

Calendar Year 2016 Report on

#### **Life-Cycle Cost Analyses**

January 2017



#### Prepared by

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The cost of preparing this report is less than \$5,000.

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#### Legislative Request

This report is required by Minn. Stat. 174.185, which requires a life-cycle cost analysis for every project in the reconditioning, resurfacing and road repair funding categories constructed after July 1, 2011. The LCCA is a comparison of life-cycle costs among competing paving materials using equal design lives and equal comparison periods. Documentation required by the statute includes:

- Lowest life-cycle cost
- Alternatives considered
- Chosen strategy

 Documented justification, if the chosen strategy isn't the low cost

#### 174.185 PAVEMENT LIFE-CYCLE COST ANALYSIS.

#### Subd. 1. Definitions.

For the purposes of this section, the following definitions apply.

- (a) "Life-cycle cost" is the sum of the cost of the initial pavement project and all anticipated costs for maintenance, repair, and resurfacing over the life of the pavement. Anticipated costs must be based on Minnesota's actual or reasonably projected maintenance, repair, and resurfacing schedules, and costs determined by the Department of Transportation district personnel based upon recently awarded local projects and experience with local material costs.
- (b) "Life-cycle cost analysis" is a comparison of life-cycle costs among competing paving materials using equal design lives and equal comparison periods.

#### Subd. 2. Required analysis.

For each project in the reconditioning, resurfacing and road repair funding categories, the commissioner shall perform a life-cycle cost analysis and shall document the lowest life-cycle costs and all alternatives considered. The commissioner shall document the chosen pavement strategy and, if the lowest life cycle is not selected, document the justification for the chosen strategy. A life-cycle cost analysis is required for projects to be constructed after July 1, 2011. For projects to be constructed prior to July 1, 2011, when feasible, the department will use its best efforts to perform life-cycle cost analyses.

#### Subd. 3. Report.

The commissioner shall report annually to the chairs and ranking minority members of the senate and house of representatives committees with jurisdiction over transportation finance beginning on January 1, 2012, the results of the analyses required in subdivision 2.

#### Life-cycle Cost Analysis Report

#### **Implementation**

Minn. Stat. 174.185 requires a life-cycle cost analysis for every project in the reconditioning, resurfacing and road repair funding categories constructed after July 1, 2011.

MnDOT first implemented a LCCA process for roadway rehabilitation projects in 1999. The LCCA process was modified in 2010 to meet the specific requirements of legislation and was presented in <u>Technical Memorandum 10-04-MAT-01</u>. After the technical memorandum expired, the LCCA process, with some modifications, was incorporated into the MnDOT Pavement Design Manual which went into effect October 31<sup>st</sup>, 2014.

The LCCA process, which is consistent with Federal Highway Administration guidelines, is performed on all pavement projects regardless of funding category, but only the results of projects in the reconditioning, resurfacing and road repair funding categories are included in this report. The LCCA process limits the requirement to perform a LCCA to projects with more than 60,000 square yards of pavement (formerly 30,000 square yards in the technical memorandum) and to projects that include placing more than two-inch thickness of pavement material. Thin overlays (two inches or less) are considered short-term preventive maintenance and do not have a viable concrete alternative with an equal design life.

The LCCA process requires the inclusion of at least one portland cement concrete and one hot-mix asphalt alternate with equal design lives. To best determine the most cost effective design, the LCCA may include additional alternatives with other design lives.

Technical Memorandum 10-04-MAT-01 was superseded by the updated Pavement Design Manual when it was signed on October 31<sup>st</sup>, 2014; however, some LCCAs for projects constructed this year were already completed and this report will follow the LCCA procedure that was in effect at the time of the completion of each project's LCCA.

#### Results

In 2016, 32 construction projects were in the reconditioning, resurfacing and road repair funding categories and required a LCCA according to Technical Memorandum 10-04-MAT-01 or the MnDOT Pavement Design Manual. A LCCA was not provided for one project (SP 7608-19) which used the design-build process.

The results of the 31 LCCAs are as follows:

- Hot-mix asphalt was the low-cost option for 29 construction projects and all were selected for construction.
- Portland cement concrete was the low-cost option for two construction projects and one was selected for construction.
- One project had a portland cement concrete option as the low cost option but a HMA option was selected for construction instead. Documented justification for selecting other than the low-cost option is provided.
- In previous years the selected option of several projects was chosen using the alternate bidding process. This year no projects used the alternate bidding process.

A table of LCCA results and copies of the LCCAs submitted by MnDOT districts are attached.

#### **Discussion**

Hot-mix asphalt is most often the low-cost option in the submitted LCCAs. Portland cement concrete options usually have a greater initial cost than hot-mix asphalt, but become competitive by having lower maintenance costs over the life of the pavement. However, the relatively short design lives of these rehabilitation-type projects do not allow portland cement concrete options to exploit this relative advantage. Portland cement concrete options with longer design lives than hot-mix asphalt alternates are more competitive than the portland cement concrete options with the equal design lives required by the statute.

Recently, procedures were developed to implement two new portland cement concrete pavement design programs. These new programs resulted in substantially thinner pavement designs that reduce the initial cost of constructing portland cement concrete pavements and increase competitiveness. In addition, a research project has been started to develop a new procedure to design portland cement concrete pavements that are built on top of existing portland cement concrete pavements.

To create competition and to get the most cost-effective pavement, MnDOT continues to use the alternate bidding process on projects that are likely to have competitive hot-mix asphalt and portland cement concrete options. No projects in the reconditioning, resurfacing and road repair funding categories used the alternate bidding process this year.

The alternate bidding process is similar to using an LCCA to determine the low-cost option. However, instead of using an estimate for the initial cost of an option, alternate bidding uses actual bid prices. The process is as follows:

1. MnDOT lets a project with two options, one hot-mix asphalt and one portland cement concrete.

- 2. MnDOT calculates a maintenance factor. This is the difference between the maintenance costs of the two options.
- 3. Each contractor bids on either of the two options.
- 4. MnDOT adjusts the bids by adding the maintenance factor to the bids of the option with the greater maintenance costs.
- 5. MnDOT selects the bid with the lowest adjusted bid.

#### Conclusion

MnDOT implemented the requirements of Minn. Stat. 174.185 and provided the required results in this report. MnDOT will continue to work to ensure that all future projects meet the requirements of the legislation. In addition, MnDOT is innovating new pavement design methods to design the most cost-effective pavement structure.

#### Appendix A: Summary of LCCA Results

State Project Number (SP#)	Existing Pavement Type	Exception for low- cost option?	Design Life (in years)	Option Description	Present Worth	Optional Material (1)	Selected Option (2)	Alternate Bid? (3)
0305-34	PCC	No	13	HMA Overlay	\$8,174,164.00	HMA		No
			20	HMA Overlay	\$6,010,575.00	HMA	Χ	
			20	PCC Overlay	\$13,021,861.00	PCC		
0507-14	HMA	No	20	PCC over FDR \$5,623,358.00 PCC		PCC		No
			20	HMA over FDR \$3,487,63		HMA	Χ	
			35	PCC over FDR	\$4,130,586.00	PCC		
0605-16	PCC	No	20	HMA Overlay	\$6,634,083.00	HMA	Χ	No
			20	PCC Overlay	\$12,658,213.00	PCC		
0803-43	PCC	No	20	New HMA	\$14,291,462.00	HMA		No
			20	PCC Overlay	\$8,625,001.00	PCC		
			35	PCC Overlay	\$6,864,707.00	PCC	Χ	
0807-14	HMA	No	14	HMA Overlay	\$3,244,027.00	HMA	Χ	No
			20	HMA Overlay	\$3,397,449.00	HMA		
			20	PCC Overlay	\$3,972,689.00	PCC		
0902-12	HMA	No	15	HMA Overlay	\$4,132,198.00	HMA	Χ	No
			20	PCC overlay	\$6,291,637.00	PCC		
			20	HMA over FDR	\$5,099,600.00	HMA		
1802-51	HMA	No	15	HMA Overlay	\$2,386,576.00	HMA	Χ	No
			20	PCC Overlay	\$3,487,969.00	PCC		
			20	HMA over FDR	\$2,942,518.00	HMA		
1921-98	PCC	No	19	HMA Overlay	\$2,853,616.00	HMA	Χ	No
			20	HMA over Rubblized	\$3,147,719.00	HMA		
			20	PCC Overlay	\$3,518,166.00	PCC		
2506-75	HMA	No	17	HMA Overlay	\$12,124,681.00	HMA	Χ	No
			20	HMA Overlay	\$12,938,899.00	HMA		
			20	PCC Overlay	\$20,026,129.00	PCC		
2601-19	HMA	No	20	HMA Overlay	\$6,596,473.00	HMA	Х	No
			20	PCC Overlay	\$10,817,307.00	HMA		
2772-105	PCC	No	19	HMA Overlay	\$3,084,642.00	HMA	Χ	No
			20	HMA over Rubblization	\$6,240,785.00	HMA		
			20	PCC Overlay	\$4,044,625.00	PCC		
2801-87	HMA	No	15	HMA Overlay	\$1,426,265.00	HMA	Χ	No
			20	HMA Overlay	\$1,435,870.00	HMA		
			20	PCC Overlay	\$1,965,109.00	PCC		
3505-19	HMA	No	20	HMA Overlay	\$4,724,098.00	HMA	Х	No
			20	PCC Overlay	\$13,859,166.00	PCC		

State Project Number (SP#)	Existing Pavement Type	Exception for low- cost option?	Design Life (in years)	Option Description	Present Worth	Optional Material (1)	Selected Option (2)	Alternate Bid? (3)
3614-20	HMA	No	15	HMA Overlay	\$4,685,619.00	HMA	Х	No
			20	HMA on FDR	\$12,163,235.00	HMA		
			20	New PCC	\$14,621,698.00	PCC		
4101-89	HMA	No	15	HMA Overlay	\$3,148,943.00	HMA	Χ	No
			20	PCC Overlay	\$4,371,281.00	PCC		
			20	HMA over FDR	\$3,791,054.00	HMA		
4680-126	PCC	No	15	HMA Overlay	\$8,277,617.00	HMA	Χ	No
			20	PCC Overlay	\$10,317,891.00	PCC		
			20	HMA Overlay	\$8,299,064.00	HMA		
5880-180	HMA	No	20	PCC over FDR	\$18,619,515.00	PCC		No
			20	HMA over FDR	\$13,833,410.00	HMA	Χ	
			35	PCC over FDR	\$16,217,146.00	PCC		
6284-166	PCC	No	14	HMA Overlay	\$5,086,061.00	HMA	Χ	No
			20	PCC Overlay	\$10,357,692.00	PCC		
			20	HMA on Rubblization	\$9,661,163.00	HMA		
6407-89	HMA	No	17	HMA Overlay	\$2,300,977.00	HMA	Χ	No
			20	HMA over FDR	\$3,018,614.00	HMA		
			20	PCC Overlay	\$3,661,703.00	PCC		
6501-12	HMA	No	18	HMA overlay	\$4,469,452.00	HMA	Χ	No
			20	PCC Overlay	\$6,788,331.00	PCC		
			20	HMA on FDR	\$6,150,286.00	HMA		
6607-49	HMA	Yes	15	HMA Overlay	\$6,668,013.00	HMA	Χ	No
			20	PCC Overlay	\$8,579,067.00	PCC		
			20	HMA on CIR	\$6,327,016.00	HMA		
6910-96	PCC	No	15	HMA Overlay	\$976,850.00	HMA	Χ	No
			20	New HMA	\$1,942,330.00	HMA		
			20	New PCC	\$2,029,799.00	PCC		
			35	New PCC	\$2,089,533.00	PCC		
6917-142	PCC	No	15	HMA Overlay	\$4,081,476.00	HMA	Χ	No
			20	New PCC	\$6,040,545.00	PCC		
			20	NEW HMA/SFDR	\$5,461,731.00	HMA		
6947-50	PCC	No	15	HMA Overlay	\$7,219,370.00	HMA	Х	No
			20	New HMA	\$11,204,829.00	HMA		
			20	New PCC	\$13,990,691.00	PCC		
7318-39	HMA	No	14	HMA Overlay	\$9,965,340.00	HMA	Х	No
			20	PCC Overlay	\$11,355,580.00	PCC		
			20	HMA on FDR	\$12,644,470.00	HMA		

State Project Number (SP#)	Existing Pavement Type	Exception for low- cost option?	Design Life (in years)	Option Description	Present Worth	Optional Material (1)	Selected Option (2)	Alternate Bid? (3)
7323-12	HMA	No	20	PCC over FDR	\$11,834,083.00	PCC		No
			20	HMA over FDR	\$8,259,839.00	HMA	Χ	
			35	PCC Over FDR	\$8,749,127.00	PCC		
7380-239	PCC	No	20	PCC Overlay	\$4,318,977.00	PCC		No
			20	New HMA	\$6,041,069.00	HMA		
			35	PCC Overlay	\$3,730,836.00	PCC	Χ	
7605-89	HMA	No	18	HMA Overlay	\$575,533.00	HMA	Χ	No
			18	PCC Overlay	\$613,734.00	PCC		
			18	PCC Overlay	\$850,845.00	PCC		
7608-19		LCCA Not Pro	vided - Desig	n Build Project				No
7609-10	HMA	No	20	HMA Overlay	\$235,714.00	HMA	Χ	No
			20	PCC Overlay	\$434,750.00	PCC		
7709-16	HMA	No	13	HMA Overlay	\$3,790,209.00	HMA		No
			15	HMA Overlay	\$3,071,209.00	HMA	Χ	
			20	PCC Overlay	\$3,941,654.00	PCC		
8101-57	PCC	No	15	HMA overlay	\$6,141,538.00	HMA	Х	No
			20	PCC Overlay	\$6,392,040.00	PCC		
			20	New HMA	\$8,617,363.00	HMA		

- (1) **Option material** The pavement material that each option utilizes.
- (2) **Selected Option** This is marked (X) if the pavement option was selected to be constructed.

If the project uses alternate bidding, more than one option will be marked and the constructed option will be the low-cost option as determined by alternate bidding.

(3) Alternate Bidding? - 'Yes' if the project used alternate bidding to select which option to construct.

#### Definitions:

HMA = Hot-Mix Asphalt

**PCC** = Portland Cement Concrete

FDR = Full-Depth Reclamation (recycle existing HMA and Base to use as a new base)

**CIR** = Cold-in-Place Recycling (Recycle a layer of existing HMA with Cold-Mix Asphalt)

**CPR** = Concrete Pavement Repair

Rubblize = Break the existing PCC into pieces to act as the new base for HMA pavement

Crack & Seat = Crack and compact the existing PCC pavement to delay reflective cracking in an HMA overlay

#### Appendix B: Copies of LCCAs





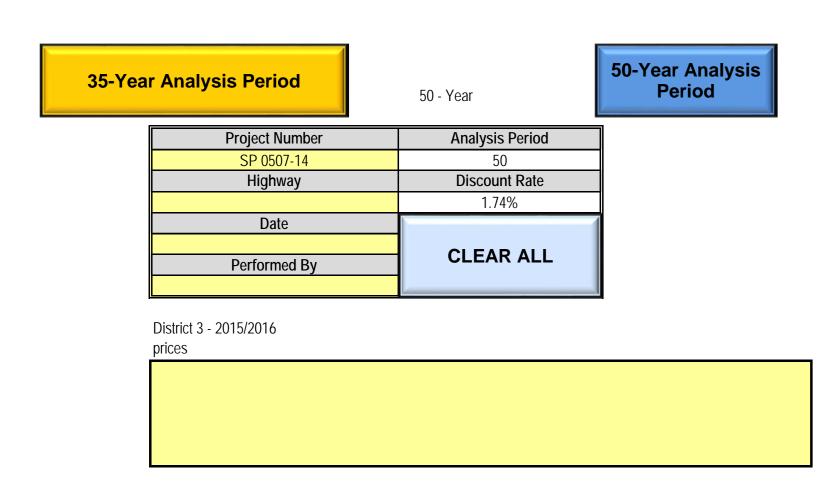
Project Number	Analysis Period					
SP0305-34	35					
Highway	Discount Rate					
TH 59	1.58%					
Date						
	OLEAD ALL					
10/20/2016	CLEAR ALL					
Performed By						
Andrea Azarv						

D4 - 2016/2017 prices			

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	TH 59 SP 0305-34 1.5" M&OL	Mill 1.5 " fill 3"	6" UBOL	22.1
Net Present Cost	\$8,174,164.28	\$6,010,574.73	\$13,021,860.83	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
<b>Project Net Present Cost</b>	\$ 8,174,164.28	\$ 6,010,574.73	\$ 13,021,860.83	Total
% of Low Cost	136.0%	100.0%	216.6%	22.1

		BID ADJUS	TMENT FACTOR	SUMMARY			
	Alternate	e #1	Alternate	#2	Altern	ate #3	Length
Segment #1	TH 59 SP 0305-34	1.5" M&OL	Mill 1.5 " f	II 3"	6" U	BOL	22.1
Net Present Cost	\$6,008,44	6.54	\$2,677,399	9.39	\$4,749,	380.27	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Co	ost \$	6,008,446.54	\$	2,677,399.39	\$	4,749,380.27	Total
Bid Adjustment Factor	r \$	3,331,047.15	\$	-	\$	2,071,980.87	22.1

					Seg	ment 1							
SEG	Length			SEG	Length				SEG	Length			
1	22.09			1	22.09		_		1	22.09	_		
ALT			scription	ALT			Descr	iption	ALT			cription	1
1		TH 59 SP 0305-3	4 1.5" M&OL	1		Mill 1.5 " fill 3"			3		6" UBOL		
	Pavement Type	CLICK	HERE TO		Pavement Type		<b>∕</b> ⊔	IERE TO		Pavement Type	CLICK		DE TO
	HMA		T THIS		НМА			THIS		PCC	EDI		
	Primary Category lay, DL =13 to 17 years		RNATE		Primary Category verlay, DL > 17 years			RNATE	6	Primary Category 'X6' ≥5.5" Thickness	ALTE		
S	econdary Category Rural				Secondary Category Rural					Secondary Category esign Life = 20 Years			
	ShoulderCategory Bituminous	DE	LETE		ShoulderCategory Bituminous	D	EL	ETE		ShoulderCategory Thin Bit	DE	LET	Е
es:	2.Kd.III.IO de			Notes:	B.Ka.T.III.OGO				Notes:				
ear	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost		Pres. Cost/per Mile	Year	Activity	Cost	Pres	. Cost/per Mile
0	1 1/2" Mill & Fill	\$ 98,040.6	98,040.64	1 0	Mill 1. 5 and fill 3 in	\$ 150,89	0.69	\$ 150,890.69 \$ -	0	6" UBOL	\$ 374,489.84		374,489.84
2			\$ -	2				\$ -	2			\$	-
3 4	Crack Treatment	\$ 2,112.0	0 \$ 2,014.97 \$ -	3 4	Crack Treatment	\$ 2,11	2.00	\$ 2,014.97 \$ -	3 4			\$ \$	-
5 6			\$ - \$ -	5 6				\$ - \$ -	5 6			\$ \$	-
7 8	Seal	\$ 7,716.8	4 \$ 6,914.83	7 8	Seal	\$ 7,71	6.84	\$ 6,914.83 \$ -	7 8			\$ \$	<u>-</u>
9			\$ -	9				\$ -	9			\$	-
11			\$ -	10 11				\$ -	10 11			\$	-
12 13	ML Overlay 3.5"	\$ 173,573.7	\$ - 5   \$ 141,571.99	12				\$ - \$ -	12 13			\$ \$	-
14 15			\$ - \$ -	14 15				\$ - \$ -	14 15			\$ \$	-
16 17	Crack Treatment	\$ 2,112.0	0 \$ 1,643.47					\$ -	16 17			\$	-
18			\$ -	18				\$ -	18			\$	-
9	Seal	\$ 7,716.8	4 \$ 5,639.95		ML Overlay 3.5"	\$ 173,57	3.75	\$ 126,858.59	19 20	1st CPR	\$ 294,174.75	5   \$	215,001.37
21 22			\$ - \$ -	21 22	0.17			\$ - \$ -	21 22			\$	-
:3 :4			\$ -	23 24	Crack Treatment	\$ 2,11	2.00	\$ 1,472.67 \$ -	23 24			\$	-
25 26	ML Overlay 3.5"	\$ 173,573.7	5 \$ 117,294.82 \$ -	2 25 26				\$ - \$ -	25 26			\$ \$	-
7	Crack Treatment	\$ 2,112.0	\$ -	27	Seal	\$ 7,71	5.84	Ψ	27			\$	-
8 9	Crack Treatment	\$ 2,112.0	0 \$ 1,361.65	29				\$ -	28 29			\$	-
30 31			\$ - \$ -	30 31				\$ - \$ -	30 31			<b>\$</b> <b>\$</b>	-
32 33	Seal	\$ 7,716.8	4 \$ 4,672.79	32 33				\$ - \$ -	32 33			\$ \$	-
34 35	Remaining Life	\$ (15,779.4	\$ - 3) \$ (9,115.99	34 35	Remaining Life	\$ (36,54	1.84)	\$ - \$ (21,110.72)	34 35	0/0 Remaining	\$ -	\$ \$	-
	et Present Cost/ per Mile ce - Net Present Cost/per M	file			et Present Cost/ per Mile nce - Net Present Cost/per M	<i>l</i> lile				et Present Cost/ per Mile nce - Net Present Cost/per N	Mile	\$	589,491.21 215,001.37
Prese	nt Cost for Segment ce - Net Present Cost for Se		\$ 8,174,164.28	Net Prese	ent Cost for Segment nce - Net Present Cost for Se			\$ 6,010,574.73	Net Prese	ent Cost for Segment nce - Net Present Cost for S		\$	13,021,860.83 4,749,380.27
	Annual Cost				t Annual Cost					t Annual Cost			487,217.85
	Total Lane Width 24	# of Lanes 2	Analysis Period 35		Total Lane Width 24	# of Lanes 2		Analysis Period 35		Total Lane Width 24	# of Lanes 2	Ar	nalysis Period 35
	Total Shldr Width 16	# of Shldrs 2	ML Mix WEARING COURSE		Total Shldr Width 16	# of Shldrs 2	l	ML Mix WEARING COURSE N		Total Shldr Width 16	# of Shldrs 2		ML Mix
	Width of Rounding Aggrega 1.5	N			Width of Rounding Aggrega : 1.5	N	om	SL Mix WEARING COURSE N	<b>.</b>	Width of Rounding Aggrega : 1.5	N	WEAR	SL Mix RING COURSE
	Sealed/UTBWC N	ML Thickness			Sealed/UTBWC N	ML Thicknes				Sealed/UTBWC N	ML Thickness 6		
	ML Top Lift / joint spacing 1.5	# Dowels per Lane			ML Top Lift / joint spacing 3	# Dowels per l	ane			ML Top Lift / joint spacing 6	g # Dowels per Lane 0		



	LCCA	A SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1  Net Present Cost	FDR w/4" HMA ML & Shld. \$3,487,635.71	FDR w/6" PCC ML & PCC Shld \$5,623,357.50	FDR w/6" PCC ML & Bit Shld. \$4,130,585.90	5.3 Miles
Segment #2 Net Present Cost	\$0,101,1000.11	\$6,626,667.66	ψ1,100,000.70	0.0 Miles
Segment #3 Net Present Cost				0.0 Miles
Segment #4 Net Present Cost				0.0 Miles
Segment #5 Net Present Cost				0.0 Miles
Segment #6 Net Present Cost				0.0 Miles
Segment #7 Net Present Cost				0.0 Miles
Segment #8 Net Present Cost				0.0 Miles
Project Net Present Cost	\$ 3,487,635.71	\$ 5,623,357.50	\$ 4,130,585.90	Total
% of Low Cost	100.0%	161.2%	118.4%	5.3

	BID ADJUSTMEI	NT FACTOR SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1 Net Present Cost	FDR w/4" HMA ML & Shld. \$1,740,232.73	FDR w/6" PCC ML & PCC Shld \$2,256,329.18	FDR w/6" PCC ML & Bit Shld. \$1,222,529.49	5.3 Miles
Segment #2 Net Present Cost		ΨΖ,ΖΟΟ,ΖΖ /. 10	Ψ1,ΖΖΖ,ΖΖ /. Τ /	0.0 Miles
Segment #3 Net Present Cost				0.0 Miles
Segment #4 Net Present Cost				0.0 Miles
Segment #5 Net Present Cost				0.0 Miles
Segment #6 Net Present Cost				0.0 Miles
Segment #7 Net Present Cost				0.0 Miles
Segment #8 Net Present Cost				0.0 Miles
Project Net Present Cost	\$ 1,740,232.73	\$ 2,256,329.18	\$ 1,222,529.49	Total
Bid Adjustment Factor	\$ 517,703.24	\$ 1,033,799.68	\$ -	5.3
				•

					Sear	ment 1						
SEG 1	Length 5.307			SEG 1	Length 5.307				SEG 1	<b>Length</b> 5.307		
ALT 1		DOF THE BOOK TO TH	escription Shld.	ALT 2		Desc	cription PCC Shld		ALT 3		De FDR w/6" PCC ML &	scription Bit Shld.
	Pavement Type HMA				Pavement Type PCC	-	1			Pavement Type PCC		
	Primary Category 20 Year HMA	CLICK	HERE TO		Primary Category ≥12 Joint spacing	CLICK	HERE TO			Primary Category ≥12 Joint spacing		
S	econdary Category Rural		T THIS	S	Secondary Category esign Life = 20 Years		THIS			Secondary Category Design Life 35 Years		
(	ShoulderCategory	ALIE	RNATE		ShoulderCategory	ALIE	RNATE			ShoulderCategory		
Notes:	Bituminous			Notes:	PCC				Notes:	Thin Bit		
<b>Year</b> 0	Activity FDR w/4" HMA	Cost/per Mile \$ 329,263.80	Pres. Cost/per Mile X \$ 329,263.80	X Year 0	Activity FDR w/ 6" PCC ML & Shld	\$ 634,450.41	Pres. Cost/per Mile \$ 634,450.41	ХХ	Year 0	Activity FDR w/6" PCC ML & Bit Shld	\$ 547,966.16	Pres. Cost/per Mile \$ 547,966.16
1 2			\$ - \$ -	1 2			\$ - \$ -		1 2			\$ - \$ -
3 4			\$ - \$ -	3 4			\$ - \$ -		3 4			\$ \$
5 6			\$ - \$ -	5 6			\$ - \$ -		5 6			\$ \$
7 8	Crack Treatment	\$ 1,056.00	\$ - \$ 919.88	7 8			\$ - \$ -		7 8			\$ \$
9 10			\$ - \$ -	9 10			\$ - \$ -		9 10			\$ \$
11 12	Seal	\$ 11,894.00	\$ - \$ 9,670.02	11 12			\$ - \$ -		11 12			\$ - \$ -
13 14			\$ - \$ -	13 14			\$ - \$ -		13 14			\$ - \$ -
15 16			\$ - \$ -	15 16			\$ - \$ -		15 16			\$ \$
17 18			\$ - \$ -	17 18			\$ - \$ -		17 18			\$ \$
19 20	ML Overlay 4	\$ 279,794.25	\$ - \$ 198,154.58	19 20	1st CPR	\$ 217,077.08	\$ 153,737.32		19 20	1st CPR	\$ 195,057.06	\$ 138,142.40
21 22			\$ - \$ -	21 22			\$ - \$ -		21 22			\$ - \$ -
23 24	Crack Treatment	\$ 2,112.00	\$ 1,420.31 \$ -	23 24			\$ - \$ -		23 24			\$ - \$ -
25 26			\$ - \$ -	25 26			\$ - \$ -		25 26			\$ \$
27 28	Seal	\$ 8,101.01	\$ 5,084.67 \$ -	27 28			\$ - \$ -		27 28			\$ - \$ -
29 30			\$ - \$ -	29 30			\$ - \$ -		29 30			\$ - \$ -
31 32			\$ - \$ -	31 32			\$ - \$ -		31 32			\$ - \$ -
33 34			\$ - \$ -	33 34			\$ - \$ -		33 34			\$ - \$ -
35 36			\$ - \$ -	35 36	Remove and Replace	\$ 615,157.60	\$ 336,337.84		35 36	2nd CPR	\$ 168,667.89	\$ 92,219.29
37 38	ML Overlay 3.5"	\$ 251,372.51	\$ 132,777.24 \$ -	37 38			\$ -		37 38			\$ \$
39 40	Crack Treatment	\$ 2,112.00	\$ - \$ 1,059.31	39 40			\$ -		39 40			\$ \$
41 42			\$ -	41 42			\$ - \$ -		41 42			\$ - \$ -
43 44	Chip Seal	\$ 8,101.01	\$ - \$ 3,792.30	43 44			\$ - \$ -		43 44			\$ \$
45 46	'	,	\$ -	45 46			\$ - \$ -		45 46			\$ \$
47 48			\$ - \$ -	47 48			\$ - \$ -		47 48			\$ - \$ -
49 50	4/17 Remaining Life	\$ (59,146.47)	\$ - \$ (24,965.61)	49 50	5/20 Remaining	\$ (153,789.40)	\$ - \$ (64,914.20)		49 50	0/0 Remaining	\$ -	\$ \$
LCCA - Net Present				LCCA - Net Present				I .	LCCA - Net Present			
Cost/ per Mile			\$ 657,176.51	Cost/ per Mile			\$ 1,059,611.36		Cost/ per Mile			\$ 778,327.85
Maintenance - Net Present			¢ 227.012.71	Maintenance Net Present			¢ 425.140.05		Maintenance Net Present			¢ 220.241.40
Cost/per Mile Net Present			\$ 327,912.71	Cost/per Mile Net Present			\$ 425,160.95		Cost/per Mile Net Present			\$ 230,361.69
Cost for Segment			\$ 3,487,635.71	Cost for Segment			\$ 5,623,357.50		Cost for Segment			\$ 4,130,585.90
Maintenance - Net Present				Maintenance Net Present					Maintenance Net Present			
Cost for Segment			\$ 1,740,232.73	Cost for Segment			\$ 2,256,329.18		Cost for Segment			\$ 1,222,529.49
Equivalent Annual Cost			105,008.92	Equivalent Annual Cost			169,313.18		Equivalent Annual Cost			124,367.45
Tillidal 003t	Total Lane Width	# of Lanes	Analysis Period	7tilladi 003t	Total Lane Width	# of Lanes	Analysis Period	1	Allindar Oost	Total Lane Width	# of Lanes	Analysis Period
	24 Total Shldr Width	# of Laries 2 # of Shldrs	50  ML Mix		26 Total Shidr Width	# of Lanes 2 # of Shldrs	50 ML Mix			26 Total Shidr Width	# of Laries 2 # of Shidrs	50 ML Mix
	10tar Stillar Width	# 01 Stillars	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)		8	# 01 311ldrs	IVIL IVIIA			10tal Stildi Widti	)	IVIL IVIIA
	Width of Rounding Aggregate	white/ >7 milliom	SL Mix		Width of Rounding Aggregate		SL Mix			Width of Rounding Aggregate	white/ >7 milliom	SL Mix
	10	N	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)		10	N				10	N	TYPE SP 12.5 WEARING COURSE MIXTURE (2,B)
	Sealed/UTBWC N	ML Thickness			Sealed/UTBWC Y	ML Thickness 6				Sealed/UTBWC Y	ML Thickness 6	, · · /
	ML Top Lift / joint spacing	# Dowels per Lane			ML Top Lift / joint spacing	# Dowels per Lane				ML Top Lift / joint spacing	# Dowels per Lane	
	2 Design Life	Shldr Thickness			12 Design Life	11 Shldr Thickness				12 Design Life	11 Shldr Thickness	
	20	4				6			<u> </u>		3	



