



SOUTH CAROLINA AERONAUTICS COMMISSION

# STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

 5J9 - Twin City Airport



Kimley»»Horn

2023



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## Overview

### Introduction

For over 20 years, the South Carolina Aeronautics Commission (SCAC) has implemented an airfield pavement management program for publicly owned South Carolina airports. As part of their grant assurances federally obligated airports are required to perform detailed inspections as outlined in the FAA Advisory Circular 150/5380-7B – “Airport Pavement Management Program (PMP)”. All inspections performed within this program follow the guidance documented within the ASTM D5340-20 – “Standard Test Method for Airport Pavement Condition Surveys”. This is an objective process to assess the pavement condition in a consistent and repeatable manner.

Due to ever-changing pavement conditions, the FAA AC 150/5380-7B recommends the PMP be updated every 3 years. The overall pavement conditions are analyzed using the ASTM PCI methodology. It provides decision makers with a comparison of pavement facilities and a relative indication of their required maintenance or level of repair to aid in project prioritization. A detailed explanation of the SCAC airfield pavement management program process and pavement management terminology can be found in the SCAC Statewide Report.

Project elements performed for this 2021-2024 program update include the development and updates of pavement inventories, documentation of pavement conditions, performance modeling, and maintenance and rehabilitation (M&R) needs for all participating airports. This report summarizes the results of the SCAC pavement program update at Twin City Airport (5J9).

Figure 1 – Airport Layout





## System Inventory

The pavements at Twin City Airport (5J9) include approximately 0.3 million square feet of airfield pavements consisting of runways, taxiways, taxilanes and aprons. Per the guidance in the ASTM D5340-20, all pavements were divided and subdivided into pavement management units (Network, Branch, Section, Sample). The divisions are documented in the **Network Definition Exhibit** providing the name and location of each branch, section, and sample.

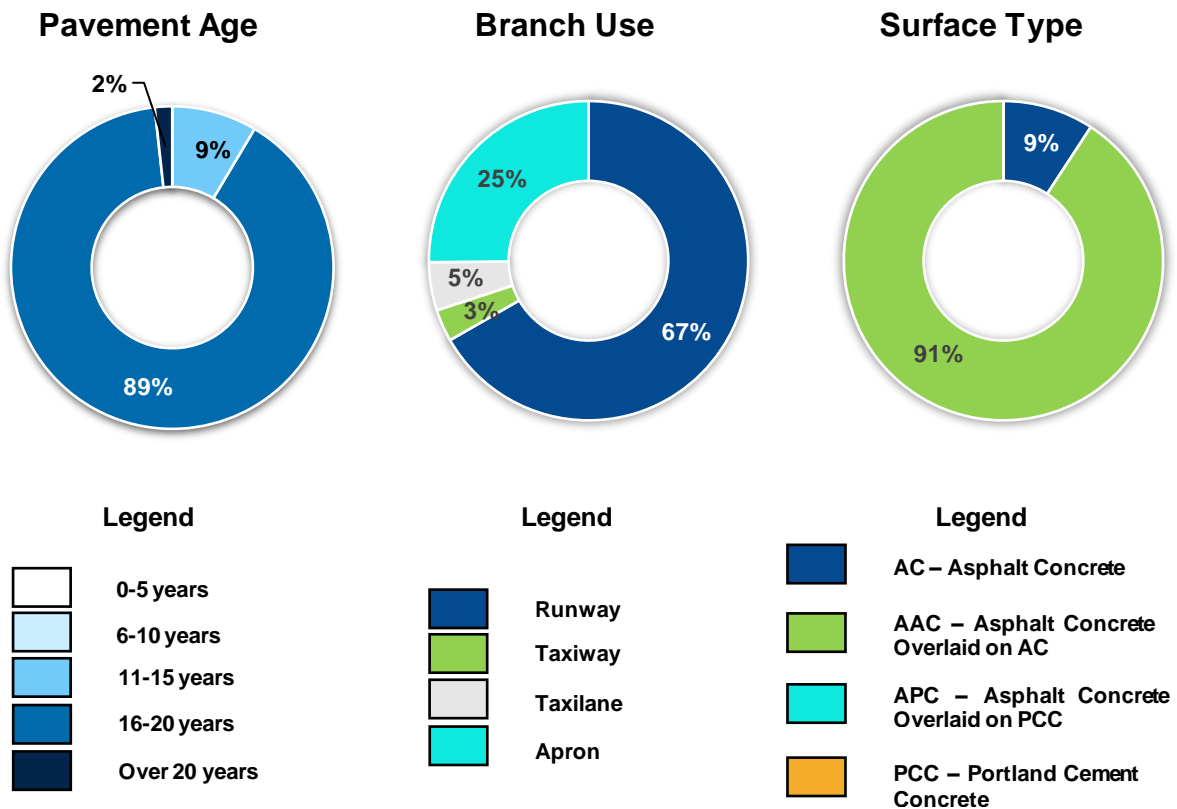
Each pavement update included a review of documentation of any maintenance and major rehabilitation related activities performed on the airfield pavements. No documented or identified projects occurred since the previous inspection.

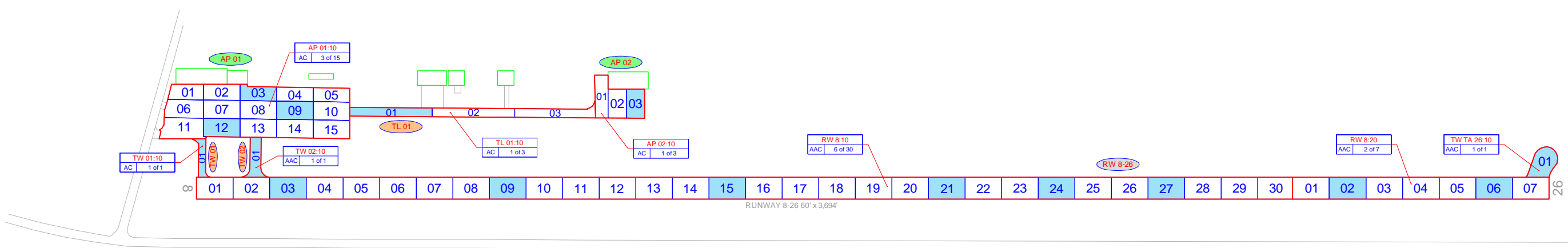
Table 1 - Recent Airfield Pavement Construction

Construction Year	Location	Work Type / Pavement Section
No Information Provided		

The following figure summarizes the inventory items at Twin City Airport (5J9). The **Estimated Age Exhibit** provides the last major work date for each pavement section based on the collected documentation.

Figure 2 – System Inventory Summary





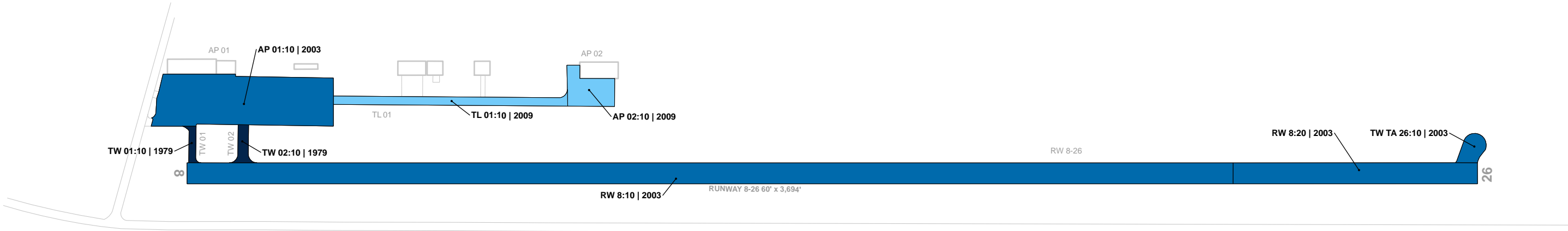
**LEGEND**

- RW 13-31 — TYPICAL RUNWAY BRANCH ID
- TW A — TYPICAL TAXIWAY BRANCH ID
- AP S — TYPICAL APRON BRANCH ID
- RW 13:10 — PAVEMENT BRANCH ID: SECTION ID  
AAC — NUMBER OF SAMPLE UNITS IN SECTION  
5 of 15 — NUMBER OF SAMPLE UNITS TO BE INSPECTED  
PCC — PAVEMENT SURFACE TYPE
- RW 13:20 — SECTION NOT INSPECTED DUE TO RECENT CONSTRUCTION. SEE ESTIMATED AGE EXHIBIT FOR CONSTRUCTION DATES.  
AAC — NUMBER OF SAMPLE UNITS IN SECTION  
0 of 5 — NUMBER OF SAMPLE UNITS TO BE INSPECTED
- 100 — INSPECTED SAMPLE UNITS.

