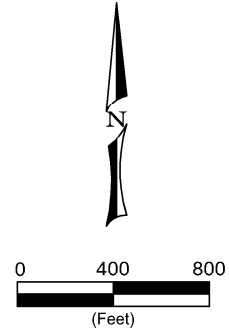
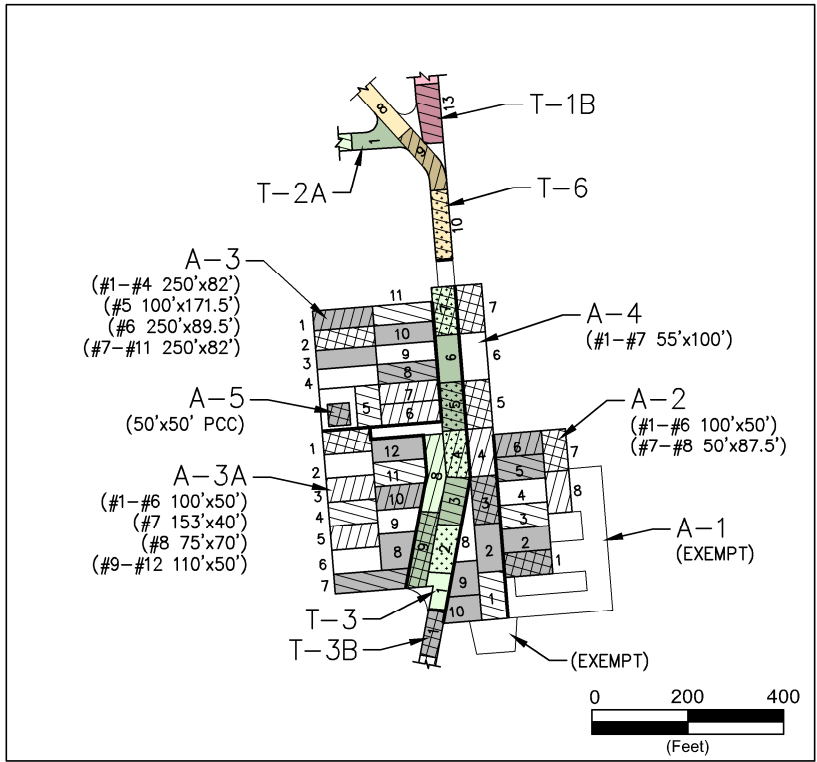
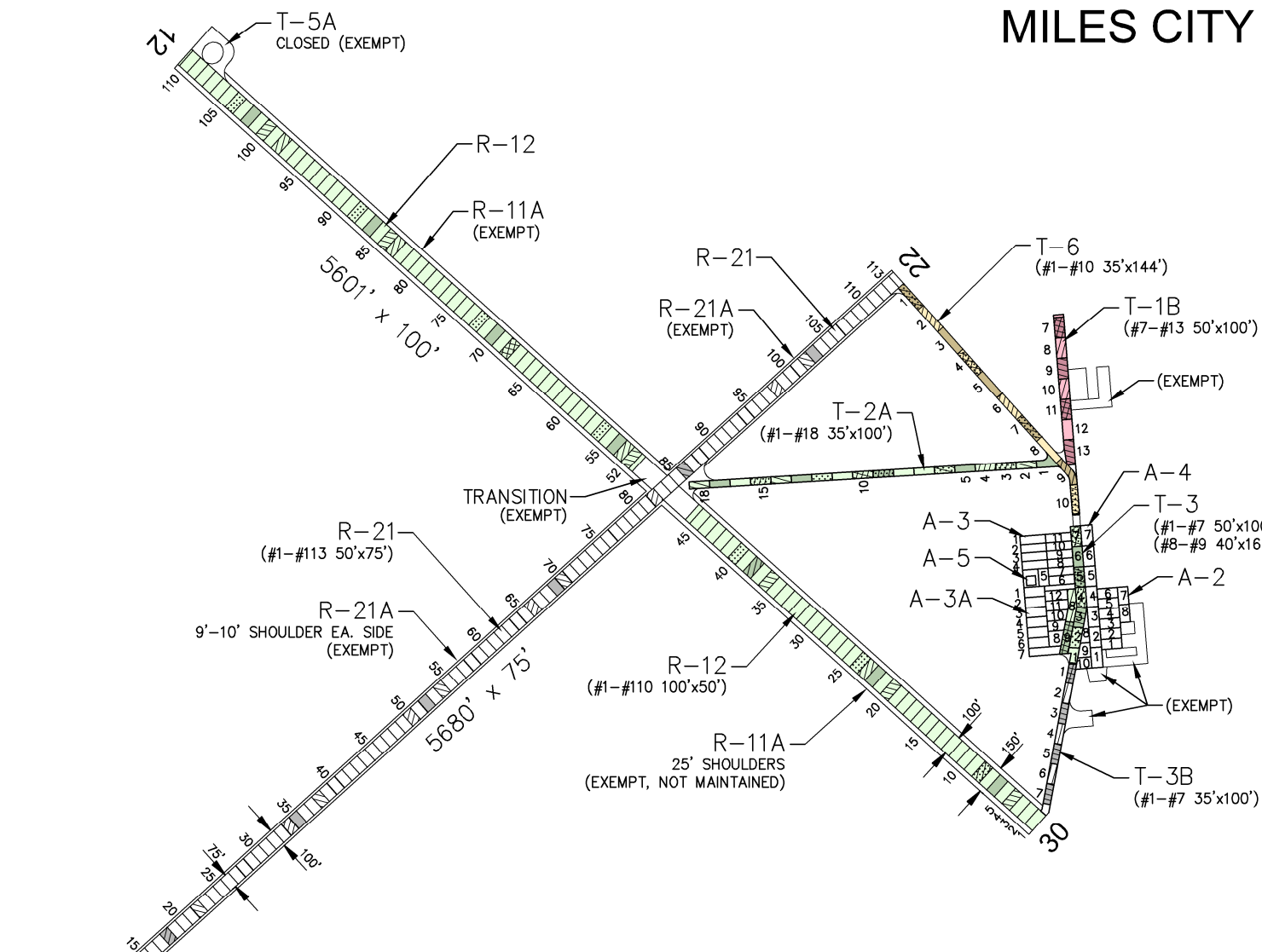


