

BIG SANDY AIRPORT

Branch: 18A

APRON

A-1

Length: 120 LF

Width: 48 LF

Area: 5,760 SF

Last Const: 1986

Family: PCAA

From: T-1

To: T-1

Surface: PCC

Inspections

Samples Surveyed: 2

Total Samples: 2

Last Inspection Date: 8/21/2012

PCI: 4

Sample # 1

Area: 20 SLABS

Distress Description	Severity	Quantity
CORNER BREAK	L	1 SLABS
CORNER BREAK	M	1 SLABS
LINEAR CRACKING	L	5 SLABS
LINEAR CRACKING	M	3 SLABS
JOINT SEAL DAMAGE	H	20 SLABS
LARGE PATCH/UTILITY	L	3 SLABS
FAULTING	L	5 SLABS
FAULTING	M	1 SLABS
SHATTERED SLAB	L	5 SLABS
SHATTERED SLAB	M	5 SLABS
SHATTERED SLAB	H	1 SLABS

Sample # 2

Area: 20 SLABS

Distress Description	Severity	Quantity
CORNER BREAK	L	1 SLABS
CORNER BREAK	M	1 SLABS
LINEAR CRACKING	L	4 SLABS
LINEAR CRACKING	M	7 SLABS
JOINT SEAL DAMAGE	H	20 SLABS
LARGE PATCH/UTILITY	L	8 SLABS
FAULTING	L	4 SLABS
FAULTING	M	6 SLABS
FAULTING	H	5 SLABS
SHATTERED SLAB	L	6 SLABS
SHATTERED SLAB	M	10 SLABS
SHRINKAGE CRACKING	N	1 SLABS

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
CORNER BREAK	L	2 SLABS	5.00%	4.07
CORNER BREAK	M	2 SLABS	5.00%	8.41
LINEAR CRACKING	L	9 SLABS	22.50%	14.48
LINEAR CRACKING	M	10 SLABS	25.00%	31.75
JOINT SEAL DAMAGE	H	40 SLABS	100.00%	12.00
LARGE PATCH/UTILITY	L	11 SLABS	27.50%	12.95
FAULTING	L	9 SLABS	22.50%	15.97
FAULTING	M	7 SLABS	17.50%	21.50
FAULTING	H	5 SLABS	12.50%	30.23
SHATTERED SLAB	L	11 SLABS	27.50%	31.06
SHATTERED SLAB	M	15 SLABS	37.50%	52.40
SHATTERED SLAB	H	1 SLABS	2.50%	20.98
SHRINKAGE CRACKING	N	1 SLABS	2.50%	0.61

* 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

63.0 % Load

5.0 % Climate/Durability

32.0 % Other

BIG SANDY AIRPORT

Branch: 18A

APRON

A-2

Length: 0 LF **Width:** 0 LF **Area:** 23,750 SF **Last Const:** 1986 **Family:** ACRMU
From: 0+00 BEGIN 6-24 **To:** 46+50 END RWY 6-24 **Surface:** AC

Inspections

Samples Surveyed: 2 **Total Samples:** 2 **Last Inspection Date:** 8/21/2012 **PCI:** 89

Sample # 1				Area: 5,248 SLABS
	Distress Description	Severity	Quantity	
	ALLIGATOR CRACKING	L	9 SF	
	LONGITUDINAL/TRANSVERSE CRACKING	L	4 LF	
	WEATHERING	L	52 SF	
Sample # 3				Area: 5,248 SLABS
	Distress Description	Severity	Quantity	
	ALLIGATOR CRACKING	L	48 SF	
	WEATHERING	L	52 SF	
Sample # 5				Area: 5,248 SF
	Distress Description	Severity	Quantity	
	WEATHERING	L	40 SF	

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
ALLIGATOR CRACKING	L	114 SqFt	0.36%	12.04
LONGITUDINAL/TRANSVERSE CRACKING	L	8 Ft	0.03%	2.50
WEATHERING	L	288 SqFt	0.91%	0.47

