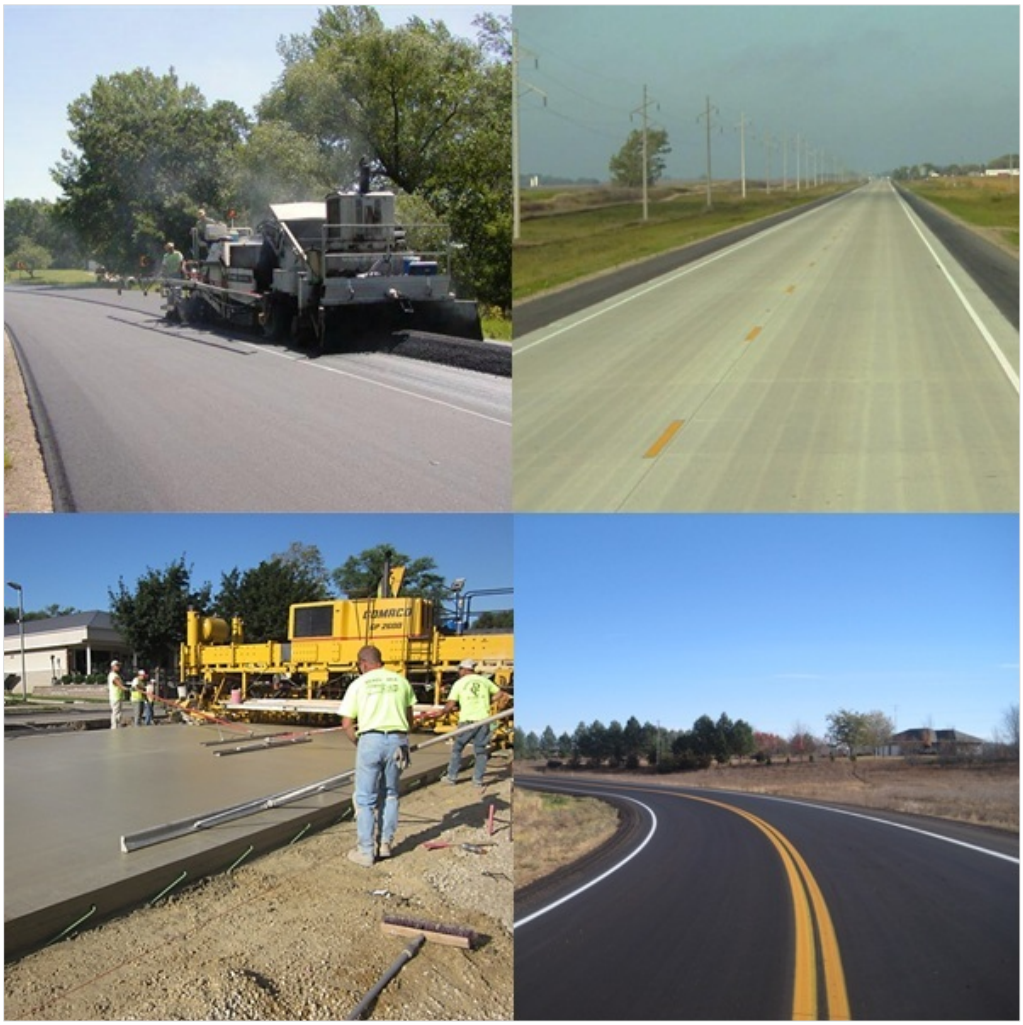
Calendar Year 2016 Report on

Life-Cycle Cost Analyses

January 2017



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Contents

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.

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 Technical Memorandum 10-04-MAT-01. After the technical memorandum expired, the LCCA process, with some modifications, was incorporated into the MnDOT Pavement Design Manual which went into effect October 31st, 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 31st, 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	X	
			20	PCC Overlay	$13,021,861.00	PCC		
0507-14	HMA	No	20	PCC over FDR	$5,623,358.00	PCC		No
			20	HMA over FDR	$3,487,636.00	HMA	X	
			35	PCC over FDR	$4,130,586.00	PCC		
0605-16	PCC	No	20	HMA Overlay	$6,634,083.00	HMA	X	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	X	
0807-14	HMA	No	14	HMA Overlay	$3,244,027.00	HMA	X	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	X	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	X	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	X	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	X	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	X	No
			20	PCC Overlay	$10,817,307.00	HMA		
2772-105	PCC	No	19	HMA Overlay	$3,084,642.00	HMA	X	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	X	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	X	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	X	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	X	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	X	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	X	
			35	PCC over FDR	$16,217,146.00	PCC		
6284-166	PCC	No	14	HMA Overlay	$5,086,061.00	HMA	X	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	X	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	X	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	X	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	X	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	X	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	X	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	X	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	X	
			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	X	
7605-89	HMA	No	18	HMA Overlay	$575,533.00	HMA	X	No
			18	PCC Overlay	$613,734.00	PCC		
			18	PCC Overlay	$850,845.00	PCC		
7608-19	LCCA Not Provided - Design Build Project							No
7609-10	HMA	No	20	HMA Overlay	$235,714.00	HMA	X	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	X	
			20	PCC Overlay	$3,941,654.00	PCC		
8101-57	PCC	No	15	HMA overlay	$6,141,538.00	HMA	X	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

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

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	$13,021,860.83	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 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 ADJUSTMENT FACTOR 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	$6,008,446.54	$2,677,399.39	$4,749,380.27	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 6,008,446.54**	**$ 2,677,399.39**	**$ 4,749,380.27**	**Total**
Bid Adjustment Factor	**$ 3,331,047.15**	**$ -**	**$ 2,071,980.87**	**22.1**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	22.09	1	22.09	1	22.09
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	TH 59 SP 0305-34 1.5" M&OL	2	Mill 1.5 " fill 3"	3	6" UBOL
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		Overlay, DL > 17 years		6'X6' ≥5.5" Thickness	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Rural		Design Life = 20 Years	
ShoulderCategory	DELETE	**ShoulderCategory**	DELETE	**ShoulderCategory**	DELETE
Bituminous		Bituminous		Thin Bit	
Notes:		Notes:		Notes:	

Year	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	$ 98,040.64	$ 98,040.64	0	Mill 1. 5 and fill 3 in	$ 150,890.69	$ 150,890.69	0	6" UBOL	$ 374,489.84	$ 374,489.84
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 2,112.00	$ 2,014.97	3	Crack Treatment	$ 2,112.00	$ 2,014.97	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 7,716.84	$ 6,914.83	7	Seal	$ 7,716.84	$ 6,914.83	7			$ -
8			$ -	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12			$ -	12			$ -
13	ML Overlay 3.5"	$ 173,573.75	$ 141,571.99	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16	Crack Treatment	$ 2,112.00	$ 1,643.47	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	Seal	$ 7,716.84	$ 5,639.95	20	ML Overlay 3.5"	$ 173,573.75	$ 126,858.59	20	1st CPR	$ 294,174.75	$ 215,001.37
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 2,112.00	$ 1,472.67	23			$ -
24			$ -	24			$ -	24			$ -
25	ML Overlay 3.5"	$ 173,573.75	$ 117,294.82	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 7,716.84	$ 5,053.80	27			$ -
28	Crack Treatment	$ 2,112.00	$ 1,361.65	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32	Seal	$ 7,716.84	$ 4,672.79	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (15,779.43)	$ (9,115.99)	35	Remaining Life	$ (36,541.84)	$ (21,110.72)	35	0/0 Remaining	$ -	$ -

LCCA - Net Present Cost/ per Mile			$ 370,039.13	LCCA - Net Present Cost/ per Mile			$ 272,094.83	LCCA - Net Present Cost/ per Mile			$ 589,491.21
Maintenance - Net Present Cost/per Mile			$ 271,998.49	Maintenance - Net Present Cost/per Mile			$ 121,204.14	Maintenance - Net Present Cost/per Mile			$ 215,001.37
Net Present Cost for Segment			$ 8,174,164.28	Net Present Cost for Segment			$ 6,010,574.73	Net Present Cost for Segment			$ 13,021,860.83
Maintenance - Net Present Cost for Segment			$ 6,008,446.54	Maintenance - Net Present Cost for Segment			$ 2,677,399.39	Maintenance - Net Present Cost for Segment			$ 4,749,380.27
Equivalent Annual Cost			305,839.45	Equivalent Annual Cost			224,887.93	Equivalent Annual Cost			487,217.85

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
24	2	35	24	2	35	24	2	35
Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix
16	2	WEARING COURSE MIXTURE (	16	2	WEARING COURSE MIXTURE (	16	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	WEARING COURSE MIXTURE (	1.5	N	WEARING COURSE MIXTURE (	1.5	N	WEARING COURSE MIXTURE (3,B)
Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness	
N			N			N	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	
1.5			3			6	0	
Design Life	Shldr Thickness		Design Life	Shldr Thickness		Design Life	Shldr Thickness	
13	1.5		20	3			3	

35-Year Analysis Period

50 - Year

50-Year Analysis Period

Project Number	Analysis Period
SP 0507-14	50
Highway	Discount Rate
	1.74%
Date	CLEAR ALL
Performed By	

District 3 - 2015/2016 prices

LCCA 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						0.0 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 ADJUSTMENT 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						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

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	5.307	1	5.307	1	5.307
ALT	Description	ALT	Description	ALT	Description
1	FDR w/4" HMA ML & Shld.	2	FDR w/6" PCC ML & PCC Shld	3	FDR w/6" PCC ML & Bit Shld.
Pavement Type: HMA	CLICK HERE TO EDIT THIS ALTERNATE	Pavement Type: PCC	CLICK HERE TO EDIT THIS ALTERNATE	Pavement Type: PCC	
Primary Category: 20 Year HMA		Primary Category: ≥12 Joint spacing		Primary Category: ≥12 Joint spacing	
Secondary Category: Rural		Secondary Category: Design Life = 20 Years		Secondary Category: Design Life 35 Years	
ShoulderCategory: Bituminous		ShoulderCategory: PCC		ShoulderCategory: Thin Bit	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	FDR w/4" HMA	$ 329,263.80	$ 329,263.80	0	FDR w/ 6" PCC ML & Shld	$ 634,450.41	$ 634,450.41	0	FDR w/6" PCC ML & Bit Shld	$ 547,966.16	$ 547,966.16
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3			$ -	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7			$ -	7			$ -	7			$ -
8	Crack Treatment	$ 1,056.00	$ 919.88	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12	Seal	$ 11,894.00	$ 9,670.02	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	ML Overlay 4	$ 279,794.25	$ 198,154.58	20	1st CPR	$ 217,077.08	$ 153,737.32	20	1st CPR	$ 195,057.06	$ 138,142.40
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23	Crack Treatment	$ 2,112.00	$ 1,420.31	23			$ -	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27	Seal	$ 8,101.01	$ 5,084.67	27			$ -	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35			$ -	35	Remove and Replace	$ 615,157.60	$ 336,337.84	35	2nd CPR	$ 168,667.89	$ 92,219.29
36			$ -	36			$ -	36			$ -
37	ML Overlay 3.5"	$ 251,372.51	$ 132,777.24	37			$ -	37			$ -
38			$ -	38			$ -	38			$ -
39			$ -	39			$ -	39			$ -
40	Crack Treatment	$ 2,112.00	$ 1,059.31	40			$ -	40			$ -
41			$ -	41			$ -	41			$ -
42			$ -	42			$ -	42			$ -
43			$ -	43			$ -	43			$ -
44	Chip Seal	$ 8,101.01	$ 3,792.30	44			$ -	44			$ -
45			$ -	45			$ -	45			$ -
46			$ -	46			$ -	46			$ -
47			$ -	47			$ -	47			$ -
48			$ -	48			$ -	48			$ -
49			$ -	49			$ -	49			$ -
50	4/17 Remaining Life	$ (59,146.47)	$ (24,965.61)	50	5/20 Remaining	$ (153,789.40)	$ (64,914.20)	50	0/0 Remaining	$ -	$ -
LCCA - Net Present Cost/ per Mile			$ 657,176.51	LCCA - Net Present Cost/ per Mile			$ 1,059,611.36	LCCA - Net Present Cost/ per Mile			$ 778,327.85
Maintenance - Net Present Cost/per Mile			$ 327,912.71	Maintenance - Net Present Cost/per Mile			$ 425,160.95	Maintenance - Net Present Cost/per Mile			$ 230,361.69
Net Present Cost for Segment			$ 3,487,635.71	Net Present Cost for Segment			$ 5,623,357.50	Net Present Cost for Segment			$ 4,130,585.90
Maintenance - Net Present Cost for Segment			$ 1,740,232.73	Maintenance - Net Present Cost for Segment			$ 2,256,329.18	Maintenance - Net Present 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

Total Lane Width	# of Lanes	Analysis Period
24	2	50
Total Shldr Width	# of Shldrs	ML Mix
10	2	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
10	N	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
26	2	50
Total Shldr Width	# of Shldrs	ML Mix
8	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
10	N	
Sealed/UTBWC	ML Thickness	
Y	6	
ML Top Lift / joint spacing	# Dowels per Lane	
12	11	
Design Life	Shldr Thickness	
6		

Total Lane Width	# of Lanes	Analysis Period
26	2	50
Total Shldr Width	# of Shldrs	ML Mix
8	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
10	N	TYPE SP 12.5 WEARING COURSE MIXTURE (2,B)
Sealed/UTBWC	ML Thickness	
Y	6	
ML Top Lift / joint spacing	# Dowels per Lane	
12	11	
Design Life	Shldr Thickness	
	3	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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%**	**22.6**

BID ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	2" MILL 3" OVERLAY	6" UNBONDED OVERLAY		22.6
Net Present Cost	$3,042,803.22	$4,123,769.58		Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 3,042,803.22**	**$ 4,123,769.58**	**$ -**	**Total**
Bid Adjustment Factor	**$ -**	**$ 1,080,966.36**	**$ -**	**22.6**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	22.606	1	22.606	1	22.606
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	2" MILL 3" OVERLAY	2	6" UNBONDED OVERLAY	3	
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		PCC			
Primary Category		**Primary Category**		**Primary Category**	
20 Year HMA		6'X6' ≥5.5" Thickness			
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Design Life = 20 Years			
ShoulderCategory	DELETE	**ShoulderCategory**	DELETE	**ShoulderCategory**	
Aggregate		Aggregate			
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	2" MILL, 3" OL	$ 158,864.00	$ 158,864.00	0	6" UNBONDED OVERLAY	$ 377,530.00	$ 377,530.00	0			$ -
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3			$ -	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7			$ -	7			$ -	7			$ -
8	Crack Treatment	$ 1,232.00	$ 1,086.79	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12	Seal	$ 12,727.14	$ 10,544.65	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	ML Overlay 3.5	$ 175,228.20	$ 128,067.76	20	1st CPR	$ 249,594.40	$ 182,419.25	20			$ -
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23	Crack Treatment	$ 2,464.00	$ 1,718.11	23			$ -	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27	Seal	$ 7,778.03	$ 5,093.87	27			$ -	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	2/17 Remaining Life	$ (20,615.08)	$ (11,909.62)	35	0/0 Remaining	$ -	$ -	35			$ -

LCCA - Net Present Cost/ per Mile			$ 293,465.58	LCCA - Net Present Cost/ per Mile			$ 559,949.25	LCCA - Net Present Cost/ per Mile			$ -
Maintenance - Net Present Cost/per Mile			$ 134,601.58	Maintenance - Net Present Cost/per Mile			$ 182,419.25	Maintenance - Net Present Cost/per Mile			$ -
Net Present Cost for Segment			$ 6,634,082.80	Net Present Cost for Segment			$ 12,658,212.76	Net Present Cost for Segment			$ -
Maintenance - Net Present Cost for Segment			$ 3,042,803.22	Maintenance - Net Present Cost for Segment			$ 4,123,769.58	Maintenance - Net Present Cost for Segment			$ -
Equivalent Annual Cost			248,216.72	Equivalent Annual Cost			473,611.82	Equivalent Annual Cost			-

