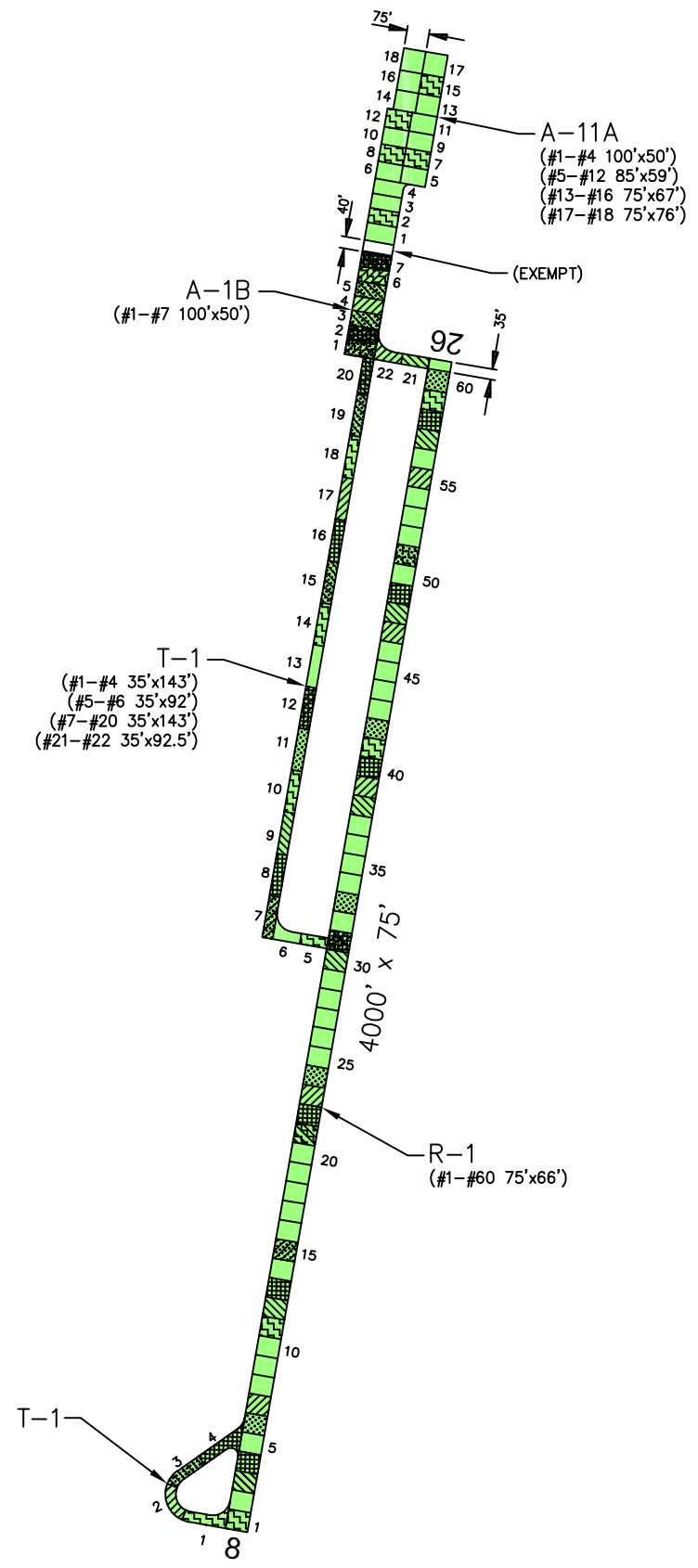


CHINOOK

CHINOOK





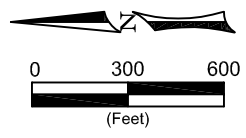
PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

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-7	F7		10" P-208	3" P-401	FABRIC, 2" P-401	12,500			1,2,3,4
TAXIWAYS										
T-1	E-7	F7		10" P-208	3" P-401	FABRIC, 2" P-401	12,500			1,2,4
APRONS										
A-1B	E-7	F7		10" P-208	3" P-401	FABRIC, 2" P-401	12,500			1,2,4
A-1A	E-7	F7		10" P-208	3" P-401	P-609, PAV. FABRIC, 3" P-401	12,500			1,2,4,5

