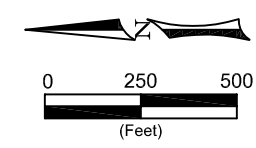
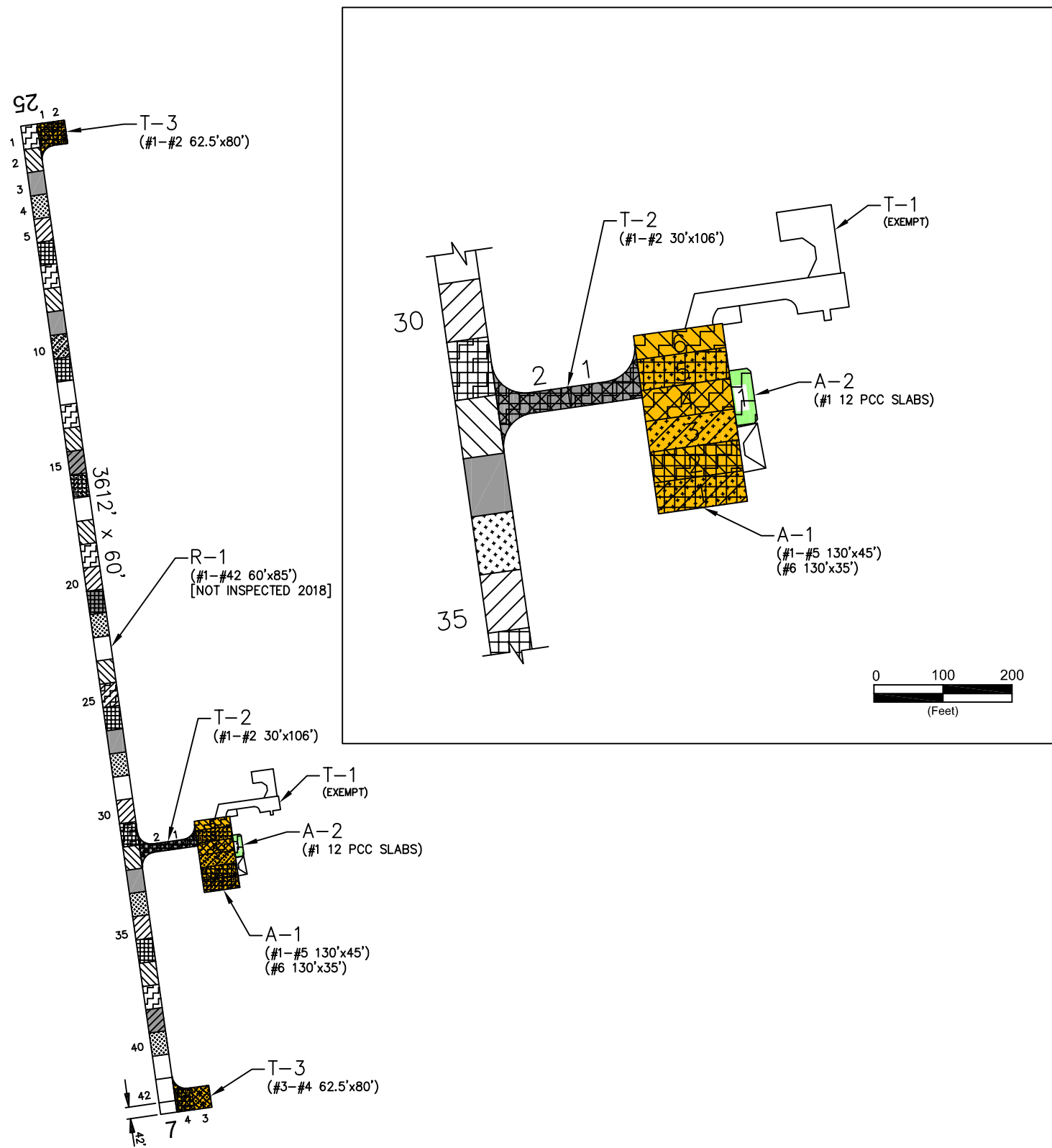


TURNER



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	CBR=3		22" P-154, FABRIC 12" COMP. P-152	6" P-208	3" P-401(MOD)	P-609	12,500			1,2,3
TAXIWAYS										
T-1	E-7	F-7	6" P-152	5" P-201	P-609	P-609	4,000			
T-2	CBR=3		22" P-154, FABRIC 12" COMP. P-152	6" P-208	3" P-401 (MOD)	P-609	12,500			1,2,3
T-3	CBR=3		22" P-154, FABRIC 12" COMP. P-152	6" P-208	3" P-401(MOD)	P-609	12,500			1,2,3
APRONS										
A-1	CBR=3		22" P-154, FABRIC 12" COMP. P-152	6" P-208	3" P-401(MOD)	P-609	12,500			1,2,3
A-2	CBR=3			6" AGG.	6" P-610		12,500			4

REMARKS:

ADAP-001-1978
 AIP-001-1986, DRAINAGE FEATURES (FRENCH DRAIN) BUILT ALONG BOTH SIDES OF RUNWAY TO REDUCE FROST ACTION.

