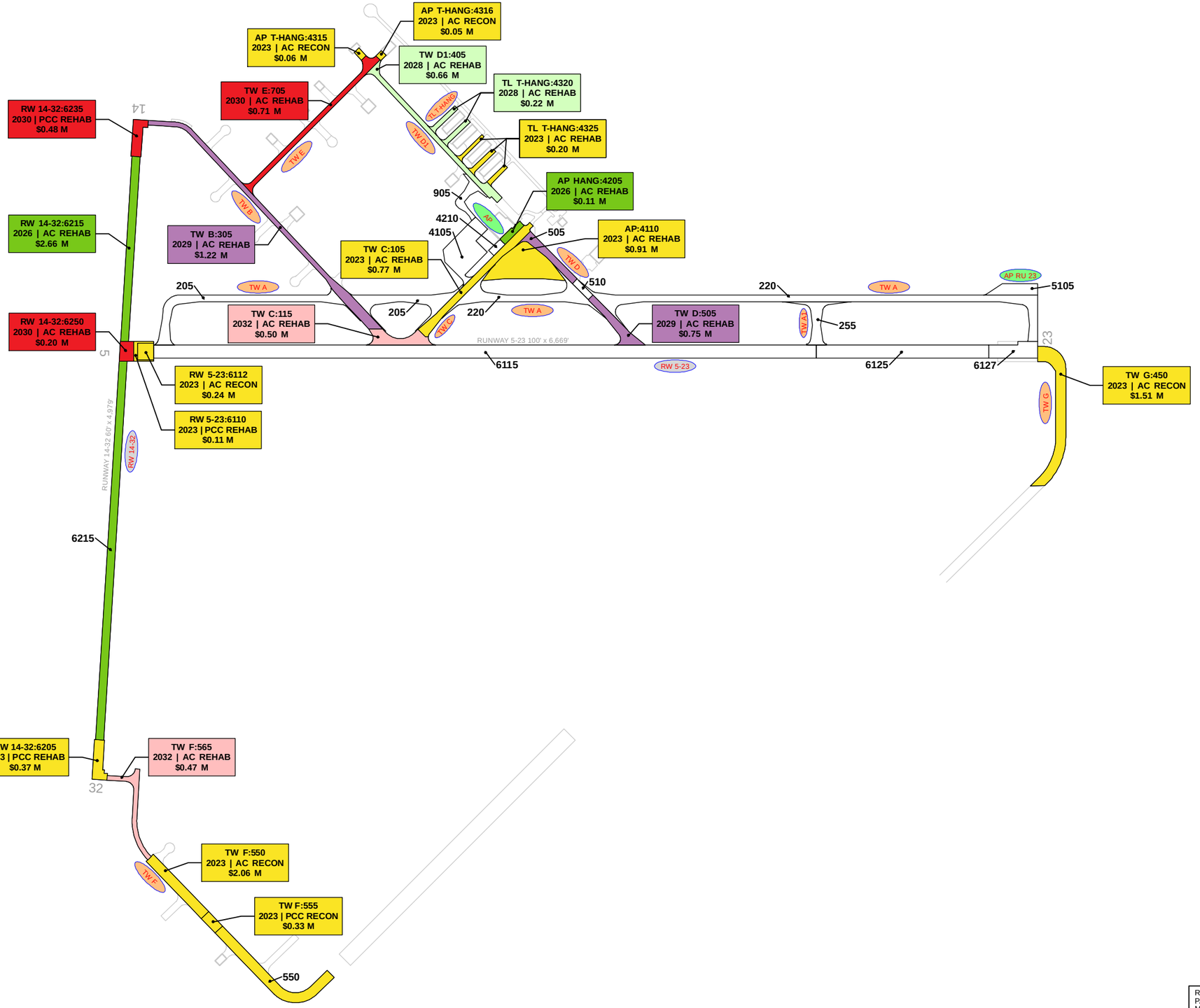
AIRFIELD PASER SURFACE RATING EXHIBIT - WHITETOPPING

Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

FDOT

2022



LEGEND

RW 13-31 — TYPICAL RUNWAY BRANCH ID

TW A — TYPICAL TAXIWAY BRANCH ID

AP S — TYPICAL APRON BRANCH ID

PROGRAM YEAR

2023	2028
2024	2029
2025	2030
2026	2031
2027	2032

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

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

X60

AIRFIELD PAVEMENT MAJOR REHABILITATION EXHIBIT

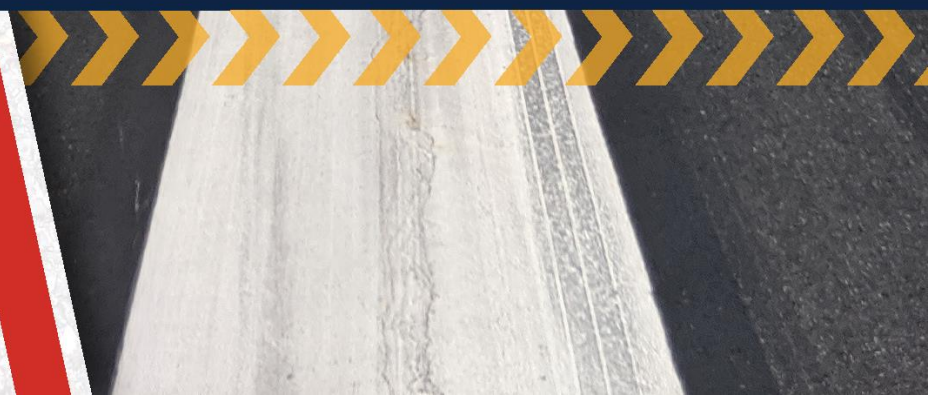
Statewide Airfield Pavement Management Program