TOTAL SAMPLES INSPECTED = 16  
AC:16 PCC:0

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





**Legend**

- Estimated Age at Inspection**
- 0-5 Years
  - 6-10 Years
  - 11-15 Years
  - 16-20 Years
  - > 20 Years
- BRANCH IDENTIFIER  
— SECTION IDENTIFIER
- TWA:20 | 1985**  
— LAST MAJOR WORK DATE



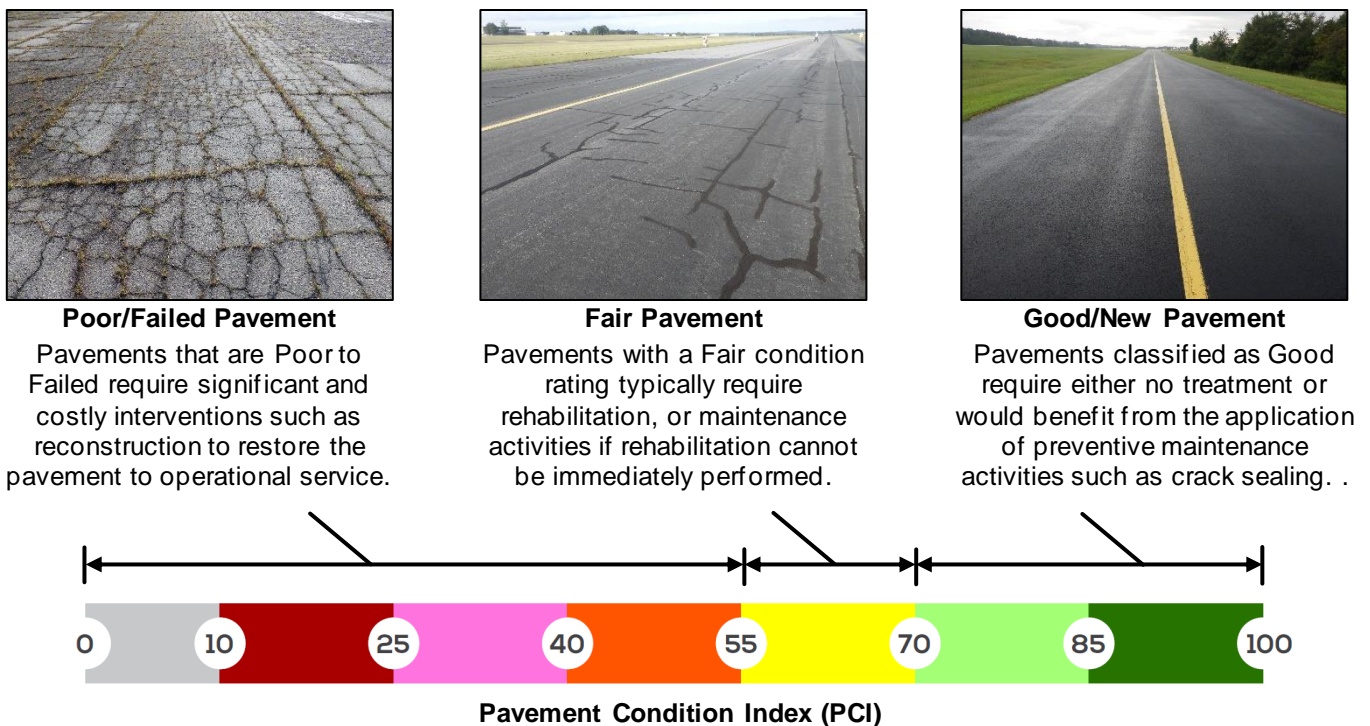
## Functional Evaluation

### Pavement Condition Index

A Pavement Condition Index (PCI) survey is the primary means of obtaining and recording pavement distress data. In adherence to FAA Advisory Circular 150/5380-7B, the SCAC Airfield Pavement Management System (APMS) Update utilizes the PCI survey methodology to collect pavement distress data and analyze the condition. This method uses a visual statistical sampling of pavements for recording primary distress types, associated severities, and quantities as defined by the ASTM D5340-20.

Visual condition data collected during the PCI survey is analyzed and used to calculate the current PCI for each inspected sample unit and section. The PCI is a value ranging from 0 to 100, which indicates the apparent structural integrity and surface operational condition of the pavement, with “100” indicating a pavement in new condition and “0” indicating a failed pavement section. Pavement Condition Ratings are associated with PCI categories that range from “Failed” to “Good”. Representative photos of varying Pavement Condition Ratings are displayed in **Figure 3**.

Figure 3 – Representation of Pavement Condition Index Values



### Critical PCI

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. Critical PCI refers to the condition beyond which the rate of pavement deterioration and the cost of applying a treatment increases significantly. In other words, it is the condition at which maintenance may no longer be cost effective and major rehabilitation should be considered. Based on the 2019 FAA Order 5100.38D Change 1 Airport Improvement Program Handbook, the FAA has established recommended PCI thresholds for pavement M&R. Accordingly, **the Critical PCI for all SCAC airfield pavements is defined at 70.**

### PCI Results

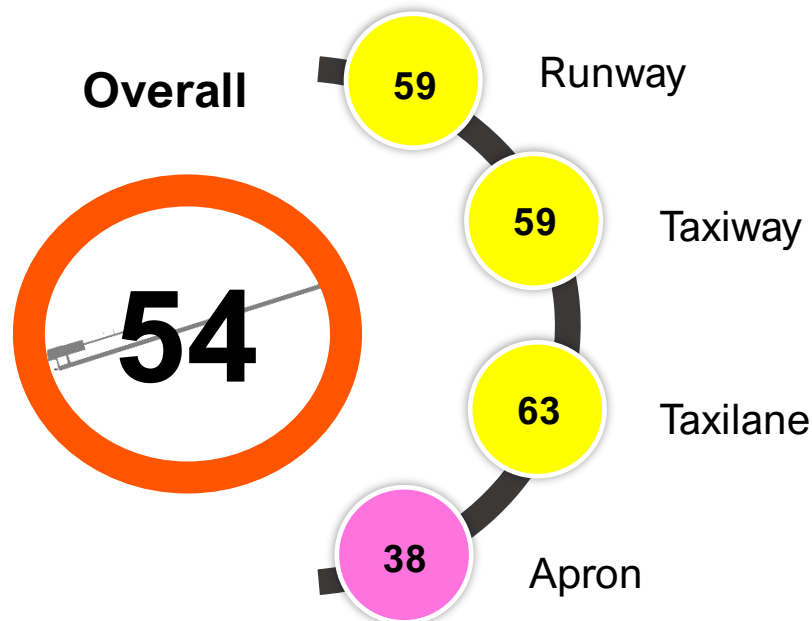
The PCI survey for Twin City Airport (5J9) was performed in January 2023. **The overall area-weighted average PCI value of the network was 54**, representing a condition rating of **Poor**. None of inspected pavements are in Good or Satisfactory condition, 78% of inspected pavements are in Fair condition, and the remaining 22% are in Poor or worse condition as summarized in **Figure 4.**

Figure 4 – Overall Network PCI Results



The area-weighted average PCIs by branch use are summarized in the figure below. The current PCIs at a section-level are displayed graphically on the **2023 Airfield Pavement Condition Index Exhibit** and are summarized in **Table 2.**

Figure 5 – Area Weighted Average Pavement Condition







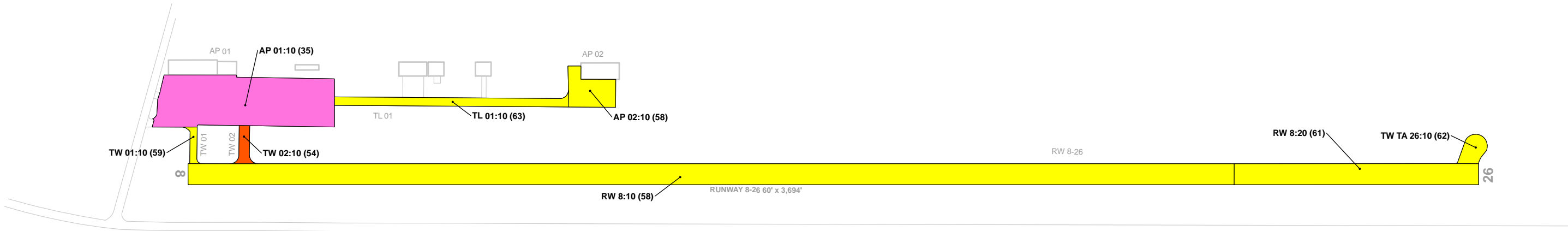
# STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

