

TURNER AIRPORT

Branch: 29A **APRON**

A-1

Length: 260 LF **Width:** 130 LF **Area:** 33,800 SF **Last Const:** 1995 **Family:** ACAM
From: ENTIRE APRON **To:** **Surface:** AC

Inspections

Samples Surveyed: 3 **Total Samples:** 6 **Last Inspection Date:** 8/20/2012 **PCI:** 80

Sample # 2 **Area:** 5,850 SF

Distress Description	Severity	Quantity
BLOCK CRACKING	L	9 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	412 LF
RAVELING	L	2 SF

Sample # 4 **Area:** 5,850 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	445 LF

Sample # 6 **Area:** 4,550 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	325 LF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
BLOCK CRACKING	L	17 SF	0.05%	4.50
LONGITUDINAL/TRANSVERSE CRACKING	L	2,276 LF	6.74%	18.18
RAVELING	L	4 SF	0.01%	1.00

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

0.0 % Load 100.0 % Climate/Durability 0.0 % Other

TURNER AIRPORT

Branch: 29R RUNWAY

R-1

Length: 3,600 LF Width: 60 LF Area: 216,000 SF Last Const: 1995 Family: ACRMU
 From: 0+00 R/W 7-25 To: 36+00 R/W 7-25 Surface: AC

Inspections

Samples Surveyed: 7 Total Samples: 42 Last Inspection Date: 8/20/2012 **PCI: 78**

Sample #	Distress Description	Severity	Quantity	Area:
2	LONGITUDINAL/TRANSVERSE CRACKING	L	327 LF	5,100 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	62 LF	
	PATCHING	L	51 SF	
8	LONGITUDINAL/TRANSVERSE CRACKING	L	287 LF	5,100 SF
	PATCHING	L	30 SF	
14	DEPRESSION	L	0 SF	5,100 SF
	LONGITUDINAL/TRANSVERSE CRACKING	L	390 LF	
	PATCHING	L	13 SF	
18	DEPRESSION	L	351 SF	5,100 SF
	DEPRESSION	M	30 SF	
24	LONGITUDINAL/TRANSVERSE CRACKING	L	364 LF	5,100 SF
	PATCHING	L	750 SF	
32	LONGITUDINAL/TRANSVERSE CRACKING	L	287 LF	5,100 SF
	PATCHING	L	30 SF	
37	LONGITUDINAL/TRANSVERSE CRACKING	L	255 LF	5,100 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	L	2,125 SF	0.98%	6.55
DEPRESSION	M	182 SF	0.08%	5.20
LONGITUDINAL/TRANSVERSE CRACKING	L	11,553 LF	5.35%	15.50
LONGITUDINAL/TRANSVERSE CRACKING	M	375 LF	0.17%	4.74
PATCHING	L	5,285 SF	2.45%	6.34

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

0.0 % Load 69.0 % Climate/Durability 31.0 % Other

TURNER AIRPORT

Branch: 29T TAXIWAY

T-2

Length: 212 LF Width: 30 LF Area: 6,360 SF Last Const: 1995 Family: ACRMU
 From: R-1 To: A-1 Surface: AC

Inspections

Samples Surveyed: 2 Total Samples: 2 Last Inspection Date: 8/20/2012 **PCI: 79**

Sample # 1 Area: 3,180 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	124 LF
PATCHING	L	375 SF

Sample # 2 Area: 3,180 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	158 LF
PATCHING	L	375 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	282 LF	4.43%	13.52
PATCHING	L	750 SF	11.79%	15.84

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

0.0 % Load 100.0 % Climate/Durability 0.0 % Other

TURNER AIRPORT

Branch: 29T TAXIWAY

T-3

Length: 250 LF Width: 80 LF Area: 20,000 SF Last Const: 1995 Family: ACRMU
 From: R/W 7 TURNAROUND To: & R/W 25 TURNAROUND Surface: AC

Inspections

Samples Surveyed: 3 Total Samples: 4 Last Inspection Date: 8/20/2012 **PCI: 83**

Sample # 1 Area: 5,000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	250 LF

Sample # 3 Area: 5,000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	186 LF

Sample # 4 Area: 5,000 SF

Distress Description	Severity	Quantity
DEPRESSION	L	3 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	381 LF
PATCHING	L	960 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	L	4 SF	0.02%	0.30
LONGITUDINAL/TRANSVERSE CRACKING	L	1,089 LF	5.45%	15.70
PATCHING	L	1,280 SF	6.40%	11.42

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

Percent of Deduct Values Based on Distress Mechanism

0.0 % Load 99.0 % Climate/Durability 1.0 % Other

TURNER AIRPORT

FIRST YEAR LOCAL: 2013

LOCAL REPAIR COST: \$10,527

Section	Distress Description	Severity	Quantity	Work Description	Quantity	Cost	Policy
R-1	DEPRESSION	M	182 SF	Patching - AC Deep	240 SF	\$9,590	PREV.
R-1	L & T CR	M	375 LF	Crack Sealing - AC	375 LF	\$938	PREV.