# 35 - Year

Project Number	Analysis Period
0605-16	35
Highway	Discount Rate
28	1.58%
Date	
	CLEAR ALL
Performed By	
· ·	

D4 - 2016/2017 prices			

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	2" MILL 3" OVERLAY	6" UNBONDED OVERLAY		22.6
Net Present Cost	\$6,634,082.80	\$12,658,212.76		Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 6,634,082.80	\$ 12,658,212.76	\$ -	Total
% of Low Cost	100.0%	190.8%	0.0	<b>22.6</b>

		BID ADJ	JSTMENT FAC	TOR SUMMARY			
	Alternat	e #1	Alter	nate #2	Alte	ernate #3	Length
Segment #1	2" MILL 3" O	VERLAY	6" UNBONI	DED OVERLAY			22.6
Net Present Cost	\$3,042,80	3.22	\$4,12	3,769.58			Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present C	ost \$	3,042,803.22	\$	4,123,769.58	Ç	-	Total
Bid Adjustment Facto	r \$	-	\$	1,080,966.36	Ş	-	22.6

					Segr	ment 1					
SEG 1	<b>Length</b> 22.606			SEG 1	<b>Length</b> 22.606			SEG 1	<b>Length</b> 22.606		
ALT		Docc	rintion	ALT		Docc	rintion			Doses	rintion
ALI			ription				ription	ALT		Desci	ription
1		2" MILL 3" OVERLA	AY 1	2		6" UNBONDED OVE	RLAY	3			
	Pavement Type  HMA  Primary Category  20 Year HMA  Secondary Category	EDIT	HERE TO THIS RNATE		Pavement Type  PCC  Primary Category S'X6' ≥5.5" Thickness  Secondary Category	EDIT	IERE TO THIS RNATE		Primary Category Secondary Category		
	Rural				esign Life = 20 Years						
Nictor	ShoulderCategory Aggregate	DEL	ETE	Nices	ShoulderCategory Aggregate	DEL	ETE	Nata	ShoulderCategory		
Notes:				Notes:				Notes:			
Year	Activity		Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile		Activity	Cost	Pres. Cost/per Mile
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	Crack Treatment  Seal  ML Overlay 3.5  Crack Treatment  Seal  2/17 Remaining Life		\$ - \$ - \$ - \$ - \$ - \$ - \$ 1,086.79 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34	1st CPR  0/0 Remaining	\$ 249,594.40 \$ -	\$	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19			
Maintena Net Pres Maintena	Net Present Cost/ per Mile ance - Net Present Cost/per Mile ent Cost for Segment ance - Net Present Cost for Seg ant Annual Cost  Total Lane Width 28 Total Shldr Width 16 Width of Rounding Aggregate 8 Sealed/UTBWC N ML Top Lift / joint spacing 1.5 Design Life	# of Lanes 2 # of Shldrs 2	\$ 134,601.58 \$ 6,634,082.80 \$ 3,042,803.22 248,216.72 Analysis Period 35 ML Mix WEARING COURSE M SL Mix	Maintenal Net Prese Maintenal Equivaler	let Present Cost/ per Mile nce - Net Present Cost/per Mile ent Cost for Segment nce - Net Present Cost for Seg at Annual Cost  Total Lane Width 28 Total Shldr Width (: 16 Width of Rounding Aggregate 8 Sealed/UTBWC Y ML Top Lift / joint spacing 6 Design Life	# of Lanes 2 # of Shldrs 2	\$ 182,419.25 \$ 12,658,212.76 \$ 4,123,769.58 473,611.82 Analysis Period 35 ML Mix SL Mix	Maintenar Net Prese Maintenar Equivalen	et Present Cost/ per Mile nce - Net Present Cost/per Mile ent Cost for Segment nce - Net Present Cost for Seg t Annual Cost  Total Lane Width Total Shldr Width Width of Rounding Aggregate Sealed/UTBWC  ML Top Lift / joint spacing Design Life	gment  # of Lanes  # of Shldrs	\$ - \$ - \$ - Analysis Period ML Mix SL Mix

Design Life Shldr Thickness 6

Design Life Shldr Thickness
20 4





Project Number	Analysis Period
0803-43	50
Highway	Discount Rate
14	1.74%
Date	
	OLEAD ALL
1/5/2016	CLEAR ALL
Performed By	
Caleh Fenske	

trict 7 - 2015/20	-			

			LCCA	SUMMAR	Y			
	Al	ternate #1		Alternate	#2	Altern	ate #3	Length
Segment #1	Bit	Reconstruct	Unbo	nded Concre	te Overlay	Unbonded Concret	e Overlay/dowelled	12.9
Net Present Cost	\$14	,291,462.18		\$6,864,706	5.88	\$8,625	,001.12	Miles
Segment #2								0.0
Net Present Cost								Miles
Segment #3								0.0
Net Present Cost								Miles
Segment #4								0.0
Net Present Cost								Miles
Segment #5								0.0
Net Present Cost								Miles
Segment #6								0.0
Net Present Cost								Miles
Segment #7								0.0
Net Present Cost								Miles
Segment #8								0.0
Net Present Cost								Miles
Project Net Present Co	st	\$ 14,291,46	52.18	\$	6,864,706.88	\$	8,625,001.12	Total
% of Low Cost		20	08.2%		100.0%		125.6%	12.9

		BID AD.	JUSTMENT FACT	TOR SUMMARY			
	Alternat	:e #1	Alter	nate #2	Altern	ate #3	Length
Segment #1	Bit Recon	struct	Unbonded Co	ncrete Overlay	Unbonded Concrete	e Overlay/dowelled	12.9
Net Present Cost	\$3,934,6	00.40	\$2,451	1,858.67	\$4,212,	152.91	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present C	ost \$	3,934,600.40	\$	2,451,858.67	\$	4,212,152.91	Total
Bid Adjustment Facto	r \$	1,482,741.73	\$	-	\$	1,760,294.23	12.9

						Seg	me	ent 1								
					07.0						0770					
SEG 1	Length 12.9				SEG 1	Length 12.9					SEG 1	Length 12.9				
ALT			Descri	iption	ALT			Desci	riptic	on	ALT			Desc	riptior	า
1		Bit Reco	onstruct		2		Unb	onded Concrete (	Overl	lay	3		Unbond	ed Concrete (	Overla	y/dowelled
	Pavement Type					Pavement Type						Pavement Type				
	НМА	CL	ICK H	ERE TO		PCC		CLICK F	<b>4</b> F∣	RF TO		PCC				
	Primary Category		EDIT			Primary Category		EDIT				Primary Category	4			
9	20 Year HMA Secondary Category Rural	<b>-</b>	ALTER	RNATE		≥12 Joint spacing  Secondary Category  Design Life 35 Years		ALTER	RN	IATE		≥12 Joint spacing  Secondary Category				
	ShoulderCategory Aggregate	1				ShoulderCategory Aggregate						shoulderCategory Aggregate	1			
otes:	Aggregate				Notes:	Aggregate				,	Notes:	Aggregate				
						ı						ı				
<b>Year</b>	Activity Bit Reconstruct			Pres. Cost/per Mile \$ 802,857.50	<b>Year</b>	Activity 35 yr UBOL	\$	Cost 342,081.26		es. Cost/per Mile 342,081.26	<b>Year</b>	Activity  UBOL	\$	Cost 342,081.26	Pres	342,081.26
1			,	\$ -	1			0.12,00	\$	-	1		ĺ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	\$	-
2				\$ - \$ -	2 3				\$	-	3				\$	-
4 5				\$ - \$ -	4 5				\$ \$	-	4 5				\$ \$	-
6 7				\$ - \$ -	6 7				\$ \$	-	6 7				\$ \$	-
8 9	Crack Treatment	\$	1,232.00	\$ 1,073.19 \$ -	8 9				\$ \$	-	8 9				\$ \$	-
10 11				\$ - \$	10 11				\$	-	10 11				\$	-
12 13	Seal	\$	12,873.70	\$ 10,466.52 \$	12 13				\$	-	12 13				\$	-
14				\$ -	14				\$	-	14				\$	-
15 16				\$ - \$ -	15 16				\$	-	15 16				\$	-
17 18				\$ - \$ -	17 18				\$ \$	-	17 18				\$ \$	-
19 20	ML Overlay 4	\$ 2	258,269.12	\$ - \$ 182,910.15	19 20	1st CPR	\$	135,927.17	\$ \$	- 96,265.71	19 20	1st CPR	\$	198,171.76	\$ \$	- 140,348.28
21 22	Crack Treatment		0.404.00	\$ - \$ -	21 22				\$	-	21 22				\$	-
<ul><li>23</li><li>24</li></ul>	Crack Treatment	\$	2,464.00	\$ 1,657.03 \$ -	23 24				\$	-	23 24				\$	-
25 26				\$ - \$ -	25 26				\$ \$	-	25 26				\$ \$	-
27 28	Seal	\$	8,864.63	\$ 5,563.95 \$ -	27 28				\$ \$	-	27 28				\$ \$	-
29 30				\$ - \$ -	29 30				\$ \$	-	29 30				\$ \$	-
31 32				\$ - \$ -	31 32				\$ \$	-	31 32				\$ \$	-
33 34				\$ - \$ -	33 34				\$ \$	-	33 34				\$ \$	-
35 36				\$ - \$ -	35 36	2nd CPR	\$	171,560.56	\$ \$	93,800.85	35 36	Remove and Replace	\$	421,949.58	\$ \$	230,701.22
37 38	ML Overlay 3.5"	\$ 2	228,382.24	\$ 120,633.58 \$ -	37 38				\$	-	37 38				\$ \$	-
39 40	Crack Treatment	\$	2,464.00	\$ - \$ 1,235.87	39 40				\$	-	39 40				\$	-
40 41 42	Graon freamheilt		∠,⊤∪ <b>⊤</b> .∪∪	\$ 1,233.67 \$ - \$ -	41 42				\$	- -	41 42				\$	-
13	Chin Saal	¢	8 064 00	\$ -	43				\$	-	43				\$	-
44 45 46	Chip Seal	\$	8,864.63	\$ 4,149.77 \$ -	44 45 46				\$	-	44 45 46				\$	-
46 47 48				\$ - ¢	47				\$	-	46 47				\$	-
48 49				\$ -	48 49				\$	-	48 49				\$	-
	4/17 Remaining Life et Present Cost/ per Mile	,	(53,737.00)	\$ 1,107,865.29	LCCA - N	0/0 Remaining et Present Cost/ per Mile	\$	-	\$ \$			5/20 Remaining et Present Cost/ per Mile	•	(105,487.40)	\$ \$	(44,526.02) 668,604.74
	nce - Net Present Cost/per Ment Cost for Segment	Mile		\$ 305,007.78	Maintena	nce - Net Present Cost/per Mi ent Cost for Segment	ile		\$ \$	190,066.56	Maintena	nce - Net Present Cost/per Ment Cost for Segment	ile		\$ \$	326,523.48 8,625,001.12
intenar	nce - Net Present Cost for Set t Annual Cost	egment		\$ 3,934,600.40	Maintena	nce - Net Present Cost for Se t Annual Cost	gmen	nt	\$	2,451,858.67	Maintena	nce - Net Present Cost for Se t Annual Cost	egment		\$	4,212,152.91 259,689.41
	Total Lane Width		Lanes	Analysis Period		Total Lane Width		# of Lanes	P	Analysis Period		Total Lane Width	# C	of Lanes	Ar	nalysis Period
	28 Total Shldr Width 8	# of \$	2 Shldrs 2	50 ML Mix VEARING COURSE N		28 Total Shldr Width		2 # of Shldrs	<b>///⊏</b> ^	50 ML Mix ARING COURSE N		28 Total Shldr Width	# c	2 of Shldrs		50 ML Mix
	Width of Rounding Aggregation 3	te white/ >	7 milliom N	SL Mix		Width of Rounding Aggregate 3		hite/ >7 milliom N	. , LA	SL Mix		Width of Rounding Aggregat 3	e white/	/ >7 milliom N		SL Mix
	Sealed/UTBWC N	ML Th	nickness			Sealed/UTBWC N		ML Thickness 6				Sealed/UTBWC N		Thickness 6		
	ML Top Lift / joint spacing 2 Design Life		s per Lane Thickness			ML Top Lift / joint spacing 12 Design Life		Oowels per Lane 6 hldr Thickness	1			ML Top Lift / joint spacing 12 Design Life		els per Lane 6 Thickness	l I	
	DESIGN FILE	OHUL II	11101/11022		•	Deginii Fiid	0	THURSS				Deginii File	OHIO	THICKHESS		





Project Number	Analysis Period
0807-14	35
Highway	Discount Rate
68	2.00%
Date	
	OLEAD ALL
6/16/2015	CLEAR ALL
Performed By	
Caleb Fenske	

District 7 - 2014/2015 prices

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	4" BCOA 20 yr	4.5" Bit Overlay 20yr	2" M & OL W/Underseal	7.5
Net Present Cost	\$3,972,689.11	\$3,397,449.37	\$3,244,027.13	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 3,972,689.11	\$ 3,397,449.37	\$ 3,244,027.13	Total
% of Low Cost	122.5%	104.7%	100.0%	7.5

		BID ADJ	USTMENT FA	CTOR SI	UMMARY				
	Alternate #1		Alte	ernate #2		А	Iternate #3		Length
Segment #1	4" BCOA 20 yr		4.5" Bit	Overlay 2	20yr	2" M &	OL W/Unde	rseal	7.5
Net Present Cost	\$1,979,863.44		\$1,2	67,710.37	7	\$2	,105,883.76		Miles
Segment #2									0.0
Net Present Cost									Miles
Segment #3									0.0
Net Present Cost									Miles
Segment #4									0.0
Net Present Cost									Miles
Segment #5									0.0
Net Present Cost									Miles
Segment #6									0.0
Net Present Cost									Miles
Segment #7									0.0
Net Present Cost									Miles
Segment #8									0.0
Net Present Cost									Miles
Project Net Present C	ost \$ 1	,979,863.44	Ġ,	5	1,267,710.37		\$	2,105,883.76	Total
Bid Adjustment Facto	r \$	712,153.07	Ġ,	3	-		\$	838,173.39	7.5

					Seg	ment 1					
SEG	Length			SEG	Length			SEG	Length		
1	7.5			1	7.5			1	7.5		
ALT		Desc	cription	ALT		Desc	ription	ALT		Desc	ription
1		4" BCOA 20 yr		2		4.5" Bit Overlay 20yr		3		2" M & OL W/Unders	eal
	Pavement Type				Pavement Type				Pavement Type		
D	PCC  Primary Category  'X6' ≤ 5.0" Thickness  Secondary Category  esign Life = 20 Years  ShoulderCategory  Aggregate	EDIT	HERE TO THIS RNATE		HMA  Primary Category  20 Year HMA  Secondary Category  Rural  ShoulderCategory  Aggregate	EDIT	HERE TO THIS RNATE	:	HMA  Primary Category  rlay, DL =13 to 17 years  Secondary Category  Rural  ShoulderCategory  Aggregate		
Varia	Antido	Control 2011	Burn Continue Mills	Vann		01	Dura Continua Mila	Varia		0	D C (1 18)
<b>Year</b>	Activity bcoa	Cost/per Mile \$ 265,710.09	Pres. Cost/per Mile \$ 265,710.09	<b>Year</b>	Activity Thick Bit OL	\$ 283,965.20	<b>Pres. Cost/per Mile</b> \$ 283,965.20	Year 0	Activity Thin Ol W/underseal	\$ 151,752.45	Pres. Cost/per Mile \$ 151,752.45
1 2 3 4 5			\$ - \$ - \$ - \$ -	1 2 3 4 5 6			\$ - \$ - \$ - \$ -	1 2 3 4 5 6	Crack Treatment	\$ 1,675.52	\$ - \$ - \$ 1,578.88 \$ - \$ -
7 8 9 10			\$ - \$ - \$ -	7 8 9	Crack Treatment	\$ 837.76	\$ - \$ 715.02 \$ - \$ -	7 8 9 10	Seal	\$ 8,439.13	\$ 7,346.77 \$ - \$ -
11 12 13 14 15			\$ - \$ - \$ - \$ -	11 12 13 14 15	Seal	\$ 12,752.26	\$ - \$ 10,055.07 \$ - \$ -	11 12 13 14 15	ML Overlay 3.5"	\$ 220,774.52	\$ - \$ - \$ 167,319.49 \$ -
16 17 18 19 20	1st CPR	\$ 328,165.71	\$ - \$ - \$ - \$ 220,846.11	16 17 18 19 20	ML Overlay 4	\$ 247,907.85	\$ - \$ - \$ - \$ - \$ 166,834.87	16 17 18 19 20	Crack Treatment	\$ 1,675.52	\$ - \$ 1,196.59 \$ - \$ -
21 22 23 24 25 26			\$ - \$ - \$ - \$ - \$ -	21 22 23 24 25 26	Crack Treatment	\$ 1,675.52	\$ - \$ 1,062.54 \$ - \$ - \$ -	21 22 23 24 25 26	Seal	\$ 8,439.13	\$ 5,567.94 \$ - \$ - \$ - \$ -
27 28 29			\$ - \$ - \$	27 28 29	Seal	\$ 8,439.13	\$ 4,944.17 \$ - \$ -	27 28 29	ML Overlay 3.5"	\$ 220,774.52	\$ 129,343.41 \$ - \$ -
30 31 32 33	Remove and Replace	\$ 349,345.23	\$ 192,863.33 \$ - \$ - \$ -	30 31 32 33			\$ - \$ - \$ - \$ -	30 31 32 33	Crack Treatment	\$ 1,675.52	\$ 925.01 \$ - \$ - \$ -
34 35	30/35 Remaining	\$ (299,438.77	\$ - (149,727.65)	34 35	2/17 Remaining Life	\$ (29,165.63)	\$ - \$ (14,583.62)	34 35	Seal Remaining Life	\$ 8,439.13 \$ (73,591.51)	
Maintenar Net Prese Maintenan	et Present Cost/ per Mile nce - Net Present Cost/per Mi ent Cost for Segment nce - Net Present Cost for Se t Annual Cost		\$ 263,981.79 \$ 3,972,689.11 \$ 1,979,863.44	Maintenar Net Prese Maintenar	et Present Cost/ per Mile nce - Net Present Cost/per Ment Cost for Segment nce - Net Present Cost for Set t Annual Cost		\$ 169,028.05 \$ 3,397,449.37 \$ 1,267,710.37	Maintenar Net Prese Maintenar	et Present Cost/ per Mile nce - Net Present Cost/per M ent Cost for Segment nce - Net Present Cost for Se t Annual Cost		\$ 432,536.95 \$ 280,784.50 \$ 3,244,027.13 \$ 2,105,883.76 129,768.25
·	Total Lane Width 28 Total Shldr Width 14 Width of Rounding Aggregate Sealed/UTBWC Y ML Top Lift / joint spacing 6	# of Lanes 2 # of Shldrs 2 e white/ >7 milliom Y ML Thickness 4 # Dowels per Lane	Analysis Period 35 ML Mix SL Mix		Total Lane Width 28 Total Shldr Width 14 Width of Rounding Aggregat 14 Sealed/UTBWC N ML Top Lift / joint spacing	N ML Thickness	Analysis Period 35 ML Mix 2.5 Wearing Course ( SL Mix	4,E)	Total Lane Width 28 Total Shldr Width 14 Width of Rounding Aggregat 18 Sealed/UTBWC N ML Top Lift / joint spacing	N ML Thickness	Analysis Period 35 ML Mix 2.5 Wearing Course ( SL Mix





Project Number	Analysis Period				
0902-12	35				
Highway	Discount Rate				
27	1.74%				
Date					
	01545 411				
7/7/2016	CLEAR ALL				
Performed By	1				
Garver					

strict 1	- 2015/2016 prices	

			LCCA SUI	MMARY			
	Alternate #1		А	Iternate #2	A	Iternate #3	Length
Segment #1	M&O			Reclaim		ВСОА	9.4
Net Present Cost	\$4,132,197.54		\$5	,099,599.50	\$6	,291,636.78	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Cost	\$	4,132,197.54		\$ 5,099,599.	60	\$ 6,291,636.78	Total
% of Low Cost		100.0%		123.	1%	152.3%	9.4

		BID AD	JUSTMENT FA	ACTOR SUMMARY			
	Alt	ternate #1	Al	ternate #2	А	Iternate #3	Length
Segment #1		M&O		Reclaim		BCOA	9.4
Net Present Cost	\$2,	606,563.65	\$1,	,940,267.28	\$2	,970,207.90	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Co	ost	\$ 2,606,563.65		\$ 1,940,267.2	28	\$ 2,970,207.90	Total
Bid Adjustment Factor	r	\$ 666,296.37		\$ -		\$ 1,029,940.62	9.4

					Seg	me	ent 1					
SEG 1	<b>Length</b> 9.41			SEG 1	<b>Length</b> 9.41				SEG 1	<b>Length</b> 9.41		
ALT			cription	ALT				ription	ALT			ription
	Pavement Type  HMA  Primary Category erlay, DL =13 to 17 years  Secondary Category Rural  ShoulderCategory Bituminous	EDIT	HERE TO THIS RNATE	Notes:	Pavement Type  HMA  Primary Category 20 Year HMA  Secondary Category Rural ShoulderCategory Bituminous		EDIT	HERE TO THIS RNATE		Pavement Type  PCC  Primary Category  6'X6' ≤ 5.0" Thickness  Secondary Category  Design Life = 20 Years  ShoulderCategory  PCC	BCOA	
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Τ	Cost	Pres. Cost/per Mile	. Year	Activity	Cost	Pres. Cost/per Mile
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	M&O  Crack Treatment  Seal  ML Overlay 3.5"  Crack Treatment  Seal  ML Overlay 3.5"  Crack Treatment  Remaining Life	\$ 2,112.00 \$ 2,112.00 \$ 239,707.15 \$ 2,112.00 \$ 239,707.15 \$ 2,112.00 \$ (129,073.08	\$ 162,129.00 \$ - \$ - \$ 2,005.48 \$ - \$ - \$ 6,992.98 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34	Crack Treatment  Seal  ML Overlay 5  Crack Treatment  Seal  2/17 Remaining Life	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	335,742.00	\$ 335,742.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 919.88 \$ - \$ - \$ 9,457.48 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	0 0 1 2 3 4 5 6 7 8 9 10 11 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34	1st CPR  Remove and Replace  30/35 Remaining	\$ 352,968.00 \$ 383,812.00 \$ 344,084.38 \$ (294,929.46)	\$ 352,968.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Maintena Net Preso Maintena	Net Present Cost/ per Mile Ince - Net Present Cost/per Ment Cost for Segment Ince - Net Present Cost for Sent Annual Cost  Total Lane Width 24 Total Shldr Width 8 Width of Rounding Aggregat 1.5 Sealed/UTBWC N ML Top Lift / joint spacing 3 Design Life	# of Lanes 2 # of Shldrs 2 te white/ >7 milliom N ML Thickness	\$ 276,999.32 \$ 4,132,197.54 \$ 2,606,563.65 158,632.86 Analysis Period 35 ML Mix VEARING COURSE N SL Mix VEARING COURSE N	Maintenai Net Prese Maintenai Equivalen	Width of Rounding Aggrega	egmen	# of Lanes 2 # of Shldrs 2 hite/ >7 milliom	\$ 206,192.06 \$ 5,099,599.50 \$ 1,940,267.28	Maintena Net Pres Maintena Equivaler  MIXTURE (	Width of Rounding Aggregat	# of Lanes 2 # of Shldrs 2 e white/ >7 milliom Y ML Thickness 4.5	\$ 668,611.77 \$ 315,643.77 \$ 6,291,636.78 \$ 2,970,207.90 241,532.59 Analysis Period 35 ML Mix SL Mix





Project Number	Analysis Period
1802-51	35
Highway	Discount Rate
6	1.74%
Date	
	01545 411
10/30/2015	CLEAR ALL
Performed By	
Darren Nelson	

District 3 - 2015/2016 price	es		

			LCCA SUI	MMARY			
	Alternat	e #1	А	Iternate #2	А	Iternate #3	Length
Segment #1	2" ML M&F and 1.5	" Full Width OL	2" FW Mi	ll and 6" FDR, 5" Bit	2" Mill	& 4.5" Conc WT	5.7
Net Present Cost	\$2,386,5	75.83	\$2	,942,518.39	\$3	3,487,969.40	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Cost	t \$	2,386,575.83		\$ 2,942,518.	39	\$ 3,487,969.40	Total
% of Low Cost		100.0%		123.	3%	146.19	6 5.7

		BID ADJU	JSTMENT FACT	OR SUMMARY			
	Alternat	e #1	Alterr	nate #2	Alte	rnate #3	Length
Segment #1	2" ML M&F and 1.5	" Full Width OL	2" FW Mill an	d 6" FDR, 5" Bit	2" Mill &	4.5" Conc WT	5.7
Net Present Cost	\$1,361,48	37.83	\$1,000	,562.59	\$1,78	84,991.80	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Co	st \$	1,361,487.83	\$	1,000,562.59	Ş	1,784,991.80	Total
Bid Adjustment Factor	\$	360,925.24	\$	-	<u> </u>	784,429.20	5.7