- AIP-002-1995, REHABILITATE RUNWAY, TAXIWAY, AND APRON.
- AIP-003-2007, MAJOR CRACK REPAIR, CRACK SEAL, FOG SEAL, AND REMARK PAVEMENTS.
- AIP-005-2012, CRACK REPAIR, CRACK SEAL, FOG SEAL, AND REMARK RUNWAY, TAXIWAYS, AND APRON [INSPECTED AFTER MAINTENANCE PROJECT].
- AIP-006-2013, CONSTRUCT REINFORCED CONCRETE FUELING APRON (A-2)

LEGEND ■ 2006 SURVEY AREA ▨ 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:		TURNER AIRPORT (9U0)		
	DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	OCT. 2, 2018	Date:	Prepared For:	Prepared By:
	EVALUATED BY:	S. BROWN	DECEMBER 2018		
LOCATION:	TURNER MONTANA				

TURNER



A-1, Overview



A-1, Tie Down and Swell



A-2, Overview



A-2, Joint Sealant



R-1, Overview



R-1, Crack and Depression



T-2, Overview



T-2, Patch and Crack



T-3, Overview



T-3, Swell and Mechanical Raveling

TURNER AIRPORT

Branch: 29A **APRON**

A-1

Length: 260 LF **Width:** 130 LF **Area:** 33,800 SF **Last Const:** 1995 **Family:** ACAM
From: ENTIRE APRON **To:** **Surface:** AC

Inspections

Samples Surveyed: 3 **Total Samples:** 6 **Last Inspection Date:** 10/2/2018 **PCI:** 54

Sample # 2 **Area:** 5,850 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	481 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	146 LF
DEPRESSION	L	73 SF
WEATHERING	L	5850 SF

Sample # 4 **Area:** 5,850 SF

Distress Description	Severity	Quantity
PATCHING	L	5 SF
WEATHERING	L	5850 SF
PATCHING	M	1 SF
DEPRESSION	L	102.5 SF
RAVELING	L	779 SF
RAVELING	H	0.58 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	293 LF
LONGITUDINAL/TRANSVERSE CRACKING	L	371 LF

Sample # 6 **Area:** 4,550 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	310 LF
WEATHERING	L	4550 SF
DEPRESSION	L	76 SF
LONGITUDINAL/TRANSVERSE CRACKING	H	1 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	148 LF
RAVELING	L	860 SF
PATCHING	L	6 SF
SWELL	L	0.2 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	LOW	523 SF	1.55%	9.40
LONGITUDINAL/TRANSVERSE CRACKING	HIGH	2 LF	0.01%	7.50
LONGITUDINAL/TRANSVERSE CRACKING	LOW	2,417 LF	7.15%	18.92
LONGITUDINAL/TRANSVERSE CRACKING	MEDIUM	1,221 LF	3.61%	21.55
PATCHING	LOW	23 SF	0.07%	2.00
PATCHING	MEDIUM	2 SF	0.01%	6.20
RAVELING	HIGH	1 SF	0.00%	6.00
RAVELING	LOW	3,409 SF	10.09%	9.87
SWELL	LOW	0 SF	0.00%	1.00
WEATHERING	LOW	33,800 SF	100.00%	5.96

* 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 88.0 % Climate/Durability 12.0 % Other

TURNER AIRPORT

Branch: 29A **APRON**

A-2

Length: 80 LF **Width:** 31 LF **Area:** 2,480 SF **Last Const:** 2013 **Family:** PCAA
From: A-1 **To:** FUEL SYSTEM **Surface:** PCC

Inspections

Samples Surveyed: 1 **Total Samples:** 1 **Last Inspection Date:** 10/2/2018 **PCI:** **69**

Sample # 1 **Area:** 12 SLABS

Distress Description	Severity	Quantity
LINEAR CRACKING	L	5 SLABS
JOINT SEAL DAMAGE	L	12 SLABS
JOINT SPALLING	L	3 SLABS
JOINT SPALLING	M	1 SLABS

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LINEAR CRACKING	L	5 SLABS	41.67%	19.30
JOINT SEAL DAMAGE	L	12 SLABS	100.00%	2.00
JOINT SPALLING	L	3 SLABS	25.00%	6.95
JOINT SPALLING	M	1 SLABS	8.33%	6.23