REMARKS:

- AIP-003/004-1991-1992, ALL NEW CONSTRUCTION.
- AIP-007-2005/008-2006, REHABILITATE RUNWAY 8/26 (CROWN RESTORATION AND OVERLAY); OVERLAY TAXIWAY (T-1) AND APRON (A-1B); FOG SEAL APRON (A-1A).
- AIP-010-2010, CRACK SEAL, FOG SEAL, AND REMARK RUNWAY (R-1).
- AIP-014-2015, CRACK SEAL, SEAL COAT, AND REMARK RUNWAY (R-1), TAXIWAY (T-1), AND APRONS (A-1A, A-1B) [INSPECTED AFTER MAINTENANCE PROJECT].
- AIP-015-2016, OVERLAY APRON (A-11A).

LEGEND ■ 2006 SURVEY AREA (NOT SURVEYED) ▨ 2009 SURVEY AREA ▩ 2012 SURVEY AREA ▪ 2015 SURVEY AREA ▫ 2018 SURVEY AREA ■ MAINTAIN: PCI > 60 ■ TRANSITION: PCI 45 TO 60 ■ RECONSTRUCT: PCI < 45	DATE OF PAVEMENT STRENGTH SURVEY:		MONTANA AVIATION SYSTEM PLAN 2018 UPDATE - PAVEMENT CONDITION INDEXES		
	EVALUATED BY:		EDGAR G. OBIE FIELD (S71)		
	DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	OCT. 2, 2018	Date:	Prepared For:	Prepared By:
	EVALUATED BY:	S. BROWN	DECEMBER 2018	 	
LOCATION:	CHINOOK MONTANA				





A-1A, Overview



A-1A, Depression



A-1B, Overview



A-1B, Surface Detail



R-1, Overview



R-1, Depression with Crack



T-1, Overview



T-1, Crack with FOD

CHINOOK AIRPORT

Branch: 58A

APRON

A-11A

Length: 656 LF

Width: 141 LF

Area: 92,627 SF

Last Const: 2016

Family: ACAM

From: A-1B

To: HANGARS/FBO

Surface: AAC

Inspections

Samples Surveyed: 5 **Total Samples:** 18 **Last Inspection Date:** 10/2/2018 **PCI:** **87**

Sample # 2	Distress Description PATCHING	Severity L	Quantity 166.7 SF	Area: 5,000 SF
Sample # 7	Distress Description DEPRESSION PATCHING	Severity L L	Quantity 86 SF 3.14 SF	Area: 5,015 SF
Sample # 8	Distress Description PATCHING RAVELING SWELL	Severity L H L	Quantity 196.7 SF 6 SF 6 SF	Area: 5,015 SF
Sample # 12	Distress Description LONGITUDINAL/TRANSVERSE CRACKING DEPRESSION	Severity L L	Quantity 15 LF 69 SF	Area: 5,015 SF
Sample # 15	Distress Description LONGITUDINAL/TRANSVERSE CRACKING PATCHING DEPRESSION	Severity L L L	Quantity 4 LF 0.6 SF 168 SF	Area: 5,025 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	LOW	1,193 SF	1.29%	8.18
LONGITUDINAL/TRANSVERSE CRACKING	LOW	70 LF	0.08%	2.50
PATCHING	LOW	1,356 SF	1.46%	4.53
RAVELING	HIGH	22 SF	0.02%	6.00
SWELL	LOW	22 SF	0.02%	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

64.0 % Load 35.0 % Climate/Durability 1.0 % Other

CHINOOK AIRPORT

Branch: 58A

APRON

A-1B

Length: 390 LF

Width: 100 LF

Area: 39,000 SF

Last Const: 2006

Family: ACAM

From: T-1

To: A-11A

Surface: AAC

Inspections

Samples Surveyed: 4 **Total Samples:** 7 **Last Inspection Date:** 10/2/2018 **PCI:** **80**

Sample # 1

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	M	2 LF
PATCHING	L	1.8 SF
DEPRESSION	L	129 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	302 LF