					Seg	ment 1					
SEG	Length			SEG	Length			SE	G Length		
1	5.7			1	5.7			1	5.7		
ALT		Desc	ription	ALT		Desc	ription	AL	т	Des	cription
1		2" ML M&F and 1.5	" Full Width OL	2		2" FW Mill and 6" FD	R, 5" Bit	3		2" Mill & 4.5" Conc \	WT
	Pavement Type				Pavement Type				Pavement Type		
	НМА	CLICK F	HERE TO		НМА	CLICK	HERE TO	$\setminus L$	PCC		
	Primary Category		THIS		Primary Category	III	THIS		Primary Category		
	rlay, DL =13 to 17 years Secondary Category	ALTEI	RNATE		20 Year HMA Secondary Category		RNATE		6'X6' ≤ 5.0" Thickness  Secondary Category		
	Rural ShoulderCategory	1			Rural ShoulderCategory	1			Design Life = 20 Years ShoulderCategory	-	
otes:	Bituminous			Notes:	Bituminous			Notes	Thick Bit		
	Shoulders will get a 1.5" Bitu	minous Overlay		Shoulders will be 3" Bituminous Shoulders will be 4.5" Bituminous							
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per		•	Cost	Pres. Cost/per Mile
0 1	2" ML M&F, 1.5" FW OL	\$ 179,840.00	\$ 179,840.00 \$ -	0 1	2" Mill, 6" FDR, 5" Bit	\$ 340,694.00	\$ 340,69 \$	94.00 0	2" Mill & 4.5" Conc WT	\$ 298,768.00	\$ 298,768.00
2			\$ -	2			\$	- 2			\$ -
3 4	Crack Treatment	\$ 2,200.00	\$ 2,089.04 \$ -	3 4			\$	- 3 - 4			\$ -
5 6			\$ - \$ -	5 6			\$   \$	- 5 - 6			\$ - \$ -
7	Seal	\$ 8,561.62	\$ 7,587.77 \$ -	7	Crack Treatment	\$ 1,056.00	\$  \$  \$	- 7 19.88 8			\$ - \$ -
9			\$ -	9	Stack Heatinetic	1,000.00	\$	- 9			\$ -
10 11			\$ - \$ -	10 11			\$	- 10 - 11			\$ -
12 13			\$ - \$ -	12 13	Seal	\$ 12,094.60	\$ 9,83	33.10 12			\$ - \$ -
14 15	ML Overlay 3.5"	\$ 203,364.68	\$ - \$ 156,999.95	14			\$	- 14 - 15	l .		\$ -
16	IVIL Overlay 3.3	\$ 203,304.00	\$ 150,999.95	16			\$	- 16	3		\$ -
17 18	Crack Treatment	\$ 2,200.00	\$ - \$ 1,612.77	17 18			<b>\$</b> <b>\$</b>	- 17 - 18			\$ - \$ -
19 20			\$ - \$ -	19 20	ML Overlay 3.5	\$ 245,665.16	\$ \$ 173,98	- 19 33.83 20		\$ 381,646.62	\$ - 270,287.99
21 22	Seal	\$ 8,561.62	\$ - \$ 5,857.85	21			\$	- 21 - 22			\$ - \$ -
23		,,,,,,,,	\$ -	23	Crack Treatment	\$ 2,112.00	\$ 1,42	20.31 23	3		\$ -
24 25			\$ -	24 25			\$	- 24 - 25			\$ -
26 27			\$ - \$ -	26 27	Seal	\$ 8,256.47	\$ \$ 5,18	- 26 32.24 27			\$ - \$ -
28 29	ML Overlay 3.5"	\$ 203,364.68	\$ - \$ 123,314.82	28 29			\$ \$	- 28 - 29			\$ - \$ -
30	in a stoney or	200,00 1100	-	30			\$	- 30	Remove and Replace	\$ 336,595.61	200,611.78
31 32	Crack Treatment	\$ 2,200.00	\$ 1,266.74	31 32			\$	- 31 - 32	2		\$ -
33 34			\$ - \$ -	33 34			\$   \$	- 33 - 34			\$ -
35	Remaining Life	\$ (109,504.06)	) \$ (59,871.42)	35	2/17 Remaining Life	\$ (28,901.78)	\$ (15,80	02.07) 38	30/35 Remaining	\$ (288,510.52	2) \$ (157,743.32
laintenar et Prese laintenar	et Present Cost/ per Mile nce - Net Present Cost/per Mi ent Cost for Segment nce - Net Present Cost for Se t Annual Cost		\$ 238,857.51 \$ 2,386,575.83 \$ 1,361,487.83	Maintenai Net Prese Maintenai	let Present Cost/ per Mile nce - Net Present Cost/per M ent Cost for Segment nce - Net Present Cost for Se at Annual Cost		\$ 175,53 \$ 2,942,52 \$ 1,000,56	87.30 Maint 8.39 Net P 82.59 Maint	a - Net Present Cost/ per Mile enance - Net Present Cost/per I resent Cost for Segment enance - Net Present Cost for S alent Annual Cost		\$ 611,924.46 \$ 313,156.46 \$ 3,487,969.40 \$ 1,784,991.80 133,901.29
	Total Lane Width	# of Lanes	Analysis Period	<u> </u>	Total Lane Width	# of Lanes	Analysis Peri	•	Total Lane Width	# of Lanes	Analysis Period
	25 Total Shldr Width	2 # of Shldrs	35 ML Mix		24 Total Shldr Width	2 # of Shldrs	35 ML Mix		24 Total Shldr Width	2 # of Shldrs	35 ML Mix
	12 Width of Rounding Aggregate 4 Sealed/UTBWC N	2	VEARING COURSE N SL Mix VEARING COURSE N	<b>I</b>	3 12 Width of Rounding Aggregat	2 e white/ >7 milliom	VEARING COUF SL Mix VEARING COUF		RE (3 12 Width of Rounding Aggrega	2	SL Mix VEARING COURSE I





Project Number	Analysis Period				
1921-98	35				
Highway	Discount Rate				
MN 3	2.00%				
Date					
4/30/2015	CLEAR ALL				
Performed By					
KY					

Metro - 2014/2015 pric	es			

LCCA SUMMARY											
	Alternate #1	Alternate #2	Alternate #3	Length							
Segment #1	2" Mill, 3.5" Overlay	6" Mill, 6" Con Overlay	6" M & 5" O over 6" Rubblized Con	4.4							
Net Present Cost	\$2,853,616.18	\$3,518,165.65	\$3,147,719.26	Miles							
Segment #2				0.0							
Net Present Cost				Miles							
Segment #3				0.0							
Net Present Cost				Miles							
Segment #4				0.0							
Net Present Cost				Miles							
Segment #5				0.0							
Net Present Cost				Miles							
Segment #6				0.0							
Net Present Cost				Miles							
Segment #7				0.0							
Net Present Cost				Miles							
Segment #8				0.0							
Net Present Cost				Miles							
Project Net Present Cost	\$ 2,853,616.18	\$ 3,518,165.65	\$ 3,147,719.26	Total							
% of Low Cost	100.0%	123.3%	110.3%	4.4							

BID ADJUSTMENT FACTOR SUMMARY											
	Alternate #1	Alte	ernate #2	Alternate	· #3	Length					
Segment #1	2" Mill, 3.5" Overlay	6" Mill, 6	" Con Overlay	6" M & 5" O over 6"	Rubblized Con	4.4					
Net Present Cost	\$1,195,463.60	\$60	1,063.28	\$905,901	.11	Miles					
Segment #2						0.0					
Net Present Cost						Miles					
Segment #3						0.0					
Net Present Cost						Miles					
Segment #4						0.0					
Net Present Cost						Miles					
Segment #5						0.0					
Net Present Cost						Miles					
Segment #6						0.0					
Net Present Cost						Miles					
Segment #7						0.0					
Net Present Cost						Miles					
Segment #8						0.0					
Net Present Cost						Miles					
Project Net Present Cost	\$ 1,195,463.0	50 \$	601,063.28	\$	905,901.11	Total					
Bid Adjustment Factor	\$ 594,400.3	32 \$	-	\$	304,837.83	4.4					

					Segi	ment 1					
SEG	Length			SEG	Length			SEG	Length		
1	4.358			1	4.358			1	4.358		
ALT		Descr	iption	ALT		Desc	ription	ALT		Desc	ription
1		2" Mill, 3.5" Overlay		2		6" Mill, 6" Con Overla	у	3		6" M & 5" O over 6" F	Rubblized Con
	Pavement Type				Pavement Type				Pavement Type	4	
:	Primary Category Overlay, DL > 17 years Secondary Category Urban	EDIT	IERE TO THIS RNATE		PCC  Primary Category  ≥12 Joint spacing  Secondary Category  Design Life = 20 Years	EDIT	HERE TO THIS RNATE		Primary Category 20 Year HMA Secondary Category Rural		
	ShoulderCategory Thin				ShoulderCategory PCC				ShoulderCategory Bituminous		
Notes:				Notes:				Notes:			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile		Activity	Cost	Pres. Cost/per Mile
0	B1 - Option 1	\$ 380,484.76	\$ 380,484.76 \$ -	0 1	C1 - Option 2	\$ 669,367.23	\$ 669,367.23 \$ -	0	B2 - Option 3	\$ 514,414.45	\$ 514,414.45 \$ -
2 3 4 5	Crack Treatment	\$ 1,712.13	\$ - \$ -	2 3 4 5			\$ - \$ - \$ - \$ -	2 3 4 5 6			\$ - \$ - \$ - \$ -
7 8 9	Seal	\$ 12,221.44	\$ 10,639.50 \$ - \$ -	7 8 9			\$ - \$ - \$ -	7 8 9	Crack Treatment	\$ 856.06	\$ - \$ 730.64 \$ -
10 11 12 13 14 15			- - - - - - - - - -	10 11 12 13 14 15			\$ - \$ - \$ - \$ - \$ - \$ -	10 11 12 13 14 15	Seal	\$ 16,910.08	\$ - \$ 13,333.48 \$ - \$ - \$ -
17 18 19 20 21	ML Mill 3.5"	\$ 402,064.21	\$ - \$ 275,989.24 \$ - \$ -	17 18 19 20 21	1st CPR	\$ 204,944.57	\$ - \$ - \$ - \$ 137,921.82 \$ -	17 18 19 20 21	ML Overlay 4	\$ 302,145.28	\$ - \$ - \$ - \$ 203,335.11 \$ -
22 23 24 25	Crack Treatment	\$ 1,712.13	\$ 1,107.47 \$ - \$ -	22 23 24 25			\$ - \$ - \$ -	22 23 24 25	Crack Treatment	\$ 1,712.13	\$ 1,085.76 \$ - \$ -
26 27 28 29 30 31 32 33	Seal	\$ 12,221.44	\$ 7,303.28 \$ - \$ - \$ - \$ - \$ - \$ -	26 27 28 29 30 31 32 33			\$ - \$ - \$ - \$ - \$ - \$ - \$ -	26 27 28 29 30 31 32 33	Seal	\$ 12,221.44	\$ 7,160.08 \$ - \$ - \$ - \$ - \$ - \$ -
34 35	Remaining Life	\$ (44,673.80)	\$ - \$ (22,338.13)	34 35	0/0 Remaining	\$ -	\$ - \$	34 35	2/17 Remaining Life	\$ (35,546.50)	\$ - \$ (17,774.23
Maintenar	let Present Cost/ per Mile nce - Net Present Cost/per Mi ent Cost for Segment	le	\$ 274,314.73	Maintenar	et Present Cost/ per Mile nce - Net Present Cost/per Mi ent Cost for Segment	ile	\$ 137,921.82	Maintenar	et Present Cost/ per Mile nce - Net Present Cost/per Ment Cost for Segment	file	\$ 722,285.28 \$ 207,870.84 \$ 3,147,719.26
Maintenar	nce - Net Present Cost for Seg	gment	\$ 1,195,463.60	Maintenar	nce - Net Present Cost for Se	gment	\$ 601,063.28	Maintenar	nce - Net Present Cost for So	egment	\$ 905,901.11
	Total Lane Width 24 Total Shldr Width 20 Width of Rounding Aggregate 1.5 Sealed/UTBWC N ML Top Lift / joint spacing	e white/ >7 milliom	Analysis Period 35 ML Mix 12.5 Wearing Course ( SL Mix 12.5 Wearing Course (	(3,C)	Total Lane Width 24 Total Shldr Width 20 Width of Rounding Aggregate Sealed/UTBWC Y ML Top Lift / joint spacing 15	# of Lanes 2 # of Shldrs 2 white/ >7 milliom N ML Thickness 6 # Dowels per Lane	Analysis Period 35 ML Mix SL Mix	Equivalen	Total Lane Width 24 Total Shldr Width 20 Width of Rounding Aggrega 1.5 Sealed/UTBWC N ML Top Lift / joint spacing	te white/ >7 milliom N ML Thickness	Analysis Period 35 ML Mix 12.5 Wearing Course SL Mix 12.5 Wearing Course





Project Number	Analysis Period
22 0000	
SP 2506-72	35
Highway	Discount Rate
T.H. 52 NB From Pine Island to Cannon Falls	1.74%
Date	
3/15/2016	CLEAR ALL
Performed By	
TDM	

LCCA SUMMARY										
	Alternate #1	Alternate #2	Alternate #3	Length						
Segment #1	1.5" Mill & 3" Bit. OL	3" Mill & 4.5" Bit. OL	6" Whitetopping	27.4						
Net Present Cost	\$12,124,681.47	\$12,938,899.38	\$20,026,128.54	Miles						
Segment #2				0.0						
Net Present Cost				Miles						
Segment #3				0.0						
Net Present Cost				Miles						
Segment #4				0.0						
Net Present Cost				Miles						
Segment #5				0.0						
Net Present Cost				Miles						
Segment #6				0.0						
Net Present Cost				Miles						
Segment #7				0.0						
Net Present Cost				Miles						
Segment #8				0.0						
Net Present Cost				Miles						
Project Net Present Cost	\$ 12,124,681.47	\$ 12,938,899.38	\$ 20,026,128.54	Total						
% of Low Cost	100.0%	106.79	165.2%	27.4						

BID ADJUSTMENT FACTOR SUMMARY										
	Alternate #1		Al	ternate #2		Alternate #3	Length			
Segment #1	1.5" Mill & 3" Bit. OL		3" Mil	& 4.5" Bit. OL	6	" Whitetopping	27.4			
Net Present Cost	\$6,126,479.53		\$4,	462,708.96		\$6,135,604.93	Miles			
Segment #2							0.0			
Net Present Cost							Miles			
Segment #3							0.0			
Net Present Cost							Miles			
Segment #4							0.0			
Net Present Cost							Miles			
Segment #5							0.0			
Net Present Cost							Miles			
Segment #6							0.0			
Net Present Cost							Miles			
Segment #7							0.0			
Net Present Cost							Miles			
Segment #8							0.0			
Net Present Cost							Miles			
Project Net Present Cost	\$ 6,1	.26,479.53		\$ 4,462,708	.96	\$ 6,135,604.93	Total			
Bid Adjustment Factor	\$ 1,6	663,770.56		\$	-	\$ 1,672,895.96	27.4			

					Seg	me	nt 1					
CEC.	Loueth			656	Lamath				656	Lamath		
SEG 1	<b>Length</b> 27.38			SEG 1	<b>Length</b> 27.38				SEG 1	<b>Length</b> 27.38		
ALT		Desc	ription	ALT			Desci	ription	ALT		Des	cription
1		1.5" Mill & 3" Bit. OL		2		3" M	lill & 4.5" Bit. OL		3		6" Whitetopping	
	Pavement Type				Pavement Type					Pavement Type		
	НМА	CLICK F	HERE TO		НМА		CLICK F	IERE TO		PCC		
	Primary Category		THIS		Primary Category			THIS		Primary Category		
	rlay, DL =13 to 17 years Secondary Category	ALTE	RNATE		Overlay, DL > 17 years Secondary Category			RNATE		6'X6' ≥5.5" Thickness Secondary Category	1	
	Rural ShoulderCategory	1			Rural ShoulderCategory					Design Life = 20 Years ShoulderCategory		
otes:	Bituminous			Notes:	Bituminous				Notes:	Thin Bit		
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity		Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0		\$ 219,072.39	\$ 219,072.39	0		\$	309,575.98	\$ 309,575.98	0		\$ 507,323.73	\$ 507,323.73
1 2			\$ - \$ -	2				\$ -	2			\$ - \$ -
3 4	Crack Treatment	\$ 1,909.25	\$ 1,812.96 \$ -	3 4	Crack Treatment	\$	1,909.25	\$ 1,812.96 \$ -	3 4			\$ - \$ -
5 6			\$ - \$ -	5 6				\$ - \$ -	5 6			\$ - \$ -
7 8	Seal	\$ 8,960.99	\$ 7,941.70 \$ -	7 8	Seal	\$	8,960.99	\$ 7,941.70 \$ -	7 8			\$ - \$ -
9 10			\$ - \$ -	9 10				\$ - \$ -	9 10			\$ - \$ -
11 12			\$ - \$ -	11 12				\$ - \$ -	11 12			\$ - \$ -
13 14			\$ - \$ -	13 14				\$ - \$ -	13 14			\$ - \$ -
15 16			\$ -	15 16				\$ - \$ -	15 16			\$ - \$ -
17 18	ML Overlay 3.5"	\$ 246,713.96	\$ 184,006.96					\$ -	17 18			\$ -
19	Out Touten	4 000 05	\$ -	19	MI O sale O SII		040.740.00	\$ -	19	4.4.000	040 440 40	\$ -
20 21 22	Crack Treatment	\$ 1,909.25	\$ 1,352.16 \$ - \$ -	20 21 22	ML Overlay 3.5"	\$	246,713.96	\$ 174,726.61 \$ -	20 21 22	1st CPR	\$ 316,416.13	\$ 224,090.76
23	Cool	¢ 0.000.00	-	23	Crack Treatment	\$	1,909.25	\$ 1,283.96	23			\$ -
24 25	Seal	\$ 8,960.99	\$ 5,923.17 \$ -	24 25				\$ -	24 25			\$ -
26 27			\$ - \$ -	26 27	Seal	\$	8,960.99	\$ - \$ 5,624.44				\$ - \$ -
28 29			\$ - \$ -	28 29				\$ - \$ -	28 29			\$ - \$ -
30 31			\$ - \$ -	30 31				\$ - \$ -	30 31			\$ - \$ -
32 33	ML Overlay 3.5"	\$ 246,713.96	\$ - \$ 139,626.07	32 33				\$ - \$ -	32 33			\$ - \$ -
34 35	Remaining Life	\$ (213,818.76)	\$ - \$ (116,905.56)	34 35	Remaining Life	\$	(51,939.78)	\$ - \$ (28,398.11)	34 35	0/0 Remaining	\$ -	\$ - \$ -
004	ot Draggert Occid		<b>440.000.00</b>	1001	lot Dragget Court			¢ 470.505.5	1004	lot Droppert Court		<b>.</b>
laintenan	et Present Cost/ per Mile nce - Net Present Cost/per M	1ile	\$ 223,757.47	Maintena	Net Present Cost/ per Mile nce - Net Present Cost/per M	/lile		\$ 162,991.56	Maintena	let Present Cost/ per Mile nce - Net Present Cost/per M	1ile	\$ 731,414.48 \$ 224,090.76
1aintenan	nt Cost for Segment	egment	\$ 6,126,479.53	Maintena	ent Cost for Segment nce - Net Present Cost for Se	egmen	it	\$ 4,462,708.96	Maintena	ent Cost for Segment nce - Net Present Cost for Se	egment	\$ 20,026,128.54 \$ 6,135,604.93
quivalent	Annual Cost		•	Equivaler	nt Annual Cost				Equivaler	nt Annual Cost		768,792.42
	Total Lane Width 24 Total Shldr Width	# of Lanes 2 # of Shldrs	Analysis Period 35 ML Mix		Total Lane Width 24 Total Shldr Width		# of Lanes 2 # of Shldrs	Analysis Period 35 ML Mix		Total Lane Width 24 Total Shldr Width	# of Lanes 2 # of Shldrs	Analysis Period 35 ML Mix
,	10tal Shidr Width 14 Width of Rounding Aggregat	2	WEARING COURSE I SL Mix	I MIXTURE			2	WEARING COURSE I SL Mix	I MIXTURE		2	SL Mix
	3 Sealed/UTBWC		WEARING COURSE I	MIXTURE	(: 3 Sealed/UTBWC			WEARING COURSE I	MIXTURE	(: 3 Sealed/UTBWC	Y ML Thickness	WEARING COURSE
	N ML Top Lift / joint spacing	# Dowels per Lane	l		N ML Top Lift / joint spacing	# D	owels per Lane			N ML Top Lift / joint spacing	6 # Dowels per Lane	
	1.5			1	1.5				1	О	17	_





Project Number	Analysis Period				
2601-19	35				
Highway	Discount Rate				
9	1.58%				
Date					
	CLEAR ALL				
Performed By					

D4 - 2016/2017 prices			

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" MILL AND FILL	5" WHITETOP		18.5
Net Present Cost	\$6,596,473.44	\$10,817,306.98		Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 6,596,473.44	\$ 10,817,306.98	\$ -	Total
% of Low Cost	100.0%	164.0%	0.0%	18.5

		BID ADJUSTI	MENT FACTOR	SUMMARY			
	Alternate #	1	Alternate	#2	Alterna	ate #3	Length
Segment #1	3" MILL AND	FILL	5" WHITE	ГОР			18.5
Net Present Cost	\$2,341,473.	44	\$6,838,84	4.98			Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Cost	\$	2,341,473.44	\$	6,838,844.98	\$	-	Total
Bid Adjustment Factor	\$	-	\$	4,497,371.54	\$	-	18.5

					Seg	ment 1					
SEG	Length			SEG	Length			SEG	Length		
1	18.5			1	18.5			1	18.5	_	
ALT 1		Descri 3" MILL AND FILL	iption	ALT 2		5" WHITETOP	ription	ALT 3		Desc	ription
_	Pavement Type	O WILL FILE	1	_	Pavement Type	o william	1	3	Pavement Type		
	HMA  Primary Category  20 Year HMA  Secondary Category	CLICK H EDIT ALTER	THIS	6	PCC  Primary Category  'X6' ≤ 5.0" Thickness  Secondary Category	EDIT	HERE TO THIS RNATE		Primary Category Secondary Category	EDIT	HERE TO THIS RNATE
	Rural ShoulderCategory	DEL	ETE		esign Life = 20 Years  ShoulderCategory	DEI	ETE		ShoulderCategory	DEI	ETE
Notes:	Aggregate	/		Notes:	Aggregate	<i>y</i>		Notes:			
Year	Activity		Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	3" MILL & FILL  Crack Treatment  Seal  ML Overlay 3.5  Crack Treatment  Seal  2/17 Remaining Life	\$ 1,232.00 \$ 12,727.14	\$ - \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	1st CPR  Remove and Replace  30/35 Remaining	\$ 215,052.00 \$ 419,856.80 \$ 484,510.77 \$ (415,294.95)	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35			
Maintenar Net Prese Maintenar Equivalen	et Present Cost/ per Mile nce - Net Present Cost/per Mile ent Cost for Segment nce - Net Present Cost for Seg t Annual Cost  Total Lane Width 28 Total Shldr Width 3 Width of Rounding Aggregate 1.5 Sealed/UTBWC N ML Top Lift / joint spacing	# of Lanes 2 # of Shldrs 2	\$ 126,566.13 \$ 6,596,473.44 \$ 2,341,473.44	Maintenar Net Prese Maintenar Equivalent	et Present Cost/ per Mile nce - Net Present Cost/per M ent Cost for Segment nce - Net Present Cost for Se t Annual Cost  Total Lane Width 28 Total Shldr Width 3 Width of Rounding Aggregat 1.5 Sealed/UTBWC Y ML Top Lift / joint spacing	# of Lanes 2 # of Shldrs 2 e white/ >7 milliom Y ML Thickness 5	\$ 369,667.30 \$ 10,817,306.98 \$ 6,838,844.98 404,733.64 Analysis Period 35 ML Mix SL Mix	Maintena Net Prese Maintena Equivalen	let Present Cost/ per Mile Ince - Net Present Cost/per Mile Ince - Net Present Cost for Seg Ince - Net Present Cost for Seg It Annual Cost  Total Lane Width  Total Shldr Width  Width of Rounding Aggregate  Sealed/UTBWC  ML Top Lift / joint spacing	# of Lanes # of Shidrs	\$ - \$ - \$ - \$ - Analysis Period ML Mix SL Mix

Design Life Shldr Thickness

50-Year Analysis Period

### 35 - Year

Project Number	Analysis Period
2772-105	35
Highway	Discount Rate
	2.00%
Date	
	CLEAR ALL
Performed By	
,	

Metro - 2014/2015 prices			

			LCCA SUI	MMARY				
	Al	ternate #1	А	lternate #2		Al	ternate #3	Length
Segment #1	1	9YR M&O	20Y	R Rubblizat	ion	2	OYR UBOL	5.2
Net Present Cost	\$3,	084,642.06	\$6	5,240,785.1	1	\$4,	,044,625.48	Miles
Segment #2								0.0
Net Present Cost								Miles
Segment #3								0.0
Net Present Cost								Miles
Segment #4								0.0
Net Present Cost								Miles
Segment #5								0.0
Net Present Cost								Miles
Segment #6								0.0
Net Present Cost								Miles
Segment #7								0.0
Net Present Cost								Miles
Segment #8								0.0
Net Present Cost								Miles
Project Net Present Cos	t	\$ 3,084,642.06		\$	6,240,785.11		\$ 4,044,625.48	Total
% of Low Cost		100.0%			202.3%		131.1%	5.2

		BID ADJU	JSTMENT FACTO	R SUMMARY			
	Alterna	te #1	Alternat	e #2	Alto	ernate #3	Length
Segment #1	19YR N	/&O	20YR Rubbl	ization	20	YR UBOL	5.2
Net Present Cost	\$1,040,8	380.35	\$785,809	9.97	\$45	56,590.44	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Co	ost \$	1,040,880.35	\$	785,809.97		\$ 456,590.44	Total
Bid Adjustment Factor	r \$	584,289.92	\$	329,219.54		\$ -	5.2

1 19YR M&O 2 20YR Rubblization  Pavement Type Pavement Type	SEG   Length   1   5.233     Iniption   ALT   Description     3   20YR UBOL     Pavement Type   PCC     Primary Category   ≥12 Joint spacing
ALT Description ALT Description  1 19YR M&O 2 20YR Rubblization  Pavement Type Pavement Type	Pavement Type  PCC  Primary Category  >12 Joint spacing
1 19YR M&O 2 20YR Rubblization  Pavement Type Pavement Type	Pavement Type  PCC  Primary Category  >12 Joint spacing
Pavement Type Pavement Type	Pavement Type  PCC  Primary Category  >12 Joint spacing
	PCC Primary Category >12 Joint spacing
OLIOITI	>12 Joint spacing
Overlay, DL > 17 years  Secondary Category  Urban  ALTERNATE  20 Year HMA  Secondary Category  Urban  Urban	Secondary Category  Design Life = 20 Years
ShoulderCategory Thick Thick	ShoulderCategory PCC
Notes: Length calculated from RP 128.121 to RP 130.922   Notes:  w/ exception from RP 128.363 to RP 128.732 (SB Only).  (130.922-128.121)*2-(128.732-128.363) = 5.233 Mi	Notes:
Year Activity Cost/per Mile Pres. Cost/per Mile Year Activity Cost	Pres. Cost/per Mile Year Activity Cost Pres. Cost/per
Onginal Construction \$ 390,552.59 \$ 390,552.59 \$ 0 Original Construction \$ 1,042,418.33 \$ 1.042,	\$ - 1
33 34 35 Remaining Life \$ (34,552.90) \$ (17,277.40) 35 2/17 Remaining Life \$ (27,743.20)   LCCA - Net Present Cost/ per Mile \$ 589,459.60 LCCA - Net Present Cost/ per Mile	\$ - 33 \$ - 34 \$
Maintenance - Net Present Cost/per Mile \$ 198,907.00 Maintenance - Net Present Cost/per Mile	\$ 150,164.34 Maintenance - Net Present Cost/per Mile \$ 87,2
Net Present Cost for Segment\$ 3,084,642.06Net Present Cost for SegmentMaintenance - Net Present Cost for Segment\$ 1,040,880.35Maintenance - Net Present Cost for Segment	\$ 6,240,785.11       Net Present Cost for Segment       \$ 4,044,6         \$ 785,809.97       Maintenance - Net Present Cost for Segment       \$ 456,5

Total Lane Width # of Lanes Analysis Period

ML Top Lift / joint spacing # Dowels per Lane 2

Design Life Shldr Thickness 20 7

Total Lane Width # of Lanes Analysis Period

24 2 35

Total Shidr Width # of Shidrs ML Mix

10 1 12.5 Wearing Course (4,C)