FIFTEEN YEAR PROJECTIONS

ESTIMATED AVERAGE ANNUAL COST: \$35,395

Plan Year: 2013		Estimated Cost: \$74,970				PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before After
A-1	Global MR + Preventive	\$580	\$8,450	\$0	\$0	\$9,030	78 85
R-1	Global MR + Preventive	\$5,053	\$54,000	\$0	\$0	\$59,053	77 81
T-2	Global MR + Preventive	\$125	\$1,590	\$0	\$0	\$1,715	78 83
T-3	Global MR + Preventive	\$172	\$5,000	\$0	\$0	\$5,172	81 87

Plan Year: 2014		Estimated Cost: \$3,610				PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before After
A-1	Preventive	\$302	\$0	\$0	\$0	\$302	81 81
R-1	Preventive	\$3,123	\$0	\$0	\$0	\$3,123	79 79
T-2	Preventive	\$65	\$0	\$0	\$0	\$65	80 80
T-3	Preventive	\$120	\$0	\$0	\$0	\$120	84 84

Plan Year: 2015		Estimated Cost: \$6,057				PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before After
A-1	Preventive	\$572	\$0	\$0	\$0	\$572	79 79
R-1	Preventive	\$5,180	\$0	\$0	\$0	\$5,180	77 77
T-2	Preventive	\$127	\$0	\$0	\$0	\$127	78 78
T-3	Preventive	\$178	\$0	\$0	\$0	\$178	82 82

Plan Year: 2016		Estimated Cost: \$8,650				PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before After
A-1	Preventive	\$976	\$0	\$0	\$0	\$976	76 76
R-1	Preventive	\$7,203	\$0	\$0	\$0	\$7,203	75 75
T-2	Preventive	\$188	\$0	\$0	\$0	\$188	76 76
T-3	Preventive	\$283	\$0	\$0	\$0	\$283	79 79

Plan Year: 2017		Estimated Cost: \$11,311				PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before After
A-1	Preventive	\$1,379	\$0	\$0	\$0	\$1,379	73 74
R-1	Preventive	\$9,199	\$0	\$0	\$0	\$9,199	73 73
T-2	Preventive	\$247	\$0	\$0	\$0	\$247	74 74
T-3	Preventive	\$486	\$0	\$0	\$0	\$486	77 77

Plan Year: 2018		Estimated Cost: \$93,995				PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before After
A-1	Global MR + Preventive	\$1,779	\$9,796	\$0	\$0	\$11,575	71 76
R-1	Global MR + Preventive	\$11,187	\$62,601	\$0	\$0	\$73,789	71 75
T-2	Global MR + Preventive	\$307	\$1,843	\$0	\$0	\$2,150	72 76
T-3	Global MR + Preventive	\$685	\$5,796	\$0	\$0	\$6,482	75 80

Plan Year: 2019		Estimated Cost: \$11,747				PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before After
A-1	Preventive	\$1,421	\$0	\$0	\$0	\$1,421	74 74
R-1	Preventive	\$9,572	\$0	\$0	\$0	\$9,572	73 73
T-2	Preventive	\$257	\$0	\$0	\$0	\$257	74 74
T-3	Preventive	\$497	\$0	\$0	\$0	\$497	77 77

Plan Year: 2020		Estimated Cost: \$14,577				PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before After
A-1	Preventive	\$1,849	\$0	\$0	\$0	\$1,849	71 72
R-1	Preventive	\$11,698	\$0	\$0	\$0	\$11,698	71 72
T-2	Preventive	\$320	\$0	\$0	\$0	\$320	72 72
T-3	Preventive	\$709	\$0	\$0	\$0	\$709	75 75

Plan Year: 2021		Estimated Cost: \$17,819				PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before After
A-1	Preventive	\$2,479	\$0	\$0	\$0	\$2,479	69 69
R-1	Preventive	\$14,037	\$0	\$0	\$0	\$14,037	70 70
T-2	Preventive	\$384	\$0	\$0	\$0	\$384	71 71
T-3	Preventive	\$919	\$0	\$0	\$0	\$919	73 74