Area: 5,000 SF

Sample # 2

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	318 LF
DEPRESSION	L	15 SF

Area: 5,000 SF

Sample # 6

Distress Description	Severity	Quantity
PATCHING	L	1.1 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	194 LF

Area: 5,000 SF

Sample # 7

Distress Description	Severity	Quantity
PATCHING	L	199 SF
LONGITUDINAL/TRANSVERSE CRACKING	H	0.08 LF

Area: 5,000

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	LOW	281 SF	0.72%	4.90
LONGITUDINAL/TRANSVERSE CRACKING	LOW	1,975 LF	5.07%	14.91
LONGITUDINAL/TRANSVERSE CRACKING	MEDIUM	4 LF	0.01%	4.00
PATCHING	LOW	6 SF	0.01%	2.00
RAVELING	HIGH	0 SF	0.00%	6.00

* 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

85.0 % Climate/Durability

15.0 % Other

CHINOOK AIRPORT

Branch: 58R RUNWAY

R-1

Length: 4,000 LF **Width:** 75 LF **Area:** 300,000 SF **Last Const:** 2006 **Family:** ACRMU
From: 0+00 RWY 8-26 **To:** 40+00 RWY 8-26 **Surface:** AAC

Inspections

Samples Surveyed: 7 **Total Samples:** 60 **Last Inspection Date:** 10/2/2018 **PCI:** 82

Sample #	Distress Description	Severity	Quantity	Area:
1	LONGITUDINAL/TRANSVERSE CRACKING	L	144 LF	4,950 SF
11	LONGITUDINAL/TRANSVERSE CRACKING LONGITUDINAL/TRANSVERSE CRACKING	L M	259 LF 76 LF	4,950 SF
21	LONGITUDINAL/TRANSVERSE CRACKING	L	251 LF	4,950 SF
31	DEPRESSION LONGITUDINAL/TRANSVERSE CRACKING PATCHING	L L L	30 SF 187 LF 0.2 SF	4,950 SF
41	DEPRESSION LONGITUDINAL/TRANSVERSE CRACKING LONGITUDINAL/TRANSVERSE CRACKING	L M L	19 SF 38 LF 203 LF	4,950 SF
51	LONGITUDINAL/TRANSVERSE CRACKING LONGITUDINAL/TRANSVERSE CRACKING DEPRESSION	L M L	185 LF 8 LF 40 SF	4,950 SF
59	LONGITUDINAL/TRANSVERSE CRACKING DEPRESSION LONGITUDINAL/TRANSVERSE CRACKING	M L L	40 LF 60 SF 248 LF	4,950 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	LOW	1,290 SF	0.43%	2.73
LONGITUDINAL/TRANSVERSE CRACKING	LOW	12,788 LF	4.26%	13.13
LONGITUDINAL/TRANSVERSE CRACKING	MEDIUM	1,403 LF	0.47%	8.05
PATCHING	LOW	2 SF	0.00%	2.00

* 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 89.0 % Climate/Durability 11.0 % Other

CHINOOK AIRPORT

Branch: 58T TAXIWAY

T-1

Length: 2,945 LF
From: APRON

Width: 35 LF

Area: 103,075 SF
To: R/W 8-26

Last Const: 2006

Family: ACRMU
Surface: AAC

Inspections

Samples Surveyed: 5 Total Samples: 22 Last Inspection Date: 11/2/2018 **PCI: 79**

