

ROUNDUP AIRPORT

Branch: 47A

APRON

A-1

Length: 0 LF **Width:** 0 LF **Area:** 36,400 SF **Last Const:** 2002 **Family:** ACAM
From: T-1 **To:** T-2 **Surface:** AC

Inspections

Samples Surveyed: 3 **Total Samples:** 7 **Last Inspection Date:** 8/30/2012 **PCI:** 79

Sample # 1 **Area:** 5,568 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	243 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	10 LF
WEATHERING	L	557 SF

Sample # 3 **Area:** 5,568 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	M	41 LF
LONGITUDINAL/TRANSVERSE CRACKING	L	359 LF
OIL SPILLAGE	N	1 SF
WEATHERING	L	278 SF

Sample # 5 **Area:** 5,568 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	170 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	18 LF
WEATHERING	L	278 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	1,682 LF	4.62%	13.94
LONGITUDINAL/TRANSVERSE CRACKING	M	150 LF	0.41%	7.6
OIL SPILLAGE	N	2 SF	0.01%	2
WEATHERING	L	2,427 SF	6.67%	1.3

* 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 92.0 % Climate/Durability 8.0 % Other

ROUNDUP AIRPORT

Branch: 47A APRON

A-2

Length: 171 LF **Width:** 90 LF **Area:** 15,390 SF **Last Const:** 2002 **Family:** ACAM
From: NE CORNER OF APRON **To:** **Surface:** AAC

Inspections

Samples Surveyed: 3 **Total Samples:** 3 **Last Inspection Date:** 8/30/2012 **PCI:** 76

Sample # 1

Area: 5,130 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	M	8 LF
LONGITUDINAL/TRANSVERSE CRACKING	L	141 LF
PATCHING	L	21 SF
PATCHING	M	1 SF
WEATHERING	L	880 SF

Sample # 2

Area: 5,130 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	138 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	88 LF
PATCHING	L	18 SF
PATCHING	M	2 SF
WEATHERING	L	513 SF

Sample # 3

Area: 5,130 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	144 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	28 LF
PATCHING	L	21 SF
WEATHERING	L	513 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	M	124 LF	0.81%	10.21
LONGITUDINAL/TRANSVERSE CRACKING	L	423 LF	2.75%	9.39
PATCHING	M	3 SF	0.02%	6.2
PATCHING	L	60 SF	0.39%	2.26
WEATHERING	L	1,906 SF	12.38%	2

* 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

ROUNDUP AIRPORT

Branch: 47R

RUNWAY

R-1

Length: 5,100 LF Width: 75 LF Area: 382,500 SF Last Const: 2002 Family: ACRML
 From: R/W 6-24 STA 0+00 To: R/W 6-24 STA 51+00 Surface: AAC

Inspections

Samples Surveyed: 7 Total Samples: 80 Last Inspection Date: 8/30/2012 **PCI: 78**

Sample #	Distress Description	Severity	Quantity	Area:
10	LONGITUDINAL/TRANSVERSE CRACKING	L	381 LF	4,875 SF
	WEATHERING	L	975 SF	
21	LONGITUDINAL/TRANSVERSE CRACKING	L	187 LF	4,875 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	14 LF	
	WEATHERING	L	975 SF	
32	LONGITUDINAL/TRANSVERSE CRACKING	L	254 LF	4,875 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	6 LF	
	WEATHERING	L	975 SF	
42	LONGITUDINAL/TRANSVERSE CRACKING	L	187 LF	4,875 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	11 LF	
	WEATHERING	L	975 SF	
54	LONGITUDINAL/TRANSVERSE CRACKING	M	24 LF	4,875 SF
	LONGITUDINAL/TRANSVERSE CRACKING	L	336 LF	
	WEATHERING	L	975 SF	
65	LONGITUDINAL/TRANSVERSE CRACKING	L	228 LF	4,875 SF
	WEATHERING	L	975 SF	
76	LONGITUDINAL/TRANSVERSE CRACKING	M	9 LF	4,875 SF
	LONGITUDINAL/TRANSVERSE CRACKING	L	277 LF	
	WEATHERING	L	975 SF	

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	20,736 LF	5.42%	15.65
LONGITUDINAL/TRANSVERSE CRACKING	M	717 LF	0.19%	4.96
WEATHERING	L	76,500 SF	20.00%	2.81

