

Alabama Statewide Airport Pavement Management Program Update



Auburn University Regional Airport (AUO)
Final Report
February 2022



Submitted to

Alabama Aeronautics Bureau

Submitted by



All About Pavements, Inc (API)
www.allaboutpavements.com

Pavement Management – Evaluation – Testing – Design

**ALABAMA STATEWIDE AIRPORT PAVEMENT MANAGEMENT
PROGRAM UPDATE**

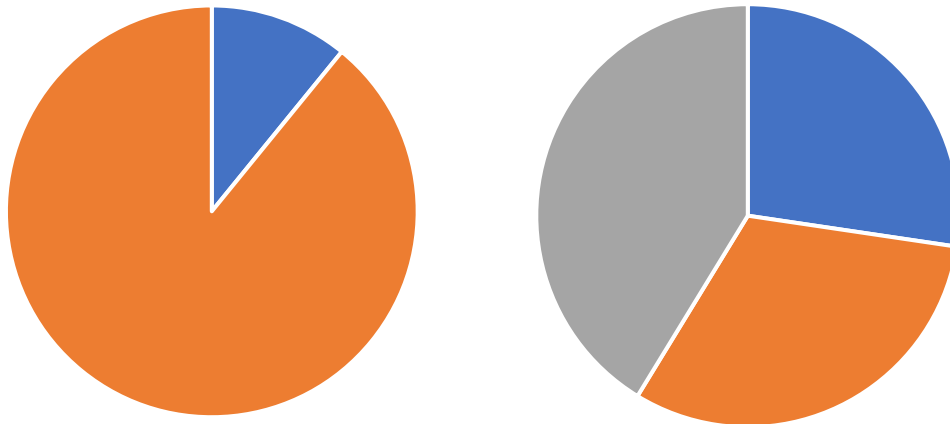
Auburn University Regional Airport, Auburn (AUO)

Executive Summary

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ES.1 Pavement Inventory

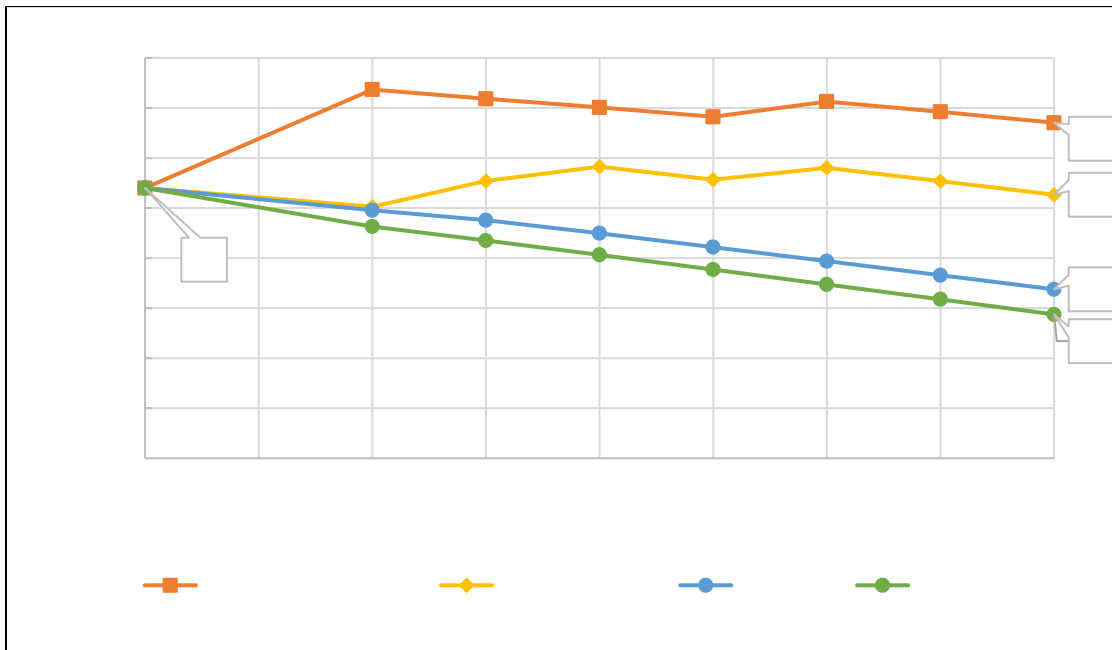
Figure ES-1: Pavement Area (sf) by Surface Type and Branch Use.



ES.2 Pavement Condition

ES.3 Pavement Maintenance and Repair Funding Levels

Figure ES-2: M&R Funding Levels.



ES.4 Pavement Capital Improvement Program (PCIP)

Table ES-2: Summary of Pavement Capital Improvement Program.

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1 Introduction

1.1. Overview

1.2. Work Scope

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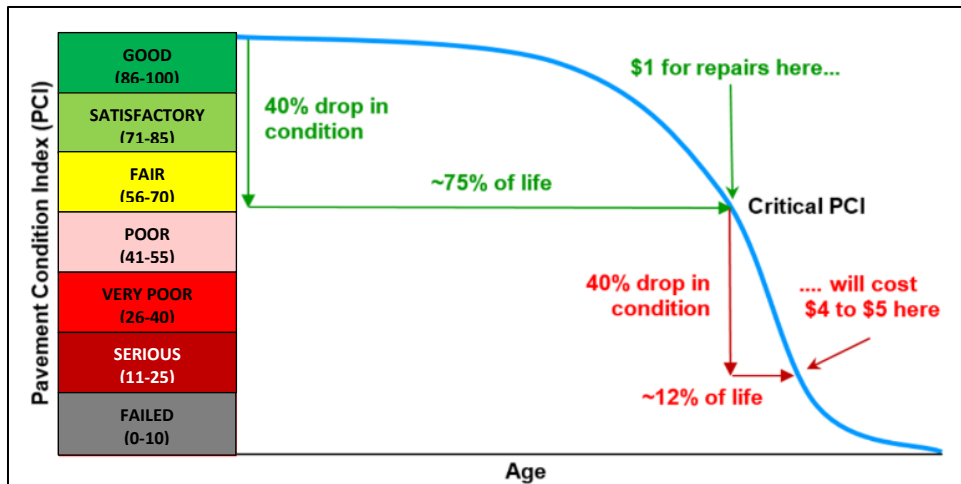
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1.3. Pavement Management Concept

Figure 1.1: Pavement Management Concept.



2 Airfield Pavement Inventory

2.1. Introduction

Figure 2.1: Auburn University Regional Airport.



2.2. Pavement Inventory

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- Ø
- Ø
- Ø

2.3. Climatic Conditions

Table 2.1: Average Annual Temperatures and Rainfall for AUO.

2.4. Pavement Network Definition

"a contiguous pavement area having uniform construction, maintenance, usage history, and condition. A section should also have the same traffic volume and load intensity."

Total			2,619,991	31

Table 2.4: AUO Pavement Age.

Figure 2.2: AUO Pavement Area by Surface Type.

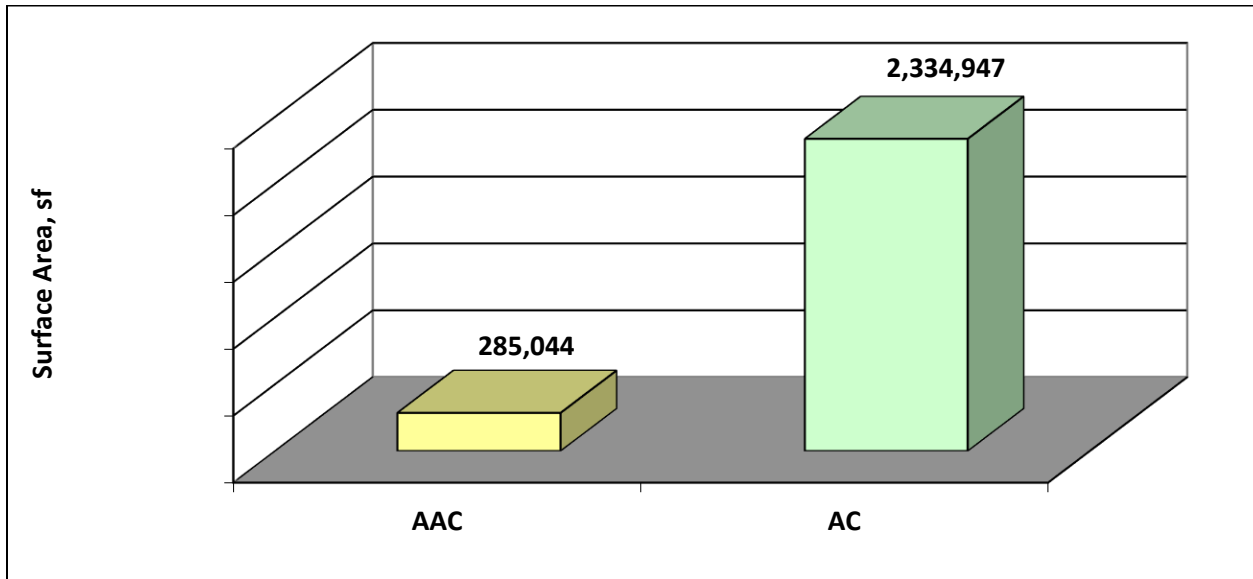
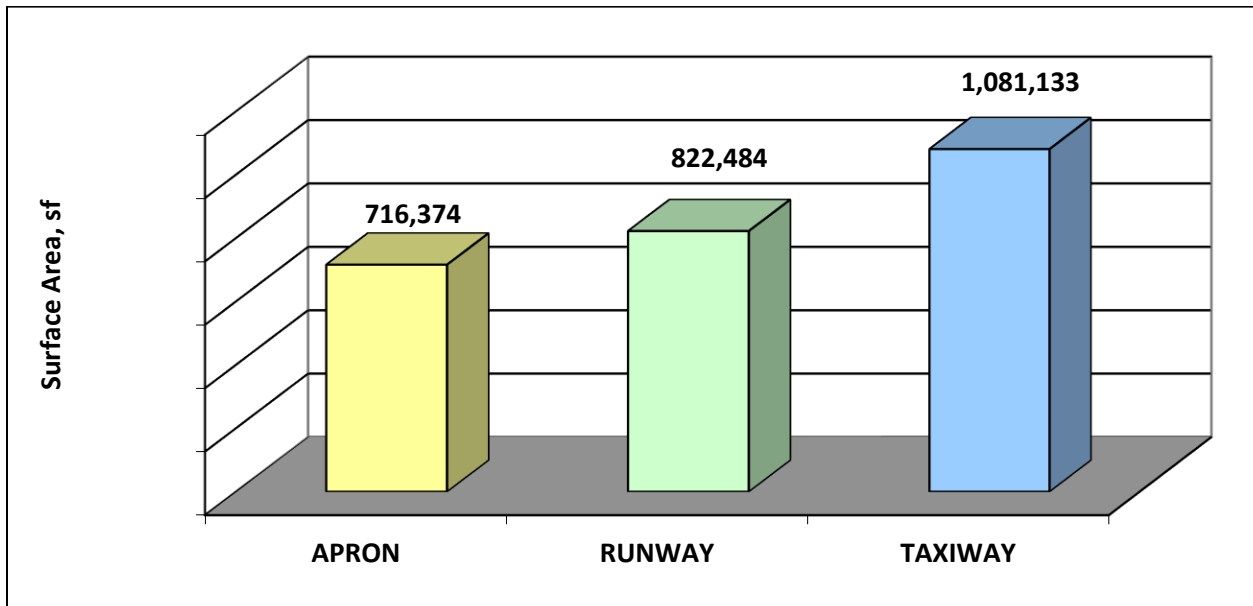


Figure 2.3: AUO Pavement Area by Branch Use.



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3 Pavement Condition

3.1. Introduction

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3.2. Pavement Condition Rating Methodology

Table 3.1: Pavement Condition Index Rating Scale.

3.3. Distress Types

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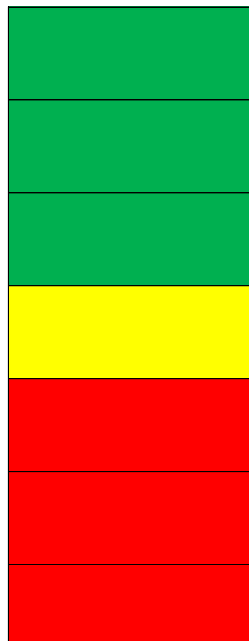
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3.4. Additional PCI-based Indices

Figure 3.1: FOD Potential Rating Scale.



3.5. PCI Survey Results

Figure 3.2: Pavement Condition by Branch Use.

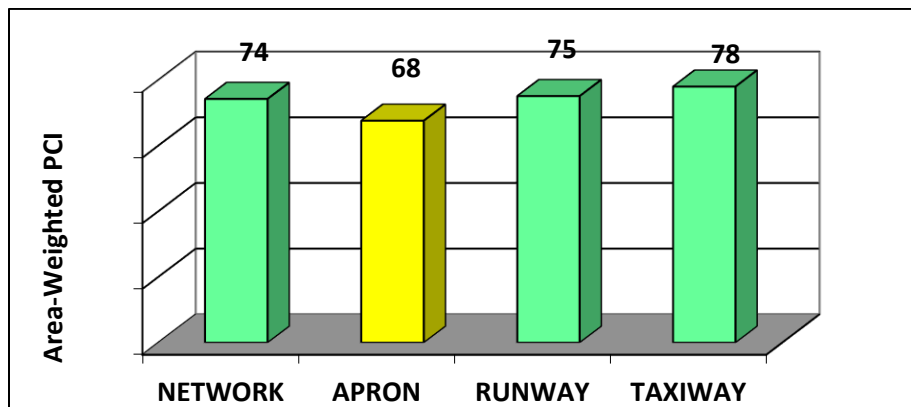
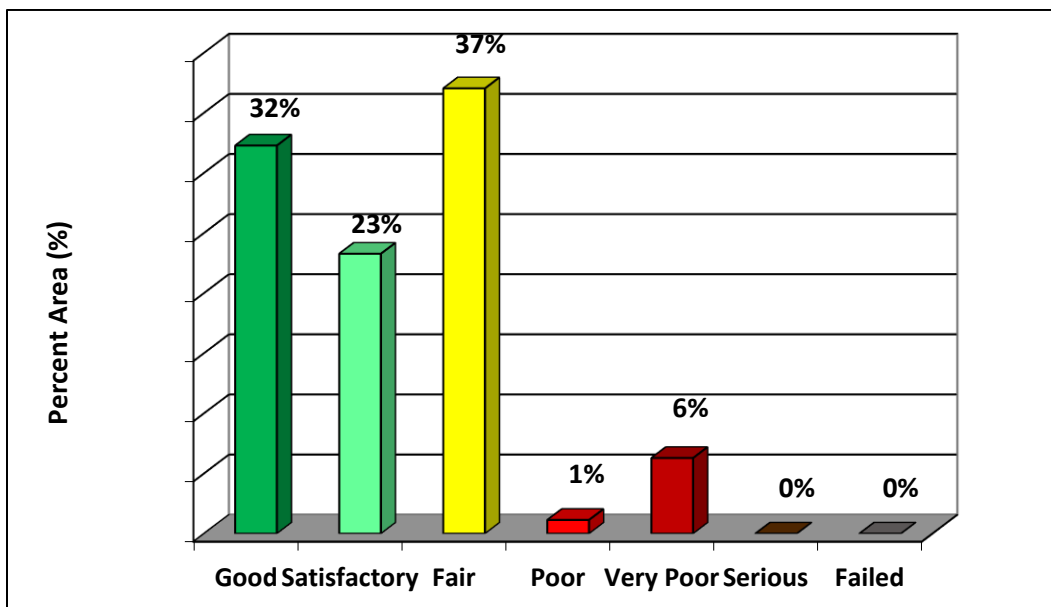


Figure 3.3: Pavement Condition by Percent of Area.



3.6. PCC Pavements

4 Pavement Capital Improvement Program

4.1. Introduction

4.2. Performance Modeling

Figure 4.1: PCI Forecasting.

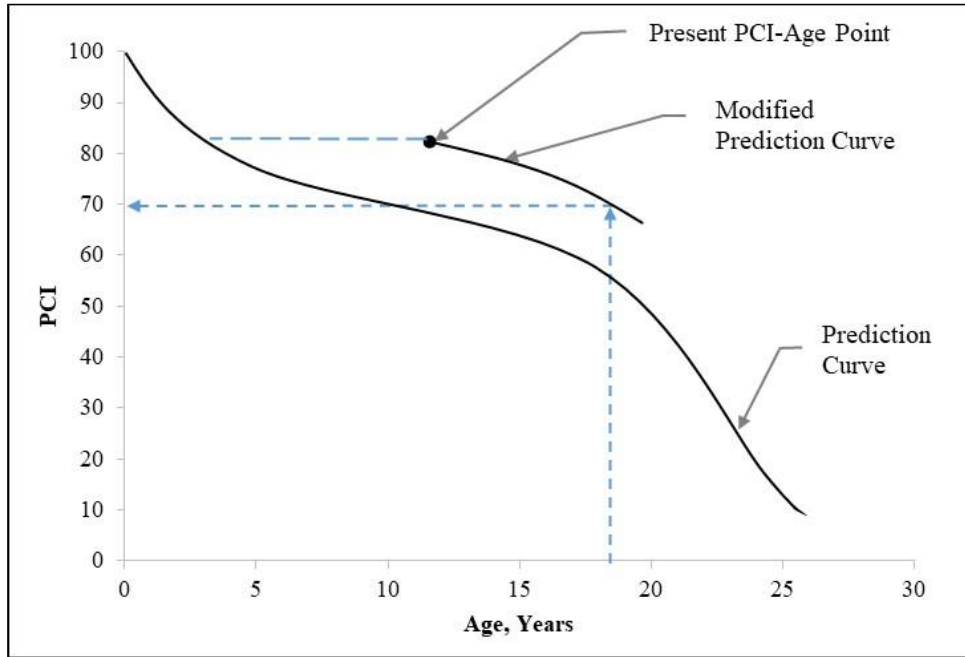
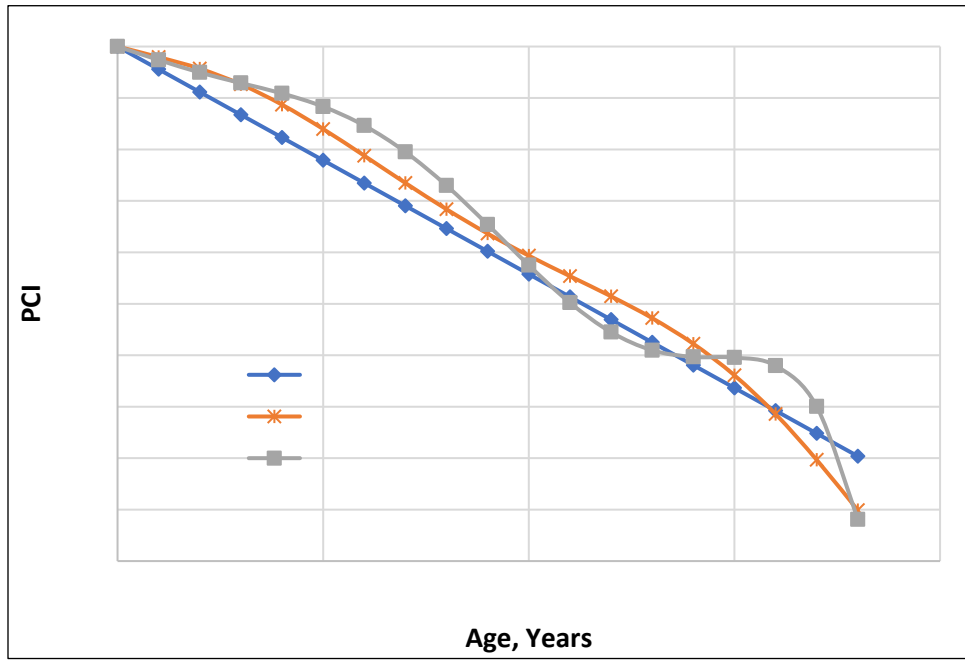


Figure 4.2: Family Curves.



4.3. Critical PCI Values

the PCI value at which the rate of PCI loss increases with time, or the cost of applying localized preventive maintenance increases significantly

4.4. M&R Policies and Unit Costs

Table 4.1: M&R Activities and Unit Costs.

4.5. Pavement CIP Development

Ø _____

Ø _____

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Figure 4.3: Budget Analysis Process.

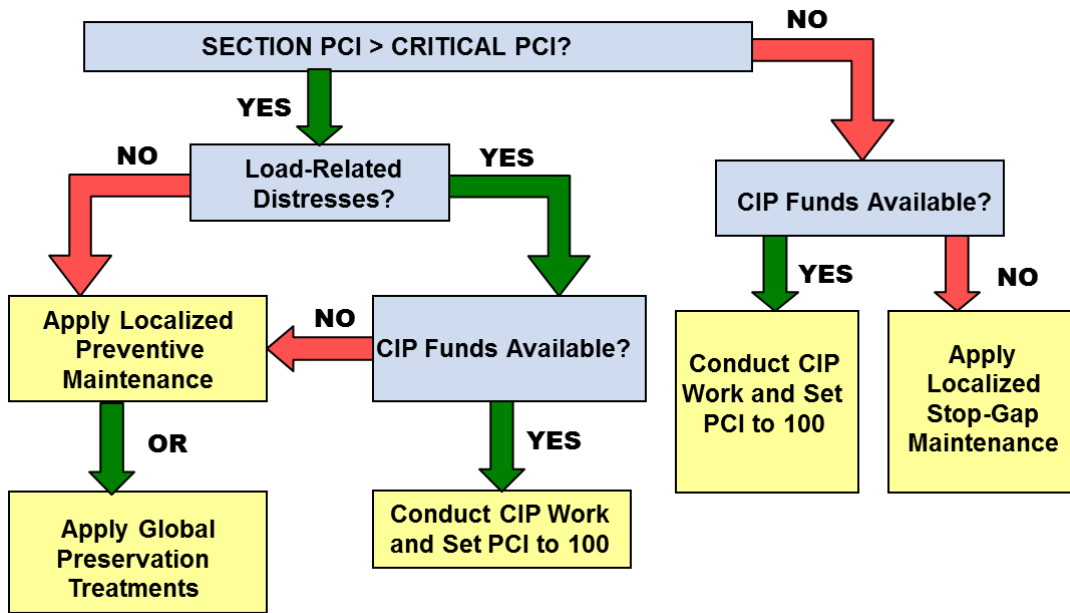


Figure 4.4: M&R Funding Levels.

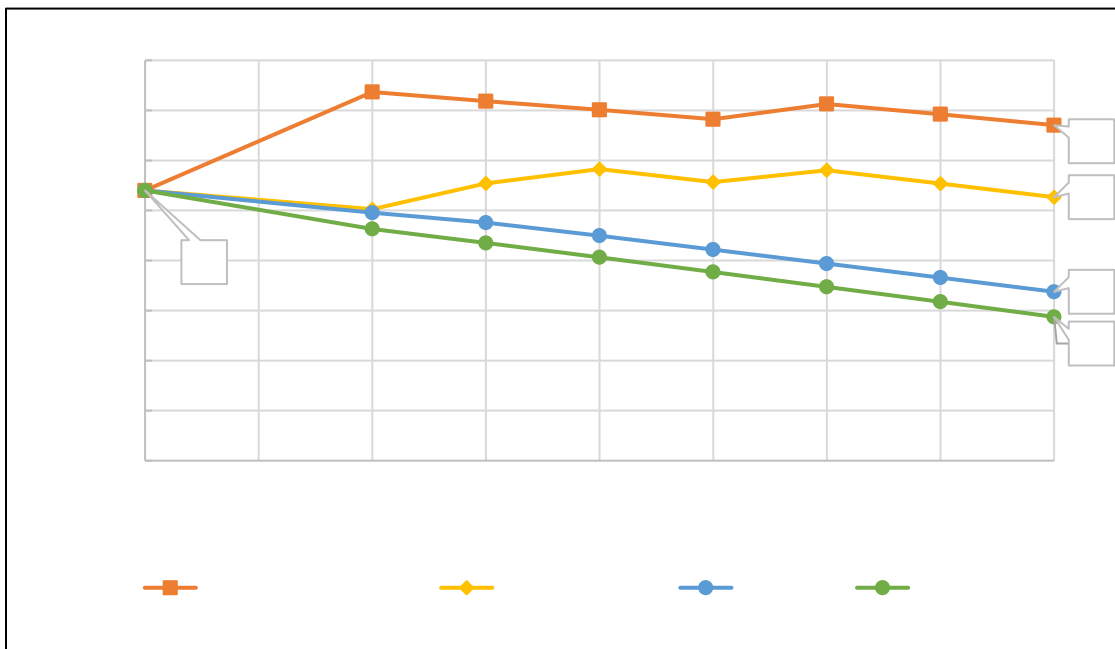


Table 4.2: Summary of M&R Funding Level Analyses.

Total	\$8,994,000	\$7,021,000	\$2,320,000	\$0
2027 Backlog	-	\$6,204,000	\$13,552,000	\$17,045,000

4.6. Pavement Capital Improvement Program

Chapter 4, Pavement Capital Improvement Program

Table 4.3: Summary of 7-Year PCIP by Project.

Total		\$10,675,666			

Table 4.4: Summary of 7-Year PCIP by Project and Section.

AUO_21-01_Taxiway B Preservation						\$62,421
AUO_21-02_Taxiway C Preservation						\$259,227
AUO_21-03_Taxiway Hangar 02 Preservation						\$93,361

AUO_21-04_Runway 18-36 Rehabilitation						\$3,304,298
AUO_21-05_RW 11-29 Turnaround Rehabilitation						
AUO_22-01_Taxiway A Rehabilitation						\$427,900
AUO_22-02_Apron 02 Rehabilitation						\$1,817,482
AUO_23-01_Taxiway Hangar 01 Reconstruction						\$1,770,264
AUO_24-01_Runway 18-36 Surface Treatment						\$367,381
AUO_24-02_RW 11-29 Turnaround Surface Treatment						\$20,496
AUO_25-01_Apron 01 Rehabilitation						\$1,819,737
AUO_25-02_Taxiway A Surface Treatment						\$61,940
AUO_25-03_Apron 02 Surface Treatment						\$263,086
AUO_27-01_Runway 11-29 Preservation						\$207,301

Chapter 4, Pavement Capital Improvement Program

AUO_27-02_Taxiway A Preservation						\$200,774
Total						\$10,675,666

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Table 4.5: Summary of Year-1 Maintenance Plan.

Total				\$190,285

APPENDIX A
INVENTORY



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u° V8	u	≡ · °	u	⊕	°		t						° #
u° V8	u	≡ · °	u	⊕	°		t						° #
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APPENDIX B

PMP Maps

B1: Inventory Maps

B1A: Branch Identification

B1B: Section Identification

B1C: Sample Unit Layout

B1D: Pavement Type

B1E: Branch Use

B1F: Pavement Age

B2: Surface Condition Maps

B2A: 7-Color PCI

B2B: 3-Color PCI

B2C: FOD Rating

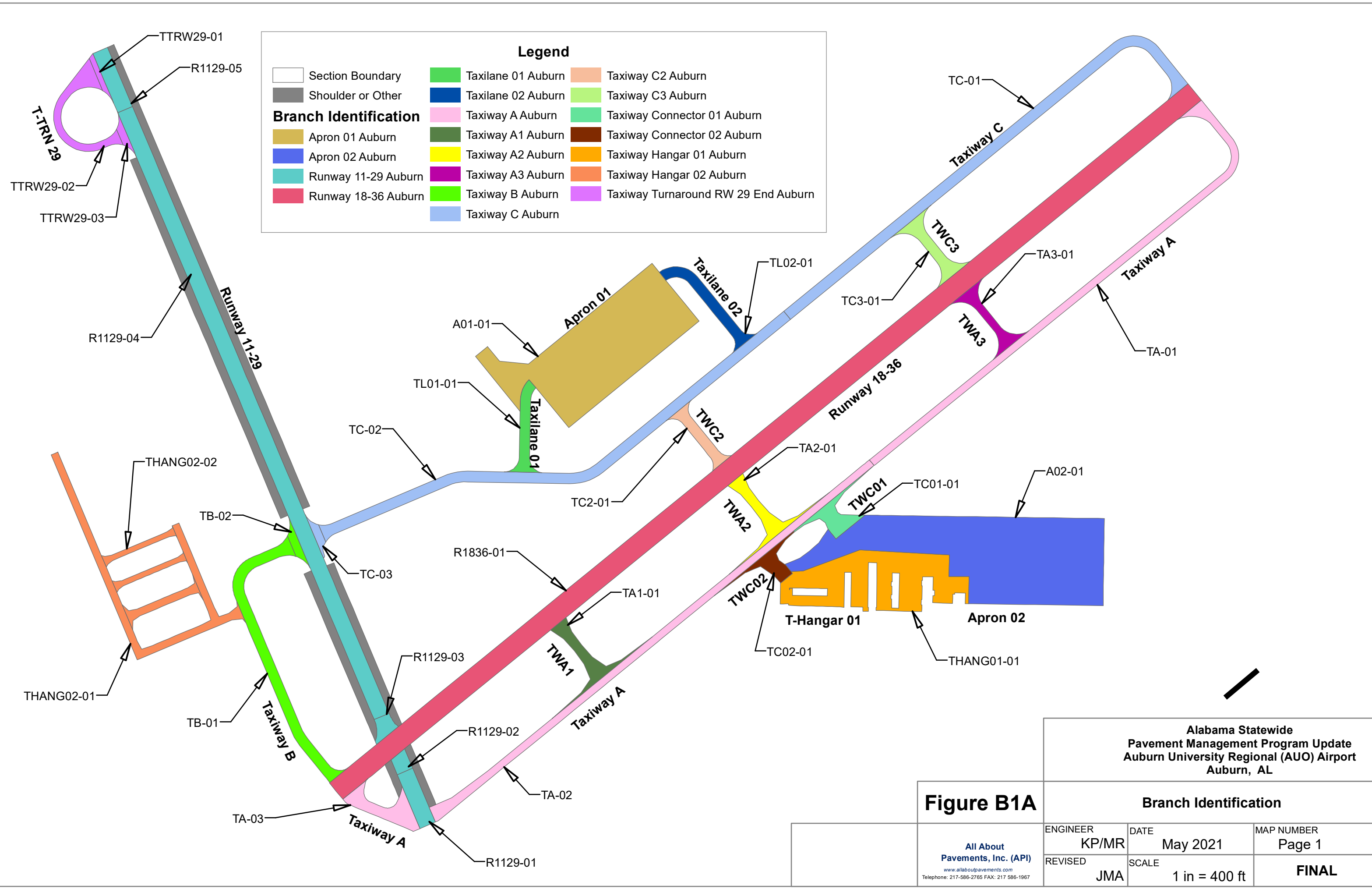
B2D: Survey Photo Locations

B3: Pavement Capital Improvement Plan (PCIP) Maps

B3A: 2027 Forecasted PCI without PCIP

B3B: M&R Needs

B3C: PCIP Recommendations



Legend

Section Boundary	Taxilane 01 Auburn	Taxiway C2 Auburn
Shoulder or Other	Taxilane 02 Auburn	Taxiway C3 Auburn
Branch Identification		
Apron 01 Auburn	Taxiway A Auburn	Taxiway Connector 01 Auburn
Apron 02 Auburn	Taxiway A1 Auburn	Taxiway Connector 02 Auburn
Runway 11-29 Auburn	Taxiway A2 Auburn	Taxiway Hangar 01 Auburn
Runway 18-36 Auburn	Taxiway A3 Auburn	Taxiway Hangar 02 Auburn
	Taxiway B Auburn	Taxiway Turnaround RW 29 End Auburn
	Taxiway C Auburn	

Alabama Statewide Pavement Management Program Update Auburn University Regional (AUO) Airport Auburn, AL		
Figure B1A		
Branch Identification		
ENGINEER KP/MR	DATE May 2021	MAP NUMBER Page 1
REVISED JMA	SCALE 1 in = 400 ft	FINAL