TURNER AIRPORT

Plan Year: 2022		Estimated Cost: \$23,937				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$3,458	\$0	\$0	\$0	\$3,458	67	67
R-1	Preventive	\$18,854	\$0	\$0	\$0	\$18,854	68	68
T-2	Preventive	\$497	\$0	\$0	\$0	\$497	69	69
T-3	Preventive	\$1,128	\$0	\$0	\$0	\$1,128	72	72

Plan Year: 2023		Estimated Cost: \$123,010				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Global MR + Preventive	\$4,442	\$11,356	\$0	\$0	\$15,799	65	70
R-1	Global MR + Preventive	\$23,802	\$72,572	\$0	\$0	\$96,374	67	70
T-2	Global MR + Preventive	\$643	\$2,137	\$0	\$0	\$2,780	67	71
T-3	Global MR + Preventive	\$1,337	\$6,720	\$0	\$0	\$8,057	70	74

Plan Year: 2024		Estimated Cost: \$24,819				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$3,570	\$0	\$0	\$0	\$3,570	67	67
R-1	Preventive	\$19,555	\$0	\$0	\$0	\$19,555	68	69
T-2	Preventive	\$514	\$0	\$0	\$0	\$514	69	69
T-3	Preventive	\$1,180	\$0	\$0	\$0	\$1,180	72	72

Plan Year: 2025		Estimated Cost: \$31,509				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$4,617	\$0	\$0	\$0	\$4,617	65	66
R-1	Preventive	\$24,823	\$0	\$0	\$0	\$24,823	67	67
T-2	Preventive	\$668	\$0	\$0	\$0	\$668	68	68
T-3	Preventive	\$1,402	\$0	\$0	\$0	\$1,402	70	70

Plan Year: 2026		Estimated Cost: \$38,679				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$5,688	\$0	\$0	\$0	\$5,688	64	64
R-1	Preventive	\$30,294	\$0	\$0	\$0	\$30,294	65	66
T-2	Preventive	\$828	\$0	\$0	\$0	\$828	66	66
T-3	Preventive	\$1,868	\$0	\$0	\$0	\$1,868	69	69

Plan Year: 2027		Estimated Cost: \$46,228				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$6,779	\$0	\$0	\$0	\$6,779	62	62
R-1	Preventive	\$36,069	\$0	\$0	\$0	\$36,069	64	64
T-2	Preventive	\$997	\$0	\$0	\$0	\$997	65	65
T-3	Preventive	\$2,384	\$0	\$0	\$0	\$2,384	67	67

TURNER AIRPORT

8/20/2012



A-1, Overview



A-1, Surface detail with cracks



R-1, Overview



R-1, surface detail with crack

TURNER AIRPORT

8/20/2012



R-1, Surface detail with cracks



R-1, Surface detail with patch



R-1, Surface detail with patching 2



T-2, surface detail with patching

TURNER AIRPORT

8/20/2012



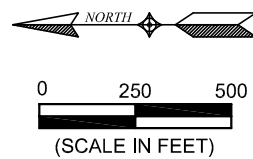
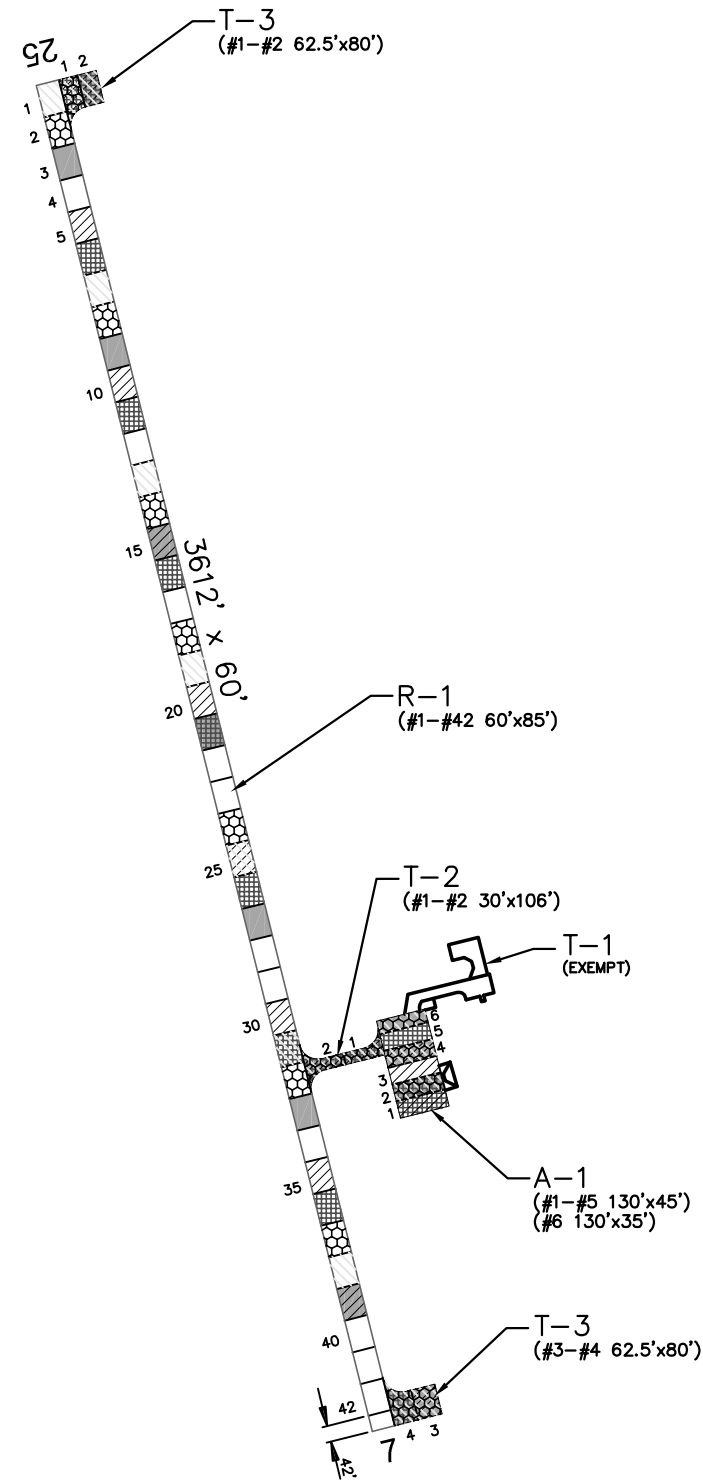
T-3, Overview with patch