MILES CITY



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-11A	E-5	F-5		4.5" GRAVEL	6.5" AC		24,000	24,000		
R-12	E-5	CBR=9.6		19" AGG.	9" AC, 4" P-401	2" P-401	38,000	55,000	85,000	2,5,7,8
R-21		CBR=7	6" P-152	FABRIC, 4" P-207 4" P-208	2.5" P-401		24,000			4,5,6,8
R-21A		CBR=7		5" GRAVEL	3" AC	2"P-401,1"P-402	24,000	24,000		2
TAXIWAYS										
T-1B		CBR=7.1		6" GRAVEL	2.5" AC	3" AC P-609	12,500	12,500		
T-2A		CBR=7.1		6" GRAVEL	5.5" AC, P-609	STRESS FABRIC, 2" P-401	20,000			4,6,8
T-3		CBR=7.1	6" P-152, FABRIC 11" P-154	4" P-208	3" P-401		12,500	12,500		5,8
T-3B			6" COMP P-152	FABRIC, 9" P-207 4" P-208	2.5" P-401					4,6,8
T-5A		CBR=7.1		5" P-201	P-609	P-609	12,000	12,000		
T-6		CBR=7	6" P-152	FABRIC, 4" P-207 4" P-208	2.5" P-401		24,000			4,6,8
T-7		CBR=7	6" P-152	FABRIC, 4" P-207 4" P-208	2.5" P-401		24,000			4,8
APRONS										
A-1		CBR=7.1		6" GRAVEL	2.5" AC	2" AC P-609	21,000	21,000		8
A-2		CBR=7.1	6" P-152, FABRIC 11" P-154	4" P-208	3" P-401		12,500	12,500		5,8
A-3		CBR=7.1	12" P-152		5" OGEM	P-609	12,500	12,500		
A-3A		CBR=7.1	6" P-152, FABRIC 11" P-154	4" P-208	3" P-401		12,500	12,500		3,5,8
A-4		CBR=7.1	6" P-152, FABRIC 11" P-154	4" P-208	3" P-401		12,500	12,500		5,8
A-5		CBR=7.1	HELIPAD		10" PCC					3

REMARKS:

- AIP-01, 1985, PFC ON RUNWAYS, TAXIWAYS, AND APRON
- 3" AC IS STATE HIGHWAY GRADE B MIX, P-625 COAL TAR SEAL.
- AIP-02, 1989, REHABILITATE PORTION OF APRON.
- AIP-05, 1998, RECONSTRUCT AND NARROW RUNWAY 4-22 (R-21); RECONSTRUCT TAXIWAYS (T-2A, T-3B, T-6, T-7).
- AIP-006-2001, REHABILITATE RUNWAY AND APRON.
- AIP-007-2005, CRACK SEAL AND REMARK.
- AIP-010/011-2008, MILL, OVERLAY, AND GROOVE RUNWAY 12-30 (R-11).
- AIP-012-2011, CRACK SEAL, FOG SEAL, AND REMARK RUNWAYS (R-12, R-21), TAXIWAYS (T-2, T-3, T-3B, T-6, T-7), AND APRONS (A-1, A-2, A-3A, A-4).
- AIP-016-2015, RECONSTRUCT RUNWAY 4/22 [INSPECTED DURING PROJECT].

LEGEND

	2003 SURVEY AREA (NOT SURVEYED)
	2006 SURVEY AREA
	2009 SURVEY AREA
	2012 SURVEY AREA
	2015 SURVEY AREA
	MAINTAIN: PCI > 60
	TRANSITION: PCI 45 TO 60
	RECONSTRUCT: PCI < 45

DATE OF PAVEMENT STRENGTH SURVEY:	NOV. 30, 2004
EVALUATED BY:	J. STYBA
DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	SEPT. 3, 2015
EVALUATED BY:	B. BURKLAND
LOCATION:	MILES CITY MONTANA

**MONTANA AVIATION SYSTEM PLAN
2015 UPDATE - PAVEMENT CONDITION INDEXES**

**FRANK WILEY FIELD
(MLS)**

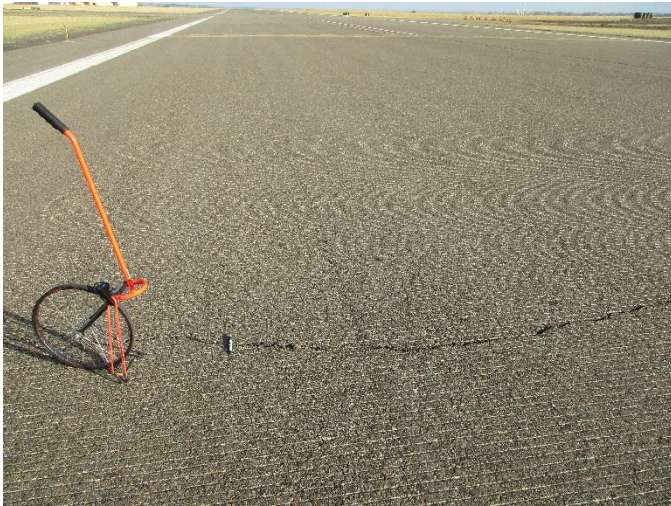
Date: DECEMBER 2015

Prepared For: MONTANA DEPARTMENT OF TRANSPORTATION

Prepared By: RPA Robert Peccia & Associates, Inc.