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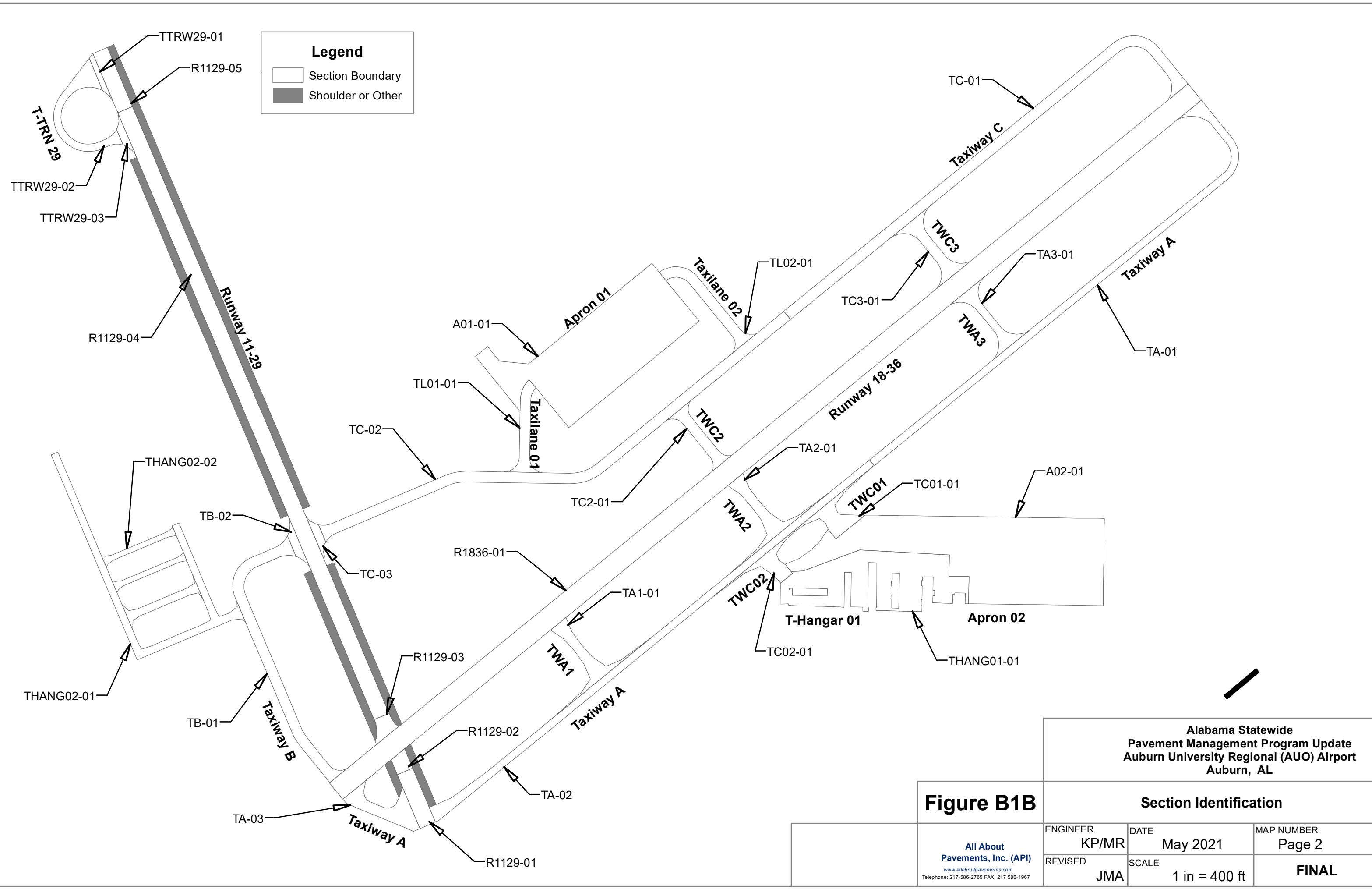


Figure B1B

Alabama Statewide Pavement Management Program Update Auburn University Regional (AUO) Airport Auburn, AL		
Section Identification		
ENGINEER KP/MR	DATE May 2021	MAP NUMBER Page 2
REVISED JMA	SCALE 1 in = 400 ft	FINAL

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Legend

- Section Boundary
- Shoulder or Other

Sample Unit Layout

- SU Boundary
- Inspected

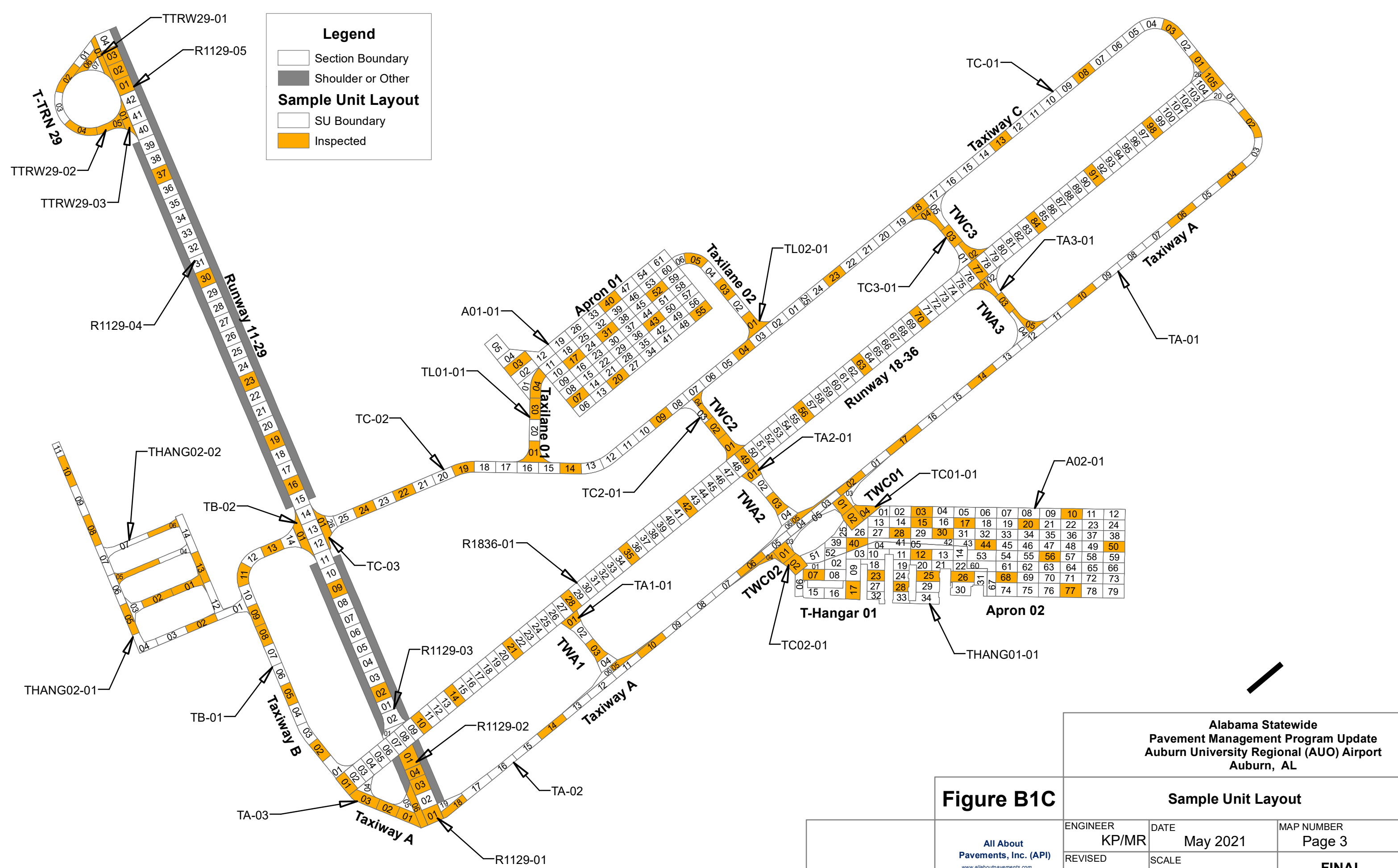
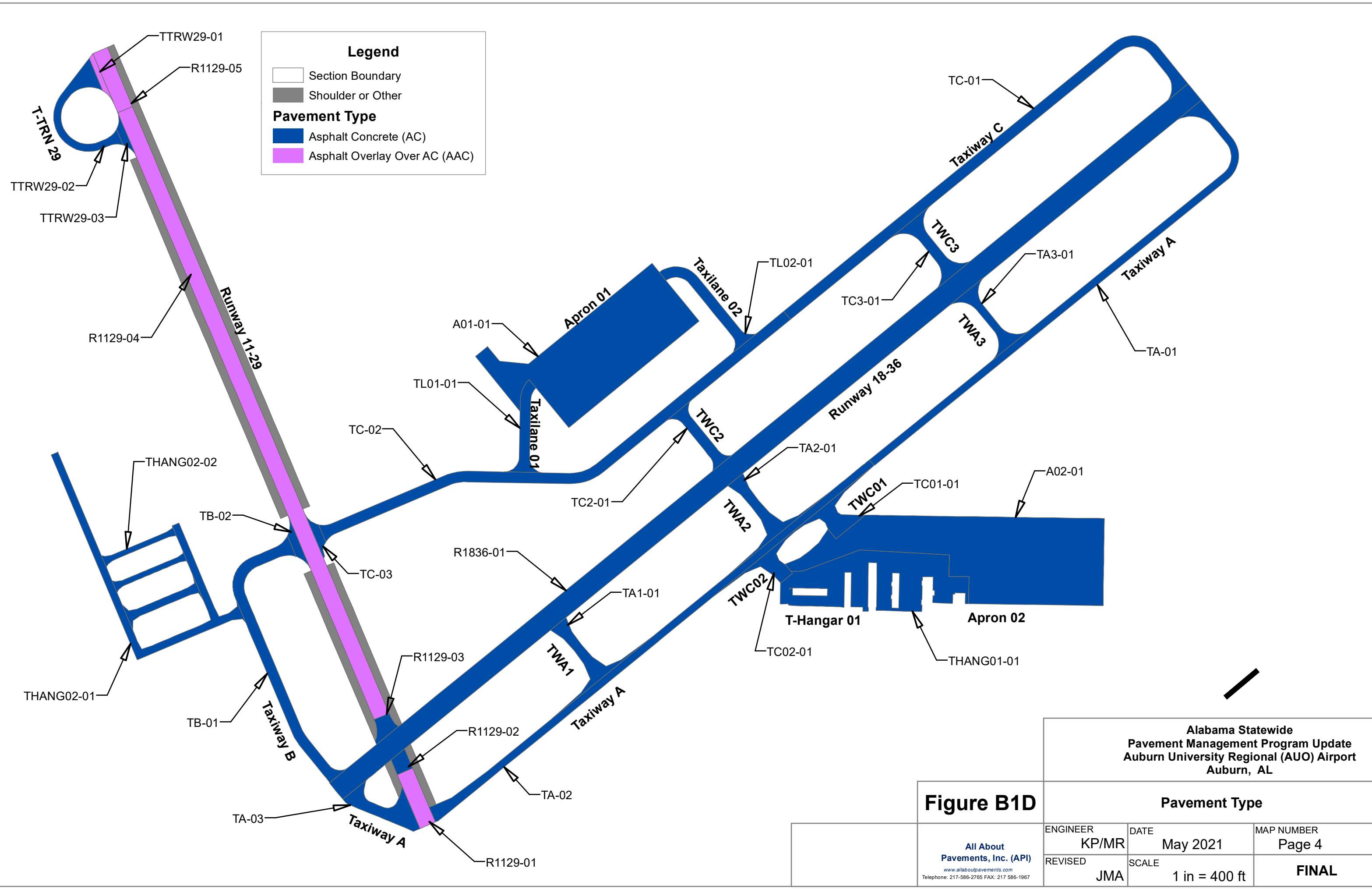


Figure B1C

Alabama Statewide Pavement Management Program Update Auburn University Regional (AUO) Airport Auburn, AL		
Sample Unit Layout		
ENGINEER KP/MR	DATE May 2021	MAP NUMBER Page 3
REVISED JMA	SCALE 1 in = 400 ft	FINAL

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Legend

- Section Boundary
- Shoulder or Other

Pavement Type

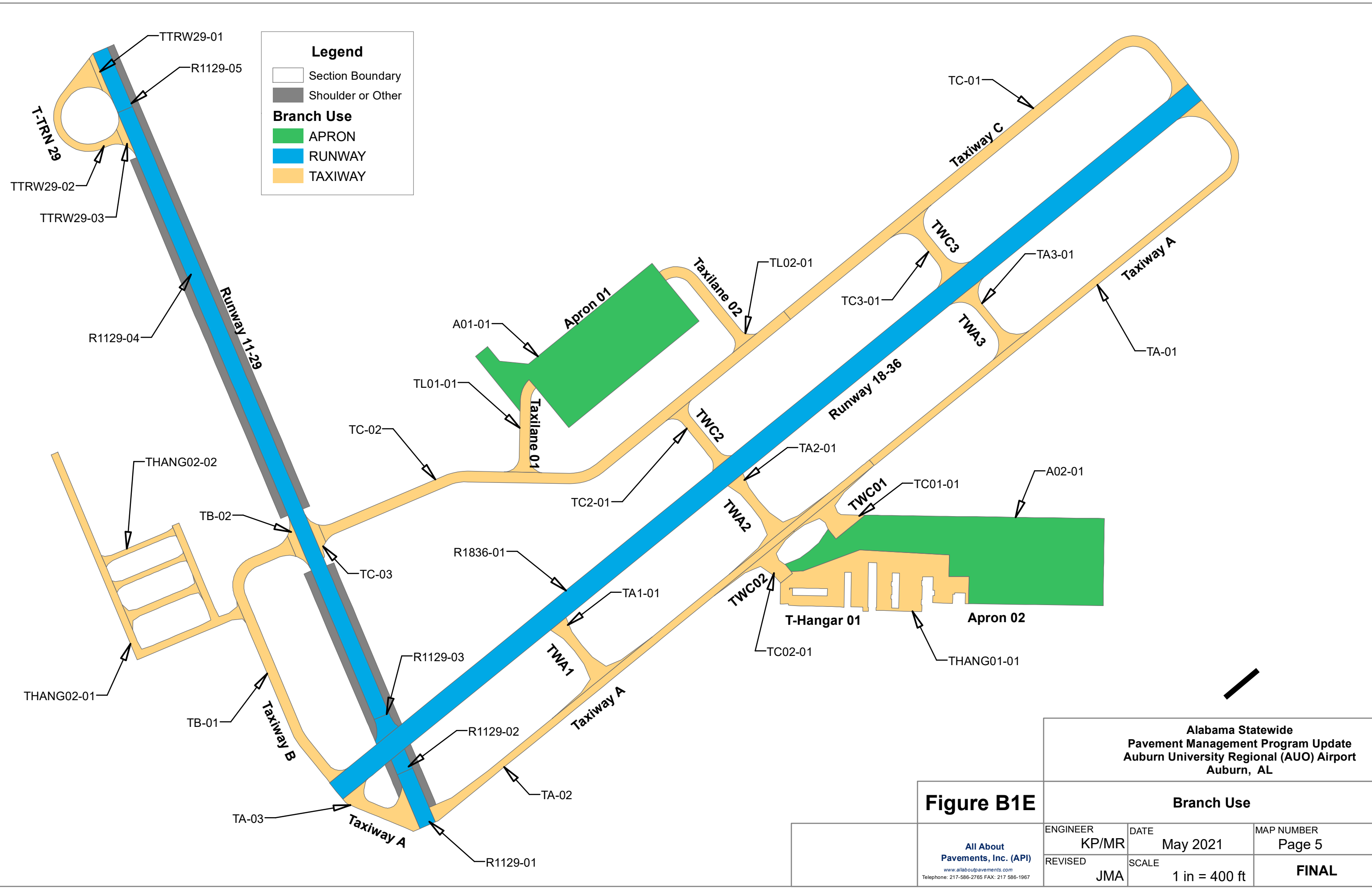
- Asphalt Concrete (AC)
- Asphalt Overlay Over AC (AAC)

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 Pavement Management Program Update
 Auburn University Regional (AUO) Airport
 Auburn, AL

Figure B1D

Pavement Type		
ENGINEER KP/MR	DATE May 2021	MAP NUMBER Page 4
REVISED JMA	SCALE 1 in = 400 ft	FINAL

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Legend

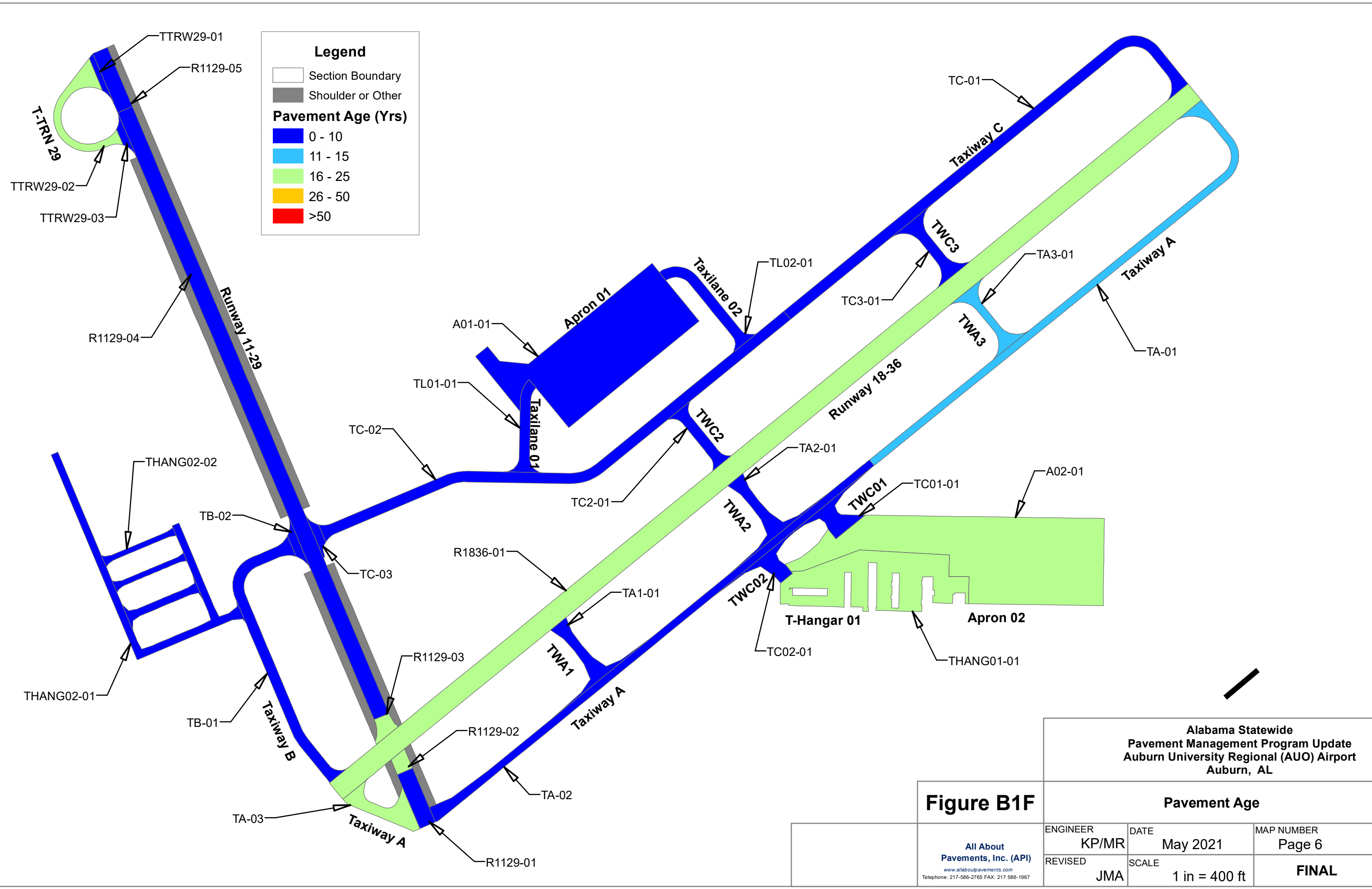
- Section Boundary
- Shoulder or Other
- Branch Use**
- APRON
- RUNWAY
- TAXIWAY

**Alabama Statewide
Pavement Management Program Update
Auburn University Regional (AUO) Airport
Auburn, AL**

Figure B1E

Branch Use		
ENGINEER KP/MR	DATE May 2021	MAP NUMBER Page 5
REVISED JMA	SCALE 1 in = 400 ft	FINAL

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Legend

- Section Boundary
- Shoulder or Other

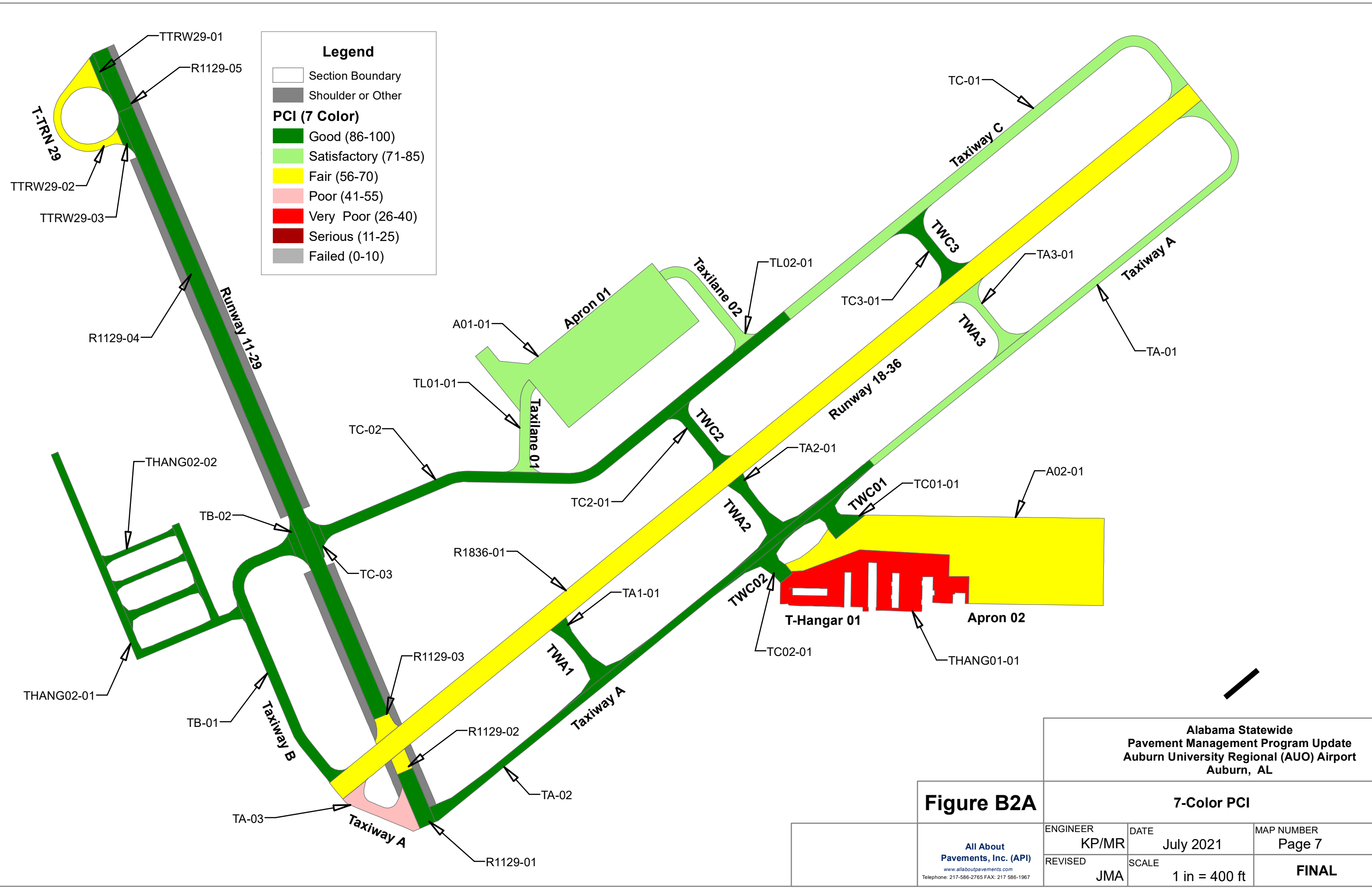
Pavement Age (Yrs)

- 0 - 10
- 11 - 15
- 16 - 25
- 26 - 50
- >50

Figure B1F

Alabama Statewide Pavement Management Program Update Auburn University Regional (AUO) Airport Auburn, AL			
Pavement Age			
ENGINEER	DATE	MAP NUMBER	
KP/MR	May 2021	Page 6	
REVISOR	SCALE	FINAL	
JMA	1 in = 400 ft		

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Legend

- Section Boundary
- Shoulder or Other

PCI (7 Color)

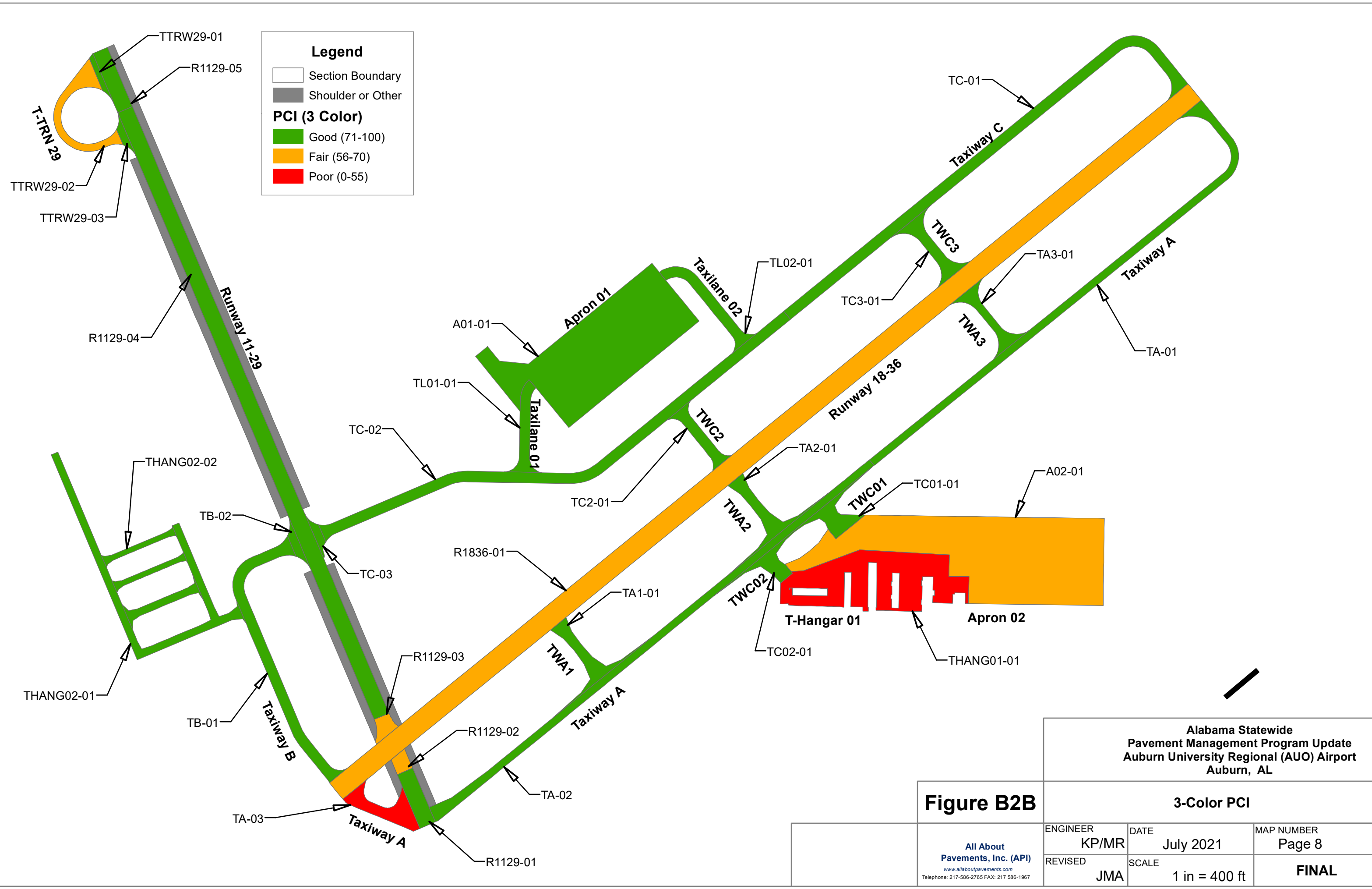
- Good (86-100)
- Satisfactory (71-85)
- Fair (56-70)
- Poor (41-55)
- Very Poor (26-40)
- Serious (11-25)
- Failed (0-10)

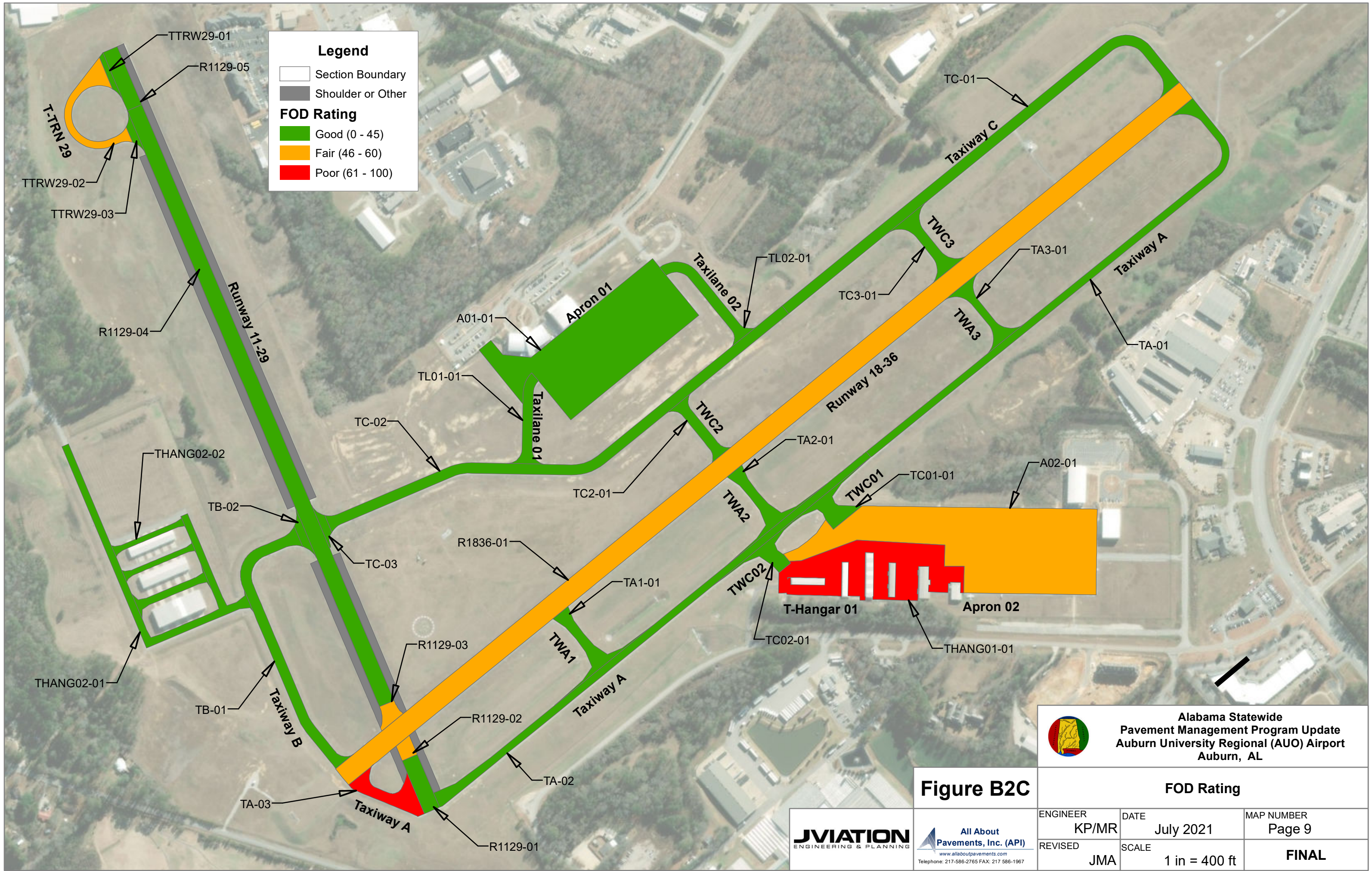
**Alabama Statewide
Pavement Management Program Update
Auburn University Regional (AUO) Airport
Auburn, AL**

Figure B2A

7-Color PCI		
ENGINEER KP/MR	DATE July 2021	MAP NUMBER Page 7
REVISED JMA	SCALE 1 in = 400 ft	FINAL