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
16	2	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
8	N	
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
16	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
8	Y	
Sealed/UTBWC	ML Thickness	
Y	6	
ML Top Lift / joint spacing	# Dowels per Lane	
6	0	
Design Life	Shldr Thickness	
6		

Total Lane Width	# of Lanes	Analysis Period
Total Shldr Width	# of Shldrs	ML Mix
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
Sealed/UTBWC	ML Thickness	
ML Top Lift / joint spacing	# Dowels per Lane	
Design Life	Shldr Thickness	

35-Year Analysis Period

50 - Year

50-Year Analysis Period

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

District 7 - 2015/2016 prices

LCCA SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	Bit Reconstruct	Unbonded Concrete Overlay	Unbonded Concrete Overlay/dowelled	12.9
Net Present Cost	$14,291,462.18	$6,864,706.88	$8,625,001.12	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 14,291,462.18**	**$ 6,864,706.88**	**$ 8,625,001.12**	**Total**
% of Low Cost	**208.2%**	**100.0%**	**125.6%**	**12.9**

BID ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	Bit Reconstruct	Unbonded Concrete Overlay	Unbonded Concrete Overlay/dowelled	12.9
Net Present Cost	$3,934,600.40	$2,451,858.67	$4,212,152.91	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 3,934,600.40**	**$ 2,451,858.67**	**$ 4,212,152.91**	**Total**
Bid Adjustment Factor	**$ 1,482,741.73**	**$ -**	**$ 1,760,294.23**	**12.9**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	12.9	1	12.9	1	12.9
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	Bit Reconstruct	2	Unbonded Concrete Overlay	3	Unbonded Concrete Overlay/dowelled
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		PCC		PCC	
Primary Category		**Primary Category**		**Primary Category**	
20 Year HMA		≥12 Joint spacing		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Design Life 35 Years		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Aggregate		Aggregate		Aggregate	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Bit Reconstruct	$ 802,857.50	$ 802,857.50	0	35 yr UBOL	$ 342,081.26	$ 342,081.26	0	UBOL	$ 342,081.26	$ 342,081.26
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3			$ -	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7			$ -	7			$ -	7			$ -
8	Crack Treatment	$ 1,232.00	$ 1,073.19	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12	Seal	$ 12,873.70	$ 10,466.52	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	ML Overlay 4	$ 258,269.12	$ 182,910.15	20	1st CPR	$ 135,927.17	$ 96,265.71	20	1st CPR	$ 198,171.76	$ 140,348.28
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23	Crack Treatment	$ 2,464.00	$ 1,657.03	23			$ -	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27	Seal	$ 8,864.63	$ 5,563.95	27			$ -	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35			$ -	35	2nd CPR	$ 171,560.56	$ 93,800.85	35	Remove and Replace	$ 421,949.58	$ 230,701.22
36			$ -	36			$ -	36			$ -
37	ML Overlay 3.5"	$ 228,382.24	$ 120,633.58	37			$ -	37			$ -
38			$ -	38			$ -	38			$ -
39			$ -	39			$ -	39			$ -
40	Crack Treatment	$ 2,464.00	$ 1,235.87	40			$ -	40			$ -
41			$ -	41			$ -	41			$ -
42			$ -	42			$ -	42			$ -
43			$ -	43			$ -	43			$ -
44	Chip Seal	$ 8,864.63	$ 4,149.77	44			$ -	44			$ -
45			$ -	45			$ -	45			$ -
46			$ -	46			$ -	46			$ -
47			$ -	47			$ -	47			$ -
48			$ -	48			$ -	48			$ -
49			$ -	49			$ -	49			$ -
50	4/17 Remaining Life	$ (53,737.00)	$ (22,682.28)	50	0/0 Remaining	$ -	$ -	50	5/20 Remaining	$ (105,487.40)	$ (44,526.02)
LCCA - Net Present Cost/ per Mile			$ 1,107,865.29	LCCA - Net Present Cost/ per Mile			$ 532,147.82	LCCA - Net Present Cost/ per Mile			$ 668,604.74
Maintenance - Net Present Cost/per Mile			$ 305,007.78	Maintenance - Net Present Cost/per Mile			$ 190,066.56	Maintenance - Net Present Cost/per Mile			$ 326,523.48
Net Present Cost for Segment			$ 14,291,462.18	Net Present Cost for Segment			$ 6,864,706.88	Net Present Cost for Segment			$ 8,625,001.12
Maintenance - Net Present Cost for Segment			$ 3,934,600.40	Maintenance - Net Present Cost for Segment			$ 2,451,858.67	Maintenance - Net Present Cost for Segment			$ 4,212,152.91
Equivalent Annual Cost			430,300.40	Equivalent Annual Cost			206,688.86	Equivalent Annual Cost			259,689.41

Total Lane Width	# of Lanes	Analysis Period
28	2	50
Total Shldr Width	# of Shldrs	ML Mix
8	2	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
3	N	0
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	2	

Total Lane Width	# of Lanes	Analysis Period
28	2	50
Total Shldr Width	# of Shldrs	ML Mix
8	2	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
3	N	
Sealed/UTBWC	ML Thickness	
N	6	
ML Top Lift / joint spacing	# Dowels per Lane	
12	6	
Design Life	Shldr Thickness	
35	2	

Total Lane Width	# of Lanes	Analysis Period
28	2	50
Total Shldr Width	# of Shldrs	ML Mix
8	2	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
3	N	
Sealed/UTBWC	ML Thickness	
N	6	
ML Top Lift / joint spacing	# Dowels per Lane	
12	6	
Design Life	Shldr Thickness	
20	2	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

Project Number	Analysis Period
0807-14	35
Highway	**Discount Rate**
68	2.00%
Date	CLEAR ALL
6/16/2015	
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 ADJUSTMENT FACTOR 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	$1,979,863.44	$1,267,710.37	$2,105,883.76	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 1,979,863.44**	**$ 1,267,710.37**	**$ 2,105,883.76**	**Total**
Bid Adjustment Factor	**$ 712,153.07**	**$ -**	**$ 838,173.39**	**7.5**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	7.5	1	7.5	1	7.5
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	4" BCOA 20 yr	2	4.5" Bit Overlay 20yr	3	2" M & OL W/Underseal
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
PCC		HMA		HMA	
Primary Category		**Primary Category**		**Primary Category**	
6"X6' ≤ 5.0" Thickness		20 Year HMA		Overlay, DL =13 to 17 years	
Secondary Category		**Secondary Category**		**Secondary Category**	
Design Life = 20 Years		Rural		Rural	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Aggregate		Aggregate		Aggregate	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	bcoa	$ 265,710.09	$ 265,710.09	0	Thick Bit OL	$ 283,965.20	$ 283,965.20	0	Thin Ol W/underseal	$ 151,752.45	$ 151,752.45
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3			$ -	3			$ -	3	Crack Treatment	$ 1,675.52	$ 1,578.88
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7			$ -	7			$ -	7	Seal	$ 8,439.13	$ 7,346.77
8			$ -	8	Crack Treatment	$ 837.76	$ 715.02	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 12,752.26	$ 10,055.07	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14	ML Overlay 3.5"	$ 220,774.52	$ 167,319.49
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17	Crack Treatment	$ 1,675.52	$ 1,196.59
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	1st CPR	$ 328,165.71	$ 220,846.11	20	ML Overlay 4	$ 247,907.85	$ 166,834.87	20			$ -
21			$ -	21			$ -	21	Seal	$ 8,439.13	$ 5,567.94
22			$ -	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 1,675.52	$ 1,062.54	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 8,439.13	$ 4,944.17	27	ML Overlay 3.5"	$ 220,774.52	$ 129,343.41
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30	Remove and Replace	$ 349,345.23	$ 192,863.33	30			$ -	30	Crack Treatment	$ 1,675.52	$ 925.01
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34	Seal	$ 8,439.13	$ 4,304.20
35	30/35 Remaining	$ (299,438.77)	$ (149,727.65)	35	2/17 Remaining Life	$ (29,165.63)	$ (14,583.62)	35	Remaining Life	$ (73,591.51)	$ (36,797.78)

LCCA - Net Present Cost/ per Mile	$ 529,691.88	LCCA - Net Present Cost/ per Mile	$ 452,993.25	LCCA - Net Present Cost/ per Mile	$ 432,536.95
Maintenance - Net Present Cost/per Mile	$ 263,981.79	Maintenance - Net Present Cost/per Mile	$ 169,028.05	Maintenance - Net Present Cost/per Mile	$ 280,784.50
Net Present Cost for Segment	$ 3,972,689.11	Net Present Cost for Segment	$ 3,397,449.37	Net Present Cost for Segment	$ 3,244,027.13
Maintenance - Net Present Cost for Segment	$ 1,979,863.44	Maintenance - Net Present Cost for Segment	$ 1,267,710.37	Maintenance - Net Present Cost for Segment	$ 2,105,883.76
Equivalent Annual Cost	158,916.34	Equivalent Annual Cost	135,905.48	Equivalent Annual Cost	129,768.25

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
14	2	2.5 Wearing Course (4,E)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
14	N	
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	2.5	

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
14	2	.2.5 Wearing Course (4,E)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
18	N	
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
14	0	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 1 - 2015/2016 prices

LCCA SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	M&O	Reclaim	BCOA	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**	**$ 5,099,599.50**	**$ 6,291,636.78**	**Total**
% of Low Cost	**100.0%**	**123.4%**	**152.3%**	**9.4**

BID ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	M&O	Reclaim	BCOA	9.4
Net Present Cost	$2,606,563.65	$1,940,267.28	$2,970,207.90	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 2,606,563.65**	**$ 1,940,267.28**	**$ 2,970,207.90**	**Total**
Bid Adjustment Factor	**$ 666,296.37**	**$ -**	**$ 1,029,940.62**	**9.4**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	9.41	1	9.41	1	9.41
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	M&O	2	Reclaim	3	BCOA
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		20 Year HMA		6'X6' ≤ 5.0" Thickness	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Rural		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Bituminous		Bituminous		PCC	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	M&O	$ 162,129.00	$ 162,129.00	0	Reclaim	$ 335,742.00	$ 335,742.00	0	BCOA	$ 352,968.00	$ 352,968.00
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 2,112.00	$ 2,005.48	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 7,890.49	$ 6,992.98	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 1,056.00	$ 919.88	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 11,632.54	$ 9,457.45	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 239,707.15	$ 185,056.77	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 2,112.00	$ 1,548.26	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	ML Overlay 5	$ 294,213.89	$ 208,366.79	20	1st CPR	$ 383,812.00	$ 271,821.55
21			$ -	21			$ -	21			$ -
22	Seal	$ 7,890.49	$ 5,398.66	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 2,112.00	$ 1,420.31	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 7,890.49	$ 4,952.53	27			$ -
28			$ -	28			$ -	28			$ -
29	ML Overlay 3.5"	$ 239,707.15	$ 145,351.90	29			$ -	29			$ -
30			$ -	30			$ -	30	Remove and Replace	$ 344,084.38	$ 205,075.11
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 2,112.00	$ 1,216.07	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (129,073.08)	$ (70,570.79)	35	2/17 Remaining Life	$ (34,613.40)	$ (18,924.90)	35	30/35 Remaining	$ (294,929.46)	$ (161,252.89)

LCCA - Net Present Cost/ per Mile	$ 439,128.32	LCCA - Net Present Cost/ per Mile	$ 541,934.06	LCCA - Net Present Cost/ per Mile	$ 668,611.77
Maintenance - Net Present Cost/per Mile	$ 276,999.32	Maintenance - Net Present Cost/per Mile	$ 206,192.06	Maintenance - Net Present Cost/per Mile	$ 315,643.77
Net Present Cost for Segment	$ 4,132,197.54	Net Present Cost for Segment	$ 5,099,599.50	Net Present Cost for Segment	$ 6,291,636.78
Maintenance - Net Present Cost for Segment	$ 2,606,563.65	Maintenance - Net Present Cost for Segment	$ 1,940,267.28	Maintenance - Net Present Cost for Segment	$ 2,970,207.90
Equivalent Annual Cost	158,632.86	Equivalent Annual Cost	195,770.91	Equivalent Annual Cost	241,532.59

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
24	2	35	24	2	35	24	2	35
Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix
8	2	VEARING COURSE MIXTURE (S	8	2	VEARING COURSE MIXTURE (S	8	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	VEARING COURSE MIXTURE (S	1.5		TYPE SP 9.5 WEARING COURSE MIXTURE (S	1.5	Y	
Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness	
N			N	5		N	4.5	
ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane		ML Top Lift / joint spacing	# Dowels per Lane	
3			3			6		
Design Life	Shldr Thickness		Design Life	Shldr Thickness		Design Life	Shldr Thickness	
15	3		20	5			4.5	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 3 - 2015/2016 prices

LCCA SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	2" ML M&F and 1.5" Full Width OL	2" FW Mill and 6" FDR, 5" Bit	2" Mill & 4.5" Conc WT	5.7
Net Present Cost	$2,386,575.83	$2,942,518.39	$3,487,969.40	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 2,386,575.83**	**$ 2,942,518.39**	**$ 3,487,969.40**	**Total**
% of Low Cost	**100.0%**	**123.3%**	**146.1%**	**5.7**

BID ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	2" ML M&F and 1.5" Full Width OL	2" FW Mill and 6" FDR, 5" Bit	2" Mill & 4.5" Conc WT	5.7
Net Present Cost	$1,361,487.83	$1,000,562.59	$1,784,991.80	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 1,361,487.83**	**$ 1,000,562.59**	**$ 1,784,991.80**	**Total**
Bid Adjustment Factor	**$ 360,925.24**	**$ -**	**$ 784,429.20**	**5.7**

Segment 1

SEG	Length		SEG	Length		SEG	Length	
1	5.7		1	5.7		1	5.7	
ALT	**Description**		**ALT**	**Description**		**ALT**	**Description**	
1		2" ML M&F and 1.5" Full Width OL	2		2" FW Mill and 6" FDR, 5" Bit	3		2" Mill & 4.5" Conc WT
Pavement Type		CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**		CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**		
HMA			HMA			PCC		
Primary Category			**Primary Category**			**Primary Category**		
Overlay, DL =13 to 17 years			20 Year HMA			6'X6' ≤ 5.0" Thickness		
Secondary Category			**Secondary Category**			**Secondary Category**		
Rural			Rural			Design Life = 20 Years		
ShoulderCategory			**ShoulderCategory**			**ShoulderCategory**		
Bituminous			Bituminous			Thick Bit		
Notes: Shoulders will get a 1.5" Bituminous Overlay			Notes: Shoulders will be 3" Bituminous			Notes: Shoulders will be 4.5" Bituminous		

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	2" ML M&F, 1.5" FW OL	$ 179,840.00	$ 179,840.00	0	2" Mill, 6" FDR, 5" Bit	$ 340,694.00	$ 340,694.00	0	2" Mill & 4.5" Conc WT	$ 298,768.00	$ 298,768.00
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 2,200.00	$ 2,089.04	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 8,561.62	$ 7,587.77	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 1,056.00	$ 919.88	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 12,094.60	$ 9,833.10	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 203,364.68	$ 156,999.95	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 2,200.00	$ 1,612.77	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	ML Overlay 3.5	$ 245,665.16	$ 173,983.83	20	1st CPR	$ 381,646.62	$ 270,287.99
21			$ -	21			$ -	21			$ -
22	Seal	$ 8,561.62	$ 5,857.85	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 2,112.00	$ 1,420.31	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 8,256.47	$ 5,182.24	27			$ -
28			$ -	28			$ -	28			$ -
29	ML Overlay 3.5"	$ 203,364.68	$ 123,314.82	29			$ -	29			$ -
30			$ -	30			$ -	30	Remove and Replace	$ 336,595.61	$ 200,611.78
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 2,200.00	$ 1,266.74	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (109,504.06)	$ (59,871.42)	35	2/17 Remaining Life	$ (28,901.78)	$ (15,802.07)	35	30/35 Remaining	$ (288,510.52)	$ (157,743.32)