## 5J9 - Twin City Airport

Table 2 – Current Pavement Condition Index Summary - Section

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
5J9	AP 01	Apron	10	71,433	AAC	35	Very Poor	94	5	1
5J9	AP 02	Apron	10	12,159	AC	58	Fair	97	0	3
5J9	RW 8	Runway	10	179,730	AAC	58	Fair	100	0	0
5J9	RW 8	Runway	20	42,000	AAC	61	Fair	100	0	0
5J9	TL 01	Taxilane	10	16,229	AC	63	Fair	57	41	2
5J9	TW 01	Taxiway	10	2,245	AC	59	Fair	100	0	0
5J9	TW 02	Taxiway	10	3,540	AAC	54	Poor	100	0	0
5J9	TW TA 26	Taxiway	10	5,033	AAC	62	Fair	84	0	16

*\*For further PCI details and photos see Appendix D – Detailed PCI Results.*



**Legend**

**2023 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

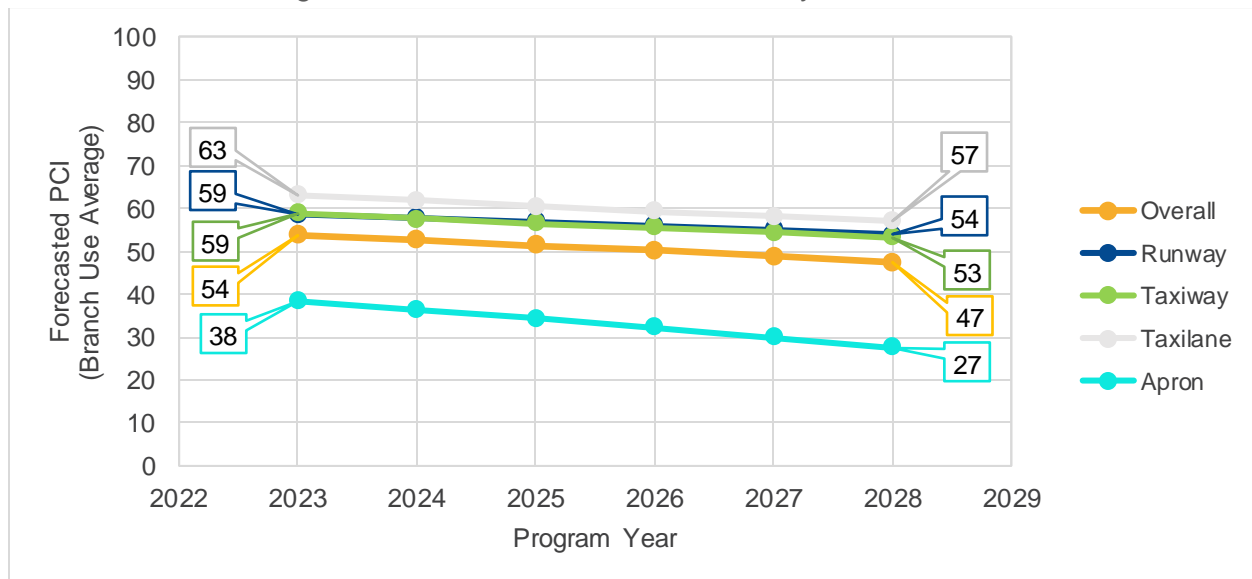
— BRANCH IDENTIFIER  
 — SECTION IDENTIFIER  
**TWA:20 (84)**  
 — PCI



### Pavement Condition Forecast

A primary objective of this APMS is to estimate the future condition of each individual pavement section. PAVER™ was utilized to develop prediction curves and determine typical deterioration rates that are then used to forecast a future PCI value. This value will assist decision makers in determining at what point in time certain pavement sections will require rehabilitation. The figure below shows the current and 5-year area-weighted forecasted pavement condition distribution of each functional use (Runway, Taxiway, Taxilane, Apron) found at the Airport. The forecasted 5-year PCIs at a section-level are displayed graphically on the **2028 Forecasted Airfield Pavement Condition Index Exhibit** and are summarized in **Table 3**. All forecasts presented assume that no maintenance or rehabilitation is performed within the 5-year analysis period. **Figure 6** displays the forecasted pavement conditions at the branch-level for 5J9.

Figure 6 – Forecasted 5-Year PCI by Branch Use



All condition forecasts are based on historical observations and analysis of South Carolina airfield pavements. The forecasts are not a guarantee of future PCI: - rather, they are a planning tool to aid in the timing of maintenance and rehabilitation activities.

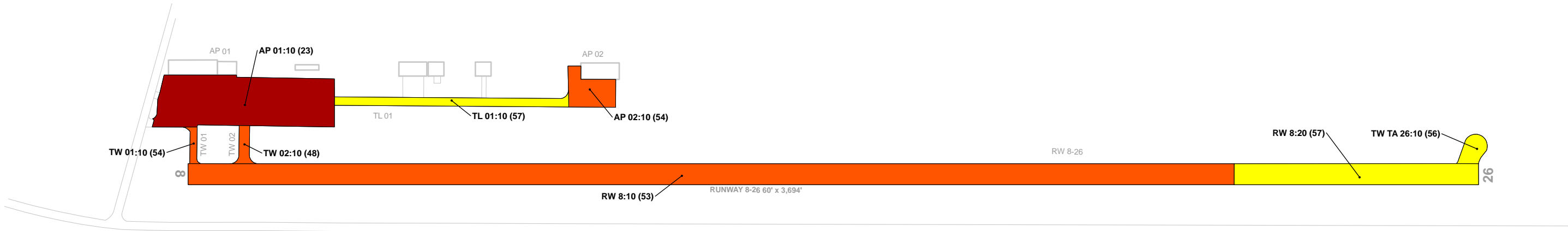


## 5J9 - Twin City Airport

Table 3 – Forecast (2024-2028) Section Pavement Condition Index - Section

Network ID	Branch ID	Section ID	Current PCI	Forecasted PCI				
				2024	2025	2026	2027	2028
5J9	AP 01	10	35	33	31	28	26	23
5J9	AP 02	10	58	57	57	56	55	54
5J9	RW 8	10	58	57	56	55	54	53
5J9	RW 8	20	61	60	60	59	58	57
5J9	TL 01	10	63	62	60	59	58	57
5J9	TW 01	10	59	58	57	56	55	54
5J9	TW 02	10	54	53	52	51	50	48
5J9	TW TA 26	10	62	61	60	58	57	56





### Legend

#### 2028 Forecasted 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

BRANCH IDENTIFIER  
SECTION IDENTIFIER  
TWA:20 (84)  
FORECASTED PCI



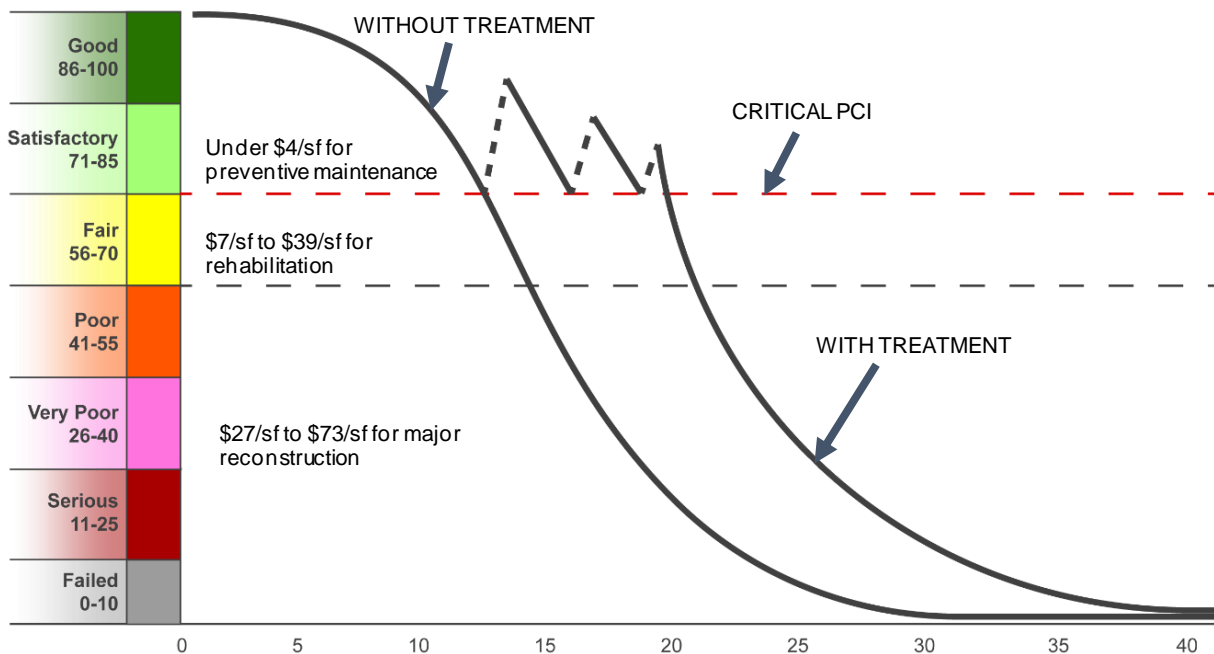
## M&R Overview

An analysis was performed to assess the pavement maintenance and rehabilitation (M&R) needs at 5J9 over a 5-year period. The analysis compared the forecasted condition of each pavement section to the Critical PCI threshold to develop a resultant recommendation and associated cost for each year of the 5-year plan. The M&R analysis should enable responsible parties to do the following:

- ➔ **Maintain** existing airport infrastructure at an acceptable condition
- ➔ Make timely and cost-effective **decisions** to appropriately allocate funding
- ➔ **Apply** global maintenance, localized maintenance, and major M&R activities in a timely manner to maintain an acceptable operational condition of a pavement network.

M&R planning considers various methods of repair to address the cause of the problem rather than just treating the symptom. As pavements deteriorate, repair costs can increase significantly. Once pavements have deteriorated below a certain condition threshold (the Critical PCI value), the pavement benefits more from substantial rehabilitation in lieu of maintenance activities. The figure below illustrates how the cost of pavement repairs can exponentially increase if M&R activities are delayed.

Figure 7 – Pavement Life and the Effect of Treatments



### Localized Maintenance and Repair

Localized maintenance is best used as a preservation measure and is applied to slow the rate of deterioration. These activities typically include crack sealing and patching. Localized maintenance differs from major rehabilitation in that it is applied based on the distresses observed rather than based on a PCI value. Treatments are selected based on the appropriate corrective measure for a given distress type and severity level. Localized maintenance applied on pavements with PCIs above the Critical PCI of 70 is known as Preventive Localized Maintenance, while Stopgap Localized Maintenance is typically applied to pavement sections that are at or below the Critical PCI value as a temporary repair due to safety concerns. The current localized maintenance needs are summarized in the table below.

Table 4 – Localized Maintenance Summary by Policy Type

Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
Localized Preventive Maintenance	N/A			
<i>Localized Preventive Maintenance Total =</i>				\$ -
Localized Stopgap Maintenance	AC Crack Sealing Narrow	22,871	LF	\$ 80,080
	Surface Seal	136,186	SF	\$ 224,750
	AC Partial-Depth Patching	43	SF	\$ 260
<i>Localized Stopgap Maintenance Total =</i>				\$ 305,090
<i>Planning-Level Localized M&amp;R Needs =</i>				\$ 305,090

### Major Rehabilitation Needs

Major rehabilitation needs are identified by analyzing the Airport’s pavement condition in relationship to the Critical PCI value, density of load-related distresses, and major rehabilitation policies, assuming there are no budget constraints. The needs analysis is performed over a 5-year analysis period. Major rehabilitation is divided into two policy categories:

- ➔ **Intermediate Major Rehabilitation (PCI 56 to 70)** –
  - **AC:** Milling of the upper surface course and replacing with new AC with isolated areas of full-depth reconstruction
  - **PCC:** Combination of crack sealing, joint seal replacement, limited patching, and slab replacement
- ➔ **Full-Depth Reconstruction (PCI 0 to 55)** – Removal and replacement of the existing pavement section down to the subgrade

The 5-year major rehabilitation needs analysis at 5J9 results in a total 5-year cost of \$4.28M. The **5-Year Major Rehabilitation Needs Exhibit** graphically depicts the major rehabilitation needs at a section-level which are also summarized in **Table 5** with rounded costs. Annual needs are displayed graphically in **Figure 8**.



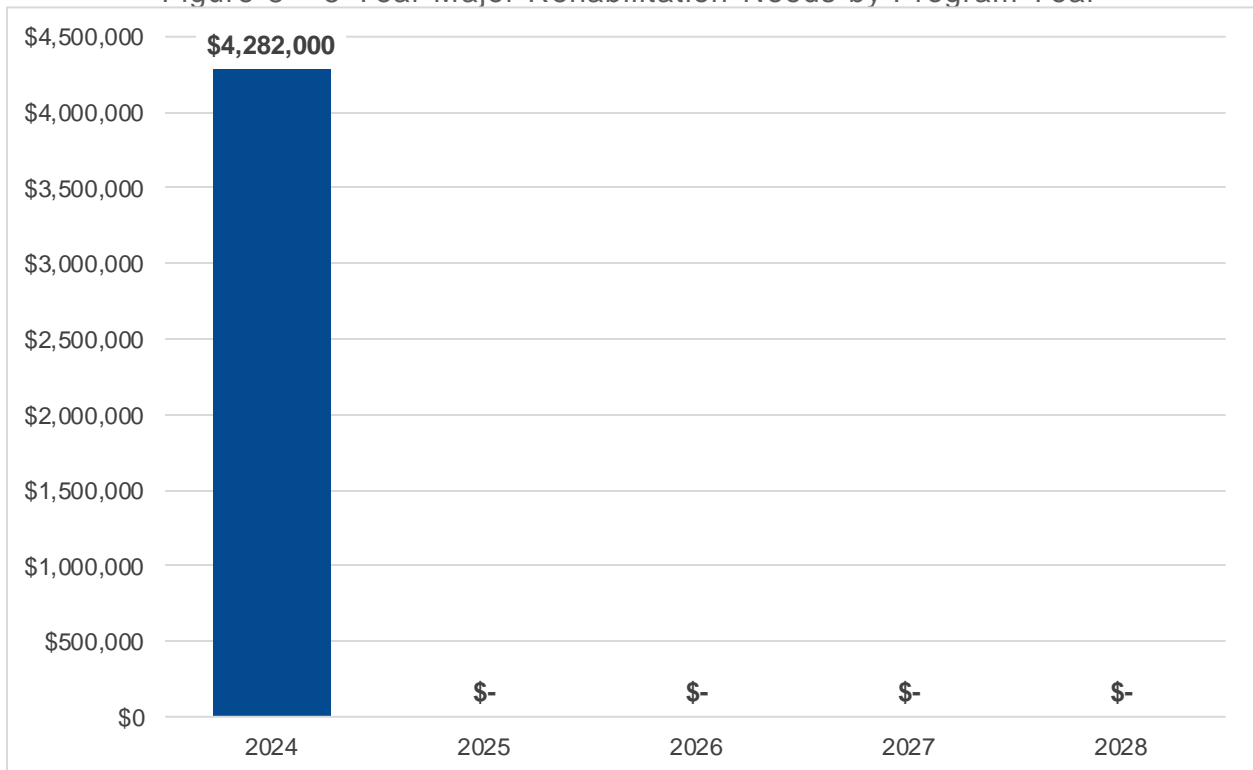
# STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

## 5J9 - Twin City Airport

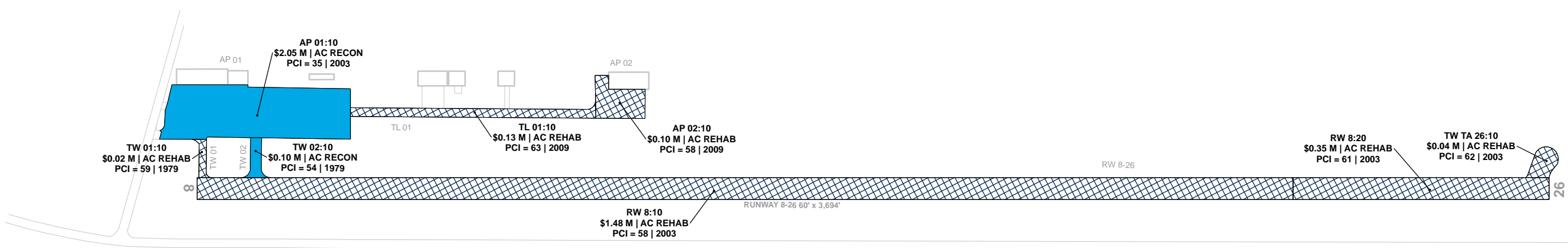
Table 5 – 5-Year Major Rehabilitation Needs