MILES CITY AIRPORT

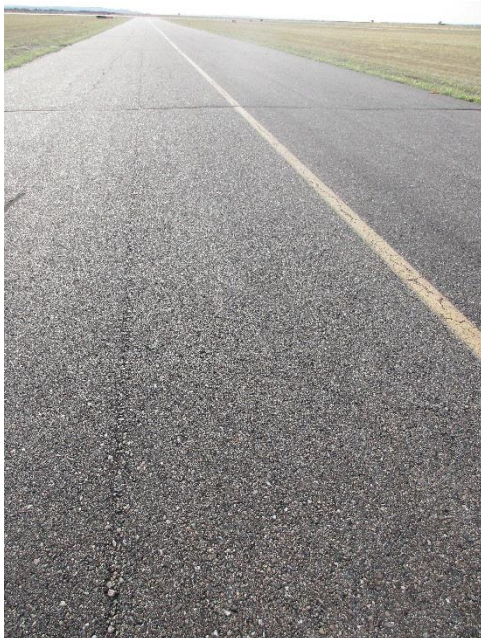
9/3/2015



R-12, Overview with a cracking



R-12, Surface detail with grooves



T-2A, Overview with a cracking



T-2A, Surface detail

MILES CITY AIRPORT

9/3/2015



T-3, Surface detail with grate



T-3, Overview



T-6, Overview



T-6, Surface detail with cracking

MILES CITY AIRPORT

Branch: 42R2

RUNWAY

R-12

Length: 5,601 LF **Width:** 100 LF **Area:** 560,100 SF **Last Const. :** 2008 **Family:** ACRH15
From: RUNWAY 12-30 FROM T-3B **To:** T-5 **Surface:** AC

Inspections

Samples Surveyed: 7 **Total Samples:** 110 **Last Inspection Date (RPA)** 9/3/2015 **PCI:** 76

Sample # 8 **Area:** 5000 SF

Distress Description	Severity	Quantity
WEATHERING	L	1000 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	56 LF
RAVELING	L	100 SF

Sample # 24 **Area:** 5000 SF

Distress Description	Severity	Quantity
WEATHERING	L	1000 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	199 LF
RAVELING	L	100 SF
RAVELING	M	50 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	8 LF
PATCHING	L	1 SF

Sample # 40 **Area:** 5000 SF

Distress Description	Severity	Quantity
WEATHERING	L	1000 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	251 LF
RAVELING	L	100 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	16 LF

Sample # 56 **Area:** 5000 SF

Distress Description	Severity	Quantity
WEATHERING	L	1000 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	127 LF
RAVELING	L	100 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	22 LF
RAVELING	M	50 SF

Sample # 72 **Area:** 5000 SF

Distress Description	Severity	Quantity
WEATHERING	L	1000 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	141 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	34 LF
RAVELING	L	100 SF

Sample # 88 **Area:** 5000 SF

Distress Description	Severity	Quantity
WEATHERING	L	1000 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	131 LF
RAVELING	L	100 SF
RAVELING	M	100 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	26 LF

Sample # 104 **Area:** 5000 SF

Distress Description	Severity	Quantity
WEATHERING	L	1000 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	184 LF
RAVELING	L	100 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	18 LF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	17427 LF	3.11 %	10.33
LONGITUDINAL/TRANSVERSE CRACKING	M	1984 LF	0.35 %	7.06
RAVELING	M	3201 SF	0.57 %	6.43
RAVELING	L	11202 SF	2.00 %	3.99
WEATHERING	L	112020 SF	20.00 %	2.81
PATCHING	L	16 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 100.0 % Climate/Durability 0.0 % Other

MILES CITY AIRPORT

Branch: 42T

TAXIWAY

T-3

Length: 700 LF **Width:** 63 LF **Area:** 43,750 SF **Last Const. :** 2001 **Family:** ACRH15
From: WITHIN APRON AREA **To:** **Surface:** AC

Inspections

Samples Surveyed: 4 **Total Samples:** 9 **Last Inspection Date (RPA)** 9/3/2015 **PCI:** 67

Sample # 2 **Area:** 4000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	171 LF
RAVELING	L	180 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	43 LF
WEATHERING	L	120 SF
DEPRESSION	L	10 SF

Sample # 4 **Area:** 4000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	303 LF
WEATHERING	L	120 SF
RAVELING	M	120 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	29 LF
RAVELING	L	80 SF
RAVELING	H	20 SF
DEPRESSION	L	20 SF
SWELLING	L	10 SF

Sample # 5 **Area:** 4000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	102 LF
WEATHERING	L	120 SF
RAVELING	M	100 SF
RAVELING	L	80 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	19 LF
PATCHING	L	1 SF

Sample # 7 **Area:** 4000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	198 LF
WEATHERING	L	120 SF
RAVELING	M	100 SF
RAVELING	L	80 SF
PATCHING	L	40 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	8 LF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	2116 LF	4.84 %	14.42
RAVELING	M	875 SF	2.00 %	10.34
LONGITUDINAL/TRANSVERSE CRACKING	M	271 LF	0.62 %	9.11
RAVELING	H	55 SF	0.13 %	6.93
RAVELING	L	1148 SF	2.63 %	4.69
PATCHING	L	112 SF	0.26 %	2.06
SWELLING	L	27 SF	0.06 %	1.00
WEATHERING	L	1313 SF	3.00 %	0.82
DEPRESSION	L	82 SF	0.19 %	0.69