LCCA - Net Present Cost/ per Mile			$ 418,697.51	LCCA - Net Present Cost/ per Mile			$ 516,231.30	LCCA - Net Present Cost/ per Mile			$ 611,924.46
Maintenance - Net Present Cost/per Mile			$ 238,857.51	Maintenance - Net Present Cost/per Mile			$ 175,537.30	Maintenance - Net Present Cost/per Mile			$ 313,156.46
Net Present Cost for Segment			$ 2,386,575.83	Net Present Cost for Segment			$ 2,942,518.39	Net Present Cost for Segment			$ 3,487,969.40
Maintenance - Net Present Cost for Segment			$ 1,361,487.83	Maintenance - Net Present Cost for Segment			$ 1,000,562.59	Maintenance - Net Present Cost for Segment			$ 1,784,991.80
Equivalent Annual Cost			91,619.38	Equivalent Annual Cost			112,961.71	Equivalent Annual Cost			133,901.29

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
25	2	35	24	2	35	24	2	35
Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix
12	2	VEARING COURSE MIXTURE (3	12	2	VEARING COURSE MIXTURE (3	12	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix
4	N	VEARING COURSE MIXTURE (3	4	N	VEARING COURSE MIXTURE (3	4	Y	VEARING COURSE MIXTURE (3,B)
Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness	
N	3.5		N	5		N	4.5	
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			1.5			6	0	
Design Life	Shldr Thickness		Design Life	Shldr Thickness		Design Life	Shldr Thickness	
15	1.5		20	3		20	4.5	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

Metro - 2014/2015 prices

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	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	$1,195,463.60	$601,063.28	$905,901.11	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 1,195,463.60**	**$ 601,063.28**	**$ 905,901.11**	**Total**
Bid Adjustment Factor	**$ 594,400.32**	**$ -**	**$ 304,837.83**	**4.4**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	4.358	1	4.358	1	4.358
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	2" Mill, 3.5" Overlay	2	6" Mill, 6" Con Overlay	3	6" M & 5" O over 6" Rubblized Con
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		PCC		HMA	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL > 17 years		≥12 Joint spacing		20 Year HMA	
Secondary Category		**Secondary Category**		**Secondary Category**	
Urban		Design Life = 20 Years		Rural	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Thin		PCC		Bituminous	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	B1 - Option 1	$ 380,484.76	$ 380,484.76	0	C1 - Option 2	$ 669,367.23	$ 669,367.23	0	B2 - Option 3	$ 514,414.45	$ 514,414.45
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 1,712.13	$ 1,613.38	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 12,221.44	$ 10,639.50	7			$ -	7			$ -
8			$ -	8			$ -	8	Crack Treatment	$ 856.06	$ 730.64
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12			$ -	12	Seal	$ 16,910.08	$ 13,333.48
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19	ML Mill 3.5"	$ 402,064.21	$ 275,989.24	19			$ -	19			$ -
20			$ -	20	1st CPR	$ 204,944.57	$ 137,921.82	20	ML Overlay 4	$ 302,145.28	$ 203,335.11
21			$ -	21			$ -	21			$ -
22	Crack Treatment	$ 1,712.13	$ 1,107.47	22			$ -	22			$ -
23			$ -	23			$ -	23	Crack Treatment	$ 1,712.13	$ 1,085.76
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26	Seal	$ 12,221.44	$ 7,303.28	26			$ -	26			$ -
27			$ -	27			$ -	27	Seal	$ 12,221.44	$ 7,160.08
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (44,673.80)	$ (22,338.13)	35	0/0 Remaining	$ -	$ -	35	2/17 Remaining Life	$ (35,546.50)	$ (17,774.23)

LCCA - Net Present Cost/ per Mile	$ 654,799.49	LCCA - Net Present Cost/ per Mile	$ 807,289.04	LCCA - Net Present Cost/ per Mile	$ 722,285.28
Maintenance - Net Present Cost/per Mile	$ 274,314.73	Maintenance - Net Present Cost/per Mile	$ 137,921.82	Maintenance - Net Present Cost/per Mile	$ 207,870.84
Net Present Cost for Segment	$ 2,853,616.18	Net Present Cost for Segment	$ 3,518,165.65	Net Present Cost for Segment	$ 3,147,719.26
Maintenance - Net Present Cost for Segment	$ 1,195,463.60	Maintenance - Net Present Cost for Segment	$ 601,063.28	Maintenance - Net Present Cost for Segment	$ 905,901.11
Equivalent Annual Cost	114,150.95	Equivalent Annual Cost	140,734.40	Equivalent Annual Cost	125,915.72

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
20	2	2.5 Wearing Course (3,C)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	2.5 Wearing Course (3,C)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
19	4	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
20	2	2.5 Wearing Course (3,C)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	
Sealed/UTBWC	ML Thickness	
Y	6	
ML Top Lift / joint spacing	# Dowels per Lane	
15	11	
Design Life	Shldr Thickness	
6		

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
20	2	2.5 Wearing Course (3,C)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	2.5 Wearing Course (3,C)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	4	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 6 - 2015/2016 prices

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%**	**106.7%**	**165.2%**	**27.4**

BID ADJUSTMENT FACTOR 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	$6,126,479.53	$4,462,708.96	$6,135,604.93	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 6,126,479.53**	**$ 4,462,708.96**	**$ 6,135,604.93**	**Total**
Bid Adjustment Factor	**$ 1,663,770.56**	**$ -**	**$ 1,672,895.96**	**27.4**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	27.38	1	27.38	1	27.38
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	1.5" Mill & 3" Bit. OL	2	3" Mill & 4.5" Bit. OL	3	6" Whitetopping
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		Overlay, DL > 17 years		6'X6' ≥5.5" Thickness	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Rural		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Bituminous		Bituminous		Thin Bit	
Notes:		Notes:		Notes:	

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			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 1,909.25	$ 1,812.96	3	Crack Treatment	$ 1,909.25	$ 1,812.96	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 8,960.99	$ 7,941.70	7	Seal	$ 8,960.99	$ 7,941.70	7			$ -
8			$ -	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17	ML Overlay 3.5"	$ 246,713.96	$ 184,006.96	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	Crack Treatment	$ 1,909.25	$ 1,352.16	20	ML Overlay 3.5"	$ 246,713.96	$ 174,726.61	20	1st CPR	$ 316,416.13	$ 224,090.76
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 1,909.25	$ 1,283.96	23			$ -
24	Seal	$ 8,960.99	$ 5,923.17	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 8,960.99	$ 5,624.44	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33	ML Overlay 3.5"	$ 246,713.96	$ 139,626.07	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (213,818.76)	$ (116,905.56)	35	Remaining Life	$ (51,939.78)	$ (28,398.11)	35	0/0 Remaining	$ -	$ -

LCCA - Net Present Cost/ per Mile			$ 442,829.86	LCCA - Net Present Cost/ per Mile			$ 472,567.55	LCCA - Net Present Cost/ per Mile			$ 731,414.48
Maintenance - Net Present Cost/per Mile			$ 223,757.47	Maintenance - Net Present Cost/per Mile			$ 162,991.56	Maintenance - Net Present Cost/per Mile			$ 224,090.76
Net Present Cost for Segment			$ 12,124,681.47	Net Present Cost for Segment			$ 12,938,899.38	Net Present Cost for Segment			$ 20,026,128.54
Maintenance - Net Present Cost for Segment			$ 6,126,479.53	Maintenance - Net Present Cost for Segment			$ 4,462,708.96	Maintenance - Net Present Cost for Segment			$ 6,135,604.93
Equivalent Annual Cost			465,460.07	Equivalent Annual Cost			496,717.46	Equivalent Annual Cost			768,792.42

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
24	2	35	24	2	35	24	2	35
Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix
14	2	WEARING COURSE MIXTURE (	14	2	WEARING COURSE MIXTURE (	14	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix
3	N	WEARING COURSE MIXTURE (	3	N	WEARING COURSE MIXTURE (	3	Y	WEARING COURSE MIXTURE (2,B)
Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness	
N			N			N		
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			1.5			6	11	
Design Life	Shldr Thickness		Design Life	Shldr Thickness		Design Life	Shldr Thickness	
17	4.5		20	4.5		20	3	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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 ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" MILL AND FILL	5" WHITETOP		18.5
Net Present Cost	$2,341,473.44	$6,838,844.98		Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 2,341,473.44**	**$ 6,838,844.98**	**$ -**	**Total**
Bid Adjustment Factor	**$ -**	**$ 4,497,371.54**	**$ -**	**18.5**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	18.5	1	18.5	1	18.5
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	3" MILL AND FILL	2	5" WHITETOP	3	
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE
HMA		PCC			
Primary Category		**Primary Category**		**Primary Category**	
20 Year HMA		6'X6' ≤ 5.0" Thickness			
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Design Life = 20 Years			
ShoulderCategory	DELETE	**ShoulderCategory**	DELETE	**ShoulderCategory**	DELETE
Aggregate		Aggregate			
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	3" MILL & FILL	$ 230,000.00	$ 230,000.00	0	5" WHITETOP	$ 215,052.00	$ 215,052.00	0			$ -
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3			$ -	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7			$ -	7			$ -	7			$ -
8	Crack Treatment	$ 1,232.00	$ 1,086.79	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12	Seal	$ 12,727.14	$ 10,544.65	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	ML Overlay 3.5	$ 163,106.48	$ 119,208.45	20	1st CPR	$ 419,856.80	$ 306,857.70	20			$ -
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23	Crack Treatment	$ 2,464.00	$ 1,718.11	23			$ -	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27	Seal	$ 7,778.03	$ 5,093.87	27			$ -	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30	Remove and Replace	$ 484,510.77	$ 302,731.20	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	2/17 Remaining Life	$ (19,189.00)	$ (11,085.75)	35	30/35 Remaining	$ (415,294.95)	$ (239,921.60)	35			$ -

LCCA - Net Present Cost/ per Mile			$ 356,566.13	LCCA - Net Present Cost/ per Mile			$ 584,719.30	LCCA - Net Present Cost/ per Mile			$ -
Maintenance - Net Present Cost/per Mile			$ 126,566.13	Maintenance - Net Present Cost/per Mile			$ 369,667.30	Maintenance - Net Present Cost/per Mile			$ -
Net Present Cost for Segment			$ 6,596,473.44	Net Present Cost for Segment			$ 10,817,306.98	Net Present Cost for Segment			$ -
Maintenance - Net Present Cost for Segment			$ 2,341,473.44	Maintenance - Net Present Cost for Segment			$ 6,838,844.98	Maintenance - Net Present Cost for Segment			$ -
Equivalent Annual Cost			246,809.55	Equivalent Annual Cost			404,733.64	Equivalent Annual Cost			-

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
28	2	35	28	2	35			
Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix
3	2	WEARING COURSE MIXTURE (	3	2				
Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N		1.5	Y				
Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness	
N			Y	5				
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			6	0				
Design Life	Shldr Thickness		Design Life	Shldr Thickness		Design Life	Shldr Thickness	
20	1.5			5				

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

Metro - 2014/2015 prices

LCCA SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	19YR M&O	20YR Rubblization	20YR UBOL	5.2
Net Present Cost	$3,084,642.06	$6,240,785.11	$4,044,625.48	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 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 ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	19YR M&O	20YR Rubblization	20YR UBOL	5.2
Net Present Cost	$1,040,880.35	$785,809.97	$456,590.44	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 1,040,880.35**	**$ 785,809.97**	**$ 456,590.44**	**Total**
Bid Adjustment Factor	**$ 584,289.92**	**$ 329,219.54**	**$ -**	**5.2**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	5.233	1	5.233	1	5.233
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	19YR M&O	2	20YR Rubblization	3	20YR UBOL
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL > 17 years		20 Year HMA		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Urban		Urban		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Thick		Thick		PCC	
Notes: Length calculated from RP 128.121 to RP 130.922 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:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Original Construction	$ 390,552.59	$ 390,552.59	0	Original Construction	$ 1,042,418.33	$ 1,042,418.33	0	Original Construction	$ 685,655.46	$ 685,655.46
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 1,712.13	$ 1,613.38	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ -	$ -	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 856.06	$ 730.64	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 4,466.88	$ 3,522.10	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19	ML Mill 3.5"	$ 310,976.10	$ 213,463.56	19			$ -	19			$ -
20			$ -	20	ML Mill 3.0"	$ 235,817.17	$ 158,698.20	20	1st CPR	$ 129,652.09	$ 87,252.14
21			$ -	21			$ -	21			$ -
22	Crack Treatment	$ 1,712.13	$ 1,107.47	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 1,712.13	$ 1,085.76	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26	Seal	$ -	$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ -	$ -	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (34,552.90)	$ (17,277.40)	35	2/17 Remaining Life	$ (27,743.20)	$ (13,872.36)	35	0/0 Remaining	$ -	$ -

LCCA - Net Present Cost/ per Mile			$ 589,459.60	LCCA - Net Present Cost/ per Mile			$ 1,192,582.67	LCCA - Net Present Cost/ per Mile			$ 772,907.60
Maintenance - Net Present Cost/per Mile			$ 198,907.00	Maintenance - Net Present Cost/per Mile			$ 150,164.34	Maintenance - Net Present Cost/per Mile			$ 87,252.14
Net Present Cost for Segment			$ 3,084,642.06	Net Present Cost for Segment			$ 6,240,785.11	Net Present Cost for Segment			$ 4,044,625.48
Maintenance - Net Present Cost for Segment			$ 1,040,880.35	Maintenance - Net Present Cost for Segment			$ 785,809.97	Maintenance - Net Present Cost for Segment			$ 456,590.44

Total Lane Width	# of Lanes	Analysis Period
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	SL Mix
	Y	12.5 Wearing Course (3,B)
Sealed/UTBWC	ML Thickness	
Y		
ML Top Lift / joint spacing	# Dowels per Lane	
1.75		
Design Life	Shldr Thickness	
19	4	

Total Lane Width	# of Lanes	Analysis Period
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	SL Mix
	Y	12.5 Wearing Course (3,B)
Sealed/UTBWC	ML Thickness	
N		
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 Shldr Width	# of Shldrs	ML Mix
10	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
	N	
Sealed/UTBWC	ML Thickness	
Y	9.5	
ML Top Lift / joint spacing	# Dowels per Lane	
15	11	
Design Life	Shldr Thickness	
	9.5	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

Project Number	Analysis Period
S.P. 2801-87 & 2805-72	35
Highway	**Discount Rate**
16 & 61	1.74%
Date	CLEAR ALL
12/2/2015	
Performed By	
TRM	

District 6 - 2015/2016 prices

LCCA SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	1.5" Mill & 3" Bit. Overlay	6" Whitetopping	3" Mill & 5" Bit. Overlay	3.0
Net Present Cost	$1,423,265.27	$1,965,109.26	$1,435,870.40	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 1,423,265.27**	**$ 1,965,109.26**	**$ 1,435,870.40**	**Total**
% of Low Cost	**100.0%**	**138.1%**	**100.9%**	**3.0**

