

PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

PAVE. IDENT.		SUB			SURFACE COURSE	OVERLAY	PAVE	REMARKS		
	SOIL CLASS	GRADE	SUBBASE COURSE	BASE COURSE			MAX. G			
		CLASS		0001101			SINGLE	DUAL	DUAL TAN.	
					RUNWAYS					
R-11	CBR=4		11" P-207	6" P-209	4" P-401		60,000	78,000	99,900	3
					TAXIWAYS					
T-3	CBR=4		13" P-207	4" P-209	3" P-401		12,500	30,000		4
T-11	CBR=4		11" P-207	6" P-209	4" P-401		60,000	78,000	99,900	3
T-11A	CBR=4		11" P-154	6" P-209	4" P-401		60,000	78,000	99,900	4
T-12	CBR=4		13" P-207	4" P-209	3" P-401		12,500	30,000		3
					APRONS					
A-2	CBR=4		11" P-154	6" P-209	4" P-401		60,000	78,000	99,900	4
A-3	CBR=4		11" P-154	6" P-209	4" P-401		60,000	78,000	99,900	4
A-11	CBR=4		11" P-207	6" P-209	4" P-401		60,000	78,000	99,900	3
	_									_

- 1. AIP-003-1988, ALL NEW PAVEMENTS.
- 2. AIP-004-2000, OVERLAY EXISTING BITUMINOUS RUNWAY, TAXIWAY, APRON, AND TURNAROUNDS.
- 3. AIP-011-2014, RECONSTRUCT AND LENGTHEN RUNWAY (R-11); CONSTRUCT RUNWAY 17 TURNAROUND (T-11); RECONSTRUCT TAXIWAY (T-11); RECONSTRUCT APRON (A-11); RECONSTRUCT TAXILANE (T-12).
- 4. AIP-013-2018, WIDEN TAXIWAY (T-11A), EXPAND APRON (A-2), CONSTRUCT TAXIWAY (T-3) AND APRONS (A-3). [UNDER CONSTRUCTION, NOT INSPECTED IN 2018]

LE	EGEND 2006 SURVEY AREA (N/A)	DATE OF PAVEMENT STRENGTH SURVEY:			NTANA AVIATION SYST PRINTED PRINTED PR	
	2009 SURVEY AREA	EVALUATED BY:			TWIN BRIDGES AIR	PORT
	2012 SURVEY AREA (N/A) 2015 SURVEY AREA	DATE OF MOST			(751)	
	(NOT SURVEYED) 亞 2018 SURVEY AREA	RECENT PAVEMENT CONDITION SURVEY:	OCT. 9, 2018	Date:	Prepared For: MONTANA	Prepared By:
	MAINTAIN: PCI > 60	EVALUATED BY:	S. BROWN	DECEMBER 2018	MDTA	
	TRANSITION: PCI 45 TO 60 RECONSTRUCT: PCI < 45	LOCATION:	TWIN BRIDGES MONTANA	2016	DEPARTMENT OF TRANSPORTAT	TION

October 9, 2018





R-11, Overview



T-11, Overview



A-11, Crack



R-11, Crack



T-11, Patch





T-12, Overview T-12, Crack

TWIN	BRIDGE	S AIRPORT			Branch:	51A	APR	ON		A-11
Length:	571 LF	Width: 300 LF	Area:	169,330 SF	Las	t Const:	2014		Family:	ACAI
From:	ENTIRE APRO	N	To:						Surface:	A(
				Inspections						
Samples S	Surveyed:	5	Total Samples:	18	Last Inspection	on Date:	10/9/2018		PCI:	97
Sample #	1							Area:	4,900 S	F
		Distress Description NO DISTRESSES			Severity	Quanti	ity			
Sample #	5							Area:	4,900 S	F
•		Distress Description			Severity	Quanti	ity			
		LONGITUDINAL/TR	ANSVERSE CR	ACKING	L	20 I	F			
		PATCHING			L	15.71 \$	SF			
Sample #	9							Area:	4,900 S	F
oumpre		Distress Description			Severity	Quanti	itv	111000	.,,,,,,,	-
		LONGITUDINAL/TR	ANSVERSE CR	ACKING	L	20 I	•			
		PATCHING			L	6.28 \$	SF			
Sample #	13							Area:	4,900 S	F
~ 		Distress Description			Severity	Quanti	itv		.,,,,,,,	-
		PATCHING			L	12.76 \$	•			
Sample #	17							Area:	4,180 S	lF.
Sample "	17	Distress Description			Severity	Quanti	itv	micu.	٠,١٥٥ ١	
		NO DISTRESSES			Severity	Quuni	,			
			Extrapola	ted Distress Q	uantities*					
		Distress Description			Severity	Quanti	•	Density		Deduct
		LONGITUDINAL/TR	ANSVERSE CR	ACKING	LOW	285 I		0.17%		2.87
		PATCHING			LOW	247 \$	SF	0.15%		2.01
* Multiple o	deduct values are sca	led down from their algeb	oraic sum to keep th	ne model consiste	ent with experim	ental data.				
			ent of Deduct Va							
		0.0 % Load		100.0 %	Climate/Dura	bility			0.0	6 Other