* 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

56.0 % **Load** 6.0 % **Climate/Durability** 38.0 % **Other**

TURNER AIRPORT

Branch: 29T TAXIWAY

T-2

Length: 212 LF **Width:** 30 LF **Area:** 6,360 SF **Last Const:** 1995 **Family:** ACRMU
From: R-1 **To:** A-1 **Surface:** AC

Inspections

Samples Surveyed: 2 **Total Samples:** 2 **Last Inspection Date:** 10/2/2018 **PCI:** 58

Sample # 1 **Area:** 3,180 SF

Distress Description	Severity	Quantity
PATCHING	L	375 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	198 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	49 LF
DEPRESSION	L	24.5 SF

Sample # 2 **Area:** 3,180 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	M	67 LF
DEPRESSION	L	64.5 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	164 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	375 LF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	LOW	89 SF	1.40%	8.72
LONGITUDINAL/TRANSVERSE CRACKING	LOW	362 LF	5.69%	16.20
LONGITUDINAL/TRANSVERSE CRACKING	MEDIUM	491 LF	7.72%	32.19
PATCHING	LOW	375 SF	5.90%	10.90

* 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 87.0 % Climate/Durability 13.0 % Other

TURNER AIRPORT

Branch: 29T TAXIWAY

T-3

Length: 250 LF **Width:** 80 LF **Area:** 20,000 SF **Last Const:** 1995 **Family:** ACRMU
From: R/W 7 TURNAROUND **To:** & R/W 25 TURNAROUND **Surface:** AC

Inspections

Samples Surveyed: 3 **Total Samples:** 4 **Last Inspection Date:** 10/2/2018 **PCI:** 58

Sample # 1 **Area:** 5,000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	123 LF
LONGITUDINAL/TRANSVERSE CRACKING	H	2 LF
WEATHERING	L	5000 SF
PATCHING	L	0.14 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	159 LF
DEPRESSION	L	35.5 SF

Sample # 2 **Area:** 5,000 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	190 LF
WEATHERING	L	5000 SF
LONGITUDINAL/TRANSVERSE CRACKING	H	1 LF
SWELL	L	0.6 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	172 LF

Sample # 4 **Area:** 5,000 SF

Distress Description	Severity	Quantity
WEATHERING	L	5000 SF
LONGITUDINAL/TRANSVERSE CRACKING	L	338 LF
RAVELING	H	3.25 SF
DEPRESSION	M	0.8 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	29 LF
DEPRESSION	L	9 SF
PATCHING	L	1000 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
DEPRESSION	LOW	59 SF	0.30%	1.60
DEPRESSION	MEDIUM	1 SF	0.01%	5.20
LONGITUDINAL/TRANSVERSE CRACKING	HIGH	4 LF	0.02%	7.50
LONGITUDINAL/TRANSVERSE CRACKING	LOW	868 LF	4.34%	13.31
LONGITUDINAL/TRANSVERSE CRACKING	MEDIUM	480 LF	2.40%	17.29
PATCHING	LOW	1,334 SF	6.67%	11.69
RAVELING	HIGH	4 SF	0.02%	6.00
SWELL	LOW	1 SF	0.00%	1.00
WEATHERING	LOW	20,000 SF	100.00%	5.96

* 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

TURNER AIRPORT (29)