BID ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	1.5" Mill & 3" Bit. Overlay	6" Whitetopping	3" Mill & 5" Bit. Overlay	3.0
Net Present Cost	$808,586.85	$597,324.14	$462,074.73	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 808,586.85**	**$ 597,324.14**	**$ 462,074.73**	**Total**
Bid Adjustment Factor	**$ 346,512.12**	**$ 135,249.41**	**$ -**	**3.0**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	3.034	1	3.034	1	3.034
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	1.5" Mill & 3" Bit. Overlay	2	6" Whitetopping	3	3" Mill & 5" Bit. Overlay
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE
HMA		PCC		HMA	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		≥12 Joint spacing		Overlay, DL > 17 years	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Design Life = 20 Years		Rural	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Bituminous		Thin Bit		Bituminous	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0		$ 202,596.71	$ 202,596.71	0		$ 450,819.09	$ 450,819.09	0		$ 320,961.00	$ 320,961.00
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 1,909.25	$ 1,812.96	3			$ -	3	Crack Treatment	$ 1,909.25	$ 1,812.96
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 8,766.31	$ 7,769.17	7			$ -	7	Seal	$ 8,766.31	$ 7,769.17
8			$ -	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 229,182.67	$ 176,931.75	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 1,909.25	$ 1,399.62	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	1st CPR	$ 277,989.99	$ 196,876.78	20	ML Overlay 3.5"	$ 229,182.67	$ 162,310.68
21			$ -	21			$ -	21			$ -
22	Seal	$ 8,766.31	$ 5,997.89	22			$ -	22			$ -
23			$ -	23			$ -	23	Crack Treatment	$ 1,909.25	$ 1,283.96
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27			$ -	27	Seal	$ 8,766.31	$ 5,502.25
28			$ -	28			$ -	28			$ -
29	ML Overlay 3.5"	$ 229,182.67	$ 138,970.14	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 1,909.25	$ 1,099.33	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (123,406.05)	$ (67,472.34)	35	0/0 Remaining	$ -	$ -	35	Remaining Life	$ (48,248.98)	$ (26,380.16)

LCCA - Net Present Cost/ per Mile			$ 469,105.23	LCCA - Net Present Cost/ per Mile			$ 647,695.87	LCCA - Net Present Cost/ per Mile			$ 473,259.86
Maintenance - Net Present Cost/per Mile			$ 266,508.52	Maintenance - Net Present Cost/per Mile			$ 196,876.78	Maintenance - Net Present Cost/per Mile			$ 152,298.86
Net Present Cost for Segment			$ 1,423,265.27	Net Present Cost for Segment			$ 1,965,109.26	Net Present Cost for Segment			$ 1,435,870.40
Maintenance - Net Present Cost for Segment			$ 808,586.85	Maintenance - Net Present Cost for Segment			$ 597,324.14	Maintenance - Net Present Cost for Segment			$ 462,074.73
Equivalent Annual Cost			54,638.40	Equivalent Annual Cost			75,439.50	Equivalent Annual Cost			55,122.30

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
12	2	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
3	N	WEARING COURSE MIXTURE (2.B)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
15	1.5	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
12	2	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
3	Y	WEARING COURSE MIXTURE (
Sealed/UTBWC	ML Thickness	
Y	6	
ML Top Lift / joint spacing	# Dowels per Lane	
12	11	
Design Life	Shldr Thickness	
3		

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
12	2	WEARING COURSE MIXTURE (4,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
3	N	WEARING COURSE MIXTURE (2,B)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	2	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

Project Number	Analysis Period
3505-19	35
Highway	**Discount Rate**
59	2.00%
Date	CLEAR ALL
5/15/2015	
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 ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" mill & ol	5" BCOA		17.4
Net Present Cost	$2,177,970.28	$6,019,586.91		Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 2,177,970.28**	**$ 6,019,586.91**	**$ -**	**Total**
Bid Adjustment Factor	**$ -**	**$ 3,841,616.63**	**$ -**	**17.4**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	17.420	1	17.420	1	17.420
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	3" mill & ol	2	5" BCOA	3	
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		PCC			
Primary Category		**Primary Category**		**Primary Category**	
20 Year HMA		6'X6' ≤ 5.0" Thickness			
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Design Life = 20 Years			
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Aggregate		Aggregate			
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. 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			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3			$ -	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7			$ -	7			$ -	7			$ -
8	Crack Treatment	$ 1,498.11	$ 1,278.62	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12	Seal	$ 12,371.00	$ 9,754.45	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	ML Overlay 3.5	$ 174,833.51	$ 117,657.94	20	1st CPR	$ 444,414.67	$ 299,078.33	20			$ -
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23	Crack Treatment	$ 2,996.22	$ 1,900.07	23			$ -	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27	Seal	$ 8,057.88	$ 4,720.80	27			$ -	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30	Remove and Replace	$ 376,411.83	$ 207,806.02	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	2/17 Remaining Life	$ (20,568.65)	$ (10,284.89)	35	30/35 Remaining	$ (322,638.72)	$ (161,328.27)	35			$ -

LCCA - Net Present Cost/ per Mile			$ 271,188.20	LCCA - Net Present Cost/ per Mile			$ 795,589.31	LCCA - Net Present Cost/ per Mile			$ -
Maintenance - Net Present Cost/per Mile			$ 125,027.00	Maintenance - Net Present Cost/per Mile			$ 345,556.08	Maintenance - Net Present Cost/per Mile			$ -
Net Present Cost for Segment			$ 4,724,098.38	Net Present Cost for Segment			$ 13,859,165.78	Net Present Cost for Segment			$ -
Maintenance - Net Present Cost for Segment			$ 2,177,970.28	Maintenance - Net Present Cost for Segment			$ 6,019,586.91	Maintenance - Net Present Cost for Segment			$ -
Equivalent Annual Cost			188,974.37	Equivalent Annual Cost			554,397.25	Equivalent Annual Cost			-

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
5	2	12.5 Wearing Course (3,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
5	N	
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
20	0	

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
5	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
5	Y	
Sealed/UTBWC	ML Thickness	
Y	5	
ML Top Lift / joint spacing	# Dowels per Lane	
6	0	
Design Life	Shldr Thickness	
20	3	

Total Lane Width	# of Lanes	Analysis Period
Total Shldr Width	# of Shldrs	ML Mix
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
Sealed/UTBWC	ML Thickness	
ML Top Lift / joint spacing	# Dowels per Lane	
Design Life	Shldr Thickness	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 1 - 2014/2015 prices

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	$14,621,698.07	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 4,685,619.42**	**$ 12,163,235.04**	**$ 14,621,698.07**	**Total**
% of Low Cost	**100.0%**	**259.6%**	**312.1%**	**16.6**

BID ADJUSTMENT 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	$2,688,915.39	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 2,963,153.88**	**$ 2,047,795.91**	**$ 2,688,915.39**	**Total**
Bid Adjustment Factor	**$ 915,357.97**	**$ -**	**$ 641,119.48**	**16.6**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	16.647	1	16.647	1	16.647
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	Mill & Overlay	2	Reclaim & Overlay	3	6" PCC
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		20 Year HMA		6'X6' ≥5.5" Thickness	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Rural		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Bituminous		Bituminous		PCC	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	2" M & O	$ 103,470.03	$ 103,470.03	0	Rec & Overlay	$ 607,643.37	$ 607,643.37	0	6" PCC	$ 716,812.80	$ 716,812.80
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 2,568.19	$ 2,420.06	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 6,717.82	$ 5,848.27	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 1,284.10	$ 1,095.96	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 10,431.22	$ 8,224.94	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 156,454.43	$ 116,247.94	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 2,568.19	$ 1,798.14	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	ML Overlay 3.5	$ 176,062.22	$ 118,484.83	20	1st CPR	$ 240,018.43	$ 161,525.52
21			$ -	21			$ -	21			$ -
22	Seal	$ 6,717.82	$ 4,345.35	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 2,568.19	$ 1,628.63	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 6,717.82	$ 3,935.71	27			$ -
28			$ -	28			$ -	28			$ -
29	ML Overlay 3.5"	$ 156,454.43	$ 88,101.41	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 2,568.19	$ 1,362.77	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	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	$ -	$ -

LCCA - Net Present Cost/ per Mile			$ 281,469.30	LCCA - Net Present Cost/ per Mile			$ 730,656.28	LCCA - Net Present Cost/ per Mile			$ 878,338.32
Maintenance - Net Present Cost/per Mile			$ 177,999.27	Maintenance - Net Present Cost/per Mile			$ 123,012.91	Maintenance - Net Present Cost/per Mile			$ 161,525.52
Net Present Cost for Segment			$ 4,685,619.42	Net Present Cost for Segment			$ 12,163,235.04	Net Present Cost for Segment			$ 14,621,698.07
Maintenance - Net Present Cost for Segment			$ 2,963,153.88	Maintenance - Net Present Cost for Segment			$ 2,047,795.91	Maintenance - Net Present Cost for Segment			$ 2,688,915.39
Equivalent Annual Cost			187,435.13	Equivalent Annual Cost			486,556.27	Equivalent Annual Cost			584,900.23

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
1	2	12.5 Wearing Course (3,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1	N	12.5 Wearing Course (3,B)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
15	2	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
1	2	12.5 Wearing Course (3,C)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
2	N	12.5 Wearing Course (3,C)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
20	3	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
1	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
	N	
Sealed/UTBWC	ML Thickness	
N	6	
ML Top Lift / joint spacing	# Dowels per Lane	
6	11	
Design Life	Shldr Thickness	
	6	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 8 - 2014/2015 prices

LCCA SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" Mill and Overlay	12" FDR and 4" Bituminous	5" Mill and 4.5" Whitetopping	8.3
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 ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" Mill and Overlay	12" FDR and 4" Bituminous	5" Mill and 4.5" Whitetopping	8.3
Net Present Cost	$1,746,718.87	$1,361,575.32	$2,263,513.56	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 1,746,718.87**	**$ 1,361,575.32**	**$ 2,263,513.56**	**Total**
Bid Adjustment Factor	**$ 385,143.55**	**$ -**	**$ 901,938.24**	**8.3**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	8.255	1	8.255	1	8.255
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	3" Mill and Overlay	2	12" FDR and 4" Bituminous	3	5" Mill and 4.5" Whitetopping
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		20 Year HMA		6'X6' ≤ 5.0" Thickness	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Rural		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Aggregate		Aggregate		Aggregate	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	3" Mill and Overlay	$ 169,863.56	$ 169,863.56	0	12" FDR and 4" Bit.	$ 294,303.87	$ 294,303.87	0	5" Mill and 4.5" PCC	$ 255,332.19	$ 255,332.19
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 1,675.52	$ 1,578.88	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 8,047.82	$ 7,006.11	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 837.76	$ 715.02	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 12,360.94	$ 9,746.52	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 188,779.94	$ 140,266.28	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 1,675.52	$ 1,173.13	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	ML Overlay 4	$ 242,126.19	$ 162,943.98	20	1st CPR	$ 337,316.54	$ 227,004.36
21			$ -	21			$ -	21			$ -
22	Seal	$ 8,047.82	$ 5,205.64	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 1,675.52	$ 1,062.54	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 8,047.82	$ 4,714.91	27			$ -
28			$ -	28			$ -	28			$ -
29	ML Overlay 3.5"	$ 188,779.94	$ 106,304.31	29			$ -	29			$ -
30			$ -	30			$ -	30	Remove and Replace	$ 382,218.57	$ 211,011.75
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 1,675.52	$ 889.09	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (101,650.74)	$ (50,828.18)	35	2/17 Remaining Life	$ (28,485.43)	$ (14,243.50)	35	30/35 Remaining	$ (327,615.92)	$ (163,817.01)

LCCA - Net Present Cost/ per Mile			$ 381,458.82	LCCA - Net Present Cost/ per Mile			$ 459,243.34	LCCA - Net Present Cost/ per Mile			$ 529,531.29
Maintenance - Net Present Cost/per Mile			$ 211,595.26	Maintenance - Net Present Cost/per Mile			$ 164,939.47	Maintenance - Net Present Cost/per Mile			$ 274,199.10
Net Present Cost for Segment			$ 3,148,942.56	Net Present Cost for Segment			$ 3,791,053.77	Net Present Cost for Segment			$ 4,371,280.79
Maintenance - Net Present Cost for Segment			$ 1,746,718.87	Maintenance - Net Present Cost for Segment			$ 1,361,575.32	Maintenance - Net Present Cost for Segment			$ 2,263,513.56
Equivalent Annual Cost			125,964.66	Equivalent Annual Cost			151,650.53	Equivalent Annual Cost			174,860.89

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
10	2	12.5 Wearing Course (3,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0		
Sealed/UTBWC	ML Thickness	
	3	
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
15	1	

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
10	2	12.5 Wearing Course (3,C)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0		
Sealed/UTBWC	ML Thickness	
	4	
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
10	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0	Y	
Sealed/UTBWC	ML Thickness	
N	4.5	
ML Top Lift / joint spacing	# Dowels per Lane	
6	0	
Design Life	Shldr Thickness	
20	4	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

Project Number	Analysis Period
4680-126	35
Highway	**Discount Rate**
90	1.74%
Date	CLEAR ALL
10/30/2015	
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 ADJUSTMENT FACTOR 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	$4,343,968.88	$2,623,875.84	$2,808,330.12	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 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**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	14.3	1	14.3	1	14.3
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	15yr - mill2", pave 3.5" bituminous	2	20yr - mill2" pave 5"	3	20yr - mill4" 1"PASSRC 7" concrete
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		20 Year HMA		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Rural		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Bituminous		Bituminous		Thick Bit	
Notes:		Notes:		Notes:	

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	$ 275,080.29	0	Thick M&OL	$ 396,866.27	$ 396,866.27	0	UBOL	$ 525,144.11	$ 525,144.11
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 2,307.01	$ 2,190.65	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ -	$ -	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 1,153.50	$ 1,004.81	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 4,406.59	$ 3,582.63	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 275,432.83	$ 212,637.43	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 2,307.01	$ 1,691.21	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	ML Overlay 3.5	$ 275,432.83	$ 195,065.76	20	1st CPR	$ 277,298.03	$ 196,386.72
21			$ -	21			$ -	21			$ -
22	Seal	$ -	$ -	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 2,307.01	$ 1,551.46	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ -	$ -	27			$ -
28			$ -	28			$ -	28			$ -
29	ML Overlay 3.5"	$ 275,432.83	$ 167,014.99	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 2,307.01	$ 1,328.35	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (148,309.99)	$ (81,088.59)	35	2/17 Remaining Life	$ (32,403.86)	$ (17,716.83)	35	0/0 Remaining	$ -	$ -

LCCA - Net Present Cost/ per Mile			$ 578,854.34	LCCA - Net Present Cost/ per Mile			$ 580,354.09	LCCA - Net Present Cost/ per Mile			$ 721,530.83
Maintenance - Net Present Cost/per Mile			$ 303,774.05	Maintenance - Net Present Cost/per Mile			$ 183,487.82	Maintenance - Net Present Cost/per Mile			$ 196,386.72
Net Present Cost for Segment			$ 8,277,617.02	Net Present Cost for Segment			$ 8,299,063.50	Net Present Cost for Segment			$ 10,317,890.89
Maintenance - Net Present Cost for Segment			$ 4,343,968.88	Maintenance - Net Present Cost for Segment			$ 2,623,875.84	Maintenance - Net Present Cost for Segment			$ 2,808,330.12
Equivalent Annual Cost			317,773.31	Equivalent Annual Cost			318,596.63	Equivalent Annual Cost			396,098.34

Total Lane Width	# of Lanes	Analysis Period
29	2	35
Total Shldr Width	# of Shldrs	ML Mix
9	1	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	Y	WEARING COURSE MIXTURE (
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
15	1.5	

Total Lane Width	# of Lanes	Analysis Period
29	2	35
Total Shldr Width	# of Shldrs	ML Mix
9	1	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	Y	WEARING COURSE MIXTURE (
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
20	3	

Total Lane Width	# of Lanes	Analysis Period
29	2	35
Total Shldr Width	# of Shldrs	ML Mix
9	1	WEARING COURSE MIXTURE (3,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
N		WEARING COURSE MIXTURE (3,B)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
12	22	
Design Life	Shldr Thickness	
4		