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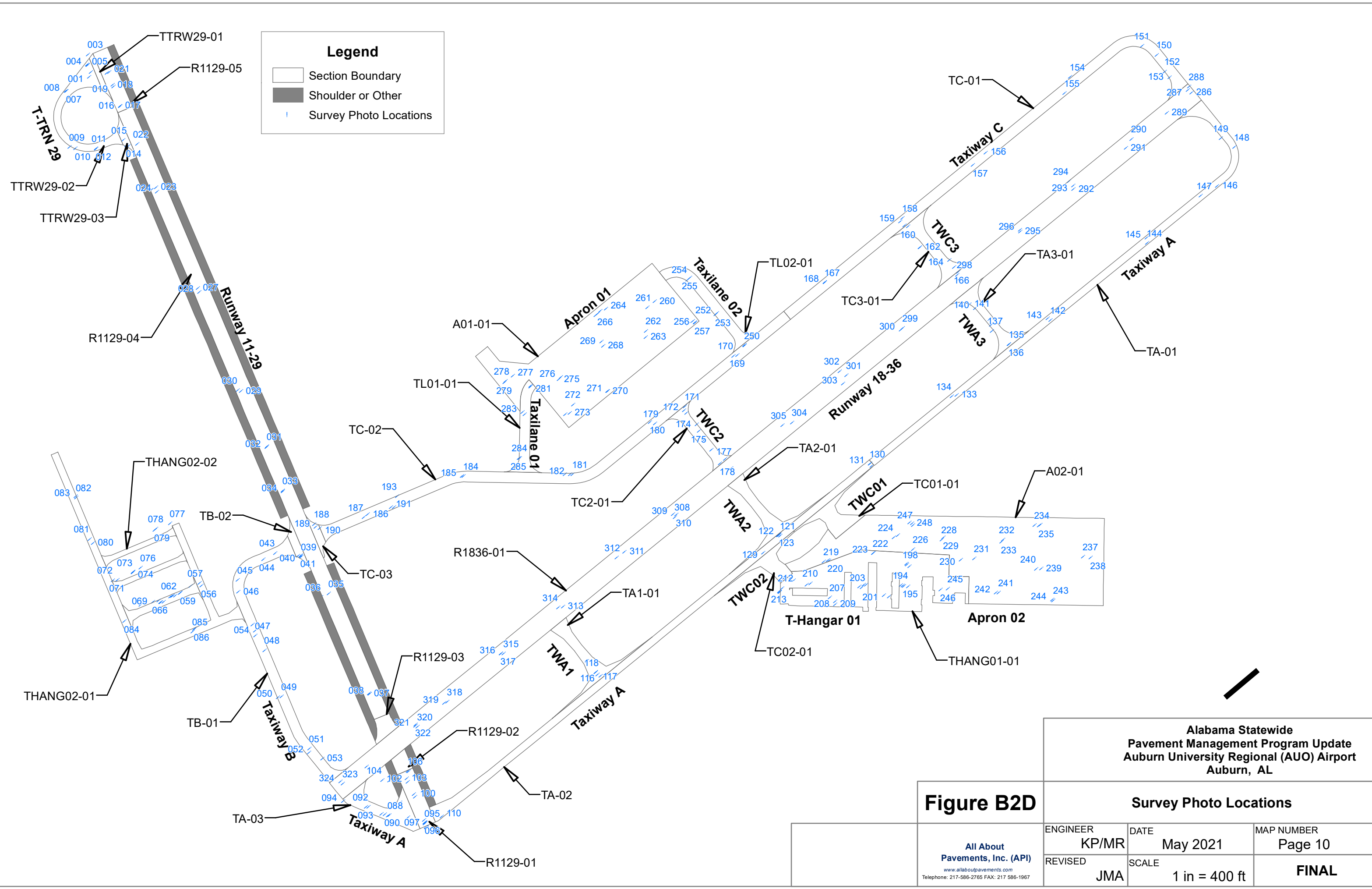


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 Auburn University Regional (AUO) Airport
 Auburn, AL

FOD Rating		
ENGINEER KP/MR	DATE July 2021	MAP NUMBER Page 9
REVISOR JMA	SCALE 1 in = 400 ft	FINAL

JVIATION
 ENGINEERING & PLANNING

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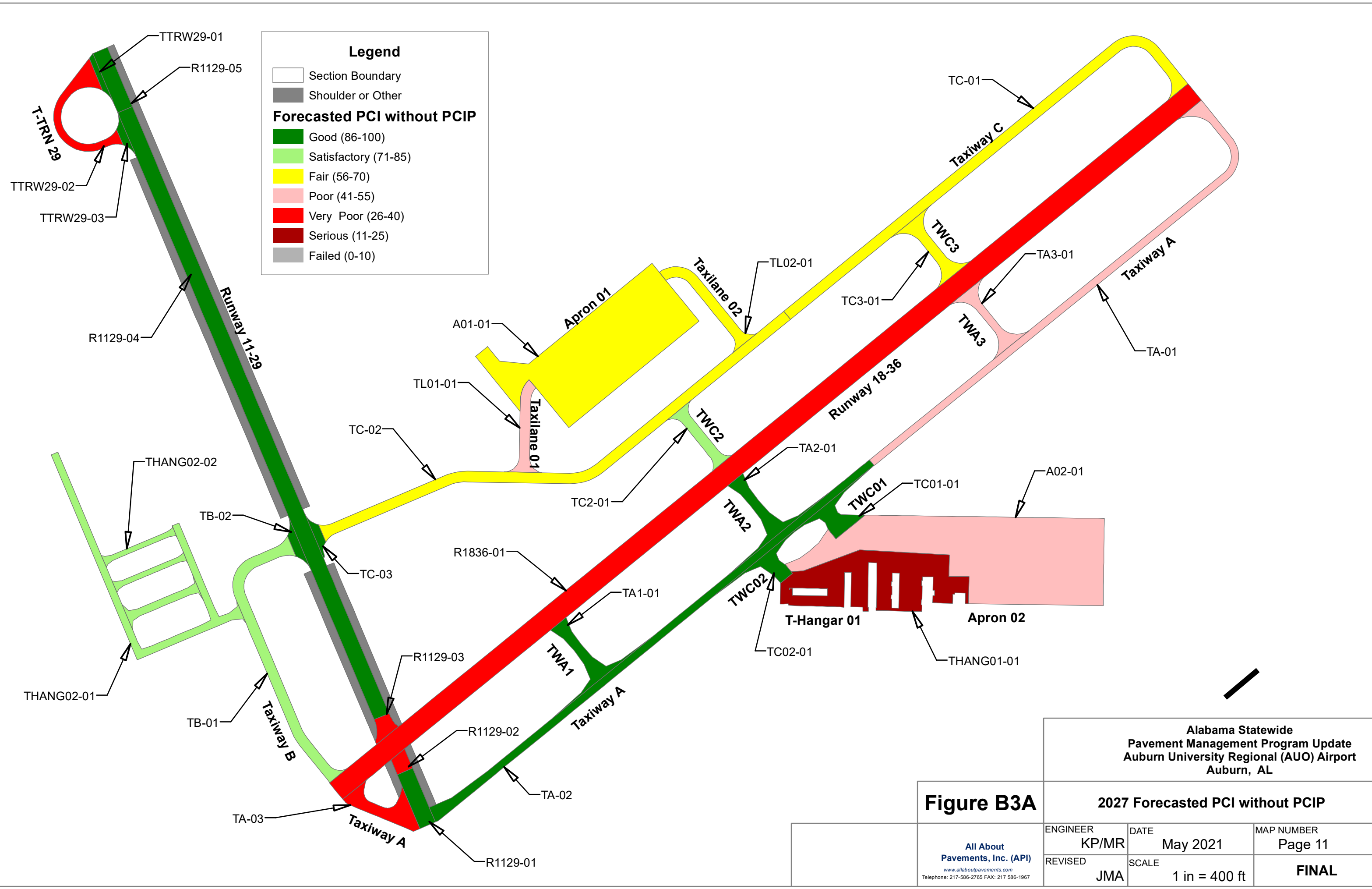
Legend

- Section Boundary
- Shoulder or Other
- Survey Photo Locations

Figure B2D

Alabama Statewide Pavement Management Program Update Auburn University Regional (AUO) Airport Auburn, AL		
Survey Photo Locations		
ENGINEER KP/MR	DATE May 2021	MAP NUMBER Page 10
REVISED JMA	SCALE 1 in = 400 ft	FINAL

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Legend

- Section Boundary
- Shoulder or Other

Forecasted PCI without PCIP

- Good (86-100)
- Satisfactory (71-85)
- Fair (56-70)
- Poor (41-55)
- Very Poor (26-40)
- Serious (11-25)
- Failed (0-10)

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Auburn, AL**

Figure B3A

2027 Forecasted PCI without PCIP

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ENGINEER
KP/MR
REVISOR
JMA

DATE
May 2021
SCALE
1 in = 400 ft

MAP NUMBER
Page 11
FINAL

All sections recommended for Rehabilitation or Reconstruction between 2021 and 2024 also receive Surface Treatment in the 3rd year of paving.

Legend

Section Boundary
Shoulder or Other

Repair Type

Preservation
Reconstruction
Rehabilitation

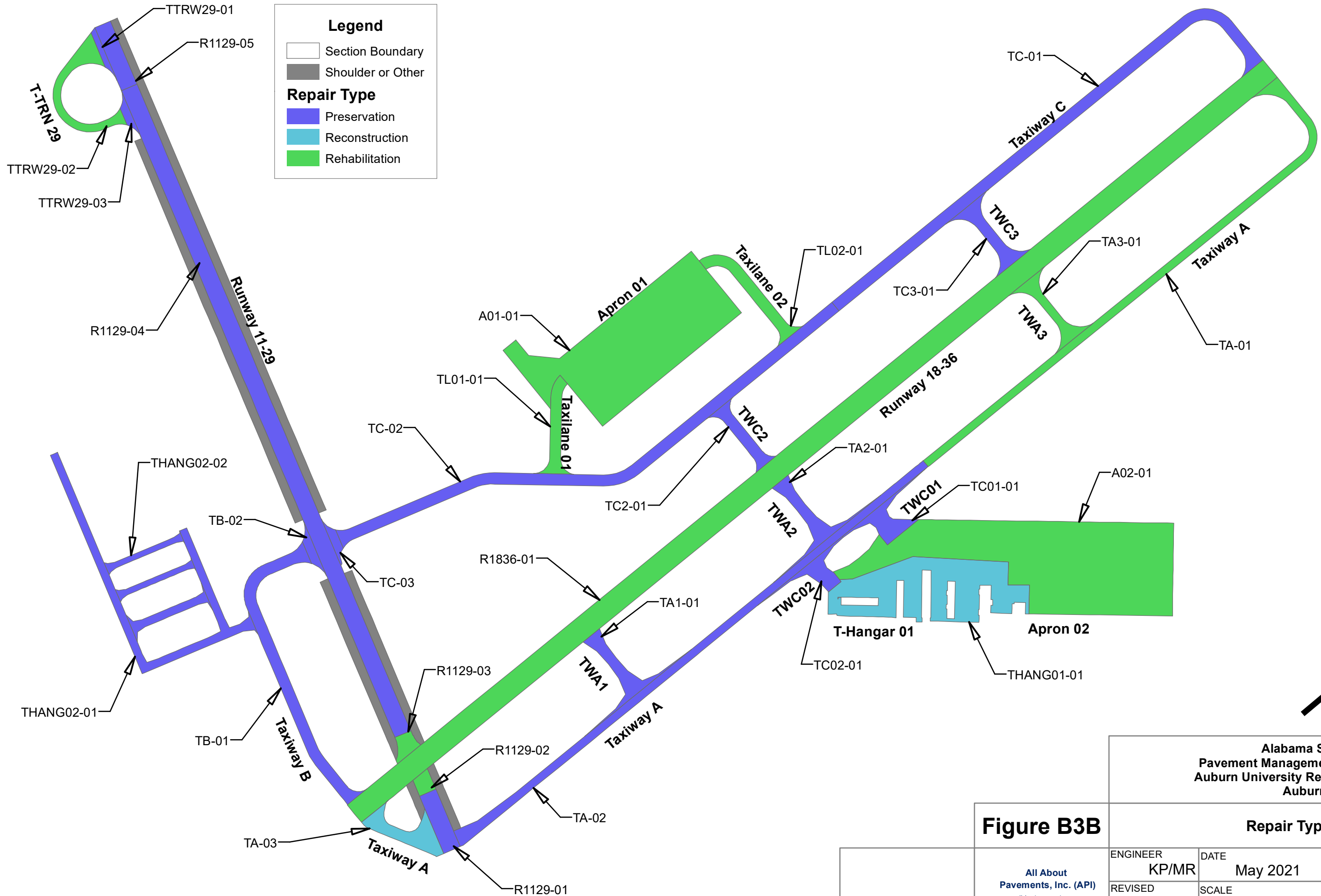


Figure B3B

Alabama Statewide
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Auburn University Regional (AUO) Airport
Auburn, AL

Repair Type		
ENGINEER KP/MR	DATE May 2021	MAP NUMBER Page 12
REVISED JMA	SCALE 1 in = 400 ft	FINAL

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All sections recommended for Mill & AC Overlay or AC Reconstruction between 2021 and 2024 also receive Surface Treatment in the 3rd year of paving

Legend

<p>Project Name</p> <ul style="list-style-type: none"> AOU_21-01_Taxiway B Preservation AOU_21-02_Taxiway C Preservation AOU_21-03_Taxiway Hangar 02 Preservation AOU_21-04_Runway 18-36 Rehabilitation AOU_21-05_RW 11-29 Turnaround Rehabilitation 	<ul style="list-style-type: none"> AOU_22-01_Taxiway A Rehabilitation AOU_22-02_Apron 02 Rehabilitation AOU_23-01_Taxiway Hangar 01 Reconstruction AOU_25-01_Apron 01 Rehabilitation AOU_27-01_Runway 11-29 Preservation AOU_27-02_Taxiway A Preservation 	<p>M&R Activity</p> <ul style="list-style-type: none"> AC Reconstruction Mill 2" & 2" AC OL Mill 2" & 2" AC OLP Runway Surface Treatment Taxiway & Apron Surface Treatment
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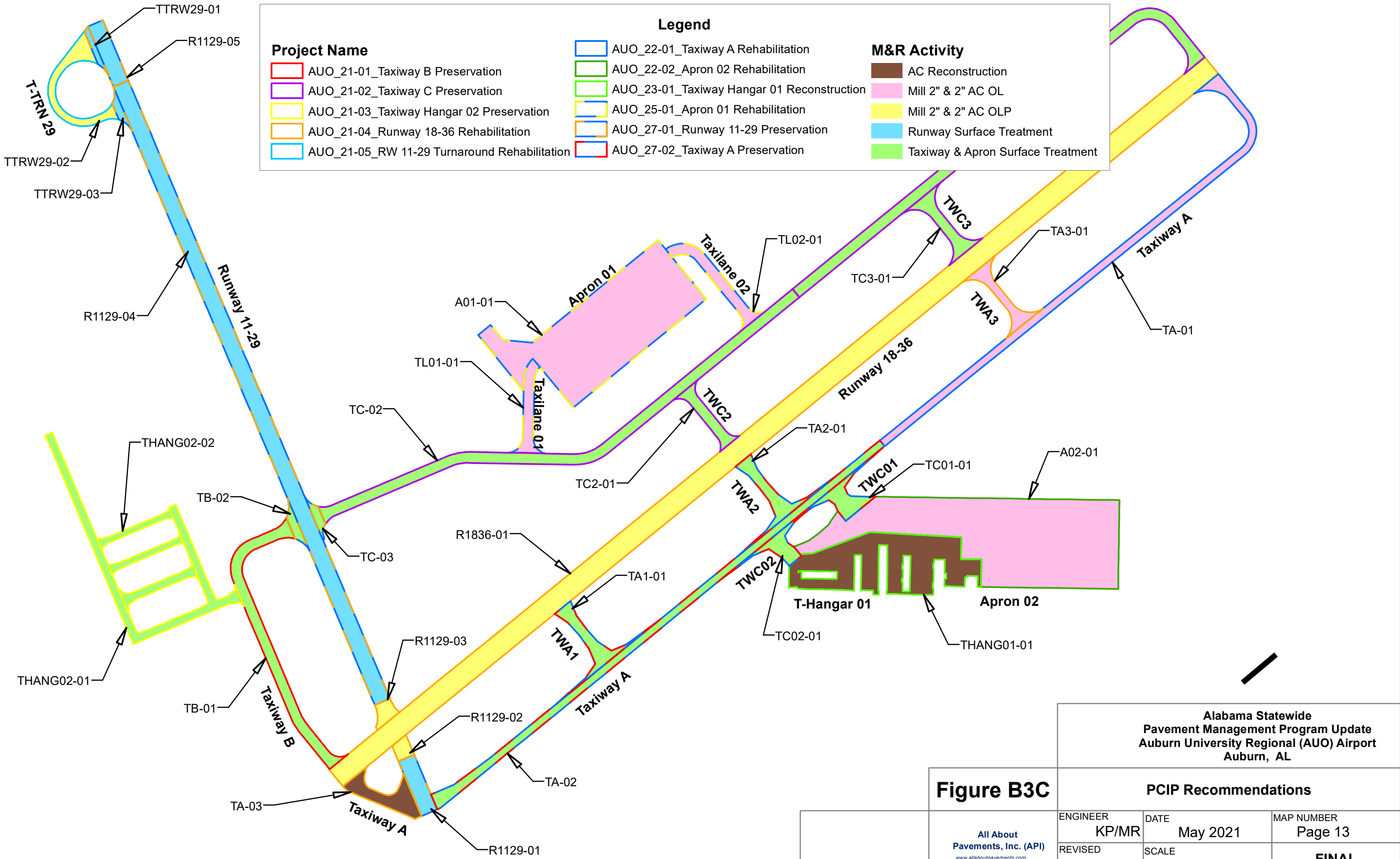


Figure B3C

Alabama Statewide Pavement Management Program Update Auburn University Regional (AUO) Airport Auburn, AL		
PCIP Recommendations		
ENGINEER KP/MR	DATE May 2021	MAP NUMBER Page 13
REVISED JMA	SCALE 1 in = 400 ft	FINAL

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APPENDIX C

OVERVIEW OF PAVEMENT DISTRESSES



% 5~|| Ucf7fUWb| f57L

5~|| UcfVUWb| lgUg|YgcZ|HfVbBb| VUWgUgXvZ|| iYZ|ifYcZHY
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VUWgdcd|UfYc|hYg|fW|b|U|n|g|Ug|Ygc|Z|f|U|Y|VUWg'5ZfYUW
HfZ|WcU|h| hYVUWgVbWZ|fa| |'a|Ung|XZg|Uf|U| |'X|d|W|g|h|U|Y|Y|cd
Ud|U|b|n|g|a|V| |W|W|b|k| |Y|c|f|h|Y|g| |b|c|Z|U| || Ucf"HYd|Wg|Uf|Y|g|h|U|&
Z|Y|c| |'c|h|Y|c| |Y|g|X"5~|| UcfVUWb| |c|W|g|c|b|n| |b|U|f|g|h|U|f|Y|g|V|U|X|c|'
f|Y|U|W|X|HfZ|WcU| |Z|g|W|g|k\Y' |d|h|g|Z|U|X|g|W|g|X|Y|X|U|a|U|c|f|g| |V|U|X|g|Y|g|'

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b|k|c|f| |c|Z|U|W|g|h|U|a|U|h|Y| | |h|g|U|Y|X|A|Y| |a|!g|j|Y| |h|U| || UcfVUWb| |'
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- ◆ < || \! \Ug|d| |f|g|X|g| |h|U|h|Y|d|W|g|U|f|Y|k|Y| X|b|X|U|X|g|U|Y|X|U|h|Y|X|Y|g|'
G|a|Y|c|Z|Y|d|W|g|a|U|h|c|W|i|b|X|f|Z|W|b|X|a|U|h|U|g|: CS'd|b|U|'

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- ◆ < || \! d|f|U|c|Z| ~X|h|d|U|W|g|Y|U|h|c|f|W|b|g| |W|



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6 YXh| lgU4a cZVlia |bciga UMjU'cbhYdj Ya Vhg fZWhU MSUYg Ug |bn
['Ug] YfZNM | g fZWhUi g UmVWA Ygi |Yg|Wth6 YXh| lgU gXVn
Y Wg| YUa c|bgcZig| UMWA YhcfRfg|bhYa | 'cf`ck!Ufj c|XWthb|cfVch"
-hcWAgk\ YUg|UH' ghYj c|XgZhYa | Xfb| \dkYhYUxhYbYdbXgcih
c|chYg fZWCZhYdj Ya YhQBWhYVYXh| dcWg|g|b|f|Y YgVYXfb| WX
kYhYZig|UicfRfk|` UWAi `UYcbhYg fZW'

**Gj YhNg BcX|fygcZgj Y|n|fYX|bX'6 YXh| 'gci XWb|Xk\ Y|hg
Yh|gj Yhci [\ lc fX Wg |Xhg|UW'**

**FYUFD`Mg`Scbch|/g|XVd|hYXg|NgX|f|U|n|t|h|h| \YU|X|c`g|X
|bc hYU|g|Z|N|X|k|h VYXh| z|f|c|j YhY|W|g|a|U|j|U|d|U|W'**



3" 6cW7fUWb| 157L

6cWVWgUfY|bWbNEXWVghUfYj |XhYdj Ya YH|bc fWVH i UfgUdX
d|Wg" HYVcVga UfU| Y|bgrZca %An?Zc|c %6Vn?6ZVf' 6cWVWVh| '
lgW|gXa U|bnVng|fb U|YcZhYUg|U|H|WVYU|X|g|bd|c|U|K|g|c|V|W|X|H|Y
c|W|f|b|W|c|Z|c|W|V|W|V|h| i|g|U|n|b|X|U|V|g|h|U|h|Y|U|g|U|H|U|g|U|X|b|X|g|j|b|Z|U|h|f|'
6cWVWVh| b|c|a|U|n|c|W|V|g|j|Y|U|U|f|Y|d|c|d|f|b|c|Z|h|Y|d|j|Y|a|Y|H|f|N|Z|V|h|k|j|''
g|a|V|a|Y|c|W|f|c|b|n|b|h|Y|c|b|l|Z|Z|W|V|f|g|'

GjYf|Ng

- ◆ @ck! X|b|X|V|n|W|V|g|h|U|f|Y|U|a|c|g|i| |h|n|g|U|Y|Z|V|h|g|h| b|c|Z|f|N| |b|c|V|N|E
X|a|U|Y|E|C|S|E|d|h|U|' |h|Z|' X|W|V|g|U|j|Y|?| |b|W|c|' Y|g|a|Y|b|k|X|h|Z|U|X
Z|' X|W|V|g|U|j|Y|Z|' Y|f|b|g|U|g|U|W|f|n|W|V|h|c|b|/
- ◆ A Y|a ! X|b|X|V|n|W|V|g|h|U|f|Y|a|c|X|U|Y|n|g|U|Y|X|g|a|Y: C|S|'d|h|U|E|Z
i|h|Z|' X|W|V|g|h|U|f|Y|U|a|c|g|i| |h|n|g|U|Y|Z|V|h|g|h|Y|U|a|Y|b|k|X|h| |f|U|f|
h|U|?| |b|W|c|Z|' X|W|V|g|h|U|f|Y|U|a|c|g|i| |h|n|g|U|Y|X|V|h|g|h|Y|Z|' Y|f|b|'
i|h|g|U|g|U|W|f|n|W|V|h|c|b|/
- ◆ <| | \ ! X|b|X|V|n|W|V|g|h|U|f|Y|g|j|Y|f|n|g|U|Y|Z|V|h|g|h| U|X|b|h|Y: C|S|'
d|h|U|U|'

FYUfD:Vg

- ◆ @ck! B|c|U|f|c|b|/
- ◆ A Y|a ! g|U|W|V|g|U|d|h|n|f|Y|j|Y|U|c|Z|f|W|V|g|j|Z|W|c|f| |U|f|g|U|f|Z|h|U|X
c|j|Y|U|h|
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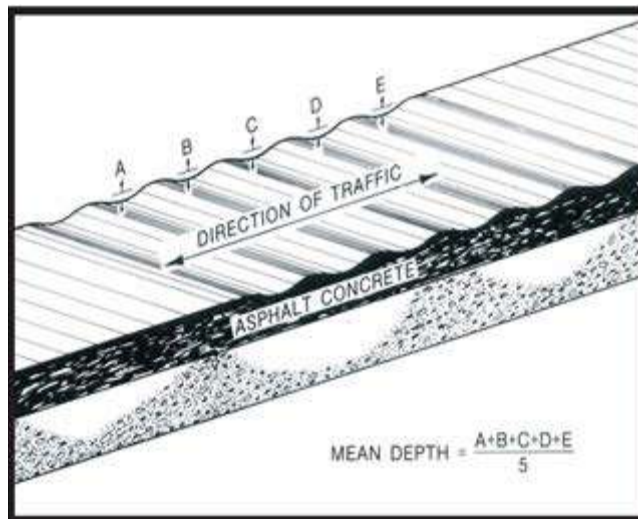
Corrugation

Description

Corrugation is a series of closely spaced ridges and valleys (ripples) occurring at fairly regular intervals, usually less than 5 feet (1.5 meters) along the pavement. The ridges are perpendicular to the traffic direction. Traffic action combined with an unstable pavement surface or base usually causes this type of distress.

Severity Levels

- @** Corrugation is a series of closely spaced ridges and valleys (ripples) occurring at fairly regular intervals, usually less than 5 feet (1.5 meters) along the pavement. The ridges are perpendicular to the traffic direction. Traffic action combined with an unstable pavement surface or base usually causes this type of distress.
- A** Corrugation is a series of closely spaced ridges and valleys (ripples) occurring at fairly regular intervals, usually less than 5 feet (1.5 meters) along the pavement. The ridges are perpendicular to the traffic direction. Traffic action combined with an unstable pavement surface or base usually causes this type of distress.
- <** Corrugation is a series of closely spaced ridges and valleys (ripples) occurring at fairly regular intervals, usually less than 5 feet (1.5 meters) along the pavement. The ridges are perpendicular to the traffic direction. Traffic action combined with an unstable pavement surface or base usually causes this type of distress.



)" SYFYgdcbf57L

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GjYfng

- ◆ @k! SYFYgdcbWbVcVgj Ycf'cWPKVng'U'XUfng'cbng' || \hm UZVgdj Ya YHfNj 'ei Uj'WUXa UnU g'\n'fcdUbj 'd'Nj'U'cb' fi bkUg'AU]aia Xch % # l % & jWZffibkUg' % & l % jWZfU jkUg' U'XUfng'
- ◆ A'Ni a ! HYXfYgdcbWbVcVgj Y'ac'WUYN'IZWgdj Ya YHfNj ' ei Uj'WUXa UnU g'\n'fcdUbj 'd'Nj'U'cb'fi bkUg'AU]aia Xch % & l % jWZffibkUg' % & l % jWZfU jkUg'U'XUfng'
- ◆ < || \ ! HYXfYgdcbWbVfNj'ncVgj Y'cgj Y'Yn'IZWgdj Ya YHfNj ' ei Uj'WUXa UnU g'\n'fcdUbj 'd'Nj'U' /SYh [fUf'huB % jWZf fi bkUg' fUf'huB % jWZfU jkUg'U'XUfng'

FYUfDe'Vng

- ◆ @k! BcUfcb/
- ◆ A'Ni a ! GU'ckzdUfU'cfZ' ~ Xch'dUW'
- ◆ < || \ ! GU'ckzdUfU'cfZ' ~ Xch'dUW'



*" >Yi6Uj57L

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Uhd jaUYn%&|bWf%a|`jaYfg!

GjYfhi@jYg

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+">chFYZMcb7fUWb] f57L

8YgAd]cb

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hYgVWg'

GjY]h@jYg

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Z'YcZUb]k]h]"



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GjYfng

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- ◆ <||\! gjYfngUYXk|h UX|b|: C7'cb|U"HYmUvVYfZ'X
cfibZ'X'

FYUFD'Wg

- ◆ @k! BcU|cb/
- ◆ A Wia ! gUWUg/
- ◆ <||\! gUWUg'cfmZfa UZ'X'h'dUW'



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- ◆ Scbchh'/'
- ◆ DffU'cfZ' Xh'dUW'



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- ◆ <][\!]gU]X]m]N]f]cU]XU]XU]ZUM]g]Y]h]ei U]]m]g]]h]ZUM]h]n]c'U]g]][\`
: C8'd]h]U'

FYUfcd]cbg

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GjY]h]e]y]Y]g

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8YbHdb

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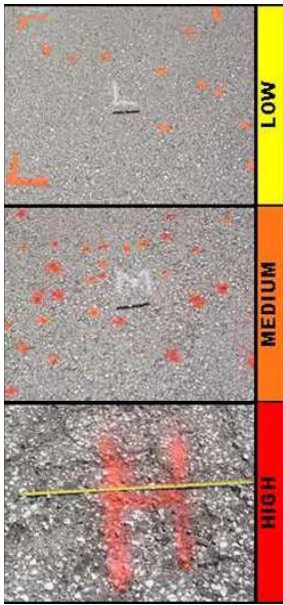
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@ VlkYb) UfX'S'fEA lggH U|[fYUYWgUg'g'Y'g'hU'&f'W'h'c'Z'hY
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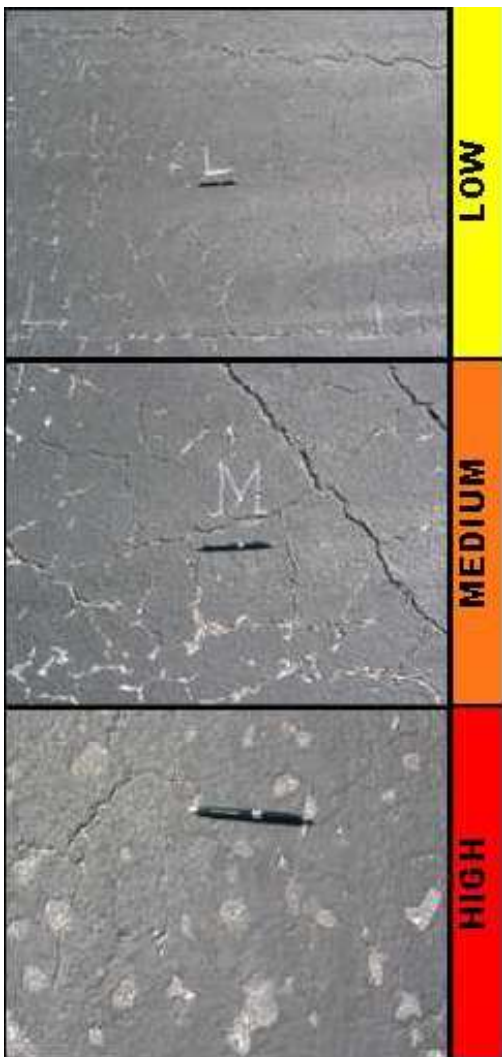
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d'f'f'U'

BdY h l'g'g'U'bk'X'g'f'Y'g'g'b'W'h'Y'S'S' 'g' f'j'Y'm



Gi ffr#7cUHfCjY8YgYAl GYfJh@Yg



@

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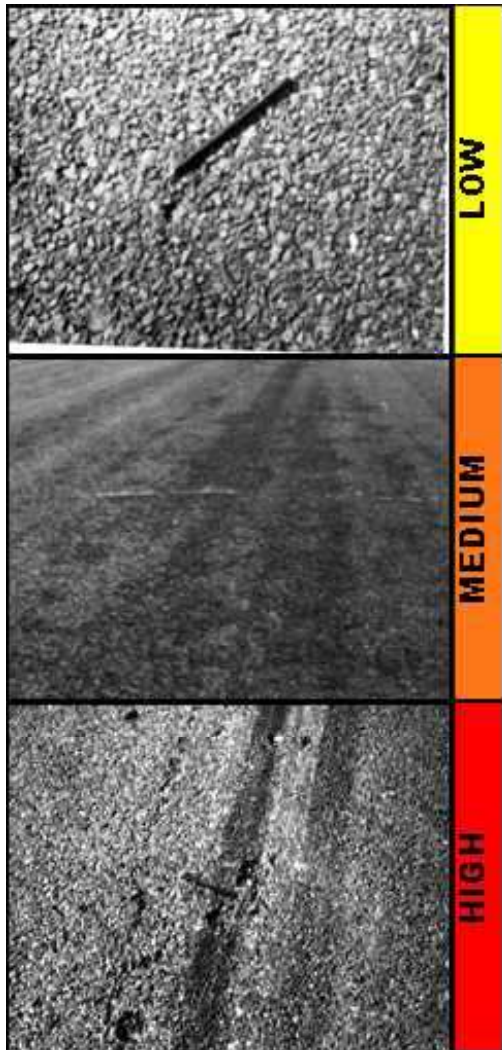
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@ ÷bU%gi UYZdfl#Sgi UYa VffFYGHUj YgãdYhYbi aWfçZ
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g]f]Uf]hUb& d]Vh]cZhYUfU



%" Fi Hh 157L

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- ◆ @ck! YghUb']bW]bXch/
- ◆ A Y]ia! WkYb' Ux%]bW]bXch/
- ◆ <]]\! YWxg%]bW]bXch"

FYUfcdhcg

- ◆ @ck! BcU]cb/
- ◆ A Y]ia! dWUbx]fcj YUm
- ◆ <]]\! dWUbx]fcj YUm



:]ifY7!."57FiHh"

%"G|dd|Y7fUW|b| B57L

G|dd|Y7fUW|b|Y7fUW|b|Uz|ac|b|g|U|X|W|g|U|j|h|l|k|c|Y|g|d|b|X|k|U|n
from the direction of traffic. They are produced when braking or turning wheels cause the
d|j|Y|a|Y|h|g|f|W|c|g|X|U|X|Z|f|a|'H|g|g|U|n|c|W|f|g|k|Y|b|Y|g|U|c|k|g|N|h|'
g|f|W|a|l|'c|d|c|f|V|b|X|W|k|Y|b|Y|g|f|W|U|X|b|h|U|f|c|Z|d|j|Y|a|Y|h|g|f|W|f|Y'

G|j|Y|f|U|g| No degrees of severity are defined. It is sufficient to indicate that a slippage
W|W|Y|g|g|'

F|Y|U|f|D|'M|g|

- ◆ **S|c|b|h|j|l|/'**
- ◆ **D|f|j|U|'c|Z|'X|h|d|U|W|'**



:||ifY7%\$ G|dd|Y7fUW|b|"

%"GkY]h] f57L

8Yg]d]b

5'gkY'lgWfUW]h]XVn]bi dkUfXV' [Y]bhYdj Ya YH]g]fZW'5'gkY'aUn
cWf]g]f]dn]ej YUgaU' fU]cf]g]U]d]h] YZ]f]U]X]U]k]j]Y'9]h]Y]h]n]c]z]g]k]Y' WbWY
UW]a]d]h]Y]X]V]n]g]f]Z]W]W]U]h]'5'gkY'lg]g]U]m]W]g]X]V]n]c]g]U]W]b]h]Y
g]V]f]U]X]c]f]V]n]g]k]Y]h]'g]c]Z]V]h]U]g]a]U'g]k]Y' WbUg]c]W]f]c]b]h]Y]g]f]Z]W]c]Z]b]g]d]U]h]
c]j]Y]U]h]h]j]Y]D]7]H]g]U]F]g] h]c]Z]U]V]c]k]! i]d]h]Y]D]7]g]U'

GjY]h]n]@]j]Y]g

GkY'lgWfYnj]lgVYU]X]U]g]U]a]h]c]f]Z]W]c]b]h]Y]d]j]Ya]Y]H]g]f]X]e]i]U]h]m]g]
X]h]f]a]h]X]U]h]Y]b]c]f]a]U]U]Q]W]Z]g]h]X]Z]f]h]Y]d]j]Ya]Y]h]g]W]b]i]b]X]
@ W]h]g]X]U]h]b]'f]c]k]!g]j]Y]h]n]g]k]Y'g]a]U]h]c]h]U]k]U]g]V]c]V]g]j]U]V]Z]V]h]Y]f]
Y]lg]b]W]W]b]V]W]b]f]a]X]V]n]g]j]h]U]j]X]W]c]j]Y]h]Y]g]W]b]U]h]Y]b]c]f]a]U'
U]Q]W]Z]g]h]X]5]b]i]d]k]U]X]U]W]U]h]b]k]h]c]W]f]Z]h]Y]g]k]Y'lg]d]f]g]h]!

