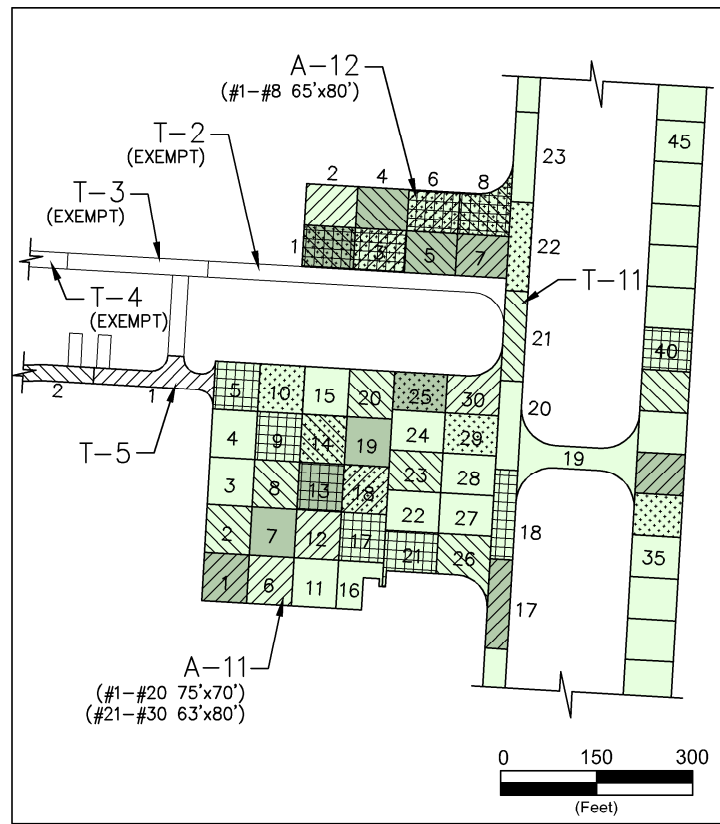
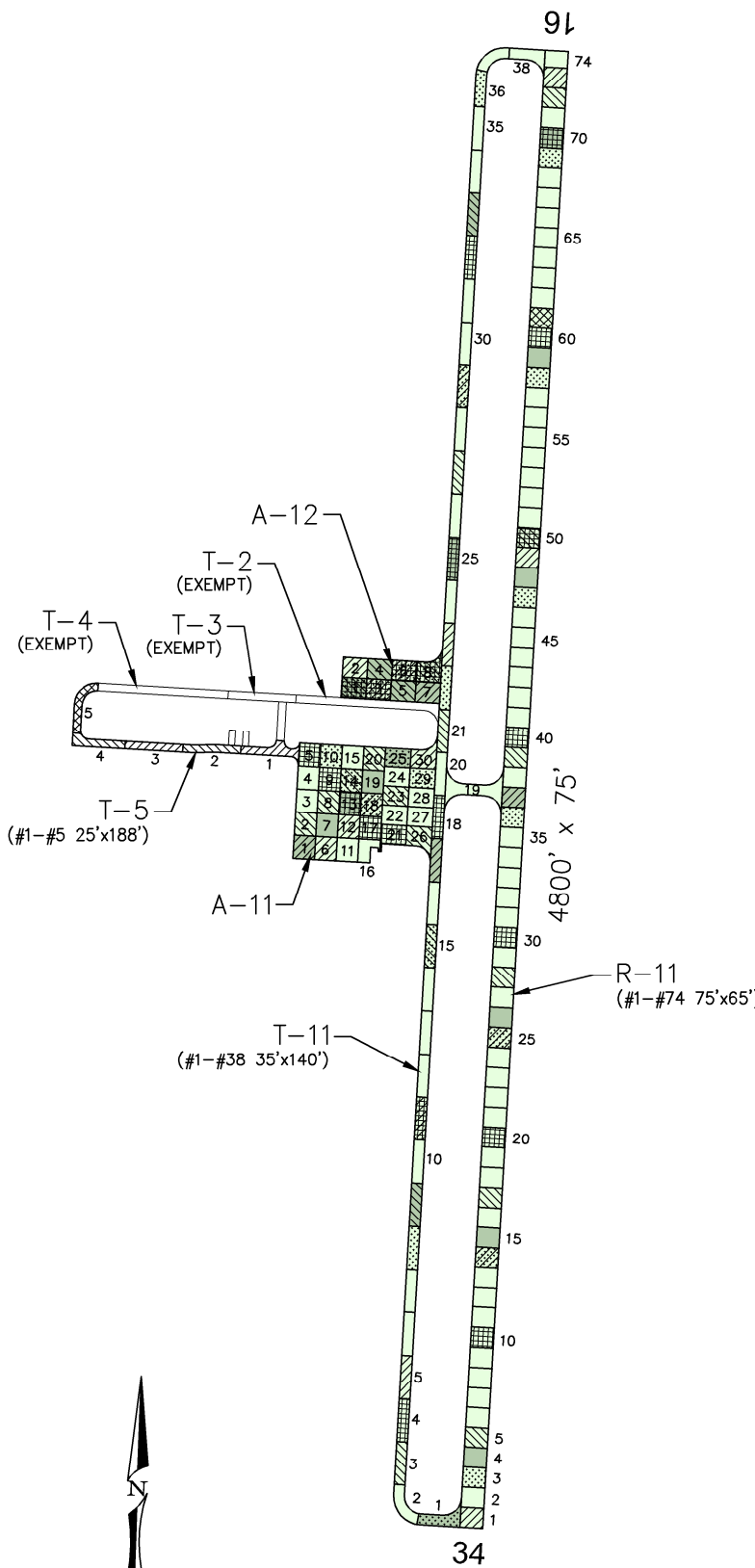