35-Year Analysis Period

- Year

50-Year Analysis Period

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

District 1 - 2015/2016 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 ADJUSTMENT 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 Cost	$ -	$ -	$ -	**Total**
Bid Adjustment Factor	$ -	$ -	$ -	**18.6**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	18.64	1	18.64	1	18.64
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	20 year Bit	2	20 year concrete	3	35 year concrete
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		PCC		PCC	
Primary Category		**Primary Category**		**Primary Category**	
20 Year HMA		≥12 Joint spacing		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Design Life = 20 Years		Design Life 35 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Bituminous		Thick Bit		Thick Bit	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Construction	$ 481,288.00	$ 481,288.00	0	Construction	$ 609,791.00	$ 609,791.00	0	Construction	$ 655,612.00	$ 655,612.00
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3			$ -	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7			$ -	7			$ -	7			$ -
8	Crack Treatment	$ 1,188.00	$ -	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12	Seal	$ 13,183.68	$ -	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	ML Overlay 4	$ 217,307.97	$ -	20	1st CPR	$ 240,618.28	$ -	20	1st CPR	$ 171,545.50	$ -
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23	Crack Treatment	$ 2,376.00	$ -	23			$ -	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27	Seal	$ 8,952.03	$ -	27			$ -	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35			$ -	35	Remove and Replace	$ 495,665.10	$ -	35	2nd CPR	$ 169,941.14	$ -
36			$ -	36			$ -	36			$ -
37	ML Overlay 3.5"	$ 192,576.28	$ -	37			$ -	37			$ -
38			$ -	38			$ -	38			$ -
39			$ -	39			$ -	39			$ -
40	Crack Treatment	$ 2,376.00	$ -	40			$ -	40			$ -
41			$ -	41			$ -	41			$ -
42			$ -	42			$ -	42			$ -
43			$ -	43			$ -	43			$ -
44	Chip Seal	$ 8,952.03	$ -	44			$ -	44			$ -
45			$ -	45			$ -	45			$ -
46			$ -	46			$ -	46			$ -
47			$ -	47			$ -	47			$ -
48			$ -	48			$ -	48			$ -
49			$ -	49			$ -	49			$ -
50	4/17 Remaining Life	$ (45,312.07)	$ -	50	5/20 Remaining	$ (123,916.27)	$ -	50	0/0 Remaining	$ -	$ -
LCCA - Net Present Cost/ per Mile			$ 481,288.00	LCCA - Net Present Cost/ per Mile			$ 609,791.00	LCCA - Net Present Cost/ per Mile			$ 655,612.00
Maintenance - Net Present Cost/per Mile			$ -	Maintenance - Net Present Cost/per Mile			$ -	Maintenance - Net Present Cost/per Mile			$ -
Net Present Cost for Segment			$ 8,971,208.32	Net Present Cost for Segment			$ 11,366,504.24	Net Present Cost for Segment			$ 12,220,607.68
Maintenance - Net Present Cost for Segment			$ -	Maintenance - Net Present Cost for Segment			$ -	Maintenance - Net Present Cost for Segment			$ -
Equivalent Annual Cost			#DIV/0!	Equivalent Annual Cost			#DIV/0!	Equivalent Annual Cost			#DIV/0!

Total Lane Width	# of Lanes	Analysis Period
27	2	50
Total Shldr Width	# of Shldrs	ML Mix
10	1	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	WEARING COURSE MIXTURE (
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2.0		
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
28	2	50
Total Shldr Width	# of Shldrs	ML Mix
9	1	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	WEARING COURSE MIXTURE (
Sealed/UTBWC	ML Thickness	
N	7.5	
ML Top Lift / joint spacing	# Dowels per Lane	
15	11	
Design Life	Shldr Thickness	
15	2	

Total Lane Width	# of Lanes	Analysis Period
28	2	50
Total Shldr Width	# of Shldrs	ML Mix
9	1	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	WEARING COURSE MIXTURE (3,B)
Sealed/UTBWC	ML Thickness	
N	8	
ML Top Lift / joint spacing	# Dowels per Lane	
15	11	
Design Life	Shldr Thickness	
15	2	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

Metro - 2014/2015 prices

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 ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	Bit M&O	Rubblize + Bit OL	UBOL	3.5
Net Present Cost	$3,117,724.28	$1,652,781.70	$1,423,938.76	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 3,117,724.28**	**$ 1,652,781.70**	**$ 1,423,938.76**	**Total**
Bid Adjustment Factor	**$ 1,693,785.52**	**$ 228,842.94**	**$ - **	**3.5**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	3.479	1	3.479	1	3.479
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	Bit M&O	2	Rubblize + Bit OL	3	UBOL
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		20 Year HMA		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Urban		Urban		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Thick		Thick		PCC	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	M&O	$ 565,776.48	$ 565,776.48	0	Rubblize + Bit OL	$ 2,301,920.59	$ 2,301,920.59	0	UBOL	$ 2,567,908.32	$ 2,567,908.32
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 5,136.38	$ 4,840.13	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ -	$ -	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 2,568.19	$ 2,191.93	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 13,356.29	$ 10,531.34	12			$ -
13			$ -	13			$ -	13			$ -
14	ML Overlay 3.5"	$ 711,542.05	$ 539,259.95	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17	Crack Treatment	$ 5,136.38	$ 3,668.21	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	ML Mill 3.0"	$ 747,532.88	$ 503,068.20	20	1st CPR	$ 608,191.46	$ 409,295.42
21	Seal	$ -	$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 5,136.38	$ 3,257.27	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27	ML Overlay 4.0"	$ 824,338.63	$ 482,948.72	27	Seal	$ -	$ -	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30	Crack Treatment	$ 5,136.38	$ 2,835.65	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34	Seal	$ -	$ -	34			$ -	34			$ -
35	Remaining Life	$ (274,779.54)	$ (137,397.36)	35	2/17 Remaining Life	$ (87,945.04)	$ (43,974.95)	35	0/0 Remaining	$ -	$ -
LCCA - Net Present Cost/ per Mile			$ 1,461,931.77	LCCA - Net Present Cost/ per Mile			$ 2,776,994.38	LCCA - Net Present Cost/ per Mile			$ 2,977,203.74
Maintenance - Net Present Cost/per Mile			$ 896,155.30	Maintenance - Net Present Cost/per Mile			$ 475,073.79	Maintenance - Net Present Cost/per Mile			$ 409,295.42
Net Present Cost for Segment			$ 5,086,060.64	Net Present Cost for Segment			$ 9,661,163.44	Net Present Cost for Segment			$ 10,357,691.80
Maintenance - Net Present Cost for Segment			$ 3,117,724.28	Maintenance - Net Present Cost for Segment			$ 1,652,781.70	Maintenance - Net Present Cost for Segment			$ 1,423,938.76
Equivalent Annual Cost			203,453.66	Equivalent Annual Cost			386,467.88	Equivalent Annual Cost			414,330.55

Total Lane Width	# of Lanes	Analysis Period
72	6	35
Total Shldr Width	# of Shldrs	ML Mix
28	4	12.5 Wearing Course(5,E)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
	Y	12.5 Wearing Course (3,C)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2.25		
Design Life	Shldr Thickness	
14	6	

Total Lane Width	# of Lanes	Analysis Period
72	6	35
Total Shldr Width	# of Shldrs	ML Mix
28	4	12.5 Wearing Course(5,F)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
	Y	12.5 Wearing Course (3,C)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
72	6	35
Total Shldr Width	# of Shldrs	ML Mix
28	4	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
	N	
Sealed/UTBWC	ML Thickness	
Y	9.5	
ML Top Lift / joint spacing	# Dowels per Lane	
15	11	
Design Life	Shldr Thickness	
	9.5	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 8 - 2014/2015 prices

LCCA 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	$250,574.32	$341,650.76	$403,647.29	Miles
Segment #2				6.2
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 250,574.32**	**$ 341,650.76**	**$ 403,647.29**	**Total**
% of Low Cost	**100.0%**	**136.3%**	**161.1%**	**6.8**

BID ADJUSTMENT 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	$183,013.31	Miles
Segment #2				6.2
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 123,650.15**	**$ 97,831.58**	**$ 183,013.31**	**Total**
Bid Adjustment Factor	**$ 25,818.57**	**$ -**	**$ 85,181.74**	**6.8**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	0.609	1	0.609	1	0.609
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	3" Mill and Overlay (Urban)	2	FDR and 4" Overlay (Urban)	3	4.5" PCC Overlay (Urban)
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		20 Year HMA		6'X6' ≤ 5.0" Thickness	
Secondary Category		**Secondary Category**		**Secondary Category**	
Urban		Urban		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Thick		Thick		Thick Bit	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	3" Mill and Overlay	$ 208,414.07	$ 208,414.07	0	FDR and 4" Overlay	$ 400,359.91	$ 400,359.91	0	4.5" PCC Overlay	$ 362,288.96	$ 362,288.96
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 1,436.16	$ 1,353.33	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 8,644.05	$ 7,525.17	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 718.08	$ 612.87	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 12,847.89	$ 10,130.47	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17	ML Overlay 3.5"	$ 230,466.07	$ 164,590.24	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	Crack Treatment	$ 1,436.16	$ 966.49	20	ML Mill 3.0"	$ 234,349.82	$ 157,710.71	20	1st CPR	$ 337,631.93	$ 227,216.61
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 1,436.16	$ 910.75	23			$ -
24	Seal	$ 8,644.05	$ 5,374.19	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 8,644.05	$ 5,064.22	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30	Remove and Replace	$ 593,621.33	$ 327,721.06
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33	ML Overlay 4.0"	$ 267,390.47	$ 139,104.21	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (231,738.41)	$ (115,875.60)	35	2/17 Remaining Life	$ (27,570.57)	$ (13,786.04)	35	30/35 Remaining	$ (508,818.28)	$ (254,423.19)

LCCA - Net Present Cost/ per Mile			$ 411,452.09	LCCA - Net Present Cost/ per Mile			$ 561,002.89	LCCA - Net Present Cost/ per Mile			$ 662,803.43
Maintenance - Net Present Cost/per Mile			$ 203,038.02	Maintenance - Net Present Cost/per Mile			$ 160,642.98	Maintenance - Net Present Cost/per Mile			$ 300,514.47
Net Present Cost for Segment			$ 250,574.32	Net Present Cost for Segment			$ 341,650.76	Net Present Cost for Segment			$ 403,647.29
Maintenance - Net Present Cost for Segment			$ 123,650.15	Maintenance - Net Present Cost for Segment			$ 97,831.58	Maintenance - Net Present Cost for Segment			$ 183,013.31
Equivalent Annual Cost			10,023.53	Equivalent Annual Cost			13,666.79	Equivalent Annual Cost			16,146.78

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
20	2	12.5 Wearing Course (3,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0	N	12.5 Wearing Course (3,B)
Sealed/UTBWC	ML Thickness	
N	7	
ML Top Lift / joint spacing	# Dowels per Lane	
1.5	0	
Design Life	Shldr Thickness	
17	4.5	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
20	2	12.5 Wearing Course (3,C)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0	N	12.5 Wearing Course (3,C)
Sealed/UTBWC	ML Thickness	
N	4	
ML Top Lift / joint spacing	# Dowels per Lane	
2	0	
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
16	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0	Y	12.5 Wearing Course (3,B)
Sealed/UTBWC	ML Thickness	
N	4.5	
ML Top Lift / joint spacing	# Dowels per Lane	
6	0	
Design Life	Shldr Thickness	
20	6	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 8 - 2015/2016 prices

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
Segment #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	$908,631.43	Miles
Segment #2				7.7
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 900,527.55**	**$ 1,808,733.88**	**$ 908,631.43**	**Total**
Bid Adjustment Factor	**$ -**	**$ 908,206.33**	**$ 8,103.88**	**13.4**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	5.688	1	5.688	1	5.688
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	2.5" Mill and 4" Overlay	2	4" Mill and 4" Whitetopping	3	4" Mill, 9" FDR, 4" Overlay
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		PCC		HMA	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL > 17 years		6'X6' ≤ 5.0" Thickness		20 Year HMA	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Design Life = 20 Years		Rural	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Aggregate		Aggregate		Aggregate	
Notes: Considered 2' shoulder as mainline		Notes: Considered 2' shoulder as mainline		Notes: Considered 2' shoulder as mainline	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	2.5" Mill and 4" Overlay	$ 203,790.00	$ 203,790.00	0	4" Mill and 4" Whitetopping	$ 208,641.00	$ 208,641.00	0	4" Mill, 9" FDR and 4" Overlay	$ 276,683.00	$ 276,683.00
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 2,464.00	$ 2,339.73	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 8,733.73	$ 7,740.29	7			$ -	7			$ -
8			$ -	8			$ -	8	Crack Treatment	$ 1,232.00	$ 1,073.19
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12			$ -	12	Seal	$ 12,742.80	$ 10,360.10
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	ML Overlay 3.5"	$ 192,137.27	$ 140,851.16	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	1st CPR	$ 378,864.41	$ 268,317.59	20	ML Overlay 4	$ 219,249.92	$ 155,276.16
21	Crack Treatment	$ 2,464.00	$ 1,715.20	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23			$ -	23			$ -	23	Crack Treatment	$ 2,464.00	$ 1,657.03
24			$ -	24			$ -	24			$ -
25	Seal	$ 8,733.73	$ 5,674.22	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27			$ -	27	Seal	$ 8,733.73	$ 5,481.79
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30	Remove and Replace	$ 390,028.31	$ 232,457.81	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ -	$ -	35	30/35 Remaining	$ (334,309.98)	$ (182,784.21)	35	2/17 Remaining Life	$ (25,794.11)	$ (14,102.95)

LCCA - Net Present Cost/ per Mile			$ 362,110.60	LCCA - Net Present Cost/ per Mile			$ 526,632.19	LCCA - Net Present Cost/ per Mile			$ 436,428.33
Maintenance - Net Present Cost/per Mile			$ 158,320.60	Maintenance - Net Present Cost/per Mile			$ 317,991.19	Maintenance - Net Present Cost/per Mile			$ 159,745.33
Net Present Cost for Segment			$ 2,059,685.07	Net Present Cost for Segment			$ 2,995,483.89	Net Present Cost for Segment			$ 2,482,404.34
Maintenance - Net Present Cost for Segment			$ 900,527.55	Maintenance - Net Present Cost for Segment			$ 1,808,733.88	Maintenance - Net Present Cost for Segment			$ 908,631.43
Equivalent Annual Cost			79,070.21	Equivalent Annual Cost			114,995.03	Equivalent Annual Cost			95,298.18

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
16	2	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0	N	
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
18	1.5	

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
16	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0	Y	
Sealed/UTBWC	ML Thickness	
N	4	
ML Top Lift / joint spacing	# Dowels per Lane	
6	0	
Design Life	Shldr Thickness	
18	1.5	

Total Lane Width	# of Lanes	Analysis Period
28	2	35
Total Shldr Width	# of Shldrs	ML Mix
16	2	WEARING COURSE MIXTURE (3,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0	N	
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	1.5	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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%
Date	CLEAR ALL
3/25/2016	
Performed By	
TRM	

District 6 - 2015/2016 prices

LCCA SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" Mill & 3" Bit. OL	3" Mill & 3" Bit. OL	3" Mill & 3" Bit. OL	1.0
Net Present Cost	$721,135.34	$721,135.34	$721,135.34	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	$ 721,135.34	$ 721,135.34	$ 721,135.34	**Total**
% of Low Cost	100.0%	100.0%	100.0%	**13.5**