GkY'WbV]c]V]g]j]Y]k]h]c]i]h]Z]V]W]h]U]b]X]U]g]U]g]l]h]Z]W]h]Z]W]c]b]h]Y]
A d]j]Ya]Y]H]g]f]X]e]i]U]h]m]g]X]h]f]a]h]X]U]h]Y]b]c]f]a]U]U]Q]W]Z]g]h]X]Z]f]h]Y]d]j]Ya]Y]h]
g]W]b]i]b]X]W]h]g]X]U]h]b]'

GkY'WbV]f]D]f]n]c]V]g]j]Y]X]U]X]g]j]Y]Y]m]Z]Z]U]g]h]Y]d]j]Ya]Y]H]g]f]X]e]i]U]h]m]h]Y]
< h]c]f]a]U]U]Q]W]Z]g]h]X]Z]f]h]Y]d]j]Ya]Y]h]g]W]b]i]b]X]W]h]g]X]U]h]b]'



%"KXhY[h] 157L

8Yg[d]db

H YkY[h] UkUicZhYUgUHMpXfUXZBYU[f]UYaUqI Zca hYdjYaYh
gfAW

GjY[h]e@jYg

5gUhg fAWW[h]bb[le'g'ck'g[hgcZU[h] k\jWaUuYUWYUUXVn
V\UWbY[h]dg' @cg[hYZBYU[f]UYaUqI lgb[MVYUXXaUuY
@ UWadhYXVnZ[h] cZhYUgUHWc" 9N YgcZhYUgYU[f]UYgUY
V[h]bb[leVYdcgXfngU\$) jWYgcf%aaE' DjYaYhaUuY
fYUj Ynbk f[h]bk Ug* 'adhg'X!

A @cg'cZBYU[f]UYaUqI lgb[MVYUXX YgcZUgYU[f]UY\jYVb'
YdcgXi dlc%# k]X hZHYch YgigXcZhYUgYU[f]UYX Yc hYcg'
cZBYU[f]UYaUqI "

< 9N YgcZUgYU[f]UY\jYVb YdcgX fUMhU%# k]X hZHYch Ygi
gXcZhYUgYU[f]UYHY YgWgXUYcg'cZBYU[f]UYaUqI
Y[h] le'd[h]U'cf ga Ycg'cZUgYU[f]UY'



%!"6dk!I d!D77L

8YgAd]b

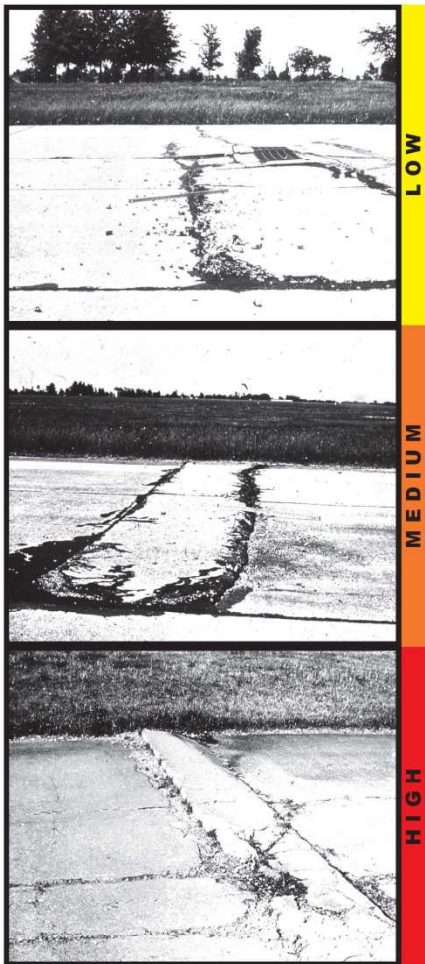
6'dki dg'cWf]b\dkYhYzi gUmHUmhg YgVWcf'c]HhUhg]bck]X
Yci [\ lc'dfa]h]l dlhgdbVnhYWBWYgUG'H Y]hgZ]W]h]k]Xh]gi gUm
W]gXV]h]Z]H]U]bc]Z]W]d]Yg]V]YaUm]Ug]bc]h]Y'c]h]g]W]K\]b]Y]dlhgdb'
W]b]d]f]Y]Y]Y]ci [\ d]Y]g]f]Z]U]c]W]n]X]i]d]k]U]X]a]j]Y]a]Y]h]c]Z]h]Y]g]U]V]X]Y]g'
f]i]W]h]l]c]f]g]U]M]h]k]~'c]W]f]b]h]Y]j]M]h]c]Z]h]Y'c]h]g]W]K]6'dki dg'cWf]Ug'cWf]U
i]h]h]m]W]g]U]X]U]b]U]Y]b]Y]g]H]g]h]d]c]Z]h]Y]g]g]U]a]c]g]U]k]U]g]f]U]U]X]
]a]a]Y]U]Y]m]W]U]g]c]Z]g]Y]Y]X]a]U]Y]d]h]U]l]c]U]M]Z]H]6'dki dg'U]Y]b]W]X]X]Z]f'
f]Z]f]W]k\]b]W]g]X]g]U]h]g]U]Y]V]h]]Y]U]U]X]Z]f]f]X]d]h]h]"

GjY]h]e]j]Yg

@ 6i W]h] 'cf g'UM]h] \Ug]b]f]b]W]X]h]Y]d]j]Y]a]Y]h]b]c]d]M]U]j]Y]Z]U]X]d]b]n]U]g]l] \h
l]a]c]i]h]c]Z]i [\]b]g]Y]l]g'

A 6i W]h] 'cf g'UM]h] \Ug]b]f]b]W]X]h]Y]d]j]Y]a]Y]h]b]c]d]M]U]j]Y]Z]U]h]U]g]l]b]Z]W]h]i
l]a]c]i]h]c]Z]i [\]b]g]Y]l]g'

< 6i W]h] 'cf g'UM]h] \Ug]b]f]b]W]X]h]Y]d]j]Y]a]Y]h]b]c]d]M]U]j]Y'



%" 7cbf6fU_gfD77L

5 WbfVU_lgUWWhUfhgNghY'chgUUXgUWYghUbcfYiUlc'cbY
\UzhYgUVY[h'cbVch'gXgaYgjfXZca hYWbf'zhYgU': cfYUadYZU
gUkjh Xa YgdcgZ& Vri& ZfhUhgUWWhUfhgNgh hY'cbh) ZfhZca
hYWbf'cbYgXUX% ZYicbhYchYfgW'gchUhgXUXUWbfVU/'hg
UXU'cbUWUW' <ckY YZUWWhUfhgNgh+ ZYicbhYgXUX%SZYicbhY
chY'gW'gXUXUWbfVU" 5 WbfVU XZfgZca UWbf'gU'bhUHY
WUWYhNgj VUUmhfi [\ hYhYgUVh]Wbggk\]YUWbf'gU'fhgNgh
hY'chUhbU' Y'@cUXYh]cbWa VbXkjh`cggZgdbfUWf'h' gggg
igUmUgWbfVU_g'

GjYhNg

- ◆ @ck! 7UW\lgYhY'bc'gU'h' 'cfa'bcfgU'h' fbcZfY[b'cVWNaU'Y
fIC8f'dfHUE'Z'cb filled, it has a mean width less than approximately 1 #'
inch (3 millimeters); a filled crack can be of any width, but the filler material
aigWY'bg'gUWf'nWb]h'cb'HYUfUWkYb'hYWbfVU' UxhY'
^'cb'g'g'cb'W'W'X
- ◆ A'W'ia! One of the following conditions exists: (1) filled or non-filled c'fUW'g'
acXUfYngU'X'g'a Y: C8'dfHUE/f'U'cb' filled crack has a mean
width between 1/8 inch (3 millimeters) and 1 inch (25 millimeters); (3) a filled
crack is not spalled or only lightly spalled, but the filler is in unsatisfactory
Wb]h'cb'f'f'HYUfUWkYb'hYWbfVU' UxhY'cb'g'g' [\ h'W'W'X
k]h`cc'Y'c'f'a'gg'h' 'd'f'f'W'g'
- ◆ <ll\! One of the following conditions exists: (1) filled or non-filled crack is
severely spalled, causing definite FOD potential; (2) a non-filled crack ha'gU
a'Ubk]h' [f'UW'h'U'U'h'd' ja'U'Y'm'f'W'f'f' 'a]' 'ja'Y'g'Z'W'U'h' U'f'Y
X'a'U'Y'd'f'f'U'/'c'f'f'HYUfUWkYb'hYWbfVU' UxhY'cb'g'g'
g'g'Y'Y'm'W'W'X'

FYU'f'cd'hd'g

- ◆ @ck! BcU'f'bc'f'gU'W'W'g'
- ◆ A'W'ia! gU'W'W'g'
- ◆ <ll\! gU'W'W'g'U'h'U'Z'~
cfYUW'hYgU'



X'h'd'W

: llifY7%&'D777cbf6fU''

%! 7fUWg"@cb|liXpUZHFUbg YgYUbxS|U|cbU'fD77L

H YgVWUgXj|XhYgU|bc|kc'cfhfYd|WgZUxifYigUmMgXVhU
WáVhU|bcZcdXfYh|cbZf|h|'gYgZUxg|fb_UYgYgYg"@ck'gYf|h
VWgUfYbdhWgXfXaUcf|giVfU'XgYgYg'A Yf|a'cf||\|gYf|hVWgUfY
igUnkcf|h|VWgUxifVWgXfXaUcf|giVfU'XgYgYg'

GjYf|ng

- ◆ @ck!%i|bZ`YXVWUg%#|bWlc%&|bWk|Xk|h|bcZi|h|'cf|gU|h|/E
VWgYgYhU%&|bWk|Xk|h`ck'gYf|ngU|h|/cf'EZ`YXVWUgZ
Unk|Xk|h|Zf|f|dZfa|h|bUg|g|Uf|naUbfUx|bcZi|h|'cf
gU|h|/
- ◆ A Yf|a'!%i|bZ`YXVWUgVh|Yb%&|c%|bWk|Xk|h|bcZi|h|'cf
gU|h|'cf&Z`YXVWUgZUnk|Xk|h|Zi|h|`YgYhU%#|bWcf|a Yf|a'
gYf|ngU|h|/
- ◆ <||\!%i|bZ`YXVWUgk|h|Uk|h|[f|n|f|hU%|bW'&i|bZ`YXVWUgZ
Unk|Xk|h|Zi|h|[f|n|f|hU%&|bWcf|a Yf|a'gYf|ngZi|h|/cf'E
Z`YXVWUgZUnk|Xk|h|Zi|h|[f|n|f|hU%&|bWcf||\|gYf|ngZi|h|"

FYUfcd|cbg

- ◆ @ck!BcU|f|b|cf|gU VWUg/
- ◆ A Yf|a'!gU VWUg/
- ◆ <||\!gU VWUgZUf|n|U`~Xh'dUWcf|f|UW|h|YgU'



: ||ifY7%&'D77HUb|YgY7fUWg'

§' Si fUj]m7fUWgID77L

8YgAdjb

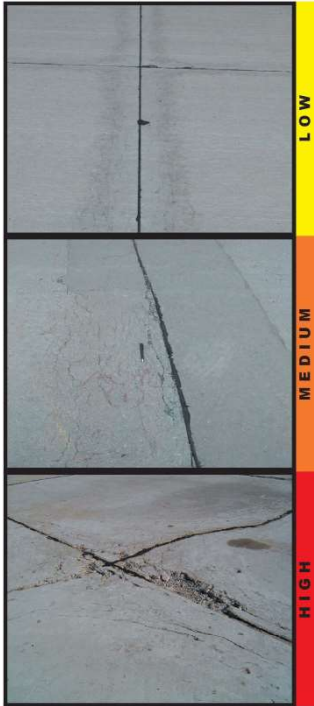
Si fUj]m7fUWg]gWgXVnhYbUj]m7cZhYWBWYk]hgUXXj]fdaYbU' ZWfjgWgZYYhukVWg'-fi gUnldNfgUdUMB'cZMwgi bblj ' parallel to a joint or linear crack. A dark coloring can usually be seen around the fine XfUj]m7fUWg'H]ghdYcZMwq] 'aUnjYbU'mXkXghN]fulbcZhY WBWYk]h]b%c'SZYfSSle*SSa]`jaYgicZhY^cbidVW'

GjY]h@jYg

@ ÍSÍ VWVh] \gWjYodXgY fUWg]MUYUaci hZgUVfuk]h`]hYcf bcXghN]fulbcf: CS'dhHjU' cfÍSI VWVh] \gWfYX]bU]ja]PX UfUcZhYgUzgWg]bcbYcfkcbWfjgUd] 'cbY^cbZi h]WgUfY a]gh] UXXghN]fulcb\UgWfYX'GaY: CS'dhHjU'

A ÍSÍ VWVh] \gWjYodXgY fUWg]MUYUaci hZgUVfuk]h`]hYcf bcXghN]fulbcf: CS'dhHjU' cfÍSI VWVh] \gWfYX]bU]ja]PX UfUcZhYgUzgWg]bcbYcfkcbWfjgUd] 'cbY^cbZi h]WgUfY a]gh] UXXghN]fulcb\UgWfYX'GaY: CS'dhHjU'

< ÍSÍ VWVh] \gWjYodXgY fUWg]MUYUaci hZgUVfuk]h`]hYcf bcXghN]fulbcf: CS'dhHjU'



8% >chhGU'SuU YID77L

>chhGU'SuU YgU'mhN\|WYhUV'gg]' cfcVgk UWAi 'UYbhY^chh'g
cfU'ck'g| hZVh|b|f|U|bc'ZkUf''5Wai 'U|bc'Z|WadYgVYaUf|Ug|b'
hY'chh'fY YghYgUV'Zca YdbN|h Ux'atinfj hbVW|h'zg UM|h'zcf
gU|h''D|UVY'chh' YVdbXX'chYYX'Yg'ZhYg'Ugd'fWg^'chh'Zca hY
UWAi 'U|bc'ZaUf|UgU'X'Ug'c'fY YhgkUf'Zca gX|h' XkbU'Xg'Z|h|h' hY
Zi bX|h'bgj dbf|h' hYgV' Hd|W|h'ng'Z'chhGU'SuU YUfY'%g|dd|h' hY
'chhGU'SuU'&N|h' gdc'Z'chhGU'SuU' HkXX|fckh/(E\U'X|h' 'cZHYZ'Y')E
'cg'c'Z'cbX'c'hYgUV'X'Yg'U'X*E'UW'cfU'g'bW'c'Z'gU'h|h'bhY'chh'

GjYf|ng

- ◆ @ck! |b| YbU'n|ccXWbN|h'bh'fci [\ci hYgN|b' GUUh'g'NZfa|h' .
kY'k|h' dbn'Ua |b'f'Ua'ci b'ic'Z'U'nc'ZhYU'g'Y'nd'g'c'Z'La U'Yd'Yg'h
- ◆ A'X'a! |b| YbU'n|f'WbN|h'bh'fci [\ci hYgN|b'z'k|h' d'Y'c'f'ac'f'c'Z'
U'nc'ZhYU'g'Y'nd'g'c'Z'La U'Yd'Yg'h'ic'W'f|h' |c'U'ac'X'U'Y'X'f'Y''
GUUh'b'X'g'laa Y'U'Y'Y'U'W'a Y'h'k|h' |b'&N'f'g/
- ◆ <||\! |b| YbU'n|c'f'WbN|h'bh'fci [\ci hYgN|b'z'k|h' d'Y'c'f'ac'f'c'Z'
U'nc'ZhYU'g'Y'nd'g'c'Z'La U'Yg'f'Y'g'h'ic'W'f|h' |c'U'g'j'Y'Y'X'f'Y'' GUUh'
b'X'g'laa Y'U'Y'Y'U'W'a Y'h'

FYU'f'cd'h'cg

- ◆ @ck! BcU'f'cb/
- ◆ A'X'a! gU'^'chh'g'
- ◆ <||\! gU'^'chh'g'



: ||ifY7% 'D77 >chhGU'SuU Y'

88! GaU DUWID77L

5' dUWlgUbUk\ YfhYcfll jBU'dj Ya Yh
has been removed and replaced by a filler

aUfjU': cfWbXjcbY U UjcbzdUWj lg'
Xj jXXjhc lkc lndg' gaU fngghU) 'gei UfY
ZNLUXUf Yfj Y) 'gei UfYZNL'@uf YdUWg'
UfYXgUfVXjbhYbl hgXjcb'

Gj Yfng:

- ◆ @k! DUWlgZbUjcbj kY'zkjh'
'jhiYcfbcXfjcfUjcb/
- ◆ A Yjia ! DUW\UgXfjcfUfXZbXf
acXfUfYgdU'j WbVYgXbUfcbXhY
YfYg'DUWaUfjUWbVYXg'cX'Yz
kjh WbgXfUfYfZfifh jcf: C8'
dnhjUz/
- ◆ <ll\! DUW\UgXfjcfUfXZbXhYfVn
gdU'j UfcbXhYdUWcfWUWj'
kjhjbhYdUWz'c UgUfYk\jWkUfUhg
fYUWa Yh

FYUfcdjcbg

- ◆ @k ÈScBchj/
- ◆ A Yjia ! FYUWdUWcfFYUWY
gU'
- ◆ <ll\ ÈFYUWdUWcfFYUWYgU'



: llif7% 'D77 GaU DUW'

&" @Uf YDUWID77L

Patching is the same as defined **ZfUgaU`dUW`
 \ckYVzhYufUcZhYdUWlgacfyhUb) 'gi UfY
 ZNf5 i f]hMhGudUWhUgfydUWkhY
 cf]]bU'dj Ya YHMMgycZdUWa YhcZ
 i bXf]ci bXi f]]ng'HYgj Yf]mY YgcZLi f]]m
 WfYhYga YghcgYZffYi 'Uf dUW]d."**

Gj Yf]ng

- ◆ @ck ? DUW]gZb]]cb] kY`zk]h `]h]Ycf
 bcXNf]cfU]cb/
- ◆ A Y]i a ! DUW\UgXNf]cfUWZbXf
 acXfU]gdU]h VbVYgYbUfci bXhY
 Y] Yg'DUWa Uf]U VbVYg'cX Y]zk]h`
 W]gXfU]Y]Zf]f]]cf: CS'dh]]U/
- ◆ <] \ ! DUW\UgXNf]cfUWZ]h YVn
 gdU]h Ufci bXhYdUWcfVW]h] k]h]b'
 hYdUWZc Ug]]k \]WkUffU]g
 fYdUWa Yh

FYUfcd]cbg

- ◆ @ck È8cBch]h/
- ◆ A Y]i a ! FYdUWdUWcf fYdUWhYgU'
- ◆ <] \ ÈFYdUWdUWcf fYdUWhYgU'



:]]ifY7% `D77 @Uf YDUW'

&" Dddi lgiD77L

5' dddi HgUga U' dJWcZdj Ya YHhUMFU_g' cogYZca hYg fZWX Ylc ZYH
hUk UWcbJbWa VbUcbkjh Y ddbj YU [fY UHg' Dddi lgi g UnfUj YZca '
Uddid ja UYnfbWlc(JbWYgbXLa YfUkZca %&JbWlc &JbWgXsd"

Gj YHNg

No degrees of severity are defined for popouts. < ckY Yzddi lgaig HYYHNgj Y
VZfYh YnfYw HXUg UXg JYg' YZj YU Yddi hXghiaig H VWX
Uddid ja UYnfbYddi lgidf gi UYnfbXg YhYHfYg UVfU



: ||ifY7%. 'Dddi lgi'

&"D adq id77L

8YAdhb

D adq lghYYMbcZaUhfUvkUfhci [\ `c hgc VWgWigXVhWZMcb:
cZhYgWibXfdlgh `cXg'5ghYkUf'lgYMWZ]hUfYgdffWgcZ] fj YzgWZ
WncfgHbXyj lgbUdcfygj YcgicZdj Ya Yhg ddbfG fAWgUhh Ux
VgYcfj V fUYaUhfU'cbhYdj Ya YhVgYc`c hgc VWgUfyj XbWcZ
d adq "D adq bnf`c hgbXWgdcf`c hgcUYUx'cgicZj ddbfk\JWk]"`
`YXlc VWWh i bnfYbUX'cXg'

GjYfm@jYg

BcX]fygcZgj YfmfYXWbX'hggZVbhc]bXUYhUdadq Ylgg'



&" GUVh ID77L

**AUVWVh 'cfVUth fYZfgUbkcf 'cZgUdczZbZcf\UFjBYWVghU
YfXcbnhfi [\ hYidhf g fZWCZhYWBWYHYWVgN6Xc]bMgWU
Uj 'YgZ/8\$X|fyg'AUVWVh 'cfVUth |gigUmWgXVnj YZhg |hY
WBWYUxaUmXk:cGUh 'cZhYgfZWK\|W|ghYVU_XkbcZhYgU
g fZWC UXd of approximately 1/4 to 1/2 in W'GUh 'aUthg VVWgXVn
|adcfWghj VcbUXdcfU|f|UY'5bchYfW|bhXgi fWcZgdYgghY
fU|bVWkYbhYU_U|g|BUC'UX? &E|bga YWa YlgUXWUba |bUglb'
ga YU|f|Uhg'fXVZfa YVnhYVU|bVWkYbhYU_U|g|UXU|f|UY
fg |bYd|g|ghUWgYUUVU_Xkb|bhYWBWY'**

GjYfHg

- ◆ @k! 7Uth 'cfAUVWVh Ylggj Yg|bZVWgUVfUHYg fZW|gb'
|ccXWV|cbk|h bc'GUh 'HYWVdUmbaig|WkY X|bXUX
Yg|n|W|bhX
- ◆ AYia ! GUVggVXkj YUhd |aUf|n)1 'cf'YgZZhYgfZWK|h'gaY
: CS'dh|U/
- ◆ <||\! GUVggj YfngVYXWgh U||\ : CS'dh|U'1 gUmācfYhU
)1 'cZhYgfZW|gUWEX



&": U 'Hb' 1D77L

GhVa Yhcf Zi 'Hh 'lg UxZZfYbWcZYj UjcbUfU'c'hhcf VUWUg gXVnd YjU' cfVhg' 'HU'cb'

Gj YfHg

Severity levels are defined by the difference in elevation across the fault and the

	Fi bkUng#U jkUng	5dfcbg
@	0% 'bW	% 'E%'bW
A	% 'E%'bW	%'bW
<	2%'bW	2%'bW

FYUfCd'cbg

- ◆ **@k! BcU'cb'**
- ◆ **A Yj a 'E; f'bh Udh hY'cbh**
- ◆ **<|| 'E; f'bh 'cf'cbh'cXU'bg'f'f'g'f'cb'**



&" G UMFYXGUVFD77L

=hfgNMh VUWgUYVUWghUMFU]hcZifcfacydWgVWU gczj YcUjh' UxwfhDSgiUYgdhffHY\| \!severity level of this distress type, as defined below, lghZfYXlc UgUg UMFYXgU'ZU`dWgcfVUWgUYWdUjbxkjh bUWbf VUZhYXgUgUgUW] cfhXUgUgY YWbfVU"

Gj YfHg

- ◆ **@k! Slab is broken into four or five pieces with the vast majority of the cracks fj Y,) dWVhczk!gj Yfhn**
- ◆ **AWja !(1) Slab is broken into four or five pieces with over 15 percent of the VUWgZaWja gj Yfhn\| \!gj YfhnVUWg/cffgU]gVc_Y]hc'gl' cfacydWgkjh'gj Y,) dWVhczhYVUWgczk!/'**
- ◆ **<|\! 5hlgY Y'Zgj YfhnYgU]gWYXg UMFYXgU]gVc_Y]hc' four or five pieces with some or all of the cracks of high severity; (2) slab is Vc_Y]hc'gl' cfacydWgkjh'gj Y%) dWVhczhYVUWgZaWja! cf \|\!gj Yfhn**

FYUfcdhbg

- ◆ **@k EGU'7UWg/**
- ◆ **AWja !: i`Xdh dUWcffYUWhYgU'**
- ◆ **<|\!: i`Xdh dUWcffYUWhYgU'**



&" Gfb_ qY7fQWfD77L

Gfb_ qY7fQWfD77L
Yf]bYf]WghUf]YigUnibnUZkZf]hd| UXXcbdi
Yf]bYf]WghUf]YigUnibnUZkZf]hd| UXXcbdi
WbNYUxi gUnkcbdiNf]Xhfi | \ hYXdh'zhYgU'

GjYf]Dg

No degrees of severity are defined. It is sufficient to indicate that shrinkage cracks exist.

FYUfcdhbg

- ◆ **8cBch]d**



"

' \$' >chGdUgfD77L

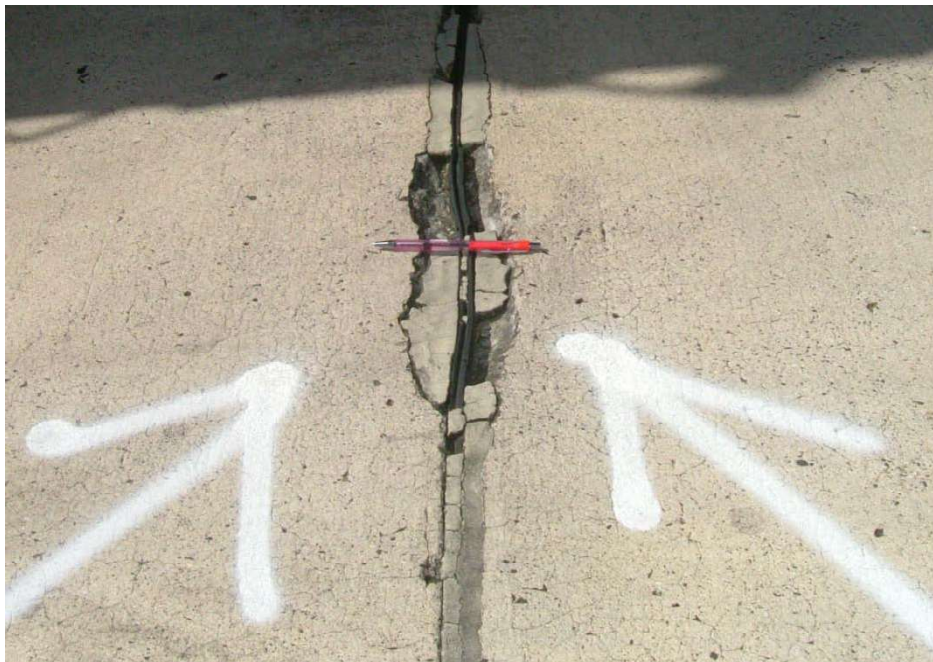
>chigU'h lghYXghN fU'bcZhYgUVX Ygkjh b&ZYh'ZhYgXyZHY'chH'
5'chigU i gUmXygdhN Nbxj YhU nhtci [\ hYgUzV hHhGhY'chHh
UbU' Y'GU'h' ng' l'Zca YWgjj YgYggUthY'chH'WU gXVn' b' f'U'cb'
cZb'AdYgVYaUhfU'gcf'U'W'U'g' K'U' W'U'Y'chH'U' gXVn
cj Ykcf _h' E'W' V'bx'k'h' l'U'W'U'g'g'U'ch'Y'W' g'c'Z'g'U'h''

Gj Yhng

- ◆ @k! gj Y&ZYh'ch' UxlgVc_Y]bc'acfyhUbfYd]WgXVbXVn
'ck'cfa Y]a' gj Y]h'W'g'k'h' \]h'Y'cf'bc': CS'dhH]U'zcf'g&Y'ghU'
&ZYh'ch' UxlgVc_Y]bc'acfyhUbfYd]WgXVbXVn \]h': CS'cf]Y
XaU'Y'dhH]U'/
- ◆ A Y]a! gj Y&ZYh'ch' UxlgVc_Y]bc'acfyhU' 'd]WgXVbXVn] \]h
cfa Y]a W'g'cf'ga Y: CS'dhH]U'Y]g]h'zcf'g&Y'ghU'&ZYh'ch'
UxlgVc_Y]bc'd]Wg'cf'Z]U'a Y]X'k'h'ga YcZhYd]Wg'cg'Y'cf'U'ghz
W]gh' W]g'X'U'V'Y: CS'cf]Y'XaU'Y'dhH]U'/
- ◆ <]]\! gj Y&ZYh'ch' UxlgVc_Y]bc'acfyhUbfYd]WgXVbXVn'cbY
cf'acY]]\ 'gj Y]h'W'g'k'h' \]]\ : CS'dhH]U'

FYUfCd]bg

- ◆ @k! BcU]cb/
- ◆ A Y]a! d]Z'fa U'd]U'X'h'd]U'W
- ◆ <]]\! d]Z'fa U'd]U'X'h'd]U'W'



'% 7cbfGdUgd77L

7cbfGdUd ghYfjYh'cfVNUXkbcZhYgUkjhJbUdIdJaUYn&ZncZ
hYVbM'5 VbfgU XZNgZca UwbYVNU JbUthYgdUd'YgXdkkUX
lcJbfgVhY'chk\]YhYVNU YNbgjYfU'nhci[\ hYgU'

GjYfng

- ◆ @ck! YhY%hYgdU'lgMc_Yb]bc'dYcfkcd]WgXVbXVnck'gjYfhn
VWgkjh`JhYcfbc: CS'ddHJU/cf&hYgdU'lgXVbXVnckYaYfja'
gjYfhnVWgkjh`JhYcfbc: CS'ddHJU/
- ◆ AYfja È%hYgdU'lgMc_Yb]bc'kcd'afYd]WgXVbXVnckYaYfja'
gjYfhnVWgkjh`ZU'ZU'aYfjaUnYUgHcf'ccg/ &hYgdU'lg
XVbXVnckYgjYfZU'aYfXVWWhUaUnYUWAdh]XVnUzk'
]Uf]bVWgcf' hYgdU'UgXVf]cUfXlc'hYdc]hk\Yf'ccgYaUm]U'g'
Wigh: CS'ddHJU/
- ◆ <]] È%hYgdU'UgMc_Yb]bc'kcd'afYd]WgXVbXVnck]]\`gjYfhn
ZU'aYfXVWgkjh`ccg'cfUgHJU'aYf'&cd]WgczhYgdU'\jY
VbXgUWkchYfYfHhUf]YXaU'YUfXVlg'cf' hYgdU'Ug
XVf]cUfXlc'hYdc]hk\Yf'ccgYaUm]U'g'Wigh\]]\ : CS'ddHJU'

FYUfCd]bg

- ◆ @ck! BcUfcb/
- ◆ AYfja! dffUXh'dUW
- ◆ <]]! dffUXh'dUW



' &'5GF 'ID77L

5GF 'lgWU gXVhWwWw JW'fUWfcbVWkYbU_UlgUkXWfUbfUWUj Yg'JWa JbMUg
k\JWZfa U|Y' HY|YUgcfVgkUfZUg gh' Y dHgdbk\JWa UnNa UYhY
WbWfYUkXUWfHgI WfYg' 5`_UlgUfYacgicZb'JfcXVWVnhYcbfUk
Ww YHkjh|bhYdj Ya YH' 5GF 'WUW|' a UnYUWYUfXVhWwWw JW'dj Ya YH
X|Wg'