Sample # 1	<p>Distress Description DEPRESSION LONGITUDINAL/TRANSVERSE CRACKING LONGITUDINAL/TRANSVERSE CRACKING</p>	<p>Severity L L M</p>	<p>Quantity 8 SF 212 LF 22 LF</p>	Area: 5,005 SF
Sample # 5	<p>Distress Description PATCHING LONGITUDINAL/TRANSVERSE CRACKING LONGITUDINAL/TRANSVERSE CRACKING DEPRESSION</p>	<p>Severity L L M L</p>	<p>Quantity 0.2 SF 119 LF 36 LF 161 SF</p>	Area: 3,220 SF
Sample # 10	<p>Distress Description LONGITUDINAL/TRANSVERSE CRACKING LONGITUDINAL/TRANSVERSE CRACKING</p>	<p>Severity M L</p>	<p>Quantity 2 LF 191 LF</p>	Area: 5,005 SF
Sample # 14	<p>Distress Description LONGITUDINAL/TRANSVERSE CRACKING LONGITUDINAL/TRANSVERSE CRACKING LONGITUDINAL/TRANSVERSE CRACKING</p>	<p>Severity L H M</p>	<p>Quantity 381 LF 1 LF 37 LF</p>	Area: 5,005 SF
Sample # 18	<p>Distress Description LONGITUDINAL/TRANSVERSE CRACKING LONGITUDINAL/TRANSVERSE CRACKING</p>	<p>Severity L M</p>	<p>Quantity 200 LF 1 LF</p>	Area: 5,005 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	LOW	750 SF	0.73%	4.95
LONGITUDINAL/TRANSVERSE CRACKING	HIGH	4 LF	0.00%	7.50
LONGITUDINAL/TRANSVERSE CRACKING	LOW	4,892 LF	4.75%	14.22
LONGITUDINAL/TRANSVERSE CRACKING	MEDIUM	435 LF	0.42%	7.67
PATCHING	LOW	1 SF	0.00%	2.00

* 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 86.0 % Climate/Durability 14.0 % Other

CHINOOK AIRPORT (58)

FIFTEEN YEAR PROJECTIONS							ESTIMATED AVERAGE ANNUAL COST:		\$47,612		
Plan Year: 2019							Estimated Cost:	\$155,212		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-11A	Preventive	\$353	\$0	\$0	\$0	\$353	86	86			
A-1B	Preventive + Global MR	\$460	\$13,260	\$0	\$0	\$13,720	80	85			
R-1	Preventive + Global MR	\$2,520	\$101,999	\$0	\$0	\$104,519	82	86			
T-1	Preventive + Global MR	\$1,575	\$35,045	\$0	\$0	\$36,620	79	84			
Plan Year: 2020							Estimated Cost:	\$3,295		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-11A	Preventive	\$606	\$0	\$0	\$0	\$606	83	84			
A-1B	Preventive	\$276	\$0	\$0	\$0	\$276	83	83			
R-1	Preventive	\$1,611	\$0	\$0	\$0	\$1,611	85	85			
T-1	Preventive	\$802	\$0	\$0	\$0	\$802	82	82			
Plan Year: 2021							Estimated Cost:	\$35,695		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-11A	Preventive + Global MR	\$859	\$31,493	\$0	\$0	\$32,352	81	90			
A-1B	Preventive	\$336	\$0	\$0	\$0	\$336	81	81			
R-1	Preventive	\$2,037	\$0	\$0	\$0	\$2,037	83	83			
T-1	Preventive	\$970	\$0	\$0	\$0	\$970	81	81			
Plan Year: 2022							Estimated Cost:	\$4,614		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-11A	Preventive	\$278	\$0	\$0	\$0	\$278	87	87			
A-1B	Preventive	\$418	\$0	\$0	\$0	\$418	80	80			
R-1	Preventive	\$2,458	\$0	\$0	\$0	\$2,458	82	82			
T-1	Preventive	\$1,459	\$0	\$0	\$0	\$1,459	79	79			
Plan Year: 2023							Estimated Cost:	\$6,197		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-11A	Preventive	\$530	\$0	\$0	\$0	\$530	84	85			
A-1B	Preventive	\$661	\$0	\$0	\$0	\$661	78	78			
R-1	Preventive	\$2,879	\$0	\$0	\$0	\$2,879	80	80			
T-1	Preventive	\$2,127	\$0	\$0	\$0	\$2,127	77	77			
Plan Year: 2024							Estimated Cost:	\$158,993		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-11A	Preventive	\$782	\$0	\$0	\$0	\$782	82	82			
A-1B	Preventive + Global MR	\$905	\$13,260	\$0	\$0	\$14,165	77	82			
R-1	Preventive + Global MR	\$4,211	\$101,999	\$0	\$0	\$106,210	79	83			
T-1	Preventive + Global MR	\$2,790	\$35,045	\$0	\$0	\$37,836	76	81			
Plan Year: 2025							Estimated Cost:	\$5,494		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-11A	Preventive	\$1,363	\$0	\$0	\$0	\$1,363	79	79			
A-1B	Preventive	\$387	\$0	\$0	\$0	\$387	80	80			
R-1	Preventive	\$2,400	\$0	\$0	\$0	\$2,400	82	82			
T-1	Preventive	\$1,344	\$0	\$0	\$0	\$1,344	79	79			
Plan Year: 2026							Estimated Cost:	\$39,322		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-11A	Preventive + Global MR	\$2,374	\$31,493	\$0	\$0	\$33,867	76	85			
A-1B	Preventive	\$622	\$0	\$0	\$0	\$622	79	79			
R-1	Preventive	\$2,821	\$0	\$0	\$0	\$2,821	81	81			
T-1	Preventive	\$2,012	\$0	\$0	\$0	\$2,012	78	78			
Plan Year: 2027							Estimated Cost:	\$8,222		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-11A	Preventive	\$707	\$0	\$0	\$0	\$707	82	83			
A-1B	Preventive	\$864	\$0	\$0	\$0	\$864	77	77			
R-1	Preventive	\$3,972	\$0	\$0	\$0	\$3,972	79	79			
T-1	Preventive	\$2,679	\$0	\$0	\$0	\$2,679	76	76			
Plan Year: 2028							Estimated Cost:	\$11,178		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-11A	Preventive	\$1,059	\$0	\$0	\$0	\$1,059	80	80			
A-1B	Preventive	\$1,108	\$0	\$0	\$0	\$1,108	75	75			
R-1	Preventive	\$5,663	\$0	\$0	\$0	\$5,663	78	78			
T-1	Preventive	\$3,348	\$0	\$0	\$0	\$3,348	74	74			

