PLENTYWOOD AIRPORT

Branch: 36A **APRON** **A-11**

Length: 417 LF **Width:** 182 LF **Area:** 73,348 SF **Last Const:** 2001 **Family:** ACAM
From: T-1 **To:** TIEDOWNS **Surface:** AAC

Inspections

Samples Surveyed: 5 **Total Samples:** 16 **Last Inspection Date:** 8/23/2012 **PCI: 77**

Sample # 3 **Area:** 4,550 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	143 LF
RAVELING	L	228 SF
RAVELING	M	80 SF
WEATHERING	L	3,413 SF

Sample # 6 **Area:** 5,400 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	155 LF
RAVELING	L	228 SF
WEATHERING	L	2,275 SF

Sample # 9 **Area:** 4,550 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	211 LF
RAVELING	L	228 SF
WEATHERING	L	4,095 SF

Sample # 12 **Area:** 4,550 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	240 LF
RAVELING	L	228 SF
WEATHERING	L	4,323 SF

Sample # 15 **Area:** 4,550 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	179 LF
RAVELING	L	228 SF
WEATHERING	L	4,323 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	2,884 LF	3.93%	12.36
RAVELING	L	3,543 LF	4.83%	6.67
RAVELING	M	249 LF	0.34%	5.42
WEATHERING	L	57,272 LF	78.08%	5.67

* 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

PLENTYWOOD AIRPORT

Branch: 36R APRON **R-11**

Length: 3,900 LF **Width:** 75 LF **Area:** 292,500 SF **Last Const:** 2001 **Family:** ACRMU
From: 12+00 **To:** 51+00 **Surface:** AC

Inspections

Samples Surveyed: 7 **Total Samples:** 16 **Last Inspection Date:** 8/23/2012 **PCI: 76**

Sample # 2 **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	125 LF
RAVELING	M	334 SF
WEATHERING	L	975 SF

Sample # 11 **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	231 LF
RAVELING	L	244 SF
WEATHERING	L	975 SF

Sample # 20 **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	237 LF
RAVELING	M	6 SF
RAVELING	L	244 SF
WEATHERING	L	975 SF

Sample # 29 **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	171 LF
RAVELING	M	15 SF
RAVELING	L	244 SF
WEATHERING	L	975 SF

Sample # 38 **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	147 LF
RAVELING	M	8 SF
RAVELING	L	244 SF
WEATHERING	L	975 SF

Sample # 47 **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	74 LF
RUTTING	L	244 SF
WEATHERING	L	1219 SF

Sample # 56 **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	86 LF
RAVELING	L	244 SF
WEATHERING	L	1219 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	9,180 LF	3.14%	10.40
RAVELING	L	10,457 LF	3.58%	5.63
RAVELING	M	3,111 LF	1.06%	8.06
RUTTING	L	2,091 LF	0.72%	13.96
WEATHERING	L	62,679 LF	21.43%	2.94

* 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

34.0 **% Load** 66.0 **% Climate/Durability** 0.0 **% Other**

PLENTYWOOD AIRPORT

Branch: 36T TAXIWAY **T-11**

Length: 4,320 LF **Width:** 32 LF **Area:** 141,080 SF **Last Const:** 2001 **Family:** ACRMU
From: R-11 **To:** A-11 **Surface:** AC

Inspections

Samples Surveyed: 5 **Total Samples:** 29 **Last Inspection Date:**

PCI: 81

Sample # 4 **Area:** 4,375 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	112 LF
RAVELING	L	88 SF
WEATHERING	L	2,188 SF

Sample # 10 **Area:** 4,930 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	228 LF
RAVELING	L	99 SF
WEATHERING	L	2,188 SF

Sample # 16 **Area:** 4,375 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	125 LF
RAVELING	L	88 SF
WEATHERING	L	656 SF

Sample # 22 **Area:** 4,464 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	152 LF
RAVELING	L	88 SF
WEATHERING	L	3,348 SF

Sample # 28 **Area:** 4,875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	195 LF
RAVELING	L	98 SF
WEATHERING	L	1,609 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	4,977 LF	3.53%	11.38
RAVELING	L	2,825 LF	2.00%	3.99
WEATHERING	L	61,215 LF	43.39%	4.49