Program Year	Network ID	Branch ID	Section ID	Surface	Area (SF)	PCI Before	Rehabilitation Type	Planning Cost Estimate
2024	5J9	AP 01	10	AAC	71,433	33	AC Reconstruction	\$ 2,054,000
2024	5J9	AP 02	10	AC	12,159	57	AC Rehabilitation	\$ 101,000
2024	5J9	RW 8	10	AAC	179,730	57	AC Rehabilitation	\$ 1,483,000
2024	5J9	RW 8	20	AAC	42,000	60	AC Rehabilitation	\$ 347,000
2024	5J9	TL 01	10	AC	16,229	62	AC Rehabilitation	\$ 134,000
2024	5J9	TW 01	10	AC	2,245	58	AC Rehabilitation	\$ 19,000
2024	5J9	TW 02	10	AAC	3,540	53	AC Reconstruction	\$ 102,000
2024	5J9	TW TA 26	10	AAC	5,033	61	AC Rehabilitation	\$ 42,000
<b>Total 5-Year Major Rehabilitation Needs =</b>								<b>\$ 4,282,000</b>

Figure 8 – 5-Year Major Rehabilitation Needs by Program Year



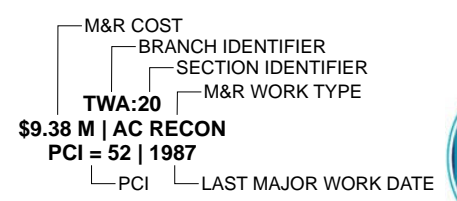




### Legend

#### 5-Year Major Rehabilitation Needs

- Year 1 Reconstruction Needs
- Year 1 Rehabilitation Needs
- Year 2 Rehabilitation Needs
- Year 3 Rehabilitation Needs
- Year 4 Rehabilitation Needs
- Year 5 Rehabilitation Needs



THIS EXHIBIT REPRESENTS NEEDS SOLEY BASED ON CURRENT AND FORECASTED CONDITIONS FURTHER PRIORITIZATION AND CONSIDERATIONS SHOULD BE MADE BEYOND THIS STUDY.



## SECTION I

# Appendices



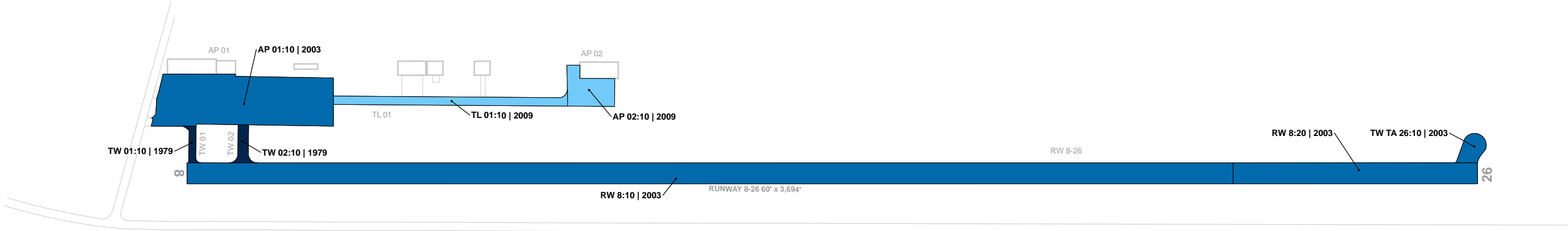


 5J9 - Twin City Airport

## Appendix A – Exhibits







**Legend**

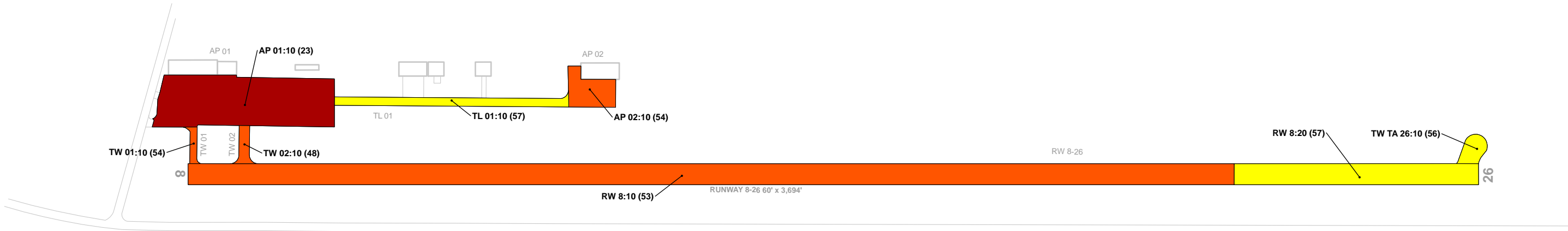
**Estimated Age at Inspection**

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

— BRANCH IDENTIFIER  
— SECTION IDENTIFIER  
**TWA:20 | 1985**  
— LAST MAJOR WORK DATE







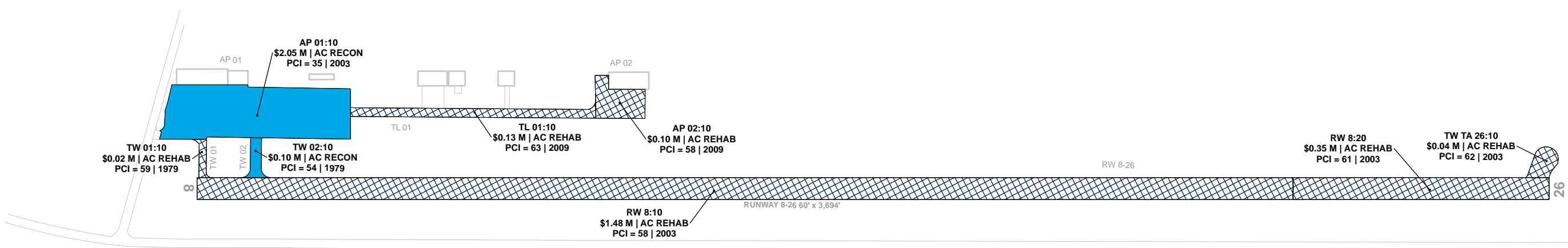
**Legend**

**2028 Forecasted 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

— BRANCH IDENTIFIER  
— SECTION IDENTIFIER  
**TWA:20 (84)**  
— FORECASTED PCI

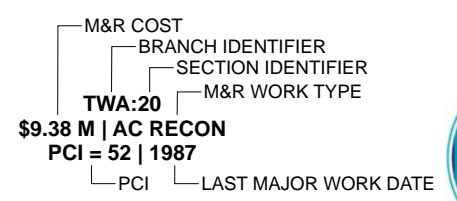




### Legend

#### 5-Year Major Rehabilitation Needs

- Year 1 Reconstruction Needs
- Year 1 Rehabilitation Needs
- Year 2 Rehabilitation Needs
- Year 3 Rehabilitation Needs
- Year 4 Rehabilitation Needs
- Year 5 Rehabilitation Needs



THIS EXHIBIT REPRESENTS NEEDS SOLEY BASED ON CURRENT AND FORECASTED CONDITIONS FURTHER PRIORITIZATION AND CONSIDERATIONS SHOULD BE MADE BEYOND THIS STUDY.