WILLISTON MUNICIPAL AIRPORT

FDOT

2022

Appendix D: Inspection Photograph Documentation



RW 5-23, Section 6112, Sample Unit 304 – Joint Reflection Cracking

RW 5-23, Section 6115, Sample Unit 369 (Whitetopping) – Vicinity

RW 5-23, Section 6127, Sample Unit 435 (Whitetopping) – Vicinity

RW 14-32, Section 6205, Sample Unit 303 – Linear Cracking

RW 14-32, Section 6215, Sample Unit 322 – Longitudinal & Transverse Cracking

TW A, Section 205, Sample Unit 164 – Longitudinal & Transverse Cracking

TW B, Section 305, Sample Unit 130 – Vicinity

TW C, Section 105, Sample Unit 101 – Vicinity

TW D, Section 505, Sample Unit 103 – Longitudinal & Transverse Cracking

TW F, Section 550, Sample Unit 145 – Block Cracking and Raveling

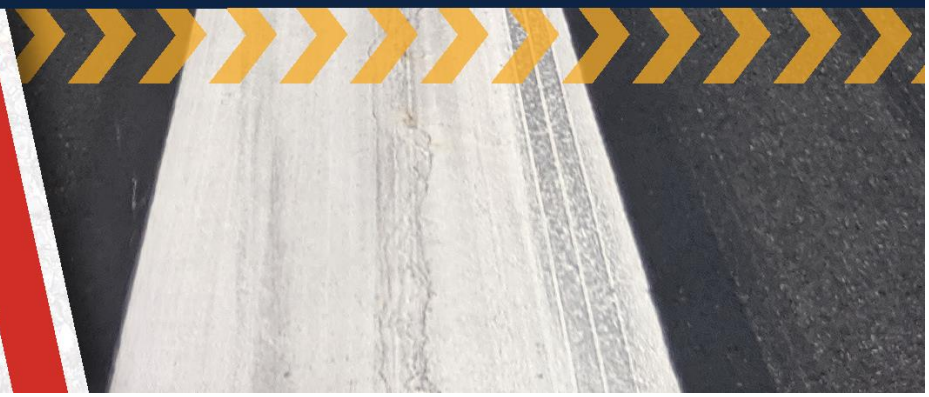
TW G, Section 450, Sample Unit 113 – Block Cracking

AP, Section 4110, Sample Unit 554 – Longitudinal & Transverse Cracking

AP, Section 4110, Sample Unit 601 – Longitudinal & Transverse Cracking

AP HANG, Section 4205, Sample Unit 100 – Swelling

Appendix E: Inspection Distress Details



Re-Inspection Report

FDOT
Generated Date 11/17/2022

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: AP **Name:** APRON **Use:** APRON **Area:** 187,996 SqFt

Section: 4105 of 2 **From:** - **To:** - **Last Const.:** 6/1/2022

Surface: AC **Family:** CA653-GA-AP-AC **Zone:** **Category:** **Rank:** P

Area: 86,922 SqFt **Length:** 400 Ft **Width:** 250 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1990 **Work Type:** BUILT **Code:** IMPORTED **Is Major M&R:** True

Work Date: 1/1/2009 **Work Type:** Mill and Overlay **Code:** ML-OVL **Is Major M&R:** True

Work Date: 6/1/2022 **Work Type:** Complete Reconstruction - AC **Code:** CR-AC **Is Major M&R:** True

Last Insp. Date: 4/11/2019 **TotalSamples:** 18 **Surveyed:** 3

Conditions: **PCI:** 60 **NOTE: *** Pre-Construction PCI *****

Inspection Comments:

Sample Number: 102 **Type:** R **Area:** 5000.00 SqFt **PCI:** 60

Sample Comments:

42	BLEEDING	N	3.00	SqFt
48	L & T CR	L	125.00	Ft
49	OIL SPILLAGE	N	16.00	SqFt
52	RAVELING	L	65.00	SqFt
56	SWELLING	L	1000.00	SqFt
57	WEATHERING	L	4935.00	SqFt

Sample Number: 200 **Type:** R **Area:** 5000.00 SqFt **PCI:** 58

Sample Comments:

42	BLEEDING	N	2.00	SqFt
48	L & T CR	L	251.00	Ft
52	RAVELING	L	250.00	SqFt
56	SWELLING	L	1250.00	SqFt
57	WEATHERING	L	4750.00	SqFt

Sample Number: 403 **Type:** R **Area:** 5250.00 SqFt **PCI:** 61

Sample Comments:

42	BLEEDING	N	1.00	SqFt
48	L & T CR	L	441.00	Ft
52	RAVELING	L	262.00	SqFt
56	SWELLING	L	1050.00	SqFt
57	WEATHERING	L	4988.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: AP **Name:** APRON **Use:** APRON **Area:** 187,996 SqFt

Section: 4110 of 2 **From:** - **To:** - **Last Const.:** 2/1/2015

Surface: AC **Family:** CA653-GA-AP-AC **Zone:** **Category:** **Rank:** P

Area: 101,074 SqFt **Length:** 1,000 Ft **Width:** 100 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 2/1/2015 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 21 **Surveyed:** 3

Conditions: **PCI:** 68

Inspection Comments:

Sample Number: 502 **Type:** R **Area:** 5000.00 SqFt **PCI:** 66

Sample Comments:

48	L & T CR	L	164.00	Ft
48	L & T CR	M	200.00	Ft
56	SWELLING	L	2.00	SqFt
57	WEATHERING	L	5000.00	SqFt

Sample Number: 554 **Type:** R **Area:** 5000.00 SqFt **PCI:** 72

Sample Comments:

48	L & T CR	L	219.00	Ft
48	L & T CR	M	50.00	Ft
56	SWELLING	L	91.00	SqFt
57	WEATHERING	L	5000.00	SqFt

Sample Number: 601 **Type:** R **Area:** 5123.00 SqFt **PCI:** 66

Sample Comments:

48	L & T CR	L	260.00	Ft
48	L & T CR	M	150.00	Ft
56	SWELLING	L	124.00	SqFt
57	WEATHERING	L	5123.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: AP HANG **Name:** HANGAR APRON **Use:** APRON **Area:** 17,123 SqFt

Section: 4205 of 2 **From:** - **To:** - **Last Const.:** 1/1/2009

Surface: AAC **Family:** CA653-GA-AP-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 10,495 SqFt **Length:** 200 Ft **Width:** 56 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942	**Work Type:** BUILT	**Code:** IMPORTED	**Is Major M&R:** True
Work Date: 1/1/1985	**Work Type:** OVERLAY	**Code:** IMPORTED	**Is Major M&R:** True
Work Date: 1/1/2009	**Work Type:** Mill and Overlay	**Code:** ML-OVL	**Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 2 **Surveyed:** 1

Conditions: **PCI:** 77

Inspection Comments:

Sample Number: 100 **Type:** R **Area:** 5546.00 SqFt **PCI:** 77

Sample Comments:

42	BLEEDING	N	1.00	SqFt
48	L & T CR	L	89.00	Ft
49	OIL SPILLAGE	N	1.00	SqFt
56	SWELLING	L	95.00	SqFt
57	WEATHERING	L	4991.00	SqFt
57	WEATHERING	M	555.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: AP HANG **Name:** HANGAR APRON **Use:** APRON **Area:** 17,123 SqFt

Section: 4210 of 2 **From:** - **To:** - **Last Const.:** 1/1/2019

Surface: AC **Family:** CA653-GA-AP-AC **Zone:** **Category:** **Rank:** P

Area: 6,628 SqFt **Length:** 119 Ft **Width:** 56 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/2019 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 1 **Surveyed:** 1

Conditions: **PCI:** 89

Inspection Comments:

Sample Number: 200 **Type:** R **Area:** 6628.00 SqFt **PCI:** 89

Sample Comments:

48	L & T CR	L	53.00	Ft
57	WEATHERING	L	6628.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: AP RU 23 **Name:** RUN-UP APRON **Use:** APRON **Area:** 28,165 SqFt

Section: 5105 of 1 **From:** - **To:** - **Last Const.:** 1/1/2013

Surface: AC **Family:** CA653-GA-AP-AC **Zone:** **Category:** **Rank:** P

Area: 28,165 SqFt **Length:** 400 Ft **Width:** 50 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/2013 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 6 **Surveyed:** 1

Conditions: **PCI:** 89

Inspection Comments:

Sample Number: 102 **Type:** R **Area:** 4250.00 SqFt **PCI:** 89

Sample Comments:

48	L & T CR	L	45.00	Ft
57	WEATHERING	L	4250.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: AP T-HANG **Name:** APRON AT T-HANGARS **Use:** APRON **Area:** 6,767 SqFt

Section: 4315 of 2 **From:** - **To:** - **Last Const.:** 1/1/1986

Surface: AC **Family:** CA653-GA-AP-AC **Zone:** **Category:** **Rank:** P

Area: 3,900 SqFt **Length:** 80 Ft **Width:** 50 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1986 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 1 **Surveyed:** 1

Conditions: **PCI:** 50

Inspection Comments:

Sample Number: 100 **Type:** R **Area:** 3900.00 SqFt **PCI:** 50

Sample Comments:

48	L & T CR	L	458.00	Ft
48	L & T CR	M	50.00	Ft
52	RAVELING	L	3315.00	SqFt
52	RAVELING	M	585.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: AP T-HANG **Name:** APRON AT T-HANGARS **Use:** APRON **Area:** 6,767 SqFt

Section: 4316 of 2 **From:** - **To:** - **Last Const.:** 1/1/2003

Surface: APC **Family:** CA653-GA-AP-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 2,867 SqFt **Length:** 65 Ft **Width:** 50 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1986 **Work Type:** New Construction - PCC **Code:** NC-PC **Is Major M&R:** True

Work Date: 1/1/2003 **Work Type:** Overlay - AC Structural **Code:** OL-AS **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 1 **Surveyed:** 1

Conditions: **PCI:** 24

Inspection Comments:

Sample Number: 100 **Type:** R **Area:** 2867.00 SqFt **PCI:** 24

Sample Comments:

43	BLOCK CR	M	1720.00	SqFt
45	DEPRESSION	L	36.00	SqFt
47	JT REF. CR	M	312.00	Ft
48	L & T CR	M	165.00	Ft
52	RAVELING	L	287.00	SqFt
57	WEATHERING	M	2580.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: RW 14-32 **Name:** RUNWAY 14-32 **Use:** RUNWAY **Area:** 318,195 SqFt

Section: 6205 of 4 **From:** - **To:** - **Last Const.:** 1/1/1942

Surface: PCC **Family:** CA653-GA-RW-TW-PCC **Zone:** **Category:** **Rank:** P

Area: 24,688 SqFt **Length:** 300 Ft **Width:** 75 Ft

Slabs: 171 **Slab Length:** 12 Ft **Slab Width:** 12 Ft **Joint Length:** 3,375 Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** BUILT **Code:** IMPORTED **Is Major M&R:** True

Work Date: 2/1/2015 **Work Type:** Joint Seal - PCC **Code:** JS-PC **Is Major M&R:** False

Last Insp. Date: 7/25/2022 **TotalSamples:** 6 **Surveyed:** 2

Conditions: **PCI:** 70

Inspection Comments:

Sample Number: 300 **Type:** R **Area:** 20.00 Slabs **PCI:** 71

Sample Comments:

63	LINEAR CR	L	4.00	Slabs
65	JT SEAL DMG	L	20.00	Slabs
73	SHRINKAGE CR	N	20.00	Slabs
74	JOINT SPALL	L	2.00	Slabs
75	CORNER SPALL	L	1.00	Slabs