* 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

PLENTYWOOD AIRPORT

FIRST YEAR LOCAL: 2013						LOCAL REPAIR COST:	$0
Section	**Distress Description**	**Severity**	**Quantity**	**Work Description**	**Quantity**	**Cost**	**Policy**

FIFTEEN YEAR PROJECTIONS	ESTIMATED AVERAGE ANNUAL COST:	$69,167

Plan Year: 2013 — Estimated Cost: $139,555

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Global MR + Preventive	$2,092	$18,337	$0	$0	$20,429	75	81
R-11	Global MR + Preventive	$9,044	$73,126	$0	$0	$82,169	75	79
T-11	Global MR + Preventive	$1,687	$35,270	$0	$0	$36,957	80	85

Plan Year: 2014 — Estimated Cost: $9,143

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$1,287	$0	$0	$0	$1,287	78	78
R-11	Preventive	$6,712	$0	$0	$0	$6,712	77	77
T-11	Preventive	$1,143	$0	$0	$0	$1,143	82	82

Plan Year: 2015 — Estimated Cost: $13,165

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$2,135	$0	$0	$0	$2,135	76	76
R-11	Preventive	$9,372	$0	$0	$0	$9,372	75	75
T-11	Preventive	$1,657	$0	$0	$0	$1,657	80	80

Plan Year: 2016 — Estimated Cost: $18,052

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$2,981	$0	$0	$0	$2,981	73	73
R-11	Preventive	$12,005	$0	$0	$0	$12,005	73	73
T-11	Preventive	$3,065	$0	$0	$0	$3,065	78	78

Plan Year: 2017 — Estimated Cost: $22,881

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$3,820	$0	$0	$0	$3,820	71	71
R-11	Preventive	$14,616	$0	$0	$0	$14,616	71	71
T-11	Preventive	$4,445	$0	$0	$0	$4,445	76	76

Plan Year: 2018 — Estimated Cost: $175,711

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Global MR + Preventive	$5,289	$21,258	$0	$0	$26,547	69	74
R-11	Global MR + Preventive	$17,701	$84,773	$0	$0	$102,474	70	73
T-11	Global MR + Preventive	$5,803	$40,888	$0	$0	$46,691	74	78

Plan Year: 2019 — Estimated Cost: $23,840

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$3,969	$0	$0	$0	$3,969	71	71
R-11	Preventive	$15,283	$0	$0	$0	$15,283	72	72
T-11	Preventive	$4,589	$0	$0	$0	$4,589	76	76

Plan Year: 2020 — Estimated Cost: $29,942

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$5,403	$0	$0	$0	$5,403	69	69
R-11	Preventive	$18,274	$0	$0	$0	$18,274	70	70
R-2	Preventive	$226	$0	$0	$0	$226	86	86
T-11	Preventive	$6,038	$0	$0	$0	$6,038	74	74

Plan Year: 2021 — Estimated Cost: $39,541

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$7,461	$0	$0	$0	$7,461	67	67
R-11	Preventive	$24,602	$0	$0	$0	$24,602	68	68
T-11	Preventive	$7,478	$0	$0	$0	$7,478	72	72

Plan Year: 2022 — Estimated Cost: $49,564

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$9,542	$0	$0	$0	$9,542	65	65
R-11	Preventive	$31,106	$0	$0	$0	$31,106	67	67
T-11	Preventive	$8,917	$0	$0	$0	$8,917	70	70

Plan Year: 2023 — Estimated Cost: $231,613

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Global MR + Preventive	$11,662	$24,644	$0	$0	$36,305	63	67
R-11	Global MR + Preventive	$37,897	$98,275	$0	$0	$136,171	65	69
T-11	Global MR + Preventive	$11,736	$47,400	$0	$0	$59,137	69	72

PLENTYWOOD AIRPORT

Plan Year: 2024 — Estimated Cost: $51,642

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$9,910	$0	$0	$0	$9,910	65	65
R-11	Preventive	$32,391	$0	$0	$0	$32,391	67	67
T-11	Preventive	$9,342	$0	$0	$0	$9,342	71	71