## Appendix B – Analysis Tables



# STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

## 5J9 - Twin City Airport

Table B1 – System Inventory Data - Section

Network ID	Branch ID	Branch Use	Section ID	Area (SF)	Surface Type	Estimate of Last Construction Date
5J9	AP 01	Apron	10	71,433	AAC	7/1/2003
5J9	AP 02	Apron	10	12,159	AC	1/1/2009
5J9	RW 8	Runway	10	179,730	AAC	7/1/2003
5J9	RW 8	Runway	20	42,000	AAC	7/1/2003
5J9	TL 01	Taxilane	10	16,229	AC	1/1/2009
5J9	TW 01	Taxiway	10	2,245	AC	6/1/1979
5J9	TW 02	Taxiway	10	3,540	AAC	6/1/1979
5J9	TW TA 26	Taxiway	10	5,033	AAC	7/1/2003

Table B2 – Current Pavement Condition Index Summary - Branch

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Area-Weighted Avg PCI	Condition Rating
AP 01	Apron	1	71,433	35	Very Poor
AP 02	Apron	1	12,159	58	Fair
RW 8	Runway	2	221,730	59	Fair
TL 01	Taxilane	1	16,229	63	Fair
TW 01	Taxiway	1	2,245	59	Fair
TW 02	Taxiway	1	3,540	54	Poor
TW TA 26	Taxiway	1	5,033	62	Fair





## 5J9 - Twin City Airport

Table B3 – Current (2023) Pavement Condition Index Summary - Section

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
5J9	AP 01	Apron	10	71,433	AAC	35	Very Poor	94	5	1	3	15
5J9	AP 02	Apron	10	12,159	AC	58	Fair	97	0	3	1	3
5J9	RW 8	Runway	10	179,730	AAC	58	Fair	100	0	0	6	30
5J9	RW 8	Runway	20	42,000	AAC	61	Fair	100	0	0	2	7
5J9	TL 01	Taxilane	10	16,229	AC	63	Fair	57	41	2	1	3
5J9	TW 01	Taxiway	10	2,245	AC	59	Fair	100	0	0	1	1
5J9	TW 02	Taxiway	10	3,540	AAC	54	Poor	100	0	0	1	1
5J9	TW TA 26	Taxiway	10	5,033	AAC	62	Fair	84	0	16	1	1



# STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

## 5J9 - Twin City Airport

Table B4 –Forecasted (2024-2028) Pavement Condition Index Summary - Section

Network ID	Branch ID	Section ID	Current PCI	Forecasted PCI				
				2024	2025	2026	2027	2028
5J9	AP 01	10	35	33	31	28	26	23
5J9	AP 02	10	58	57	57	56	55	54
5J9	RW 8	10	58	57	56	55	54	53
5J9	RW 8	20	61	60	60	59	58	57
5J9	TL 01	10	63	62	60	59	58	57
5J9	TW 01	10	59	58	57	56	55	54
5J9	TW 02	10	54	53	52	51	50	48
5J9	TW TA 26	10	62	61	60	58	57	56



# Appendix C – Maintenance and Rehabilitation Tables



# STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

## 5J9 - Twin City Airport

Table C1 – Localized Maintenance Summary by Policy Type

Localized Maintenance Category	Localized Work Type	Rough Estimate of Work Quantity	Work Units	Planning Material Cost
<b>Localized Preventive Maintenance</b>	N/A			
<b>Localized Preventive Maintenance Total =</b>				\$ -
<b>Localized Stopgap Maintenance</b>	AC Crack Sealing Narrow	22,871	LF	\$ 80,080
	Surface Seal	136,186	SF	\$ 224,750
	AC Partial-Depth Patching	43	SF	\$ 260
<b>Localized Stopgap Maintenance Total =</b>				\$ 305,090
<b>Planning-Level Localized M&amp;R Needs =</b>				<b>\$ 305,090</b>

Table C2 – Section – Level Year 1 Localized Maintenance Planning Cost Summary

Network ID	Branch ID	Section ID	Area (SF)	Start PCI	End PCI	Cost
5J9	AP 01	10	71,433	35	55	\$ 108,300
5J9	AP 02	10	12,159	58	69	\$ 3,270
5J9	RW 8	10	179,730	58	71	\$ 166,760
5J9	RW 8	20	42,000	61	71	\$ 18,530
5J9	TL 01	10	16,229	63	63	\$ -
5J9	TW 01	10	2,245	59	67	\$ 2,020
5J9	TW 02	10	3,540	54	70	\$ 5,850
5J9	TW TA 26	10	5,033	62	67	\$ 320

Table C3 – 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
5J9	AP 01	10	BLOCK CR	Medium	16,783	SF	23.5%	Stopgap	AC Crack Sealing Narrow	5,116	LF	\$ 3.50	\$ 17,910
5J9	AP 01	10	L & T CR	Medium	8,984	LF	12.6%	Stopgap	AC Crack Sealing Narrow	8,984	LF	\$ 3.50	\$ 31,450
5J9	AP 01	10	WEATHERING	Medium	35,722	SF	50.0%	Stopgap	Surface Seal	35,721	SF	\$ 1.65	\$ 58,950
5J9	AP 02	10	RAVELING	Medium	1,825	SF	15.0%	Stopgap	Surface Seal	1,825	SF	\$ 1.65	\$ 3,020
5J9	AP 02	10	RAVELING	High	43	SF	0.4%	Stopgap	AC Partial-Depth Patching	43	SF	\$ 6.00	\$ 260
5J9	RW 8	10	L & T CR	Medium	8,208	LF	4.6%	Stopgap	AC Crack Sealing Narrow	8,208	LF	\$ 3.50	\$ 28,730
5J9	RW 8	10	RAVELING	Medium	499	SF	0.3%	Stopgap	Surface Seal	500	SF	\$ 1.65	\$ 830
5J9	RW 8	10	WEATHERING	Medium	83,155	SF	46.3%	Stopgap	Surface Seal	83,156	SF	\$ 1.65	\$ 137,210
5J9	RW 8	20	L & T CR	Medium	343	LF	0.8%	Stopgap	AC Crack Sealing Narrow	343	LF	\$ 3.50	\$ 1,210



# STATEWIDE AIRFIELD PAVEMENT MANAGEMENT SYSTEM UPDATE

## 5J9 - Twin City Airport

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
5J9	RW 8	20	WEATHERING	Medium	10,500	SF	25.0%	Stopgap	Surface Seal	10,500	SF	\$ 1.65	\$ 17,330
5J9	TW 01	10	L & T CR	Medium	45	LF	2.0%	Stopgap	AC Crack Sealing Narrow	45	LF	\$ 3.50	\$ 160
5J9	TW 01	10	WEATHERING	Medium	1,123	SF	50.0%	Stopgap	Surface Seal	1,123	SF	\$ 1.65	\$ 1,860
5J9	TW 02	10	BLOCK CR	Medium	120	SF	3.4%	Stopgap	AC Crack Sealing Narrow	36	LF	\$ 3.50	\$ 130
5J9	TW 02	10	L & T CR	Medium	48	LF	1.4%	Stopgap	AC Crack Sealing Narrow	48	LF	\$ 3.50	\$ 170
5J9	TW 02	10	WEATHERING	Medium	3,363	SF	95.0%	Stopgap	Surface Seal	3,363	SF	\$ 1.65	\$ 5,550
5J9	TW TA 26	10	L & T CR	Medium	91	LF	1.8%	Stopgap	AC Crack Sealing Narrow	91	LF	\$ 3.50	\$ 320



## 5J9 - Twin City Airport

Table C4 – 5-Year Major Rehabilitation Needs

Program Year	Network ID	Branch ID	Section ID	Surface	Area (SF)	PCI Before	Rehabilitation Type	Planning Cost Estimate
2024	5J9	AP 01	10	AAC	71,433	33	AC Reconstruction	\$ 2,054,000
2024	5J9	AP 02	10	AC	12,159	57	AC Rehabilitation	\$ 101,000
2024	5J9	RW 8	10	AAC	179,730	57	AC Rehabilitation	\$ 1,483,000
2024	5J9	RW 8	20	AAC	42,000	60	AC Rehabilitation	\$ 347,000
2024	5J9	TL 01	10	AC	16,229	62	AC Rehabilitation	\$ 134,000
2024	5J9	TW 01	10	AC	2,245	58	AC Rehabilitation	\$ 19,000
2024	5J9	TW 02	10	AAC	3,540	53	AC Reconstruction	\$ 102,000
2024	5J9	TW TA 26	10	AAC	5,033	61	AC Rehabilitation	\$ 42,000
<b>Total 5-Year Major Rehabilitation Needs =</b>								<b>\$ 4,282,000</b>





## Appendix D – PCI Results Summary

### RW 8

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
RW 8	RUNWAY	2	221,730	59	Fair

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	179,730	AAC	2003	-	58	Fair	100	0	0
20	42,000	AAC	2003	-	61	Fair	100	0	0



RW 8-10



RW 8-10



RW 8-20

## 5J9 - Twin City Airport

### TW 01

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TW 01	TAXIWAY	1	2,245	59	Fair

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	2,245	AC	1979	1984	59	Fair	100	0	0



TW 01-10

### TW 02

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TW 02	TAXIWAY	1	3,540	54	Poor

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	3,540	AAC	1979	1990	54	Poor	100	0	0



TW 02-10



TW 02-10



### TW TA 26

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TW TA 26	TAXIWAY	1	5,033	62	Fair

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	5,033	AAC	2003	-	62	Fair	84	0	16



TW TA 26-10

### TL 01

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
TL 01	TAXILANE	1	16,229	63	Fair

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	16,229	AC	2009	2009	63	Fair	57	41	2



TL 01-10

## 5J9 - Twin City Airport

### AP 01

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
AP 01	APRON	1	71,433	35	Very Poor