Width of Rounding Aggregate white/ >7 milliom

Y 12.5 Wearing Course (3,B)

Sealed/UTBWC ML Thickness

N

24 2 35
Total Shldr Width # of Shldrs ML Mix
10 2

Width of Rounding Aggregate white/ >7 milliom SL Mix

Sealed/UTBWC ML Thickness
Y 9.5

ML Top Lift / joint spacing # Dowels per Lane
15 11

Design Life Shldr Thickness
9.5

Total Lane Width # of Lanes Analysis Period

ML Top Lift / joint spacing # Dowels per Lane
1.75

Design Life Shldr Thickness
19 4

Total Carle Width # of Carles Arraysis Fellod

24 2 35

Total Shldr Width # of Shldrs ML Mix

10 1 12.5 Wearing Course (4,C)

Width of Rounding Aggregate white/ >7 milliom
Y 12.5 Wearing Course (3,B)

Sealed/UTBWC ML Thickness
Y





Project Number	Analysis Period
C D 0004 07 8 0005 70	05
S.P. 2801-87 & 2805-72	35
Highway	Discount Rate
16 & 61	1.74%
Date	
12/2/2015	CLEAR ALL
Performed By	
TDM	

		LCCA SUM	IMARY			
	Alternate #1	Al	ternate #2	Al	ternate #3	Length
Segment #1	1.5" Mill & 3" Bit. Overlay	6" V	/hitetopping	3" Mill 8	& 5" Bit. Overlay	3.0
Net Present Cost	\$1,423,265.27	\$1,	965,109.26	\$1,	,435,870.40	Miles
Segment #2						0.0
Net Present Cost						Miles
Segment #3						0.0
Net Present Cost						Miles
Segment #4						0.0
Net Present Cost						Miles
Segment #5						0.0
Net Present Cost						Miles
Segment #6						0.0
Net Present Cost						Miles
Segment #7						0.0
Net Present Cost						Miles
Segment #8						0.0
Net Present Cost						Miles
Project Net Present Cost	\$ 1,423,2	265.27	\$ 1,965,109.26		\$ 1,435,870.40	Total
% of Low Cost		100.0%	138.1%		100.9%	3.0

		BID ADJ	USTMENT FA	CTOR SU	MMARY				
	Alternate #	1	Alt	ernate #2		,	Alternate #	3	Length
Segment #1	1.5" Mill & 3" Bit.	Overlay	6" W	hitetoppin <sub>ย</sub> ี	3	3" Mill	& 5" Bit. C	Overlay	3.0
Net Present Cost	\$808,586.8	5	\$59	97,324.14		Ć,	3462,074.73	3	Miles
Segment #2									0.0
Net Present Cost									Miles
Segment #3									0.0
Net Present Cost									Miles
Segment #4									0.0
Net Present Cost									Miles
Segment #5									0.0
Net Present Cost									Miles
Segment #6									0.0
Net Present Cost									Miles
Segment #7									0.0
Net Present Cost									Miles
Segment #8									0.0
Net Present Cost									Miles
Project Net Present Cost	t \$	808,586.85		\$	597,324.14		\$	462,074.73	Total
Bid Adjustment Factor	\$	346,512.12		\$	135,249.41		\$	-	3.0

					Seg	gme	ent 1							
EG 1	Length 3.034			SEG 1	Length 3.034					SEG 1	Length 3.034			
ALT		Descr	ription	ALT			Desci	riptio	n	ALT		De	scription	1
1		1.5" Mill & 3" Bit. Ov	verlay	2		6" V	Vhitetopping		1	3		3" Mill & 5" Bit. Ove	rlay	
(	Pavement Type  HMA  Primary Category  rlay, DL =13 to 17 years Secondary Category  Rural  ShoulderCategory  Bituminous	EDIT	HERE TO THIS RNATE		Pavement Type  PCC  Primary Category  ≥12 Joint spacing  Secondary Category  Design Life = 20 Years  ShoulderCategory  Thin Bit		CLICK F EDIT ALTEF	TI	HIS ATE	O\ S	Pavement Type  HMA  Primary Category  verlay, DL > 17 years  econdary Category  Rural  ShoulderCategory  Bituminous	CLICK EDI ALTE	T TH	HIS
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity		Cost	Pro	s. Cost/per Mile	Year	Activity	Cost	Pros	Cost/por Mila
0	Activity	\$ 202,596.71		0	Activity	\$	450,819.09		450,819.09	0	Activity	\$ 320,961.0		320,961.00
2 3 4 5	Crack Treatment	\$ 1,909.25	\$ - \$ 1,812.96 \$ - \$ -	2 3 4 5				9 69 69 65	- - - -	2 3 4 5	Crack Treatment	\$ 1,909.2	5   \$	- 1,812.96 - -
6 7 8 9 10 11	Seal	\$ 8,766.31	\$ - \$ - \$ - \$ -	8 9 10 11				\$ \$ \$ \$ \$	- - - -	6 7 8 9 10 11	Seal	\$ 8,766.3	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- 7,769.17 - - - -
12 13 14 15 16 17	ML Overlay 3.5"	\$ 229,182.67	\$ - \$ -	16 17				* * * * * * *	- - - - -	12 13 14 15 16 17			\$ \$ \$ \$ \$	- - - - -
18 19 20 21 22 23 24	Crack Treatment Seal	\$ 1,909.25 \$ 8,766.31	\$ - \$ - \$	19 20 21	1st CPR	\$	277,989.99	\$ \$ \$ \$ \$ \$ \$ \$	- - 196,876.78 - - - -	18 19 20 21 22 23 24	ML Overlay 3.5"  Crack Treatment	\$ 229,182.6 \$ 1,909.2	\$ \$	162,310.68 - - - 1,283.96
25 26 27 28 29 30	ML Overlay 3.5"	\$ 229,182.67	-	30				\$ \$ \$ \$ \$	- - - -	25 26 27 28 29 30	Seal	\$ 8,766.3	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- 5,502.25 - - -
31 32 33	Crack Treatment	\$ 1,909.25	\$ 1,099.33 \$ -	31 32 33				\$ \$ \$	- -	31 32 33			\$ \$ \$	-
34 35	Remaining Life	\$ (123,406.05)	\$ - \$ (67,472.34)	34	0/0 Remaining	\$	_	\$ \$	-	34 35	Remaining Life	\$ (48,248.9)	\$ \$ \$	- (26,380.16
iintenar t Prese iintenar	et Present Cost/ per Mile nce - Net Present Cost/per M nt Cost for Segment nce - Net Present Cost for Se		\$ 266,508.52 \$ 1,423,265.27 \$ 808,586.85	Maintena Net Prese Maintena	let Present Cost/ per Mile nce - Net Present Cost/per I ent Cost for Segment nce - Net Present Cost for S		nt	\$ \$	196,876.78 1,965,109.26 597,324.14	Maintenan Net Prese Maintenan	et Present Cost/ per Mile ce - Net Present Cost/per M nt Cost for Segment ce - Net Present Cost for Se		\$ \$ \$ \$	473,259.86 152,298.86 1,435,870.40 462,074.73
ııvalent	Total Lane Width	# of Lanes 2	Analysis Period 35	Equivaler	Total Lane Width		# of Lanes	A	75,439.50 nalysis Period 35	∟quivalent	Annual Cost  Total Lane Width 24	# of Lanes 2	An	55,122.30 nalysis Period 35
	Total Shldr Width 12 Width of Rounding Aggregat 3 Sealed/UTBWC	# of Shldrs 2 e white/ >7 milliom	ML Mix WEARING COURSE I SL Mix WEARING COURSE I		Total Shldr Width (- 12 Width of Rounding Aggrega		# of Shldrs 2 hite/ >7 milliom	WEA	ML Mix SL Mix RING COURSE M		Total Shldr Width 12 Width of Rounding Aggregat 3 Sealed/UTBWC	# of Shldrs 2		ML Mix RING COURSE SL Mix RING COURSE
	N ML Top Lift / joint spacing 1.5	# Dowels per Lane			Y  ML Top Lift / joint spacing		6 Dowels per Lane				N ML Top Lift / joint spacing	# Dowels per Lane	)	
	Design Life	Shldr Thickness		1	Design Life	S	hldr Thickness				Design Life	Shldr Thickness		





Project Number	Analysis Period
3505-19	35
Highway	Discount Rate
59	2.00%
Date	
	0
5/15/2015	CLEAR ALL
Performed By	
ko	

District 2 - 2014/2015 prices

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" mill & ol	5" BCOA		17.4
Net Present Cost	\$4,724,098.38	\$13,859,165.78		Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 4,724,098.38	\$ 13,859,165.78	\$ -	Total
% of Low Cost	100.0%	293.4%	0.0	)% 17.4

		BID ADJ	USTMENT FACT	OR SUMMARY			
	Alternat	e #1	Alter	nate #2	Alter	nate #3	Length
Segment #1	3" mill 8	k ol	5" E	BCOA			17.4
Net Present Cost	\$2,177,97	70.28	\$6,019	,586.91			Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Co	ost \$	2,177,970.28	\$	6,019,586.91	\$	-	Total
Bid Adjustment Facto	r \$	-	\$	3,841,616.63	\$	-	17.4

					Seg	me	ent 1						
65.0				65.0						65.0			
SEG 1	<b>Length</b> 17.420			SEG 1	<b>Length</b> 17.420					SEG 1	<b>Length</b> 17.420		
ALT		Desc	cription	ALT			Desci	riptio	on	ALT		Desc	ription
1		3" mill & ol		2		5" B	COA			3			
_	Pavement Type				Pavement Type				1		Pavement Type		
	HMA		IEDE TO		PCC		01.1017.1	. – .	DE TO		Tarement Type		
	Primary Category		HERE TO		Primary Category		CLICK F				Primary Category		
	20 Year HMA Secondary Category		RNATE		S'X6' ≤ 5.0" Thickness  Secondary Category	1	ALTER				Secondary Category		
	Rural ShoulderCategory	1			Design Life = 20 Years  ShoulderCategory	1					ShoulderCategory		
Notes:	Aggregate			Notes:	Aggregate					Notes:	Shoulder cutegory		
Notes.				110103.						140103.			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile		Activity		Cost		s. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0		\$ 146,161.20	\$ 146,161.20	0		\$	450,033.23	\$ \$	450,033.23	0 1			\$ - \$ -
2			\$ -	2				\$	-	2			\$ -
4			\$ -	4				\$	-	4			\$ -
5 6			\$ - \$ -	5 6				\$ \$	-	5 6			\$ - \$ -
7 8	Crack Treatment	\$ 1,498.11	\$ - \$ 1,278.62	7 8				\$ \$	-	7 8			\$ - \$ -
9 10			\$ - \$ -	9 10				\$ \$	-	9 10			\$ - \$ -
11	0	ф 40.074.00	\$ -	11				\$	-	11			\$ -
12 13	Seal	\$ 12,371.00	9,754.45	13				\$	-	12 13			\$ -
14 15			\$ - \$ -	14 15				\$ \$	-	14 15			\$ - \$ -
16 17			\$ - \$ -	16 17				\$ \$	-	16 17			\$ - \$ -
18			\$ - \$ -	18				\$	-	18			\$ -
19 20	ML Overlay 3.5	\$ 174,833.51	Ι Ψ		1st CPR	\$	444,414.67	\$	299,078.33	19 20			\$ -
21 22	Consider Transfers and	ф 0.000.00	\$ - \$ -	21 22				\$	-	21 22			- \$ -
23 24	Crack Treatment	\$ 2,996.22	1,900.07	23 24				\$	-	23 24			\$ -
25 26			\$ - \$ -	25 26				\$	-	25 26			\$ - \$ -
27	Seal	\$ 8,057.88	\$ \$ 4,720.80	27				\$	-	27			\$ -
28 29			\$ -	28 29				\$	-	28 29			\$ -
30 31			\$ - \$ -	30 31	Remove and Replace	\$	376,411.83	\$ \$	207,806.02	30 31			\$ - \$ -
32 33			\$ - \$ -	32 33				\$ \$	-	32 33			\$ - \$ -
34 35	2/17 Remaining Life	\$ (20,568.65	\$ - (10,284.89)	34 35	30/35 Remaining	\$	(322,638.72)	\$ \$	- (161,328.27)	34 35			\$ - \$ -
	Z, Romaning Life	(20,000.00	(10,204.09)	33	55/55 Remaining	"	(022,000.12)	"	(101,020.21)	- 55			
LCCA - N	et Present Cost/ per Mile		\$ 271,188.20	LCCA - N	let Present Cost/ per Mile			\$	795,589.31	LCCA - N	et Present Cost/ per Mile		\$ -
Maintenar	nce - Net Present Cost/per Milent Cost for Segment	le	\$ 125,027.00	Maintena	nce - Net Present Cost/per Ment Cost for Segment	1ile		\$	345,556.08	Maintenar	nce - Net Present Cost/per Mil	le	\$ -
Maintenar	nce - Net Present Cost for Seg	gment	\$ 2,177,970.28	Maintena	nce - Net Present Cost for Se	egmen	nt	\$	6,019,586.91	Maintenar	nce - Net Present Cost for Seg	gment	\$ -
⊏quivalen	t Annual Cost		•	ı⊏quivaler	nt Annual Cost		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			ı⊏quivalen	t Annual Cost		-
	Total Lane Width 28 Total Shidt Width	# of Lanes 2 # of Shidrs	Analysis Period 35	1	Total Lane Width 28 Total Shidt Width		# of Lanes 2 # of Shidrs	Α	analysis Period 35		Total Shidt Width	# of Shidre	Analysis Period
	Total Shidr Width 5 Width of Rounding Aggregate	# of Shldrs 2 white/ >7 milliom	ML Mix 12.5 Wearing Course SL Mix	(3,B)	Total Shidr Width 5 Width of Rounding Aggregate	to	# of Shldrs 2 hite/ >7 milliom		ML Mix SL Mix		Total Shidr Width	# of Shldrs	ML Mix SL Mix
	Width of Rounding Aggregate 5 Sealed/UTBWC	white/ >/ milliom N ML Thickness	SL IVIIX	1	Width of Rounding Aggregat Sealed/UTBWC		hite/ >/ milliom Y ML Thickness		SL IVIIX		Width of Rounding Aggregate Sealed/UTBWC	white/ >7 milliom  ML Thickness	SL IVIIX
	N ML Top Lift / joint spacing	# Dowels per Lane			Y ML Top Lift / joint spacing		5 Dowels per Lane	' 			ML Top Lift / joint spacing	# Dowels per Lane	
	1.5 Design Life	Shidr Thickness			6 Design Life		0 hldr Thickness				Design Life	Shidr Thickness	

Design Life Shldr Thickness
20 0





Project Number	Analysis Period
3614-20	35
Highway	Discount Rate
217	2.00%
Date	
	0
10/27/2015	CLEAR ALL
Performed By	
Chris Morris	

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	Mill & Overlay	Reclaim & Overlay	6" PCC	16.6
Net Present Cost	\$4,685,619.42	\$12,163,235.04	\$14,621,698.07	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 4,685,619.4	2 \$ 12,163,235.04	\$ 14,621,698.07	Total
% of Low Cost	100.0	259.69	% 312.1%	16.6

	BID AI	DJUSTMENT FACTOR SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	Mill & Overlay	Reclaim & Overlay	6" PCC	16.6
Net Present Cost	\$2,963,153.88	\$2,047,795.91	\$2,688,915.39	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present C	ost \$ 2,963,153.88	\$ 2,047,795.91	\$ 2,688,915.39	Total
Bid Adjustment Facto	r \$ 915,357.97	\$ -	\$ 641,119.48	16.6

					Seg	ment 1					
SEG	Length			SEG	Length			SEG	Length		
1	16.647			1	16.647			1	16.647		
ALT 1		Mill & Overlay	ription	ALT 2		Reclaim & Overlay	cription	ALT 3		6" PCC	ription
	Pavement Type	IVIIII & Overlay			Pavement Type	Reclaim & Overlay		3	Pavement Type	0 FCC	
	НМА	CLICK F	IERE TO		НМА	CLICKI	HERE TO		PCC		
0.10	Primary Category		THIS		Primary Category		THIS		Primary Category	_	
	erlay, DL =13 to 17 years  Secondary Category  Rural	ALTER	RNATE		20 Year HMA Secondary Category Rural	ALTE	RNATE		6'X6' ≥5.5" Thickness  Secondary Category  Design Life = 20 Years		
	ShoulderCategory Bituminous				ShoulderCategory Bituminous				ShoulderCategory PCC		
Notes:				Notes:				Notes:		-	
<b>Year</b>	Activity 2" M & O	Cost/per Mile \$ 103,470.03	Pres. Cost/per Mile \$ 103,470.03	<b>Year</b> 0	Activity  Rec & Overlay	Cost \$ 607,643.37	Pres. Cost/per Mile \$ 607,643.37	<b>Year</b>	Activity 6" PCC	Cost 716,812.80	Pres. Cost/per Mile \$ 716,812.80
1 2			\$ - \$ -	1 2			\$ - \$ -	1 2			\$ - \$ -
3 4	Crack Treatment	\$ 2,568.19	\$ 2,420.06 \$ -	3 4			\$ - \$ -	3 4			\$ - \$ -
5 6			\$ - \$ -	5 6			\$ - \$ -	5 6			\$ - \$ -
7 8	Seal	\$ 6,717.82	\$ 5,848.27 \$ -	7 8	Crack Treatment	\$ 1,284.10	\$ - \$ 1,095.96	7 8			\$ - \$ -
9			\$ - \$ -	9			\$ - \$ -	9			\$ - \$ -
11 12			\$ -   \$ -	11 12	Seal	\$ 10,431.22		11 12			\$ -
13 14 15	ML Overlay 3.5"	\$ 156,454.43	\$ - \$ - \$ 116,247.94	13 14 15			\$ - \$ - \$ -	13 14 15			\$ -
16 17	IVIL Overlay 3.3	φ 130,434.43	\$ -	16 17			\$ -	16 17			\$ -
18 19	Crack Treatment	\$ 2,568.19	\$ 1,798.14 \$ -	18 19			\$ -	18 19			\$ - \$ -
20 21			\$ - \$ -	20 21	ML Overlay 3.5	\$ 176,062.22	\$ 118,484.83 \$ -	20 21	1st CPR	\$ 240,018.43	\$ 161,525.52 \$ -
22 23	Seal	\$ 6,717.82	\$ 4,345.35 \$ -	22 23	Crack Treatment	\$ 2,568.19	\$ - \$ 1,628.63				\$ - \$ -
24 25			\$ -   \$ -	24 25			\$ -	24 25			\$ -
26 27			\$ -   \$ -	26 27	Seal	\$ 6,717.82	\$ 3,935.71	26 27			\$ - \$ -
28 29	ML Overlay 3.5"	\$ 156,454.43	\$ 88,101.41	28 29			\$ -	28 29			\$ - \$ -
30 31 32	Crack Treatment	\$ 2,568.19	\$ - \$ 1,362.77	30 31 32			\$ -	30 31 32			\$ -
33 34	Crask Frederical	2,000.10	\$ -	33 34			\$ -	33 34			\$ - \$ -
35	Remaining Life	\$ (84,244.69)	\$ (42,124.67)	35	2/17 Remaining Life	\$ (20,713.20	) \$ (10,357.17)	35	0/0 Remaining	\$ -	\$ -
	let Present Cost/ per Mile				let Present Cost/ per Mile				let Present Cost/ per Mile		\$ 878,338.32
Net Prese	nce - Net Present Cost/per Mi ent Cost for Segment		\$ 4,685,619.42	Net Pres	nce - Net Present Cost/per Ment Cost for Segment		\$ 12,163,235.04	Net Prese	nce - Net Present Cost/per Mi ent Cost for Segment		\$ 161,525.52 \$ 14,621,698.07
	nce - Net Present Cost for Sent Annual Cost	gment			nce - Net Present Cost for Sent Annual Cost	egment			nce - Net Present Cost for Se at Annual Cost	gment	\$ 2,688,915.39 584,900.23
	Total Lane Width 24	# of Lanes	Analysis Period 35		Total Lane Width 24	# of Lanes 2	Analysis Period 35		Total Lane Width 24	# of Lanes	Analysis Period 35
	Total Shldr Width 1	# of Shldrs 2	ML Mix 12.5 Wearing Course	(3,B)	Total Shldr Width 1	# of Shldrs 2	ML Mix 12.5 Wearing Course	(3,C)	Total Shldr Width 1	# of Shldrs 2	ML Mix
	Width of Rounding Aggregate  1 Sealed/UTBWC		SL Mix 12.5 Wearing Course	<b>I</b> (3,B) <b>I</b>	Width of Rounding Aggregat 2 Sealed/UTBWC	te white/ >7 milliom N ML Thickness	SL Mix 12.5 Wearing Course		Width of Rounding Aggregate Sealed/UTBWC	e white/ >7 milliom N ML Thickness	SL Mix
	N ML Top Lift / joint spacing	# Dowels per Lane			N ML Top Lift / joint spacing				N ML Top Lift / joint spacing	6 # Dowels per Lane	
	2 Design Life	Shldr Thickness			1.5 Design Life	Shldr Thickness			6 Design Life	11 Shldr Thickness	





Project Number	Analysis Period					
4101-89	35					
Highway	Discount Rate					
14	2.00%					
Date						
	OLEAD ALL					
5/26/2015	CLEAR ALL					
Performed By						
Cody Brand						

	LCCA SUMMARY												
	Alternate #1		А	Iternate #2	A	Iternate #3	Length						
Segment #1	3" Mill and Overla	у	12" FDR	and 4" Bituminous	5" Mill and	5" Mill and 4.5" Whitetopping							
Net Present Cost	\$3,148,942.56		\$3	,791,053.77	\$4	,371,280.79	Miles						
Segment #2							0.0						
Net Present Cost							Miles						
Segment #3							0.0						
Net Present Cost							Miles						
Segment #4							0.0						
Net Present Cost							Miles						
Segment #5							0.0						
Net Present Cost							Miles						
Segment #6							0.0						
Net Present Cost							Miles						
Segment #7							0.0						
Net Present Cost							Miles						
Segment #8							0.0						
Net Present Cost							Miles						
Project Net Present Cost	\$	3,148,942.56		\$ 3,791,053.	77	\$ 4,371,280.79	Total						
% of Low Cost		100.0%		120	4%	138.8%	8.3						

		BID ADJU	JSTMENT FACTO	OR SUMMARY			
	Alternat	e #1	Alterna	te #2	Alter	nate #3	Length
Segment #1	3" Mill and (	Overlay	12" FDR and 4	' Bituminous	5" Mill and 4.	5" Whitetopping	8.3
Net Present Cost	\$1,746,71	8.87	\$1,361,	575.32	\$2,263	3,513.56	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Co	ost \$	1,746,718.87	\$	1,361,575.32	\$	2,263,513.56	Total
Bid Adjustment Factor	r \$	385,143.55	\$	-	\$	901,938.24	8.3

					Seg	me	nt 1							
SEG 1	<b>Length</b> 8.255			SEG 1	<b>Length</b> 8.255					SEG 1	<b>Length</b> 8.255			
ALT		Desc	ription	ALT			Descr	riptio	n	ALT		Desc	ription	
1		3" Mill and Overlay		2		12"	FDR and 4" Bitum	ninou	s	3		5" Mill and 4.5" White	etopping	
	Pavement Type  HMA  Primary Category  erlay, DL =13 to 17 years  Secondary Category  Rural  ShoulderCategory  Aggregate	EDIT	HERE TO THIS RNATE	Notes:	Pavement Type  HMA  Primary Category 20 Year HMA  Secondary Category Rural ShoulderCategory Aggregate		CLICK F EDIT ALTEF	TI	HIS ATE		PCC  Primary Category 6'X6' ≤ 5.0" Thickness  Secondary Category Design Life = 20 Years  ShoulderCategory  Aggregate			
<b>Year</b> 0	Activity 3" Mill and Overlay	Cost/per Mile \$ 169,863.56	Pres. Cost/per Mile \$ 169,863.56	<b>Year</b>	Activity 12" FDR and 4" Bit.	\$	Cost 294,303.87		294,303.87	<b>Year</b>	Activity 5" Mill and 4.5" PCC	Cost \$ 255,332.19		255,332.19
1 2 3 4 5	Crack Treatment	\$ 1,675.52	\$ - \$ - \$ 1,578.88 \$ - \$ -	1 2 3 4 5				\$ \$ \$ \$ \$	- - - -	1 2 3 4 5			\$ \$ \$ \$	- - - -
7 8 9 10	Seal	\$ 8,047.82	\$ - \$ - \$ -	7 8 9 10	Crack Treatment	\$	837.76	\$ \$ \$	- 715.02 - - -	7 8 9 10			\$ \$ \$ \$	- - - -
12 13 14 15 16 17	ML Overlay 3.5"	\$ 188,779.94	\$ - \$ -	16 17	Seal	\$	12,360.94	* \$ \$ \$ \$ \$	9,746.52 - - - - -	12 13 14 15 16 17			\$ \$ \$ \$ \$	- - - -
18 19 20 21 22 23	Crack Treatment Seal	\$ 1,675.52 \$ 8,047.82	\$ - \$ - \$	19 20 21	ML Overlay 4  Crack Treatment	\$	242,126.19 1,675.52	\$ \$	- 162,943.98 - - 1,062.54	18 19 20 21 22 23	1st CPR	\$ 337,316.54	\$ \$ \$ \$ \$	- 227,004.36 - -
24 25 26 27 28			\$ - \$ - \$ - \$ -	24 25 26 27 28	Seal	\$	8,047.82	\$ \$ \$ \$	- - - 4,714.91 -	24 25 26 27 28			\$ \$ \$ \$	- - - -
29 30 31 32 33 34	ML Overlay 3.5"  Crack Treatment	\$ 188,779.94 \$ 1,675.52	\$ - \$ -	29 30 31 32 33 34				s s s s s	- - - -	29 30 31 32 33 34	Remove and Replace	\$ 382,218.57	\$ \$ \$ \$ \$	- 211,011.75 - - -
35	Remaining Life	\$ (101,650.74)	(50,828.18)		2/17 Remaining Life	\$	(28,485.43)	\$	(14,243.50)		30/35 Remaining	\$ (327,615.92)	\$	(163,817.01
Maintenar Net Prese Maintenar	let Present Cost/ per Mile nce - Net Present Cost/per Ment Cost for Segment nce - Net Present Cost for Sent Annual Cost		\$ 211,595.26 \$ 3,148,942.56 \$ 1,746,718.87	Maintena Net Prese Maintena	let Present Cost/ per Mile nce - Net Present Cost/per Ment Cost for Segment nce - Net Present Cost for Sent Annual Cost		ıt	\$ \$ \$	164,939.47 3,791,053.77 1,361,575.32	Maintena Net Prese Maintena	let Present Cost/ per Mile nce - Net Present Cost/per M ent Cost for Segment nce - Net Present Cost for Se at Annual Cost		\$ \$ 4 \$ 2	529,531.29 274,199.10 3,371,280.79 2,263,513.56 174,860.89
	Total Lane Width 28 Total Shldr Width 10 Width of Rounding Aggregat 0 Sealed/UTBWC	ML Thickness	Analysis Period 35 ML Mix 12.5 Wearing Course SL Mix	(3,B)	Total Lane Width 28 Total Shldr Width 10 Width of Rounding Aggrega 0 Sealed/UTBWC	ľ	nite/ >7 milliom  ML Thickness  4		nalysis Period 35 ML Mix Wearing Course ( SL Mix	3,C)	Total Lane Width 28 Total Shldr Width 10 Width of Rounding Aggregat 0 Sealed/UTBWC N	Y ML Thickness 4.5	M	sis Period 35 IL Mix SL Mix
	ML Top Lift / joint spacing 1.5 Design Life	# Dowels per Lane Shldr Thickness			ML Top Lift / joint spacing 2 Design Life		owels per Lane hldr Thickness				ML Top Lift / joint spacing 6 Design Life			





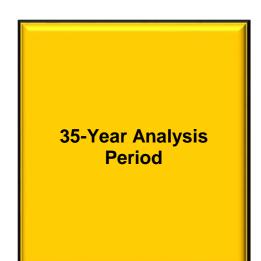
Project Number	Analysis Period				
4680-126	35				
Highway	Discount Rate				
90	1.74%				
Date					
	<b>1</b>				
10/30/2015	CLEAR ALL				
Performed By					
Caleb Fenske					