BID ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	3" Mill & 3" Bit. OL	3" Mill & 3" Bit. OL	3" Mill & 3" Bit. OL	1.0
Net Present Cost	$362,455.21	$362,455.21	$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	$ 362,455.21	$ 362,455.21	$ 362,455.21	**Total**
Bid Adjustment Factor	$ -	$ -	$ -	**13.5**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	1.027	1	1.027	1	1.027
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	3" Mill & 3" Bit. OL	2	3" Mill & 3" Bit. OL	3	3" Mill & 3" Bit. OL
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		HMA	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		Overlay, DL =13 to 17 years		Overlay, DL =13 to 17 years	
Secondary Category		**Secondary Category**		**Secondary Category**	
Urban		Urban		Urban	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Thick		Thick		Thick	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0		$ 349,250.38	$ 349,250.38	0		$ 349,250.38	$ 349,250.38	0		$ 349,250.38	$ 349,250.38
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 1,909.25	$ 1,812.96	3	Crack Treatment	$ 1,909.25	$ 1,812.96	3	Crack Treatment	$ 1,909.25	$ 1,812.96
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 9,934.37	$ 8,804.37	7	Seal	$ 9,934.37	$ 8,804.37	7	Seal	$ 9,934.37	$ 8,804.37
8			$ -	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 289,824.17	$ 223,747.71	15	ML Overlay 3.5"	$ 289,824.17	$ 223,747.71	15	ML Overlay 3.5"	$ 289,824.17	$ 223,747.71
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 1,909.25	$ 1,399.62	18	Crack Treatment	$ 1,909.25	$ 1,399.62	18	Crack Treatment	$ 1,909.25	$ 1,399.62
19			$ -	19			$ -	19			$ -
20			$ -	20			$ -	20			$ -
21			$ -	21			$ -	21			$ -
22	Seal	$ 9,934.37	$ 6,797.08	22	Seal	$ 9,934.37	$ 6,797.08	22	Seal	$ 9,934.37	$ 6,797.08
23			$ -	23			$ -	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27			$ -	27			$ -
28			$ -	28			$ -	28			$ -
29	ML Overlay 4.0"	$ 350,244.01	$ 212,378.45	29	ML Overlay 4.0"	$ 350,244.01	$ 212,378.45	29	ML Overlay 4.0"	$ 350,244.01	$ 212,378.45
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 1,909.25	$ 1,099.33	32	Crack Treatment	$ 1,909.25	$ 1,099.33	32	Crack Treatment	$ 1,909.25	$ 1,099.33
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (188,592.93)	$ (103,113.31)	35	Remaining Life	$ (188,592.93)	$ (103,113.31)	35	Remaining Life	$ (188,592.93)	$ (103,113.31)

LCCA - Net Present Cost/ per Mile	$ 702,176.58	LCCA - Net Present Cost/ per Mile	$ 702,176.58	LCCA - Net Present Cost/ per Mile	$ 702,176.58
Maintenance - Net Present Cost/per Mile	$ 352,926.20	Maintenance - Net Present Cost/per Mile	$ 352,926.20	Maintenance - Net Present Cost/per Mile	$ 352,926.20
Net Present Cost for Segment	$ 721,135.34	Net Present Cost for Segment	$ 721,135.34	Net Present Cost for Segment	$ 721,135.34
Maintenance - Net Present Cost for Segment	$ 362,455.21	Maintenance - Net Present Cost for Segment	$ 362,455.21	Maintenance - Net Present Cost for Segment	$ 362,455.21
Equivalent Annual Cost	27,684.00	Equivalent Annual Cost	27,684.00	Equivalent Annual Cost	27,684.00

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
24	2	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
24	N	WEARING COURSE MIXTURE (
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
15	11	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
24	2	WEARING COURSE MIXTURE (
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
24	N	WEARING COURSE MIXTURE (3,B)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
15	11	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
24	2	WEARING COURSE MIXTURE (3,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
24	N	WEARING COURSE MIXTURE (3,B)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
15	11	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 1 - 2014/2015 prices

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**

BID ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	Mill & Overlay	Reclaim & Overlay	20 year Conc	1.6
Net Present Cost	$655,456.62	$339,344.66	$400,656.36	Miles
Segment #2				1.6
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 655,456.62**	**$ 339,344.66**	**$ 400,656.36**	**Total**
Bid Adjustment Factor	**$ 316,111.96**	**$ -**	**$ 61,311.70**	**3.1**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	1.56899999999996	1	1.56899999999996	1	1.56899999999996
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	Mill & Overlay	2	Reclaim & Overlay	3	20 year Conc
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		20 Year HMA		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Urban		Urban		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Thin		Thick		PCC	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. 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	$ 1,038,331.60	$ 1,038,331.60
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 5,136.38	$ 4,840.13	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 13,322.39	$ 11,597.94	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 2,568.19	$ 2,191.93	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 20,716.31	$ 16,334.67	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 358,088.43	$ 266,064.98	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 5,136.38	$ 3,596.29	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	ML Mill 3.0"	$ 303,986.91	$ 204,574.47	20	1st CPR	$ 379,448.23	$ 255,357.78
21			$ -	21			$ -	21			$ -
22	Seal	$ 13,322.39	$ 8,617.44	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 5,136.38	$ 3,257.27	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 13,322.39	$ 7,805.08	27			$ -
28			$ -	28			$ -	28			$ -
29	ML Overlay 4.0"	$ 409,410.37	$ 230,544.02	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 5,136.38	$ 2,725.54	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
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 - Net Present Cost/ per Mile			$ 622,593.88	LCCA - Net Present Cost/ per Mile			$ 1,237,941.61	LCCA - Net Present Cost/ per Mile			$ 1,293,689.38
Maintenance - Net Present Cost/per Mile			$ 417,754.38	Maintenance - Net Present Cost/per Mile			$ 216,280.85	Maintenance - Net Present Cost/per Mile			$ 255,357.78
Net Present Cost for Segment			$ 976,849.79	Net Present Cost for Segment			$ 1,942,330.38	Net Present Cost for Segment			$ 2,029,798.64
Maintenance - Net Present Cost for Segment			$ 655,456.62	Maintenance - Net Present Cost for Segment			$ 339,344.66	Maintenance - Net Present Cost for Segment			$ 400,656.36

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	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
15	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	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
20	1.5	

Total Lane Width	# of Lanes	Analysis Period
48	4	35
Total Shldr Width	# of Shldrs	ML Mix
0	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
	N	
Sealed/UTBWC	ML Thickness	
Y	6	
ML Top Lift / joint spacing	# Dowels per Lane	
12	11	
Design Life	Shldr Thickness	
	6	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 1 - 2015/2016 prices

Preliminary, segment limits need to be tied down.

LCCA SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	M&O	New HMA	PCC	2.7
Net Present Cost	$1,757,394.83	$2,805,312.62	$2,773,255.23	Miles
Segment #2				3.6
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 1,757,394.83**	**$ 2,805,312.62**	**$ 2,773,255.23**	**Total**
% of Low Cost	**100.0%**	**159.6%**	**157.8%**	**6.2**

BID ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	M&O	New HMA	PCC	2.7
Net Present Cost	$707,581.43	$488,232.12	$509,503.33	Miles
Segment #2				3.6
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 707,581.43**	**$ 488,232.12**	**$ 509,503.33**	**Total**
Bid Adjustment Factor	**$ 219,349.31**	**$ -**	**$ 21,271.21**	**6.2**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	2.65	1	2.65	1	2.65
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	M&O	2	New HMA	3	PCC
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		20 Year HMA		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Rural		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Bituminous		Bituminous		Thin Bit	
Notes: Mill 2in and OL 5in.		Notes: Subcut 30in. Place 6in. HMA- 5in. CI5 - 19in. Sel Gran.		Notes: Subcut 24in. - 7in. PCC - 5in. CL6	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	Mill 2 & OL	$ 396,156.00	$ 396,156.00	0	R&R	$ 874,370.00	$ 874,370.00	0	PCC 20 yr.	$ 854,246.00	$ 854,246.00
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 2,112.00	$ 2,005.48	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 8,116.17	$ 7,192.99	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 1,056.00	$ 919.88	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 11,923.74	$ 9,694.19	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 230,166.49	$ 177,691.28	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 2,112.00	$ 1,548.26	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	ML Overlay 4	$ 259,531.16	$ 183,803.95	20	1st CPR	$ 271,478.73	$ 192,265.41
21			$ -	21			$ -	21			$ -
22	Seal	$ 8,116.17	$ 5,553.07	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 2,112.00	$ 1,420.31	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 8,116.17	$ 5,094.18	27			$ -
28			$ -	28			$ -	28			$ -
29	ML Overlay 3.5"	$ 230,166.49	$ 139,566.71	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 2,112.00	$ 1,216.07	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	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	$ -	$ -
LCCA - Net Present Cost/ per Mile			$ 663,167.86	LCCA - Net Present Cost/ per Mile			$ 1,058,608.54	LCCA - Net Present Cost/ per Mile			$ 1,046,511.41
Maintenance - Net Present Cost/per Mile			$ 267,011.86	Maintenance - Net Present Cost/per Mile			$ 184,238.54	Maintenance - Net Present Cost/per Mile			$ 192,265.41
Net Present Cost for Segment			$ 1,757,394.83	Net Present Cost for Segment			$ 2,805,312.62	Net Present Cost for Segment			$ 2,773,255.23
Maintenance - Net Present Cost for Segment			$ 707,581.43	Maintenance - Net Present Cost for Segment			$ 488,232.12	Maintenance - Net Present Cost for Segment			$ 509,503.33
Equivalent Annual Cost			67,465.45	Equivalent Annual Cost			107,694.46	Equivalent Annual Cost			106,463.79

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
11	2	WEARING COURSE MIXTURE (4
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	WEARING COURSE MIXTURE (
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
15	3	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
11	2	WEARING COURSE MIXTURE (4
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	WEARING COURSE MIXTURE (3,C)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
27	2	35
Total Shldr Width	# of Shldrs	ML Mix
11	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
	N	WEARING COURSE MIXTURE (3,B)
Sealed/UTBWC	ML Thickness	
N	7	
ML Top Lift / joint spacing	# Dowels per Lane	
15	11	
Design Life	Shldr Thickness	
	3	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

Project Number	Analysis Period
SP 6947-50	35
Highway	**Discount Rate**
TH 37	1.58%
Date	CLEAR ALL
8/18/2016	
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 ADJUSTMENT 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	$3,574,016.82	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 4,584,792.54**	**$ 3,198,532.97**	**$ 3,574,016.82**	**Total**
Bid Adjustment Factor	**$ 1,386,259.57**	**$ -**	**$ 375,483.85**	**19.0**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	19	1	19	1	19
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	3" Mill, 3" Overlay	2	20 Year HMA	3	PCC
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category	DELETE	**Primary Category**	DELETE	**Primary Category**	
Overlay, DL =13 to 17 years		20 Year HMA		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Rural		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Bituminous		Bituminous		Thick Bit	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0		$ 138,662.00	$ 138,662.00	0		$ 421,384.00	$ 421,384.00	0		$ 548,246.00	$ 548,246.00
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 2,112.00	$ 2,014.97	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 11,227.46	$ 10,060.60	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 1,056.00	$ 931.53	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 15,838.87	$ 13,122.78	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 196,042.93	$ 154,963.02	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 2,112.00	$ 1,592.74	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	ML Overlay 4	$ 219,436.90	$ 160,378.26	20	1st CPR	$ 257,375.48	$ 188,106.15
21			$ -	21			$ -	21			$ -
22	Seal	$ 11,227.46	$ 7,952.45	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 2,112.00	$ 1,472.67	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 11,227.46	$ 7,352.92	27			$ -
28			$ -	28			$ -	28			$ -
29	ML Overlay 3.5"	$ 196,042.93	$ 124,426.58	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 2,112.00	$ 1,278.88	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (105,561.58)	$ (60,984.38)	35	2/17 Remaining Life	$ (25,816.11)	$ (14,914.32)	35	0/0 Remaining	$ -	$ -

LCCA - Net Present Cost/ per Mile			$ 379,966.87	LCCA - Net Present Cost/ per Mile			$ 589,727.84	LCCA - Net Present Cost/ per Mile			$ 736,352.15
Maintenance - Net Present Cost/per Mile			$ 241,304.87	Maintenance - Net Present Cost/per Mile			$ 168,343.84	Maintenance - Net Present Cost/per Mile			$ 188,106.15
Net Present Cost for Segment			$ 7,219,370.54	Net Present Cost for Segment			$ 11,204,828.97	Net Present Cost for Segment			$ 13,990,690.82
Maintenance - Net Present Cost for Segment			$ 4,584,792.54	Maintenance - Net Present Cost for Segment			$ 3,198,532.97	Maintenance - Net Present Cost for Segment			$ 3,574,016.82
Equivalent Annual Cost			270,115.48	Equivalent Annual Cost			419,232.92	Equivalent Annual Cost			523,466.99

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
24	2	35	24	2	35	26	2	35
Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix
16	2	VEARING COURSE MIXTURE (3	16	2	VEARING COURSE MIXTURE (3	18	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix
0	N	VEARING COURSE MIXTURE (3	1.5	N	VEARING COURSE MIXTURE (3	1.5	N	VEARING COURSE MIXTURE (3,B)
Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness	
N	3		N	6		N	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	
1.5			2			15	11	
Design Life	Shldr Thickness		Design Life	Shldr Thickness		Design Life	Shldr Thickness	
15	0		20	3			3	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 3 - 2014/2015 prices

LCCA SUMMARY				
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	HMA: 2" Mill & 3.5" Overlay Full Width	HMA20: FDR, Mill 4" Full Width,	PCC20: 4.0" Whitetopping, Mill 4"	19.0
Net Present Cost	$9,965,340.10	$12,644,469.59	$11,355,579.59	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	$ 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 ADJUSTMENT FACTOR SUMMARY				
	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	HMA: 2" Mill & 3.5" Overlay Full Width	HMA20: FDR, Mill 4" Full Width,	PCC20: 4.0" Whitetopping, Mill 4"	19.0
Net Present Cost	$5,062,283.88	$3,318,427.33	$5,872,191.45	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	$ 5,062,283.88	$ 3,318,427.33	$ 5,872,191.45	Total
Bid Adjustment Factor	$ 1,743,856.55	$ -	$ 2,553,764.12	19.0

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	19	1	19	1	19
ALT	Description	ALT	Description	ALT	Description
1	HMA: 2" Mill & 3.5" Overlay Full Width	2	HMA20: FDR, Mill 4" Full Width, Pave 6.5" ML & 4" Shld with	3	PCC20: 4.0" Whitetopping, Mill 4" Full Width, Pave 4" Shld
Pavement Type		Pavement Type		Pavement Type	
HMA	CLICK HERE TO EDIT THIS ALTERNATE	HMA	CLICK HERE TO EDIT THIS ALTERNATE	PCC	
Primary Category		Primary Category		Primary Category	
Overlay, DL =13 to 17 years		20 Year HMA		6"X6" ≤ 5.0" Thickness	
Secondary Category		Secondary Category		Secondary Category	
Rural		Rural		Design Life = 20 Years	
ShoulderCategory		ShoulderCategory		ShoulderCategory	
Bituminous		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	$ 258,055.59	$ 258,055.59			0	FDR, Mill 4" Full Width, Pave 6.5" ML & 4" Shld with 2.5" Agg Base	$ 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			$ -
2			$ -			2			$ -			2			$ -
3	Crack Treatment	$ 2,568.19	$ 2,420.06			3			$ -			3			$ -
4			$ -			4			$ -			4			$ -
5			$ -			5			$ -			5			$ -
6			$ -			6			$ -			6			$ -
7	Seal	$ 7,722.11	$ 6,722.57			7			$ -			7			$ -
8			$ -			8	Crack Treatment	$ 1,284.10	$ 1,095.96			8			$ -
9			$ -			9			$ -			9			$ -
10			$ -			10			$ -			10			$ -
11			$ -			11			$ -			11			$ -
12			$ -			12	Seal	$ 11,886.07	$ 9,372.09			12			$ -
13			$ -			13			$ -			13			$ -
14	ML Overlay 3.5"	$ 208,152.37	$ 157,753.48			14			$ -			14			$ -
15			$ -			15			$ -			15			$ -
16			$ -			16			$ -			16			$ -
17	Crack Treatment	$ 2,568.19	$ 1,834.11			17			$ -			17			$ -
18			$ -			18			$ -			18			$ -
19			$ -			19			$ -			19			$ -
20			$ -			20	ML Overlay 4	$ 257,322.63	$ 173,170.75			20	1st CPR	$ 390,267.57	$ 262,638.89
21	Seal	$ 7,722.11	$ 5,094.86			21			$ -			21			$ -
22			$ -			22			$ -			22			$ -
23			$ -			23	Crack Treatment	$ 2,568.19	$ 1,628.63			23			$ -
24			$ -			24			$ -			24			$ -
25			$ -			25			$ -			25			$ -
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			$ -			29			$ -			29			$ -
30	Crack Treatment	$ 2,568.19	$ 1,417.82			30			$ -			30	Remove and Replace	$ 375,975.07	$ 207,564.89
31			$ -			31			$ -			31			$ -
32			$ -			32			$ -			32			$ -
33			$ -			33			$ -			33			$ -
34	Seal	$ 7,722.11	$ 3,938.50			34			$ -			34			$ -
35	Remaining Life	$ (69,384.12)	$ (34,693.98)			35	2/17 Remaining Life	$ (30,273.25)	$ (15,137.46)			35	30/35 Remaining	$ (322,264.34)	$ (161,141.07)