RONAN

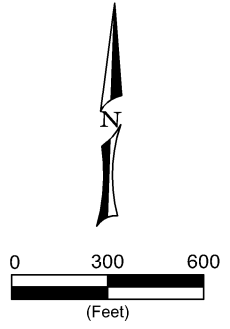


PAVEMENT STRENGTH SURVEY/PAVEMENT CONDITION SURVEY

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-11			19"P-152	8.5" P-154 FABRIC	6" P-208	2.5" P-401	P-609	20,000			3,5,7
TAXIWAYS											
T-2			CBR=13	FABRIC	4"FDM,10"AGG.	2" P-401	P-609	16,000			1,5,7
T-3					UNKNOWN	UNKNOWN	P-609	UNKNOWN			2,5,7
T-4				FABRIC	14.5" P-208	3" P-401	P-609				4,5,7
T-5			CBR=8.5	19" P-152 FABRIC	14.5" P-208	3" P-403	P-609	13,000			6,7
T-11			19"P-152	8.5" P-154 FABRIC	6" P-208	2.5" P-401	P-609	20,000			3,5,7
APRONS											
A-11			19"P-152	8.5" P-154 FABRIC	6" P-208	2.5" P-401	P-609	20,000			3,5,7
A-12			19"P-152	8.5" P-154 FABRIC	6" P-208	2.5" P-401	P-609	20,000			3,5,7

REMARKS:

AIP-01
AIP-02, 1989
1. AIP-03, 1992
2. NON-AIP, POST-1992
3. AIP-04, 2000, RECONSTRUCT AND EXTEND RUNWAY 16/34 (R-11); RECONSTRUCT AND ENLARGE APRON (A-11); CONSTRUCT PARALLEL TAXIWAY (T-11); CONSTRUCT MULTI-USE APRON (A-12).
4. AIP-05, 2003, CONSTRUCT TAXILANE EXTENSION (T-4).
5. AIP-008-2007, CRACK SEAL, FOG SEAL, AND REMARK ALL PAVEMENTS.
6. AIP-009-2008, CONSTRUCT TAXILANE (T-5).
7. AIP-010-2013, CRACK SEAL, FOG SEAL, AND REMARK ALL PAVEMENTS.



LEGEND	2003 SURVEY AREA	DATE OF PAVEMENT STRENGTH SURVEY:	AUG. 1, 1989
	2006 SURVEY AREA	EVALUATED BY:	J. STYBA
	2009 SURVEY AREA	DATE OF MOST RECENT PAVEMENT CONDITION SURVEY:	SEPT. 21, 2015
	2012 SURVEY AREA	EVALUATED BY:	S. MARKWARDT
2015 SURVEY AREA	LOCATION:	RONAN MONTANA	
MAINTAIN: PCI > 60			
TRANSITION: PCI 45 TO 60			
RECONSTRUCT: PCI < 45			

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

**RONAN AIRPORT
(750)**

Date: DECEMBER 2015 Prepared For: Prepared By:

MONTANA
MDT
DEPARTMENT OF TRANSPORTATION

RPA
Robert Peccia & Associates, Inc.