JlgU|bXWfghU'5GF'a UnYdYgHh|bWXY'

% 7UW|' cZhYWbWfYdj Ya YHfZb|bUa UfdUMbL

& K\|fZVfckb|fUfchYfWcfX|Y'cfgh|' a UnYdYgHhUfYUW
g'fWY

' " 5|[fYUfddi|g

(" bWUg|bWbWfYj'c'ia YfU dHgdb|hUa UnfYg' |bXgdf|bcZkXUWf'c'
|h|fU'g| WfYgcf'ang|WUYa Ylg'9|UadYg'Z| dHgdb|bWXYg'c|' |cZ
UgdUhdj Ya Ylg'|\hWb|'h|g'UVZi |h|z'c|ha |gU|| ba YfZUkXU|f'g'bcZ
'c|h|gUgcf'Y dHgdb'c|h|' Yg'

6WU g'5GF 'ga Uf|U'XVhWwWw5GF 'gl' YbU'ndYgHhfc| [\c|hYdj Ya Yh
gW|b' 7cf| UkXWbWfYc'f|fU|JWUngg'ghYcb'nW|'h|j Ya YhcXc'
WbZfa hYdYg'WcZ5GF' HYZ`ck|h| g'c'XY_Yh|ba |bXk\Yb|Xb|'h|' .
hYdYg'WcZ5GF hfc| [\j|gU'bgW|'cb

%; YbU'n5GF XgYg'g'fYbdc'Vg'j YX|bhYZf'g'Zk' nUg'Uf'Wg'f' W|b' b'
Wb|g'z'Ug'f|b U'YUW|' W'c'Wf'hYXh'c'ZUg'f' W|b'Uk|g'Ud'f'Yh
k|h|bhYZf'g'f'f'

& 5GF 'lgXVhWwWwZca 8!7UW|' VnhYdYg'WcZUW|' d'f'WbXWUf'c'
hY'c|h'W 8!7UW|' d'fXca |b|h'm'Yj Yodg'Ug'Ug'f'Yg'Zd'f'U'Y'WUg'c'
'c|h'Wg'Uk|b|f'WUW|' k|h|bhYg'W'

' " 5GF 'lgXVhWwWwZca 'AUf7UW|' #GU|' VnhYdYg'WcZj |g'U'g|'hg'Z
Y dHgdb'

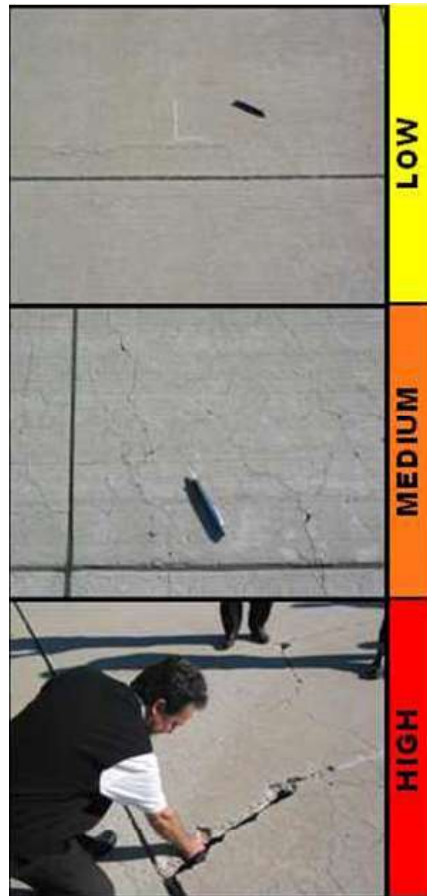
GjYfhi@jYg

@ A|jaUlebc: cf||bCVVNSUaUyECSE'ddnh|UZca VWGf'clhgcf5Gf' fYUXdddi lg/VWGUhYg fZWFYH| \HFYXa|b|hn?aa'cf~Yg|@|hY lebcY|NBWcZag Ya YH|bdj Ya YHcf g ffdi b|H| g|f VifYgcfYYa Ylg'

Gca Y: CS'ddnh|U/|b|N|gXgkYH| 'cfchY: CSfYagU'a YhcXgaUnWY fxi|fYX AUnWY|NBWcZg'Uvag Ya YH|bXcf ga YXaU|Ylc UXWthi g|f VifYgcfYYa Ylg'

A A Y|a 5Gf Xg|ng|gXZf|H|UXZca ~ck Vm|U|H| 'dbYcfadYcZHY ZE~ck|H|. |b|N|gX: CS'ddnh|U|b|N|gX|W|H| 'cZHYgUzga YZU|a Ylg' Udh| VWGcfU|W|H|f|g|N|d|g|fYg|H|g fZWFddi lg'Z|W|N|Y|a Un cW|Z|U|b|c|Z|k|X|VWGUfYXa|b|hn?aa'cfk|X|f|h|U|a UnY gVaj|X|X|V|H| \HfVWUg'

< ObYcfVh'cZHYZE~ck|H| Y|g|h %|@|cgYcfalg|H| W|N|Y|Z|U|a Ylgk\|W dca\||\ : CS'ddnh|U|Z &EGUg fZWF|H|f|H|U|X|Z|b|H|b|g|H|b|Z|W|H|n X|f|U|X|U|X|dj Ya YH|fxi|fYg|aa Y|U|H|f|U|f'a UnUg'fxi|fY|Y|U|g|le' UXWthi g|f VifYgcfYYa Ylg'



APPENDIX D

DETAILED PAVEMENT CONDITION DATA



5@SCH526%

; YMUW8UY)#488%

DJY%Z'

BYkcf.	5I C	Bu Y	5i VfbI bj Yg h m FY j dU5 j dch
6FUBW	58%	Bu Y	5dcb\$%5i Vfb I g 5DFCB 5fYU ' %Z + G: h
GMjcb	%	z %	: fca. HIJUY% H. HIJUY%& @Gj7cbg' *#488%
GfZUW	57	: Ua]m	5@SCH5dcbg NcbY 7UMcfm FUb. G
5fYU	' %Z + G: h	@Y[h.	, \$S: h KPh. ')) : h
GUg		GU@Y[h.	: h GUVKPh. : h >ch@Y[h. : h
Gcd Xf.		GfYHhdY	; fUX \$ @bg \$
GMjcb7caa Ylg			

Kcf_SUY *#488%	Kcf_HdY Bk7cbg h Vcb! hJU	7cX BI !B	=gAUcfA/ F. HfY
----------------	---------------------------	-----------	-----------------

@Gj7cbg' SUY %4#88%	HRUcdYg *%	G fj YK -
7cbg D7= +*		
-hgNWcb7caa Ylg		

GldYBi aVf. \$	HdY F	5fYU	*) \$SS G: h D7= ,-
GldY7caa Ylg			
(, @/ H7F	@	, 'SS : h	
(- C-@G@5; 9	B	\$'SS G: h	
) + K95H 9F-B;	@	*) \$SS G: h	

GldYBi aVf. \$	HdY F	5fYU	) \$SS\$ G: h D7= +*
GldY7caa Ylg			
(, @/ H7F	@	' \$SS : h	
(, @/ H7F	A	) \$SS : h	
(- C-@G@5; 9	B	, 'SS G: h	
) & F5J9@B;	@	) \$SS G: h	
) + K95H 9F-B;	@	(-) \$SS G: h	

GldYBi aVf. %	HdY F	5fYU	) \$SS\$ G: h D7= +&
GldY7caa Ylg			
(, @/ H7F	@	+) 'SS : h	
(, @/ H7F	A	% \$SS : h	
) + K95H 9F-B;	@	) \$SS\$ G: h	

GldYBi aVf. \$\$	HdY F	5fYU	) \$SS\$ G: h D7= ++
GldY7caa Ylg			
(, @/ H7F	@	) \$SS : h	
(, @/ H7F	A	) \$SS : h	
(- C-@G@5; 9	B	('SS G: h	
) + K95H 9F-B;	@	) \$SS\$ G: h	

GldYBi aVf. '%	HdY F	5fYU	) \$SS\$ G: h D7= +)
GldY7caa Ylg			
(, @/ H7F	@	' \$SS : h	
(, @/ H7F	A	% \$SS : h	
) + K95H 9F-B;	@	) \$SS\$ G: h	

GldYBi aVf. (\$	HdY F	5fYU	) \$SS\$ G: h D7= +&
GldY7caa Ylg			
(, @/ H7F	@	* \$SS : h	
(- C-@G@5; 9	B	% \$SS G: h	
) & F5J9@B;	@	% \$SS G: h	
) + K95H 9F-B;	@	() \$SS G: h	

GldYBi aVf. ('	HdY F	5fYU	) \$SS\$ G: h D7= +&
GldY7caa Ylg			
(, @/ H7F	@	% \$SS : h	
(, @/ H7F	A	% \$SS : h	
) + K95H 9F-B;	@	) \$SS\$ G: h	

QádYBiaVF.)&	HdY	F	5fU	)SS'SS Gz h	D7= * &
QádY7caaYhg					
(, @/ H7F	@		)'SS :h		
(, @/ H7F	A		'- SSS :h		
)+ K95H 9F-B;	@		)SS'SS Gz h		
QádYBiaVF.))	HdY	F	5fU	)SS'SS Gz h	D7= , &
QádY7caaYhg					
(, @/ H7F	@		%SS :h		
(, @/ H7F	A		%SS :h		
(- C-@GD@5; 9	B		&'SS Gz h		
)& F5J9@B;	@		&'SS Gz h		
)+ K95H 9F-B;	@		(- +)'SS Gz h		

BYkcf.	5I C	BuY	5iVfbI bj YglmFY]dbU5]lcbh
6fUW	58&	BuY	5dcb885iVfb I g 5DFCB 5fU (%'+ G h
GMch	%	z %	: fca. HUjkUn7cbNMfS% H. 9(YcZDjYaYh @gh7cbg' '#%888&
GfUW	57	: Ua]m	5@8CH5dldg NcbY 7UH]cfm Fu. G
5fU	(%'+ G h	@Y[h.	%88:h K]h. &): h
GUg		GU@Y[h.	: h GUVK]h. : h >ch@Y[h. : h
Gci Xf.		GfYHhY	; fUX \$ @bg \$
GMcb7caa Ylg			
Kcf_8UY %888&		Kcf_HdY Bk7cbg' Vcb' h]U	7cX BI !-B =AUcfA/ F. HiY
Kcf_8UY '#%888&		Kcf_HdY Bk7cbg' Vcb' h]U	7cX BI !-B =AUcfA/ F. HiY
@gh7cbg'8UY %4#88%		HUcladYg %8	GfjYhX %
7cb]cbg D7= %			
-bgNMcb7caa Ylg			
QadYBi aVf. \$		HdY F	5fU)8888G h D7=)+
QadY7caa Ylg			
(, @/ H7F		@	'8888 : h
(, @/ H7F		A	('8888 : h
)+ K95H 9F-B;		A	)8888 G h
QadYBi aVf. %		HdY F	5fU)8888G h D7=)+
QadY7caa Ylg			
(, @/ H7F		@	&888 : h
(, @CB; -H 8-B5@H5BCJ9FC0' 7F57;-B;		A	'&'888 : h
(- C-@D@5; 9		B	&'888 G h
)+ K95H 9F-B;		A	)8888 G h
QadYBi aVf. %		HdY F	5fU)8888G h D7= *+
QadY7caa Ylg			
(, @/ H7F		@	&888 : h
(, @/ H7F		A	%888 : h
)+ K95H 9F-B;		A	)8888 G h
QadYBi aVf. %		HdY F	5fU)8888G h D7= *&
QadY7caa Ylg			
(, @/ H7F		@	&888 : h
(, @/ H7F		A	'8888 : h
)+ K95H 9F-B;		A	)8888 G h
QadYBi aVf. \$		HdY F	5fU)8888G h D7=)-
QadY7caa Ylg			
(, @/ H7F		@	88888 : h
(, @/ H7F		A	')888 : h
)+ K95H 9F-B;		A	)8888 G h
QadYBi aVf. &		HdY F	5fU)8888G h D7=),
QadY7caa Ylg			
(, @/ H7F		A	)8888 : h
)+ K95H 9F-B;		A	)8888 G h
QadYBi aVf. '\$		HdY F	5fU)8888G h D7= %*
QadY7caa Ylg			
(, @/ H7F		@	%888 : h
(, @/ H7F		A	'8888 : h
)+ K95H 9F-B;		A	)8888 G h
QadYBi aVf. (\$		HdY F	5fU (-+'888G h D7= *+
QadY7caa Ylg			
(, @/ H7F		A	&('888 : h
)+ K95H 9F-B;		A	(-+'888 G h

QādYBīaVĒ. ((HdY F 5fU) \$\$\$Gē h D7= *,
QādY7caaYlg
(, @/ H7F @ %\$\$\$:h
(, @/ H7F A %\$\$\$:h
(- C-@D@5; 9 B *'\$\$ Gē h
)+ K95H 9F-B; A) \$\$\$Gē h

QādYBīaVĒ.)\$ HdY F 5fU) \$\$\$Gē h D7=)*
QādY7caaYlg
(, @/ H7F A)- \$\$\$:h
)+ K95H 9F-B; A) \$\$\$Gē h

QādYBīaVĒ.)* HdY F 5fU) \$\$\$Gē h D7= *\$
QādY7caaYlg
(, @/ H7F @ *)'\$\$:h
(, @/ H7F A ', \$\$\$:h
)+ K95H 9F-B; A) \$\$\$Gē h

QādYBīaVĒ. *, HdY F 5fU) \$\$\$Gē h D7=),
QādY7caaYlg
(, @/ H7F @ %\$\$\$:h
(, @/ H7F A ', \$\$\$:h
)+ K95H 9F-B; A) \$\$\$Gē h

QādYBīaVĒ. ++ HdY F 5fU *) \$\$\$Gē h D7= *%
QādY7caaYlg
(, @/ H7F @ %'\$\$:h
(, @/ H7F A (\$\$\$:h
)& F5J9@B; @ \$\$\$Gē h
)+ K95H 9F-B; A () \$\$\$Gē h

BYkcf.	5IC	BLAY	5iVfbIbjYglnFY]dU5]kbfh
GfUW	F%&	BLAY	FihkUm%&'5iVfb I gY FIEK5M 5fU &*'S(Gc h
GWfch	9	cZ)	: fca. GwfbS H. FihkUm& 9IX @g]7ch]l' *#88%
GfZW	557	: Ua]m 5@SCHFKg	NbY 7UH]cfm FUb. D
5fU	8&+) Gc h	@Y[h.	'9 : h K]h. +) : h
GUg		GU@Y[h.	: h GUVK]h. : h >ch@Y[h. : h
Gci XE.		GfYWHdY	; fUX \$ @Ug \$
Gwfb7caaYlg			
Kcf_8UY	%#88%	Kcf_HdY Bk7ch]l' h]U	7cX BI!B =gAUcfA/ F. HiY
Kcf_8UY	*#88%	Kcf_HdY GfZWfUaYH'7]dGU	7cX GH7< =gAUcfA/ F. : UgY
Kcf_8UY	*#88%	Kcf_HdY GYUm'57H]b	7cX C@5H =gAUcfA/ F. HiY
@g]7ch]l'8UY	%#88%	HRUladYg (	GfjYhX '
7ch]l'ch]g	D7= %8		
=gAUcfA/ F. HiY			
GladYBi aVf.	8%	HdY F	5fU)*8'88Gc h D7= %8
GladY7caaYlg			
OBc8]g]Yg?			
GladYBi aVf.	8&	HdY F	5fU)*8'88Gc h D7= %8
GladY7caaYlg			
OBc8]g]Yg?			
GladYBi aVf.	8	HdY F	5fU)*8'88Gc h D7= %8
GladY7caaYlg			
OBc8]g]Yg?			

BV kcf.	5I C	B l ^h Y		5i VfbIbjYglnFY]dbU5]kbfh			
Gf UW	F% &	B l ^h Y	F ihkUm%& '5iVfb	I g	F IEK5M	5 fU	&* \$(G ^e h
G W]ch	\$&	c Z)	: fca.	G W]cb\$%	H .	F ihkUm%!"*	@ g]7cbg]l %&#\$\$\$&
G fzW	57	: Ua]m	5@SCHFKg	N dbY	7 U]cfm		F ub. D
5 fU	+& \$(G ^e h	@ V]h.	,, :h	K]h.	, \$: h		
G U]g		G U@V]h.	: h	G U]K]h.	: h	> ch@V]h.	: h
G ci Xf.		G fY]HhY		; fUX \$		@ U]g \$	
G W]cb7caa Ylg							
K cf_8UY	%&#\$\$\$	K cf_HhY Bk7cbg]l V]cb! :h]U			7 cX	B I !:B	= AUcfA/ F. HhY
K cf_8UY	%&#\$\$\$&	K cf_HhY Bk7cbg]l V]cb! :h]U			7 cX	B I !:B	= AUcfA/ F. HhY
@ g]7cbg]l'8UY	%&#\$\$\$%	H RUcladyg %		G fjYhX %			
7cb]h]bg D7= *)							
-hg]W]cb7caa Ylg							
Q ladyEiaVf.	\$%	H hY	F	5 fU	+& \$(S\$\$G ^e h	D 7= *)	
Q lady7caa Ylg							
(,	@/ H7F	A	')'\$\$: h				
)\$	D5H7<-B;	@	&\$\$G ^e h				
)+	K95H9F-B;	A	+&\$(S\$\$ G ^e h				

BYkcf.	5I C	BláY		5iVfbI bj YglnFY]dU5]fcbh
GfUW	F%&	BláY	FihkÚm%& 5iVfb	I gY FIEK5M 5fYU &*S (Gē h
GMfch	\$ (	cZ)	: fca. GMfcb\$	H. GMfcb\$ @gh7cbgH *#88%
GfZW	557	: Ua]m 5@SCHFKg	NcbY	7UH]cfm FUb. D
5fYU	&(ž+) Gē h	@Y[h.	'Z% :h K]Ph.	+) :h
GUg		GU@Y[h.	:h GUVK]Ph.	:h >ch@Y[h. :h
Gci Xf.		GfYWHdY	; fUX \$	@Ubg \$
GMfcb7caa Ylg				
Kcf_8UY	%#88%	Kcf_HdY	Bk7cbg]Vcb' :h]U	7cX BI !-B =gAUcfA/ F. HiY
Kcf_8UY	*#88%	Kcf_HdY	GfZWfYUaYH 7]dGU	7cX GH7< =gAUcfA/ F. :UgY
Kcf_8UY	*#88%	Kcf_HdY	GjYUa'57H]b	7cX C@5H =gAUcfA/ F. HiY
@gh7cbg]8UY	%#88%	HRUcláYg (+		GfjYnX +
7cb]cbg	D7= %8	-hg]Vcb7caa Ylg		
GladYBi aVf.	\$&	HdY	F 5fYU	)*&'88Gē h D7= %8
GladY7caa Ylg				
OBc8]gYg?				
GladYBi aVf.	\$	HdY	F 5fYU	)*&'88Gē h D7= %8
GladY7caa Ylg				
OBc8]gYg?				
GladYBi aVf.	%	HdY	F 5fYU	)*&'88Gē h D7= %8
GladY7caa Ylg				
OBc8]gYg?				
GladYBi aVf.	%	HdY	F 5fYU	)*&'88Gē h D7= %8
GladY7caa Ylg				
OBc8]gYg?				
GladYBi aVf.	&	HdY	F 5fYU	)*&'88Gē h D7= %8
GladY7caa Ylg				
OBc8]gYg?				
GladYBi aVf.	'\$	HdY	F 5fYU	)*&'88Gē h D7= %8
GladY7caa Ylg				
OBc8]gYg?				
GladYBi aVf.	'+	HdY	F 5fYU	)*&'88Gē h D7= %8
GladY7caa Ylg				
OBc8]gYg?				

BYkcf.	5IC	BláY		5iVfbIbjYglnFY]dU5]fcbh
GfUW	F%&	BláY	FibkUn%&'5iVfb	IgY FIEK5M 5fU &*'S(Gc h
GMfch	\$%	cZ)	: fca. FibkUn%&BX	H. GMfcbS& @Gj7cbgH' *#88%
GfZW	557	: Ua]m 5@SCHFKg	NbY	7UH]cfm FUb. D
5fU	888\$Gc h	@Y[h.	& :h K]Ph.	, \$: h
GUg		GU@Y[h.	:h GUVK]Ph.	:h >ch@Y[h. :h
Gci XE.		GfYWHdY	; fUX \$	@Ug \$
GMfcb7caaYlg				
Kcf_8UY	%#88%	Kcf_HdY	Bk7cbgV]cb' :h]U	7cX BI!-B =gAUcfA/ F. HiY
Kcf_8UY	*#88%	Kcf_HdY	GfZW-FUb]YH' 7]dGU	7cX GH7< =gAUcfA/ F. :UgY
Kcf_8UY	*#88%	Kcf_HdY	GjYUn'57H]b	7cX C@5H =gAUcfA/ F. HiY
@Gj7cbgH'8UY	%#88%	HRUcláYg (		GfjYnX '
7cb]cbg	D7= %8			
=gAUcfA/ F. HiY				
GldYBi aVf.	\$%	HdY	F 5fU	)*&'88Gc h D7= %8
GldY7caaYlg				
OBc8]gYg?				
GldYBi aVf.	\$	HdY	F 5fU	)*&'88Gc h D7= %8
GldY7caaYlg				
OBc8]gYg?				
GldYBi aVf.	\$(	HdY	F 5fU	)8888Gc h D7= %8
GldY7caaYlg				
OBc8]gYg?				

BYkcf.	5I C	BuY	5iVfbI bj YglnFY]dU5]lbfh				
GfUW	F%*	BuY	FibkUm%!*'5iVfb	I g	FI BK5M	5fU	)&Z\$Geh
GWch	\$%	cZ %	: fca. FibkUm%9BX		H. FibkUm*9BX		@Uj7dgh' *#24555&
GfUW	57	: Ua]m 5@SCHFKg	NbY		7UH]cfm		Fub. D
5fU	)&Z\$Geh	@V[h.	)Z(: h	K]Ph.	%S: h		
GUg		GU@V[h.	: h	GUVK]Ph.	: h	>ch@V[h.	: h
Gci Xf.		GfYVHdY		; fUX \$		@Uyg \$	
GWcb7caa Ylg							
Kcf_8UY %24555&		Kcf_HdY Bk7dgh Vcb' h]U			7cX BI !-B		=AUcfA/ F. HiY
Kcf_8UY *#24555&		Kcf_HdY Bk7dgh Vcb' h]U			7cX BI !-B		=AUcfA/ F. HiY
@Uj7dgh'8UY %24555&		HUcladYg %9			GfjYhX %		
7dN]cbg D7= * &							
-bgNWcb7caa Ylg							
QadYBiaVf. \$%		HdY F	5fU	)SS\$Geh		D7=)	
QadY7caa Ylg							
(, @/ H7F		@	*)'SS : h				
(, @/ H7F		A	(','SS : h				
)+ K95H 9F-B;		@	&SS\$Geh				
)+ K95H 9F-B;		A	&SS\$Geh				
QadYBiaVf. %9		HdY F	5fU	)SS\$Geh		D7=)\$	
QadY7caa Ylg							
(, @/ H7F		@	%)'SS : h				
(, @/ H7F		A	)\$)'SS : h				
)+ K95H 9F-B;		@	&SS\$Geh				
)+ K95H 9F-B;		A	&SS\$Geh				
QadYBiaVf. %9		HdY F	5fU	*)SS\$Geh		D7= +\$	
QadY7caa Ylg							
(, @/ H7F		@	'%)'SS : h				
)\$ D5H<-B;		@	SS\$Geh				
)+ K95H 9F-B;		@	'%)'SS : h				
)+ K95H 9F-B;		A	'%)'SS : h				
QadYBiaVf. %		HdY F	5fU	)SS\$Geh		D7=),	
QadY7caa Ylg							
(, @/ H7F		@	%)'SS : h				
(, @/ H7F		A	&S\$: h				
)+ K95H 9F-B;		@	&SS\$Geh				
)+ K95H 9F-B;		A	&SS\$Geh				
QadYBiaVf. %&		HdY F	5fU	)SS\$Geh		D7= *\$	
QadY7caa Ylg							
(, @/ H7F		@	%&'SS : h				
(, @/ H7F		A	&S\$: h				
)+ K95H 9F-B;		@	&SS\$Geh				
)+ K95H 9F-B;		A	&SS\$Geh				
QadYBiaVf. &		HdY F	5fU	)SS\$Geh		D7=),	
QadY7caa Ylg							
(, @/ H7F		@	%)'SS : h				
(, @/ H7F		A	&)'SS : h				
)+ K95H 9F-B;		@	&SS\$Geh				
)+ K95H 9F-B;		A	&SS\$Geh				
QadYBiaVf. ')		HdY F	5fU	)SS\$Geh		D7=))	
QadY7caa Ylg							
(, @/ H7F		@	%('SS : h				
(, @/ H7F		A	')\$SS : h				
)+ K95H 9F-B;		@	&SS\$Geh				
)+ K95H 9F-B;		A	&SS\$Geh				

)+ K95H 9F-B;	A		&\$\$\$\$ G\$ h		
QádYBí aVF. (&	HdY	F	5fYU	)\$\$S\$G\$ h	D7= *%
QádY7caaYhg					
(, @/ H7F	@		('\$\$: h		
(, @/ H7F	A		&)'\$\$: h		
)+ K95H 9F-B;	@		&\$\$\$\$ G\$ h		
)+ K95H 9F-B;	A		&\$\$\$\$ G\$ h		
QádYBí aVF. (-	HdY	F	5fYU	)\$\$S\$G\$ h	D7= *)
QádY7caaYhg					
(, @/ H7F	@		\$\$S\$: h		
(, @/ H7F	A		()'\$\$: h		
)& F5J9@B;	A		)\$\$S\$ G\$ h		
)+ K95H 9F-B;	A		(-)'\$\$S\$ G\$ h		
QádYBí aVF.)*	HdY	F	5fYU	)\$\$S\$G\$ h	D7= +)
QádY7caaYhg					
(, @/ H7F	@		%+'\$\$: h		
)+ K95H 9F-B;	@		&\$\$S\$ G\$ h		
)+ K95H 9F-B;	A		&\$\$S\$ G\$ h		
QádYBí aVF. *!	HdY	F	5fYU	)\$\$S\$G\$ h	D7= +\$
QádY7caaYhg					
(, @/ H7F	@		),'\$\$ : h		
(, @/ H7F	A		)\$\$S\$: h		
)+ K95H 9F-B;	@		&\$\$S\$ G\$ h		
)+ K95H 9F-B;	A		&\$\$S\$ G\$ h		
QádYBí aVF. +\$	HdY	F	5fYU	)\$\$S\$G\$ h	D7= +\$
QádY7caaYhg					
(, @/ H7F	@		%\$S\$: h		
(, @/ H7F	A		),'\$\$ : h		
)+ K95H 9F-B;	@		&\$\$S\$ G\$ h		
)+ K95H 9F-B;	A		&\$\$S\$ G\$ h		
QádYBí aVF. ++	HdY	F	5fYU	)\$\$S\$G\$ h	D7= **
QádY7caaYhg					
(, @/ H7F	@		%\$S\$: h		
(, @/ H7F	A		\$\$)'\$\$: h		
)+ K95H 9F-B;	A		)\$\$S\$ G\$ h		
QádYBí aVF. ,(	HdY	F	5fYU	)\$\$S\$G\$ h	D7= **
QádY7caaYhg					
(, @/ H7F	@		*)'\$\$: h		
(, @/ H7F	A		%)'\$\$: h		
)+ K95H 9F-B;	@		&\$\$S\$ G\$ h		
)+ K95H 9F-B;	A		&\$\$S\$ G\$ h		
QádYBí aVF. -%	HdY	F	5fYU	)\$\$S\$G\$ h	D7= *\$
QádY7caaYhg					
(, @/ H7F	@		' \$\$S\$: h		
(, @/ H7F	A		' \$\$S\$: h		
)+ K95H 9F-B;	@		&\$\$S\$ G\$ h		
)+ K95H 9F-B;	A		&\$\$S\$ G\$ h		
QádYBí aVF. -,	HdY	F	5fYU	)\$\$S\$G\$ h	D7= *\$
QádY7caaYhg					
(, @CB; -H 8-B5@HF5BGJ9FCG' 7F57?-B;	A		')\$\$S\$: h		
)+ K95H 9F-B;	@		&\$\$S\$ G\$ h		
)+ K95H 9F-B;	A		&\$\$S\$ G\$ h		

BYkcf.	5I C		BláY	5iVifbI bj YglnFY]dU5]fcbh			
GfUW	H5		BláY	HI]kúis'5iVifb	I gY	H5L-K5M	5fYU
GWfch	S&	cZ '	: fca.	GWfcbS%		H. Filkkúrn%&	@Gfj7cbgH' *#488%
GfZUW	57	: Uá]m	5@SCH57HI]kúg	NcbY		7UH]cfm	FUb. D
5fYU		%&&*(G&h	@Y[h.	&,' :h	K]Ph.	'):h	
GUg		GU@Y[h.	:h	GUVK]Ph.	:h	>ch@Y[h.	:h
Gci Xf.		GfYWHndY		; fUX \$		@Ug \$	
GWfcb7caa Ylg							
Kcf_SUY *#488%		Kcf_HndY	Bk7cbgV]cb! :h]U		7cXV BI!B		=gAUcfA/ F. HfY
@Gfj7cbgH' SUY *#488%		HRUcláYg	S		GfjYnX %		
7cbY]cbg D7= %S							
-hgNWfcb7caa Ylg							
GládYBia Vf. S&		HndY	F	5fYU	)&S88G&h	D7= %S	
GládY7caa Ylg							
OBc8]gYg							

BVkf.	5IC	BuY		5iVfbIbjYglnFY]du5]kbfh		
6UDW	H5	BuY	HI]kUis'5iVfb	Ig	H5L-K5M	5fU
GMch	%	cZ'	:fca.	FibkUn%!'*	H.	GMcbS&
GfZUW	57	:Ua]m	5@SCH57HI]kUg	NbY	7UH]cfm	Fub. D
5fU	- (z,- G&h	@Y[h.	8,, :h	K]Ph.	(S:h	
GUg		GU@Y[h.	:h	GUVK]Ph.	:h	>ch@Y[h.
Gci Xf.		GfYWHuY		; fUX \$		@Uyg \$
GMcb7caaYlg						
Kcf_8UY %@@SS		Kcf_HuY	Bk7ch]Ucb! :h]U		7cX BI !-B	=AUcfA/ F. HiY
Kcf_8UY '#SS		Kcf_HuY	Bk7ch]Ucb! :h]U		7cX BI !-B	=AUcfA/ F. HiY
@]h:hg]'8UY %4#SS%		HUCladYg	\$	GfjYnX *		
7ch]Ucbg D7= +&						
-hg]Ucb7caaYlg						
QadYBi aVf. S&		HuY	F	5fU	)&S\$G&h	D7= +\$
QadY7caaYlg						
(, @/ H7F		@		)'SS :h		
(, @/ H7F		A		%'SS :h		
)+ K95H 9F-B;		A		)&S\$G&h		
QadYBi aVf. \$		HuY	F	5fU	)&S\$G&h	D7= *+
QadY7caaYlg						
(, @/ H7F		@		'&'SS :h		
(, @/ H7F		A		%SS :h		
)\$ D5H<-B;		@		&'SS G&h		
)+ K95H 9F-B;		A		)&&'SS G&h		
QadYBi aVf. \$		HuY	F	5fU	)&S\$G&h	D7= +)
QadY7caaYlg						
(, @/ H7F		@		&'SS :h		
)+ K95H 9F-B;		A		)&S\$G&h		
QadYBi aVf. %		HuY	F	5fU	)&S\$G&h	D7= +)
QadY7caaYlg						
(, @/ H7F		@		8]'SS :h		
)+ K95H 9F-B;		A		)&S\$G&h		
QadYBi aVf. %		HuY	F	5fU	)&S\$G&h	D7= +)
QadY7caaYlg						
(, @/ H7F		@		%)'SS :h		
)+ K95H 9F-B;		A		)&S\$G&h		
QadYBi aVf. %		HuY	F	5fU	)&S\$G&h	D7= +\$
QadY7caaYlg						
(, @/ H7F		@		8)'SS :h		
(, @/ H7F		A		%SS :h		
)+ K95H 9F-B;		A		)&S\$G&h		