* 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

80.0 % Load

20.0 % Climate/Durability

0.0 % Other

BIG SANDY AIRPORT

Branch: 18R RUNWAY

R-11

Length: 3,651 LF **Width:** 60 LF **Area:** 219,060 SF **Last Const:** 2010 **Family:** ACRML
From: BEGINNING OF RUNWAY **To:** END OF RUNWAY **Surface:** AC

Inspections

Samples Surveyed: 7 **Total Samples:** 37 **Last Inspection Date:** 8/21/2012 **PCI:** 100

Sample #	Distress Description	Severity	Quantity	Area:
3	WEATHERING	L	48 SF	4,800 SF
8	WEATHERING	L	48 SF	4,800 SF
13	LONGITUDINAL/TRANSVERSE CRACKING WEATHERING	L L	2 LF 48 SF	4,800 SF
18	WEATHERING	L	48 SF	4,800 SF
24	WEATHERING	L	48 SF	4,800 SF
28	LONGITUDINAL/TRANSVERSE CRACKING WEATHERING	L L	2 LF 48 SF	4,800 SF
33	WEATHERING	L	48 SF	4,800 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
WEATHERING	L	2,191 LF	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 0.0 % Climate/Durability 0.0 % Other

BIG SANDY AIRPORT

Branch: 18T TAXIWAY

T-2

Length: 293 LF **Width:** 24 LF **Area:** 7,032 SF **Last Const:** 1993 **Family:** ACPL
From: T-1 **To:** HANGARS **Surface:** AC

Inspections

Samples Surveyed: 2 **Total Samples:** 2 **Last Inspection Date:** 8/22/2012 **PCI:** 50

Sample # 1

Area: 3,600 SF

Distress Description	Severity	Quantity
BLOCK CRACKING	L	33 SF
DEPRESSION	L	160 SF
DEPRESSION	M	494 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	58 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	26 LF
RAVELING	L	3 SF
WEATHERING	L	180 SF

Sample # 2

Area: 3,432 SF

Distress Description	Severity	Quantity
DEPRESSION	L	12 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	264 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	12 LF
PATCHING	M	1 SF
WEATHERING	L	344 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	M	1,012 SF	7.03%	35.61
LONGITUDINAL/TRANSVERSE CRACKING	L	659 LF	4.58%	13.85
DEPRESSION	L	352 SF	2.45%	12.84
LONGITUDINAL/TRANSVERSE CRACKING	M	78 LF	0.54%	8.59
PATCHING	M	2 SF	0.01%	6.2
BLOCK CRACKING	L	67 SF	0.46%	6.08
WEATHERING	L	1,071 SF	7.44%	1.4
RAVELING	L	6 SF	0.04%	1

* 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 44.0 % Climate/Durability 56.0 % Other

BIG SANDY AIRPORT

Branch: 18T TAXIWAY **T-3**

Length: 0 LF Width: 0 LF Area: 11,850 SF Last Const: 2010 Family: ACAM
 From: RW To: APRON Surface: AC

Inspections

Samples Surveyed: 3 Total Samples: 3 Last Inspection Date: 8/22/2012 **PCI: 97**

Sample #	Distress Description	Severity	Quantity	Area:
1	LONGITUDINAL/TRANSVERSE CRACKING	L	16 LF	4,250 SF
	WEATHERING	L	50 LF	
2	LONGITUDINAL/TRANSVERSE CRACKING	L	1 LF	4,000 SF
	WEATHERING	L	36 LF	
3	WEATHERING	L	36 LF	3,600 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	21 Ft	0.13%	2.56
WEATHERING	L	166 SqFt	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

BIG SANDY AIRPORT

FIRST YEAR LOCAL: 2013 **LOCAL REPAIR COST: \$10,310**

Section	Distress Description	Severity	Quantity	Work Description	Quantity	Cost	Policy
A-1	SHAT. SLAB	H	1 Slabs	Slab Replacement - PCC	144 SF	\$10,080	SAFETY
T-1	BLOCK CR	M	48 SF	Crack Sealing - AC	15 LF	\$37	PREV.
T-1	L & T CR	M	78 LF	Crack Sealing - AC	78 LF	\$194	PREV.