RONAN AIRPORT

9/21/2015



A-11, Overview



A-11, Surface detail with scrape / raveling



A-12, Surface detail with oil spill



A-12, Overview with fire retardant stains

RONAN AIRPORT

9/21/2015



R-11, Overview



R-11, Surface detail with gouging / raveling



T-11, Surface detail



T-11, Overview

RONAN AIRPORT

Branch: 53A

APRON

A-11

Length: 440 LF **Width:** 370 LF **Area:** 162,800 SF **Last Const. :** 2000 **Family:** ACAM15
From: T-11 **To:** TIEDOWNS **Surface:** AC

Inspections

Samples Surveyed: 5 **Total Samples:** 30 **Last Inspection Date (RPA)** 9/21/2015 **PCI:** 74

Sample # 10 **Area:** 4900 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	177 LF
DEPRESSION	L	35 SF
PATCHING	L	20 SF
WEATHERING	L	7 SF
OIL SPILLAGE	N	2 SF

Sample # 14 **Area:** 4900 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	102 LF
PATCHING	L	50 SF
OIL SPILLAGE	N	26 SF
BLEEDING	N	1 SF

Sample # 18 **Area:** 4900 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	110 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	15 LF
DEPRESSION	L	16 SF
OIL SPILLAGE	N	1 SF

Sample # 25 **Area:** 5040 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	246 LF
DEPRESSION	L	40 SF
BLEEDING	N	25 SF
RAVELING	H	15 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	2 LF
SWELLING	L	4 SF

Sample # 29 **Area:** 5040 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	246 LF
DEPRESSION	L	40 SF
BLEEDING	N	25 SF
RUTTING	H	15 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	2 LF
SWELLING	L	4 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
RUTTING	H	99 SF	0.06 %	19.90
LONGITUDINAL/TRANSVERSE CRACKING	L	5788 LF	3.56 %	11.44
RAVELING	H	99 SF	0.06 %	6.00
LONGITUDINAL/TRANSVERSE CRACKING	M	125 LF	0.08 %	4.00
DEPRESSION	L	861 SF	0.53 %	3.52
PATCHING	L	460 SF	0.28 %	2.09
OIL SPILLAGE	N	191 SF	0.12 %	2.01
BLEEDING	N	335 SF	0.21 %	1.20
SWELLING	L	53 SF	0.03 %	1.00
WEATHERING	L	46 SF	0.03 %	0.00

* 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

39.0 % Load 46.0 % Climate/Durability 15.0 % Other

RONAN AIRPORT

Branch: 53A

APRON

A-12

Length: 320 LF **Width:** 130 LF **Area:** 41,600 SF **Last Const. :** 2000 **Family:** ACAM15
From: T-11 **To:** TIEDOWNS/HANGARS **Surface:** AC

Inspections

Samples Surveyed: 4 **Total Samples:** 8 **Last Inspection Date (RPA)** 9/21/2015 **PCI:** 72

Sample # 1 **Area:** 5200 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	304 LF
OIL SPILLAGE	N	122 SF
DEPRESSION	L	72 SF
PATCHING	L	5 SF

Sample # 3 **Area:** 5200 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	212 LF
OIL SPILLAGE	N	179 SF
DEPRESSION	L	40 SF

Sample # 6 **Area:** 5200 SF

Distress Description	Severity	Quantity
OIL SPILLAGE	N	2010 SF
DEPRESSION	L	15 SF
PATCHING	L	6 SF
RAVELING	H	3 SF
SWELLING	L	1 SF

Sample # 8 **Area:** 5200 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	148 LF
OIL SPILLAGE	N	420 SF
DEPRESSION	L	23 SF
PATCHING	L	10 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
OIL SPILLAGE	N	5462 SF	13.13 %	19.77
LONGITUDINAL/TRANSVERSE CRACKING	L	1328 LF	3.19 %	10.54
RAVELING	H	6 SF	0.01 %	6.00
DEPRESSION	L	300 SF	0.72 %	4.91
PATCHING	L	42 SF	0.10 %	2.00
SWELLING	L	2 SF	0.00 %	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