BYkcf.	51C		BláY	5iVifbIbjYglnFY]dU5]fcbh			
6fUW	H5		BláY	HI]kúú5'5iVifb	IgY	H5L-K5M	5fU
GM]ch	\$	cZ'	: fca.	FibkÚn%!'*		H.	FibkÚn%&&
GfZUW	57	: Úa]m	5@SCH57HI]kúg	NbY		7UH]cfm	FUb. D
5fU		&Z!' G&h	@Y[h.	'*, :h	K]Ph.	)S:h	
GUg		GU@Y[h.	:h	GUVK]Ph.	:h	>ch@Y[h.	:h
Gci Xf.		GfYWHdY		; fUX \$		@Ug \$	
GM]cb7caaYlg							
Kcf_8UY	%#%\$\$		Kcf_HdY	Bk7cb]V]cb! :h]U		7cX BI!-B	=AUcfA/ F. HiY
Kcf_8UY	, #4\$\$\$\$		Kcf_HdY	Bk7cb]V]cb! :h]U		7cX BI!-B	=AUcfA/ F. HiY
@]i:hg]'8UY	%#4\$5%		HBUCladYg	*		GfjYnX	'
7cb]V]cbg	D7= (-						
-hg]V]cb7caaYlg							
QádYBi aVf.	\$%		HdY	F		5fU	)%'\$\$G&h
D7= (-							
QádY7caaYlg							
(	6@C7? 7F		A			- \$\$\$ G&h	
(	@/ H7F		@			* \$\$\$:h	
(	@/ H7F		A			'***'\$\$:h	
)+	K95H 9F-B;		A			)%'\$\$ G&h	
QádYBi aVf.	\$&		HdY	F		5fU	)\$\$\$\$G&h
D7=)%							
QádY7caaYlg							
(	@/ H7F		A			++\$\$\$:h	
)+	K95H 9F-B;		A			)\$\$\$\$ G&h	
QádYBi aVf.	\$		HdY	F		5fU	*(','\$\$G&h
D7= (+							
QádY7caaYlg							
(	6@C7? 7F		A			%\$\$\$\$ G&h	
(	@/ H7F		A			*%'\$\$:h	
)+	K95H 9F-B;		A			*(','\$\$ G&h	

BYkcf.	5I C		BLáY	5i VfbI bj YglnFY]dU5]fcbh			
GfUW	H5%		BLáY	HI]kÚi5%5i Vfb	I gY	H5L-K5M	5fU
GM]ch	\$%	cZ %	: fca.	FibkÚi%!*"		H. HI]kÚi5	@G]7cbg]! *#48%
GfUW	57	: Úa]m	5@SCH57HI]kÚg	NcbY		7U]cfm	FUb. G
5fU		\$Z & Gc h	@Y]h.	"% h	K]h.	() : h	
GUg		GU@Y]h.	: h	GUVK]h.	: h	>cb]h@Y]h.	: h
Gci XE.		GfY]HcbY		; fUX \$		@Ug \$	
GM]cb7caa Ylg							
Kcf_8UY	*#48%		Kcf_HcbY Bk7cbg]Vcb! :h]U		7cX BI!B		=AUcfA/ F. HbY
@G]hgl'8UY	%#48%		HRUcláYg)		GfjYhX %		
7cb]hcg	D7= %8						
-hg]V]cb7caa Ylg							
CládYBi a Vc.	\$%	HcbY	F	5fU	)SSSSGc h	D7= %8	
CládY7caa Ylg							
OBc8]g]g							

BVkc.	5IC		BláY	5iVfbIbjYglnFY]dU5]fcbh			
GfUW	H&		BláY	HI]kÚi5&5iVfb	Ig	H5L-K5M	5fU
GMch	%	cZ %	: fca.	FibkÚi%!"*		H. HI]kÚi5	@g]7cbg]i *#48%
GfUW	57	: Úa]m	5@SCH57HI]kÚg	NbY		7U]cfm	Fb. G
5fU		\$j*\$Geh	@Y]h.	%, :h	K]h.	(S:h	
GUg		GU@Y]h.	:h	GUVK]h.		:h	>ch@Y]h. :h
Gci XE.		GfYHhY		; fUX \$		@Ug \$	
GMcb7caaYlg							
Kcf_8UY	%48%		Kcf_HdY	Bk7cbg]Vcb!h]U		7cX BI!B	=AUcfA/ F. HiY
Kcf_8UY	*#48%		Kcf_HdY	7cXA]`UXC]Yfm		7cX AC@	=AUcfA/ F. HiY
@g]hgl'8UY	%48%		HUCladYg	%		GfjYX %	
7cb]cbg	D7= %8						
-bg]cb7caaYlg							
CládYBi aVf.	%		HdY	F	5fU	)888Geh	D7= %8
CládY7caaYlg							
OBc8]g]g							

BYkcf.	5I C	BláY		5iVfbI bj YglnFY]dU5]fcbh	
GfUW	H'	BláY	HI]kÚi5'	5iVfb	I g' H5L-K5M 5fYU
GW]ch	\$%	cZ %	: fca.	FibkÚi5'!	* H. HI]kÚi5
GfUW	57	: Úa]m	5@SCH57HI]kÚg	NbY	7UH]cfm
5fYU		@Y[h.	'%h	K]Ph.	') : h
GUg		GUV@Y[h.	: h	GUVK]Ph.	: h
Gci Xf.		GfYWHdY		; fUX \$	>ch@Y[h. : h
GW]cb7caa Ylg					@Uyg \$
Kcf_8UY	%#%\$	Kcf_HdY	Bk7cbg	Vcb' :h]U	7cX BI !-B
Kcf_8UY	'#-\$	Kcf_HdY	Bk7cbg	Vcb' :h]U	7cX BI !-B
@]h:hg]'8UY	%#-\$	HRUCladYg)		GfjYXK '	
7cb]hcg	D7= +&				
-hg]W]cb7caa Ylg					
QádYBi aVf.	\$%	HdY	F	5fYU	'-.*-'\$\$Gé h
QádY7caa Ylg					D7= *-
(, @/ H7F		@		'\$: h	
(, @/ H7F		A		%'\$: h	
) + K95H 9F-B;		A		'-.*-'\$\$ Gé h	
QádYBi aVf.	\$	HdY	F	5fYU	')\$\$Gé h
QádY7caa Ylg					D7= +)
(, @/ H7F		@		%'\$: h	
) + K95H 9F-B;		A		')\$\$ Gé h	
QádYBi aVf.	9	HdY	F	5fYU	(+9)'\$\$Gé h
QádY7caa Ylg					D7= +'
(, @/ H7F		@		\$\$: h	
(- C-@D@@; 9		B		('\$\$ Gé h	
) + K95H 9F-B;		A		(+9)'\$\$ Gé h	

BYkcf.	5IC		BLAY	5iVfbIbjYglnFY]dU5]kbfh				
6fUW	HB		BLAY	HI]kUn65iVfb	IgX	H5L-K5M	5fU	++Z' \$Geh
GMch	\$&		cZ &	: fca.	GMcb\$%	H.	FilkUn%&	@Gj7chg' *#88%
GfZW	57		: Ua]m	5@SCH57HI]kUg	NbY	7U]cfm		Fb. D
5fU			*Z\$Geh	@Y]h.	(\$:h	K]Ph.	%\$:h	
GUg			GU@Y]h.	:h	GUVK]Ph.	:h	>ch@Y]h.	:h
Gd'Xf.			GfYWHdY		; fUX \$		@Ug \$	
GMcb7caaYlg								
Kcf_8UY	%#8%-		Kcf_HdY	Bk7chg'Vcb!h]U		7cX	BI!B	=AUcfA/ F. HiY
Kcf_8UY	*#88%		Kcf_HdY	6G7d'fg'5[[f]UY		7cX	65!5;	=AUcfA/ F. :Ug
Kcf_8UY	*#88%		Kcf_HdY	7cadYfYWd'Vcb!57		7cX	7F!57	=AUcfA/ F. HiY
@Gj7chg'8UY	%#88%		HRUladYg	%		GfjYhX	%	
7cb]chg	D7= %8							
hg]Vcb7caaYlg								
GladYBiaVf.	\$%		HdY	F	5fU	*(888Geh	D7= %8	
GladY7caaYlg								
OBc8]gYg								

BYkcf.	5I C	BLaY		5iVifbI bj YglnFY]dU5]lbfh			
GfUW	HB	BLaY	HI]kUn6'5iVifb	I gY	H5L-K5M	5fYU	+z' \$Geh
GM]ch	\$%	cZ &	: fca.	FibkUn%!' *	H.	GM]cb\$&	@G]7cbg]' *#88%
GfZUW	57	: Ua]m	5@SCH57HI]kUg	NdbY	7UH]cfm		FUb. D
5fYU		+%26Geh	@Y]h.	%+) : h	K]Ph.	) : h	
GUg		GUV@Y]h.	: h	GUVK]Ph.	: h	>ch@Y]h.	: h
Gci Xf.		GfYV]HdY		; fUX \$		@Ubg \$	
GM]cb7caaYlg							
Kcf_8UY	%#88%-	Kcf_HdY	Bk7cbg]V]cb! :h]U		7cXY	BI !-B	=gAUcfA/ F. H]Y
Kcf_8UY	*#88%	Kcf_HdY	6G]7cig]'5[[f]UY		7cXY	65!5;	=gAUcfA/ F. :UgY
Kcf_8UY	*#88%	Kcf_HdY	7cadYV]F]W]g]V]cb! :57		7cXY	7F!57	=gAUcfA/ F. H]Y
@G]7cbg]'8UY	%#88%	HRUcladYg %		G]f]Y]K *			
7cb]V]cbg	D7= ,-	=gAUcfA/ F. H]Y					
G]f]Y]K							
G]adY]B]aV]f.	\$&	HdY	F	5fYU	)	\$\$\$Geh	D7= ,-
G]adY]B]aV]f.							
(, @/ H7F		@	)	'\$\$ : h			
) + K95H:9F-B;		@	)	\$\$\$Geh			
G]adY]B]aV]f.	\$	HdY	F	5fYU	)	\$\$\$Geh	D7= ,-
G]adY]B]aV]f.							
(, @/ H7F		@	(	'\$\$ : h			
) + K95H:9F-B;		@	)	\$\$\$Geh			
G]adY]B]aV]f.	\$	HdY	F	5fYU	)	\$\$\$Geh	D7= - \$
G]adY]B]aV]f.							
(, @/ H7F		@	&	'\$\$: h			
) + K95H:9F-B;		@	)	\$\$\$Geh			
G]adY]B]aV]f.	\$	HdY	F	5fYU	)	\$\$\$Geh	D7= - \$
G]adY]B]aV]f.							
(, @/ H7F		@	&	'\$\$: h			
) + K95H:9F-B;		@	)	\$\$\$Geh			
G]adY]B]aV]f.	%	HdY	F	5fYU	)	\$\$\$Geh	D7= ,,
G]adY]B]aV]f.							
(, @/ H7F		@	,	'\$\$: h			
) + K95H:9F-B;		@	)	\$\$\$Geh			
G]adY]B]aV]f.	%	HdY	F	5fYU	)	\$\$\$Geh	D7= ,-
G]adY]B]aV]f.							
(, @/ H7F		@	(	'\$\$ : h			
) + K95H:9F-B;		@	)	\$\$\$Geh			

BVkc.	5IC		BlaY	5iVfbIbjYglnFY]dU5]kbfh			
6fUW	H7		BlaY	HI]kUn75iVfb	IgX	H5L-K5M	5fYU
GMch	\$		cZ'	: fca.	GVKb8&	H.	FilkUn?%&
GfZUW	57		: Ua]m	5@SCH57HI]kUg	NbY	7UH]cfm	FUb. D
5fYU			)ž') Gc h	@Y[h.	(\$: h	K]Ph.	%& h
GUg			GV@Y[h.	: h	GVK]Ph.	: h	>ch@Y[h.
Gci Xf.			GfYWHdY		; fUX \$		@Ug \$
GMcb7caa Ylg							
Kcf_8UY	*#489&		Kcf_HdY	6G7dG?5[[fYUY		7cXY 65!5;	=gAUcfA/ F. :UgY
Kcf_8UY	*#489&		Kcf_HdY	Bk7dG!Vcb!h]U		7cXY BI!B	=gAUcfA/ F. HiY
@g]hgl'8UY	%#489%		HBUAdYg	%		GfjYX	%
7dN]cbg	D7=	%8					
-bg]Mcb7caa Ylg							
QAdYBi aVf.	\$%		HdY	F	5fYU	))')'58Gc h	D7= %8
QAdY7caa Ylg							
OBc8]gYg2							

BYkcf.	5IC		BLAY	5iVifbIbjYglnFY]dU5]fcbh		
6fUW	H7		BLAY	HI]kUn75iVifb	IgX	H5L-K5M 5fYU
GMfch	%	cZ'	: fca.	FibkUn%!' *		H. GMfcbS&
GfZAW	57	: Ua]m	5@SCH57HI]kUg	NcbY		7UH]cfm
5fYU		%Z%\$Geh	@Y[h.	\$, \$: h	K]Ph.	) \$: h
GUg		GU@Y[h.	: h	GUVK]Ph.	: h	>ch@Y[h.
Gci Xf.		GfYWHdY		; fUX \$		@Ug \$
GMfcb7caaYlg						
Kcf_SUY	*#489%		Kcf_HdY	Bk7d]g]Vcb]h]U	7cXV	BI!-B
@G]hgl'SUY	%#489%		HRUcladYg	&		GfjYnX *
7cb]V]d]g	D7=	, &				
-hg]V]V]b7caaYlg						
QladYBi aVf.	\$		HdY	F	5fYU	) \$\$\$ \$ Geh
QladY7caaYlg						D7= +
(, @/ H7F			@		% '\$ \$: h	
(, @/ H7F			A		\$ '\$ \$: h	
) + K95H 9F-B;			@		) \$\$\$ \$ Geh	
QladYBi aVf.	\$		HdY	F	5fYU	) \$\$\$ \$ Geh
QladY7caaYlg						D7= , ,
(, @/ H7F			@		-- '\$ \$: h	
) + K95H 9F-B;			@		) \$\$\$ \$ Geh	
QladYBi aVf.	%		HdY	F	5fYU	) \$\$\$ \$ Geh
QladY7caaYlg						D7= *)
(, @/ H7F			@		\$ '\$ \$: h	
(, @/ H7F			A		\$ '\$ \$: h	
) \$ D5H<-B;			@		% \$\$\$ \$ Geh	
) + K95H 9F-B;			@		(\$\$\$ \$ Geh	
QladYBi aVf.	%		HdY	F	5fYU	) \$\$\$ \$ Geh
QladY7caaYlg						D7= - \$
(, @/ H7F			@		& '\$ \$: h	
) + K95H 9F-B;			@		) \$\$\$ \$ Geh	
QladYBi aVf.	&		HdY	F	5fYU	) \$\$\$ \$ Geh
QladY7caaYlg						D7= , &
(, @/ H7F			@		% '\$ \$: h	
(, @/ H7F			A		% '\$ \$: h	
) + K95H 9F-B;			@		) \$\$\$ \$ Geh	
QladYBi aVf.	&		HdY	F	5fYU	) \$\$\$ \$ Geh
QladY7caaYlg						D7= - \$
(, @/ H7F			@		\$ '\$ \$: h	
) + K95H 9F-B;			@		) \$\$\$ \$ Geh	

BVkf.	5IC		BlaY	5iVfbIbjYghmFY]dbU5]fcbh		
GfUBW	H7		BlaY	HI]kUn75iVfb	IgY	H5L-K5M 5fYU
GM]ch	&&	cZ '	: fca.	GM]cb\$%		H. GM]cb\$
GfZAW	57	: Ua]m	5@SCH57HI]kUg	NcbY		7UH]cfm
5fYU		%&Z, + Gc h	@Y[h.	&()) : h	K]Ph.	)\$ : h
GUg		GU@Y[h.	: h	GUVK]Ph.	: h	>ch@Y[h.
Gci Xf.		GfYWHdY		; fUX \$		@bYg \$
GM]cb7caaYlg						
Kcf_8UY	*#4\$%&		Kcf_HdY	6G7dG?5[[fYUY	7cXY	65!5;
Kcf_8UY	*#4\$%&		Kcf_HdY	Bk7dG]Vcb!h]JU	7cXY	BI!B
@]h]hg]8UY	%4#5\$%		HBUcladYg	&	GfjYX	*
7dN]cbg	D7= ,*					
-bg]M]cb7caaYlg						
QadYBi aVf.	\$%	HdY	F	5fYU	)\$\$\$Gc h	D7= ,*
QadY7caaYlg						
(, @/ H7F		@		%, 'SS : h		
) + K95H 9F-B;		@		)\$\$\$Gc h		
QadYBi aVf.	\$	HdY	F	5fYU	)\$\$\$Gc h	D7= ,-
QadY7caaYlg						
(, @/ H7F		@		)'SS : h		
) + K95H 9F-B;		@		)\$\$\$Gc h		
QadYBi aVf.	\$	HdY	F	5fYU	)\$\$\$Gc h	D7= ,%
QadY7caaYlg						
(, @/ H7F		@		&('SS : h		
) + K95H 9F-B;		@		)\$\$\$Gc h		
QadYBi aVf.	%	HdY	F	5fYU	)\$\$\$Gc h	D7= ,-
QadY7caaYlg						
(, @/ H7F		@		)('SS : h		
) + K95H 9F-B;		@		)\$\$\$Gc h		
QadYBi aVf.	%	HdY	F	5fYU	)\$\$\$Gc h	D7= ,(
QadY7caaYlg						
(, @/ H7F		@		%%SS : h		
) + K95H 9F-B;		@		)\$\$\$Gc h		
QadYBi aVf.	&	HdY	F	5fYU	)\$\$\$Gc h	D7= ,-
QadY7caaYlg						
(, @/ H7F		@		+ 'SS : h		
) + K95H 9F-B;		@		)\$\$\$Gc h		

BYkcf.	5I C		BlaY	5iVibIbjYglnFY]dU5]kbfh				
GfUW	H7S%		BlaY	HI]kUr7dbNMfS%5iVib	IgY	H5L-K5M	5fU	8Z(G: h
GM]ch	\$%		cZ %	: fca.	HI]kUr5		H: 5drb88	@G]7db]H *#488%
GfUW	57		: Ua]m	5@SCH57HI]kUg	NdbY		7U]cfm	FUb. G
5fU			8Z(G: h	@Y]h.	%& h	K]Ph.	, S: h	
GUg			GU@Y]h.	: h	GUVK]Ph.	: h	>ch@Y]h.	: h
Gci XE.			GfYWHdY		; fUX \$		@Ug \$	
GM]cb7caaYlg								
Kcf_8UY *#488%			Kcf_HdY Bk7db]V]b! :h]U			7cX BI!B		=AUcfA/ F. H]Y
@G]7db]H *#488%			HRU]adYg (			GfjYnX %		
7db]H]dg D7= %88								
-hgNM]cb7caaYlg								
GladyBiaVf. \$%			HdY	F	5fU	)8888G: h	D7= %88	
Glady7caaYlg								
OBc8]g]Yg								

BYkcf.	5I C		BLáY	5iVi fbi bj YglnFY]dU5]fcbh				
GfUW	H7S&		BLáY	HI]kúir7dbNMfS&5iVi fb I gY	H5L-K5M	5fU	%Z S&Gé h	
GM]ch	\$%	cZ %	: fca.	HI]kúis	H. 5drbS&		@g]7cbg]i *#4S%	
GfUW	57	: Uá]m	5@SCH57HI]kúig	NcbY	7U]cfm		FUb. G	
5fU	%Z S&Gé h	@Y]h.	%(: h	K]Ph.	+(: h			
GUg		GU@Y]h.	: h	GUVK]Ph.	: h	>cb]@Y]h.	: h	
Gci XE.		GfY]HcbY		; fUX \$		@Ug \$		
GM]cb7caa Ylg								
Kcf_8UY *#4S%		Kcf_HcbY Bk7cbg]Vcb! :h]U			7cX BI!B		=AUcfA/ F. H]Y	
@g]hgl'SUY *#4S%		HRUcláYg '		GfjYnX %				
7cb]hcg D7= %S								
-hg]M]cb7caa Ylg								
CládYBi aVf. \$%		HcbY	F	5fU	)SSSSGé h	D7= %S		
CládY7caa Ylg								
OBc8]g]Yg								

BYkcf.	5I C		BLáY	5iVifbI bj YglnFY]dU5]fcbh			
GfUW	H7&		BLáY	HI]kÚn7&5iVifb	I g	H5L-K5M	5fU
GM]ch	\$%		cZ %	: fca. FibkÚn%!" *		H. HI]kÚn7	@g]7cbg]l' *#4&9&
GfUW	57		: Úa]m	5@SCH57HI]kÚg	NcbY	7U]cfm	FUb. G
5fU		%\$, G& h	@Y[h.	' & : h	K]Ph.	) \$: h	
GUg			GUV@Y[h.	: h	GUVK]Ph.	: h	>cb]@Y[h. : h
Gci Xf.			GfYVHndY		; fUX \$		@Ug \$
GM]cb7caa Ylg							
Kcf_8UY	*#4&9&		Kcf_HndY	Bk7cbg]l' Vcb: h]U		7cX BI !-B	=gAUcfA/ F. HiY
@g]7cbg]l'8UY	%#4&9&		HRUcládyg	(		GfjYnX	'
7cb]l'cbg	D7= ,+						
hg]l'cb7caa Ylg							
GládYBi aVf.	\$%		HndY	F	5fU	*%\$G& h	D7= , \$
GládY7caa Ylg							
(,	@/ H7F		@		%'\$\$: h		
(,	@/ H7F		A		%\$'\$\$: h		
)+	K95H9F-B;		@		*%\$G& h		
GládYBi aVf.	\$&		HndY	F	5fU	) \$\$\$G& h	D7= -(
GládY7caa Ylg							
)+	K95H9F-B;		@		) \$\$\$G& h		
GládYBi aVf.	\$		HndY	F	5fU	'-(%\$G& h	D7= -\$
GládY7caa Ylg							
(,	@/ H7F		@		%'\$\$: h		
)+	K95H9F-B;		@		'-(%\$G& h		

BYkcf.	5I C	BláY		5iVifbI bj YglnFY]dU5]fcbh
GfUW	H7	BláY	HI]kÚn7 5iVifb	I gY H5L-K5M 5fYU &Z, \$Gé h
GW]ch	\$%	cZ %	: fca. FfbkÚn%!" *	H. HI]kÚn7 @g]7cbg]! *#889&
GfZUW	57	: Úa]m 5@SCH57HI]kÚg	NcbY	7UH]cfm FUb. G
5fYU	&Z, \$Gé h	@Y[h.	'*) : h K]Ph.	)\$ : h
GUg		GUV@Y[h.	: h GUVK]Ph.	: h >ch@Y[h. : h
Gci XE.		GfYWHndY	; fUX \$	@Uyg \$
GWN]cb7caa Ylg				
Kcf_8UY	*#889&	Kcf_HndY	G]7cbg]! 5[[fYUY	7cXY 65!5; =gAUcfA/ F. : Ugy
Kcf_8UY	*#889&	Kcf_HndY	Bk7cbg]Wcb! :h]U	7cXY BI !-B =gAUcfA/ F. HiY
@g]7cbg]!8UY %4#88%				
HBUcladYg) GfjYXK '				
7cb]cbg D7= ,*				
-bg]W]cb7caa Ylg				
GladYBi aVF.	\$&	HndY	F 5fYU	((9'\$\$Gé h D7= +,
GladY7caa Ylg				
(, @/ H7F		@	)'\$\$ : h	
(, @/ H7F		A	)\$\$ : h	
)+ K95H:9F-B;		@	((9'\$\$ Gé h	
GladYBi aVF.	\$	HndY	F 5fYU	)\$\$\$Gé h D7= - \$
GladY7caa Ylg				
(, @/ H7F		@	%'\$\$: h	
)+ K95H:9F-B;		@	)\$\$\$Gé h	
GladYBi aVF.	\$	HndY	F 5fYU	)' &'\$\$Gé h D7= ,-
GladY7caa Ylg				
(, @/ H7F		@	**'\$\$: h	
)+ K95H:9F-B;		@	)' &'\$\$ Gé h	

BYkcf.	5I C	BuAY	5iVifbIbjYglnFY]dU5]lcbh
GfUW	H 5B, %	BuAY	HI]kUia U]Uf\$%5iVifb I gY H5L-K5M 5fU %(\$- Gc h
GWfch	%	cZ %	: fca. 5dcb\$\$ H. H<U]Ug @U]7cbg' *##% *
GfUW	57	: Ua]m 5@SCH57HI]U]g	NcbY 7U]cfm FUb. H
5fU	%(Z- Gc h	@Y]h.	- \$\$: h K]h. &\$: h
GUg	GU@Y]h.	: h	GUVK]h. : h >cbh@Y]h. : h
Gci Xf.	GfYWHuY		; fUX \$ @U]g \$
GWfcb7caaYlg			
Kcf_8UY	%%\$	Kcf_HuY Bk7cbg]U]b']j]U	7cXV BI !-B =AUcfA/ F. HiY
Kcf_8UY	*##% *	Kcf_HuY Bk7cbg]U]b']j]U	7cXV BI !-B =AUcfA/ F. HiY
@U]hgl'8UY	%%\$	HUCladYg '(	GfjYhX +
7cb]U]cbg	D7= ' *		
-bg]U]cb7caaYlg			
QladYBi aVf.	\$	HuY F	5fU) \$\$\$Gc h D7= ('
QladY7caaYlg			
(' 6@C7? 7F		A	\$\$\$Gc h
(, @/ H7F		A	' \$\$\$: h
)& F5J9@B;		@	) \$\$\$Gc h
QladYBi aVf.	%&	HuY F	5fU) \$\$\$Gc h D7= %
QladY7caaYlg			
(% 5@@; 5HCF 7F		A	(\$\$\$ Gc h
(% 5@@; 5HCF 7F		<	) \$\$\$ Gc h
(, @/ H7F		A	' \$\$\$: h
QladYBi aVf.	%	HuY F	5fU) +% '\$\$Gc h D7= ',
QladY7caaYlg			
(% 5@@; 5HCF 7F		A	) \$\$\$ Gc h
(% 5@@; 5HCF 7F		<	' \$\$\$ Gc h
(, @/ H7F		A	)+' \$\$\$ : h
)\$ D5H<-B;		@	' \$\$\$ Gc h
QladYBi aVf.	&	HuY F	5fU (\$\$' \$\$\$Gc h D7= ' \$
QladY7caaYlg			
(% 5@@; 5HCF 7F		<	%' \$\$\$ Gc h
(, @/ H7F		A	%' \$\$\$: h
)\$ D5H<-B;		@	() \$\$\$ Gc h
)\$ D5H<-B;		<	%' \$\$\$ Gc h
QladYBi aVf.	&	HuY F	5fU)'-' '\$\$Gc h D7= \$\$
QladY7caaYlg			
(% 5@@; 5HCF 7F		A	(+ \$\$\$ Gc h
(% 5@@; 5HCF 7F		<	- \$\$\$ Gc h
(, @/ H7F		@	\$\$\$: h
(, @/ H7F		A	') \$\$\$: h
)\$ D5H<-B;		@	%('\$\$ Gc h
QladYBi aVf.	&	HuY F	5fU)) \$\$\$Gc h D7= *+
QladY7caaYlg			
(, @/ H7F		A	' \$\$\$: h
(, @/ H7F		<	%' \$\$\$: h
QladYBi aVf.	&	HuY F	5fU))' '\$\$Gc h D7= ')
QladY7caaYlg			
(% 5@@; 5HCF 7F		A	() '\$\$ Gc h
(% 5@@; 5HCF 7F		<	() '\$\$ Gc h
(, @/ H7F		A	\$\$\$: h
)& F5J9@B;		A	\$\$\$ Gc h

BYkcf.	5IC	BláY		5iVifbIbjYgImFY]dU5]fcbh
GfUW	H 5B; \$&	BláY	HI]kÚiá U]Uf\$85i Vfb	I g/ H5L-K5M 5fU %\$!\$ Gc h
GM]ch	\$%	cZ &	: fca. HI]kÚiá6	H. H<U]Ug @]g]7cb]h' *#488%
GfUW	57	: Uá]m 5@8CH57HI]U]g	NcbY	7U]U]cfm FUb. H
5fU	+%)\$Gc h	@]h.	89\$: h	K]h. ') : h
GUg		GUV@]h.	: h	GUVK]h. : h >]h@]h. : h
Gci Xf.		GfY]HndY	; fUX \$	@]g \$
GM]cb7caaYlg				
Kcf_SUY *#488%		Kcf_HndY Bk7cb]h' Vcb]h']]U		7cX BI!-B =gAUcfA/ F. HfY
@]g]h]g]SUY %\$!\$%		HRU]á]dYg %		GfjYnX)
7cb]h]g D7= -%				
=g]h]cb7caaYlg				
G]á]YBi aVf. \$&		HndY F	5fU	)&\$\$\$Gc h D7= -&
G]á]Y7caaYlg				
(, @/ H7F		@	)'\$\$ : h	
) + K95H 9F-B;		@	)&\$\$\$ Gc h	
G]á]YBi aVf. \$		HndY F	5fU	)&\$\$\$Gc h D7= ,+
G]á]Y7caaYlg				
(, @/ H7F		@	% '\$\$: h	
) + K95H 9F-B;		@	)&\$\$\$ Gc h	
G]á]YBi aVf. \$		HndY F	5fU	)&\$\$\$Gc h D7= ,-
G]á]Y7caaYlg				
(, @/ H7F		@	(8\$\$: h	
) + K95H 9F-B;		@	)&\$\$\$ Gc h	
G]á]YBi aVf. %\$		HndY F	5fU	)&\$\$\$Gc h D7= -\$
G]á]Y7caaYlg				
(, @/ H7F		@	% '\$\$: h	
) + K95H 9F-B;		@	)&\$\$\$ Gc h	
G]á]YBi aVf. %		HndY F	5fU	)&\$\$\$Gc h D7= -(
G]á]Y7caaYlg				
) + K95H 9F-B;		@	)&\$\$\$ Gc h	

BYkcf.	5IC		BláY	5iVifbIbjYg]mFY]dU5]fcbh			
GfUW	H5B; S&		BláY	HI]kUia U]f\$85i Vfb	I gY	H5L-K5M	5fU
GM]ch	S&	cZ &	: fca.	GM]cb\$%		H. GM]cb\$%	@G]7cbg]l *#488%
GfUW	57	: Ua]m	5@SCH57HI]U]g	NcbY		7U]cfm	FUb. H
5fU	'(z)* Gc h	@Y]h.	%26\$: h	K]Ph.		\$: h	
GU]g		GUV@Y]h.	: h	GUVK]Ph.		: h	>cb]h@Y]h. : h
Gci Xf.		GfY]HndY		; fUX \$		@U]g \$	
GM]cb7caaYlg							
Kcf_SUY *#488%		Kcf_HndY	Bk7cbg]mcb]h]U		7cXV BI!-B		=AUcfA/ F. HiY
@G]7cbg]l'SUY %4#88%		HRU]LadYg	+		GfjYmX (
7cb]h]g D7= -(
hg]m]cb7caaYlg							
G]adYBi aVf. \$%		HndY	F	5fU	)-' '\$\$ Gc h		D7= -(
G]adY7caaYlg							
(, @/ H7F		@		'-' '\$\$: h			
)& F5J9@B;		@		% '\$\$ Gc h			
G]adYBi aVf. S&		HndY	F	5fU	)& '\$\$\$ Gc h		D7= - &
G]adY7caaYlg							
(, @/ H7F		@		)) '\$\$ : h			
(- C@GD@5; 9		B		* '\$\$ Gc h			
)& F5J9@B;		@		(' '\$\$ Gc h			
G]adYBi aVf. \$		HndY	F	5fU	)-' '\$\$ Gc h		D7= -(
G]adY7caaYlg							
(, @/ H7F		@		* '\$\$: h			
)& F5J9@B;		@		% '\$\$ Gc h			
G]adYBi aVf. \$		HndY	F	5fU	(\$, '\$\$ Gc h		D7= -*
G]adY7caaYlg							
(, @/ H7F		@		& '\$\$: h			

BYkcf.	5I C	BláY	5iVi fbI bj Yg]mFY]dU5]lbfh
GfUW	H2%	BláY	HI]U6Y8%5iVi fb I gY H5L-K5M 5fU &Z\$ Gz h
GW]ch	\$%	cZ %	: fca. HI]kU6DUY7 H. 5drb\$% @g]7d]h' *#48\$%
GfUW	57	: Ua]m 5@SCH57HI]U6Yg	NbY 7U]cfm FUb. H
5fU	&Z\$ Gz h	@Y]h.	(& : h K]Ph.)\$: h
GUg		GUV@Y]h.	: h GUVK]Ph. : h >ch@Y]h. : h
Gci XE.		GfY]HndY	; fUX \$ @U]g \$
GW]cb7caa Ylg			
Kcf_SUY *#48\$%		Kcf_HndY Bk7d]g]Ucb' :h]U	7cX BI !:B =gAUcfA/ F. HiY
@g]h]g]SUY %4#8\$%		HRUcláYg (	GfjYmX '
7d]Y]d]g D7= +,			
hg]U]cb7caa Ylg			
GládYBi aVE. \$%	HndY	F	5fU +\$''\$\$Gz h D7= +(
GládY7caa Ylg			
(, @/ H7F	@		%\$\$: h
(, @/ H7F	A		%\$\$: h
) + K95H:9F-B;	@		+\$''\$\$ Gz h
GládYBi aVE. \$	HndY	F	5fU)\$\$\$Gz h D7= +,
GládY7caa Ylg			
(, @/ H7F	@		)%\$\$ : h
(, @/ H7F	A		+\$\$\$: h
) + K95H:9F-B;	@		)\$\$\$ Gz h
GládYBi aVE. \$	HndY	F	5fU *)%'\$\$Gz h D7= , &
GládY7caa Ylg			
(, @/ H7F	@		''\$\$: h
(, @/ H7F	A		)\$\$ : h
) + K95H:9F-B;	@		*)%'\$\$ Gz h