CHINOOK AIRPORT (58)

FIFTEEN YEAR PROJECTIONS							ESTIMATED AVERAGE ANNUAL COST:		\$47,612
Plan Year: 2029							Estimated Cost:	\$165,112	PCI
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-11A	Preventive	\$2,075	\$0	\$0	\$0	\$2,075	77	77	
A-1B	Preventive + Global MR	\$1,351	\$13,260	\$0	\$0	\$14,611	74	79	
R-1	Preventive + Global MR	\$7,366	\$101,999	\$0	\$0	\$109,365	76	81	
T-1	Preventive + Global MR	\$4,015	\$35,045	\$0	\$0	\$39,060	73	78	
Plan Year: 2030							Estimated Cost:	\$10,208	PCI
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-11A	Preventive	\$3,087	\$0	\$0	\$0	\$3,087	74	74	
A-1B	Preventive	\$825	\$0	\$0	\$0	\$825	77	77	
R-1	Preventive	\$3,732	\$0	\$0	\$0	\$3,732	79	79	
T-1	Preventive	\$2,564	\$0	\$0	\$0	\$2,564	76	76	
Plan Year: 2031							Estimated Cost:	\$45,312	PCI
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-11A	Preventive + Global MR	\$4,094	\$31,493	\$0	\$0	\$35,587	71	81	
A-1B	Preventive	\$1,068	\$0	\$0	\$0	\$1,068	76	76	
R-1	Preventive	\$5,424	\$0	\$0	\$0	\$5,424	78	78	
T-1	Preventive	\$3,233	\$0	\$0	\$0	\$3,233	75	75	
Plan Year: 2032							Estimated Cost:	\$14,086	PCI
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-11A	Preventive	\$1,771	\$0	\$0	\$0	\$1,771	78	78	
A-1B	Preventive	\$1,311	\$0	\$0	\$0	\$1,311	74	74	
R-1	Preventive	\$7,104	\$0	\$0	\$0	\$7,104	77	77	
T-1	Preventive	\$3,900	\$0	\$0	\$0	\$3,900	73	73	
Plan Year: 2033							Estimated Cost:	\$17,715	PCI
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-11A	Preventive	\$2,786	\$0	\$0	\$0	\$2,786	75	75	
A-1B	Preventive	\$1,554	\$0	\$0	\$0	\$1,554	73	73	
R-1	Preventive	\$8,807	\$0	\$0	\$0	\$8,807	75	75	
T-1	Preventive	\$4,568	\$0	\$0	\$0	\$4,568	71	72	