District 6 - 2015/2016 prices			

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	15yr - mill2", pave 3.5" bituminous	20yr - mill2" pave 5"	20yr - mill4" 1"PASSRC 7" concrete	14.3
Net Present Cost	\$8,277,617.02	\$8,299,063.50	\$10,317,890.89	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 8,277,617.02	\$ 8,299,063.50	\$ 10,317,890.89	Total
% of Low Cost	100.0%	100.3%	124.6%	14.3

		BID ADJUS	TMENT FACTOR	R SUMMARY			
	Alternate	#1	Alternate	e #2	Alterna	te #3	Length
Segment #1	15yr - mill2", pave 3.	5" bituminous	20yr - mill2"	pave 5"	20yr - mill4" 1"PAS	SSRC 7" concrete	14.3
Net Present Cost	\$4,343,968	3.88	\$2,623,87	5.84	\$2,808,3	330.12	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Cos	st \$	4,343,968.88	\$	2,623,875.84	\$	2,808,330.12	Total
Bid Adjustment Factor	\$	1,720,093.04	\$	-	\$	184,454.28	14.3

					Seg	men	nt 1						
SEG 1	Length 14.3			SEG 1	Length 14.3					SEG	Length 14.3		
ALT	14.3	Desci	ription	ALT	14.0		Descr	iption		ALT	14.0	Desc	cription
1		15yr - mill2", pave 3		2		20yr - ı	mill2" pave 5"		$\neg$	3		20yr - mill4" 1"PASS	
	Pavement Type				Pavement Type				1		Pavement Type		
	НМА	CLICK F	HERE TO		НМА	ے ا	LICK F	IERE TO			PCC		
	Primary Category		THIS		Primary Category			THIS			Primary Category		
	erlay, DL =13 to 17 years  Secondary Category	ALTER	RNATE		20 Year HMA Secondary Category	1	ALTER	RNATE	-		≥12 Joint spacing Secondary Category		
	Rural ShoulderCategory Bituminous				Rural ShoulderCategory Bituminous						esign Life = 20 Years  ShoulderCategory  Thick Bit		
Notes:	Diturninous	/		Notes:	Bituminous				N	lotes:	THICK DIL		
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity		Cost	Pres. Cost/per	Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Med M&OL	\$ 275,080.29			Thick M&OL	\$		\$ 396,86		0	UBOL	\$ 525,144.11	
2 3 4 5	Crack Treatment	\$ 2,307.01	\$ - \$ 2,190.65 \$ - \$ -	2 3 4 5				\$ \$ \$ \$	-	2 3 4 5			\$ - \$ - \$ - \$ -
6 7 8 9	Seal	\$ -	\$ - \$ - \$ - \$	6 7 8 9	Crack Treatment	\$	1,153.50	\$ \$ \$ 1,00	- - 4.81 -	6 7 8 9			\$ - \$ - \$ - \$ -
10 11 12 13			\$ - \$ - \$ -	10 11 12 13	Seal	\$	4,406.59	\$ \$ \$ 3,58	- 2.63 -	10 11 12 13			\$ - \$ - \$ - \$ -
14 15 16 17	ML Overlay 3.5"	\$ 275,432.83	\$ - \$ -	16 17				\$ \$ \$	-	14 15 16 17			\$ - \$ - \$ -
18 19 20 21 22	Crack Treatment  Seal	\$ 2,307.01	\$ 1,691.21 \$ - \$ - \$ -	18 19 20 21 22	ML Overlay 3.5	\$	275,432.83	\$ \$ 195,06 \$	- - 5.76 -	18 19 20 21 22	1st CPR	\$ 277,298.03	\$ - \$ 196,386.72 \$ - \$ -
23 24 25 26		Ť	\$ - \$ - \$ -	23 24 25 26	Crack Treatment	\$	2,307.01	\$ 1,55 \$ \$	1.46 - -	23 24 25 26			\$ - \$ - \$ - \$ -
27 28 29 30	ML Overlay 3.5"	\$ 275,432.83	\$ - \$ - \$ 167,014.99 \$ -	27 28 29 30	Seal	\$	-	\$ \$ \$ \$	-	27 28 29 30			\$ - \$ - \$ - \$ -
31 32 33 34	Crack Treatment	\$ 2,307.01	\$ - \$ 1,328.35 \$ - \$ -	33 34			(00, 100, 00)	\$ \$ \$		31 32 33 34			\$ - \$ - \$ -
35	Remaining Life	\$ (148,309.99)	\$ (81,088.59)	35	2/17 Remaining Life	\$	(32,403.86)	\$ (17,71	0.03)	35	0/0 Remaining	\$ -	\$ -
	let Present Cost/ per Mile nce - Net Present Cost/per Mile	e			et Present Cost/ per Mile nce - Net Present Cost/per M	/lile					et Present Cost/ per Mile nce - Net Present Cost/per M	file	\$ 721,530.83 \$ 196,386.72
	ent Cost for Segment nce - Net Present Cost for Seg	gment			ent Cost for Segment nce - Net Present Cost for Se	egment		\$ 8,299,06	3.50 N	let Prese	ent Cost for Segment nce - Net Present Cost for Se		\$ 10,317,890.89 \$ 2,808,330.12
	Total Lane Width 29 Total Shldr Width 9 Width of Rounding Aggregate 1.5 Sealed/UTBWC N ML Top Lift / joint spacing 1.5 Design Life	white/ >7 milliom	Analysis Period 35 ML Mix WEARING COURSE SL Mix WEARING COURSE	MIXTURE (	Width of Rounding Aggregat	# te white ML	e/ >7 milliom	318,59  Analysis Perion 35  ML Mix WEARING COUF SL Mix WEARING COUF	od RSE MIX	XTURE (	Width of Rounding Aggregat	N ML Thickness 7	Analysis Period 35 ML Mix SL Mix WEARING COURSE MIX





Project Number	Analysis Period					
5880-180	50					
Highway	Discount Rate					
I 35 Rp 202-211	1.74%					
Date						
	OLEAD ALL					
12/21/2015	CLEAR ALL					
Performed By						
Canyor						

Di	istrict 1 - 2015/20	016 prices			

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1				18.6
Net Present Cost				Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ -	\$ -	\$ -	Total
% of Low Cost	#NUM!	#NUM!	#NUM!	18.6

	BID AI	DJUSTMENT FACTOR SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1				18.6
Net Present Cost				Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Co	ost \$ -	\$ -	\$ -	Total
Bid Adjustment Factor	r \$ -	\$ -	\$ -	18.6

					Seg	me	nt 1								
SEG	Length			SEG	Length					SEG	Length				
1	18.64			1	18.64					1	18.64				
ALT		Desc	ription	ALT			Desci	ripti	on	ALT			Desci	ription	
1		20 year Bit		2		20 ye	ear concrete			3		35 ye	ar concrete		
	Pavement Type				Pavement Type						Pavement Type				
	НМА	CLICK F	HERE TO		PCC		CLICK F	1F	RE TO		PCC				
	Primary Category		THIS		Primary Category		EDIT				Primary Category				
S	20 Year HMA Secondary Category	ALTE	RNATE		≥12 Joint spacing  Secondary Category		ALTER	Ν	NATE	9	≥12 Joint spacing econdary Category				
	Rural ShoulderCategory				Design Life = 20 Years ShoulderCategory	1					esign Life 35 Years ShoulderCategory				
otes:	Bituminous			Notes:	Thick Bit					Notes:	Thick Bit	]			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity		Cost	Pre	es. Cost/per Mile	Year	Activity		Cost	Pres.	Cost/per Mile
0	Construction	\$ 481,288.00	\$ 481,288.00		Construction	\$	609,791.00	\$	609,791.00	0	Construction	\$	655,612.00		655,612.00
2			\$ - \$ -	1 2				\$	-	1 2				\$	-
3 4			\$ - \$ -	3 4				\$ \$	-	3 4				<b>\$</b> <b>\$</b>	-
5			\$ -	5				\$	-	5				\$	-
6 7			\$ -	7				\$	-	6 7				\$	-
8 9	Crack Treatment	\$ 1,188.00	\$ - \$ -	8 9				\$	-	8 9				\$   \$	-
10 11			\$ - \$ -	10 11				\$	-	10 11				\$ \$	-
12	Seal	\$ 13,183.68		12				\$	-	12				\$	-
13 14			\$ -	13 14				\$	-	13 14				\$	-
15 16			\$ - \$ -	15 16				\$ \$	-	15 16				\$  \$	-
17 18			\$ - \$ -	17 18				\$ \$	-	17 18				\$ \$	-
19 20	ML Overlay 4	\$ 217,307.97	\$ - \$ -	19 20	1st CPR	\$	240,618.28	\$	-	19 20	1st CPR	\$	171,545.50	\$	-
21 22	ME Overlay 1	217,007.07	\$ - \$ -	21 22	lot of K		210,010.20	\$	-	21 22	161.61.11		171,010.00	\$	-
23	Crack Treatment	\$ 2,376.00	-	23				\$	-	23				\$	-
24 25			\$ -	24 25				\$	-	24 25				\$	-
26 27	Seal	\$ 8,952.03	\$ - \$ -	26 27				\$ \$	-	26 27				\$ \$	-
28 29			\$ -	28 29				\$	-	28 29				\$	-
30			\$ -	30				\$	-	30				\$	-
31 32			\$ -	31 32				\$	-	31 32				\$	-
33 34			\$ - \$ -	33 34				\$ \$	-	33 34				\$ \$	-
35 36			\$ - \$ -	35 36	Remove and Replace	\$	495,665.10	\$ \$	-	35 36	2nd CPR	\$	169,941.14	\$ \$	-
37 38	ML Overlay 3.5"	\$ 192,576.28	\$ -	37 38				\$	-	37 38				\$	-
39	<b>2</b> 1 <b>-</b> 1		\$ -	39				\$	-	39				\$	-
40	Crack Treatment	\$ 2,376.00	\$ - \$ -	40				\$	-	40				\$	-
42 43			\$ - \$ -	42 43				\$ \$	-	42 43				\$   \$	-
44 45	Chip Seal	\$ 8,952.03	\$ - \$ -	44 45				\$ \$	-	44 45				\$	-
46 47			\$ - \$ -	46 47				\$	-	46 47				\$ \$	-
48			\$ -	48				\$	-	48				\$	-
49 50	4/17 Remaining Life	\$ (45,312.07)	\$ - \$	49 50	5/20 Remaining	\$	(123,916.27)	\$ \$	-	49 50	0/0 Remaining	\$		\$ \$	- 
	et Present Cost/ per Mile ce - Net Present Cost/per M	ile	\$ 481,288.00 \$ -		let Present Cost/ per Mile nce - Net Present Cost/per M	/lile		\$			et Present Cost/ per Mile ce - Net Present Cost/per M	lile		\$	655,612.00 -
t Prese	nt Cost for Segment ce - Net Present Cost for Se		\$ 8,971,208.32 \$ -	Net Prese	ent Cost for Segment nce - Net Present Cost for Se			\$	11,366,504.24	Net Prese	nt Cost for Segment ce - Net Present Cost for Se			\$	12,220,607.68
	Annual Cost	gmont	#DIV/0!		t Annual Cost	ogment		Ψ			Annual Cost	, grinelil		Ψ	#DIV/0!
	Total Lane Width	# of Lanes	Analysis Period		Total Lane Width		# of Lanes		Analysis Period		Total Lane Width	į	# of Lanes	Ana	alysis Period
	27 Total Shldr Width 10	2 # of Shldrs 1	50 ML Mix WEARING COURSE	MIXTLIDE	28 Total Shldr Width		# of Shldrs		50 ML Mix		28 Total Shldr Width	i	2 # of Shldrs 1		50 ML Mix
İ	Width of Rounding Aggregat 1.5		SL Mix WEARING COURSE		Width of Rounding Aggrega	te wh	nite/ >7 milliom N	WF	SL Mix ARING COURSE N		9 Width of Rounding Aggregat 1.5	e whi	ite/ >7 milliom N	WEAR	SL Mix ING COURSE I
	Sealed/UTBWC N	ML Thickness			Sealed/UTBWC N	N	/IL Thickness 7.5	. <b>_</b> /	J JOOROL II		Sealed/UTBWC N	M	IL Thickness 8	,	
	ML Top Lift / joint spacing 2.0	# Dowels per Lane			ML Top Lift / joint spacing	# Do	owels per Lane				ML Top Lift / joint spacing 15	# Do	owels per Lane 11		





Project Number	Analysis Period
SP 6284-166	35
Highway	Discount Rate
I-35W	2.00%
	4
Date	
6/5/2015	CLEAR ALL
Performed By	
T. Clyne	

Metro - 2014/2015 pric	es			

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	Bit M&O	Rubblize + Bit OL	UBOL	3.5
Net Present Cost	\$5,086,060.64	\$9,661,163.44	\$10,357,691.80	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 5,086,060.64	\$ 9,661,163.44	\$ 10,357,691.80	Total
% of Low Cost	100.0%	190.0%	203.6%	3.5

		BID ADJ	USTMENT FACT	TOR SUMMARY			
	Alternate	e #1	Alter	nate #2	Alto	ernate #3	Length
Segment #1	Bit M&	0	Rubbliz	e + Bit OL		UBOL	3.5
Net Present Cost	\$3,117,72	4.28	\$1,652	2,781.70	\$1,4	23,938.76	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Co	ost \$	3,117,724.28	\$	1,652,781.70		\$ 1,423,938.76	Total
Bid Adjustment Facto	r \$	1,693,785.52	\$	228,842.94		\$ -	3.5

					Seg	me	ent 1					
SEG 1	<b>Length</b> 3.479			SEG 1	<b>Length</b> 3.479				SEG 1	<b>Length</b> 3.479		
ALT			iption	ALT		L.		ription	ALT			ription
1		Bit M&O	1	2		Ruk	oblize + Bit OL		3	<u> </u>	UBOL	
	Pavement Type  HMA  Primary Category  erlay, DL =13 to 17 years  Secondary Category  Urban  ShoulderCategory  Thick	CLICK H EDIT ALTER	THIS RNATE	Notes:	Pavement Type  HMA  Primary Category 20 Year HMA  Secondary Category Urban  Shoulder Category Thick		EDIT	IERE TO THIS RNATE		Primary Category  ≥12 Joint spacing  Secondary Category  Design Life = 20 Years  ShoulderCategory  PCC		
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Τ	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	M&O	\$ 565,776.48		0	Rubblize + Bit OL	\$	2,301,920.59			UBOL	\$ 2,567,908.32	\$ 2,567,908.32
1 2 3 4 5 6 7 8	Crack Treatment Seal	\$ 5,136.38 \$ -	\$ - \$ 4,840.13 \$ - \$ - \$ - \$ - \$ -	1 2 3 4 5 6 7 8	Crack Treatment	\$	2,568.19	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,191.93	1 2 3 4 5 6 7 8			\$ - \$ - \$ - \$ - \$ - \$ - \$ -
9 10 11 12 13 14 15 16	ML Overlay 3.5"	\$ 711,542.05	\$ - \$ - \$ - \$ - \$ 539,259.95 \$ - \$ -	9 10 11 12 13 14 15	Seal	\$	13,356.29	\$ - \$ - \$ 10,531.34 \$ - \$ - \$ -	9 10 11 12 13 14 15			\$ - \$ - \$ - \$ - \$ - \$ - \$ -
17 18 19 20 21 22 23 24	Crack Treatment Seal	\$ 5,136.38 \$ -	\$ 3,668.21 \$ - \$ - \$ - \$ - \$ - \$ -	17 18 19 20 21 22 23 24	ML Mill 3.0" Crack Treatment	\$	747,532.88 5,136.38	\$ - \$ -	21 22 23 24	1st CPR	\$ 608,191.46	\$ - \$ - \$ 409,295.42 \$ - \$ - \$ -
25 26 27 28 29 30 31 32	ML Overlay 4.0"  Crack Treatment		\$ - \$ 482,948.72 \$ - \$ - \$ 2,835.65 \$ - \$ -	25 26 27 28 29 30 31 32	Seal	\$	-	- - - - - - - - - - - - -	25 26 27 28 29 30 31 32			\$ - \$ - \$ - \$ - \$ - \$ - \$ -
33 34 35	Seal Remaining Life	\$ - \$ (274,779.54)	\$ - \$ - \$ (137,397.36)	33 34 35	2/17 Remaining Life	\$	(87,945.04)	\$ - \$ (43,974.95	33 34 ) 35	0/0 Remaining	\$ -	\$ - \$ - \$ -
Maintena Net Prese Maintena	Net Present Cost/ per Mile nce - Net Present Cost/per M ent Cost for Segment nce - Net Present Cost for Se nt Annual Cost		\$ 896,155.30 \$ 5,086,060.64 \$ 3,117,724.28	Maintenar Net Prese Maintenar	et Present Cost/ per Mile nce - Net Present Cost/per Ment Cost for Segment nce - Net Present Cost for Set t Annual Cost		nt	\$ 475,073.79 \$ 9,661,163.44 \$ 1,652,781.70	Maintena Net Prese Maintena	let Present Cost/ per Mile nce - Net Present Cost/per M ent Cost for Segment nce - Net Present Cost for Se at Annual Cost		\$ 2,977,203.74 \$ 409,295.42 \$ 10,357,691.80 \$ 1,423,938.76 414,330.55
	Total Lane Width 72 Total Shldr Width 28 Width of Rounding Aggregate Sealed/UTBWC N ML Top Lift / joint spacing 2.25 Design Life	e white/ >7 milliom Y I ML Thickness	Analysis Period 35 ML Mix 12.5 Wearing Course( SL Mix 2.5 Wearing Course (		Total Lane Width 72 Total Shldr Width 28 Width of Rounding Aggrega Sealed/UTBWC N ML Top Lift / joint spacing 2 Design Life	#[	hite/ >7 milliom	Analysis Period 35 ML Mix 12.5 Wearing Course SL Mix 12.5 Wearing Course		Total Lane Width 72 Total Shldr Width 28 Width of Rounding Aggregat Sealed/UTBWC Y ML Top Lift / joint spacing 15 Design Life	N ML Thickness 9.5	Analysis Period 35 ML Mix SL Mix



Project Number	Analysis Period				
6407-89	35				
Highway	Discount Rate				
	2.00%				
Date	CLEAR ALL				
Performed By					

015 prices			

			LCCA SUI	MMARY					
	Alternate #1		Α	Iternate #2	A	ternate #3	Length		
Segment #1	3" Mill and Overlay	(Urban)	FDR and	4" Overlay (Urban)	4.5" PC0	4.5" PCC Overlay (Urban)			
Net Present Cost	\$250,574.32	2	\$	341,650.76	\$4	403,647.29	Miles		
Segment #2							6.2		
Net Present Cost							Miles		
Segment #3							0.0		
Net Present Cost							Miles		
Segment #4							0.0		
Net Present Cost							Miles		
Segment #5							0.0		
Net Present Cost							Miles		
Segment #6							0.0		
Net Present Cost							Miles		
Segment #7							0.0		
Net Present Cost							Miles		
Segment #8							0.0		
Net Present Cost							Miles		
Project Net Present Cost	\$	250,574.32		\$ 341,650.76		\$ 403,647.29	Total		
% of Low Cost		100.0%		136.39	%	161.1%	6.8		

	BID A	DJUSTMENT FACTOR SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" Mill and Overlay (Urban)	FDR and 4" Overlay (Urban)	4.5" PCC Overlay (Urban)	0.6
Net Present Cost	\$123,650.15	\$97,831.58	\$183,013.31	Miles
Segment #2				6.2
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 123,650.1	\$ 97,831.58	\$ 183,013.31	Total
Bid Adjustment Factor	\$ 25,818.5	7 \$ -	\$ 85,181.74	6.8

					Seg	ment 1					
SEG	Length			SEG	Length			SEG	Length		
1	0.609			1	0.609			1	0.609		
ALT		Descr	ription	ALT		Desc	cription	ALT		Desc	ription
1		3" Mill and Overlay (	(Urban)	2		FDR and 4" Overlay	(Urban)	3		4.5" PCC Overlay (U	rban)
	Pavement Type				Pavement Type				Pavement Type	4	
	НМА	CLICK F	IERE TO		НМА	CLICK I	HERE TO		PCC	-	
Ove	Primary Category rlay, DL =13 to 17 years		THIS		Primary Category 20 Year HMA		THIS	6	Primary Category 5'X6' ≤ 5.0" Thickness		
!	Secondary Category Urban	ALIE	RNATE	:	Secondary Category Urban	ALIE	RNATE		Secondary Category Design Life = 20 Years	-	
	ShoulderCategory Thick				ShoulderCategory Thick				ShoulderCategory Thick Bit		
Notes:				Notes:				Notes:			
<b>Year</b>	Activity 3" Mill and Overlay	Cost/per Mile \$ 208,414.07	Pres. Cost/per Mile \$ 208,414.07	<b>Year</b>	Activity FDR and 4" Overlay	Cost \$ 400,359.91	Pres. Cost/per Mile \$ 400,359.91	<b>Year</b>	Activity 4.5" PCC Overlay	Cost \$ 362,288.96	Pres. Cost/per Mile \$ 362,288.96
1 2			\$ - \$ -	1 2			\$ - \$ -	1 2			\$ - \$ -
3 4	Crack Treatment	\$ 1,436.16	\$ 1,353.33 \$ -	3 4			\$ - \$ -	3 4			\$ - \$ -
5			\$ - \$ -	5			\$ -	5 6			\$ - \$ -
7	Seal	\$ 8,644.05	\$ 7,525.17	7 8	Crack Treatment	\$ 718.08	\$ - \$ 612.87	7			\$ - \$ -
9			\$ - \$ -	9 10	Grask Frederica	7 10.00	\$ -	9			\$ -
11 12			\$ -	11 12	Seal	\$ 12,847.89	\$ -	11 12			\$ -
13			\$ -	13	Seai	12,047.09	\$ -	13			- - -
14 15			\$ -	14 15			\$ -	14 15			\$ -
16 17	ML Overlay 3.5"	\$ 230,466.07	\$ 164,590.24	16 17			\$ -	16 17			\$ -
18 19			\$ - \$ -	18 19			\$ -	18 19			\$ - \$ -
20 21	Crack Treatment	\$ 1,436.16	\$ 966.49 \$ -	20 21	ML Mill 3.0"	\$ 234,349.82	\$ 157,710.71 \$ -	20 21	1st CPR	\$ 337,631.93	\$ 227,216.61
22 23			\$ -	22 23	Crack Treatment	\$ 1,436.16					\$ -
24 25	Seal	\$ 8,644.05	\$ 5,374.19 \$ -	24 25			\$ - \$ -	24 25			\$ -
26 27			\$ - \$ -	26 27	Seal	\$ 8,644.05	\$ - \$ 5,064.22	26 27			\$ - \$ -
28 29			\$ - \$ -	28 29			\$ - \$ -	28 29			\$ - \$ -
30 31			\$ - \$ -	30 31			\$ - \$ -	30 31	Remove and Replace	\$ 593,621.33	\$ 327,721.06 \$ -
32 33	ML Overlay 4.0"	\$ 267,390.47	\$ - \$ 139,104.21	32 33			\$ - \$ -	32 33			\$ - \$ -
34 35	Remaining Life	\$ (231,738.41)	\$ - \$ (115,875.60)	34 35	2/17 Remaining Life	\$ (27,570.57)	\$ - ) \$ (13,786.04)	34 35	30/35 Remaining	\$ (508,818.28)	\$ - \$ (254,423.19)
Maintenar Net Prese	et Present Cost/ per Mile nce - Net Present Cost/per Mi ent Cost for Segment nce - Net Present Cost for Se		\$ 203,038.02 \$ 250,574.32	Maintenar Net Prese	et Present Cost/ per Mile nce - Net Present Cost/per Ment Cost for Segment nce - Net Present Cost for Se		\$ 160,642.98 \$ 341,650.76	Maintenar	let Present Cost/ per Mile nce - Net Present Cost/per Ment Cost for Segment nce - Net Present Cost for Se		\$ 662,803.43 \$ 300,514.47 \$ 403,647.29 \$ 183,013.31
	t Annual Cost	gmont			t Annual Cost	-Americ			nce - Net Present Cost for Se at Annual Cost	-yment	16,146.78
	Total Lane Width  24  Total Shldr Width  20  Width of Rounding Aggregate  0  Sealed/UTBWC	e white/ >7 milliom	Analysis Period 35 ML Mix 12.5 Wearing Course ( SL Mix 12.5 Wearing Course (		Total Lane Width 24 Total Shldr Width 20 Width of Rounding Aggregat 0 Sealed/UTBWC	# of Lanes 2 # of Shldrs 2 te white/ >7 milliom N ML Thickness	Analysis Period 35 ML Mix 12.5 Wearing Course SL Mix 12.5 Wearing Course	Ì	Total Lane Width  28  Total Shldr Width  16  Width of Rounding Aggregat  0  Sealed/UTBWC		Analysis Period 35 ML Mix SL Mix 12.5 Wearing Course (
	N ML Top Lift / joint spacing	7 # Dowels per Lane			N ML Top Lift / joint spacing	4 # Dowels per Lane			N ML Top Lift / joint spacing	4.5 # Dowels per Lane	
1	1.5	0 Shidr Thickness		I	2 Design Life	0 Shidr Thickness		1	6 Decign Life	0 Shidr Thickness	



Project Number	Analysis Period
6501-12	35
Highway	Discount Rate
	1.74%
Date	CLEAR ALL
Performed By	

District 8 - 2015/2016 pri	ices		

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	2.5" Mill and 4" Overlay	4" Mill and 4" Whitetopping	4" Mill, 9" FDR, 4" Overlay	5.7
Net Present Cost	\$2,059,685.07	\$2,995,483.89	\$2,482,404.34	Miles
Segment #2				7.7
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 2,059,685.07	\$ 2,995,483.89	\$ 2,482,404.34	Total
% of Low Cost	100.0%	145.4%	120.5%	13.4

BID ADJUSTMENT FACTOR SUMMARY											
	Alternate #1	Alternate #2	Alternate #3	Length							
egment #1	2.5" Mill and 4" Overlay	4" Mill and 4" Whitetopping	4" Mill, 9" FDR, 4" Overlay	5.7							
Net Present Cost	\$900,527.55	\$1,808,733.88	\$908,631.43	Miles							
egment #2				7.7							
Net Present Cost				Miles							
egment #3				0.0							
Net Present Cost				Miles							
egment #4				0.0							
Net Present Cost				Miles							
egment #5				0.0							
Net Present Cost				Miles							
egment #6				0.0							
Net Present Cost				Miles							
egment #7				0.0							
Net Present Cost				Miles							
egment #8				0.0							
Net Present Cost				Miles							
roject Net Present Co	st \$ 900,527.5	\$ 1,808,733.88	\$ 908,631.43	Total							
id Adjustment Factor	\$ -	\$ 908,206.33	\$ 8,103.88	13.4							