Length:	6,000 LF	Width:	60 LF	Area:	258,000 SI	Branch: Las	51R t Const:	2014	WAI	Family:	R-11 ACRH
From:	RWY 17-35 STA	A 0+00		To:	RWY 17-35 S	ГА 60+00				Surface:	AC
					Inspections						
Samples S	urveyed:	7	Tot	tal Samples	: 75	Last Inspection	n Date:	10/9/2018		PCI:	97
Sample #	1	Distress Desc LONGITUDI PATCHING	•	SVERSE CI	RACKING	Severity L L	Quant 2 0.09	LF	Area:	4,800 SI	F
Sample #	12	Distress Desc	-	SVERSE CI	RACKING	Severity L	Quant 7	iity LF	Area:	4,800 SI	F
Sample #	23	Distress Desc	-	SVERSE CI	RACKING	Severity L	Quant 6	iity LF	Area:	4,800 SI	F
Sample #	34	Distress Desc	-	SVERSE CI	RACKING	Severity L	Quant	•	Area:	4,800 SI	F
Sample #	45	Distress Desc	-			Severity	Quant	iity	Area:	4,800 SI	F
Sample #	56	Distress Desc	-	SVERSE CI	RACKING	Severity L	Quant 6	iity LF	Area:	4,800 SI	F
Sample #	67	Distress Des		SVERSE CI	RACKING	Severity L	Quant 8	iity LF	Area:	4,800 SI	F
				Extrapol	ated Distress Q	uantities*					
* Multiple d	educt values are sca	Distress Desc LONGITUDI PATCHING led down from t	INAL/TRAN	SVERSE CI	RACKING	Severity LOW LOW		•	Density 0.12% 0.00%		2.50 2.00
1					alues Based on	•					

TWIN	BRIDGE	S AIRP(ORT			Branch:	51T	TAX	IWAY		T-11
Length:	2,600 LF	Width:	25 LF	Area:	73,320 SI	F Las	t Const:	2014		Family:	ACRH
From:	RWY 16-34 17+	00		To:	APRON					Surface:	AC
					Inspections						
Samples S	urveyed:	5	Т	otal Samples:	: 22	Last Inspection	on Date:	10/9/2018		PCI:	94
Sample #	2	Distress Des NO DISTRE				Severity	Quan	tity	Area:	4,845 \$	SF
Sample #	7	Distress Des		NSVERSE CF	RACKING	Severity L	Quan 17	•	Area:	5,000 \$	SF
Sample #	12	Distress Des		NSVERSE CE	RACKING	Severity L	Quan 16	•	Area:	5,000 \$	SF
Sample #	17	Distress Des NO DISTRE	-			Severity	Quan	tity	Area:	4,400 \$	SF
Sample #	22	Distress Des DEPRESSIO PATCHING				Severity L L	Quan 225 0.37	SF	Area:	4,775 \$	SF
				Extrapol	ated Distress Q	uantities*					
		Distress Des	•			Severity	Quan	•	Density		Deduct
		DEPRESSIO				LOW	964		0.94%		6.27
			INAL/TRA	NSVERSE CE	RACKING	LOW	141		0.14%		2.63
		PATCHING				LOW		SF	0.00%		2.00
* Multiple d	leduct values are sca	led down from	their algebra	ic sum to keep	the model consist	ent with experim	ental data.				
				t of Deduct V	alues Based on						
		0.0	% Load		42.0 %	Climate/Dura	bility			58.0	% Other