Plan Year: 2025 — Estimated Cost: $63,888

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$12,163	$0	$0	$0	$12,163	63	63
R-11	Preventive	$39,577	$0	$0	$0	$39,577	66	66
T-11	Preventive	$12,148	$0	$0	$0	$12,148	69	69

Plan Year: 2026 — Estimated Cost: $77,335

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$14,466	$0	$0	$0	$14,466	62	62
R-11	Preventive	$47,205	$0	$0	$0	$47,205	64	64
T-11	Preventive	$15,664	$0	$0	$0	$15,664	67	68

Plan Year: 2027 — Estimated Cost: $91,627

Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	PCI Before	PCI After
A-11	Preventive	$16,942	$0	$0	$0	$16,942	60	60
R-11	Preventive	$55,350	$0	$0	$0	$55,350	62	63
T-11	Preventive	$19,335	$0	$0	$0	$19,335	66	66

PLENTYWOOD AIRPORT

8/22/2012

A-11, Overview over underground tanks

A-11, Overview

A-11, Surface detail

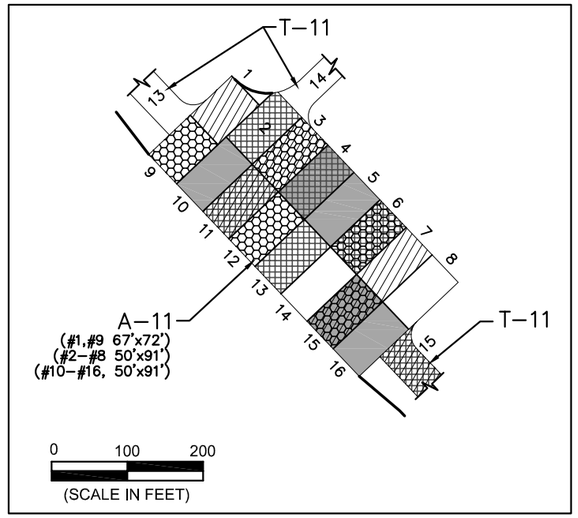
R-11, Overview

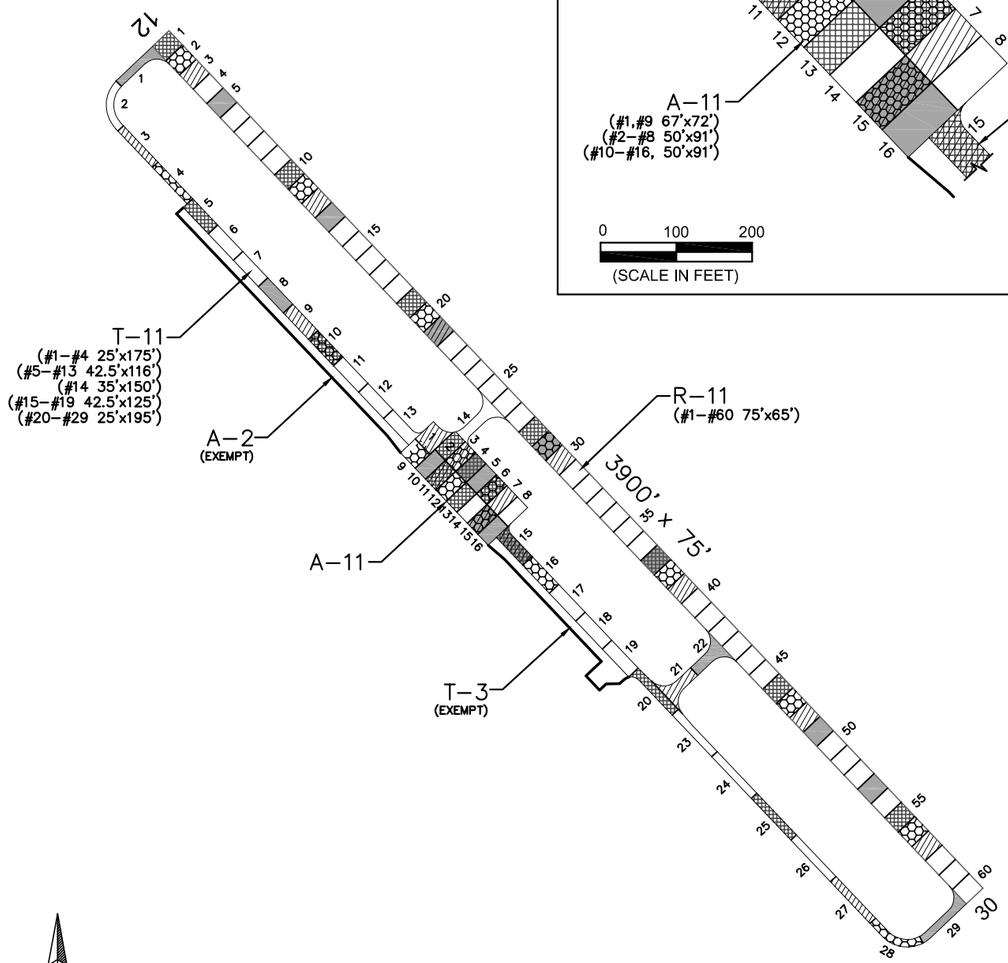
R-11, Surface detail

T-11, Overview

T-11, Surface detail

PLENTYWOOD





PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

PAVE. IDENT.	SOIL CLASS	SUB GRADE CLASS	SUBBASE COURSE	BASE COURSE	SURFACE COURSE	OVERLAY	PAVEMENT STRENGTH MAX. GROSS LOAD (LBS) SINGLE	DUAL	DUAL TAN.	REMARKS
RUNWAYS										
R–11	E–7,CBR=2	F7	11" P–152	9" P–208 WITH FABRIC	4" P–401		12,500			<4 <5
TAXIWAYS										