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	71,433	AAC	2003	-	35	Very Poor	94	5	1



AP 01-10



AP 01-10

### AP 02

Branch ID	Branch Use	Number of Sections	Branch Area (SF)	Branch Area-Weighted Avg PCI	Branch Condition Rating
AP 02	APRON	1	12,159	58	Fair

Section ID	Area (SF)	Surface	Est. Last Major Work Year	Est. Last Global Treatment Year	PCI	Condition Rating	PCI % Climate	PCI % Load	PCI % Other
10	12,159	AC	2009	2009	58	Fair	97	0	3



AP 02-10



## Appendix E – Re-Inspection Report



# Re-Inspection Report

SCAC\_2023

Generated Date

5/30/2023

Page 1 of 9

**Network:** 5J9 **Name:** Twin City Airport

**Branch:** AP 01 **Name:** APRON 01 **Use:** APRON **Area:** 71,433 SqFt

**Section:** 10 of 1 **From:** - **To:** - **Last Const.:** 7/1/2003

**Surface:** AAC **Family:** SC34\_AP\_AC **Zone:** **Category:** G **Rank:** T

**Area:** 71,433 SqFt **Length:** 505 Ft **Width:** 138 Ft

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

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

**Section Comments:**

**Work Date:** 6/1/1979 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

**Work Date:** 6/1/1979 **Work Type:** Base Course - Aggregate **Code:** BA-AG **Is Major M&R:** False

**Work Date:** 6/1/1979 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

**Work Date:** 6/1/1990 **Work Type:** Surface Treatment - Seal Coat **Code:** ST-SC **Is Major M&R:** False

**Work Date:** 7/1/2003 **Work Type:** Overlay - AC **Code:** OL-AC **Is Major M&R:** True

**Last Insp. Date:** 1/25/2023 **Total Samples:** 15 **Surveyed:** 3

**Conditions:** PCI: 35

**Inspection Comments:**

**Sample Number:** 03 **Type:** R **Area:** 3920.00 SqFt **PCI:** 37

**Sample Comments:**

43	BLOCK CR	M	2016.00	SqFt
48	L & T CR	L	54.00	Ft
48	L & T CR	M	308.00	Ft
52	RAVELING	L	1960.00	SqFt
57	WEATHERING	M	1960.00	SqFt

**Sample Number:** 09 **Type:** R **Area:** 5001.00 SqFt **PCI:** 35

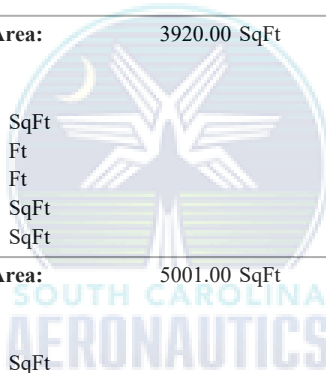
**Sample Comments:**

41	ALLIGATOR CR	L	18.00	SqFt
43	BLOCK CR	L	18.00	SqFt
43	BLOCK CR	M	1040.00	SqFt
48	L & T CR	L	113.00	Ft
48	L & T CR	M	619.00	Ft
52	RAVELING	L	2500.00	SqFt
56	SWELLING	L	11.00	SqFt
57	WEATHERING	M	2501.00	SqFt

**Sample Number:** 12 **Type:** R **Area:** 5001.00 SqFt **PCI:** 35

**Sample Comments:**

43	BLOCK CR	L	215.00	SqFt
43	BLOCK CR	M	215.00	SqFt
48	L & T CR	L	208.00	Ft
48	L & T CR	M	824.00	Ft
52	RAVELING	L	2500.00	SqFt
57	WEATHERING	M	2501.00	SqFt



**Network:** 5J9 **Name:** Twin City Airport

**Branch:** AP 02 **Name:** APRON 02 **Use:** APRON **Area:** 12,159 SqFt

**Section:** 10 of 1 **From:** - **To:** - **Last Const.:** 1/1/2009

**Surface:** AC **Family:** SC34\_AP\_AC **Zone:** **Category:** **Rank:** T

**Area:** 12,159 SqFt **Length:** 134 Ft **Width:** 120 Ft

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

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

**Section Comments:**

**Work Date:** 1/1/2009 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

**Work Date:** 1/2/2009 **Work Type:** Surface Treatment - Seal Coat **Code:** ST-SC **Is Major M&R:** False

**Last Insp. Date:** 1/25/2023 **TotalSamples:** 3 **Surveyed:** 1

**Conditions:** PCI: 58

**Inspection Comments:**

**Sample Number:** 03 **Type:** R **Area:** 3991.00 SqFt **PCI:** 58

**Sample Comments:**

48	L & T CR	L	370.00	Ft
52	RAVELING	M	599.00	SqFt
52	RAVELING	H	14.00	SqFt
56	SWELLING	L	16.00	SqFt
57	WEATHERING	L	3378.00	SqFt