BV	kcf.	5I C	BlaY	5iVi fbI bj Yg	hFY]dU5]fcbh		
GfUW	HES&	BlaY	HI]UySS5iVi fb	I g	H5L-K5M	5fU	&S \$Geh
GM	ch	\$%	z %	: fca.	5dcb\$%	H. HI]kUdUUY7	@g]7cbg] #488%
GfUW	57	: Ua]m	5@SCH57HI]Uy	Ng	NbY	7U]cfm	Fb. H
5fU	&S \$Geh	@Y]h.	)\$ : h	K]h.	)\$ : h		
GU	g	GU@Y]h.	: h	GUVK]h.	: h	>ch@Y]h.	: h
Gd	Xf.	GfY]HdY	; fUX	\$		@bg	\$
GM	cb7caaYlg						
Kcf	SUY	*#488%	Kcf_HdY	Bk7cbg]Vcb: h]U	7cX	BI!B	=AUcfA/ F. HiY
@g]h	g]SUY	%#488%	HRU	ladYg *	Gfj	YhX '	
7cb	g]hg	D7= ,)					
hg	cb7caaYlg						
QadY	Bi aVf.	\$%	HdY	F	5fU	***.'SS Geh	D7= ,)
QadY	7caaYlg						
(,	@/ H7F		@	%,'SS : h			
)+	K95H9F-B;		@	***.'SS Geh			
QadY	Bi aVf.	\$	HdY	F	5fU	)SS\$S Geh	D7= ,*
QadY	7caaYlg						
(,	@/ H7F		@	%SSS : h			
)+	K95H9F-B;		@	)SS\$S Geh			
QadY	Bi aVf.	\$	HdY	F	5fU	)SS\$S Geh	D7= ,(
QadY	7caaYlg						
(,	@/ H7F		@	%('SS : h			
)+	K95H9F-B;		@	)SS\$S Geh			

BYkcf.	5I C	BláY		5iVifbI bj YglnFY]dU5]fcbh			
GfUW	HFK&	BláY	HI]kUnHfHfci bXFK' & 9bX I gY	H5L-K5M	5fU	(%\$ Gē h	
GfUW	557	: Uá]m 5@SCH57HI]kúg	NbY	7U]cfm		FUb. D	
5fU		(ž)(Gē h @Y[h.	%h K]h.	\$: h			
GUg		GU@Y[h.	: h GUVK]h.	: h		>clh@Y[h.	: h
Gci Xf.		GfYHhY	; fUY \$			@Ug \$	
GfUW	7caa Ylg						
Kcf_8UY	%#%\$	Kcf_HdY Bk 7cbg Vcb! :h]U		7cXY BI !-B		=gAUcfA/ F. HfY	
Kcf_8UY	*#48%	Kcf_HdY GYUá57H]b		7cXY C@5H		=gAUcfA/ F. HfY	
@g]hg]8UY	%#48%	HRUádyg	%	GfjYhX	%		
7cb]hg	D7= %\$						
-hg]hg	7caa Ylg						
QádYBia Vf.	%	HdY F	5fU	(-)'\$Gē h	D7= %\$		
QádY	7caa Ylg						
OBcS]gYg							

BYkcf.	5IC	BLAY	5iVfbIbjYglnFY]dU5]lbfh
GfUW	HFK&	BLAY	HI]kUnHfHfciBKF&9bX I gY H5L-K5M 5fU (%\$ Gc h
GfUW	57	:Ua]m 5@SCH57HI]kUg	NbY 7U]cfm FUb. D
5fU	'&&& Gc h	@Y[h.	*, :h K]h. ') :h
GUg	GU@Y[h.	:h	GVK]h. :h >]h@Y[h. :h
Gci Xf.	GfYHhY		; fUY \$ @Ug \$
GfUW	7caaYlg		
Kcf_8UY	%&&&\$\$	Kcf_HdY Bk7chgUcb! :h]U	7cXY BI !:B =gAUcfA/ F. HiY
Kcf_8UY	-.#&&&&	Kcf_HdY Bk7chgUcb! :h]U	7cXY BI !:B =gAUcfA/ F. HiY
@g]hg]8UY	%&#&&%	HUCladYg +	GfjYhX (
7cb]hdg	D7=)-		
hg]W]cb7caaYlg			
QladYBi aVf.	\$&	HdY F	5fU)&\$&&Gc h D7=),
QladY7caaYlg			
(,	@CB; H 8-B5@H5BGJ9FQ' @		)'\$\$ :h
(,	@CB; H 8-B5@H5BGJ9FQ' A		(, \$\$\$:h
)+	K95H 9F-B;	@	)&\$&& Gc h
QladYBi aVf.	\$	HdY F	5fU)&\$&&Gc h D7= *%
QladY7caaYlg			
(,	@/ H7F	@	+\$\$\$:h
(,	@/ H7F	A	', \$\$\$:h
)+	K95H 9F-B;	A	)&\$&& Gc h
QladYBi aVf.	\$	HdY F	5fU)&\$&&Gc h D7=)&
QladY7caaYlg			
(,	@/ H7F	@	%*\$\$\$:h
(,	@/ H7F	A	*\$'\$\$\$:h
)+	K95H 9F-B;	A	)&\$&& Gc h
QladYBi aVf.	\$	HdY F	5fU)\$\$\$Gc h D7= *(
QladY7caaYlg			
(,	@/ H7F	A	'*\$\$\$:h
)+	K95H 9F-B;	A	)\$\$\$Gc h

APPENDIX E
DISTRESS SUMMARY REPORT



**Appendix
Distress Summary Report
Auburn University Regional Airport (AUO)**

BarndID	SectionID	Surface¹	Area(sf)	Distress Number	Description	Distress Mechanism	Severity	Quantity	Quantity Units	Distress Density
A01	01	AC	315,037	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	2,483	Rt	08%
A01	01	AC	315,037	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	5,988	Rt	19%
A01	01	AC	315,037	4E	OILSPILAGE	Other	NA	1,221	SqR	04%
A01	01	AC	315,037	5E	RAVING	Climate/Durability	Low	7,213	SqR	23%
A01	01	AC	315,037	5I	WEATHERING	Climate/Durability	Low	307,821	SqR	977%
A02	01	AC	401,337	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	10,988	Rt	27%
A02	01	AC	401,337	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	27,404	Rt	68%
A02	01	AC	401,337	4E	OILSPILAGE	Other	NA	181	SqR	00%
A02	01	AC	401,337	5E	RAVING	Climate/Durability	Low	12,073	SqR	30%
A02	01	AC	401,337	5I	WEATHERING	Climate/Durability	Medium	389,263	SqR	970%
R112E	01	AAK	22,211					0		00%
R1129	02	AC	7,010	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	315	Rt	49%
R112E	0E	AC	7,011	5I	PAVING	Climate/Durability	Low	261	SqR	37%
R112E	0E	AC	7,011	5I	WEATHERING	Climate/Durability	Medium	7,011	SqR	1000%
R112E	0I	AAK	234,973					0		00%
R112E	0E	AAK	22,873					0		00%
R1836	01	AC	536,400	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	11,516	Rt	22%
R1836	01	AC	536,400	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	23,080	Rt	44%
R183E	01	AC	536,401	5I	PAVING	Climate/Durability	Low	1,293	SqR	02%
R183E	01	AC	536,401	5E	RAVING	Climate/Durability	Medium	323	SqR	01%
R183E	01	AC	536,401	5I	WEATHERING	Climate/Durability	Low	230,261	SqR	437%

**Appendix
Distress Summary Report
AbumUniversity Regional Airport (AUO)**

BarndID	SectionID	Surface¹	Area(sf)	Distress Number	Description	Distress Mechanism	Severity	Quantity	Quantity Units	Distress Density
RI83E	01	AC	52640	5	WEATHERING	Climate/Durability	Medium	29452	Sqft	560%
TA	01	AC	9449	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	365	Rt	39%
TA	01	AC	9449	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	108	Rt	01%
TA	01	AC	944E	5C	PAVING	Climate/Durability	Low	8	Sqft	01%
TA	01	AC	944E	5	WEATHERING	Climate/Durability	Medium	944E	Sqft	999%
TA	0E	AC	10276							00%
TA	0E	AC	2963E	4E	BLOCKCRACKING	Climate/Durability	Medium	374E	Sqft	126%
TA	0B	AC	2963B	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	107	Rt	04%
TA	0B	AC	2963B	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	3129	Rt	106%
TA	0E	AC	2963E	5	WEATHERING	Climate/Durability	Medium	2963E	Sqft	1000%
TA1	01	AC	2562E							00%
TA2	01	AC	2556E							00%
TA3	01	AC	21,216	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	748	Rt	35%
TA3	01	AC	21,216	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	308	Rt	14%
TAE	01	AC	21,21E	4E	OILSPILLAGE	Other	NA	7	Sqft	00%
TAE	01	AC	21,21E	5	WEATHERING	Climate/Durability	Medium	21,21E	Sqft	1000%
TB	01	AC	71,210	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	676	Rt	10%
TE	01	AC	71,21E	5	WEATHERING	Climate/Durability	Low	71,21E	Sqft	1000%
TE	0E	AC	64E							00%
TC	01	AC	124,170	4B	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	2545	Rt	21%

**Appendix
Distress Summary Report
AbumUniversity Regional Airport (AUO)**

BarchID	SectionID	Surface¹	Area(sf)	Distress Number	Description	Distress Mechanism	Severity	Quantity	Quantity Units	Distress Density
TC	01	AC	124,170	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	207	Rt	02%
K	01	AC	124,17	51	PAVING	Climate/Durability	Low	4,13	Sqft	33%
K	01	AC	124,17	51	WEATHERING	Climate/Durability	Low	120,08	Sqft	967%
TC	02	AC	127,987	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	3076	Rt	24%
K	02	AC	127,98	51	WEATHERING	Climate/Durability	Low	127,98	Sqft	1000%
K	02	AC	5,53							00%
TC01	01	AC	21,26							00%
TC02	01	AC	16,60							00%
TC2	01	AC	19,088	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	39	Rt	02%
TC2	01	AC	19,088	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	133	Rt	07%
TC2	01	AC	19,08	51	WEATHERING	Climate/Durability	Low	19,08	Sqft	1000%
TC3	01	AC	24,480	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	226	Rt	09%
TC3	01	AC	24,480	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	83	Rt	03%
TC3	01	AC	24,48	51	WEATHERING	Climate/Durability	Low	24,48	Sqft	1000%
THANG01	01	AC	164,08	41	ALLIGATOR CRACKING	Load	Hgh	396	Sqft	24%
THANG01	01	AC	164,08	41	ALLIGATOR CRACKING	Load	Medium	463	Sqft	28%
THANG01	01	AC	164,08	41	BLOCK CRACKING	Climate/Durability	Medium	576	Sqft	35%
THANG01	01	AC	164,089	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Hgh	72	Rt	00%
THANG01	01	AC	164,089	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	480	Rt	03%

**Appendix
Distress Summary Report
AbumUniversity Regional Airport (AUO)**

BarchID	SectionID	Surface¹	Area(sf)	Distress Number	Description	Distress Mechanism	Severity	Quantity	Quantity Units	Distress Density
THANG01	01	AC	16408	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	11,236	Rt	68%
THANG01	01	AC	16408	51	PAVING	Climate/Durability	Hgt	72	SqFt	04%
THANG01	01	AC	16408	51	PAVING	Climate/Durability	Low	4,581	SqFt	28%
THANG01	01	AC	16408	52	RAVING	Climate/Durability	Low	2400	SqFt	146%
THANG01	01	AC	16408	52	RAVING	Climate/Durability	Medium	9	SqFt	01%
THANG02	01	AC	71,750	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	465	Rt	06%
THANG02	01	AC	71,750	51	WEATHERING	Climate/Durability	Low	71,750	SqFt	1000%
THANG02	02	AC	34,756	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	289	Rt	08%
THANG02	02	AC	34,756	49	OIL SPILAGE	Other	N/A	1	SqFt	00%
THANG02	02	AC	34,756	52	RAVING	Climate/Durability	Low	4	SqFt	01%
T101	01	AC	23,609	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	310	Rt	1.3%
T101	01	AC	23,609	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	330	Rt	1.4%
T101	01	AC	23,609	51	WEATHERING	Climate/Durability	Low	23,609	SqFt	1000%
T102	01	AC	29,080	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	862	Rt	30%
T102	01	AC	29,080	51	WEATHERING	Climate/Durability	Low	29,080	SqFt	1000%
T1RW2E	01	AAK	4,954							00%
T1RW29	02	AC	32,204	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Low	421	Rt	1.3%
T1RW29	02	AC	32,204	48	LONGITUDINAL/TRANSVERSE CRACKING	Climate/Durability	Medium	2,832	Rt	88%
T1RW2E	02	AC	32,204	51	WEATHERING	Climate/Durability	Low	814	SqFt	253%
T1RW2E	02	AC	32,204	51	WEATHERING	Climate/Durability	Medium	2405	SqFt	747%

**Appendix
Distress Summary Report
Auburn University Regional Airport (AUO)**

BarndID	SectionID	Surface¹	Area(sf)	Distress Number	Description	Distress Mechanism	Severity	Quantity	Quantity Units	Distress Density
TIRW2E	OE	AC	4651						C	00%

¹ AC= Asphalt Cement Concrete, AAC= Asphalt Overlay AC, FCC= Portland Cement Concrete, AFC= Asphalt Overlay FCC

APPENDIX F

PAVEMENT CONDITION REPORTS

F1: Section Forecasted Pavement Condition Rating

F2: Branch PCI Rating

F3: Branch FOD Rating



Appendix F1
Forecasted Section PCI
Auburn University Regional Airport (AUO)

Branch ID	Section ID	Forecasted PCI						
		2021	2022	2023	2024	2025	2026	2027
A01	01	73	71	69	67	65	62	60
A02	01	58	56	54	52	50	47	45
R1129	01	98	97	96	95	94	92	89
R1129	02	55	51	47	43	38	34	30
R1129	03	55	51	47	43	38	34	30
R1129	04	98	97	96	95	94	92	89
R1129	05	98	97	96	95	94	92	89
R1836	01	54	50	45	41	37	33	28
TA	01	69	65	61	56	51	47	45
TA	02	99	98	96	94	92	89	86
TA	03	45	43	39	36	32	29	25
TA1	01	99	98	96	94	92	89	86
TA2	01	99	98	96	94	92	89	86
TA3	01	69	65	61	56	51	47	45
TB	01	86	83	81	79	77	75	73
TB	02	99	98	96	94	92	89	86
TC	01	80	78	76	73	71	68	64
TC	02	83	81	79	77	75	73	70
TC	03	99	98	96	94	92	89	86
TC01	01	99	98	96	94	92	89	86
TC02	01	99	98	96	94	92	89	86
TC2	01	84	82	80	78	76	73	71
TC3	01	83	81	79	77	75	73	70
THANG01	01	32	28	25	21	18	14	11
THANG02	01	88	85	83	81	79	77	75
THANG02	02	91	89	86	83	81	79	77
TL01	01	76	74	71	68	64	60	55
TL02	01	82	80	78	76	74	72	69
TTRW29	01	99	98	96	94	92	89	86
TTRW29	02	53	49	46	43	40	36	33
TTRW29	03	99	98	96	94	92	89	86

Pavement Database: ALDOT_210119

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
A01	1	800.00	355.00	315,037.00	APRON	76.00	0.00	76.00
A02	1	1,500.00	285.00	401,337.00	APRON	61.00	0.00	61.00
R1129	5	3,896.00	77.00	296,084.00	RUNWAY	93.00	14.00	99.17
R1836	1	5,264.00	100.00	526,400.00	RUNWAY	62.00	0.00	62.00
TA	3	5,639.00	41.67	226,889.00	TAXIWAY	73.67	20.85	81.68
TA1	1	331.00	45.00	25,629.00	TAXIWAY	100.00	0.00	100.00
TA2	1	178.00	40.00	25,560.00	TAXIWAY	100.00	0.00	100.00
TA3	1	331.00	35.00	21,216.00	TAXIWAY	72.00	0.00	72.00
TB	2	1,415.00	92.50	77,630.00	TAXIWAY	94.50	5.50	89.91
TC	3	5,075.00	77.33	257,692.00	TAXIWAY	89.33	7.72	84.37
TC01	1	152.00	80.00	21,264.00	TAXIWAY	100.00	0.00	100.00
TC02	1	144.00	74.00	16,602.00	TAXIWAY	100.00	0.00	100.00
TC2	1	325.00	50.00	19,088.00	TAXIWAY	87.00	0.00	87.00
TC3	1	365.00	50.00	24,480.00	TAXIWAY	86.00	0.00	86.00
THANG01	1	900.00	250.00	164,069.00	TAXIWAY	36.00	0.00	36.00
THANG02	2	3,150.00	30.00	106,506.00	TAXIWAY	92.50	1.50	91.98
TL01	1	425.00	50.00	23,609.00	TAXIWAY	78.00	0.00	78.00
TL02	1	550.00	50.00	29,090.00	TAXIWAY	85.00	0.00	85.00
TTRW29	3	1,006.00	32.00	41,809.00	TAXIWAY	86.33	19.33	68.42

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Branch Condition Report

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Pavement Database: ALDOT_210119

Use Category	Number of Sections	Total Area (SqFt)	Arithmetic Average PCI	Average STD PCI	Weighted Average PCI
APRON	2	716,374.00	68.50	7.50	67.60
RUNWAY	6	822,484.00	87.83	17.23	75.38
TAXIWAY	23	1,081,133.00	85.48	17.36	78.00
ALL	31	2,619,991.00	84.84	17.43	74.33

Pavement Database: ALDOT_210119

Branch ID	Number of Sections	Sum Section Length (Ft)	Avg Section Width (Ft)	True Area (SqFt)	Use	Average FOD Index	Standard Deviation FOD Index	Weighted Average FOD Index
A01	1	800.00	355.00	315,037.00	APRON	24.00	0.00	24.00
A02	1	1,500.00	285.00	401,337.00	APRON	39.00	0.00	39.00
R1129	5	3,896.00	77.00	296,084.00	RUNWAY	7.00	14.00	0.83
R1836	1	5,264.00	100.00	526,400.00	RUNWAY	38.00	0.00	38.00
TA	3	5,639.00	41.67	226,889.00	TAXIWAY	26.33	20.85	18.32
TA1	1	331.00	45.00	25,629.00	TAXIWAY	0.00	0.00	0.00
TA2	1	178.00	40.00	25,560.00	TAXIWAY	0.00	0.00	0.00
TA3	1	331.00	35.00	21,216.00	TAXIWAY	28.00	0.00	28.00
TB	2	1,415.00	92.50	77,630.00	TAXIWAY	5.50	5.50	10.09
TC	3	5,075.00	77.33	257,692.00	TAXIWAY	10.67	7.72	15.63
TC01	1	152.00	80.00	21,264.00	TAXIWAY	0.00	0.00	0.00
TC02	1	144.00	74.00	16,602.00	TAXIWAY	0.00	0.00	0.00
TC2	1	325.00	50.00	19,088.00	TAXIWAY	13.00	0.00	13.00
TC3	1	365.00	50.00	24,480.00	TAXIWAY	14.00	0.00	14.00
THANG01	1	900.00	250.00	164,069.00	TAXIWAY	51.00	0.00	51.00
THANG02	2	3,150.00	30.00	106,506.00	TAXIWAY	7.50	1.50	8.02
TL01	1	425.00	50.00	23,609.00	TAXIWAY	22.00	0.00	22.00
TL02	1	550.00	50.00	29,090.00	TAXIWAY	15.00	0.00	15.00
TTRW29	3	1,006.00	32.00	41,809.00	TAXIWAY	13.67	19.33	31.58

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Branch Condition Report

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Pavement Database: ALDOT_210119

Use Category	Number of Sections	Total Area (SqFt)	Arithmetic Average FOD	Average STD FOD Index	Weighted Average FOD In
APRON	2	716,374.00	31.50	7.50	32.40
RUNWAY	6	822,484.00	12.17	17.23	24.62
TAXIWAY	23	1,081,133.00	13.96	15.88	20.03
ALL	31	2,619,991.00	14.74	16.37	24.85

APPENDIX G

SAFETY AND PREVENTIVE MAINTENANCE POLICIES



Appendix G1
Localized Safety (Stopgap) Repair Policy

Distress	Distress Severity	Description	Code	Work Type	Work Unit
41	High	ALLIGATOR CR	PA-FD	Patching - AC Full-Depth	SqFt
43	High	BLOCK CR	CS-AC	Crack Sealing - AC	Ft
45	High	DEPRESSION	PA-FD	Patching - AC Full-Depth	SqFt
47	High	JT REF. CR	CS-AC	Crack Sealing - AC	Ft
48	High	L & T CR	CS-AC	Crack Sealing - AC	Ft
50	High	PATCHING	PA-FD	Patching - AC Full-Depth	SqFt
53	High	RUTTING	PA-FD	Patching - AC Full-Depth	SqFt
54	High	SHOVING	PA-PD	Patching - AC Partial-Depth	SqFt
55	NA	SLIPPAGE CR	PA-PD	Patching - AC Partial-Depth	SqFt
56	High	SWELLING	PA-FD	Patching - AC Full-Depth	SqFt
61	High	BLOW-UP	SL-PC	Slab Replacement - PCC	SqFt
61	Medium	BLOW-UP	PA-PF	Patching - PCC Full Depth	SqFt
62	High	CORNER BREAK	PA-PF	Patching - PCC Full Depth	SqFt
63	High	LINEAR CR	PA-PF	Patching - PCC Full Depth	SqFt
63	Medium	LINEAR CR	CS-PC	Crack Sealing - PCC	Ft
64	High	DURABIL. CR	SL-PC	Slab Replacement - PCC	SqFt
64	Medium	DURABIL. CR	PA-PF	Patching - PCC Full Depth	SqFt
66	High	SMALL PATCH	PA-PP	Patching - PCC Partial Depth	SqFt
67	High	LARGE PATCH	PA-PF	Patching - PCC Full Depth	SqFt
70	High	SCALING	SL-PC	Slab Replacement - PCC	SqFt
71	High	FAULTING	GR-PP	Grinding (Localized)	Ft
72	High	SHAT. SLAB	SL-PC	Slab Replacement - PCC	SqFt
74	High	JOINT SPALL	PA-PP	Patching - PCC Partial Depth	SqFt
75	High	CORNER SPALL	PA-PP	Patching - PCC Partial Depth	SqFt
76	High	ASR	SL-PC	Slab Replacement - PCC	SqFt

**Appendix G2
Localized Preventive Repair Policy**

Distress	Distress Severity	Description	Code	Work Type	Work Unit
41	Medium	ALLIGATOR CR	PA-AD	Patching - AC Full-Depth	SqFt
41	High	ALLIGATOR CR	PA-AD	Patching - AC Full-Depth	SqFt
42	N/A	BLEEDING	PA-AS	Patching - AC Partial-Depth	SqFt
43	High	BLOCK CR	PA-AD	Patching - AC Full-Depth	SqFt
43	Medium	BLOCK CR	CS-AC	Crack Sealing - AC	Ft
44	Low	CORRUGATION	PA-AS	Patching - AC Partial-Depth	SqFt
44	High	CORRUGATION	PA-AS	Patching - AC Partial-Depth	SqFt
44	Medium	CORRUGATION	PA-AS	Patching - AC Partial-Depth	SqFt
45	Medium	DEPRESSION	PA-AD	Patching - AC Full-Depth	SqFt
45	Low	DEPRESSION	PA-AD	Patching - AC Full-Depth	SqFt
45	High	DEPRESSION	PA-AD	Patching - AC Full-Depth	SqFt
47	High	JT REF. CR	CS-AC	Crack Sealing - AC	Ft
47	Medium	JT REF. CR	CS-AC	Crack Sealing - AC	Ft
48	High	L & T CR	CS-AC	Crack Sealing - AC	Ft
48	Medium	L & T CR	CS-AC	Crack Sealing - AC	Ft
49	N/A	OIL SPILLAGE	PA-AD	Patching - AC Full-Depth	SqFt
50	High	PATCHING	PA-AD	Patching - AC Full-Depth	SqFt
50	Medium	PATCHING	PA-AD	Patching - AC Full-Depth	SqFt
52	High	RAVELING	PA-AS	Patching - AC Partial-Depth	SqFt
53	High	RUTTING	PA-AD	Patching - AC Full-Depth	SqFt
53	Low	RUTTING	PA-AD	Patching - AC Full-Depth	SqFt
53	Medium	RUTTING	PA-AD	Patching - AC Full-Depth	SqFt
55	N/A	SLIPPAGE CR	PA-AD	Patching - AC Full-Depth	SqFt
56	Low	SWELLING	PA-AD	Patching - AC Full-Depth	SqFt
56	Medium	SWELLING	PA-AD	Patching - AC Full-Depth	SqFt
61	Low	BLOW-UP	PA-PF	Patching - PCC Full Depth	SqFt
61	Medium	BLOW-UP	PA-PF	Patching - PCC Full Depth	SqFt
61	High	BLOW-UP	PA-PF	Patching - PCC Full Depth	SqFt
62	Medium	CORNER BREAK	PA-PF	Patching - PCC Full Depth	SqFt
62	High	CORNER BREAK	PA-PF	Patching - PCC Full Depth	SqFt
62	Low	CORNER BREAK	CS-PC	Crack Sealing - PCC	Ft
63	Medium	LINEAR CR	CS-PC	Crack Sealing - PCC	Ft
63	High	LINEAR CR	PA-PP	Patching - PCC Partial Depth	SqFt
64	Medium	DURABIL. CR	PA-PF	Patching - PCC Full Depth	SqFt
64	High	DURABIL. CR	SL-PC	Slab Replacement - PCC	SqFt
65	High	JT SEAL DMG	JS-LC	Joint Seal (Localized)	Ft
65	Medium	JT SEAL DMG	JS-LC	Joint Seal (Localized)	Ft
66	High	SMALL PATCH	PA-PP	Patching - PCC Partial Depth	SqFt
66	Medium	SMALL PATCH	PA-PP	Patching - PCC Partial Depth	SqFt
67	Medium	LARGE PATCH	PA-PF	Patching - PCC Full Depth	SqFt

Appendix G2
Localized Preventive Repair Policy

Distress	Distress Severity	Description	Code	Work Type	Work Unit
67	High	LARGE PATCH	PA-PF	Patching - PCC Full Depth	SqFt
69	N/A	PUMPING	JS-LC	Joint Seal (Localized)	Ft
70	Medium	SCALING	PA-PP	Patching - PCC Partial Depth	SqFt
70	High	SCALING	SL-PC	Slab Replacement - PCC	SqFt
71	High	FAULTING	GR-PP	Grinding (Localized)	Ft
71	Medium	FAULTING	GR-PP	Grinding (Localized)	Ft
72	Medium	SHAT. SLAB	SL-PC	Slab Replacement - PCC	SqFt
72	High	SHAT. SLAB	SL-PC	Slab Replacement - PCC	SqFt
74	High	JOINT SPALL	PA-PP	Patching - PCC Partial Depth	SqFt
74	Medium	JOINT SPALL	PA-PP	Patching - PCC Partial Depth	SqFt
75	Medium	CORNER SPALL	PA-PP	Patching - PCC Partial Depth	SqFt
75	High	CORNER SPALL	PA-PP	Patching - PCC Partial Depth	SqFt
76	Medium	ASR	SL-PC	Slab Replacement - PCC	SqFt
76	High	ASR	SL-PC	Slab Replacement - PCC	SqFt

APPENDIX H

M&R UNIT COSTS

H1: M&R Unit Costs

H2: Component Costs for Repair

H3: Airport Category

Maintenance and Repair (M&R) Unit Costs

The M&R costs developed for the ALDOT PMP include costs for maintenance, preservation, and repair activities and are described below.

Unit Costs Source Data

The source for the M&R costs data is RSMMeans, which has data for 14 locations throughout Alabama, as identified by the yellow highlighted boxes in Figure 1. The cost data is presented in terms of individual line items like asphalt wearing course, aggregate base etc., which were consolidated to develop the activity costs described below.

The cost data show a distinct difference in costs between locations north and south of Birmingham, especially for the higher value items like the asphalt layers. Therefore, the unit costs were developed accordingly for the airports north and south of Birmingham, as identified in Figure 1. Appendix H2 presents the component costs used in developing the M&R costs.

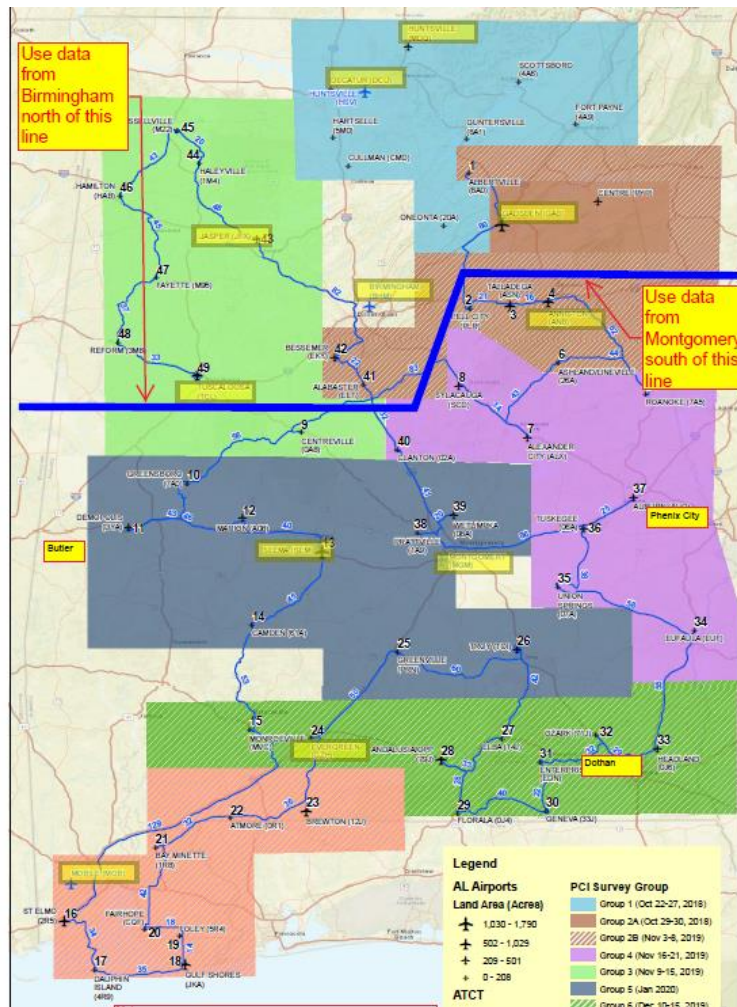


Figure 1: RSMMeans Unit Costs Locations.

Maintenance & Repair (M&R) Activities

Maintenance activities are localized activities which are typically assigned in the first year of the M&R plan based on the observed distresses.

Repair activities are further subdivided into preservation, rehabilitation, and reconstruction. Repair activities are conducted for larger areas, typically at the section level and are assigned based on the Critical Pavement Condition Index, denoted as CP in Table 1. The CP is based on the section’s rank or importance within the overall network and typically ranges from 55 to 70. The CP was set at 70 for the ALDOT runway pavements and 65 for the other pavements.

Table 1: Repair Activities.

Activity Type	PCI	Activity
Preservation	> CP	Runway Surface Treatment
		Taxiway and Apron Surface Treatment
Rehabilitation	> CP	2" AC OL ¹
	55 - CP	Mill 2" & 2" AC OL
	45 - 55	Mill 2" & 2" AC OLP (With Pre-Overlay Repairs)
Reconstruction	0 - 45	Reconstruct with AC

¹For Sections with Structural Distress and PCI greater than Critical PCI

The depths for the milling and overlay (AC OL) in Table 1 were established by creating a balance between removal of surficial distress and providing additional pavement structural capacity. All overlay options include full-depth patching to repair localized distresses.

From the FAA 5010 records, the Alabama airport network includes a wide range of allowable aircraft loads. The airports were divided into three categories of allowable aircraft loads based on requirements for minimum pavement thickness and the use of a P-401 surface layer. The categories are based on the aircraft maximum gross takeoff weight (MGTOW) and include: less than 12,500 lbs, 12,500 to 30,000 lbs, and 30,000 to 100,000 lbs. Appendix H3 presents the category for each airport.