* 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 97.0 % Climate/Durability 3.0 % Other

MILES CITY AIRPORT

Branch: 42T

TAXIWAY

T-6

Length: 1,440 LF **Width:** 35 LF **Area:** 50,400 SF **Last Const. :** 1998 **Family:** ACRMU15
From: 22 END OF RW 4-22 **To:** A-4 **Surface:** AC

Inspections

Samples Surveyed: 4 **Total Samples:** 10 **Last Inspection Date (RPA)** 9/3/2015 **PCI:** 58

Sample # 1 **Area:** 5040 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	137 LF
WEATHERING	L	300 SF
LONGITUDINAL/TRANSVERSE CRACKING	H	58 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	40 LF
RAVELING	L	100 SF
DEPRESSION	M	51 SF
DEPRESSION	L	9 SF
PATCHING	L	1 SF

Sample # 4 **Area:** 5040 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	117 LF
WEATHERING	L	300 SF
RAVELING	L	100 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	26 LF
DEPRESSION	L	15 SF
LONGITUDINAL/TRANSVERSE CRACKING	H	4 LF
DEPRESSION	M	10 SF

Sample # 7 **Area:** 5040 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	225 LF
WEATHERING	L	300 SF
RAVELING	L	100 SF
LONGITUDINAL/TRANSVERSE CRACKING	H	28 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	23 LF
DEPRESSION	L	36 SF
RAVELING	H	4 SF
DEPRESSION	M	4 SF
PATCHING	H	1 SF
DEPRESSION	H	1 SF
PATCHING	M	1 SF

Sample # 10 **Area:** 5040 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	401 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	102 LF
WEATHERING	L	150 SF
RAVELING	L	50 SF
RAVELING	M	25 SF
RAVELING	H	12 SF
PATCHING	L	3 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
PATCHING	H	3 SF	0.00 %	15.50
LONGITUDINAL/TRANSVERSE CRACKING	H	225 LF	0.45 %	13.79
LONGITUDINAL/TRANSVERSE CRACKING	L	2200 LF	4.37 %	13.37
DEPRESSION	H	3 SF	0.00 %	12.00
LONGITUDINAL/TRANSVERSE CRACKING	M	478 LF	0.95 %	10.97
DEPRESSION	M	163 SF	0.32 %	8.12
PATCHING	M	3 SF	0.00 %	6.20
RAVELING	H	40 SF	0.08 %	6.00
RAVELING	M	63 SF	0.12 %	4.16
RAVELING	L	875 SF	1.74 %	3.66
PATCHING	L	10 SF	0.02 %	2.00
DEPRESSION	L	150 SF	0.30 %	1.61
WEATHERING	L	2625 SF	5.21 %	1.11

* Multiple deduct values are scaled down from their algebraic sum to keep the model consistent with experimental data.