FIFTEEN YEAR PROJECTIONS **ESTIMATED AVERAGE ANNUAL COST: \$19,047**

Plan Year: 2013		Estimated Cost: \$80,081					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Major Below Critical	\$0	\$0	\$46,080	\$0	\$46,080	2	100	
A-2	Preventive	\$100	\$0	\$0	\$0	\$100	87	87	
T-1	Global MR + Preventive	\$2,859	\$2,500	\$0	\$0	\$5,359	51	54	
T-2	Major Below Critical	\$0	\$0	\$74,722	\$0	\$74,722	49	100	

Plan Year: 2014		Estimated Cost: \$2,872					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-2	Preventive	\$207	\$0	\$0	\$0	\$207	84	84	
T-1	Preventive	\$2,665	\$0	\$0	\$0	\$2,665	53	53	

Plan Year: 2015		Estimated Cost: \$16,315					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-2	Global MR + Preventive	\$312	\$8,351	\$0	\$0	\$8,663	81	87	
R-11	Preventive	\$166	\$0	\$0	\$0	\$166	89	89	
T-1	Preventive	\$2,998	\$0	\$0	\$0	\$2,998	51	51	
T-2	Preventive	\$30	\$0	\$0	\$0	\$30	88	88	
T-3	Global MR + Preventive	\$55	\$4,403	\$0	\$0	\$4,458	87	95	

Plan Year: 2016		Estimated Cost: \$56,804					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$19	\$0	\$0	\$0	\$19	87	87	
A-2	Preventive	\$208	\$0	\$0	\$0	\$208	84	84	
R-11	Preventive	\$965	\$0	\$0	\$0	\$965	86	86	
T-1	Major Below Critical	\$0	\$0	\$55,735	\$0	\$55,735	49	100	
T-2	Preventive	\$104	\$0	\$0	\$0	\$104	83	84	

Plan Year: 2017		Estimated Cost: \$2,317					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$42	\$0	\$0	\$0	\$42	84	84	
A-2	Preventive	\$320	\$0	\$0	\$0	\$320	81	81	
R-11	Preventive	\$1,732	\$0	\$0	\$0	\$1,732	83	83	
T-2	Preventive	\$210	\$0	\$0	\$0	\$210	79	79	
T-3	Preventive	\$56	\$0	\$0	\$0	\$56	87	87	

Plan Year: 2018		Estimated Cost: \$3,059					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$63	\$0	\$0	\$0	\$63	80	81	
A-2	Preventive	\$632	\$0	\$0	\$0	\$632	78	78	
R-11	Preventive	\$2,461	\$0	\$0	\$0	\$2,461	80	80	
T-1	Preventive	\$23	\$0	\$0	\$0	\$23	88	88	
T-2	Preventive	\$457	\$0	\$0	\$0	\$457	76	76	
T-3	Preventive	\$119	\$0	\$0	\$0	\$119	84	84	

Plan Year: 2019		Estimated Cost: \$947					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$131	\$0	\$0	\$0	\$131	78	78	
A-2	Preventive	\$1,041	\$0	\$0	\$0	\$1,041	76	76	
R-11	Preventive	\$4,748	\$0	\$0	\$0	\$4,748	78	78	
T-1	Preventive	\$79	\$0	\$0	\$0	\$79	83	84	
T-3	Preventive	\$181	\$0	\$0	\$0	\$181	81	81	
T-2	Preventive	\$686	\$0	\$0	\$0	\$686	73	73	

Plan Year: 2020		Estimated Cost: \$13,636					PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$205	\$0	\$0	\$0	\$205	75	75	
A-2	Global MR + Preventive	\$1,450	\$9,682	\$0	\$0	\$11,132	73	79	
R-11	Preventive	\$7,088	\$0	\$0	\$0	\$7,088	76	76	
T-1	Preventive	\$159	\$0	\$0	\$0	\$159	79	79	
T-2	Preventive	\$921	\$0	\$0	\$0	\$921	70	70	
T-3	Global MR + Preventive	\$363	\$5,104	\$0	\$0	\$5,467	78	84	