* 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

ROUNDUP AIRPORT

Branch: 47T

TAXIWAY

T-1

Length: 918 LF **Width:** 40 LF **Area:** 36,720 SF **Last Const:** 2002 **Family:** ACRML
From: R/W 6-24 STA 8+25 **To:** APRON A-1 **Surface:** AC

Inspections

Samples Surveyed: 4 **Total Samples:** 7 **Last Inspection Date:** 8/30/2012 **PCI:** 77

Sample #	Distress Description	Severity	Quantity	Area:
2	LONGITUDINAL/TRANSVERSE CRACKING	L	286 LF	5,000 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	35 LF	
	WEATHERING	L	2,000 SF	
3	LONGITUDINAL/TRANSVERSE CRACKING	L	194 LF	5,000 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	20 LF	
	WEATHERING	L	2,000 SF	
5	LONGITUDINAL/TRANSVERSE CRACKING	L	247 LF	5,000 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	6 LF	
7	LONGITUDINAL/TRANSVERSE CRACKING	L	288 LF	5,000 SF
	LONGITUDINAL/TRANSVERSE CRACKING	M	22 LF	
	WEATHERING	L	2,000 SF	

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	1,864 LF	5.08%	14.93
LONGITUDINAL/TRANSVERSE CRACKING	M	152 LF	0.42%	7.62
WEATHERING	L	11,016 SF	30.00%	3.65

* 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

ROUNDUP AIRPORT

Branch: 47T TAXIWAY

T-3

Length: 632 LF Width: 25 LF Area: 15,800 SF Last Const: 2002 Family: ACRML
 From: T-1 To: HANGARS Surface: AC

Inspections

Samples Surveyed: 4 Total Samples: 7 Last Inspection Date: 8/30/2012 **PCI: 94**

Sample #	Distress Description	Severity	Quantity	Area:
2	LONGITUDINAL/TRANSVERSE CRACKING	L	55 LF	3,950 SF
	WEATHERING	L	40 SF	
3	LONGITUDINAL/TRANSVERSE CRACKING	L	50 LF	3,950 SF
	WEATHERING	L	40 SF	
4	LONGITUDINAL/TRANSVERSE CRACKING	L	25 LF	3,950 SF
	WEATHERING	L	40 SF	

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	173 LF	1.10%	5.15
WEATHERING	L	158 SF	1.00%	0.49

* 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

ROUNDUP AIRPORT

FIRST YEAR LOCAL: 2013

LOCAL REPAIR COST: \$3,662

Section	Distress Description	Severity	Quantity	Work Description	Quantity	Cost	Policy
A-1	L & T CR	M	150 LF	Crack Sealing - AC	150 LF	\$376	PREV.
A-1	OIL SPILLAGE	N	2 SF	Patching - AC Shallow	12 SF	\$242	PREV.
A-2	L & T CR	M	124 LF	Crack Sealing - AC	124 LF	\$310	PREV.
A-2	PATCHING	M	3 SF	Patching - AC Deep	14 SF	\$559	PREV.
R-1	L & T CR	M	717 LF	Crack Sealing - AC	717 LF	\$1,793	PREV.
T-1	L & T CR	M	152 LF	Crack Sealing - AC	152 LF	\$381	PREV.

FIFTEEN YEAR PROJECTIONS

ESTIMATED AVERAGE ANNUAL COST: \$56,605

Plan Year: 2013		Estimated Cost: \$132,810					PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Global MR + Preventive	\$753	\$9,100	\$0	\$0	\$9,853	77	84
A-2	Global MR + Preventive	\$495	\$3,848	\$0	\$0	\$4,343	74	80
R-1	Global MR + Preventive	\$8,873	\$95,626	\$0	\$0	\$104,499	77	82
T-1	Global MR + Preventive	\$986	\$9,180	\$0	\$0	\$10,166	76	81
T-3	Global MR	\$0	\$3,950	\$0	\$0	\$3,950	92	100

Plan Year: 2014		Estimated Cost: \$6,743					PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$361	\$0	\$0	\$0	\$361	80	81
A-2	Preventive	\$332	\$0	\$0	\$0	\$332	77	77
R-1	Preventive	\$5,373	\$0	\$0	\$0	\$5,373	79	79
T-1	Preventive	\$677	\$0	\$0	\$0	\$677	78	78

Plan Year: 2015		Estimated Cost: \$11,366					PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$752	\$0	\$0	\$0	\$752	78	78
A-2	Preventive	\$507	\$0	\$0	\$0	\$507	75	75
R-1	Preventive	\$9,089	\$0	\$0	\$0	\$9,089	77	77
T-1	Preventive	\$1,017	\$0	\$0	\$0	\$1,017	76	76