**Network:** 5J9 **Name:** Twin City Airport

**Branch:** RW 8 **Name:** RUNWAY 8-26 **Use:** RUNWAY **Area:** 221,730 SqFt

**Section:** 10 of 2 **From:** - **To:** - **Last Const.:** 7/1/2003

**Surface:** AAC **Family:** SC34\_RW\_AC **Zone:** **Category:** G **Rank:** T

**Area:** 179,730 SqFt **Length:** 2,996 Ft **Width:** 60 Ft

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

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

**Section Comments:**

**Work Date:** 6/1/1965 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

**Work Date:** 6/1/1965 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

**Work Date:** 6/1/1965 **Work Type:** Base Course - Aggregate **Code:** BA-AG **Is Major M&R:** False

**Work Date:** 6/1/1979 **Work Type:** Overlay - AC Structural **Code:** OL-AS **Is Major M&R:** True

**Work Date:** 6/1/1985 **Work Type:** Surface Treatment - Slurry Seal **Code:** ST-SS **Is Major M&R:** False

**Work Date:** 7/1/2003 **Work Type:** Overlay - AC Structural **Code:** OL-AS **Is Major M&R:** True

**Last Insp. Date:** 1/25/2023 **Total Samples:** 30 **Surveyed:** 6

**Conditions:** PCI: 58

**Inspection Comments:**

**Sample Number:** 03 **Type:** R **Area:** 6000.00 SqFt **PCI:** 64

**Sample Comments:**

48 L & T CR L 450.00 Ft

48 L & T CR M 123.00 Ft

52 RAVELING L 3000.00 SqFt

57 WEATHERING M 3000.00 SqFt

**Sample Number:** 09 **Type:** R **Area:** 6000.00 SqFt **PCI:** 62

**Sample Comments:**

45 DEPRESSION L 12.00 SqFt

48 L & T CR L 503.00 Ft

48 L & T CR M 133.00 Ft

52 RAVELING L 3000.00 SqFt

57 WEATHERING M 3000.00 SqFt

**Sample Number:** 15 **Type:** R **Area:** 6000.00 SqFt **PCI:** 58

**Sample Comments:**

48 L & T CR L 568.00 Ft

48 L & T CR M 190.00 Ft

52 RAVELING L 3000.00 SqFt

57 WEATHERING M 3000.00 SqFt

**Sample Number:** 21 **Type:** R **Area:** 6000.00 SqFt **PCI:** 48

**Sample Comments:**

48 L & T CR L 216.00 Ft

48 L & T CR M 451.00 Ft

52 RAVELING L 3200.00 SqFt

52 RAVELING M 100.00 SqFt

57 WEATHERING M 2700.00 SqFt

**Sample Number:** 24 **Type:** R **Area:** 6000.00 SqFt **PCI:** 55

**Sample Comments:**

48 L & T CR L 95.00 Ft

48 L & T CR M 457.00 Ft

52 RAVELING L 3300.00 SqFt

57 WEATHERING M 2700.00 SqFt

**Sample Number:** 27 **Type:** R **Area:** 6000.00 SqFt **PCI:** 60

**Sample Comments:**

48 L & T CR L 268.00 Ft

48	L & T CR	M	290.00	Ft
52	RAVELING	L	3744.00	SqFt
57	WEATHERING	M	2256.00	SqFt



**Network:** 5J9 **Name:** Twin City Airport

**Branch:** RW 8 **Name:** RUNWAY 8-26 **Use:** RUNWAY **Area:** 221,730 SqFt

**Section:** 20 of 2 **From:** - **To:** - **Last Const.:** 7/1/2003

**Surface:** AAC **Family:** SC34\_RW\_AC **Zone:** **Category:** G **Rank:** T

**Area:** 42,000 SqFt **Length:** 700 Ft **Width:** 60 Ft

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

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

**Section Comments:**

**Work Date:** 6/1/1979 **Work Type:** Base Course - Aggregate **Code:** BA-AG **Is Major M&R:** False

**Work Date:** 6/1/1979 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

**Work Date:** 6/1/1979 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

**Work Date:** 6/1/1985 **Work Type:** Surface Treatment - Slurry Seal **Code:** ST-SS **Is Major M&R:** False

**Work Date:** 6/1/1985 **Work Type:** Crack Sealing - AC **Code:** CS-AC **Is Major M&R:** False

**Work Date:** 7/1/2003 **Work Type:** Overlay - AC Structural **Code:** OL-AS **Is Major M&R:** True

**Last Insp. Date:** 1/25/2023 **Total Samples:** 7 **Surveyed:** 2

**Conditions:** PCI: 61

**Inspection Comments:**

**Sample Number:** 02 **Type:** R **Area:** 6000.00 SqFt **PCI:** 61

**Sample Comments:**

48 L & T CR L 260.00 Ft

48 L & T CR M 56.00 Ft

52 RAVELING L 4500.00 SqFt

57 WEATHERING M 1500.00 SqFt

**Sample Number:** 06 **Type:** R **Area:** 6000.00 SqFt **PCI:** 61

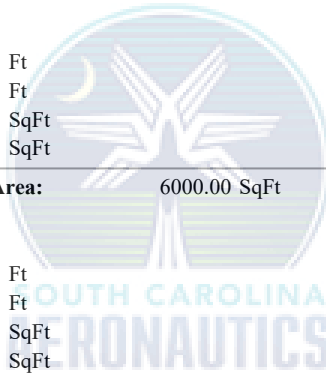
**Sample Comments:**

48 L & T CR L 371.00 Ft

48 L & T CR M 42.00 Ft

52 RAVELING L 4500.00 SqFt

57 WEATHERING M 1500.00 SqFt



**Network:** 5J9 **Name:** Twin City Airport

**Branch:** TL 01 **Name:** TAXILANE 01 **Use:** TAXILANE **Area:** 16,229 SqFt

**Section:** 10 of 1 **From:** - **To:** - **Last Const.:** 1/1/2009

**Surface:** AC **Family:** SC34\_TWTL\_AC **Zone:** **Category:** **Rank:** T

**Area:** 16,229 SqFt **Length:** 671 Ft **Width:** 24 Ft

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

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

**Section Comments:**

**Work Date:** 1/1/2009 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

**Work Date:** 1/2/2009 **Work Type:** Surface Treatment - Seal Coat **Code:** ST-SC **Is Major M&R:** False

**Last Insp. Date:** 1/25/2023 **Total Samples:** 3 **Surveyed:** 1

**Conditions:** PCI: 63

**Inspection Comments:**

**Sample Number:** 01 **Type:** R **Area:** 5400.00 SqFt **PCI:** 63

**Sample Comments:**

41 ALLIGATOR CR L 58.00 SqFt  
48 L & T CR L 327.00 Ft  
52 RAVELING L 270.00 SqFt  
56 SWELLING L 5.00 SqFt  
57 WEATHERING L 5130.00 SqFt





**Network:** 5J9 **Name:** Twin City Airport

**Branch:** TW 01 **Name:** TAXIWAY 01 **Use:** TAXIWAY **Area:** 2,245 SqFt

**Section:** 10 of 1 **From:** - **To:** - **Last Const.:** 6/1/1979

**Surface:** AC **Family:** SC34\_TWTL\_AC **Zone:** **Category:** G **Rank:** T

**Area:** 2,245 SqFt **Length:** 104 Ft **Width:** 20 Ft

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

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

**Section Comments:**

**Work Date:** 6/1/1979 **Work Type:** Base Course - Aggregate **Code:** BA-AG **Is Major M&R:** False

**Work Date:** 6/1/1979 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

**Work Date:** 6/1/1979 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

**Work Date:** 6/1/1984 **Work Type:** Surface Treatment - Seal Coat **Code:** ST-SC **Is Major M&R:** False

**Last Insp. Date:** 1/25/2023 **TotalSamples:** 1 **Surveyed:** 1

**Conditions:** PCI: 59

**Inspection Comments:**

**Sample Number:** 01 **Type:** R **Area:** 2245.00 SqFt **PCI:** 59

**Sample Comments:**

48 L & T CR L 270.00 Ft  
48 L & T CR M 45.00 Ft  
52 RAVELING L 1122.00 SqFt  
57 WEATHERING M 1123.00 SqFt



**Network:** 5J9 **Name:** Twin City Airport

**Branch:** TW 02 **Name:** TAXIWAY 02 **Use:** TAXIWAY **Area:** 3,540 SqFt

**Section:** 10 of 1 **From:** - **To:** - **Last Const.:** 6/1/1979

**Surface:** AAC **Family:** SC34\_TWTL\_AC **Zone:** **Category:** G **Rank:** T

**Area:** 3,540 SqFt **Length:** 109 Ft **Width:** 30 Ft

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

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

**Section Comments:**

**Work Date:** 6/1/1953 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

**Work Date:** 6/1/1953 **Work Type:** Base Course - Aggregate **Code:** BA-AG **Is Major M&R:** False

**Work Date:** 6/1/1953 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

**Work Date:** 6/1/1969 **Work Type:** Overlay - AC Structural **Code:** OL-AS **Is Major M&R:** True

**Work Date:** 6/1/1979 **Work Type:** Overlay - AC Structural **Code:** OL-AS **Is Major M&R:** True

**Work Date:** 6/1/1990 **Work Type:** Surface Treatment - Seal Coat **Code:** ST-SC **Is Major M&R:** False

**Last Insp. Date:** 1/25/2023 **Total Samples:** 1 **Surveyed:** 1

**Conditions:** PCI: 54

**Inspection Comments:**

**Sample Number:** 01 **Type:** R **Area:** 3540.00 SqFt **PCI:** 54

**Sample Comments:**

43 BLOCK CR L 480.00 SqFt  
43 BLOCK CR M 120.00 SqFt  
48 L & T CR L 148.00 Ft  
48 L & T CR M 48.00 Ft  
52 RAVELING L 177.00 SqFt  
57 WEATHERING M 3363.00 SqFt



**Network:** 5J9 **Name:** Twin City Airport

**Branch:** TW TA 26 **Name:** TAXIWAY TURNAROUND 26 **Use:** TAXIWAY **Area:** 5,033 SqFt

**Section:** 10 of 1 **From:** - **To:** - **Last Const.:** 7/1/2003

**Surface:** AAC **Family:** SC34\_TWTL\_AC **Zone:** **Category:** G **Rank:** T

**Area:** 5,033 SqFt **Length:** 89 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:** 6/1/1979 **Work Type:** Base Course - Aggregate **Code:** BA-AG **Is Major M&R:** False

**Work Date:** 6/1/1979 **Work Type:** Surface Course - AC (Layer Construct) **Code:** SU-AC **Is Major M&R:** False

**Work Date:** 6/1/1979 **Work Type:** New Construction - AC **Code:** NC-AC **Is Major M&R:** True

**Work Date:** 6/1/1990 **Work Type:** Surface Treatment - Seal Coat **Code:** ST-SC **Is Major M&R:** False

**Work Date:** 7/1/2003 **Work Type:** Overlay - AC Structural **Code:** OL-AS **Is Major M&R:** True

**Last Insp. Date:** 1/25/2023 **TotalSamples:** 1 **Surveyed:** 1

**Conditions:** PCI: 62

**Inspection Comments:**

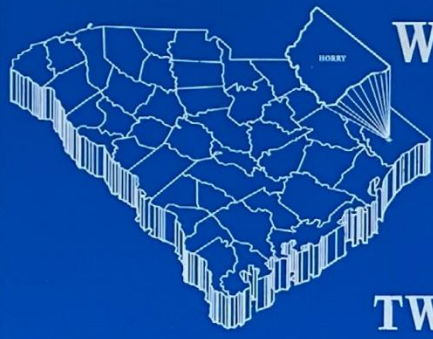
**Sample Number:** 01 **Type:** R **Area:** 5033.00 SqFt **PCI:** 62

**Sample Comments:**

45	DEPRESSION	L	48.00	SqFt
48	L & T CR	L	86.00	Ft
48	L & T CR	M	91.00	Ft
52	RAVELING	L	1510.00	SqFt
56	SWELLING	L	15.00	SqFt
57	WEATHERING	L	3523.00	SqFt







WELCOME

TO

TWIN CITY  
AIRPORT

SOUTH CAROLINA