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Plan Year: 2021			Estimated Cost: \$12,207				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$276	\$0	\$0	\$0	\$276	73	73	
A-2	Preventive	\$1,061	\$0	\$0	\$0	\$1,061	76	76	
T-3	Preventive	\$186	\$0	\$0	\$0	\$186	81	81	
R-11	Preventive	\$9,235	\$0	\$0	\$0	\$9,235	74	74	
T-1	Preventive	\$347	\$0	\$0	\$0	\$347	76	76	
T-2	Preventive	\$1,379	\$0	\$0	\$0	\$1,379	67	68	

Plan Year: 2022			Estimated Cost: \$2,681				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$345	\$0	\$0	\$0	\$345	71	71	
A-2	Preventive	\$1,494	\$0	\$0	\$0	\$1,494	73	74	
R-11	Preventive	\$11,192	\$0	\$0	\$0	\$11,192	73	73	
T-1	Preventive	\$521	\$0	\$0	\$0	\$521	73	73	
T-2	Preventive	\$1,802	\$0	\$0	\$0	\$1,802	65	66	
T-3	Preventive	\$359	\$0	\$0	\$0	\$359	78	79	

Plan Year: 2023			Estimated Cost: \$3,498				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$450	\$0	\$0	\$0	\$450	69	69	
A-2	Preventive	\$1,926	\$0	\$0	\$0	\$1,926	71	71	
R-11	Preventive	\$12,978	\$0	\$0	\$0	\$12,978	71	72	
T-1	Preventive	\$699	\$0	\$0	\$0	\$699	70	70	
T-2	Preventive	\$2,196	\$0	\$0	\$0	\$2,196	64	64	
T-3	Preventive	\$602	\$0	\$0	\$0	\$602	76	76	

Plan Year: 2024			Estimated Cost: \$4,462				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$595	\$0	\$0	\$0	\$595	68	68	
A-2	Preventive	\$2,632	\$0	\$0	\$0	\$2,632	69	69	
R-11	Preventive	\$14,615	\$0	\$0	\$0	\$14,615	70	71	
T-1	Preventive	\$1,047	\$0	\$0	\$0	\$1,047	67	68	
T-2	Preventive	\$2,569	\$0	\$0	\$0	\$2,569	62	62	
T-3	Preventive	\$846	\$0	\$0	\$0	\$846	73	73	

Plan Year: 2025			Estimated Cost: \$28,161				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$737	\$0	\$0	\$0	\$737	66	66	
A-2	Global MR + Preventive	\$3,627	\$11,224	\$0	\$0	\$14,851	67	71	
R-11	Preventive	\$16,864	\$0	\$0	\$0	\$16,864	70	70	
T-1	Preventive	\$1,367	\$0	\$0	\$0	\$1,367	65	66	
T-2	Preventive	\$2,926	\$0	\$0	\$0	\$2,926	61	61	
T-3	Global MR + Preventive	\$1,087	\$5,917	\$0	\$0	\$7,004	71	76	

Plan Year: 2026			Estimated Cost: \$25,581				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$875	\$0	\$0	\$0	\$875	65	65	
A-2	Preventive	\$2,687	\$0	\$0	\$0	\$2,687	69	69	
R-11	Preventive	\$19,719	\$0	\$0	\$0	\$19,719	69	69	
T-1	Preventive	\$1,667	\$0	\$0	\$0	\$1,667	64	64	
T-2	Preventive	\$3,324	\$0	\$0	\$0	\$3,324	60	60	
T-3	Preventive	\$871	\$0	\$0	\$0	\$871	74	74	