MILES CITY AIRPORT

Branch: 42T

TAXIWAY

T-6

Percent of Deduct Values Based on Distress Mechanism

0.0 % Load

78.0 % Climate/Durability

22.0 % Other

MILES CITY AIRPORT**FIFTEEN YEAR PROJECTIONS: ESTIMATED AVERAGE ANNUAL COST: \$167,521**

PLAN YEAR: 2016			ESTIMATED COST:			\$243,514	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-3	Prev. & Seal Coat	\$3,947	\$12,250			\$16,197	66	69
R-12	Prev. & Seal Coat	\$18,665	\$156,828			\$175,493	74	79
T-2A	Prev. & Seal Coat	\$9,866	\$17,640			\$27,506	60	63
T-6	Prev. & Seal Coat	\$10,206	\$14,112			\$24,318	56	60
PLAN YEAR: 2017			ESTIMATED COST:			\$35,180	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-3	Basic Prev.	\$3,479				\$3,479	67	67
T-6	Basic Prev.	\$9,025				\$9,025	58	59
T-2A	Basic Prev.	\$8,832				\$8,832	61	61
R-12	Basic Prev.	\$13,844				\$13,844	76	77
PLAN YEAR: 2018			ESTIMATED COST:			\$44,477	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-3	Basic Prev.	\$4,131				\$4,131	66	66
T-2A	Basic Prev.	\$10,286				\$10,286	60	60
T-6	Basic Prev.	\$10,667				\$10,667	57	57
R-12	Basic Prev.	\$19,393				\$19,393	74	74
PLAN YEAR: 2019			ESTIMATED COST:			\$54,180	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-6	Basic Prev.	\$12,458				\$12,458	55	55
T-2A	Basic Prev.	\$12,319				\$12,319	58	58
T-3	Basic Prev.	\$4,800				\$4,800	65	65
R-12	Basic Prev.	\$24,603				\$24,603	72	73
PLAN YEAR: 2020			ESTIMATED COST:			\$64,035	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-3	Basic Prev.	\$5,500				\$5,500	64	64
T-2A	Basic Prev.	\$14,518				\$14,518	56	56
T-6	Basic Prev.	\$14,465				\$14,465	53	53
R-12	Basic Prev.	\$29,552				\$29,552	71	71
PLAN YEAR: 2021			ESTIMATED COST:			\$309,730	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-3	Prev. & Seal Coat	\$6,254	\$14,201			\$20,455	63	65
R-12	Prev. & Seal Coat	\$37,008	\$181,807			\$218,815	69	73
T-6	Prev. & Seal Coat	\$16,713	\$16,360			\$33,073	51	55
T-2A	Prev. & Seal Coat	\$16,937	\$20,450			\$37,387	55	58
PLAN YEAR: 2022			ESTIMATED COST:			\$67,043	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-6	Basic Prev.	\$15,121				\$15,121	53	53
T-2A	Basic Prev.	\$15,177				\$15,177	57	57
R-12	Basic Prev.	\$30,973				\$30,973	71	71
T-3	Basic Prev.	\$5,772				\$5,772	64	64
PLAN YEAR: 2023			ESTIMATED COST:			\$80,204	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-2A	Basic Prev.	\$17,724				\$17,724	55	55
T-6	Basic Prev.	\$17,480				\$17,480	51	51
R-12	Basic Prev.	\$38,436				\$38,436	69	69
T-3	Basic Prev.	\$6,564				\$6,564	63	63
PLAN YEAR: 2024			ESTIMATED COST:			\$406,550	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-3	Basic Prev.	\$7,443				\$7,443	62	62
T-6	Reconstruct			\$329,378		\$329,378	49	100
R-12	Basic Prev.	\$49,174				\$49,174	68	68
T-2A	Basic Prev.	\$20,555				\$20,555	53	53
PLAN YEAR: 2025			ESTIMATED COST:			\$91,799	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-2A	Basic Prev.	\$23,748				\$23,748	51	51
R-12	Basic Prev.	\$59,631				\$59,631	67	67
T-3	Basic Prev.	\$8,420				\$8,420	60	60

PLAN YEAR: 2026			ESTIMATED COST:			\$750,424	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-3	Prev. & Seal Coat	\$9,896	\$16,463			\$26,359	59	62
R-12	Prev. & Seal Coat	\$70,154	\$210,764			\$280,919	66	68
T-2A	Reconstruct			\$443,146		\$443,146	48	100
PLAN YEAR: 2027			ESTIMATED COST:			\$71,261	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-3	Basic Prev.	\$8,848				\$8,848	60	60
R-12	Basic Prev.	\$62,413				\$62,413	67	67
PLAN YEAR: 2028			ESTIMATED COST:			\$84,124	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-12	Basic Prev.	\$73,551				\$73,551	66	66
T-6	Basic Prev.	\$224				\$224	87	87
T-3	Basic Prev.	\$10,349				\$10,349	59	59
PLAN YEAR: 2029			ESTIMATED COST:			\$97,730	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-3	Basic Prev.	\$12,240				\$12,240	57	57
T-6	Basic Prev.	\$440				\$440	84	84
R-12	Basic Prev.	\$85,050				\$85,050	65	65
PLAN YEAR: 2030			ESTIMATED COST:			\$112,571	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-6	Basic Prev.	\$659				\$659	81	81
R-12	Basic Prev.	\$97,172				\$97,172	64	64
T-3	Basic Prev.	\$14,443				\$14,443	55	56
T-2A	Basic Prev.	\$297				\$297	87	87