0.0 % Load 42.0 % Climate/Durability 58.0 % Other

RONAN AIRPORT

Branch: 53R

RUNWAY

R-11

Length: 4,800 LF **Width:** 75 LF **Area:** 360,000 SF **Last Const. :** 2000 **Family:** ACRMU15
From: STA 8+00 **To:** STA 56+00 **Surface:** AC

Inspections

Samples Surveyed: 7 **Total Samples:** 74 **Last Inspection Date (RPA)** 9/21/2015 **PCI:** 65

Sample # 3 **Area:** 4875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	471 LF
WEATHERING	L	24 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	3 LF
RAVELING	H	4 SF

Sample # 14 **Area:** 4875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	398 LF
WEATHERING	L	24 SF
RAVELING	H	11 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	2 LF

Sample # 25 **Area:** 4875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	535 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	8 LF
WEATHERING	L	24 SF
RAVELING	H	16 SF
DEPRESSION	L	4 SF
SWELLING	L	3 SF

Sample # 36 **Area:** 4875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	1057 LF
LONGITUDINAL/TRANSVERSE CRACKING	M	34 LF
RAVELING	H	25 SF
SWELLING	L	25 SF
WEATHERING	L	24 SF
DEPRESSION	L	20 SF
RUTTING	L	9 SF

Sample # 47 **Area:** 4875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	356 LF
RAVELING	H	24 SF
WEATHERING	L	24 SF
LONGITUDINAL/TRANSVERSE CRACKING	M	5 LF
PATCHING	L	1 SF

Sample # 58 **Area:** 4875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	566 LF
WEATHERING	M	65 SF
WEATHERING	L	24 SF
RAVELING	H	18 SF

Sample # 69 **Area:** 4875 SF

Distress Description	Severity	Quantity
LONGITUDINAL/TRANSVERSE CRACKING	L	355 LF
BLEEDING	N	30 SF
RAVELING	H	26 SF
WEATHERING	L	24 SF

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
LONGITUDINAL/TRANSVERSE CRACKING	L	39434 LF	10.95 %	24.51
RAVELING	H	1308 SF	0.36 %	9.41
RUTTING	L	95 SF	0.03 %	8.50
LONGITUDINAL/TRANSVERSE CRACKING	M	549 LF	0.15 %	4.42
PATCHING	L	11 SF	0.00 %	2.00
WEATHERING	M	686 SF	0.19 %	1.25
SWELLING	L	295 SF	0.08 %	1.00
WEATHERING	L	1772 SF	0.49 %	0.31
DEPRESSION	L	253 SF	0.07 %	0.30

RONAN AIRPORT

Branch: 53R

RUNWAY

R-11

Extrapolated Distress Quantities*

Distress Description	Severity	Quantity	Density	Deduct
BLEEDING	N	316 SF	0.09 %	0.00