For any sections requiring reconstruction, the pavement sections were established primarily in accordance with the requirements in Table 3 of the FAA’s Advisory Circular 150/5320-6F. The pavement sections used for developing the cost estimates are:

≤ 12,500 lbs	4" P-403 (State HMA Mix) + 6" P-209 Base
12,500 – 30,000 lbs	4" P-403 (State HMA Mix) + 8" P-209 Base
30,000 – 100,000 lbs	5" P-401 + 10" P-209 Base

It is important to note that while the FAA requires a stabilized base for those pavements that support aircraft operations with MGTOWs that are greater than 100,000 lbs, the number of such operations is minimal for those airports shown in Appendix H3. As a result, the cost of a stabilized base is excluded in the development of the unit costs for ALDOT’s PMP update. However, based on the Engineer’s future design and aircraft fleet mix development, project-level construction work could include the use of a stabilized base at that time.

M&R Unit Costs

Paving projects typically include additional project costs like mobilization, design, construction administration and inspections, and drainage improvements. A summary of non-direct pavement construction line items has been included in the unit costs in Tables 5 and 6 as described below. These non-direct items are expressed as a percentage of the total component costs for each activity.

These non-direct pavement construction items were developed from API’s extensive experience with APMP project cost estimation. These percentages may vary for Alabama airport construction projects; however, since the direct pavement scope of work is estimated in a network-level evaluation, these conservative estimates serve as a good starting point for the development of realistic total project costs and annual APMP budgets for ALDOT. For repair activities such as Mill & Overlay, which typically do not include significant drainage work, the corresponding multiplier was reduced by 50 percent. The non-direct cost factors are presented in Table 2.

Table 2: Cost Factors.

Factor	Function of	Estimate		
		Preservation	Rehabilitation	Reconstruction
Mobilization	All costs, less design	10%	10%	10%
Drainage Improvements	Paving costs	-	4%	8%
Contingency	All costs, less mobilization and design	10%	20%	20%
Design & CM	All costs, less mobilization and design	15%	20%	20%

The M&R unit costs for maintenance, preservation, and repair activities were developed from the RSMMeans cost data and are presented in the following section.

Maintenance

The maintenance activities include crack seal, and full and partial-depth patching. The unit costs are presented in Table 3.

Table 3: Unit Costs for Maintenance.

Activity	Unit Cost	Unit
Seal Cracks - AC	\$3.95	lf
AC Full-Depth Patching	\$25.05	sf
AC Partial-Dept Patching	\$16.28	sf
Seal Cracks – PCC	\$8.35	lf
PCC Full-Depth Patching	\$48.70	sf
PCC Partial-Depth Patching	\$243.51	sf
Jt. Seal	\$11.13	lf
Slab Replacement	\$27.83	sf
Grinding	\$6.96	lf

Preservation

The unit costs for the surface treatments are presented in Table 4. They include sealing of cracks and application of pavement markings.

Table 4: Unit Costs for Preservation Activities.

Activity	Unit Cost	Unit
Runway Surface Treatment	\$0.57	sf
Taxiway and Apron Surface Treatment	\$0.88	sf

Rehabilitation and Reconstruction

As discussed previously, repair activities are also divided into rehabilitation and reconstruction. The unit costs for airport repair for the Northern Region (Birmingham Area) and Southern Region (Montgomery Area) are shown in Tables 5 and 6, respectively.

Table 5: Unit Costs for Repair Activities, Northern Region.

Activity Type	Activity	MGTOW, thousand lbs		
		≤ 12.5	12.5-30	30-100
Rehabilitation	2" AC OL	\$3.78		\$4.19
	Mill 2" & 2" AC OL	\$4.15		\$4.56
	Mill 2" & 2" AC OLP	\$5.18		\$5.79
Reconstruction	AC Reconstruction	\$8.40	\$9.10	\$10.91

Table 6: Unit Costs for Repair Activities, Southern Region.

Activity Type	Activity	MGTOW, thousand lbs		
		≤ 12.5	12.5-30	30-100
Rehabilitation	2" AC OL	\$3.54		\$3.91
	Mill 2" & 2" AC OL	\$3.90		\$4.27
	Mill 2" & 2" AC OLP	\$4.82		\$5.37
Reconstruction	AC Reconstruction	\$7.63	\$8.25	\$9.87

Appendix H2
Component Costs for Repair

Activity Type	Unit	Birmingham (Northern)	Montgomery (Southern)	Comments
Milling 1" to 3"	SY	\$2.08	\$2.01	
Pavement Demolition	SY	\$6.34	\$6.12	
Haulage - For Demolition & AC	CY	\$6.08	\$5.87	
Haulage for 12" Thick Demolition	SY	\$2.03	\$1.96	
Haulage for 2" Thick AC Paving	SY	\$0.34	\$0.33	
Haulage for 3" Thick AC Paving	SY	\$0.51	\$0.49	
Haulage for 4" Thick AC Paving	SY	\$0.68	\$0.65	
AC Wearing Course	Ton	\$97.42	\$86.90	
AC Binder Course	Ton	\$87.80	\$78.17	
P401 - For airports with >60 kip aircraft	Ton	\$116.90	\$104.28	Assumed P401 cost to be 20% greater than AC Wearing Course
6" Aggregate Base (P208)	SY	\$10.17	\$9.12	
8" Aggregate Base (P208)	SY	\$13.29	\$11.89	
6" P209 Aggregate Base	SY	\$12.20	\$10.94	Assumed P209 cost to be 20% greater than P208
8" P209 Aggregate Base	SY	\$15.95	\$14.27	Assumed P209 cost to be 20% greater than P208
10" P209 Aggregate Base	SY	\$19.94	\$17.84	Direct multiplier for 10" from 8"
4" P154 Aggregate Base	SY	\$5.42	\$4.86	Assumed P154 cost to be 20% lower than P208
6" P154 Aggregate Base	SY	\$8.14	\$7.30	Assumed P154 cost to be 20% lower than P208
Pavement Markings	sf	\$1.48	\$1.39	

**Appendix H3
Airport Category**

Region	City	FAA ID	Max Gross Weight (Thousand lbs)			Max GW	Category
			S	D	2D		
Birmingham	Reform	3M8	12.5	-	-	12.5	<= 12,500
	Fayette	M95	15.0	-	-	15.0	12,500-30,000
	Hamilton	HAB	15.0	-	-	15.0	12,500-30,000
	Scottsboro	4A6	15.0	-	-	15.0	12,500-30,000
	Alabaster	EET	16.0	-	-	16.0	12,500-30,000
	Centre-Piedmont	PYP	16.0	-	-	16.0	12,500-30,000
	Fort Payne	4A9	16.0	-	-	16.0	12,500-30,000
	Haleyville	1M4	20.0	-	-	20.0	12,500-30,000
	Hartselle	5M0	20.0	-	-	20.0	12,500-30,000
	Guntersville	8A1	24.0	-	-	24.0	12,500-30,000
	Cullman	CMD	30.0	-	-	30.0	12,500-30,000
	Russellville	M22	30.0	-	-	30.0	12,500-30,000
	Jasper	JFX	50.0	-	-	50.0	> 30,000
	Oneonta	20A	20.0	35.0	55.0	55.0	> 30,000
	Bessemer	EKY	60.0	60.0	-	60.0	> 30,000
	Albertville	8A0	60.0	90.0	130.0	130.0	> 30,000
	Madison	MDQ	60.0	75.0	140.0	140.0	> 30,000
	Decatur	DCU	75.0	125.0	150.0	150.0	> 30,000
	Tuscaloosa	TCL	61.0	87.0	168.0	168.0	> 30,000
	Gadsden	GAD	90.0	115.0	195.0	195.0	> 30,000
Montgomery	Florala	0J4	-	-	-	-	<= 12,500
	Elba	14J	4.0	-	-	4.0	<= 12,500
	Headland	0J6	12.0	-	-	12.0	<= 12,500
	Roanoke	7A5	12.0	-	-	12.0	<= 12,500
	Greenville	PRN	15.0	-	-	15.0	12,500-30,000
	Union Springs	07A	15.0	-	-	15.0	12,500-30,000
	Wetumpka	08A	15.0	-	-	15.0	12,500-30,000
	Atmore	0R1	16.0	-	-	16.0	12,500-30,000
	Clanton	02A	16.0	-	-	16.0	12,500-30,000
	Eufaula	EUF	16.0	-	-	16.0	12,500-30,000
	Geneva	33J	16.0	-	-	16.0	12,500-30,000
	Greensboro	7A0	16.0	-	-	16.0	12,500-30,000
	Centreville	0A8	18.0	-	-	18.0	12,500-30,000
	Ashland-Lineville	26A	20.0	-	-	20.0	12,500-30,000
	Sylacauga	SCD	20.0	-	-	20.0	12,500-30,000
	St. Elmo	2R5	23.0	-	-	23.0	12,500-30,000
	Ozark	71J	-	25.0	-	25.0	12,500-30,000
	Camden	61A	27.0	-	-	27.0	12,500-30,000
	Bay Minette	1R8	28.0	-	-	28.0	12,500-30,000
	Foley	5R4	28.0	-	-	28.0	12,500-30,000
Tuskegee	06A	28.5	-	-	28.5	12,500-30,000	

**Appendix H3
Airport Category**

Region	City	FAA ID	Max Gross Weight (Thousand lbs)			Max GW	Category
			S	D	2D		
Montgomery	Alexander City	ALX	30.0	-	-	30.0	12,500-30,000
	Dauphin Island	4R9	30.0	-	-	30.0	12,500-30,000
	Pell City	PLR	30.0	-	-	30.0	12,500-30,000
	Prattville	1A9	30.0	-	-	30.0	12,500-30,000
	Enterprise	EDN	-	-	-	-	> 30,000
	Evergreen	GZH	30.0	50.0	-	50.0	> 30,000
	Marion	A08	30.0	50.0	-	50.0	> 30,000
	Selma	SEM	33.0	54.0	-	54.0	> 30,000
	Fairhope	CQF	36.0	58.0	-	58.0	> 30,000
	Brewton	12J	40.0	60.0	-	60.0	> 30,000
	Demopolis	DYA	30.0	38.0	60.0	60.0	> 30,000
	Monroeville	MVC	70.0	-	-	70.0	> 30,000
	Auburn-Opelika	AUO	45.0	75.0	-	75.0	> 30,000
	Talladega	ASN	30.0	65.0	95.0	95.0	> 30,000
	Gulf Shores	JKA	80.0	100.0	-	100.0	> 30,000
	Troy	TOI	24.0	80.0	140.0	140.0	> 30,000
	Anniston	ANB	28.0	43.5	260.0	260.0	> 30,000
Andalusia-OPP	79J	98.0	160.0	275.0	275.0	> 30,000	

APPENDIX I

PAVEMENT CAPITAL IMPROVEMENT PROGRAM

I1: PCIP Summary

I2: Year 1 Maintenance Plan



Appendix I1
PCIP Summary
Auburn University Regional Airport (AUO)

Branch & Section	2021	2022	2023	2024	2025	2026	2027
A01-01	Preventive \$8587.2 Before:72.66 After:72.66	Preventive \$9511.04 Before:70.45	Preventive \$12885.88 Before:68.24	Preventive \$17091.08 Before:66.03	Required Project Major Below Critical \$1559433.15	Preventive \$824.49 Before:97.79 After:97.79	Preventive \$1698.44 Before:95.58
A02-01	StopGap \$9075.27 Before:57.66 After:57.66	Required Project Major Below Critical \$1818056.61	Preventive \$961.21 Before:97.79 After:97.79	Preventive \$1984.17 Before:95.57	Preventive + Required Project Global MR	Preventive \$2100.69 Before:95.58	Preventive \$3245.56 Before:93.37
R1129-01	Preventive \$44.42 Before:98.05 After:98.05	Preventive \$71.72 Before:96.94 After:96.94	Preventive \$97.32 Before:95.96 After:95.96	Preventive \$128.24 Before:94.84 After:94.84	Preventive \$171.16 Before:93.31 After:93.31	Preventive \$234.26 Before:91.11 After:91.11	Preventive + Required Project Global MR
R1129-02	Required Project Major Below Critical \$34729.06	Preventive \$9.63 Before:98.7 After:98.7	Preventive \$19.22 Before:97.48 After:97.48	Preventive , (SS-ST) Surface Treatment \$27.87 Before:96.45	Preventive \$36.95 Before:95.44 After:95.44	Preventive \$48.68 Before:94.16 After:94.16	Preventive \$65.99 Before:92.32 After:92.32
R1129-04	Preventive \$469.34 Before:98.05 After:98.05	Preventive \$757.74 Before:96.94 After:96.94	Preventive \$1028.27 Before:95.96	Preventive \$1354.91 Before:94.84	Preventive \$1808.33 Before:93.31	Preventive \$2475.01 Before:91.11	Preventive + Required Project Global MR
R1129-05	Preventive \$45.69 Before:98.05 After:98.05	Preventive \$73.77 Before:96.94 After:96.94	Preventive \$100.1 Before:95.96 After:95.96	Preventive \$131.9 Before:94.84 After:94.84	Preventive \$176.04 Before:93.31 After:93.31	Preventive \$240.94 Before:91.11 After:91.11	Preventive + Required Project Global MR
R1836-01	Required Project Major Below Critical \$2910992	Preventive \$720.31 Before:98.7 After:98.7	Preventive \$1437.14 Before:97.48	Preventive + Required Project Global MR	Preventive \$1524.67 Before:97.48	Preventive \$2211.04 Before:96.45	Preventive \$2919.71 Before:95.45
TA-01	StopGap \$1213.16 Before:67.44 After:67.44	Required Project Major Below Critical \$428035.17	Preventive \$104.3 Before:98.98 After:98.98	Preventive \$227.34 Before:97.85 After:97.85	Preventive + Required Project Global MR	Preventive \$241.18 Before:97.85 After:97.85	Preventive \$423.46 Before:96.33 After:96.33
TA-02	Preventive \$164.21 Before:98.44 After:98.44	Preventive \$309.76 Before:97.14 After:97.14	Preventive \$514.53 Before:95.38 After:95.38	Preventive \$781.38 Before:93.19 After:93.19	Preventive \$1101.4 Before:90.68 After:90.68	Preventive \$1456.51 Before:88.04	Preventive + Required Project Global MR

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PCIP Summary
Auburn University Regional Airport (AUO)

Branch & Section	2021	2022	2023	2024	2025	2026	2027
TA-03	Required Project Major Below Critical \$301398.12	Preventive \$31.76 Before:98.98 After:98.98	Preventive \$69.23 Before:97.85 After:97.85	Preventive + Required Project Global MR	Preventive \$73.44 Before:97.85 After:97.85	Preventive \$128.95 Before:96.33 After:96.33	Preventive \$203.83 Before:94.36 After:94.36
TA1-01	Preventive \$40.95 Before:98.44 After:98.44	Preventive \$77.25 Before:97.14 After:97.14	Preventive \$128.32 Before:95.38 After:95.38	Preventive \$194.87 Before:93.19 After:93.19	Preventive \$274.68 Before:90.68 After:90.68	Preventive \$363.25 Before:88.04 After:88.04	Preventive + Required Project Global MR
TA2-01	Preventive \$40.84 Before:98.44 After:98.44	Preventive \$77.04 Before:97.14 After:97.14	Preventive \$127.98 Before:95.38 After:95.38	Preventive \$194.35 Before:93.19 After:93.19	Preventive \$273.95 Before:90.68 After:90.68	Preventive \$362.27 Before:88.04 After:88.04	Preventive + Required Project Global MR \$27292.8
TA3-01	Required Project Major Below Critical \$117324.48	Preventive \$22.74 Before:98.98 After:98.98	Preventive \$49.56 Before:97.85 After:97.85	Preventive + Required Project Global MR	Preventive \$52.58 Before:97.85 After:97.85	Preventive \$92.31 Before:96.33 After:96.33	Preventive \$145.92 Before:94.36 After:94.36
TB-01	Preventive + Required Project Global MR	Preventive \$727.06 Before:90.3 After:90.3	Preventive \$953.11 Before:87.65 After:87.65	Preventive \$1189.91 Before:85.04	Preventive \$1424.41 Before:82.61	Preventive \$1654.27 Before:80.39	Preventive \$1867.42 Before:78.36
TB-02	Preventive \$10.26 Before:98.44 After:98.44	Preventive \$19.35 Before:97.14 After:97.14	Preventive \$32.14 Before:95.38 After:95.38	Preventive \$48.82 Before:93.19 After:93.19	Preventive \$68.81 Before:90.68 After:90.68	Preventive \$90.99 Before:88.04 After:88.04	Preventive + Required Project Global MR \$6855.23
TC-01	Preventive + Required Project Global MR	Preventive \$2204.08 Before:83.14	Preventive \$2573.71 Before:80.88	Preventive \$2923.2 Before:78.81 After:78.81	Preventive \$3265.38 Before:76.85	Preventive \$3630.8 Before:74.85 After:74.85	Preventive \$4049.65 Before:72.6
TC-02	Preventive + Required Project Global MR	Preventive \$1712.14 Before:87.29	Preventive \$2123.02 Before:84.7	Preventive \$2531.02 Before:82.29	Preventive \$2929.48 Before:80.1	Preventive \$3295.8 Before:78.09 After:78.09	Preventive \$3671.53 Before:76.14

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PCIP Summary
Auburn University Regional Airport (AUO)

Branch & Section	2021	2022	2023	2024	2025	2026	2027
TC-03	Preventive \$8.84 Before:98.44 After:98.44	Preventive \$16.68 Before:97.14 After:97.14	Preventive \$27.71 Before:95.38 After:95.38	Preventive \$42.09 Before:93.19 After:93.19	Preventive \$59.32 Before:90.68 After:90.68	Preventive \$78.45 Before:88.04 After:88.04	Preventive + Required Project Global MR \$5910.24 Before:85.42 After:93.19
TC01-01	Preventive \$33.98 Before:98.44 After:98.44	Preventive \$64.09 Before:97.14 After:97.14	Preventive \$106.47 Before:95.38 After:95.38	Preventive \$161.68 Before:93.19 After:93.19	Preventive \$227.9 Before:90.68 After:90.68	Preventive \$301.38 Before:88.04 After:88.04	Preventive + Required Project Global MR \$22705.56 Before:85.42 After:93.19
TC02-01	Preventive \$26.53 Before:98.44 After:98.44	Preventive \$50.04 Before:97.14 After:97.14	Preventive \$83.12 Before:95.38 After:95.38	Preventive \$126.24 Before:93.19 After:93.19	Preventive \$177.94 Before:90.68 After:90.68	Preventive \$235.31 Before:88.04 After:88.04	Preventive + Required Project Global MR \$17727.51 Before:85.42 After:93.19
TC2-01	Preventive + Required Project Global MR \$17125.33 Before:83.19 After:90.94	Preventive \$234.89 Before:88.31 After:88.31	Preventive \$296.31 Before:85.68 After:85.68	Preventive \$358.29 Before:83.19 After:83.19	Preventive \$418.94 Before:80.92 After:80.92	Preventive \$475.91 Before:78.85 After:78.85	Preventive \$531.48 Before:76.9 After:76.9

Appendix I1
PCIP Summary
Auburn University Regional Airport (AUO)

Branch & Section	2021	2022	2023	2024	2025	2026	2027
TC3-01	Preventive + Required Project Global MR \$21985.2 Before:82.3 After:89.94	Preventive \$327.48 Before:87.29 After:87.29	Preventive \$406.07 Before:84.7 After:84.7	Preventive \$484.11 Before:82.29 After:82.29	Preventive \$560.32 Before:80.1 After:80.1	Preventive \$630.39 Before:78.09 After:78.09	Preventive \$702.25 Before:76.14 After:76.14
THANG01-01	StopGap \$32635.74 Before:30.65 After:30.65	StopGap \$37433 Before:27.11 After:27.11	Required Project Major Below Critical \$1770304.51 Before:23.56 After:100	Preventive \$188.21 Before:98.97 After:98.97	Preventive \$406.59 Before:97.85 After:97.85	Preventive \$713.88 Before:96.33 After:96.33	Preventive \$1132.06 Before:94.35 After:94.35
THANG02-01	Preventive + Required Project Global MR \$64091.88 Before:87.02 After:94.58	Preventive \$584.96 Before:92.25 After:92.25	Preventive \$803.35 Before:89.67 After:89.67	Preventive \$1040.87 Before:87.01 After:87.01	Preventive \$1284.41 Before:84.44 After:84.44	Preventive \$1524.63 Before:82.06 After:82.06	Preventive \$1759.8 Before:79.89 After:79.89
THANG02-02	Preventive + Required Project Global MR \$30930.78 Before:90.27 After:96.89	Preventive \$180.26 Before:95.07 After:95.07	Preventive \$270.62 Before:92.82 After:92.82	Preventive \$377.53 Before:90.27 After:90.27	Preventive \$494.61 Before:87.63 After:87.63	Preventive \$616.51 Before:85.03 After:85.03	Preventive \$738.33 Before:82.59 After:82.59

Appendix I1
PCIP Summary
Auburn University Regional Airport (AUO)

Branch & Section	2021	2022	2023	2024	2025	2026	2027
TL01-01	Preventive \$591.77 Before:75.02 After:75.02	Preventive \$659.9 Before:72.79 After:72.79	Preventive \$741.82 Before:70.12 After:70.12	Preventive \$1178.47 Before:66.82 After:66.82	Required Project Major Below Critical \$116864.55 Before:62.8 After:100	Preventive \$28.48 Before:98.98 After:98.98	Preventive \$62.07 Before:97.85 After:97.85
TL02-01	Preventive \$552.4 Before:81.42 After:81.42	Preventive \$631.6 Before:79.31 After:79.31	Preventive \$707.04 Before:77.34 After:77.34	Preventive \$786.72 Before:75.36 After:75.36	Required Project Major Above Critical \$143995.5 Before:73.19 After:100	Preventive \$35.09 Before:98.98 After:98.98	Preventive \$76.48 Before:97.85 After:97.85
TTRW29-01	Preventive \$7.92 Before:98.44 After:98.44	Preventive \$14.93 Before:97.14 After:97.14	Preventive \$24.8 Before:95.38 After:95.38	Preventive \$37.67 Before:93.19 After:93.19	Preventive \$53.1 Before:90.68 After:90.68	Preventive \$70.21 Before:88.04 After:88.04	Preventive , (RW-ST) Runway Surface Treatment \$88.15 Before:85.42 After:85.42
TTRW29-02	Required Project Major Below Critical \$167296.45 Before:51.59 After:100	Preventive \$34.51 Before:98.98 After:98.98	Preventive \$75.23 Before:97.85 After:97.85	Preventive + Required Project Global MR \$20742.64 Before:96.33 After:98.98	Preventive \$79.81 Before:97.85 After:97.85	Preventive \$140.12 Before:96.33 After:96.33	Preventive \$221.49 Before:94.36 After:94.36
TTRW29-03	Preventive \$7.43 Before:98.44 After:98.44	Preventive \$14.02 Before:97.14 After:97.14	Preventive \$23.29 Before:95.38 After:95.38	Preventive \$35.36 Before:93.19 After:93.19	Preventive \$49.85 Before:90.68 After:90.68	Preventive \$65.92 Before:88.04 After:88.04	Preventive , (RW-ST) Runway Surface Treatment \$82.76 Before:85.42 After:85.42

Appendix I2
Localized Maintenance Plan
Auburn University Regional Airport (AUO)

Branch ID	Section ID	Policy	Distress Code	Description	Severity	Distress Qty	Distress Unit	Percent Distress	Work Description	Work Qty	Work Unit	Unit Cost	Work Cost
A01	01	Preventive	48	L & T CR	Low	2,483	Ft	0.79	No Localized M & R	0		\$0.00	\$0
A01	01	Preventive	52	RAVELING	Low	7,213	SqFt	2.29	No Localized M & R	0		\$0.00	\$0
A01	01	Preventive	48	L & T CR	Medium	5,938	Ft	1.88	Crack Sealing - AC	5,938	Ft	\$3.95	\$23,457
A01	01	Preventive	49	OIL SPILLAGE	N/A	1,221	SqFt	0.39	Patching - AC Full-Depth	1,366	SqFt	\$25.05	\$34,215
A01	01	Preventive	57	WEATHERING	Low	307,824	SqFt	97.71	No Localized M & R	0		\$0.00	\$0
A02	01	Safety	48	L & T CR	Medium	27,404	Ft	6.83	No Localized M & R	0		\$0.00	\$0
A02	01	Safety	57	WEATHERING	Medium	389,262	SqFt	96.99	No Localized M & R	0		\$0.00	\$0
A02	01	Safety	48	L & T CR	Low	10,988	Ft	2.74	No Localized M & R	0		\$0.00	\$0
A02	01	Safety	52	RAVELING	Low	12,075	SqFt	3.01	No Localized M & R	0		\$0.00	\$0
A02	01	Safety	49	OIL SPILLAGE	N/A	181	SqFt	0.05	No Localized M & R	0		\$0.00	\$0
R1129	02	Safety	57	WEATHERING	Medium	7,040	SqFt	100	No Localized M & R	0		\$0.00	\$0
R1129	02	Safety	50	PATCHING	Low	260	SqFt	3.69	No Localized M & R	0		\$0.00	\$0
R1129	02	Safety	48	L & T CR	Medium	345	Ft	4.9	No Localized M & R	0		\$0.00	\$0
R1836	01	Safety	57	WEATHERING	Medium	294,526	SqFt	55.95	No Localized M & R	0		\$0.00	\$0
R1836	01	Safety	57	WEATHERING	Low	230,260	SqFt	43.74	No Localized M & R	0		\$0.00	\$0
R1836	01	Safety	52	RAVELING	Medium	323	SqFt	0.06	No Localized M & R	0		\$0.00	\$0
R1836	01	Safety	48	L & T CR	Low	11,516	Ft	2.19	No Localized M & R	0		\$0.00	\$0
R1836	01	Safety	48	L & T CR	Medium	23,019	Ft	4.37	No Localized M & R	0		\$0.00	\$0
R1836	01	Safety	50	PATCHING	Low	1,292	SqFt	0.25	No Localized M & R	0		\$0.00	\$0
TA	01	Preventive	48	L & T CR	Medium	108	Ft	0.11	Crack Sealing - AC	108	Ft	\$3.95	\$427
TA	01	Preventive	48	L & T CR	Low	3,651	Ft	3.86	No Localized M & R	0		\$0.00	\$0
TA	01	Preventive	50	PATCHING	Low	81	SqFt	0.09	No Localized M & R	0		\$0.00	\$0
TA	01	Preventive	57	WEATHERING	Medium	94,408	SqFt	99.91	No Localized M & R	0		\$0.00	\$0
TA	03	Safety	43	BLOCK CR	Medium	3,746	SqFt	12.64	No Localized M & R	0		\$0.00	\$0
TA	03	Safety	48	L & T CR	Low	107	Ft	0.36	No Localized M & R	0		\$0.00	\$0
TA	03	Safety	57	WEATHERING	Medium	29,636	SqFt	100	No Localized M & R	0		\$0.00	\$0
TA	03	Safety	48	L & T CR	Medium	3,129	Ft	10.56	No Localized M & R	0		\$0.00	\$0
TA3	01	Preventive	48	L & T CR	Low	748	Ft	3.52	No Localized M & R	0		\$0.00	\$0
TA3	01	Preventive	57	WEATHERING	Medium	21,216	SqFt	100	No Localized M & R	0		\$0.00	\$0

Appendix I2
Localized Maintenance Plan
Auburn University Regional Airport (AUO)

Branch ID	Section ID	Policy	Distress Code	Description	Severity	Distress Qty	Distress Unit	Percent Distress	Work Description	Work Qty	Work Unit	Unit Cost	Work Cost
TA3	01	Preventive	48	L & T CR	Medium	303	Ft	1.43	Crack Sealing - AC	303	Ft	\$3.95	\$1,198
TA3	01	Preventive	49	OIL SPILLAGE	N/A	7	SqFt	0.03	Patching - AC Full-Depth	22	SqFt	\$25.05	\$541
TB	01	Preventive	57	WEATHERING	Low	71,210	SqFt	100	No Localized M & R	0		\$0.00	\$0
TB	01	Preventive	48	L & T CR	Low	677	Ft	0.95	No Localized M & R	0		\$0.00	\$0
TC	01	Preventive	50	PATCHING	Low	4,139	SqFt	3.33	No Localized M & R	0		\$0.00	\$0
TC	01	Preventive	48	L & T CR	Low	2,545	Ft	2.05	No Localized M & R	0		\$0.00	\$0
TC	01	Preventive	57	WEATHERING	Low	120,031	SqFt	96.67	No Localized M & R	0		\$0.00	\$0
TC	01	Preventive	48	L & T CR	Medium	207	Ft	0.17	Crack Sealing - AC	207	Ft	\$3.95	\$817
TC	02	Preventive	57	WEATHERING	Low	127,987	SqFt	100	No Localized M & R	0		\$0.00	\$0
TC	02	Preventive	48	L & T CR	Low	3,076	Ft	2.4	No Localized M & R	0		\$0.00	\$0
TC2	01	Preventive	57	WEATHERING	Low	19,088	SqFt	100	No Localized M & R	0		\$0.00	\$0
TC2	01	Preventive	48	L & T CR	Medium	133	Ft	0.69	Crack Sealing - AC	133	Ft	\$3.95	\$524
TC2	01	Preventive	48	L & T CR	Low	39	Ft	0.21	No Localized M & R	0		\$0.00	\$0
TC3	01	Preventive	48	L & T CR	Medium	83	Ft	0.34	Crack Sealing - AC	83	Ft	\$3.95	\$328
TC3	01	Preventive	48	L & T CR	Low	226	Ft	0.92	No Localized M & R	0		\$0.00	\$0
TC3	01	Preventive	57	WEATHERING	Low	24,480	SqFt	100	No Localized M & R	0		\$0.00	\$0
THANG01	01	Safety	41	ALLIGATOR CR	High	3,961	SqFt	2.41	Patching - AC Full-Depth	4,218	SqFt	\$25.05	\$105,679
THANG01	01	Safety	41	ALLIGATOR CR	Medium	4,634	SqFt	2.82	No Localized M & R	0		\$0.00	\$0
THANG01	01	Safety	50	PATCHING	High	720	SqFt	0.44	Patching - AC Full-Depth	832	SqFt	\$25.05	\$20,848
THANG01	01	Safety	43	BLOCK CR	Medium	5,762	SqFt	3.51	No Localized M & R	0		\$0.00	\$0
THANG01	01	Safety	48	L & T CR	Low	480	Ft	0.29	No Localized M & R	0		\$0.00	\$0
THANG01	01	Safety	50	PATCHING	Low	4,581	SqFt	2.79	No Localized M & R	0		\$0.00	\$0
THANG01	01	Safety	48	L & T CR	Medium	11,236	Ft	6.85	No Localized M & R	0		\$0.00	\$0
THANG01	01	Safety	52	RAVELING	Medium	96	SqFt	0.06	No Localized M & R	0		\$0.00	\$0
THANG01	01	Safety	48	L & T CR	High	72	Ft	0.04	Crack Sealing - AC	72	Ft	\$3.95	\$285
THANG01	01	Safety	52	RAVELING	Low	24,008	SqFt	14.63	No Localized M & R	0		\$0.00	\$0
THANG02	01	Preventive	57	WEATHERING	Low	71,750	SqFt	100	No Localized M & R	0		\$0.00	\$0
THANG02	01	Preventive	48	L & T CR	Low	465	Ft	0.65	No Localized M & R	0		\$0.00	\$0
THANG02	02	Preventive	52	RAVELING	Low	48	SqFt	0.14	No Localized M & R	0		\$0.00	\$0

Appendix I2
Localized Maintenance Plan
Auburn University Regional Airport (AUO)

Branch ID	Section ID	Policy	Distress Code	Description	Severity	Distress Qty	Distress Unit	Percent Distress	Work Description	Work Qty	Work Unit	Unit Cost	Work Cost
THANG02	02	Preventive	48	L & T CR	Low	289	Ft	0.83	No Localized M & R	0		\$0.00	\$0
THANG02	02	Preventive	49	OIL SPILLAGE	N/A	10	SqFt	0.03	Patching - AC Full-Depth	27	SqFt	\$25.05	\$663
TL01	01	Preventive	48	L & T CR	Medium	330	Ft	1.4	Crack Sealing - AC	330	Ft	\$3.95	\$1,303
TL01	01	Preventive	57	WEATHERING	Low	23,609	SqFt	100	No Localized M & R	0		\$0.00	\$0
TL01	01	Preventive	48	L & T CR	Low	310	Ft	1.31	No Localized M & R	0		\$0.00	\$0
TL02	01	Preventive	48	L & T CR	Low	862	Ft	2.96	No Localized M & R	0		\$0.00	\$0
TL02	01	Preventive	57	WEATHERING	Low	29,090	SqFt	100	No Localized M & R	0		\$0.00	\$0
TTRW29	02	Safety	57	WEATHERING	Medium	24,056	SqFt	74.7	No Localized M & R	0		\$0.00	\$0
TTRW29	02	Safety	57	WEATHERING	Low	8,148	SqFt	25.3	No Localized M & R	0		\$0.00	\$0
TTRW29	02	Safety	48	L & T CR	Medium	2,832	Ft	8.8	No Localized M & R	0		\$0.00	\$0
TTRW29	02	Safety	48	L & T CR	Low	421	Ft	1.31	No Localized M & R	0		\$0.00	\$0