					Seg	ment 1					
SEG	Length			SEG	Length			SEG	Length		
1	5.688			1	5.688			1	5.688		
ALT			cription	ALT			iption	ALT			cription
1	n :=	2.5" Mill and 4" Ove	erlay	2	D	4" Mill and 4" Whiteto	oping	3	Day	4" Mill, 9" FDR, 4" O	verlay
	Pavement Type				Pavement Type	-			Pavement Type	1	
	HMA Primary Category		HERE TO		PCC Primary Category		IERE TO		HMA Primary Category	1	
	Overlay, DL > 17 years  Secondary Category		THIS RNATE		S'X6' ≤ 5.0" Thickness Secondary Category		THIS RNATE		20 Year HMA Secondary Category	1	
	Rural ShoulderCategory				Design Life = 20 Years ShoulderCategory				Rural ShoulderCategory	1	
tes:	Aggregate Considered 2' shoulder as m	ainline		Notes:	Aggregate Considered 2' shoulder as m	nainline			Aggregate Considered 2' shoulder as r	mainline	
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per M
0	2.5" Mill and 4" Overlay	\$ 203,790.00		0	4" Mill and 4" Whitetopping		\$ 208,641.00		4" Mill, 9" FDR and 4" Overla		
2			\$ -	2			\$ - \$ -	2			\$ -
3 4	Crack Treatment	\$ 2,464.00	\$ 2,339.73 \$ -	3 4			\$ - \$ -	3 4			\$ - \$ -
5 6			\$ - \$ -	5 6			\$ - \$ -	5 6			\$ -
7 8	Seal	\$ 8,733.73	\$ 7,740.29 \$ -	7 8			\$ - \$ -	7 8	Crack Treatment	\$ 1,232.00	\$ - \$ 1,073.
9 10			\$ - \$ -	9 10			\$ - \$ -	9 10			\$ -
11 12			\$ - \$ -	11 12			\$ - \$ -	11 12	Seal	\$ 12,742.80	\$ - \$ 10,360.
13 14			\$ - \$ -	13 14			\$ - \$ -	13 14			\$ -
15 16			\$ - \$ -	15 16			\$ - \$ -	15 16			\$ - \$ -
17 18	ML Overlay 3.5"	\$ 192,137.27	\$ - \$ 140,851.16	17 18			\$ - \$ -	17 18			\$ - \$ -
19 20			\$ - \$ -	19 20	1st CPR	\$ 378,864.41	\$ - \$ 268,317.59	19	ML Overlay 4	\$ 219,249.92	\$ - \$ 155,276.
21 22	Crack Treatment	\$ 2,464.00	\$ 1,715.20 \$ -	22			\$ - \$ -	21 22			\$ \$
23 24			\$ - \$ -	23 24			\$ - \$ -	23 24	Crack Treatment	\$ 2,464.00	\$ 1,657. \$ -
25 26	Seal	\$ 8,733.73	\$ 5,674.22 \$ -	25 26			\$ - \$ -	25 26			\$ - \$ -
27 28			\$ - \$ -	27 28			\$ - \$ -	27 28	Seal	\$ 8,733.73	\$ 5,481. \$ -
29 30			\$ - \$ -	29 30	Remove and Replace	\$ 390,028.31	\$ - \$ 232,457.81	29 30			\$ - \$ -
31 32			\$ - \$ -	31 32			\$ - \$ -	31 32			\$ - \$ -
33 34			\$ - \$ -	33 34			\$ - \$ -	33 34			\$ - \$ -
35	Remaining Life	\$ -	\$ -	35	30/35 Remaining	\$ (334,309.98)	\$ (182,784.21	35	2/17 Remaining Life	\$ (25,794.11)	) \$ (14,102.
C / .	Net Present Cost/ per Mile		\$ 362,110.60	I CCA - N	et Present Cost/ per Mile		\$ 526,632.19	I CCA - N	et Present Cost/ per Mile		\$ 436,428.
aintena	nce - Net Present Cost/per Mi ent Cost for Segment	le	\$ 158,320.60	Maintena	nce - Net Present Cost/per Mi ent Cost for Segment	ile	\$ 317,991.19	Maintenar	nce - Net Present Cost/per M nt Cost for Segment	Mile	\$ 436,426. \$ 159,745. \$ 2,482,404.
aintena	nce - Net Present Cost for Sent nt Annual Cost	gment	\$ 900,527.55	Maintena	nce - Net Present Cost for Se at Annual Cost	gment	\$ 1,808,733.88	Maintenar	nce - Net Present Cost for Set Annual Cost	egment	\$ 908,631. 95,298.
-	Total Lane Width  28  Total Shldr Width  16  Width of Rounding Aggregate  0  Sealed/UTBWC  N  ML Top Lift / joint spacing	# of Lanes 2 # of Shldrs 2 white/ >7 milliom N ML Thickness # Dowels per Lane	Analysis Period 35 ML Mix WEARING COURSE I SL Mix	MIXTURE (	Total Lane Width 28 Total Shldr Width	# of Lanes 2 # of Shldrs 2 e white/ >7 milliom Y ML Thickness 4 # Dowels per Lane	Analysis Period 35 ML Mix SL Mix		Total Lane Width  28  Total Shldr Width  16  Width of Rounding Aggrega  0  Sealed/UTBWC  N  ML Top Lift / joint spacing	N ML Thickness	Analysis Period 35 ML Mix WEARING COURS SL Mix



# 35 - Year

Project Number	Analysis Period
6607-49 & 2511-49	35
Highway	Discount Rate
T.H. 60 From T.H. 21 to CSAH 12(Kenyon)	1.74%
	1
Date	
	0 4 - 4
3/25/2016	CLEAR ALL
Performed By	
TDM	

District 6 - 2015/2016 price

		LCCA SUI	MMARY			
	Alternate #1	A	Iternate #2	Alt	ternate #3	Length
Segment #1	3" Mill & 3" Bit. OL	3" N	lill & 3" Bit. OL	3" Mi	II & 3" Bit. OL	1.0
Net Present Cost	\$721,135.34	\$	721,135.34	\$7	21,135.34	Miles
Segment #2						12.5
Net Present Cost						Miles
Segment #3						0.0
Net Present Cost						Miles
Segment #4						0.0
Net Present Cost						Miles
Segment #5						0.0
Net Present Cost						Miles
Segment #6						0.0
Net Present Cost						Miles
Segment #7						0.0
Net Present Cost						Miles
Segment #8						0.0
Net Present Cost						Miles
Project Net Present Cost	\$ 721,1	35.34	\$ 721,135.34		\$ 721,135.34	Total
% of Low Cost	1	00.0%	100.0%		100.0%	13.5

		BID AD	JUSTMENT F	ACTOR SUM	MARY			
	Alternate #1		Α	Iternate #2		Al	ternate #3	Length
Segment #1	3" Mill & 3" Bit. OL		3" M	ill & 3" Bit. OL		3" Mi	ill & 3" Bit. OL	1.0
Net Present Cost	\$362,455.21		\$:	362,455.21		\$3	362,455.21	Miles
Segment #2								12.5
Net Present Cost								Miles
Segment #3								0.0
Net Present Cost								Miles
Segment #4								0.0
Net Present Cost								Miles
Segment #5								0.0
Net Present Cost								Miles
Segment #6								0.0
Net Present Cost								Miles
Segment #7								0.0
Net Present Cost								Miles
Segment #8								0.0
Net Present Cost								Miles
Project Net Present Cost	\$ 30	62,455.21		\$ 30	62,455.21		\$ 362,455.21	Total
Bid Adjustment Factor	\$	-		\$	-		\$ -	13.5

					Seg	me	nt 1							
SEG	Length			SEG	Length					SEG	Length			
1	1.027			1	1.027					1	1.027			
ALT			ription	ALT		Τ		riptio	n	ALT		Т	Descri	iption
1		3" Mill & 3" Bit. OL		2		3" M	lill & 3" Bit. OL			3		3" Mi	ill & 3" Bit. OL	
	Pavement Type				Pavement Type	1					Pavement Type	-		
	HMA		HERE TO		HMA	ı	CLICK F				HMA			
Ove	Primary Category rlay, DL =13 to 17 years		THIS RNATE		Primary Category erlay, DL =13 to 17 years	1	EDIT ALTEI				Primary Category rlay, DL =13 to 17 years			
	Secondary Category Urban	/\_\_			Urban	1	ALILI	1 1 1 1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		Secondary Category Urban			
	ShoulderCategory Thick			Notes:	ShoulderCategory Thick					Notes:	ShoulderCategory Thick	-		
Notes:				NOICS.						140165.				
<b>Year</b>	Activity	Cost/per Mile \$ 349,250.38	Pres. Cost/per Mile \$ 349,250.38		Activity	Ś	Cost 349,250.38	Pres	349,250.38	<b>Year</b>	Activity	\$	Cost 349,250.38	Pres. Cost/per Mile \$ 349,250.38
1		7 375,230.30	\$ -	1		Ÿ	3.3,230.30	\$	-	1			5.0,200.00	\$ -
2 3	Crack Treatment	\$ 1,909.25	\$ - \$ 1,812.96	2 3	Crack Treatment	\$	1,909.25	\$ \$	- 1,812.96	2 3	Crack Treatment	\$	1,909.25	\$ - \$ 1,812.96
4 5			\$ - \$ -	4 5				\$ \$	-	4 5				\$ - \$ -
6 7	Seal	\$ 9,934.37	\$ - \$ 8,804.37	6 7	Seal	\$	9,934.37	\$ \$	- 8,804.37	6 7	Seal	\$	9,934.37	\$ - \$ 8,804.37
8 9			\$ - \$ -	8 9				\$ \$	-	8 9				\$ - <b> </b>
10 11			\$ -	10 11				\$	-	10 11				\$ - \$ -
12			\$ -	12				\$	-	12				\$ -
13 14	MI Occurred C 5"	¢ 000.004.17	\$ -	14	MI O		200 004 17	\$	-	13 14	NAL COLUMN		200 004 47	\$ - \$ -
15 16	ML Overlay 3.5"	\$ 289,824.17	\$ -	15 16	ML Overlay 3.5"	\$	289,824.17	\$	223,747.71	15 16	ML Overlay 3.5"	\$	289,824.17	\$ 223,747.71 \$ -
17 18	Crack Treatment	\$ 1,909.25	\$ - \$ 1,399.62	17 18	Crack Treatment	\$	1,909.25	<b>\$</b> <b>\$</b>	- 1,399.62	17 18	Crack Treatment	\$	1,909.25	\$ - \$ 1,399.62
19 20			\$ - \$ -	19 20				\$ \$	-	19 20				\$ - \$ -
21 22	Seal	\$ 9,934.37	\$ - \$ 6,797.08		Seal	\$	9,934.37	\$	- 6,797.08	21 22	Seal	\$	9,934.37	\$ - \$ 6,797.08
23 24			\$ -	23 24				\$	-	23 24				\$ - \$ -
25 26			\$ - \$ -	25 26				\$ \$	-	25 26				\$ - \$ -
27 28			\$ - \$ -	27 28				\$ \$	-	27 28				\$ - \$ -
29 30	ML Overlay 4.0"	\$ 350,244.01	\$ 212,378.45 \$ -	29 30	ML Overlay 4.0"	\$	350,244.01	\$ \$	212,378.45	29 30	ML Overlay 4.0"	\$	350,244.01	\$ 212,378.45 \$ -
31 32	Crack Treatment	\$ 1,909.25	\$ - \$ 1,099.33	31	Crack Treatment	\$	1,909.25	\$	- 1,099.33	31 32	Crack Treatment	\$	1,909.25	\$ - \$ 1,099.33
33 34	Gradik Fredikironik	Ψ 1,000.20	\$ -	33 34	Grack Froduitorik		1,000.20	\$	-	33 34	Grack frounding		1,000.20	\$ -
35	Remaining Life	\$ (188,592.93)	(103,113.31)		Remaining Life	\$	(188,592.93)	\$	(103,113.31)		Remaining Life	\$	(188,592.93)	\$ (103,113.31)
LCCA - N	et Present Cost/ per Mile		\$ 702,176.58		Net Present Cost/ per Mile			\$	702 176 59	I CCA - N	et Present Cost/ per Mile			\$ 702,176.58
Maintenar	nce - Net Present Cost/per Mil	le	\$ 352,926.20	Maintena	nce - Net Present Cost/per Mi	ile		\$	352,926.20	Maintena	nce - Net Present Cost/per M	1ile		\$ 352,926.20
Maintenar	ent Cost for Segment nce - Net Present Cost for Seg	gment	\$ 362,455.21	Maintena	ent Cost for Segment nce - Net Present Cost for Se	gmen	t	\$	362,455.21	Maintena	ent Cost for Segment nce - Net Present Cost for Set Appual Cost	egment		\$ 721,135.34 \$ 362,455.21
⊏quivalent	t Annual Cost	ш-11-	•	ruivaler	nt Annual Cost		# cf.1			⊏quivaler	t Annual Cost		# 041	27,684.00
	Total Lane Width 24 Total Shldr Width	# of Lanes 2 # of Shldrs	Analysis Period 35 ML Mix	1	Total Lane Width 24 Total Shldr Width		# of Lanes 2 # of Shldrs	А	nalysis Period 35 ML Mix		Total Lane Width 24 Total Shldr Width		# of Lanes 2 # of Shldrs	Analysis Period 35 ML Mix
	24 Width of Rounding Aggregate	2	WEARING COURSE SL Mix					WEA	RING COURSE M SL Mix					VEARING COURSE MI SL Mix
	Sealed/UTBWC	N ML Thickness	WEARING COURSE	MIXTURE	(: Sealed/UTBWC			WEA	RING COURSE M	MIXTURE (	(3,B) Sealed/UTBWC		N v ML Thickness	WEARING COURSE MI
	N ML Top Lift / joint spacing 1.5	# Dowels per Lane			N ML Top Lift / joint spacing 1.5	# D	owels per Lane				N ML Top Lift / joint spacing 1.5	# D	11 owels per Lane	
	1.5 Design Life	Shldr Thickness			1.5 Design Life	Sł	hldr Thickness				1.5 Design Life	Sł	nldr Thickness	



#### 35 - Year

Project Number	Analysis Period
6910-96	35
Highway	Discount Rate
	2.00%
Date	CLEAD ALL
Performed By	CLEAR ALL

istrict	1	- 20	14/20	015	price

		LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	Mill & Overlay	Reclaim & Overlay	20 year Conc	1.6
Net Present Cost	\$976,849.79	\$1,942,330.38	\$2,029,798.64	Miles
Segment #2				1.6
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 976,849.79	\$ 1,942,330.38	\$ 2,029,798.64	Total
% of Low Cost	100.0%	198.8%	207.8%	3.1

	E	BID ADJUSTMENT FA	CTOR SUMMARY		
	Alternate #1	Alto	ernate #2	Alternate #3	Length
egment #1	Mill & Overlay	Reclai	m & Overlay	20 year Conc	1.6
Net Present Cost	\$655,456.62	\$33	39,344.66	\$400,656.36	Miles
egment #2					1.6
Net Present Cost					Miles
egment #3					0.0
Net Present Cost					Miles
egment #4					0.0
Net Present Cost					Miles
egment #5					0.0
Net Present Cost					Miles
egment #6					0.0
Net Present Cost					Miles
egment #7					0.0
Net Present Cost					Miles
Segment #8					0.0
Net Present Cost					Miles
Project Net Present Co	ost \$ 655,	456.62	339,344.66	\$ 400,656.36	Total
Bid Adjustment Facto	r \$ 316,	111.96	<del>-</del>	\$ 61,311.70	3.1

					Seg	me	ent 1						
SEG 1	<b>Length</b> 1.56899999999996			SEG 1	<b>Length</b> 1.56899999999996					SEG 1	<b>Length</b> 1.56899999999996		
ALT		Desci	ription	ALT			Desc	riptio	on	ALT		De	escription
1		Mill & Overlay	1	2		Rec	claim & Overlay			3		20 year Conc	<b>P</b>
		IVIII & OVERAY	1			I	Saint & Overlay		1	<u> </u>		20 year cone	
	Pavement Type	-			Pavement Type	1					Pavement Type	1	
	HMA		HERE TO		HMA	1	CLICK F				PCC	-	
Ove	Primary Category rlay, DL =13 to 17 years		THIS		Primary Category 20 Year HMA	-	EDIT				Primary Category ≥12 Joint spacing	4	
	Secondary Category Urban	ALIE	RNATE	:	Secondary Category Urban		ALTE	RN	ATE		Secondary Category esign Life = 20 Years		
	ShoulderCategory Thin				ShoulderCategory Thick						ShoulderCategory PCC		
Notes:	THIII			Notes:	THICK					Notes:	PCC		
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity		Cost	Pre	s. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	3.0" Mill & Overlay	\$204,839.50	\$ 204,839.50	0	Reclaim & Overlay	\$	1,021,660.75		1,021,660.75	0	Concrete 20 year	\$ 1,038,331.6	
2			\$ -   \$ -	1 2				\$	-	1 2			\$ -
3 4	Crack Treatment	\$ 5,136.38	\$ 4,840.13 \$ -	3 4				\$ \$	-	3 4			\$ - \$ -
5			\$ -	5				\$	-	5			\$ -
6 7	Seal	\$ 13,322.39	\$ - \$ 11,597.94	6 7				\$	-	7			\$ -
8 9			\$ - \$ -	8 9	Crack Treatment	\$	2,568.19	\$ \$	2,191.93	8 9			\$ - \$ -
10			\$ -	10				\$	-	10			\$ -
12			\$ -	11 12	Seal	\$	20,716.31	\$	- 16,334.67	11 12			\$ -
13 14			\$ - \$ -	13 14				\$ \$	-	13 14			\$ - \$ -
15 16	ML Overlay 3.5"	\$ 358,088.43	\$ 266,064.98	15 16				\$	-	15 16			\$ -
17			\$ -	16 17				\$	-	17			\$ -
18 19	Crack Treatment	\$ 5,136.38	\$ 3,596.29	18 19				\$  \$	-	18 19			\$ - \$ -
20 21			\$ - \$ -	20 21	ML Mill 3.0"	\$	303,986.91	\$ \$	204,574.47	20 21	1st CPR	\$ 379,448.2	23 \$ 255,357.78
22 23	Seal	\$ 13,322.39	\$ 8,617.44 \$ -	22 23	Crack Treatment	\$	5,136.38	\$ \$	- 3,257.27	22 23			\$ - \$ -
24			\$ -	24			3,133.33	\$	-	24			\$ -
25 26			\$ -   \$ -	25 26				\$ \$	-	25 26			\$ - \$ -
27 28			\$ -	27 28	Seal	\$	13,322.39	\$	7,805.08	27 28			\$ -
29	ML Overlay 4.0"	\$ 409,410.37	\$ 230,544.02	29				\$	-	29			\$ -
30 31			\$ - \$ -	30 31				\$ \$	-	30 31			\$ - \$ -
32 33	Crack Treatment	\$ 5,136.38	\$ 2,725.54	32 33				\$ \$	-	32 33			\$ - \$ -
34	Domoining Life	¢ (220 454 74)	\$ -	34	2/47 Domeining Life		(25.702.47)	\$	- (47,000,57)	34	0/0 Remaining	<b>.</b>	\$ -
35	Remaining Life	\$ (220,451.74)	\$ (110,231.96)	35	2/17 Remaining Life	\$	(35,763.17)	\$	(17,882.57)	35	0/0 Remaining	\$ -	-
LCCA - N	et Present Cost/ per Mile		\$ 622,593.88	LCCA - N	et Present Cost/ per Mile			\$	1,237,941.61	LCCA - N	et Present Cost/ per Mile		\$ 1,293,689.38
Maintenar	nce - Net Present Cost/per M	ile	\$ 417,754.38	Maintenar	nce - Net Present Cost/per M	ile		\$	216,280.85	Maintenar	ce - Net Present Cost/per M	file	\$ 255,357.78
	ent Cost for Segment nce - Net Present Cost for Se	gment			ent Cost for Segment nce - Net Present Cost for Se	egmer	nt	\$			nt Cost for Segment ace - Net Present Cost for Se	egment	\$ 2,029,798.64 \$ 400,656.36

Total Lane Width # of Lanes Analysis Period

ML Top Lift / joint spacing # Dowels per Lane

Design Life Shldr Thickness 20 1.5

1.5

Total Larie Width # of Laries Analysis Fellod

48 4 35

Total Shidr Width # of Shidrs ML Mix

0 2 12.5 Wearing Course (3,C)

Width of Rounding Aggregate white/ >7 milliom SL Mix

N 12.5 Wearing Course (3,C)

Sealed/UTBWC ML Thickness

48 4 35
Total Shldr Width # of Shldrs ML Mix

Width of Rounding Aggregate white/ >7 milliom SL Mix

0 2

Sealed/UTBWC ML Thickness

ML Top Lift / joint spacing # Dowels per Lane
12 11

Design Life Shldr Thickness

Υ

Total Lane Width # of Lanes Analysis Period

ML Top Lift / joint spacing # Dowels per Lane

Design Life Shldr Thickness
15 1.5

1.5

Total Lane Width # of Lanes Analysis Period

48 4 35

Total Shldr Width # of Shldrs ML Mix

0 2 12.5 Wearing Course (3,C)

Width of Rounding Aggregate white/ >7 milliom SL Mix

N 12.5 Wearing Course (3,C)

Sealed/UTBWC ML Thickness





Project Number	Analysis Period
6917-142	35
Highway	Discount Rate
	1.74%
Date	
	CLEAR ALL
	CLEAN ALL
Performed By	

#### District 1 - 2015/2016 prices

Preliminary, segment limits need to be tied down.

			LCCA SU	MMARY					
	Al	ternate #1		Alternate #2	2	А	lternate #3	3	Length
Segment #1		M&0		New HMA			PCC		2.7
Net Present Cost	\$1,	,757,394.83	\$	2,805,312.6	2	\$2	,773,255.2	.3	Miles
Segment #2									3.6
Net Present Cost									Miles
Segment #3									0.0
Net Present Cost									Miles
Segment #4									0.0
Net Present Cost									Miles
Segment #5									0.0
Net Present Cost									Miles
Segment #6									0.0
Net Present Cost									Miles
Segment #7									0.0
Net Present Cost									Miles
Segment #8									0.0
Net Present Cost									Miles
Project Net Present Co	ost	\$ 1,757,394.83		\$	2,805,312.62		\$	2,773,255.23	Total
% of Low Cost		100.09	6		159.6%			157.8%	6.2

		BID ADJUSTN	MENT FACTOR	SUMMARY			
	Alternate #1		Alternate	‡2	Alternate #	<b>‡</b> 3	Length
Segment #1	M&O		New HMA	A	PCC		2.7
Net Present Cost	\$707,581.43		\$488,232.1	12	\$509,503.3	13	Miles
Segment #2							3.6
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Cost	\$ 7	07,581.43	\$	488,232.12	\$	509,503.33	Total
Bid Adjustment Factor	\$ 2	19,349.31	\$	-	\$	21,271.21	6.2

					Seg	me	nt 1								
SEG	Length			SEG	Length					SEG	Length				
1	2.65			1	2.65					1	2.65				
ALT		Desc	ription	ALT			Desci	ription	1	ALT			Desc	ription	
1		M&O		2		New	НМА			3		PCC			
	Pavement Type				Pavement Type						Pavement Type				
	HMA		IEDE TO		HMA		01.1017.1	. – -			PCC	1			
	Primary Category		HERE TO		Primary Category		CLICK F				Primary Category				
	rlay, DL =13 to 17 years		THIS RNATE		20 Year HMA		EDIT ALTER				≥12 Joint spacing				
	Secondary Category Rural				Secondary Category Rural	1	/\L   L	X1 <b>4</b> /	``'-	D	Secondary Category Design Life = 20 Years	1			
	ShoulderCategory Bituminous				ShoulderCategory Bituminous						ShoulderCategory Thin Bit	-			
otes:	Mill 2in and OL 5in.			Notes:	Subcut 30in. Place 6in. HMA	4- 5in. (	Cl5 - 19in. Sel G	ran.		Notes:	Subcut 24in 7in. PCC - 5ir	n. CL6			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity		Cost	Pres	. Cost/per Mile	Year	Activity	Co	ost	Pres.	Cost/per Mile
0	Mill 2 & OL	\$ 396,156.00		0	R&R	\$	874,370.00		874,370.00	0	PCC 20 yr.		54,246.00	\$	854,246.00
1 2			\$ -	1 2				\$	-	1 2				\$	-
3 4	Crack Treatment	\$ 2,112.00	\$ 2,005.48 \$ -	3 4				\$ \$	-	3 4				\$	-
5 6				5				\$	-	5				\$	-
6 7	Seal	\$ 8,116.17	\$ 7,192.99				, and the second	\$	-	6 7				\$	-
8 9			\$ - \$ -	8 9	Crack Treatment	\$	1,056.00	\$ \$	919.88	8 9				\$	-
10 11			\$ - \$ -	10 11				\$ \$	-	10 11				\$	-
12 13			\$ - \$ -	12	Seal	\$	11,923.74	\$	9,694.19	12 13				\$ \$	-
14			\$ -	14				\$	-	14				\$	-
15 16	ML Overlay 3.5"	\$ 230,166.49	\$ 177,691.28 \$ -	15 16				\$ \$	-	15 16				\$	-
17 18	Crack Treatment	\$ 2,112.00	\$ - \$ 1,548.26	17 18				\$ \$	-	17 18				\$	-
19 20			\$ -	19 20	ML Overlay 4	\$	259,531.16	\$	- 183,803.95	19 20	1st CPR	\$ 27	71,478.73	\$	- 192,265.41
21	Seal	¢ 0.116.17	\$ -	21	IVIL Overlay 4	J	239,331.10	\$	-	21	ISCOPIC	φ 2	71,470.73	\$	-
22 23	Seal	\$ 8,116.17	\$ 5,553.07 \$ -	23	Crack Treatment	\$	2,112.00	\$	1,420.31	22 23				\$ \$	-
24 25			\$ - \$ -	24 25				\$ \$	-	24 25				\$	-
26 27			\$ - \$ -	26 27	Seal	\$	8,116.17	\$	- 5,094.18	26 27				\$ \$	-
28	MI O ada 0.5"	000 400 40	\$ -	28	- Cour		0,110.17	\$	-	28				\$	-
29 30	ML Overlay 3.5"	\$ 230,166.49	\$ 139,566.71 \$ -	29 30				\$	-	29 30				\$	-
31 32	Crack Treatment	\$ 2,112.00	\$ - \$ 1,216.07	31 32				\$ \$	-	31 32				\$	-
33 34			\$ - \$ -	33 34				\$ \$	-	33 34				\$	- -
35	Remaining Life	\$ (123,935.80)	(67,761.99)	35	2/17 Remaining Life	\$	(30,533.08)	\$	(16,693.98)	35	0/0 Remaining	\$	-	\$	-
	et Present Cost/ per Mile nce - Net Present Cost/per M	/iie			et Present Cost/ per Mile	tiie e		\$			et Present Cost/ per Mile nce - Net Present Cost/per M	ile		\$	1,046,511.41 192,265.41
let Prese	ent Cost for Segment		\$ 1,757,394.83	Net Prese	ent Cost for Segment			\$	2,805,312.62	Net Prese	ent Cost for Segment			\$	2,773,255.23
	nce - Net Present Cost for Set Annual Cost	egment			nce - Net Present Cost for Se t Annual Cost	egment	t	\$			nce - Net Present Cost for Se t Annual Cost	gment		\$	509,503.33 106,463.79
_	Total Lane Width	# of Lanes	Analysis Period		Total Lane Width		# of Lanes	Ar	nalysis Period		Total Lane Width	# of L	_anes	An	alysis Period
	24 Total Shldr Width	2 # of Shldrs	35 ML Mix		24 Total Shldr Width		2 # of Shldrs		35 ML Mix		27 Total Shldr Width	# of S	2 Shldrs		35 ML Mix
	11 Width of Rounding Aggregation		VEARING COURSE N	·	Width of Rounding Aggregat	te wh	ite/ >7 milliom		ING COURSE M	,	Width of Rounding Aggregat	e white/ >7			SL Mix
	1.5 Sealed/UTBWC	N ML Thickness	WEARING COURSE	MIXTURE (	Sealed/UTBWC	N	N IL Thickness	WEAR	RING COURSE N	MIXTURE (	(3,C) Sealed/UTBWC	ML Thi		WEAR	ING COURSE N
	N ML Top Lift / joint spacing	# Dowels per Lane			N ML Top Lift / joint spacing	# D	owels per Lane				N ML Top Lift / joint spacing		-		
	ML Top Lift / joint spacing	# Dowels per Lane			ML Top Lift / joint spacing	# D	owels per Lane				ML Top Lift / joint spacing 15	# Dowels	-		





Project Number	Analysis Period
SP 6947-50	35
Highway	Discount Rate
TH 37	1.58%
Date	
	OLEAD ALL
8/18/2016	CLEAR ALL
Performed By	
Amy Thorson	

D1 - 2016/2017 prices			

LCCA SUMMARY											
	Alternate #1	Alternate #2	Alternate #3	Length							
Segment #1	3" Mill, 3" Overlay	20 Year HMA	PCC	19.0							
Net Present Cost	\$7,219,370.54	\$11,204,828.97	\$13,990,690.82	Miles							
Segment #2				0.0							
Net Present Cost				Miles							
Segment #3				0.0							
Net Present Cost				Miles							
Segment #4				0.0							
Net Present Cost				Miles							
Segment #5				0.0							
Net Present Cost				Miles							
Segment #6				0.0							
Net Present Cost				Miles							
Segment #7				0.0							
Net Present Cost				Miles							
Segment #8				0.0							
Net Present Cost				Miles							
Project Net Present Cost	\$ 7,219,370.54	\$ 11,204,828.97	\$ 13,990,690.82	Total							
% of Low Cost	100.0%	155.2%	193.8%	19.0							

	BID AI	DJUSTMENT FACTOR SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" Mill, 3" Overlay	20 Year HMA	PCC	19.0
Net Present Cost	\$4,584,792.54	\$3,198,532.97	\$3,574,016.82	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present C	ost \$ 4,584,792.54	\$ 3,198,532.97	\$ 3,574,016.82	Total
Bid Adjustment Facto	r \$ 1,386,259.57	\$ -	\$ 375,483.85	19.0