* 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

16.0 % **Load**

81.0 % **Climate/Durability**

3.0 % **Other**

RONAN AIRPORT**FIFTEEN YEAR PROJECTIONS: ESTIMATED AVERAGE ANNUAL COST: \$318,208**

PLAN YEAR: 2016			ESTIMATED COST:			\$1,467,647	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-11	Prev. & Thin AC	\$10,885	\$375,716			\$386,601	69	82
R-11	Prev. & Thin AC	\$41,077	\$701,999			\$743,076	64	74
A-11	Prev. & Thin AC	\$6,805	\$317,460			\$324,264	72	87
A-12	Prev. & Seal Coat	\$2,058	\$11,648			\$13,706	70	75
PLAN YEAR: 2017			ESTIMATED COST:			\$21,927	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-11	Basic Prev.	\$2,906				\$2,906	79	79
A-12	Basic Prev.	\$1,681				\$1,681	73	73
A-11	Basic Prev.	\$1,084				\$1,084	84	84
R-11	Basic Prev.	\$16,256				\$16,256	72	72
PLAN YEAR: 2018			ESTIMATED COST:			\$29,685	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-11	Basic Prev.	\$1,637				\$1,637	81	81
R-11	Basic Prev.	\$20,927				\$20,927	70	70
A-12	Basic Prev.	\$2,134				\$2,134	70	71
T-11	Basic Prev.	\$4,987				\$4,987	76	77
PLAN YEAR: 2019			ESTIMATED COST:			\$42,647	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-12	Basic Prev.	\$3,077				\$3,077	68	68
A-11	Basic Prev.	\$3,386				\$3,386	78	78
T-11	Basic Prev.	\$7,075				\$7,075	74	74
R-11	Basic Prev.	\$29,109				\$29,109	68	68
PLAN YEAR: 2020			ESTIMATED COST:			\$56,088	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-11	Basic Prev.	\$5,379				\$5,379	75	75
R-11	Basic Prev.	\$37,360				\$37,360	66	66
A-12	Basic Prev.	\$4,172				\$4,172	66	66
T-11	Basic Prev.	\$9,177				\$9,177	72	72
PLAN YEAR: 2021			ESTIMATED COST:			\$83,349	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-11	Basic Prev.	\$7,361				\$7,361	73	73
R-11	Basic Prev.	\$45,739				\$45,739	64	64
T-11	Basic Prev.	\$11,436				\$11,436	70	70
A-12	Prev. & Seal Coat	\$5,310	\$13,503			\$18,813	64	69
PLAN YEAR: 2022			ESTIMATED COST:			\$84,265	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
T-11	Basic Prev.	\$16,244				\$16,244	68	68
A-12	Basic Prev.	\$4,292				\$4,292	66	67
R-11	Basic Prev.	\$54,376				\$54,376	62	62
A-11	Basic Prev.	\$9,353				\$9,353	70	71
PLAN YEAR: 2023			ESTIMATED COST:			\$103,379	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-11	Basic Prev.	\$63,362				\$63,362	61	61
A-12	Basic Prev.	\$5,495				\$5,495	64	64
A-11	Basic Prev.	\$13,454				\$13,454	68	68
T-11	Basic Prev.	\$21,068				\$21,068	66	66
PLAN YEAR: 2024			ESTIMATED COST:			\$126,066	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-11	Basic Prev.	\$18,251				\$18,251	66	66
R-11	Basic Prev.	\$75,045				\$75,045	59	59
T-11	Basic Prev.	\$25,993				\$25,993	64	64
A-12	Basic Prev.	\$6,777				\$6,777	62	62
PLAN YEAR: 2025			ESTIMATED COST:			\$151,618	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-12	Basic Prev.	\$8,158				\$8,158	60	60
A-11	Basic Prev.	\$23,280				\$23,280	64	64
T-11	Basic Prev.	\$31,049				\$31,049	63	63
R-11	Basic Prev.	\$89,131				\$89,131	57	57

PLAN YEAR: 2026		ESTIMATED COST:				\$2,070,374	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-11	Prev. & Thin AC	\$104,575	\$943,428			\$1,048,003	56	65
A-11	Prev. & Thin AC	\$28,595	\$426,639			\$455,234	62	74
A-12	Prev. & Seal Coat	\$10,273	\$15,654			\$25,927	58	63
T-11	Prev. & Thin AC	\$36,279	\$504,931			\$541,210	61	71
PLAN YEAR: 2027		ESTIMATED COST:				\$96,908	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-12	Basic Prev.	\$8,482				\$8,482	60	60
A-11	Basic Prev.	\$10,213				\$10,213	71	71
T-11	Basic Prev.	\$17,468				\$17,468	68	69
R-11	Basic Prev.	\$60,745				\$60,745	63	63
PLAN YEAR: 2028		ESTIMATED COST:				\$118,954	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
A-12	Basic Prev.	\$10,640				\$10,640	58	58
T-11	Basic Prev.	\$23,130				\$23,130	67	67
A-11	Basic Prev.	\$14,043				\$14,043	69	69
R-11	Basic Prev.	\$71,141				\$71,141	61	61
PLAN YEAR: 2029		ESTIMATED COST:				\$144,856	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-11	Basic Prev.	\$83,349				\$83,349	59	60
A-12	Basic Prev.	\$13,095				\$13,095	56	56
T-11	Basic Prev.	\$28,831				\$28,831	65	65
A-11	Basic Prev.	\$19,581				\$19,581	67	67
PLAN YEAR: 2030		ESTIMATED COST:				\$175,352	PCI	
SectionID	Maintenance	Local	Global	Major<Crit	Major>Crit	Total	before	after
R-11	Basic Prev.	\$99,488				\$99,488	58	58
A-11	Basic Prev.	\$25,364				\$25,364	65	65
A-12	Basic Prev.	\$15,819				\$15,819	53	53
T-11	Basic Prev.	\$34,681				\$34,681	63	63