Sample Number: 303 **Type:** R **Area:** 13.00 Slabs **PCI:** 67

Sample Comments:

63	LINEAR CR	L	11.00	Slabs
65	JT SEAL DMG	L	13.00	Slabs
73	SHRINKAGE CR	N	13.00	Slabs
74	JOINT SPALL	L	1.00	Slabs

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: RW 14-32 **Name:** RUNWAY 14-32 **Use:** RUNWAY **Area:** 318,195 SqFt

Section: 6215 of 4 **From:** - **To:** - **Last Const.:** 2/1/2015

Surface: AAC **Family:** CA653-GA-RW-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 254,982 SqFt **Length:** 4,300 Ft **Width:** 100 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** BUILT **Code:** IMPORTED **Is Major M&R:** True

Work Date: 2/1/2015 **Work Type:** Mill and Overlay **Code:** ML-OVL **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 43 **Surveyed:** 10

Conditions: **PCI:** 77

Inspection Comments:

Sample Number: 304 **Type:** R **Area:** 6000.00 SqFt **PCI:** 79

Sample Comments:

42	BLEEDING	N	1.00	SqFt
48	L & T CR	L	253.00	Ft
57	WEATHERING	L	5700.00	SqFt
57	WEATHERING	M	300.00	SqFt

Sample Number: 309 **Type:** R **Area:** 6000.00 SqFt **PCI:** 77

Sample Comments:

48	L & T CR	L	300.00	Ft
57	WEATHERING	L	5700.00	SqFt
57	WEATHERING	M	300.00	SqFt

Sample Number: 314 **Type:** R **Area:** 6000.00 SqFt **PCI:** 78

Sample Comments:

48	L & T CR	L	267.00	Ft
57	WEATHERING	L	5700.00	SqFt
57	WEATHERING	M	300.00	SqFt

Sample Number: 317 **Type:** R **Area:** 6000.00 SqFt **PCI:** 75

Sample Comments:

48	L & T CR	L	297.00	Ft
56	SWELLING	L	12.00	SqFt
57	WEATHERING	L	5700.00	SqFt
57	WEATHERING	M	300.00	SqFt

Sample Number: 322 **Type:** R **Area:** 6000.00 SqFt **PCI:** 75

Sample Comments:

48	L & T CR	L	309.00	Ft
56	SWELLING	L	6.00	SqFt
57	WEATHERING	L	5700.00	SqFt
57	WEATHERING	M	300.00	SqFt

Sample Number: 329 **Type:** R **Area:** 6000.00 SqFt **PCI:** 72

Sample Comments:

48	L & T CR	L	405.00	Ft
56	SWELLING	L	7.00	SqFt
57	WEATHERING	L	5700.00	SqFt
57	WEATHERING	M	300.00	SqFt

Sample Number: 337 **Type:** R **Area:** 6000.00 SqFt **PCI:** 78

Sample Comments:

48	L & T CR	L	277.00	Ft
57	WEATHERING	L	5700.00	SqFt
57	WEATHERING	M	300.00	SqFt

Sample Number: 342 **Type:** R **Area:** 6000.00 SqFt **PCI:** 79

Sample Comments:

48	L & T CR	L	231.00	Ft
57	WEATHERING	L	5700.00	SqFt
57	WEATHERING	M	300.00	SqFt

Sample Number: 344 **Type:** R **Area:** 6000.00 SqFt **PCI:** 77

Sample Comments:

48	L & T CR	L	286.00	Ft
57	WEATHERING	L	5700.00	SqFt
57	WEATHERING	M	300.00	SqFt

Sample Number: 348 **Type:** R **Area:** 6000.00 SqFt **PCI:** 80

Sample Comments:

48	L & T CR	L	227.00	Ft
57	WEATHERING	L	5700.00	SqFt
57	WEATHERING	M	300.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: RW 14-32 **Name:** RUNWAY 14-32 **Use:** RUNWAY **Area:** 318,195 SqFt

Section: 6235 of 4 **From:** - **To:** - **Last Const.:** 1/1/1942

Surface: PCC **Family:** CA653-GA-RW-TW-PCC **Zone:** **Category:** **Rank:** P

Area: 22,894 SqFt **Length:** 275 Ft **Width:** 75 Ft

Slabs: 159 **Slab Length:** 12 Ft **Slab Width:** 12 Ft **Joint Length:** 3,087 Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** BUILT **Code:** IMPORTED **Is Major M&R:** True

Work Date: 2/1/2015 **Work Type:** Joint Seal - PCC **Code:** JS-PC **Is Major M&R:** False

Last Insp. Date: 7/25/2022 **TotalSamples:** 7 **Surveyed:** 3

Conditions: **PCI:** 76

Inspection Comments:

Sample Number: 351 **Type:** R **Area:** 24.00 Slabs **PCI:** 73

Sample Comments:

65	JT SEAL DMG	L	24.00	Slabs
73	SHRINKAGE CR	N	24.00	Slabs
74	JOINT SPALL	L	1.00	Slabs
74	JOINT SPALL	M	1.00	Slabs
75	CORNER SPALL	L	2.00	Slabs
75	CORNER SPALL	M	1.00	Slabs

Sample Number: 352 **Type:** R **Area:** 23.00 Slabs **PCI:** 75

Sample Comments:

63	LINEAR CR	L	1.00	Slabs
65	JT SEAL DMG	L	23.00	Slabs
73	SHRINKAGE CR	N	23.00	Slabs
75	CORNER SPALL	L	3.00	Slabs

Sample Number: 354 **Type:** R **Area:** 24.00 Slabs **PCI:** 81

Sample Comments:

65	JT SEAL DMG	L	24.00	Slabs
73	SHRINKAGE CR	N	24.00	Slabs
74	JOINT SPALL	L	2.00	Slabs

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: RW 14-32 **Name:** RUNWAY 14-32 **Use:** RUNWAY **Area:** 318,195 SqFt

Section: 6250 of 4 **From:** - **To:** - **Last Const.:** 2/1/2015

Surface: AC **Family:** CA653-GA-RW-AC **Zone:** **Category:** **Rank:** P

Area: 15,631 SqFt **Length:** 303 Ft **Width:** 100 Ft

Slabs: 50 **Slab Length:** 13 Ft **Slab Width:** 25 Ft **Joint Length:** 3,233 Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Work Date: 2/1/2015 **Work Type:** Complete Reconstruction - AC **Code:** CR-AC **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 4 **Surveyed:** 1

Conditions: **PCI:** 82

Inspection Comments:

Sample Number: 334 **Type:** R **Area:** 4523.00 SqFt **PCI:** 82

Sample Comments:

48	L & T CR	L	133.00	Ft
57	WEATHERING	L	4297.00	SqFt
57	WEATHERING	M	226.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: RW 5-23 **Name:** RUNWAY 5-23 **Use:** RUNWAY **Area:** 693,150 SqFt

Section: 6110 of 5 **From:** - **To:** - **Last Const.:** 1/1/1942

Surface: PCC **Family:** CA653-GA-RW-TW-PCC **Zone:** **Category:** **Rank:** P

Area: 7,500 SqFt **Length:** 600 Ft **Width:** 25 Ft

Slabs: 25 **Slab Length:** 25 Ft **Slab Width:** 12 Ft **Joint Length:** 1,225 Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** BUILT **Code:** IMPORTED **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 2 **Surveyed:** 1

Conditions: **PCI:** 60

Inspection Comments:

Sample Number: 302 **Type:** R **Area:** 16.00 Slabs **PCI:** 60

Sample Comments:

63	LINEAR CR	L	4.00	Slabs
63	LINEAR CR	M	1.00	Slabs
65	JT SEAL DMG	H	16.00	Slabs
73	SHRINKAGE CR	N	16.00	Slabs
75	CORNER SPALL	L	1.00	Slabs

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: RW 5-23 **Name:** RUNWAY 5-23 **Use:** RUNWAY **Area:** 693,150 SqFt

Section: 6112 of 5 **From:** - **To:** - **Last Const.:** 1/1/2006

Surface: APC **Family:** CA653-GA-RW-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 15,000 SqFt **Length:** 150 Ft **Width:** 100 Ft

Slabs: 48 **Slab Length:** 13 Ft **Slab Width:** 25 Ft **Joint Length:** 1,550 Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Work Date: 1/1/2006 **Work Type:** Overlay - AC Structural **Code:** OL-AS **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 3 **Surveyed:** 1

Conditions: **PCI:** 42

Inspection Comments:

Sample Number: 304 **Type:** R **Area:** 5000.00 SqFt **PCI:** 42

Sample Comments:

47	JT REF. CR	M	520.00	Ft
48	L & T CR	L	74.00	Ft
48	L & T CR	M	50.00	Ft
52	RAVELING	L	1000.00	SqFt
57	WEATHERING	M	4000.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TL T-HANG **Name:** APRON AT T-HANGARS **Use:** TAXILANE **Area:** 40,453 SqFt

Section: 4320 of 2 **From:** - **To:** - **Last Const.:** 1/1/2005

Surface: AC **Family:** CA653-GA-TW-AC **Zone:** **Category:** **Rank:** P

Area: 18,657 SqFt **Length:** 507 Ft **Width:** 35 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/2005 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 6 **Surveyed:** 1

Conditions: **PCI:** 78

Inspection Comments:

Sample Number: 201 **Type:** R **Area:** 3010.00 SqFt **PCI:** 78

Sample Comments:

48	L & T CR	L	100.00	Ft
52	RAVELING	L	452.00	SqFt
57	WEATHERING	L	2558.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TL T-HANG **Name:** APRON AT T-HANGARS **Use:** TAXILANE **Area:** 40,453 SqFt

Section: 4325 of 2 **From:** - **To:** - **Last Const.:** 1/1/2003

Surface: AC **Family:** CA653-GA-TW-AC **Zone:** **Category:** **Rank:** P

Area: 21,796 SqFt **Length:** 709 Ft **Width:** 35 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/2003 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 6 **Surveyed:** 1

Conditions: **PCI:** 62

Inspection Comments:

Sample Number: 301 **Type:** R **Area:** 3207.00 SqFt **PCI:** 62

Sample Comments:

48	L & T CR	L	16.00	Ft
52	RAVELING	L	2486.00	SqFt
52	RAVELING	M	100.00	SqFt
57	WEATHERING	M	621.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW A **Name:** TAXIWAY A **Use:** TAXIWAY **Area:** 447,492 SqFt

Section: 205 of 2 **From:** - **To:** - **Last Const.:** 1/1/2013

Surface: AAC **Family:** CA653-GA-TW-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 159,607 SqFt **Length:** 1,990 Ft **Width:** 35 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1986 **Work Type:** BUILT **Code:** IMPORTED **Is Major M&R:** True

Work Date: 1/1/2013 **Work Type:** Mill and Overlay **Code:** ML-OVL **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 32 **Surveyed:** 4

Conditions: **PCI:** 86

Inspection Comments:

Sample Number: 152 **Type:** R **Area:** 5000.00 SqFt **PCI:** 83

Sample Comments:

48	L & T CR	L	99.00	Ft
56	SWELLING	L	2.00	SqFt
57	WEATHERING	L	4750.00	SqFt
57	WEATHERING	M	250.00	SqFt

Sample Number: 157 **Type:** R **Area:** 5000.00 SqFt **PCI:** 84

Sample Comments:

48	L & T CR	L	140.00	Ft
56	SWELLING	L	18.00	SqFt
57	WEATHERING	L	5000.00	SqFt

Sample Number: 164 **Type:** R **Area:** 5000.00 SqFt **PCI:** 89

Sample Comments:

48	L & T CR	L	72.00	Ft
57	WEATHERING	L	5000.00	SqFt

Sample Number: 170 **Type:** R **Area:** 5064.00 SqFt **PCI:** 88

Sample Comments:

48	L & T CR	L	74.00	Ft
56	SWELLING	L	9.00	SqFt
57	WEATHERING	L	5064.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW A **Name:** TAXIWAY A **Use:** TAXIWAY **Area:** 447,492 SqFt

Section: 220 of 2 **From:** - **To:** - **Last Const.:** 1/1/2013

Surface: AC **Family:** CA653-GA-TW-AC **Zone:** **Category:** **Rank:** P

Area: 287,885 SqFt **Length:** 3,000 Ft **Width:** 50 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/2013 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 59 **Surveyed:** 6

Conditions: **PCI:** 87

Inspection Comments:

Sample Number: 104 **Type:** R **Area:** 3545.00 SqFt **PCI:** 88

Sample Comments:

48	L & T CR	L	63.00	Ft
57	WEATHERING	L	3545.00	SqFt

Sample Number: 112 **Type:** R **Area:** 5000.00 SqFt **PCI:** 83

Sample Comments:

48	L & T CR	L	179.00	Ft
57	WEATHERING	L	5000.00	SqFt

Sample Number: 124 **Type:** R **Area:** 5000.00 SqFt **PCI:** 82

Sample Comments:

48	L & T CR	L	178.00	Ft
56	SWELLING	L	7.00	SqFt
57	WEATHERING	L	5000.00	SqFt

Sample Number: 134 **Type:** R **Area:** 5000.00 SqFt **PCI:** 89

Sample Comments:

48	L & T CR	L	60.00	Ft
57	WEATHERING	L	5000.00	SqFt

Sample Number: 141 **Type:** R **Area:** 5000.00 SqFt **PCI:** 89

Sample Comments:

48	L & T CR	L	65.00	Ft
57	WEATHERING	L	5000.00	SqFt

Sample Number: 146 **Type:** R **Area:** 5000.00 SqFt **PCI:** 88

Sample Comments:

48	L & T CR	L	96.00	Ft
57	WEATHERING	L	5000.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW A1 **Name:** TAXIWAY A1 **Use:** TAXIWAY **Area:** 34,316 SqFt

Section: 255 of 1 **From:** - **To:** - **Last Const.:** 1/1/2013

Surface: AC **Family:** CA653-GA-TW-AC **Zone:** **Category:** **Rank:** P

Area: 34,316 SqFt **Length:** 600 Ft **Width:** 50 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/2013 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 7 **Surveyed:** 1

Conditions: **PCI:** 87

Inspection Comments:

Sample Number: 101 **Type:** R **Area:** 4105.00 SqFt **PCI:** 87

Sample Comments:

48	L & T CR	L	87.00	Ft
57	WEATHERING	L	4105.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW B **Name:** TAXIWAY B **Use:** TAXIWAY **Area:** 101,269 SqFt

Section: 305 of 1 **From:** - **To:** - **Last Const.:** 1/1/2009

Surface: AAC **Family:** CA653-GA-TW-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 101,269 SqFt **Length:** 2,900 Ft **Width:** 35 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** BUILT **Code:** IMPORTED **Is Major M&R:** True

Work Date: 1/1/2009 **Work Type:** Mill and Overlay **Code:** ML-OVL **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 29 **Surveyed:** 4

Conditions: **PCI:** 80

Inspection Comments:

Sample Number: 104 **Type:** R **Area:** 3549.00 SqFt **PCI:** 77

Sample Comments:

48	L & T CR	L	146.00	Ft
57	WEATHERING	L	3194.00	SqFt
57	WEATHERING	M	355.00	SqFt

Sample Number: 116 **Type:** R **Area:** 3500.00 SqFt **PCI:** 78

Sample Comments:

48	L & T CR	L	126.00	Ft
57	WEATHERING	L	3150.00	SqFt
57	WEATHERING	M	350.00	SqFt

Sample Number: 130 **Type:** R **Area:** 3500.00 SqFt **PCI:** 82

Sample Comments:

48	L & T CR	L	82.00	Ft
57	WEATHERING	L	3150.00	SqFt
57	WEATHERING	M	350.00	SqFt

Sample Number: 144 **Type:** R **Area:** 3750.00 SqFt **PCI:** 81

Sample Comments:

48	L & T CR	L	118.00	Ft
57	WEATHERING	L	3562.00	SqFt
57	WEATHERING	M	188.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW C **Name:** TAXIWAY C **Use:** TAXIWAY **Area:** 100,432 SqFt

Section: 105 of 2 **From:** - **To:** - **Last Const.:** 1/1/2009

Surface: AAC **Family:** CA653-GA-TW-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 65,023 SqFt **Length:** 1,165 Ft **Width:** 50 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942	**Work Type:** BUILT	**Code:** IMPORTED	**Is Major M&R:** True
Work Date: 1/1/1982	**Work Type:** OVERLAY	**Code:** IMPORTED	**Is Major M&R:** True
Work Date: 1/1/2009	**Work Type:** Mill and Overlay	**Code:** ML-OVL	**Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 12 **Surveyed:** 2

Conditions: **PCI:** 56

Inspection Comments:

Sample Number: 101 **Type:** R **Area:** 5651.00 SqFt **PCI:** 56

Sample Comments:

48	L & T CR	L	612.00	Ft
48	L & T CR	M	50.00	Ft
56	SWELLING	L	350.00	SqFt
57	WEATHERING	L	5086.00	SqFt
57	WEATHERING	M	565.00	SqFt