T-3, Surface detail with depression

TURNER

TURNER



PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

PAVE. IDENT.	SOIL CLASS	SUB GRADE CLASS	SUBBASE COURSE	BASE COURSE	SURFACE COURSE	OVERLAY	PAVEMENT STRENGTH			REMARKS
							MAX. GROSS LOAD (LBS)			
							SINGLE	DUAL	DUAL TAN.	
RUNWAYS										
R-1	CBR=3		22" P-154, FABRIC P-152 (12" COMP.)	6" P-208	3" P-401(MOD)	P-609	12,500			△△△
TAXIWAYS										
T-1	E-7	F-7	6" P-152	5" P-201	P-609	P-609	4,000			△△△
T-2	CBR=3		22" P-154, FABRIC P-152 (12" COMP.)	6" P-208	3" P-401 (MOD)	P-609	12,500			△△△
T-3	CBR=3		22" P-154, FABRIC P-152 (12" COMP.)	6" P-208	3" P-401(MOD)	P-609	12,500			△△△
APRONS										
A-1	CBR=3		22" P-154, FABRIC P-152 (12" COMP.)	6" P-208	3" P-401(MOD)	P-609	12,500			△△△

REMARKS:

- △ ADAP-01, 1978
- △ AIP-001, SEPTEMBER 1986, DRAINAGE FEATURES (FRENCH DRAIN) BUILT ALONG BOTH SIDES OF RUNWAY TO REDUCE FROST ACTION.
- 1 AIP-002, 1995, REHABILITATE RUNWAY, TAXIWAY, AND APRON.
- 2 AIP-003, 2007, MAJOR CRACK REPAIR, CRACK SEAL, FOG SEAL, AND REMARK PAVEMENTS.
- 3 AIP-005, 2012, PAVEMENT MAINTENANCE INCLUDING CRACK REPAIR, CRACK SEAL, FOG SEAL, AND REMARK PAVEMENTS ON RUNWAY, TAXIWAYS AND APRON. (COMPLETED PRIOR TO SURVEY).

LEGEND

- 2000 SURVEY AREA
- 2003 SURVEY AREA
- 2006 SURVEY AREA
- 2009 SURVEY AREA
- 2012 SURVEY AREA

DATE OF PAVEMENT STRENGTH SURVEY:

EVALUATED BY:

DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:

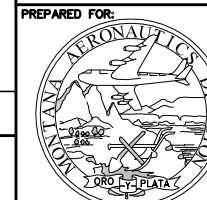
EVALUATED BY:

AUG. 20, 2012

S. BROWN

**MONTANA AVIATION SYSTEM PLAN
2012 UPDATE - PAVEMENT CONDITION INDEXES**

TURNER AIRPORT



PREPARED FOR:
TURNER MONTANA

DATE:
SEPT. 2012