Plan Year: 2016		Estimated Cost: \$15,755					PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$1,184	\$0	\$0	\$0	\$1,184	75	75
A-2	Preventive	\$683	\$0	\$0	\$0	\$683	72	72
R-1	Preventive	\$12,523	\$0	\$0	\$0	\$12,523	75	75
T-1	Preventive	\$1,329	\$0	\$0	\$0	\$1,329	74	74
T-3	Preventive	\$37	\$0	\$0	\$0	\$37	88	88

Plan Year: 2017		Estimated Cost: \$19,830					PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$1,611	\$0	\$0	\$0	\$1,611	73	73
A-2	Preventive	\$858	\$0	\$0	\$0	\$858	70	70
R-1	Preventive	\$15,654	\$0	\$0	\$0	\$15,654	73	73
T-1	Preventive	\$1,613	\$0	\$0	\$0	\$1,613	73	73
T-3	Preventive	\$94	\$0	\$0	\$0	\$94	85	85

Plan Year: 2018		Estimated Cost: \$164,910					PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Global MR + Preventive	\$2,039	\$10,549	\$0	\$0	\$12,588	70	75
A-2	Global MR + Preventive	\$1,244	\$4,460	\$0	\$0	\$5,704	68	73
R-1	Global MR + Preventive	\$18,517	\$110,857	\$0	\$0	\$129,374	72	75
T-1	Global MR + Preventive	\$1,873	\$10,642	\$0	\$0	\$12,515	72	74
T-3	Global MR + Preventive	\$150	\$4,579	\$0	\$0	\$4,729	82	88

Plan Year: 2019		Estimated Cost: \$20,690					PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$1,665	\$0	\$0	\$0	\$1,665	73	73
A-2	Preventive	\$892	\$0	\$0	\$0	\$892	70	70
R-1	Preventive	\$16,349	\$0	\$0	\$0	\$16,349	74	74
T-1	Preventive	\$1,689	\$0	\$0	\$0	\$1,689	73	73
T-3	Preventive	\$94	\$0	\$0	\$0	\$94	85	85

Plan Year: 2020		Estimated Cost: \$24,960					PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After
A-1	Preventive	\$2,120	\$0	\$0	\$0	\$2,120	71	71
A-2	Preventive	\$1,280	\$0	\$0	\$0	\$1,280	68	68
R-1	Preventive	\$19,440	\$0	\$0	\$0	\$19,440	72	72
T-1	Preventive	\$1,967	\$0	\$0	\$0	\$1,967	72	72
T-3	Preventive	\$154	\$0	\$0	\$0	\$154	82	82

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Plan Year: 2021		Estimated Cost: \$29,377					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$2,983	\$0	\$0	\$0	\$2,983	69	69	
A-2	Preventive	\$1,708	\$0	\$0	\$0	\$1,708	66	66	
R-1	Preventive	\$22,229	\$0	\$0	\$0	\$22,229	71	71	
T-1	Preventive	\$2,220	\$0	\$0	\$0	\$2,220	71	71	
T-3	Preventive	\$238	\$0	\$0	\$0	\$238	80	80	

Plan Year: 2022		Estimated Cost: \$33,918					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$4,032	\$0	\$0	\$0	\$4,032	67	67	
A-2	Preventive	\$2,143	\$0	\$0	\$0	\$2,143	64	64	
R-1	Preventive	\$24,773	\$0	\$0	\$0	\$24,773	70	70	
T-1	Preventive	\$2,539	\$0	\$0	\$0	\$2,539	70	70	
T-3	Preventive	\$430	\$0	\$0	\$0	\$430	77	77	

Plan Year: 2023		Estimated Cost: \$204,177					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Global MR + Preventive	\$5,092	\$12,230	\$0	\$0	\$17,322	65	69	
A-2	Global MR + Preventive	\$2,585	\$5,171	\$0	\$0	\$7,756	63	67	
R-1	Global MR + Preventive	\$29,351	\$128,513	\$0	\$0	\$157,864	69	71	
T-1	Global MR + Preventive	\$2,980	\$12,337	\$0	\$0	\$15,318	69	71	
T-3	Global MR + Preventive	\$608	\$5,309	\$0	\$0	\$5,917	75	80	