Sample Number: 107 **Type:** R **Area:** 5000.00 SqFt **PCI:** 57

Sample Comments:

48	L & T CR	L	487.00	Ft
48	L & T CR	M	70.00	Ft
56	SWELLING	L	92.00	SqFt
57	WEATHERING	L	4250.00	SqFt
57	WEATHERING	M	750.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW C **Name:** TAXIWAY C **Use:** TAXIWAY **Area:** 100,432 SqFt

Section: 115 of 2 **From:** - **To:** - **Last Const.:** 1/1/2009

Surface: AAC **Family:** CA653-GA-TW-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 35,409 SqFt **Length:** 416 Ft **Width:** 70 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1982 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Work Date: 1/1/2009 **Work Type:** Mill and Overlay **Code:** ML-OVL **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 8 **Surveyed:** 1

Conditions: **PCI:** 84

Inspection Comments:

Sample Number: 301 **Type:** R **Area:** 4866.00 SqFt **PCI:** 84

Sample Comments:

48	L & T CR	L	26.00	Ft
57	WEATHERING	L	4136.00	SqFt
57	WEATHERING	M	730.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW D **Name:** TAXIWAY D **Use:** TAXIWAY **Area:** 70,293 SqFt

Section: 505 of 2 **From:** - **To:** - **Last Const.:** 1/1/2009

Surface: AAC **Family:** CA653-GA-TW-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 61,793 SqFt **Length:** 1,100 Ft **Width:** 50 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 12/25/1999 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Work Date: 1/1/2009 **Work Type:** Mill and Overlay **Code:** ML-OVL **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 11 **Surveyed:** 2

Conditions: **PCI:** 80

Inspection Comments:

Sample Number: 103 **Type:** R **Area:** 5080.00 SqFt **PCI:** 78

Sample Comments:

42	BLEEDING	N	2.00	SqFt
48	L & T CR	L	192.00	Ft
57	WEATHERING	L	4572.00	SqFt
57	WEATHERING	M	508.00	SqFt

Sample Number: 108 **Type:** R **Area:** 5000.00 SqFt **PCI:** 82

Sample Comments:

48	L & T CR	L	107.00	Ft
57	WEATHERING	L	4250.00	SqFt
57	WEATHERING	M	750.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW D **Name:** TAXIWAY D **Use:** TAXIWAY **Area:** 70,293 SqFt

Section: 510 of 2 **From:** - **To:** - **Last Const.:** 1/1/2013

Surface: AAC **Family:** CA653-GA-TW-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 8,500 SqFt **Length:** 170 Ft **Width:** 50 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 12/25/1999	**Work Type:** New Construction - Initial	**Code:** NU-IN	**Is Major M&R:** True
Work Date: 1/1/2009	**Work Type:** Mill and Overlay	**Code:** ML-OVL	**Is Major M&R:** True
Work Date: 1/1/2013	**Work Type:** Mill and Overlay	**Code:** ML-OVL	**Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 2 **Surveyed:** 1

Conditions: **PCI:** 89

Inspection Comments:

Sample Number: 106 **Type:** R **Area:** 4400.00 SqFt **PCI:** 89

Sample Comments:

48	L & T CR	L	71.00	Ft
57	WEATHERING	L	4400.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW D1 **Name:** TAXIWAY D1 **Use:** TAXIWAY **Area:** 57,110 SqFt

Section: 405 of 1 **From:** - **To:** - **Last Const.:** 1/1/2009

Surface: AAC **Family:** CA653-GA-TW-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 57,110 SqFt **Length:** 1,384 Ft **Width:** 35 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Work Date: 1/1/2009 **Work Type:** Mill and Overlay **Code:** ML-OVL **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 15 **Surveyed:** 2

Conditions: **PCI:** 77

Inspection Comments:

Sample Number: 102 **Type:** R **Area:** 3500.00 SqFt **PCI:** 82

Sample Comments:

48	L & T CR	L	100.00	Ft
57	WEATHERING	L	3325.00	SqFt
57	WEATHERING	M	175.00	SqFt

Sample Number: 108 **Type:** R **Area:** 3500.00 SqFt **PCI:** 72

Sample Comments:

48	L & T CR	L	162.00	Ft
56	SWELLING	L	50.00	SqFt
57	WEATHERING	L	3150.00	SqFt
57	WEATHERING	M	350.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW E **Name:** TAXIWAY E **Use:** TAXIWAY **Area:** 55,768 SqFt

Section: 705 of 1 **From:** - **To:** - **Last Const.:** 1/1/2009

Surface: AAC **Family:** CA653-GA-TW-AAC-APC **Zone:** **Category:** **Rank:** P

Area: 55,768 SqFt **Length:** 1,384 Ft **Width:** 35 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Work Date: 1/1/2009 **Work Type:** Mill and Overlay **Code:** ML-OVL **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 15 **Surveyed:** 3

Conditions: **PCI:** 81

Inspection Comments:

Sample Number: 101 **Type:** R **Area:** 3500.00 SqFt **PCI:** 84

Sample Comments:

48	L & T CR	L	43.00	Ft
57	WEATHERING	L	3150.00	SqFt
57	WEATHERING	M	350.00	SqFt

Sample Number: 106 **Type:** R **Area:** 3500.00 SqFt **PCI:** 76

Sample Comments:

48	L & T CR	L	157.00	Ft
57	WEATHERING	L	3150.00	SqFt
57	WEATHERING	M	350.00	SqFt

Sample Number: 112 **Type:** R **Area:** 3500.00 SqFt **PCI:** 82

Sample Comments:

48	L & T CR	L	73.00	Ft
57	WEATHERING	L	3150.00	SqFt
57	WEATHERING	M	350.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW F **Name:** TAXIWAY F **Use:** TAXIWAY **Area:** 173,727 SqFt