TWIN	BRIDGI	ES AIRPORT	Branch:	51T	TAXIWAY	T-12
Length: From:	200 LF A-11	Width: 25 LF Area: 17 To: HANG	,	Const: 2014		Family: ACRML Surface: AC
		Inspe	ections			
Samples S	urveyed:	3 Total Samples: 3	Last Inspectio	n Date: 10/9	9/2018	PCI: 99
Sample #	1	Distress Description LONGITUDINAL/TRANSVERSE CRACKIN	Severity NG L	Quantity 1 LF	Area:	5,000 SF
Sample #	2	Distress Description PATCHING	Severity L	Quantity 0.09 SF	Area:	5,000 SF
Sample #	3	Distress Description NO DISTRESSES	Severity	Quantity	Area:	5,000 SF
		Extrapolated Di	stress Quantities*			
		Distress Description LONGITUDINAL/TRANSVERSE CRACKIN PATCHING	Severity NG LOW LOW	Quantity 1 LF 0 SF	Density 0.01% 0.00%	Deduct 2.50 2.00
* Multiple d	leduct values are s	caled down from their algebraic sum to keep the mode			0.00%	2.00
. F		Percent of Deduct Values B				
			100.0 % Climate/Dural			0.0 % Other

TWIN BRIDGES AIRPORT (51)

	EAR PROJECTIONS	(/		EST	TIMATED AVERAG	E ANNUAL COST:		\$45,223
Plan Year:	2019	l a sal	Clabal.		Estimated Cost:	\$210,848	PCI	
Section	Maintenance	Local	Global	Major <crit< td=""><td>Major>Crit</td><td>Total</td><td>Before</td><td>After</td></crit<>	Major>Crit	Total	Before	After
A-11 R-11	Global MR Global MR	\$0 \$0	\$57,572 \$122,399	\$0 \$0	\$0 \$0	\$57,572 \$122,399	97 97	99 99
T-11	Global MR	, \$0	\$24,929	\$0	\$0	\$24,929	94	98
T-12	Global MR	\$0	\$5,949	\$0	\$0	\$5,949	99	100
Plan Year:					Estimated Cost:	\$0	PCI	
Section	Maintenance	Local	Global	Major <crit< td=""><td>Major>Crit</td><td>Total</td><td>Before</td><td>After</td></crit<>	Major>Crit	Total	Before	After
A-11	None None	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	98 98	98 98
R-11 T-11	None	, \$0	\$0	\$0	, \$0	\$0	97	97
T-12	None	\$0	\$0	\$0	\$0	\$0	99	99
Plan Year:					Estimated Cost:	\$0_	PCI	
Section	Maintenance	Local	Global	Major <crit< td=""><td>Major>Crit</td><td>Total</td><td>Before</td><td>After</td></crit<>	Major>Crit	Total	Before	After
A-11 R-11	None None	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	98 98	98 98
T-11	None	, \$0	, \$0	, \$0	, \$0	\$0	95	95
T-12	None	\$0	\$0	\$0	\$0	\$0	99	99
Plan Year:		11	Clabal	NA-1	Estimated Cost:	\$0	PCI	
Section	Maintenance	Local	Global	Major <crit< td=""><td>Major>Crit</td><td>Total</td><td>Before</td><td>After</td></crit<>	Major>Crit	Total	Before	After
A-11 R-11	None None	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	97 97	97 97
T-11	None	\$0	\$0	\$0	\$0	\$0	94	94
T-12	None	\$0	\$0	\$0	\$0	\$0	99	99
Plan Year:		lassi	Clahal	B.d. ai au a Cuit	Estimated Cost:	\$0_ Tatal	PCI	
Section	Maintenance	Local	Global	Major <crit< td=""><td>Major>Crit</td><td>Total</td><td>Before</td><td>After</td></crit<>	Major>Crit	Total	Before	After
A-11 R-11	None None	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	96 96	96 96
T-11	None	\$0	\$0	\$0	\$0	\$0	92	92
T-12	None	\$0	\$0	\$0	\$0	\$0	99	99
Plan Year:		11	Clabal	B.B Laura Colle	Estimated Cost:	\$210,848	PCI	
Section	Maintenance	Local	Global	Major <crit< td=""><td>Major>Crit</td><td>Total</td><td>Before</td><td>After</td></crit<>	Major>Crit	Total	Before	After
A-11 R-11	Global MR Global MR	\$0 \$0	\$57,572 \$122,399	\$0 \$0	\$0 \$0	\$57,572 \$122,399	95 95	98 98
T-11	Global MR	, \$0	\$24,929	, \$0	\$0	\$24,929	91	95
T-12	Global MR	\$0	\$5,949	\$0	\$0	\$5,949	98	99
Plan Year:	2025 Maintenance	Local	Global	MajousCuit	Estimated Cost:	\$0_	PCI Before	After
Section				Major <crit< td=""><td>Major>Crit</td><td>Total</td><td></td><td></td></crit<>	Major>Crit	Total		
A-11 R-11	None None	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	97 97	97 97
T-11	None	\$0	\$0	\$0 \$0	\$0	\$0	94	94
T-12	None	\$0	\$0	\$0	\$0	\$0	99	99
Plan Year: Section	2026 Maintenance	Local	Global	Major <crit< td=""><td>Estimated Cost: Major>Crit</td><td>\$0_ Total</td><td>PCI Before</td><td>After</td></crit<>	Estimated Cost: Major>Crit	\$0_ Total	PCI Before	After
Section					·			
A-11 R-11	None None	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	96 96	96 96
T-11	None	\$0	\$0	\$0	\$0	\$0	92	92
T-12	None	\$0	\$0	\$0	\$0	\$0	99	99
Plan Year:		Local	Clabal	Maiou (Cuit	Estimated Cost:	\$0	PCI	
Section	Maintenance	Local	Global	Major <crit< td=""><td>Major>Crit</td><td>Total</td><td>Before</td><td>After</td></crit<>	Major>Crit	Total	Before	After
A-11 R-11	None None	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	95 95	95 95
T-11	None	\$0	\$0	\$0	\$0	\$0	91	91
T-12	None	\$0	\$0	\$0	\$0	\$0	98	98
Plan Year:		Local	Global	MajoreCrit	Estimated Cost:	\$71_	PCI	
Section	Maintenance	Local	Global	Major <crit< td=""><td>Major>Crit</td><td>Total</td><td>Before</td><td>After</td></crit<>	Major>Crit	Total	Before	After
A-11 R-11	None None	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	95 95	95 95
T-11	Preventive	\$ 7 1	\$0	\$0	\$0	\$71	89	89
T-12	None	\$0	\$0	\$0	\$0	\$ 0	98	98