Plan Year: 2024		Estimated Cost: \$35,609					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$4,167	\$0	\$0	\$0	\$4,167	67	67	
A-2	Preventive	\$2,231	\$0	\$0	\$0	\$2,231	65	65	
R-1	Preventive	\$26,115	\$0	\$0	\$0	\$26,115	70	70	
T-1	Preventive	\$2,658	\$0	\$0	\$0	\$2,658	70	70	
T-3	Preventive	\$439	\$0	\$0	\$0	\$439	77	78	

Plan Year: 2025		Estimated Cost: \$42,511					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$5,293	\$0	\$0	\$0	\$5,293	65	65	
A-2	Preventive	\$2,699	\$0	\$0	\$0	\$2,699	63	63	
R-1	Preventive	\$30,759	\$0	\$0	\$0	\$30,759	69	69	
T-1	Preventive	\$3,130	\$0	\$0	\$0	\$3,130	69	69	
T-3	Preventive	\$630	\$0	\$0	\$0	\$630	76	76	

Plan Year: 2026		Estimated Cost: \$49,628					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$6,442	\$0	\$0	\$0	\$6,442	63	63	
A-2	Preventive	\$3,185	\$0	\$0	\$0	\$3,185	61	61	
R-1	Preventive	\$35,611	\$0	\$0	\$0	\$35,611	69	69	
T-1	Preventive	\$3,586	\$0	\$0	\$0	\$3,586	68	68	
T-3	Preventive	\$805	\$0	\$0	\$0	\$805	74	74	

Plan Year: 2027		Estimated Cost: \$56,793					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$7,620	\$0	\$0	\$0	\$7,620	61	61	
A-2	Preventive	\$3,782	\$0	\$0	\$0	\$3,782	59	59	
R-1	Preventive	\$40,383	\$0	\$0	\$0	\$40,383	68	68	
T-1	Preventive	\$4,043	\$0	\$0	\$0	\$4,043	68	68	
T-3	Preventive	\$964	\$0	\$0	\$0	\$964	72	72	