LCCA - Net Present Cost/ per Mile	$ 524,491.58	LCCA - Net Present Cost/ per Mile	$ 665,498.40	LCCA - Net Present Cost/ per Mile	$ 597,662.08
Maintenance - Net Present Cost/per Mile	$ 266,435.99	Maintenance - Net Present Cost/per Mile	$ 174,654.07	Maintenance - Net Present Cost/per Mile	$ 309,062.71
Net Present Cost for Segment	$ 9,965,340.10	Net Present Cost for Segment	$ 12,644,469.59	Net Present Cost for Segment	$ 11,355,579.59
Maintenance - Net Present Cost for Segment	$ 5,062,283.88	Maintenance - Net Present Cost for Segment	$ 3,318,427.33	Maintenance - Net Present Cost for Segment	$ 5,872,191.45

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
12	2	SP 12.5 Wearing Course (4,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
3.0	N	SP 12.5 Wearing Course (4,B)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
14	5.5	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
12	2	TYPE SP 9.5 Wearing Course (3,F)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
3	N	TYPE SP 9.5 Wearing Course (2,A)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
12	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
3	Y	TYPE SP 9.5 Wearing Course (2,A)
Sealed/UTBWC	ML Thickness	
Y	4	
ML Top Lift / joint spacing	# Dowels per Lane	
6	0	
Design Life	Shldr Thickness	
	4	

35-Year Analysis Period

50 - Year

50-Year Analysis Period

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

District 3 - 2015/2016 prices

LCCA SUMMARY

	Alternate #1	Alternate #2	Alternate #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	$8,259,839.39	$11,834,083.00	$8,749,127.00	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 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 ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #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	$4,264,305.55	$5,702,712.20	$2,959,337.00	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 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**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	14.267	1	14.267	1	14.267
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	FDR w/4" HMA ML & Shld.	2	FDR w/6" PCC ML & PCC Shld	3	FDR w/6" PCC ML & Bit Shld.
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		PCC		PCC	
Primary Category		**Primary Category**		**Primary Category**	
20 Year HMA		≥12 Joint spacing		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Design Life = 20 Years		Design Life 35 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Bituminous		PCC		Thin Bit	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	FDR w/4" HMA	$ 280,054.24	$ 280,054.24	0	FDR w/ 6" PCC ML & Shld	$ 429,758.94	$ 429,758.94	0	FDR w/6" PCC ML & Bit Shld	$ 405,816.92	$ 405,816.92
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3			$ -	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7			$ -	7			$ -	7			$ -
8	Crack Treatment	$ 1,056.00	$ 919.88	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12	Seal	$ 11,292.23	$ 9,180.77	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20	ML Overlay 4	$ 255,153.24	$ 180,703.44	20	1st CPR	$ 217,077.08	$ 153,737.32	20	1st CPR	$ 162,752.21	$ 115,263.61
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23	Crack Treatment	$ 2,112.00	$ 1,420.31	23			$ -	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27	Seal	$ 7,634.64	$ 4,791.94	27			$ -	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35			$ -	35	Remove and Replace	$ 557,483.15	$ 304,804.30	35	2nd CPR	$ 168,562.58	$ 92,161.71
36			$ -	36			$ -	36			$ -
37	ML Overlay 3.5"	$ 226,731.50	$ 119,761.64	37			$ -	37			$ -
38			$ -	38			$ -	38			$ -
39			$ -	39			$ -	39			$ -
40	Crack Treatment	$ 2,112.00	$ 1,059.31	40			$ -	40			$ -
41			$ -	41			$ -	41			$ -
42			$ -	42			$ -	42			$ -
43			$ -	43			$ -	43			$ -
44	Chip Seal	$ 7,634.64	$ 3,573.98	44			$ -	44			$ -
45			$ -	45			$ -	45			$ -
46			$ -	46			$ -	46			$ -
47			$ -	47			$ -	47			$ -
48			$ -	48			$ -	48			$ -
49			$ -	49			$ -	49			$ -
50	4/17 Remaining Life	$ (53,348.59)	$ (22,518.33)	50	5/20 Remaining	$ (139,370.79)	$ (58,828.14)	50	0/0 Remaining	$ -	$ -
LCCA - Net Present Cost/ per Mile			$ 578,947.18	LCCA - Net Present Cost/ per Mile			$ 829,472.42	LCCA - Net Present Cost/ per Mile			$ 613,242.24
Maintenance - Net Present Cost/per Mile			$ 298,892.94	Maintenance - Net Present Cost/per Mile			$ 399,713.48	Maintenance - Net Present Cost/per Mile			$ 207,425.32
Net Present Cost for Segment			$ 8,259,839.39	Net Present Cost for Segment			$ 11,834,083.00	Net Present Cost for Segment			$ 8,749,127.00
Maintenance - Net Present Cost for Segment			$ 4,264,305.55	Maintenance - Net Present Cost for Segment			$ 5,702,712.20	Maintenance - Net Present Cost for Segment			$ 2,959,337.00
Equivalent Annual Cost			248,694.79	Equivalent Annual Cost			356,311.38	Equivalent Annual Cost			263,426.71

Total Lane Width	# of Lanes	Analysis Period
24	2	50
Total Shldr Width	# of Shldrs	ML Mix
4	2	VEARING COURSE MIXTURE (3
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	VEARING COURSE MIXTURE (3
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
2		
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
26	2	50
Total Shldr Width	# of Shldrs	ML Mix
2	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	
Sealed/UTBWC	ML Thickness	
Y	6	
ML Top Lift / joint spacing	# Dowels per Lane	
12	11	
Design Life	Shldr Thickness	
6		

Total Lane Width	# of Lanes	Analysis Period
26	2	50
Total Shldr Width	# of Shldrs	ML Mix
2	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	WEARING COURSE MIXTURE (2,B)
Sealed/UTBWC	ML Thickness	
Y	6	
ML Top Lift / joint spacing	# Dowels per Lane	
12	11	
Design Life	Shldr Thickness	
12	3	

35-Year Analysis Period

50 - Year

50-Year Analysis Period

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

District 3 - 2014/2015 prices

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**	**$ 1,639,607.53**	**$ 907,211.30**	**Total**
Bid Adjustment Factor	**$ 306,270.47**	**$ 732,396.24**	**$ - **	**4.5**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	4.486	1	4.486	1	4.486
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1		2		3	
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		PCC		PCC	
Primary Category		**Primary Category**		**Primary Category**	
20 Year HMA		≥12 Joint spacing		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Design Life = 20 Years		Design Life 35 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Bituminous		Thick Bit		Thick Bit	
Notes:		Notes:		Notes:	

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
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	$ 629,430.53
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3			$ -	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7			$ -	7			$ -	7			$ -
8	Crack Treatment	$ 1,498.11	$ 1,278.62	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12	Seal	$ 4,781.29	$ 3,770.01	12			$ -	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15			$ -	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18			$ -	18			$ -	18			$ -
19			$ -	19			$ -	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	$ 112,897.96
21			$ -	21			$ -	21			$ -
22			$ -	22			$ -	22			$ -
23	Crack Treatment	$ 2,996.22	$ 1,900.07	23			$ -	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27	Seal	$ -	$ -	27			$ -	27			$ -
28			$ -	28			$ -	28			$ -
29			$ -	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32			$ -	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35			$ -	35	Remove and Replace	$ 508,146.45	$ 254,087.26	35	2nd CPR	$ 178,657.57	$ 89,333.72
36			$ -	36			$ -	36			$ -
37	ML Overlay 3.5"	$ 226,830.59	$ 109,017.26	37			$ -	37			$ -
38			$ -	38			$ -	38			$ -
39			$ -	39			$ -	39			$ -
40	Crack Treatment	$ 2,996.22	$ 1,356.96	40			$ -	40			$ -
41			$ -	41			$ -	41			$ -
42			$ -	42			$ -	42			$ -
43			$ -	43			$ -	43			$ -
44	Chip Seal	$ -	$ -	44			$ -	44			$ -
45			$ -	45			$ -	45			$ -
46			$ -	46			$ -	46			$ -
47			$ -	47			$ -	47			$ -
48			$ -	48			$ -	48			$ -
49			$ -	49			$ -	49			$ -
50	4/17 Remaining Life	$ (53,371.90)	$ (19,829.15)	50	5/20 Remaining	$ (127,036.61)	$ (47,197.64)	50	0/0 Remaining	$ -	$ -
LCCA - Net Present Cost/ per Mile			$ 1,346,649.34	LCCA - Net Present Cost/ per Mile			$ 962,768.03	LCCA - Net Present Cost/ per Mile			$ 831,662.21
Maintenance - Net Present Cost/per Mile			$ 270,504.18	Maintenance - Net Present Cost/per Mile			$ 365,494.32	Maintenance - Net Present Cost/per Mile			$ 202,231.68
Net Present Cost for Segment			$ 6,041,068.95	Net Present Cost for Segment			$ 4,318,977.40	Net Present Cost for Segment			$ 3,730,836.66
Maintenance - Net Present Cost for Segment			$ 1,213,481.77	Maintenance - Net Present Cost for Segment			$ 1,639,607.53	Maintenance - Net Present Cost for Segment			$ 907,211.30

Total Lane Width	# of Lanes	Analysis Period
28	2	50
Total Shldr Width	# of Shldrs	ML Mix
10	1	SP 9.5 Wearing Course (4,C)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	Y	12.5 Wearing Course (3,B)
Sealed/UTBWC	ML Thickness	
N	9.5	
ML Top Lift / joint spacing	# Dowels per Lane	
2	11	
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
29	2	50
Total Shldr Width	# of Shldrs	ML Mix
9	1	
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	
ML Top Lift / joint spacing	# Dowels per Lane	
15	11	
Design Life	Shldr Thickness	
20	4	

Total Lane Width	# of Lanes	Analysis Period
29	2	50
Total Shldr Width	# of Shldrs	ML Mix
9	1	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	.5 Non WE Course (3,B)
Sealed/UTBWC	ML Thickness	
Y	8.5	
ML Top Lift / joint spacing	# Dowels per Lane	
15	11	
Design Life	Shldr Thickness	
35	4	

AT LEAST ONE BITUMINOUS & ONE PCC OPTION WITH EQUAL DESIGN LIVES IS REQUIRED

District	4
Performed By	GRG
Analysis Period	35
Discount Rate	2.2

Project Number	7605-89
Date	1/31/2014
Funding Category	
Low Cost Option #	1
Chosen Option #	1

#	Description	Cost/Mile
AA	Crack Treatment	$ 4,000
AB	Surface Treatment	$ 27,000
AC	1.5" Overlay	
AD	2" Overlay	
AE	3" Overlay	200000
AF	4" Overlay	
AG	4.5" Overlay	300000
AH	2" Mill & 2" Overlay	
AI	1.5" Mill & 3" Overlay	
AJ	2" Mill & 3" Overlay	
AK	3" Mill & 3" Overlay	225000
AL	2" Mill & 4.5" Overlay	
AM	3" Mill & 4.5" Overlay	280000
AN	Reseal Joints (6'X6')	
AO	Reseal Joints (15')	
AP	Minor CPR (6'X6')	
AQ	Minor CPR (15')	125000
AR	Major CPR (6'X6')	200000
AS	Minor CPR (15')	
AT	CIR w/New Structure	
AU	FDR w/New Structure	
AV	SFDR w/New Structure	
AW	New Concrete Structure	700000
AX	Concrete Whitetopping	
AY	Unbonded Concrete Overlay	
AZ	New Bituminous Structure	436000
BA	patch	6000
BB		
BC		
BD		
BE		
BF		
BG		
BH		
BI		
BJ		
BK		
BL		
BM		
BN		
BP		
BQ		
BR		
BS		
BT		
BU		
BV		
BW		
BX		
BY		
BZ		

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Light Blue contain Formulas but are unprotected.
White Cells are protected from input.

OPTION #1						OPTION #2						OPTION #3					
DESCRIPTION						DESCRIPTION						DESCRIPTION					
1.5" Mill and 3" Bituminous Overlay						4.5" whitetopping						6" concrete new					
			DESIGN LIFE	TYPE					DESIGN LIFE	TYPE					DESIGN LIFE	TYPE	
			18						18								
Year	#	Life	Description	Cost/Mile		Year	#	Life	Description	Cost/Mile		Year	#	Life	Description	Cost/Mile	
0			Initial Cost	$ 230,000		0			Initial Cost	$ 370,000		0			6" new concrete	$ 600,000	
1				$ -		1				$ -		1				$ -	
2				$ -		2				$ -		2				$ -	
3	AA	3	Crack Treatment	$ 4,000		3				$ -		3				$ -	
4				$ -		4				$ -		4				$ -	
5				$ -		5				$ -		5				$ -	
6	AB	14	Surface Treatment	$ 27,000		6				$ -		6				$ -	
7				$ -		7				$ -		7				$ -	
8				$ -		8				$ -		8				$ -	
9				$ -		9				$ -		9				$ -	
10				$ -		10				$ -		10	BA		patch	$ 6,000	
11	BA		patch	$ 6,000		11				$ -		11				$ -	
12				$ -		12				$ -		12				$ -	
13				$ -		13				$ -		13				$ -	
14				$ -		14				$ -		14				$ -	
15				$ -		15				$ -		15				$ -	
16				$ -		16				$ -		16				$ -	
17				$ -		17				$ -		17	AQ		Minor CPR (15')	$ 125,000	
18	AK	17	3" Mill & 3" Overlay	$ 225,000		18	AR	9	Major CPR (6'X6')	$ 200,000		18				$ -	
19				$ -		19				$ -		19				$ -	
20				$ -		20				$ -		20				$ -	
21	AA	3	Crack Treatment	$ 4,000		21				$ -		21				$ -	
22				$ -		22				$ -		22				$ -	
23				$ -		23	BA		patch	$ 6,000		23				$ -	
24	AB	9	Surface Treatment	$ 27,000		24				$ -		24	AR		Major CPR (6'X6')	$ 200,000	
25				$ -		25				$ -		25				$ -	
26				$ -		26				$ -		26				$ -	
27				$ -		27	AG		4.5" Overlay	$ 300,000		27				$ -	
28				$ -		28				$ -		28				$ -	
29	BA		patch	$ 6,000		29				$ -		29	AE		3" Overlay	$ 200,000	
30				$ -		30	AA	3	Crack Treatment	$ 4,000		30				$ -	
31				$ -		31				$ -		31				$ -	
32	AM		3" Mill & 4.5" Overlay	$ 280,000		32				$ -		32				$ -	
33				$ -		33	AB	9	Surface Treatment	$ 27,000		33				$ -	
34				$ -		34				$ -		34				$ -	
35			Remaining Service Life Value**	$ -		35		7	Remaining Service Life Value**	$ (165,000)		35			Remaining Service Life Value**	$ (140,000)	
			Total Present Worth	$ 575,533					Total Present Worth	$ 613,734					Total Present Worth	$ 850,845	
			Eq. Annual Cost*	$23,751					Eq. Annual Cost*	$25,327					Eq. Annual Cost*	$35,112	
			% of Low Cost	100%					% of Low Cost	107%					% of Low Cost	148%	

* 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
Performed By	SJ
Analysis Period	35
Discount Rate	2.2

Project Number	7609-10
Date	3/3/2014
Funding Category	
Low Cost Option #	1
Chosen Option #	1

#	Description	Cost/Mile
AA	Crack Treatment	$ 2,000
AB	Surface Treatment	$ 20,000
AC	1.5" Overlay	
AD	2" Overlay	
AE	3" Overlay	
AF	4" Overlay	
AG	4.5" Overlay	240000
AH	2" Mill & 2" Overlay	
AI	1.5" Mill & 3" Overlay	
AJ	2" Mill & 3" Overlay	
AK	3" Mill & 3" Overlay	132000
AL	2" Mill & 4.5" Overlay	
AM	3" Mill & 4.5" Overlay	
AN	Reseal Joints (6'X6')	
AO	Reseal Joints (15')	
AP	Minor CPR (6'X6')	
AQ	Minor CPR (15')	125000
AR	Major CPR (6'X6')	100000
AS	Minor CPR (15')	
AT	CIR w/New Structure	
AU	FDR w/New Structure	
AV	SFDR w/New Structure	
AW	New Concrete Structure	
AX	Concrete Whitetopping	
AY	Unbonded Concrete Overlay	
AZ	New Bituminous Structure	436000
BA	Major CPR	200000
BB	Minor CPR	100000
BC		
BD		
BE		
BF		
BG		
BH		
BI		
BJ		
BK		
BL		
BM		
BN		
BP		
BQ		
BR		
BS		
BT		
BU		
BV		
BW		
BX		
BY		
BZ		

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White Cells are protected from input.