T–3	E–7	F7		6" AGG.	P–609		4,000			
T–11	E–7,CBR=2	F7	11" P–152	9" P–208 WITH FABRIC	4" P–401		12,500			<4 <5
APRONS										
A–2	E–7	F7		6" AGG.	P–609		4,000			
A–11	E–7,CBR=2	F6/7		8" AGG.	3" P–401	3" P–401	12,500			<1 <3 <4 <5

REMARKS:

P–410 = OPEN GRADED EMULSIFIED SURFACE OVERLAY

<1> ADAP–01, 1979, RECONSTRUCT AND EXTEND RUNWAY, CONNECTING TAXIWAY, AND APRON.

<2> AIP–001, 1985, REHABILITATED ALL PAVEMENTS.

<3> AIP–002, 1989, P–402 OVERLAY TO R–1, R–2, T–1, A–1 AND A–3; NO STRENGTH ADDED BECAUSE P–410 WAS IN POOR CONDITION.

<4> AIP–003, 2001, RECONSTRUCT RUNWAY 12–30 (R–11), CONSTRUCT PARALLEL TAXIWAY (T–11), AND OVERLAY APRON (A–11).

<5> AIP–005, 2009, CRACK SEAL, FOG SEAL, AND REMARK ALL PAVEMENTS [INSPECTED PRIOR TO COMPLETION].

LEGEND

- 1997 SURVEY AREA (RECONSTRUCTED)
- 2000 SURVEY AREA (RECONSTRUCTED)
- 2003 SURVEY AREA
- 2006 SURVEY AREA
- 2009 SURVEY AREA
- 2012 SURVEY AREA

DATE OF PAVEMENT STRENGTH SURVEY:	MAR. 16, 1990
EVALUATED BY:	S. DALTON
DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	AUG. 22, 2012
EVALUATED BY:	M. BECKHOFF

MONTANA AVIATION SYSTEM PLAN
2012 UPDATE - PAVEMENT CONDITION INDEXES

SHER-WOOD AIRPORT

PREPARED FOR: MONTANA AERONAUTICS DIVISION

PLENTYWOOD
MONTANA

DATE: NOV. 2012

PREPARED BY: SE Engineering Planning Consulting

PLENTYWOOD