Plan Year: 2027			Estimated Cost: \$33,085				PCI		
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$1,011	\$0	\$0	\$0	\$1,011	63	63	
A-2	Preventive	\$3,743	\$0	\$0	\$0	\$3,743	67	67	
R-11	Preventive	\$22,466	\$0	\$0	\$0	\$22,466	68	68	
T-1	Preventive	\$1,948	\$0	\$0	\$0	\$1,948	62	62	
T-2	Preventive	\$3,800	\$0	\$0	\$0	\$3,800	58	58	
T-3	Preventive	\$1,128	\$0	\$0	\$0	\$1,128	71	71	

BIG SANDY AIRPORT

8/21/2012



A-1, Overview



A-1, Surface detail with crack



A-2, Surface detail with cracks



R-11 Overview

BIG SANDY AIRPORT

8/21/2012



R-11, Surface detail with crack



R-11 Surface detail with cracks



T-1, Surface detail with patching (50)



T-2 Overview with depression

BIG SANDY AIRPORT

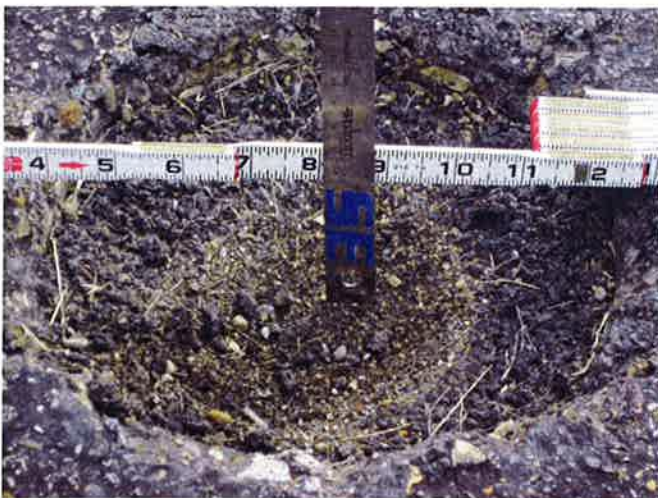
8/21/2012



T-2, Overview



T-2, Surface detail with depression

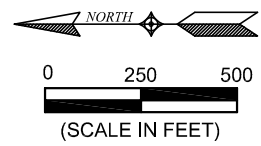
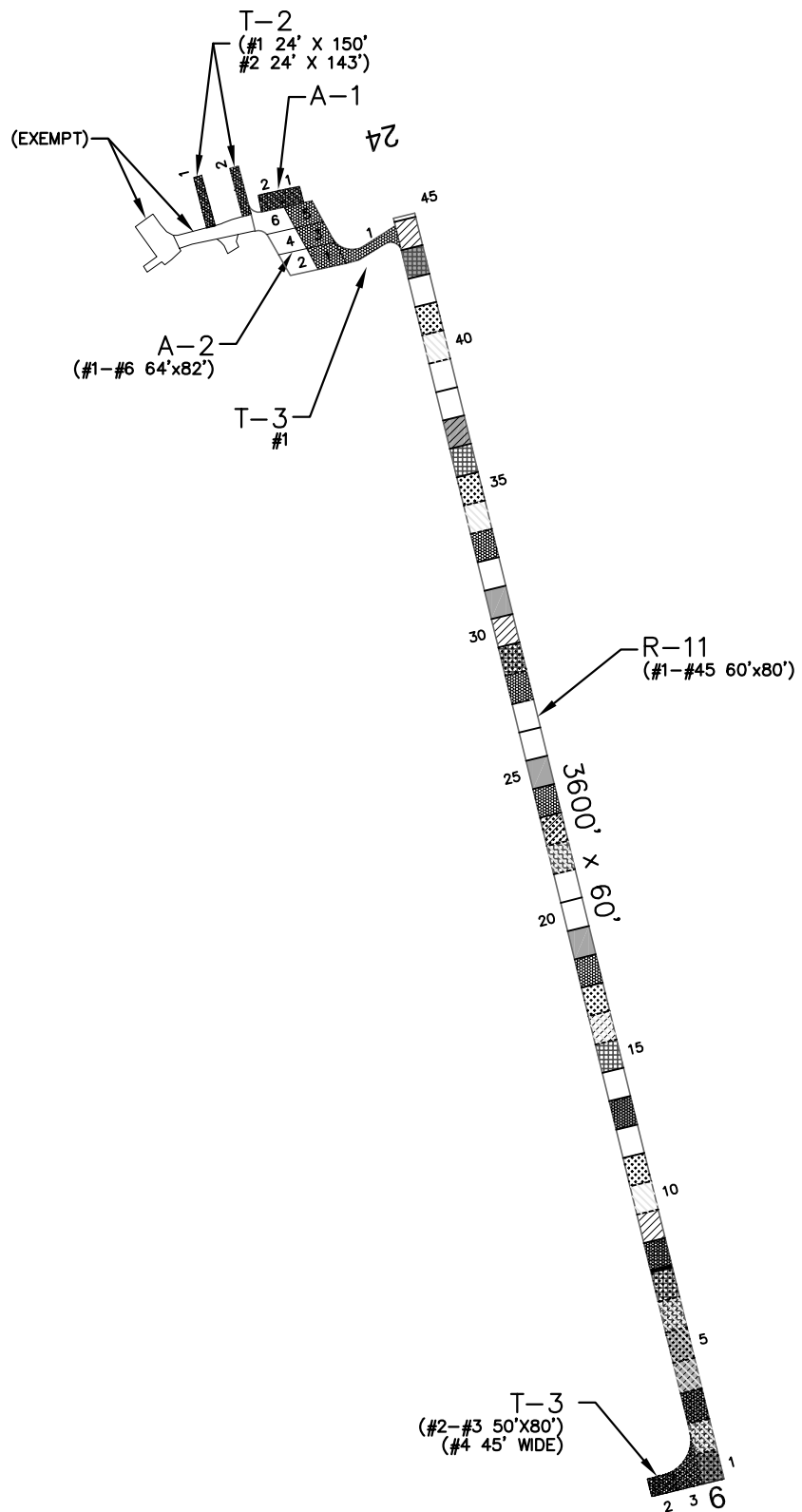


T-2, Surface detail with patch



T-2, Surface detail

BIG SANDY



PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

BIG SANDY