					Seg	me	nt 1								
SEG	Length			SEG	Length					SEG	Length				
1	19			1	19					1	19				
ALT		Descr	ription	ALT		_	Desc	ription		ALT			Desc	ription	
1		3" Mill, 3" Overlay		2		20 Y	ear HMA			3		PCC			
	Pavement Type				Pavement Type						Pavement Type				
	НМА		IERE TO		НМА		CLICK F				PCC				
	Primary Category		THIS		Primary Category		EDIT				Primary Category				
	lay, DL =13 to 17 years econdary Category	ALIE	RNATE	:	20 Year HMA Secondary Category	-	ALTER	KINA		:	≥12 Joint spacing Secondary Category				
	Rural ShoulderCategory	DEI	ETE 1		Rural ShoulderCategory		DEL	ETE		D	esign Life = 20 Years ShoulderCategory				
otes:	Bituminous	DLL	LIL	Notes:	Bituminous	<b>)</b> ——	DLL			Notes:	Thick Bit				
<b>Year</b>	Activity	Cost/per Mile \$ 138,662.00	Pres. Cost/per Mile \$ 138,662.00		Activity	\$	Cost 421,384.00		ost/per Mile 421,384.00	<b>Year</b>	Activity	\$	Cost 548,246.00		Cost/per Mile 548,246.00
1		100,002.00	\$ -	1		<b>V</b>	121,004.00	\$		1			0.0,270.00	\$	-
2 3	Crack Treatment	\$ 2,112.00	\$ - \$ 2,014.97	2				\$ \$	-	2 3				\$ \$	-
4 5	-		\$ -	4 5				\$ \$	- -	4 5				\$ \$	-
6	Cast	¢ 44.007.40	\$ -	6				\$	-	6				\$	-
8	Seal	\$ 11,227.46	\$ 10,060.60	8	Crack Treatment	\$	1,056.00	\$	931.53	8				\$	-
9			\$ - \$ -	9 10				\$ \$	-	9 10				\$ \$	-
11 12			\$ - \$ -	11 12	Seal	\$	15,838.87	\$ \$	- 13,122.78	11 12				\$ \$	-
13 14			\$ - \$ -	13 14				\$ \$	-	13 14				\$ \$	-
15	ML Overlay 3.5"	\$ 196,042.93	\$ 154,963.02 \$ -	15				\$	-	15				\$	-
16 17	<b>2</b> . –		\$ - \$ -	16 17				\$	-	16 17				\$	-
18 19	Crack Treatment	\$ 2,112.00	\$ 1,592.74 \$ -	18 19				\$ \$	-	18 19				<b>\$</b> <b>\$</b>	-
20 21			\$ - \$ -	20 21	ML Overlay 4	\$	219,436.90	\$ \$	160,378.26 -	20 21	1st CPR	\$	257,375.48	\$ \$	188,106.15 -
22 23	Seal	\$ 11,227.46	\$ 7,952.45 \$ -	22 23	Crack Treatment	\$	2,112.00	\$ \$	- 1,472.67	22 23				\$ \$	-
24 25			\$ - \$ -	24 25				\$	-	24 25				\$	-
26			\$ -	26	Seal	\$	44 007 40	\$	-	26				\$	-
27 28			\$ -	27 28	Seal	•	11,227.46	\$	7,352.92	27 28				\$	-
29 30	ML Overlay 3.5"	\$ 196,042.93	\$ 124,426.58 \$ -	29 30				\$ \$	-	29 30				\$ \$	-
31 32	Crack Treatment	\$ 2,112.00	\$ - \$ 1,278.88	31 32				\$ \$	-	31 32				\$ \$	-
33 34			\$ - \$ -	33 34				\$ \$	-	33 34				\$ \$	-
35	Remaining Life	\$ (105,561.58)	\$ (60,984.38)		2/17 Remaining Life	\$	(25,816.11)	\$	(14,914.32)		0/0 Remaining	\$	-	\$	-
/laintenan let Presei	et Present Cost/ per Mile ce - Net Present Cost/per M nt Cost for Segment		\$ 241,304.87 \$ 7,219,370.54	Maintenar Net Prese	et Present Cost/ per Mile nce - Net Present Cost/per Ment Cost for Segment				168,343.84 1,204,828.97	Maintenar Net Prese	et Present Cost/ per Mile nce - Net Present Cost/per Nent Cost for Segment				736,352.15 188,106.15 13,990,690.82
	ce - Net Present Cost for Se Annual Cost	egment	\$ 4,584,792.54	Maintenar	nce - Net Present Cost for Set t Annual Cost	egmen	t		3,198,532.97	Maintenar	nce - Net Present Cost for S t Annual Cost	egment		\$	3,574,016.82 523,466.99
	Total Lane Width 24	# of Lanes	Analysis Period 35		Total Lane Width 24		# of Lanes		ysis Period 35	, , , , , ,	Total Lane Width 26		# of Lanes 2		alysis Period 35
Ì	Total Shldr Width 16 Width of Rounding Aggregat 0 Sealed/UTBWC N	te white/ >7 milliom  N  ML Thickness 3	ML Mix VEARING COURSE N SL Mix VEARING COURSE N	•	Width of Rounding Aggregated 1.5 Sealed/UTBWC N	te wh	nite/ >7 milliom N //L Thickness 6	VEARING S	ML Mix G COURSE M SL Mix G COURSE M	,	Width of Rounding Aggrega 1.5 Sealed/UTBWC N	te whi	L Thickness 6	VEARIN	ML Mix SL Mix NG COURSE M
	ML Top Lift / joint spacing 1.5	# Dowels per Lane			ML Top Lift / joint spacing 2		owels per Lane				ML Top Lift / joint spacing 15		wels per Lane 11		

35-Y	ear Analysis Period	35 - Year	50-Year Analysis Period	r
<i>L</i>	Project Number	Analysis Peri	riod	alysis Period
	7318-39 Highway	35 Discount Ra	ate	

Project Number	Analysis Period
7318-39	35
Highway	Discount Rate
US71	2.00%
Date	
1/15/2015	CLEAR ALL
Performed By	CLEAR ALL
Eric Schiller	

<u> </u>
District 3 - 2014/2015 prices

	LCCA	SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1 Net Present Cost	HMA: 2" Mill & 3.5" Overlay Full Width \$9,965,340.10	HMA20: FDR, Mill 4" Full Width, \$12,644,469.59	PCC20: 4.0" Whitetopping, Mill 4" \$11,355,579.59	19.0 Miles
Segment #2 Net Present Cost				0.0 Miles
Segment #3 Net Present Cost				0.0 Miles
Segment #4 Net Present Cost				0.0 Miles
Segment #5 Net Present Cost				0.0 Miles
Segment #6 Net Present Cost				0.0 Miles
Segment #7 Net Present Cost				0.0 Miles
Segment #8 Net Present Cost				0.0 Miles
Project Net Present Cost	\$ 9,965,340.10	\$ 12,644,469.59	\$ 11,355,579.59	Total
% of Low Cost	100.0%	126.9%	114.0%	19.0

	BID ADJUSTMEN	T FACTOR SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1 Net Present Cost	HMA: 2" Mill & 3.5" Overlay Full Width \$5,062,283.88	HMA20: FDR, Mill 4" Full Width, \$3,318,427.33	PCC20: 4.0" Whitetopping, Mill 4" \$5,872,191.45	19.0 Miles
Segment #2 Net Present Cost				0.0 Miles
Segment #3 Net Present Cost				0.0 Miles
Segment #4 Net Present Cost				0.0 Miles
Segment #5 Net Present Cost				0.0 Miles
Segment #6 Net Present Cost				0.0 Miles
Segment #7 Net Present Cost				0.0 Miles
Segment #8 Net Present Cost				0.0 Miles
Project Net Present Cost	\$ 5,062,283.88	\$ 3,318,427.33	\$ 5,872,191.45	Total
Bid Adjustment Factor	\$ 1,743,856.55	- \$	\$ 2,553,764.12	19.0

SEG	Length			SEG	Length			SEG	Length		
1 ALT	19	Γ	Description	1 ALT	19		Description	1 ALT	19		Description
1		HMA: 2" Mill & 3.5" Ov		2			ull Width, Pave 6.5" ML & 4" Shld with	3			ng, Mill 4" Full Width, Pave 4" Shld
	ent Type				Pavement Type			Pav	vement Type		
	MA Category	CLICK	HERE TO		HMA Primary Category	CLICK	HERE TO	Prim	PCC nary Category	-	
Overlay, DL =	=13 to 17 years				20 Year HMA			6'X6' s	≤ 5.0" Thickness		
	y Category		T THIS		Secondary Category		THIS		ndary Category		
	ural r <b>Category</b>	ALIE	RNATE		Rural ShoulderCategory	ALTE	RNATE		Life = 20 Years  ulderCategory	-	
	ninous				Bituminous				Thick Bit		
Notes:				Notes:				Notes:			
Year	Activity	Cost/per Mile	Pres. Cost/per Mile X	X Year	Activity	Cost	Pres. Cost/per Mile X	X Year	Activity	Cost	Pres. Cost/per Mile
0	2" Mill & 3.5" Overlay Full Width	h \$ 258,055.59	\$ 258,055.59	0	FDR, Mill 4" Full Width, Pave 6.5" ML & 4" Shld with 2.5" Agg B	Sase \$ 490,844.33	\$ 490,844.33	0	4.0" Whitetopping, Mill 4" Full Width, Pave 4" Shld	\$ 288,599.38 \$	288,599.38
1			-	1			-	1			-
3	Crack Treatment	\$ 2,568.19	\$ 2,420.06	3			\$ -	3			-
4			\$	4			\$ -	4		\$	-
5			\$ ¢	5			-	5		\$	-
6 7	Seal	\$ 7,722.11	\$ 6,722.57	6 7			\$ -	6 7			-
8	Scui	Ψ 7,722.11	\$ -	8	Crack Treatment	\$ 1,284.10	\$ 1,095.96	8		\$	-
9			-	9			-	9		\$	-
10			\$ - ¢	10			- ¢	10		3	-
12			\$ - \$ -	12	Seal	\$ 11,886.07	\$ 9,372.09	12			-
13			-	13			-	13		\$	-
14	ML Overlay 3.5"	\$ 208,152.37	¢	14			-	14		\$	-
16			\$ - \$ -	16			\$ - -	15		3	- -
17	Crack Treatment	\$ 2,568.19	\$ 1,834.11	17			\$ -	17		\$	-
18			-	18			-	18		\$	-
19			\$ - \$ -	19	ML Overlay 4	\$ 257,322.63	\$ - \$ 173,170.75	19	1st CPR	\$ 390,267.57 \$	- 262,638.89
21	Seal	\$ 7,722.11	*	21	ivil Overlay 4	\$ 237,322.03	\$ -	20 21	1St Cl IX	\$ 370,207.37	202,030.07
22	oou.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	\$ -	22			\$ -	22		\$	-
23			-	23	Crack Treatment	\$ 2,568.19	\$ 1,628.63	23		\$	-
24			\$ - \$ -	24			\$ \$	24			-
26			\$ -	26			\$ -	26			- -
27	ML Overlay 4.0"	\$ 208,152.37	\$ 121,948.57	27	Seal	\$ 7,722.11	\$ 4,524.09	27		\$	-
28			-	28			-	28		\$	-
29	Crack Treatment	\$ 2,568.19	\$ 1,417.82	29			\$ - ¢	29	Remove and Replace	\$ 375,975.07 \$	207,564.89
31	Clack Healineil	2,500.19	\$ 1,417.02	31			\$ -	30	Keniove and Replace	\$ 373,973.07 \$	207,304.09
32			\$ -	32			-	32		\$	-
33	Cool	ф 7.700.11	- 2,020,50	33			-	33		\$	-
34	Seal Remaining Life	\$ 7,722.11 \$ (69,384.12)	\$ 3,938.50 \$ (34,693.98)	34	2/17 Remaining Life	\$ (30,273.25)	\$ (15,137.46)	34	30/35 Remaining	\$ (322,264.34) \$	(161,141.07)
		(33,733.112,	(0.1/2.00.0)	**		(33,233.23)	(15)1111			(==,==, )	(,
LCCA - Net Present Cost/ per Mile  Maintenance - Net Present Cost/per Mile			\$ 524,491.58 \$ 266,435.99	LCCA - Net Present Cost/ per Mile  Maintenance - Net Present Cost/per Mile			\$ 665,498.40 \$ 174,654.07	LCCA - Net Present Cost/ per Mile  Maintenance - Net Present Cost/per Mile		\$	597,662.08 309,062.71
Net Present Cost for Segment			\$ 9,965,340.10	Net Present Cost for Segment			\$ 174,654.07	Net Present Cost for Segment		\$	309,002.71 11.355.579.59
Maintenance - Net Present Cost for Segme	ent		\$ 5,062,283.88	Maintenance - Net Present Cost for Segment			\$ 3,318,427.33	Maintenance - Net Present Cost for Segment		\$	11,355,579.59 5,872,191.45
	Total Lane Width	# of Lanes	Analysis Period	T	Total Lane Width	# of Lanes	Analysis Period	T	Total Lane Width	# of Lanes	Analysis Period
	24	2	35		24	2	35		24	2	35
	Total Shldr Width 12	# of Shldrs	ML Mix SP 12.5 Wearing Course (4,B)		Total Shldr Width 12	# of Shldrs	ML Mix TYPE SP 9.5 Wearing Course (3,F)		Total Shldr Width 12	# of Shldrs	ML Mix
	Width of Rounding Aggregate		SL Mix		Width of Rounding Aggregate	white/ >7 milliom	SL Mix		Width of Rounding Aggregate	white/ >7 milliom	SL Mix
	3.0	N	SP 12.5 Wearing Course (4,B)		3	N	TYPE SP 9.5 Wearing Course (2,A)		3	Υ	TYPE SP 9.5 Wearing Course (2,A)
	Sealed/UTBWC	ML Thickness			Sealed/UTBWC	ML Thickness			Sealed/UTBWC	ML Thickness	
	ML Top Lift / joint spacing	# Dowels per Lane			ML Top Lift / joint spacing	# Dowels per Lane			ML Top Lift / joint spacing	# Dowels per Lane	
	1.5				2				6	0	
	Design Life 14	Shldr Thickness 5.5			Design Life 20	Shldr Thickness 4			Design Life	Shldr Thickness 4	
	14	J.J			۷۵	7				7	





Project Number	Analysis Period
7323-12	50
Highway	Discount Rate
	1.74%
Date	
	CLEAR ALL
Performed By	

2016 prices				

			LCCA SUI	MMARY			
	Alt	ernate #1	Α	lternate #2	А	Iternate #3	Length
Segment #1	FDR w/4"	HMA ML & Shld.	FDR w/6"	PCC ML & PCC Shld	FDR w/6"	PCC ML & Bit Shld.	14.3
Net Present Cost	\$8,3	259,839.39	\$1	1,834,083.00	\$8	,749,127.00	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Co	st	\$ 8,259,839.39		\$ 11,834,083.00		\$ 8,749,127.00	Total
% of Low Cost		100.0%		143.3	%	105.9%	14.3

		BID ADJU	JSTMENT FACTO	R SUMMARY			
	Alternat	e #1	Alterna	te #2	Alternat	te #3	Length
Segment #1	FDR w/4" HMA	ML & Shld.	FDR w/6" PCC M	IL & PCC Shld	FDR w/6" PCC M	1L & Bit Shld.	14.3
Net Present Cost	\$4,264,30	05.55	\$5,702,7	12.20	\$2,959,3	37.00	Miles
Segment #2							0.0
Net Present Cost							Miles
Segment #3							0.0
Net Present Cost							Miles
Segment #4							0.0
Net Present Cost							Miles
Segment #5							0.0
Net Present Cost							Miles
Segment #6							0.0
Net Present Cost							Miles
Segment #7							0.0
Net Present Cost							Miles
Segment #8							0.0
Net Present Cost							Miles
Project Net Present Co	ost \$	4,264,305.55	\$	5,702,712.20	\$	2,959,337.00	Total
Bid Adjustment Factor	\$	1,304,968.55	\$	2,743,375.20	\$	-	14.3

					Seg	mer	nt 1					
SEG	Length			SEG	Length				SEG	Length		
1	14.267			1	14.267				1	14.267		
ALT		Desc	ription	ALT			Desci	iption	ALT		Desc	cription
1		FDR w/4" HMA ML	& Shld.	2		FDR v	w/6" PCC ML &	PCC Shld	3		FDR w/6" PCC ML 8	Bit Shld.
	Pavement Type				Pavement Type					Pavement Type		
	НМА	CLICK F	HERE TO		PCC	(	CLICK F	IERE TO		PCC		
	Primary Category		THIS		Primary Category			THIS		Primary Category		
9	20 Year HMA Secondary Category	ALTE	RNATE		≥12 Joint spacing Secondary Category	1		RNATE		≥12 Joint spacing Secondary Category	1	
	Rural ShoulderCategory	1			Design Life = 20 Years ShoulderCategory	1				Design Life 35 Years ShoulderCategory	-	
otes:	Bituminous	/		Notes:	PCC				Notes:	Thin Bit		
Year	Activity		Pres. Cost/per Mile		Activity		Cost	Pres. Cost/per Mile		Activity	Cost	Pres. Cost/per Mile
0	FDR w/4" HMA	\$ 280,054.24	\$ 280,054.24 \$ -	0	FDR w/ 6" PCC ML & Shid	\$	429,758.94	\$ 429,758.94 \$ -	0	FDR w/6" PCC ML & Bit Shlo	d \$ 405,816.92	\$ 405,816.92 \$ -
2			\$ -	2				\$ -	2			
3 4			\$ -	3 4				\$ - \$	3 4			\$ -
5 6			\$ - \$ -	5 6				\$ - \$ -	5 6			\$ - \$ -
7	Crack Treatment	\$ 1,056.00	\$ - \$ 919.88	7				\$ -	7			\$ -
9	CIACK HEAUHENL	Ψ 1,050.00	\$ -	9				\$ -	9			\$ -
10 11			\$ -   \$ -	10 11				\$ - \$ -	10 11			\$ - \$ -
12 13	Seal	\$ 11,292.23	\$ 9,180.77	12 13				\$ - \$ -	12 13			\$ - \$ -
14			\$ -	14				\$ -	14			\$ -
15 16			\$ -	15 16				\$ - \$ -	15 16			\$ -
17 18			\$ - \$ -	17 18				\$ - \$ -	17 18			\$ - \$ -
19	MI Overlov 4	¢ 255.452.24	\$ -	19	1 ot CDD	•	247.077.00	\$ -	19	1ot CDD	¢ 160.750.01	\$ -
20	ML Overlay 4	\$ 255,153.24	\$ 180,703.44 \$ -	21	1st CPR	\$	217,077.08	\$ 153,737.32 \$ -	21	1st CPR	\$ 162,752.21	\$ 115,263.61 \$ -
22 23	Crack Treatment	\$ 2,112.00	\$ 1,420.31	22 23				\$ - \$ -	22 23			\$ - \$ -
24 25			\$ - \$ -	24 25				\$ - \$ -	24 25			\$ -
26			\$ -	26				\$ -	26			\$ -
27 28	Seal	\$ 7,634.64	\$ 4,791.94 \$ -	27 28				\$ - \$ -	27 28			\$ -
29 30			\$ - \$ -	29 30				\$ - \$ -	29 30			\$ - \$ -
31			\$ -	31				\$ -	31			\$ -
32 33			\$ -	32 33				\$ -	32 33			\$ -
34 35			\$ - \$ -	34 35	Remove and Replace	\$	557,483.15	\$ - \$ 304,804.30	34 35	2nd CPR	\$ 168,562.58	\$ - \$ 92,161.71
36 37	ML Overlay 3.5"	\$ 226,731.50	\$ - \$ 119,761.64	36				\$ - \$ -	36 37			\$ - \$ -
38	2.3, 3.0		\$ -	38				\$ -	38			\$ -
39 40	Crack Treatment	\$ 2,112.00	\$ - \$ 1,059.31	39 40				\$ -	39 40			\$ -
41 42			\$ - \$ -	41 42				\$ - \$ -	41 42			\$ - \$ -
43 44	Chip Seal	\$ 7,634.64	\$ - \$ 3,573.98	43				\$ - \$	43			\$ -
45	Griip Seal	ψ 1,054.04	\$ -	45				\$ -	44 45			\$ -
46 47			\$ -	46 47				\$ -	46 47			\$ -
48 49			\$ -   \$ -	48 49				\$ - \$ -	48 49			\$ -   \$ -
50	4/17 Remaining Life	\$ (53,348.59)		50	5/20 Remaining	\$	(139,370.79)		50	0/0 Remaining	\$ -	\$ -
aintenan	et Present Cost/ per Mile nce - Net Present Cost/per M	ile	\$ 298,892.94	Maintena	let Present Cost/ per Mile nce - Net Present Cost/per M	lile		\$ 399,713.48	Maintena	Net Present Cost/ per Mile unce - Net Present Cost/per Mi	ile	\$ 613,242.24 \$ 207,425.32
	ent Cost for Segment ace - Net Present Cost for Se	egment			ent Cost for Segment nce - Net Present Cost for Se	egment				ent Cost for Segment ince - Net Present Cost for Se	gment	\$ 8,749,127.00 \$ 2,959,337.00
					nt Annual Cost					nt Annual Cost		263,426.71
	Total Lane Width 24	# of Lanes 2	Analysis Period 50		Total Lane Width 26	‡	# of Lanes 2	Analysis Period 50		Total Lane Width 26	# of Lanes 2	Analysis Period 50
	Total Shidr Width # of Shidrs ML Mix 4 2 VEARING COURSE M		     XTURE (	Total Shldr Width	#	# of Shldrs	ML Mix	1	Total Shldr Width	# of Shldrs	ML Mix	
	Width of Rounding Aggregat 1.5	e white/ >7 milliom	SL Mix VEARING COURSE N	<b>.</b>	Width of Rounding Aggregat	te whit	te/ >7 milliom	SL Mix	1	Width of Rounding Aggregate 1.5	e white/ >7 milliom	SL Mix WEARING COURSE
	Sealed/UTBWC N	ML Thickness			Sealed/UTBWC Y	MI	L Thickness 6			Sealed/UTBWC Y	ML Thickness 6	
ML Top Lift / joint spacing # Dowels per Lane					ML Top Lift / joint spacing 12		owels per Lane 11			ML Top Lift / joint spacing 12	# Dowels per Lane 11	
	Docian Life	Shidr Thickness		_	Docian Life		dr Thicknooc		-	Docian Life	Shidr Thickness	





Project Number	Analysis Period
7380-239	50
Highway	Discount Rate
94	2.00%
Date	
	01545 411
2/23/2015	CLEAR ALL
Performed By	
Scott Zeidler	

LCCA SUMMARY										
	Alternate #1	Alternate #2	Alternate #3	Length						
Segment #1				4.5						
Net Present Cost	\$6,041,068.95	\$4,318,977.40	\$3,730,836.66	Miles						
Segment #2				0.0						
Net Present Cost				Miles						
Segment #3				0.0						
Net Present Cost				Miles						
Segment #4				0.0						
Net Present Cost				Miles						
Segment #5				0.0						
Net Present Cost				Miles						
Segment #6				0.0						
Net Present Cost				Miles						
Segment #7				0.0						
Net Present Cost				Miles						
Segment #8				0.0						
Net Present Cost				Miles						
Project Net Present Cost	\$ 6,041,068.95	\$ 4,318,977.40	\$ 3,730,836.66	Total						
% of Low Cost	161.9%	115.8%	100.0%	4.5						

BID ADJUSTMENT FACTOR SUMMARY								
	Alternate #1	Alternate #2	Alternate #3	Length				
Segment #1				4.5				
Net Present Cost	\$1,213,481.77	\$1,639,607.53	\$907,211.30	Miles				
Segment #2				0.0				
Net Present Cost				Miles				
Segment #3				0.0				
Net Present Cost				Miles				
Segment #4				0.0				
Net Present Cost				Miles				
Segment #5				0.0				
Net Present Cost				Miles				
Segment #6				0.0				
Net Present Cost				Miles				
Segment #7				0.0				
Net Present Cost				Miles				
Segment #8				0.0				
Net Present Cost				Miles				
Project Net Present Cost	\$ 1,213,481	.77 \$ 1,639,6	507.53 \$ 907	,211.30 Total				
Bid Adjustment Factor	\$ 306,270	.47 \$ 732,3	\$96.24 \$	- 4.5				

	Segment 1														
SEG	Length					SEG	Length					SEG	Length		
1	4.486					1	4.486					1	4.486		
ALT			Descr	ription		ALT			Desc	riptio	n	ALT		Desc	ription
1						2						3			
_	Down and Town				1	_	Danis and Town				1		Davis and Town		
	Pavement Type						Pavement Type	1					Pavement Type		
	HMA		CLICK H				PCC	1	CLICK F				PCC	<u> </u> 	
	Primary Category 20 Year HMA		EDIT				Primary Category ≥12 Joint spacing	1	EDIT				Primary Category ≥12 Joint spacing		
S	econdary Category Rural		ALTEF	₹NA	IE		Secondary Category esign Life = 20 Years	1	ALTEI	RN	ATE		Secondary Category Design Life 35 Years		
	ShoulderCategory						ShoulderCategory	1					ShoulderCategory		
Notes:	Bituminous					Notes:	Thick Bit					Notes:	Thick Bit		
Year	Activity		Cost/per Mile	Pres. Co	ost/per Mile	Year	Activity		Cost	Pre	s. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mil
0	9.5" Bit, 14" Agg, 15" Sel		1,076,145.16		1,076,145.16	0	8.0" UBCO	\$	597,273.71		597,273.71	0	8.5" UBCO	\$ 629,430.53	\$ 629,430.5
1 2				\$   \$	-	1 2				\$   \$	-	1 2			\$ - \$ -
3				\$	-	3 4				\$	-	3			\$ -
5				\$	-	5				\$	-	5			\$ -
6 7				\$ \$	-	6 7				\$ \$	-	6 7			\$ - \$ -
8 9	Crack Treatment	\$	1,498.11	\$	1,278.62	8 9				\$	-	8 9			\$ -
10				\$	-	10				\$	-	10			\$ -
11 12	Seal	\$	4,781.29	\$ \$	- 3,770.01	11 12				\$ \$	-	11 12			\$ - \$ -
13 14				\$ \$	-	13 14				\$	-	13 14			\$ - \$ -
15				\$	-	15				\$	-	15			\$ -
16 17				\$ \$	-	16 17				\$ \$	-	16 17			\$ -
18 19				\$ \$	-	18 19				\$ \$	-	18 19			\$ - \$ -
20	ML Overlay 4	\$	257,084.36	\$	173,010.40	20	1st CPR	\$	235,678.26	\$	158,604.71	20	1st CPR	\$ 167,760.43	\$ 112,897.9
21 22 23	Crack Treatment	\$	2,996.22	\$ \$	- - 1,900.07	21 22 23				\$	-	21 22 23			\$ -
24	Clack Treatment	Ψ	2,990.22	\$	-	24				\$	-	24			\$ -
25 26				\$	-	25 26				\$	-	25 26			\$ -
27	Seal	\$	-	\$	-	27				\$	-	27			\$ -
28 29				\$	-	28 29				\$	-	28 29			\$ -
30 31				\$ \$	-	30 31				\$ \$	-	30 31			\$ - \$ -
32				\$	-	32				\$	-	32			\$ -
33 34				\$	-	33 34				\$	-	33 34			\$ -
35 36				\$ \$	-	35 36	Remove and Replace	\$	508,146.45	\$ \$	254,087.26	35 36	2nd CPR	\$ 178,657.57	\$ 89,333.7 \$ -
37 38	ML Overlay 3.5"	\$	226,830.59	\$	109,017.26	37 38				\$	-	37 38			- \$
39				\$	-	39				\$	-	39			\$ -
40 41	Crack Treatment	\$	2,996.22	\$ \$	1,356.96 -	40 41				\$ \$	-	40 41			\$ -
42 43				\$ \$	-	42 43				\$ \$	-	42 43			\$ - \$ -
44	Chip Seal	\$	-	\$	-	44 45				\$	-	44			\$ -
45 46				\$	-	46				\$	-	45 46			\$ -
47 48				\$ \$	-	47 48				\$ \$	-	47 48			\$ - \$ -
49 50	1/17 Domoining 1 1/2-	r	/E2 274 00\\	\$	(10.000.45)	49 50	5/20 Domoining	¢.	(407,000,04)	\$	- (47 407 04)	49 50	0/0 Pomoinina	<b>C</b>	\$ -
	4/17 Remaining Life et Present Cost/ per Mile	\$	(53,371.90)	\$ 1		LCCA - N	5/20 Remaining et Present Cost/ per Mile	\$	(127,036.61)	\$			0/0 Remaining et Present Cost/ per Mile	-	\$ - \$ 831,662.2
	ce - Net Present Cost/per Milent Cost for Segment	е		\$ 6			nce - Net Present Cost/per Mont Cost for Segment	ile		\$			nce - Net Present Cost/per Mi ent Cost for Segment	le	\$ 202,231.6 \$ 3,730,836.6
	ce - Net Present Cost for Seg	gmer	nt				nce - Net Present Cost for Se	gmen	nt	\$			nce - Net Present Cost for Se	gment	\$ 907,211.3