TWIN BRIDGES AIRPORT (51)

FIFTEEN Y	EAR PROJECTIONS	•		EST	TIMATED AVERAGE	ANNUAL COST:		\$45,223
Plan Year: Section	2029 Maintenance	Local	Global	Major <crit< th=""><th>Estimated Cost: Major>Crit</th><th>\$211,025 _ Total</th><th>PC Before</th><th>I After</th></crit<>	Estimated Cost: Major>Crit	\$211,025 _ Total	PC Before	I After
A-11 R-11 T-11 T-12	Global MR Global MR Preventive + Global MR Global MR	\$0 \$0 \$177 \$0	\$57,572 \$122,399 \$24,929 \$5,949	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$57,572 \$122,399 \$25,106 \$5,949	94 94 88 98	96 96 92 99
Plan Year: Section	2030 Maintenance	Local	Global	Major <crit< td=""><td>Estimated Cost: Major>Crit</td><td>\$0_ Total</td><td>PC Before</td><td>l After</td></crit<>	Estimated Cost: Major>Crit	\$0_ Total	PC Before	l After
A-11 R-11 T-11 T-12	None None None	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	95 95 91 98	95 95 91 98
Plan Year: Section	2031 Maintenance	Local	Global	Major <crit< td=""><td>Estimated Cost: Major>Crit</td><td>\$59 Total</td><td>PC Before</td><td>l After</td></crit<>	Estimated Cost: Major>Crit	\$59 Total	PC Before	l After
A-11 R-11 T-11 T-12	None None Preventive None	\$0 \$0 \$59 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$59 \$0	95 95 89 98	95 95 89 98
Plan Year: Section	2032 Maintenance	Local	Global	Major <crit< td=""><td>Estimated Cost: Major>Crit</td><td>\$166 _ Total</td><td>PC Before</td><td>l After</td></crit<>	Estimated Cost: Major>Crit	\$166 _ Total	PC Before	l After
A-11 R-11 T-11 T-12	None None Preventive None	\$0 \$0 \$166 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$166 \$0	94 94 88 98	94 94 88 98
Plan Year: Section	2033 Maintenance	Local	Global	Major <crit< td=""><td>Estimated Cost: Major>Crit</td><td>\$272 _ Total</td><td>PC Before</td><td>l After</td></crit<>	Estimated Cost: Major>Crit	\$272 _ Total	PC Before	l After
A-11 R-11 T-11 T-12	None None Preventive None	\$0 \$0 \$272 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$0 \$0 \$272 \$0	93 93 86 98	93 93 86 98