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-11		CBR=2.0		13" P-209	3" P-401		12,500			<4
TAXIWAYS										
T-2					3" P-401					<2 <3
T-3		CBR=2.0		13" P-209	3" P-401		12,500			<4
APRONS										
A-1					PCC					<4
A-2		CBR=2.0		13" P-209	3" P-401		12,500			<4

REMARKS:

- ▷ 1986
- ▷ AIP-01, 1993, REHABILITATE AND EXTEND RUNWAY 6-24, REHABILITATE CONNECTING TAXIWAY, CONSTRUCT TURNAROUND AND HANGAR ACCESS TAXIWAY.
- ▷ AIP-002, 2005, CRACK SEAL, FOG SEAL, AND REMARK AIRCRAFT PAVEMENTS (R-1,R-2,T-1,T-2).
- ▷ AIP-004-2010, RECONSTRUCT RUNWAY 6-24 (R-11) AND CONSTRUCT APRON (A-2) AND CONNECTING TAXIWAY (T-3).

LEGEND

- ▨ 1997 SURVEY AREA
- ▨ 2000 SURVEY AREA
- ▨ 2003 SURVEY AREA
- ▨ 2006 SURVEY AREA
- ▨ 2009 SURVEY AREA
- ▨ 2012 SURVEY AREA

DATE OF PAVEMENT STRENGTH SURVEY:	AUG. 8, 1968
EVALUATED BY:	G. GATES
DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	AUG. 22, 2012
EVALUATED BY:	S. BROWN

MONTANA AVIATION SYSTEM PLAN 2012 UPDATE - PAVEMENT CONDITION INDEXES		
BIG SANDY AIRPORT		
	BIG SANDY MONTANA	
		DATE: SEPT. 2012