Total Lane Width # of Lanes Analysis Period

29 2 50
Total Shldr Width # of Shldrs ML Mix

ML Top Lift / joint spacing # Dowels per Lane
15 11

Design Life Shldr Thickness

Width of Rounding Aggregate white/ >7 milliom SL Mix

1.5 N 12.5 Wearing Course (3,B)

Sealed/UTBWC ML Thickness

Y 8.5

Total Lane Width # of Lanes Analysis Period

29 2 50

Total Shldr Width # of Shldrs ML Mix
9 1

ML Top Lift / joint spacing # Dowels per Lane
15 11

Design Life Shldr Thickness

Width of Rounding Aggregate white/ >7 milliom SL Mix

1.5 N 2.5 Non WE Course (3,B)

Sealed/UTBWC ML Thickness

Y 8.5

Total Lane Width # of Lanes Analysis Period

Sealed/UTBWC ML Thickness
N 9.5

ML Top Lift / joint spacing # Dowels per Lane
2

Design Life Shldr Thickness

28 2 50

Total Shidr Width # of Shidrs ML Mix

10 1 3P 9.5 Wearing Course (4,C)

Width of Rounding Aggregate white/ >7 milliom SL Mix

1.5 Y 12.5 Wearing Course (3,B)

AT LEAST ONE BITUMINOUS & ONE PCC OPTION WITH EQUAL DESIGN LIVES IS REQUIRED									
District	4	Project Number	7605-89						
Performed By	GRG	Date	1/31/2014						
Analysis Period	35	Funding Category	<b>—</b>						
Discount Rate	2.2	Low Cost Option #	1						
		Chosen Option #	1						
·	· · · · · · · · · · · · · · · · · · ·								

					OPTION #1			OPTION #2 DESCRIPTION									OPTION #3		
					DESCRIPTION												DESCRIPTION		
					1.5" Mill and 3" Bituminous Overla	ay					4.5" whitetopping						6" concrete new		
					DESIGN LIFE		TYPE				DESIGN LIFE	TYP	Έ				DESIGN LIFE	TYF	Έ
					18		-				18		-						•
cription	Cost/Mile	Yea	r #	Life	Description	(	Cost/Mile	Year	#	Life	Description		Cost/Mile	Year	#	Life	e Description	T	Cost/Mile
ck Treatment	\$ 4,000		0		Initial Cost	\$	230,000	0			Initial Cost	\$	370,000	0	)	Ť	6" new concrete	\$	600,000
ace Treatment	\$ 27,000	<b>├</b>	1		initial Cool	\$	-	1			Titlai Coot	\$	-	1			o now concrete	\$	-
Overlay	Ψ 27,000	<u> </u>	2			\$	_	2				\$		2		+		\$	
verlay		L	3 AA	3	Crack Treatment	Ψ.	4,000	3				\$		3	-	+		\$	
verlay	200000	<u> </u>	4	3	Clack Treatment	\$	4,000	1	$\vdash$			\$		1		+		Φ	
verlay	200000	<u> </u>	5			\$		5	$\vdash$			\$		5		+		Φ	
Overlay	300000		~	1.1	Surface Treatment	φ Φ	27,000	6	$\vdash$			\$		6		+		Φ	
Il & 2" Overlay	300000			14	Sunace Treatment	φ Φ	27,000	7	$\vdash$			\$			,	+		Φ	
į			/			\$	-	8	$\vdash$			_	-	<u> </u>		+		Φ	
Will & 3" Overlay		- I——`	8			<b>Э</b>	-	Ŭ	$\vdash$			\$	-	8		+		\$	-
II & 3" Overlay	005000	<u> </u>	9			\$	-	9	$\vdash$			\$	-	9	,	_		\$	-
Il & 3" Overlay	225000	10				\$	-	10	$\sqcup$			\$			BA	1	patch	\$	6,000
II & 4.5" Overlay		II——	1 BA		patch	\$	6,000	11				\$	-	11				\$	-
ll & 4.5" Overlay	280000	12	_			\$	-	12				\$	-	12				\$	-
al Joints (6'X6')		1;				\$	-	13				\$	-	13				\$	-
al Joints (15')		14				\$	-	14				\$	-	14				\$	-
r CPR (6'X6')		15	5			\$	-	15				\$	-	15	5			\$	-
r CPR (15')	125000	16	6			\$	-	16				\$	-	16	6			\$	-
r CPR (6'X6')	200000	17	7			\$	-	17				\$	-	17	'AC	ו	Minor CPR (15')	\$	125,00
r CPR (15')		18	8 AK	17	3" Mill & 3" Overlay	\$	225,000	18	AR	9	Major CPR (6'X6')	\$	200,000	18	3	Т		\$	-
v/New Structure		19	9			\$	-	19			· ·	\$	-	19	)	Т		\$	-
w/New Structure		20	0			\$	-	20				\$	-	20	)			\$	-
R w/New Structure			1 AA	3	Crack Treatment	\$	4,000	21				\$	-	21		$\top$		\$	_
Concrete Structure	700000	22				\$	-	22				\$	_	22	_	$\top$		\$	-
crete Whitetopping		2	_			\$	_		ВА		patch	\$	6,000	23	_	+		\$	
onded Concrete Overlay			4 AB	9	Surface Treatment	\$	27,000	24				\$	-		AF	1	Major CPR (6'X6')	\$	200,000
Bituminous Structure	436000	2	_	Ŭ	Canado I I Califforni	\$	-	25				\$	_	25	_	╫	inajer er it (exe)	\$	
Diaminodo Cirdotaro	6000	20	_			\$	_	26				\$	_	26	_	+		\$	
	0000	2				φ			AG		4.5" Overlay	\$	300,000	27		+		\$	
		28	_			\$	_	28	70		4.5 Overlay	ψ	-	28		+		\$	
		<u>-</u> `	9 <b>BA</b>		patch	\$	6,000	29	$\vdash$			\$			AE	╬	3" Overlay	\$	200,00
		30	_		pateri	\$	0,000		AA	2	Crack Treatment	\$	4,000	30	_	╄	3 Overlay	Φ	200,00
						ф Ф	-	31	AA	3	Clack freatment	φ		31		+		Φ	-
		3.			O" Mill 9 4 5" Overlov	9	-		$\vdash$			φ Φ	-			+		Φ	
			2 AM		3" Mill & 4.5" Overlay	φ Φ	280,000	32	^ D	_	Confess Treatment	Þ	- 07.000	32		+		φ	-
		33				Þ	-		AB	9	Surface Treatment	\$	27,000	33		+		Þ	-
		34				<b>\$</b>	-	34	$\vdash$	_	5 6 . 1.7 1/ 1 44	\$	- (405.000)	34		+	D :: 0 : 1:/ \/ 1 **	\$	- (4.40.00
		35	5		Remaining Service Life Value**	\$	-	35		1	Remaining Service Life Value**	\$	(165,000)	35	)		Remaining Service Life Value**	\$	(140,00
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e Cells are protected fron		··		}	% of Low Cost		100%			ŀ	% of Low Cost		π25,32 <i>1</i> 107%				% of Low Cos		148
c cons are protected filli	n niput.	<u> </u>			* Equivalent Annual Cost is include						76 UI LOW COST		101%	1			76 OI LOW COS	ų	148

#	Description	Cost/Mile
	Crack Treatment	\$ 4,000
AB	Surface Treatment	\$ 27,000
AC	1.5" Overlay	
AD	2" Overlay	
ΑE	3" Overlay	20000
AF	4" Overlay	
AG	4.5" Overlay	30000
AH	2" Mill & 2" Overlay	
ΑI	1.5" Mill & 3" Overlay	
AJ	2" Mill & 3" Overlay	
ΑK	3" Mill & 3" Overlay	22500
AL	2" Mill & 4.5" Overlay	
AM	3" Mill & 4.5" Overlay	28000
AN	Reseal Joints (6'X6')	
AO	Reseal Joints (15')	
	Minor CPR (6'X6')	
AQ	Minor CPR (15')	12500
	Major CPR (6'X6')	20000
	Minor CPR (15')	
ΑT	CIR w/New Structure	
AU	FDR w/New Structure	
ΑV	SFDR w/New Structure	
	New Concrete Structure	70000
	Concrete Whitetopping	
	Unbonded Concrete Overlay	
ΑZ	New Bituminous Structure	43600
BA	patch	600
BB		
вс		
BD		
BE		
BF		
BG		
ВН		
BI		
BJ		
BK		
BL		
BM		
BN		
BP		
BQ		
BR		
BS		
BT		
BU		
BV		
BW		
DVV		
BX		

<sup>\*</sup> Equivalent Annual Cost is included for information only.

\*\*Remaining Service Life Value is reported as a negative value.

AT LEAST ONE BITUMINOUS & ONE PCC OPTION WITH EQUAL DESIGN LIVES IS REQUIRED									
District	4	Project Number	7609-10						
Performed By	SJ	Date	3/3/2014						
Analysis Period	35	Funding Category	<b>—</b>						
Discount Rate	2.2	Low Cost Option #	1						
		Chosen Option #	1						
-									

OPTION #1								OPTION #2		OPTION #3						
		DESCRIPTION						DESCRIPTION						DESCRIPTION		
		3" Mill and 3" Bituminous Ove	erlay					6" Whitetopping								
		DESIGN LIFE	TYPE	<b>■</b>				DESIGN LIFE	TYI	PE				DESIGN LIFE	TYPE	
		20		_			ı	20		_	1					
Year	# Lif	e Description	Cost/M	lile İ	Year	# I	∟ife	Description	Ť	Cost/Mile	Year	#	Life	Description	Cost/Mile	
0	<del></del>	Initial Cost		,371	0	-		Initial Cost	\$	253,271	0			2001.p.iio		
1		Illitial Cost	\$	,571	1			IIIIIai Cost	\$	200,271	1				\$ -	
2	+		\$		2	$\dashv$			\$		2		Н		\$ -	
3 A	_	Crook Trootmont		-					_	-	3	_			-	
3 4	Α .	Crack Treatment		2,000	3	-			\$	-	<u> </u>		Н		\$ -	
4	4		\$		4	_			\$	-	4				\$ -	
5		10 ( T )	\$	-	5	_			\$	-	5	_	Ш		\$ -	
6 4	'R 14	Surface Treatment		0,000	6	_			\$	-	6		Ш		\$	
/	4		\$	-	7	_			\$	-	7		Ш		\$	
8	4		\$	-	8	_			\$	-	8	_	Ш		\$	
9			\$	-	9				\$	-	9				\$	
10			\$	-	10				\$	-	10		Ш		\$	
11			\$	-	11				\$	-	11				\$	
12			\$	-	12				\$	-	12	_			\$	
13			\$	-	13				\$	-	13				\$	
14			\$	-	14				\$	-	14				\$	
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17			\$	-	17				\$	-	17				\$	
18			\$	-	18				\$	-	18		П		\$	
19			\$	-	19				\$	_	19		Н		\$	
	K 1	3" Mill & 3" Overlay	Ψ	2,000		BA	10	Major CPR	\$	200,000	20		Н		\$	
21		o will a o overlay	\$	-	21	<i>D</i> , (		major or re	\$	-	21		Н		\$	
22	+		\$	_	22	$\rightarrow$			\$	-	22		Н		\$	
23 A	Δ	3 Crack Treatment		2,000	23	$\dashv$			\$	_	23		Н		\$	
24	+	Clack Treatment	\$	-	24	-			\$		24		Н		\$	
25	+		\$		25				\$		25	_			\$	
26 A	D 1	Surface Treatment	т	0,000	26				\$		26		Н		\$	
27	D I	Surface Treatment	\$	,,000	27	$\dashv$			\$		27		Н		\$	
28	+		\$	-	28				\$	-	28				\$	
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29	+		\$	-	29	DD		Min an ODD	\$	400.000	29		Н		\$	
30			\$			BB	5	Minor CPR	\$	100,000	30				\$	
31	+		\$	-	31	_			\$	-	31				\$	
32			\$	-	32				\$	-	32				\$	
33			\$	-	33				\$	-	33				\$	
34			\$	-	34				\$	-	34				\$	
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<u> </u>	土	Total Present Wo Eq. Annual Co		5,714 9,727			<u> </u>  -	Total Present Worth Eq. Annual Cost*		434,750 \$17,941				Total Present Worth Eq. Annual Cost*		

#	Description	Cost/Mile
AA	Crack Treatment	\$ 2,000
AB	Surface Treatment	\$ 20,000
AC	1.5" Overlay	
	2" Overlay	
	3" Overlay	
	4" Overlay	
AG	4.5" Overlay	240000
AH	2" Mill & 2" Overlay 1.5" Mill & 3" Overlay	
ΑI	1.5" Mill & 3" Overlay	
AJ	2" Mill & 3" Overlay	
	3" Mill & 3" Overlay	132000
	2" Mill & 4.5" Overlay	
	3" Mill & 4.5" Overlay	
	Reseal Joints (6'X6')	
	Reseal Joints (15')	
	Minor CPR (6'X6')	
	Minor CPR (15')	12500
_	Major CPR (6'X6')	10000
	Minor CPR (15')	.0000
	CIR w/New Structure	
	FDR w/New Structure	
_	SFDR w/New Structure	
	New Concrete Structure	
	Concrete Whitetopping	
	Unbonded Concrete Overlay	
_	New Bituminous Structure	43600
_	Major CPR	20000
	Minor CPR	10000
BC	Thin ion of it	10000
BD		
BE		
BF		
BG		
BH		
BI		
BJ		
BK		
BL		
BM		
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BT		
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White Cells are protected from input.

<sup>\*</sup> Equivalent Annual Cost is included for information only.

\*\*Remaining Service Life Value is reported as a negative value.





Project Number	Analysis Period
7709-16	35
Highway	Discount Rate
71	2.00%
Date	
	OLEAD ALL
6/17/2015	CLEAR ALL
Performed By	
Scott Zeidler	

strict 3 - 2014/2015 prices

LCCA SUMMARY											
	Alternate #1		Α	Iternate #2		Al	ternate #3	Length			
Segment #1	l & Fill on Center 25' and 1 1,	/2" Overlay Full	3" Mill &	Overlay (Ful	l Width)	4.0"	Whitetopping	7.9			
Net Present Cost	\$3,071,208.5	4	\$3	3,790,208.82	2	\$3,	941,654.32	Miles			
Segment #2								0.0			
Net Present Cost								Miles			
Segment #3								0.0			
Net Present Cost								Miles			
Segment #4								0.0			
Net Present Cost								Miles			
Segment #5								0.0			
Net Present Cost								Miles			
Segment #6								0.0			
Net Present Cost								Miles			
Segment #7								0.0			
Net Present Cost								Miles			
Segment #8								0.0			
Net Present Cost								Miles			
Project Net Present Co	st \$	3,071,208.54		\$	3,790,208.82		\$ 3,941,654.32	Total			
% of Low Cost		100.0%			123.4%		128.3%	7.9			

	BID AD	JUSTMENT FACTOR SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	I & Fill on Center 25' and 1 1/2" Overlay Full	3" Mill & Overlay (Full Width)	4.0" Whitetopping	7.9
Net Present Cost	\$1,608,534.28	\$2,070,381.83	\$1,500,087.04	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present C	ost \$ 1,608,534.28	\$ 2,070,381.83	\$ 1,500,087.04	Total
Bid Adjustment Facto	r \$ 108,447.25	\$ 570,294.79	\$ -	7.9

Segment 1											
SEG 1	Length 7.9			SEG 1	Length 7.9			SEG 1	Length 7.9		
ALT		Descr	ription	ALT		Desc	ription	ALT		Desc	ription
1		2" Mill & Fill on Cent	er 25' and 1 1/2" Overl	2		3" Mill & Overlay (Fu	l Width)	3		4.0" Whitetopping	
	Pavement Type  HMA  Primary Category  Irlay, DL =13 to 17 years  Secondary Category  Rural  ShoulderCategory  Bituminous	EDIT	IERE TO THIS RNATE		Pavement Type  HMA  Primary Category rlay, DL =13 to 17 years Secondary Category Rural ShoulderCategory Bituminous	EDIT	HERE TO THIS RNATE		Pavement Type  PCC  Primary Category ≥12 Joint spacing  Secondary Category esign Life = 20 Years  ShoulderCategory  Thin Bit		
<b>Year</b> 0	Activity on Center 24' w/1 1/2" Overla	Cost/per Mile 185,148.64	<b>Pres. Cost/per Mile</b> \$ 185,148.64	<b>Year</b> 0	Activity 3" Mill & Overlay Full Width	\$ 217,699.62	Pres. Cost/per Mile \$ 217,699.62	<b>Year</b> 0	Activity 4.0" White Topping	\$ 309,059.15	<b>Pres. Cost/per Mile</b> \$ 309,059.15
1 2 3 4 5	Crack Treatment	\$ 2,568.19	\$ - \$ - \$ 2,420.06 \$ - \$ -	1 2 3 4 5	Crack Treatment	\$ 2,568.19	\$ - \$ - \$ 2,420.06 \$ - \$ -	1 2 3 4 5			\$ - \$ - \$ - \$ -
6 7 8 9 10	Seal	\$ 7,986.18	\$ - \$ 6,952.45 \$ - \$ - \$ -	6 7 8 9 10	Seal	\$ 7,986.18	\$ - \$ 6,952.45 \$ - \$ -	6 7 8 9 10			\$ - \$ - \$ - \$ - \$ -
11 12 13 14 15	ML Overlay 3.5"	\$ 179,299.90	\$ - \$ - \$ - \$ - \$ 133,222.47	11 12 13 14 15	ML Overlay 3.5"	\$ 179,299.90	\$ - \$ - \$ 138,604.65 \$ - \$ -	11 12 13 14 15			\$ - \$ - \$ - \$ -
16 17 18 19	Crack Treatment	\$ 2,568.19	\$ - \$ - \$ 1,798.14 \$ -	16 17 18 19	Crack Treatment	\$ 2,568.19 \$ 7,986.18	\$ - \$ - \$	17 18 19	1st CPR	\$ 282,158.28	\$ - \$ - \$ - \$ - \$ 189,884.44
20 21 22 23 24	Seal	\$ 7,986.18	\$ - \$ 5,165.77 \$ - \$ -	20 21 22 23 24	Seal		\$ - \$ - \$ -	20 21 22 23 24	ISLOPK	\$ 282,158.28	\$ 189,884.44 \$ - \$ - \$ -
25 26 27 28 29	ML Overlay 3.5"	\$ 179,299.90	\$ - \$ - \$ - \$ - \$ 100,965.98	25 26 27 28 29	ML Overlay 3.5"  Crack Treatment	\$ 179,299.90 \$ 2,568.19	\$ - \$ -	29			\$ - \$ - \$ - \$ -
30 31 32 33 34	Crack Treatment	\$ 2,568.19	\$ - \$ - \$ 1,362.77 \$ - \$ -	30 31 32 33 34	Seal	\$ 7,986.18	\$ - \$ - \$ 4,237.73 \$ - \$ -	30 31 32 33 34			\$ - \$ - \$ - \$ -
35	Remaining Life	\$ (96,546.10)	\$ (48,275.72)	35	Remaining Life	\$ (16,299.99)	\$ (8,150.45)	35	0/0 Remaining	\$	\$
Maintenar Net Prese Maintenar	let Present Cost/ per Mile nce - Net Present Cost/per Mile ent Cost for Segment nce - Net Present Cost for Seguent at Annual Cost		\$ 203,611.93 \$ 3,071,208.54 \$ 1,608,534.28	Maintenar Net Prese Maintenar	et Present Cost/ per Mile nce - Net Present Cost/per Mile ent Cost for Segment nce - Net Present Cost for Seg t Annual Cost		\$ 3,790,208.82 \$ 2,070,381.83	Maintenar Net Prese Maintenar	et Present Cost/ per Mile nce - Net Present Cost/per M ent Cost for Segment nce - Net Present Cost for Se t Annual Cost		\$ 498,943.59 \$ 189,884.44 \$ 3,941,654.32 \$ 1,500,087.04 157,674.88
	Total Lane Width 24 Total Shldr Width 16 Width of Rounding Aggregate 1.5 Sealed/UTBWC N ML Top Lift / joint spacing 3.5	e white/ >7 milliom	Analysis Period 35 ML Mix 3P 9.5 Wearing Course SL Mix 12.5 Wearing Course (		Total Lane Width 24 Total Shldr Width 16 Width of Rounding Aggregate 1.5 Sealed/UTBWC N ML Top Lift / joint spacing 1.5	e white/ >7 milliom	Analysis Period 35 ML Mix 3P 9.5 Wearing Cours SL Mix 12.5 Wearing Course		Total Lane Width 24 Total Shldr Width 16 Width of Rounding Aggregat Sealed/UTBWC Y ML Top Lift / joint spacing 12	Y ML Thickness 4.5	Analysis Period 35 ML Mix SL Mix





Project Number	Analysis Period
8101-57	35
Highway	Discount Rate
13	1.74%
Date	
	OLEAD ALL
12/4/2015	CLEAR ALL
Performed By	
C Fenske	

District 6 - 2015/2016 prices		

	L	LCCA SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	15 yr med M&OL	20yr new bit	20yr UBOL	10.9
Net Present Cost	\$6,141,538.28	\$8,617,363.22	\$6,392,040.27	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	\$ 6,141,538.28	\$ 8,617,363.22	\$ 6,392,040.27	Total
% of Low Cost	100.0%	140.3%	104.1%	10.9

	BID AD	DJUSTMENT FACTOR SUMMARY		
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	15 yr med M&OL	20yr new bit	20yr UBOL	10.9
Net Present Cost	\$3,006,536.20	\$2,661,467.52	\$1,816,360.66	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present C	ost \$ 3,006,536.20	\$ 2,661,467.52	\$ 1,816,360.66	Total
Bid Adjustment Facto	r \$ 1,190,175.53	\$ 845,106.85	\$ -	10.9

					Seg	ment 1					
SEG	Length			SEG	Length			SEG	Length		
1	10.9			1	10.9			1	10.9		
ALT 1		Descri	ption	ALT 2		20yr new bit	ription	ALT 3		Descr 20yr UBOL	ription
_	Pavement Type	13 yr med MaoL	1		Pavement Type	20yl flew bit		,	Pavement Type	ZOYI OBOL	
	НМА	CLICK H	EDE TO		НМА	CLICK	HERE TO		PCC		
:	Primary Category rlay, DL =13 to 17 years Secondary Category Rural ShoulderCategory	EDIT	THIS		Primary Category 20 Year HMA Secondary Category Rural ShoulderCategory	EDIT	THIS RNATE		Primary Category ≥12 Joint spacing Secondary Category Design Life = 20 Years ShoulderCategory		
Notes:	Aggregate			Notes:	Aggregate			Notes:	Aggregate		
Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Med m&ol		\$ 287,614.87 \$ -	0	New Bit	\$ 546,412.45		0	UBOL		\$ 419,787.12 \$ -
2 3 4 5	Crack Treatment	\$ 2,227.46	\$ - \$ 2,115.11 \$ - \$ -	2 3 4 5			\$ - \$ - \$ -	2 3 4 5			\$ - \$ - \$ - \$ -
6 7 8 9 10	Seal	\$ 8,864.63	\$ - \$ 7,856.30 \$ - \$ -	6 7 8 9 10	Crack Treatment	\$ 1,113.73	\$ - \$ 970.16 \$ - \$ -	6 7 8 9 10			\$ - \$ - \$ - \$
11 12 13 14			\$ - \$ - \$ - \$ -	11 12 13 14	Seal	\$ 12,873.70	\$ -	11 12 13 14			\$ - \$ - \$ - \$ -
15 16 17 18	ML Overlay 3.5"  Crack Treatment	\$ 236,975.65 \$ 2,227.46	\$ 182,948.02 \$ - \$ - \$ 1,632.89	15 16 17 18			\$ - \$ - \$ -	15 16 17 18			\$ - \$ - \$ - \$
19 20 21 22 23	Seal	\$ 8,864.63	\$ - \$ - \$ - \$ 6,065.16	19 20 21 22 23	ML Overlay 4  Crack Treatment	\$ 350,482.42 \$ 2,227.46	\$ - \$ -	19 20 21 22 23	1st CPR	\$ 235,293.68	\$ - 166,638.59 \$ - 5 \$ - 5
24 25 26 27			\$ - \$ - \$ -	24 25 26 27	Seal	\$ 8,864.63	\$ - \$ - \$ -	24 25 26 27			\$ - \$ - \$ -
28 29 30 31	ML Overlay 3.5"	\$ 236,975.65	\$ - \$ 143,695.60 \$ - \$ -	28 29 30 31	Joan John Market	<b>Q</b>	\$ - \$ - \$ - \$ -	28 29 30 31			\$ - \$ - \$ - \$ -
32 33 34 35	Crack Treatment  Remaining Life	\$ 2,227.46 \$ (127,602.27)	\$ 1,282.55 \$ - \$ - \$ (69,766.63)	32 33 34 35	2/17 Remaining Life	\$ (41,233.23)	\$ - \$ - \$ - \$ (22,544.29)	32 33 34 35	0/0 Remaining	\$ -	\$ - \$ - \$ - \$ -
	et Present Cost/ per Mile nce - Net Present Cost/per Mi	le			et Present Cost/ per Mile nce - Net Present Cost/per M	ile			et Present Cost/ per Mile nce - Net Present Cost/per M	lile	\$ 586,425.71 \$ 166,638.59
Net Prese Maintenar	ent Cost for Segment nce - Net Present Cost for Se		\$ 6,141,538.28 \$ 3,006,536.20	Net Prese Maintenar	ent Cost for Segment nce - Net Present Cost for Se		\$ 8,617,363.22 \$ 2,661,467.52	Net Prese Maintena	ent Cost for Segment nce - Net Present Cost for Se		\$ 6,392,040.27 \$ 1,816,360.66
	Total Lane Width 28 Total Shldr Width 8 Width of Rounding Aggregate 1.5 Sealed/UTBWC N ML Top Lift / joint spacing 2 Design Life 15		Analysis Period 35 ML Mix VEARING COURSE M SL Mix	MIXTURE (	Total Lane Width 28 Total Shldr Width 8 Width of Rounding Aggregat 1.5 Sealed/UTBWC N ML Top Lift / joint spacing 2 Design Life 20	e white/ >7 milliom N ML Thickness	Analysis Period 35 ML Mix WEARING COURSE N SL Mix		Total Lane Width 28 Total Shldr Width 8 Width of Rounding Aggregat Sealed/UTBWC N ML Top Lift / joint spacing 12 Design Life	N ML Thickness 6	Analysis Period 35 ML Mix SL Mix

#### Appendix C: Copies of LCCA Exceptions

#### LCCA EXCEPTION

SP 6607-49 & 2511-49-T.H. 60 From Faribault to Kenyon

A Life Cycle Cost Analysis was performed in accordance with Tech Memo No. 07-17-MAT-01.

Both PCC and HMA alternatives were considered.

The lowest LCCA fix is 4" CIR(Cold Inplace Recycling) & 3" Bituminous Overlay

The Preservation fix selected by our District is 2" Bituminous Mill and 3.5" Overlay

LCCA is a project specific tool used in selecting preservation treatments.

The District program is selected based on: Total project costs, preservation performance, material availability, available funding, traffic impacts, safety needs and other considerations.

Factors considered in this Preservation Project selection include:

This section of T.H. 60 has a traffic volume of 3000 ADT and 3,813,000-35yr. CESALS). It has a RQI rating of 2.8-2.9 and SR rating of 3.3-3.4 in 2015. This road was reconstructed in the 1990's and the pavement is all BFD(Bituminous Full Depth). The road was cored and determined that the bituminous was still in good condition underneath. Because of this relatively recent new reconstruction the SR is still quite high but the RQI has started to drop. This project will restore the RQI to an acceptable level again. A CIR project was not selected because the bituminous road core is still in relatively good condition and the district has a lack of funds to do a longer term rehabilitation on this lower ADT road.

I concur with the selected Preservation Project:

Transportation District Engineer