FIFTEEN YEAR PROJECTIONS							ESTIMATED AVERAGE ANNUAL COST:		\$26,585		
Plan Year: 2019							Estimated Cost:	\$223,641		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Major Below Critical	\$0	\$0	\$134,558	\$0	\$134,558	53	100			
A-2	Preventive	\$158	\$0	\$0	\$0	\$158	67	68			
T-2	Major Below Critical	\$0	\$0	\$21,455	\$0	\$21,455	58	100			
T-3	Major Below Critical	\$0	\$0	\$67,470	\$0	\$67,470	58	100			
Plan Year: 2020							Estimated Cost:	\$223		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	None	\$0	\$0	\$0	\$0	\$0	97	97			
A-2	Preventive	\$223	\$0	\$0	\$0	\$223	62	63			
T-2	None	\$0	\$0	\$0	\$0	\$0	97	97			
T-3	None	\$0	\$0	\$0	\$0	\$0	97	97			
Plan Year: 2021							Estimated Cost:	\$8,653		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	None	\$0	\$0	\$0	\$0	\$0	94	94			
A-2	Major Below Critical	\$0	\$0	\$8,653	\$0	\$8,653	57	100			
T-2	None	\$0	\$0	\$0	\$0	\$0	94	94			
T-3	None	\$0	\$0	\$0	\$0	\$0	94	94			
Plan Year: 2022							Estimated Cost:	\$0		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	None	\$0	\$0	\$0	\$0	\$0	91	91			
A-2	None	\$0	\$0	\$0	\$0	\$0	97	97			
T-2	None	\$0	\$0	\$0	\$0	\$0	91	91			
T-3	None	\$0	\$0	\$0	\$0	\$0	91	91			
Plan Year: 2023							Estimated Cost:	\$120		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$68	\$0	\$0	\$0	\$68	88	88			
A-2	None	\$0	\$0	\$0	\$0	\$0	94	94			
T-2	Preventive	\$13	\$0	\$0	\$0	\$13	88	88			
T-3	Preventive	\$40	\$0	\$0	\$0	\$40	88	88			
Plan Year: 2024							Estimated Cost:	\$284		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$160	\$0	\$0	\$0	\$160	85	86			
A-2	None	\$0	\$0	\$0	\$0	\$0	91	91			
T-2	Preventive	\$30	\$0	\$0	\$0	\$30	85	86			
T-3	Preventive	\$95	\$0	\$0	\$0	\$95	85	86			
Plan Year: 2025							Estimated Cost:	\$454		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$252	\$0	\$0	\$0	\$252	83	83			
A-2	Preventive	\$5	\$0	\$0	\$0	\$5	88	88			
T-2	Preventive	\$47	\$0	\$0	\$0	\$47	83	83			
T-3	Preventive	\$149	\$0	\$0	\$0	\$149	83	83			
Plan Year: 2026							Estimated Cost:	\$658		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$364	\$0	\$0	\$0	\$364	80	80			
A-2	Preventive	\$11	\$0	\$0	\$0	\$11	85	86			
T-2	Preventive	\$68	\$0	\$0	\$0	\$68	80	80			
T-3	Preventive	\$215	\$0	\$0	\$0	\$215	80	80			
Plan Year: 2027							Estimated Cost:	\$1,322		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$733	\$0	\$0	\$0	\$733	77	77			
A-2	Preventive	\$17	\$0	\$0	\$0	\$17	83	83			
T-2	Preventive	\$138	\$0	\$0	\$0	\$138	77	77			
T-3	Preventive	\$434	\$0	\$0	\$0	\$434	77	77			
Plan Year: 2028							Estimated Cost:	\$1,983		PCI	
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After			
A-1	Preventive	\$1,101	\$0	\$0	\$0	\$1,101	74	75			
A-2	Preventive	\$24	\$0	\$0	\$0	\$24	80	81			
T-2	Preventive	\$207	\$0	\$0	\$0	\$207	74	75			
T-3	Preventive	\$651	\$0	\$0	\$0	\$651	74	75			

TURNER AIRPORT (29)

FIFTEEN YEAR PROJECTIONS							ESTIMATED AVERAGE ANNUAL COST:		\$26,585
Plan Year: 2029							Estimated Cost:	\$132,007	PCI
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive + Global MR	\$1,471	\$72,670	\$0	\$0	\$74,141	72	87	
A-2	Preventive	\$45	\$0	\$0	\$0	\$45	78	78	
T-2	Preventive + Global MR	\$277	\$13,674	\$0	\$0	\$13,951	72	87	
T-3	Preventive + Global MR	\$870	\$43,000	\$0	\$0	\$43,870	72	87	
Plan Year: 2030							Estimated Cost:	\$437	PCI
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$206	\$0	\$0	\$0	\$206	84	84	
A-2	Preventive	\$70	\$0	\$0	\$0	\$70	75	76	
T-2	Preventive	\$39	\$0	\$0	\$0	\$39	84	84	
T-3	Preventive	\$122	\$0	\$0	\$0	\$122	84	84	
Plan Year: 2031							Estimated Cost:	\$625	PCI
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$298	\$0	\$0	\$0	\$298	81	81	
A-2	Preventive	\$95	\$0	\$0	\$0	\$95	73	73	
T-2	Preventive	\$56	\$0	\$0	\$0	\$56	81	81	
T-3	Preventive	\$176	\$0	\$0	\$0	\$176	81	81	
Plan Year: 2032							Estimated Cost:	\$1,094	PCI
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$547	\$0	\$0	\$0	\$547	78	79	
A-2	Preventive	\$119	\$0	\$0	\$0	\$119	70	71	
T-2	Preventive	\$103	\$0	\$0	\$0	\$103	78	79	
T-3	Preventive	\$324	\$0	\$0	\$0	\$324	78	79	
Plan Year: 2033							Estimated Cost:	\$1,783	PCI
Section	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	Before	After	
A-1	Preventive	\$918	\$0	\$0	\$0	\$918	76	76	
A-2	Preventive	\$150	\$0	\$0	\$0	\$150	68	68	
T-2	Preventive	\$173	\$0	\$0	\$0	\$173	76	76	
T-3	Preventive	\$543	\$0	\$0	\$0	\$543	76	76	