Section: 550 of 3 **From:** - **To:** - **Last Const.:** 1/1/1942

Surface: AC **Family:** CA653-GA-TW-AC **Zone:** **Category:** **Rank:** P

Area: 128,837 SqFt **Length:** 2,450 Ft **Width:** 75 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 34 **Surveyed:** 4

Conditions: **PCI:** 7

Inspection Comments:

Sample Number: 120 **Type:** R **Area:** 3750.00 SqFt **PCI:** 9

Sample Comments:

43	BLOCK CR	M	3562.00	SqFt
43	BLOCK CR	H	188.00	SqFt
45	DEPRESSION	L	39.00	SqFt
45	DEPRESSION	M	94.00	SqFt
52	RAVELING	H	3750.00	SqFt

Sample Number: 125 **Type:** R **Area:** 3750.00 SqFt **PCI:** 11

Sample Comments:

43	BLOCK CR	M	3562.00	SqFt
43	BLOCK CR	H	188.00	SqFt
45	DEPRESSION	L	21.00	SqFt
52	RAVELING	H	3750.00	SqFt

Sample Number: 135 **Type:** R **Area:** 3750.00 SqFt **PCI:** 5

Sample Comments:

43	BLOCK CR	M	3000.00	SqFt
43	BLOCK CR	H	750.00	SqFt
45	DEPRESSION	L	12.00	SqFt
52	RAVELING	H	3750.00	SqFt

Sample Number: 145 **Type:** R **Area:** 3760.00 SqFt **PCI:** 3

Sample Comments:

43	BLOCK CR	M	1880.00	SqFt
43	BLOCK CR	H	1880.00	SqFt
52	RAVELING	H	3760.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW F **Name:** TAXIWAY F **Use:** TAXIWAY **Area:** 173,727 SqFt

Section: 555 of 3 **From:** - **To:** - **Last Const.:** 1/1/1942

Surface: PCC **Family:** CA653-GA-RW-TW-PCC **Zone:** **Category:** **Rank:** P

Area: 11,250 SqFt **Length:** 150 Ft **Width:** 75 Ft

Slabs: 37 **Slab Length:** 25 Ft **Slab Width:** 12 Ft **Joint Length:** 1,162 Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 3 **Surveyed:** 1

Conditions: **PCI:** 30

Inspection Comments:

Sample Number: 129 **Type:** R **Area:** 12.00 Slabs **PCI:** 30

Sample Comments:

63	LINEAR CR	L	4.00	Slabs
63	LINEAR CR	M	5.00	Slabs
63	LINEAR CR	H	1.00	Slabs
65	JT SEAL DMG	H	12.00	Slabs
73	SHRINKAGE CR	N	12.00	Slabs

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW F **Name:** TAXIWAY F **Use:** TAXIWAY **Area:** 173,727 SqFt

Section: 565 of 3 **From:** - **To:** - **Last Const.:** 2/1/2015

Surface: AC **Family:** CA653-GA-TW-AC **Zone:** **Category:** **Rank:** P

Area: 33,640 SqFt **Length:** 1,000 Ft **Width:** 35 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 2/1/2015 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 9 **Surveyed:** 2

Conditions: **PCI:** 84

Inspection Comments:

Sample Number: 111 **Type:** R **Area:** 3501.00 SqFt **PCI:** 82

Sample Comments:

48	L & T CR	L	94.00	Ft
57	WEATHERING	L	3326.00	SqFt
57	WEATHERING	M	175.00	SqFt

Sample Number: 200 **Type:** R **Area:** 3500.00 SqFt **PCI:** 86

Sample Comments:

48	L & T CR	L	50.00	Ft
57	WEATHERING	L	3325.00	SqFt
57	WEATHERING	M	175.00	SqFt

Network: X60 **Name:** WILLISTON MUNICIPAL AIRPORT

Branch: TW G **Name:** TAXIWAY G **Use:** TAXIWAY **Area:** 94,473 SqFt

Section: 450 of 1 **From:** - **To:** - **Last Const.:** 1/1/1942

Surface: AC **Family:** CA653-GA-TW-AC **Zone:** **Category:** **Rank:** P

Area: 94,473 SqFt **Length:** 1,173 Ft **Width:** 75 Ft

Slabs: **Slab Length:** Ft **Slab Width:** Ft **Joint Length:** Ft

Shoulder: **Street Type:** **Grade:** 0 **Lanes:** 0

Section Comments:

Work Date: 1/1/1942 **Work Type:** New Construction - Initial **Code:** NU-IN **Is Major M&R:** True

Last Insp. Date: 7/25/2022 **TotalSamples:** 24 **Surveyed:** 3

Conditions: **PCI:** 7

Inspection Comments:

Sample Number: 105 **Type:** R **Area:** 4108.00 SqFt **PCI:** 11

Sample Comments:

43	BLOCK CR	M	3903.00	SqFt
43	BLOCK CR	H	205.00	SqFt
52	RAVELING	H	4108.00	SqFt

Sample Number: 113 **Type:** R **Area:** 3750.00 SqFt **PCI:** 4

Sample Comments:

43	BLOCK CR	M	2968.00	SqFt
43	BLOCK CR	H	742.00	SqFt
50	PATCHING	H	40.00	SqFt
52	RAVELING	H	3710.00	SqFt

Sample Number: 119 **Type:** R **Area:** 3766.00 SqFt **PCI:** 5

Sample Comments:

43	BLOCK CR	M	2966.00	SqFt
43	BLOCK CR	H	800.00	SqFt
52	RAVELING	H	3766.00	SqFt

FLORIDA DEPARTMENT OF TRANSPORTATION | **AVIATION OFFICE**

FDOT | AVIATION