OPTION #1					OPTION #2					OPTION #3				
DESCRIPTION					DESCRIPTION					DESCRIPTION				
3" Mill and 3" Bituminous Overlay					6" Whitetopping									
			DESIGN LIFE	TYPE				DESIGN LIFE	TYPE				DESIGN LIFE	TYPE
			20					20						
Year	#	Life	Description	Cost/Mile	Year	#	Life	Description	Cost/Mile	Year	#	Life	Description	Cost/Mile
0			Initial Cost	$ 131,371	0			Initial Cost	$ 253,271	0				
1				$ -	1				$ -	1				$ -
2				$ -	2				$ -	2				$ -
3	AA	3	Crack Treatment	$ 2,000	3				$ -	3				$ -
4				$ -	4				$ -	4				$ -
5				$ -	5				$ -	5				$ -
6	AB	14	Surface Treatment	$ 20,000	6				$ -	6				$ -
7				$ -	7				$ -	7				$ -
8				$ -	8				$ -	8				$ -
9				$ -	9				$ -	9				$ -
10				$ -	10				$ -	10				$ -
11				$ -	11				$ -	11				$ -
12				$ -	12				$ -	12				$ -
13				$ -	13				$ -	13				$ -
14				$ -	14				$ -	14				$ -
15				$ -	15				$ -	15				$ -
16				$ -	16				$ -	16				$ -
17				$ -	17				$ -	17				$ -
18				$ -	18				$ -	18				$ -
19				$ -	19				$ -	19				$ -
20	AK	19	3" Mill & 3" Overlay	$ 132,000	20	BA	10	Major CPR	$ 200,000	20				$ -
21				$ -	21				$ -	21				$ -
22				$ -	22				$ -	22				$ -
23	AA	3	Crack Treatment	$ 2,000	23				$ -	23				$ -
24				$ -	24				$ -	24				$ -
25				$ -	25				$ -	25				$ -
26	AB	13	Surface Treatment	$ 20,000	26				$ -	26				$ -
27				$ -	27				$ -	27				$ -
28				$ -	28				$ -	28				$ -
29				$ -	29				$ -	29				$ -
30				$ -	30	BB	5	Minor CPR	$ 100,000	30				$ -
31				$ -	31				$ -	31				$ -
32				$ -	32				$ -	32				$ -
33				$ -	33				$ -	33				$ -
34				$ -	34				$ -	34				$ -
35			Remaining Service Life Value**	$ (28,000)	35			Remaining Service Life Value**		35			Remaining Service Life Value**	$ -
			Total Present Worth	$ 235,714				Total Present Worth	$ 434,750				Total Present Worth	
			Eq. Annual Cost*	$9,727				Eq. Annual Cost*	$17,941				Eq. Annual Cost*	
			% of Low Cost	100%				% of Low Cost	184%				% of Low Cost	

* Equivalent Annual Cost is included for information only.
**Remaining Service Life Value is reported as a negative value.

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 3 - 2014/2015 prices

LCCA SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	l & Fill on Center 25' and 1 1/2" Overlay Full	3" Mill & Overlay (Full Width)	4.0" Whitetopping	7.9
Net Present Cost	$3,071,208.54	$3,790,208.82	$3,941,654.32	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 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 ADJUSTMENT FACTOR SUMMARY

	Alternate #1	Alternate #2	Alternate #3	Length
Segment #1	l & 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	$1,500,087.04	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 1,608,534.28**	**$ 2,070,381.83**	**$ 1,500,087.04**	**Total**
Bid Adjustment Factor	**$ 108,447.25**	**$ 570,294.79**	**$ -**	**7.9**

Segment 1

SEG	Length		SEG	Length		SEG	Length	
1	7.9		1	7.9		1	7.9	
ALT	**Description**		**ALT**	**Description**		**ALT**	**Description**	
1		2" Mill & Fill on Center 25' and 1 1/2" Overl	2		3" Mill & Overlay (Full Width)	3		4.0" Whitetopping
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE		**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE		**Pavement Type**		
HMA			HMA			PCC		
Primary Category			**Primary Category**			**Primary Category**		
Overlay, DL =13 to 17 years			Overlay, DL =13 to 17 years			≥12 Joint spacing		
Secondary Category			**Secondary Category**			**Secondary Category**		
Rural			Rural			Design Life = 20 Years		
ShoulderCategory			**ShoulderCategory**			**ShoulderCategory**		
Bituminous			Bituminous			Thin Bit		
Notes:			Notes:			Notes:		

Year	Activity	Cost/per Mile	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile	Year	Activity	Cost	Pres. Cost/per Mile
0	on Center 24' w/1 1/2" Overla	$ 185,148.64	$ 185,148.64	0	3" Mill & Overlay Full Width	$ 217,699.62	$ 217,699.62	0	4.0" White Topping	$ 309,059.15	$ 309,059.15
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 2,568.19	$ 2,420.06	3	Crack Treatment	$ 2,568.19	$ 2,420.06	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 7,986.18	$ 6,952.45	7	Seal	$ 7,986.18	$ 6,952.45	7			$ -
8			$ -	8			$ -	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12			$ -	12			$ -
13			$ -	13	ML Overlay 3.5"	$ 179,299.90	$ 138,604.65	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 179,299.90	$ 133,222.47	15			$ -	15			$ -
16			$ -	16	Crack Treatment	$ 2,568.19	$ 1,870.79	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 2,568.19	$ 1,798.14	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	Seal	$ 7,986.18	$ 5,374.47	20	1st CPR	$ 282,158.28	$ 189,884.44
21			$ -	21			$ -	21			$ -
22	Seal	$ 7,986.18	$ 5,165.77	22			$ -	22			$ -
23			$ -	23			$ -	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25	ML Overlay 3.5"	$ 179,299.90	$ 109,288.82	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27			$ -	27			$ -
28			$ -	28	Crack Treatment	$ 2,568.19	$ 1,475.10	28			$ -
29	ML Overlay 3.5"	$ 179,299.90	$ 100,965.98	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 2,568.19	$ 1,362.77	32	Seal	$ 7,986.18	$ 4,237.73	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (96,546.10)	$ (48,275.72)	35	Remaining Life	$ (16,299.99)	$ (8,150.45)	35	0/0 Remaining	$ -	$ -

LCCA - Net Present Cost/ per Mile			$ 388,760.57	LCCA - Net Present Cost/ per Mile			$ 479,773.27	LCCA - Net Present Cost/ per Mile			$ 498,943.59
Maintenance - Net Present Cost/per Mile			$ 203,611.93	Maintenance - Net Present Cost/per Mile			$ 262,073.65	Maintenance - Net Present Cost/per Mile			$ 189,884.44
Net Present Cost for Segment			$ 3,071,208.54	Net Present Cost for Segment			$ 3,790,208.82	Net Present Cost for Segment			$ 3,941,654.32
Maintenance - Net Present Cost for Segment			$ 1,608,534.28	Maintenance - Net Present Cost for Segment			$ 2,070,381.83	Maintenance - Net Present Cost for Segment			$ 1,500,087.04
Equivalent Annual Cost			122,855.13	Equivalent Annual Cost			151,616.73	Equivalent Annual Cost			157,674.88

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
16	2	3P 9.5 Wearing Course (3,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	12.5 Wearing Course (3,B)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
3.5		
Design Life	Shldr Thickness	
15	1.5	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
16	2	3P 9.5 Wearing Course (3,B)
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N	12.5 Wearing Course (3,B)
Sealed/UTBWC	ML Thickness	
N		
ML Top Lift / joint spacing	# Dowels per Lane	
1.5		
Design Life	Shldr Thickness	
13	3	

Total Lane Width	# of Lanes	Analysis Period
24	2	35
Total Shldr Width	# of Shldrs	ML Mix
16	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix
	Y	
Sealed/UTBWC	ML Thickness	
Y	4.5	
ML Top Lift / joint spacing	# Dowels per Lane	
12		
Design Life	Shldr Thickness	
	3	

35-Year Analysis Period

35 - Year

50-Year Analysis Period

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

District 6 - 2015/2016 prices

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 ADJUSTMENT 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	$1,816,360.66	Miles
Segment #2				0.0
Net Present Cost				Miles
Segment #3				0.0
Net Present Cost				Miles
Segment #4				0.0
Net Present Cost				Miles
Segment #5				0.0
Net Present Cost				Miles
Segment #6				0.0
Net Present Cost				Miles
Segment #7				0.0
Net Present Cost				Miles
Segment #8				0.0
Net Present Cost				Miles
Project Net Present Cost	**$ 3,006,536.20**	**$ 2,661,467.52**	**$ 1,816,360.66**	**Total**
Bid Adjustment Factor	**$ 1,190,175.53**	**$ 845,106.85**	**$ -**	**10.9**

Segment 1

SEG	Length	SEG	Length	SEG	Length
1	10.9	1	10.9	1	10.9
ALT	**Description**	**ALT**	**Description**	**ALT**	**Description**
1	15 yr med M&OL	2	20yr new bit	3	20yr UBOL
Pavement Type	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	CLICK HERE TO EDIT THIS ALTERNATE	**Pavement Type**	
HMA		HMA		PCC	
Primary Category		**Primary Category**		**Primary Category**	
Overlay, DL =13 to 17 years		20 Year HMA		≥12 Joint spacing	
Secondary Category		**Secondary Category**		**Secondary Category**	
Rural		Rural		Design Life = 20 Years	
ShoulderCategory		**ShoulderCategory**		**ShoulderCategory**	
Aggregate		Aggregate		Aggregate	
Notes:		Notes:		Notes:	

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	$ 287,614.87	0	New Bit	$ 546,412.45	$ 546,412.45	0	UBOL	$ 419,787.12	$ 419,787.12
1			$ -	1			$ -	1			$ -
2			$ -	2			$ -	2			$ -
3	Crack Treatment	$ 2,227.46	$ 2,115.11	3			$ -	3			$ -
4			$ -	4			$ -	4			$ -
5			$ -	5			$ -	5			$ -
6			$ -	6			$ -	6			$ -
7	Seal	$ 8,864.63	$ 7,856.30	7			$ -	7			$ -
8			$ -	8	Crack Treatment	$ 1,113.73	$ 970.16	8			$ -
9			$ -	9			$ -	9			$ -
10			$ -	10			$ -	10			$ -
11			$ -	11			$ -	11			$ -
12			$ -	12	Seal	$ 12,873.70	$ 10,466.52	12			$ -
13			$ -	13			$ -	13			$ -
14			$ -	14			$ -	14			$ -
15	ML Overlay 3.5"	$ 236,975.65	$ 182,948.02	15			$ -	15			$ -
16			$ -	16			$ -	16			$ -
17			$ -	17			$ -	17			$ -
18	Crack Treatment	$ 2,227.46	$ 1,632.89	18			$ -	18			$ -
19			$ -	19			$ -	19			$ -
20			$ -	20	ML Overlay 4	$ 350,482.42	$ 248,217.03	20	1st CPR	$ 235,293.68	$ 166,638.59
21			$ -	21			$ -	21			$ -
22	Seal	$ 8,864.63	$ 6,065.16	22			$ -	22			$ -
23			$ -	23	Crack Treatment	$ 2,227.46	$ 1,497.96	23			$ -
24			$ -	24			$ -	24			$ -
25			$ -	25			$ -	25			$ -
26			$ -	26			$ -	26			$ -
27			$ -	27	Seal	$ 8,864.63	$ 5,563.95	27			$ -
28			$ -	28			$ -	28			$ -
29	ML Overlay 3.5"	$ 236,975.65	$ 143,695.60	29			$ -	29			$ -
30			$ -	30			$ -	30			$ -
31			$ -	31			$ -	31			$ -
32	Crack Treatment	$ 2,227.46	$ 1,282.55	32			$ -	32			$ -
33			$ -	33			$ -	33			$ -
34			$ -	34			$ -	34			$ -
35	Remaining Life	$ (127,602.27)	$ (69,766.63)	35	2/17 Remaining Life	$ (41,233.23)	$ (22,544.29)	35	0/0 Remaining	$ -	$ -

LCCA - Net Present Cost/ per Mile			$ 563,443.88	LCCA - Net Present Cost/ per Mile			$ 790,583.78	LCCA - Net Present Cost/ per Mile			$ 586,425.71
Maintenance - Net Present Cost/per Mile			$ 275,829.01	Maintenance - Net Present Cost/per Mile			$ 244,171.33	Maintenance - Net Present Cost/per Mile			$ 166,638.59
Net Present Cost for Segment			$ 6,141,538.28	Net Present Cost for Segment			$ 8,617,363.22	Net Present Cost for Segment			$ 6,392,040.27
Maintenance - Net Present Cost for Segment			$ 3,006,536.20	Maintenance - Net Present Cost for Segment			$ 2,661,467.52	Maintenance - Net Present Cost for Segment			$ 1,816,360.66
Equivalent Annual Cost			235,770.39	Equivalent Annual Cost			330,815.99	Equivalent Annual Cost			245,387.02

Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period	Total Lane Width	# of Lanes	Analysis Period
28	2	35	28	2	35	28	2	35
Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix	Total Shldr Width	# of Shldrs	ML Mix
8	2	WEARING COURSE MIXTURE (	8	2	WEARING COURSE MIXTURE (	8	2	
Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix	Width of Rounding Aggregate	white/ >7 milliom	SL Mix
1.5	N		1.5	N		N		
Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness		Sealed/UTBWC	ML Thickness	
N			N			N	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			2			12	11	
Design Life	Shldr Thickness		Design Life	Shldr Thickness		Design Life	Shldr Thickness	
15	2		20	2			2	

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:

Gregory S. Paulson

Transportation District Engineer

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