ROUNDUP AIRPORT

8/30/2012



A-1, Overview



A-1, Surface detail with crack



A-1, Surface detail with oil spill



A-2, Overview

ROUNDUP AIRPORT

8/30/2012



A-2, Surface detail with crack



R-1, Overview



R-1, Surface detail with crack 2



R-1, Surface detail with crack 3

ROUNDUP AIRPORT

8/30/2012



R-1, Surface detail with crack



T-1, Overview



T-1, Surface detail with crack



T-3, Overview

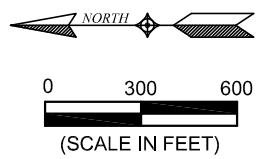
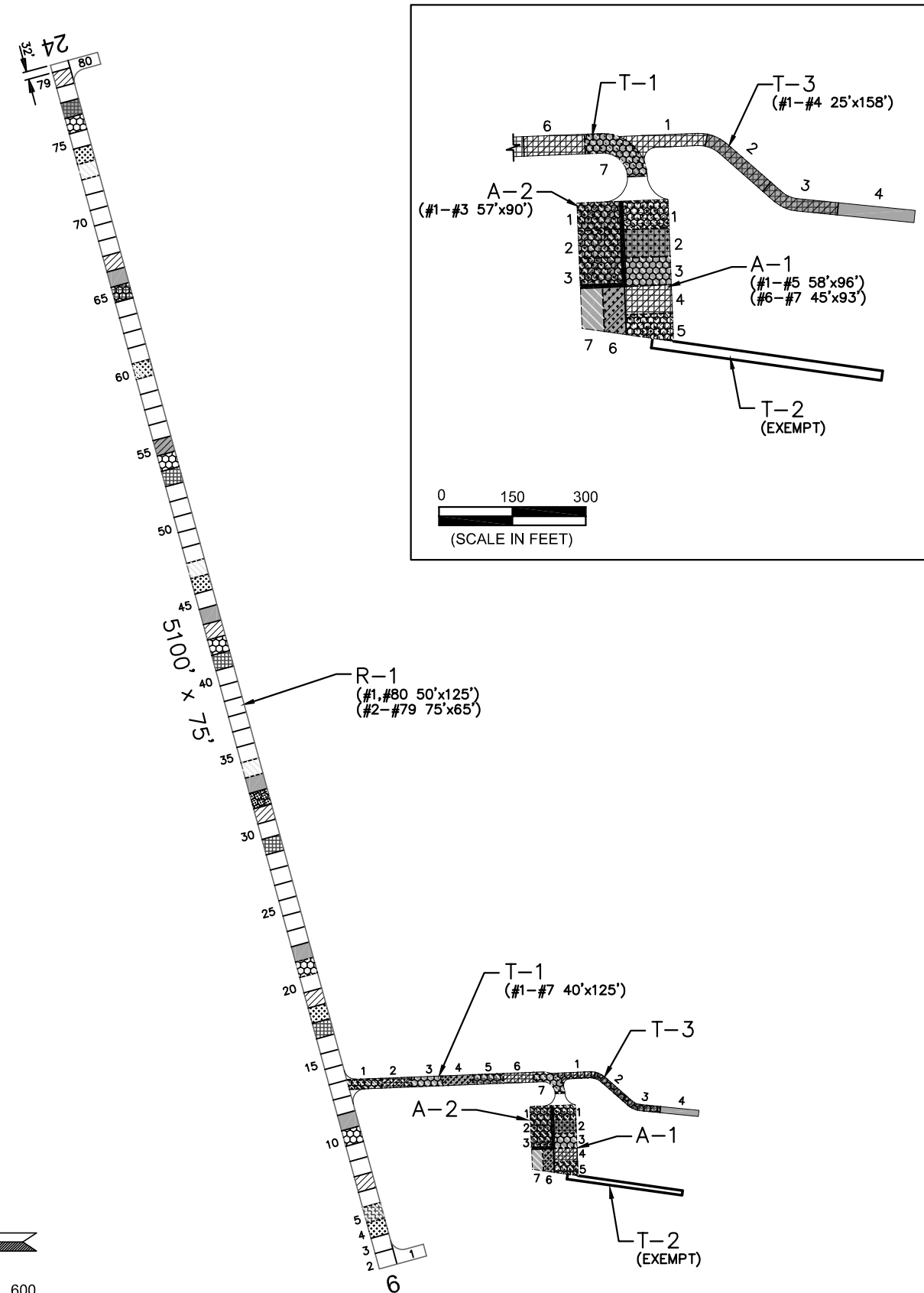
ROUNDUP AIRPORT

8/30/2012



T-3, Surface detail with crack

ROUNDUP




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	E-5	F5		10" P-208	2" P-401	2" P-401	22,000			▲▲▲▲▲
TAXIWAYS										
T-1	E-5	F5		10" P-208	1" P-609	2" P-401	14,000			▲▲▲▲▲
T-2	E-5	F5		10" P-208	2" P-401		22,000			▲▲▲▲▲
T-3				8" P-208	3" P-401		12,500			▲▲▲▲▲
APRONS										
A-1	E-5	F5		10" P-208	1" P-609	2" P-401	14,000			▲▲▲▲▲
A-2	E-5	F5		10" P-208	2" P-401	2" P-401	22,000			▲▲▲▲▲

REMARKS:

- ▲ ADAP-01, 1980, CONSTRUCT RUNWAY, TAXIWAY, AND APRON.
- ▲ AIP-001, 1987, REHABILITATE RUNWAY, TAXIWAY, AND APRON.
- ▲ AIP-003, 2002, CONSTRUCT HANGAR ACCESS TAXIWAY (T-3); OVERLAY RUNWAY (R-1), TAXIWAY (T-1), AND APRON (A-2,A-3).
- ▲ AIP-004, 2004, RUNWAY (R-1) PAVEMENT MAINTENANCE.
- ▲ AIP-007, 2007, CRACK SEAL, FOG SEAL, AND REMARK ALL PAVEMENTS.

LEGEND [Stippled] 1997 SURVEY AREA [Cross-hatched] 2000 SURVEY AREA [Grid] 2003 SURVEY AREA [Solid Grey] 2006 SURVEY AREA [Diagonal Lines] 2009 SURVEY AREA [Checkered] 2012 SURVEY AREA	DATE OF PAVEMENT STRENGTH SURVEY:	SEPT. 9, 1988	MONTANA AVIATION SYSTEM PLAN 2012 UPDATE - PAVEMENT CONDITION INDEXES
	EVALUATED BY:	J. STYBA	
	DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	AUG. 29, 2012	ROUNDUP AIRPORT
	EVALUATED BY:	S. BROWN	
			PREPARED FOR: 
			ROUNDUP MONTANA DATE: DEC. 2012
			PREPARED BY: 