

APPENDIX 8

COST ESTIMATES

US 25 Corridor Study

From KY 14/16 to North of the City of Walton
Boone and Kenton Counties, KY
Item No. 6-105.00

November 2023

SPOT IMPROVEMENT #1: KY14/US25

ROADWAY AND CONSTRUCTION												
	Depth (inches)	Depth (ft)	Width (ft)	Length (ft)	Area (sy)	Volume (cf)	Density (lbs/cf)	Weight (lbs)	Weight (tons)	Cost (\$/sy)	Cost (\$/ton)	Cost (\$/lf)
Lane												
<i>Asphalt Surface</i>	1.5	0.125	12	1		1.5	146.67	220.005	0.1100025		\$ 130	14.300325
<i>Asphalt Base</i>	7	0.583	12	1		7.0	146.67	1026.69	0.513345		\$ 130	66.73485
<i>Crushed Stone Base</i>	12	1.000	12	1		12.0	146.67	1760.04	0.88002		\$ 40	35.2008
Curb and Gutter												
<i>Sidewalk</i>												21.84
<i>Curb and Gutter</i>												33.37
<i>Curb Boxes and Pipe</i>												78000
											Total:	\$ 171 per l.f.
<i>Length</i> 511											Total:	\$ 905,235 per mile
											Const	\$ 165,609 Total

UTILITY RELOCATION					
	Poles (no.)	Length (ft)	Cost (\$/each)	Cost (\$/lf)	Cost (\$)
Water Relocation		511		\$ 100	\$51,100
Overhead Utilities	3		\$ 1,000		\$ 3,000
Gas		0		\$ 200	\$ -
Total:					\$54,100

RIGHT-OF-WAY			
	Area (acre)	Value (\$/Acre)	R/W Cost
ROW	0.56	\$ 35,000	\$ 19,600
Structure	2	\$ 300,000	\$ 600,000
Total			\$ 619,600

TOTALS, with contingencies

	Base Cost	2% contingency	Rounding	Add'l 2% contingency	Rounding
Engineering and Design	\$24,841	\$29,810	\$30,000	\$36,000	\$36,000
Construction	\$165,609	\$198,731	\$199,000	\$238,800	\$239,000
Utilities Relocation	\$54,100	\$64,920	\$65,000	\$78,000	\$78,000
Right of Way	\$619,600	\$743,520	\$744,000	\$892,800	\$893,000

Total \$ 1,246,000

SPOT IMPROVEMENT #2: OLD NICHOLSON RD – RED OPTION

ROADWAY AND CONSTRUCTION														
	Depth	Depth	Width	Length	Area	Volume	Density	Weight	Weight	Cost	Cost	Cost		
	(inches)	(ft)	(ft)	(ft)	(sy)	(cf)	(lbs/cf)	(lbs)	(tons)	(\$/sy)	(\$/ton)	(\$/lf)		
Lane														
<i>Asphalt Surface</i>	1.5	0.125	22	1		2.75	146.67	403.34	0.20		\$ 130	26.22		
<i>Asphalt Base</i>	7	0.583	22	1		12.8	146.67	1882.27	0.94		\$ 130	122.35		
<i>Crushed Stone Base</i>	12	1.000	22	1		22.0	146.67	3226.74	1.61		\$ 40	64.53		
Shoulder														
<i>Asphalt Surface</i>	1.5	0.125	2	1		0.25	146.67	36.67	0.02		130	2.38		
<i>Asphalt Base</i>	3	0.25	2	1		0.5	146.67	73.34	0.04		130	4.77		
<i>Crushed Stone Base</i>	12	1	2	1		2	146.67	293.34	0.15		40	5.87		
<i>Full Depth CSB</i>	12	1	22.8693	1		22.87	146.67	3354.24	1.68		40	67.08		
											Total:	\$ 293	per l.f.	
<i>Length</i> 897											Total:	\$ 1,548,102	per mile	
											Const	\$ 263,001	Total	

UTILITY RELOCATION					
	Poles	Length	Cost	Cost	Cost
	(no.)	(ft)	(\$/each)	(\$/lf)	(\$)
Water Relocation		1150		\$ 100	\$ 115,000
Overhead Utilities	10		\$ 1,000		\$ 10,000
Gas		0		\$ 200	\$ -
Total:					\$ 125,000

RIGHT-OF-WAY			
	Area	Value	R/W Cost
	(acre)	(\$/Acre)	
ROW	1.1	\$ 35,000	\$ 38,500
Structure	1	\$ 300,000	\$ 300,000
Total			\$ 338,500

TOTALS, with contingencies					
	Const	2% contingency	Rounding	Add'l 2% contingency	Rounding
Engineering and Design	\$ 39,450	\$ 47,340	\$ 47,000	\$ 56,400	\$ 56,000
Right of Way	\$ 338,500	\$ 406,200	\$ 406,000	\$ 487,200	\$ 487,000
Utilities Relocation	\$ 125,000	\$ 150,000	\$ 150,000	\$ 180,000	\$ 180,000
Construction	\$ 263,001	\$ 315,602	\$ 316,000	\$ 379,200	\$ 379,000
Total \$ 1,102,000					

SPOT IMPROVEMENT #2: OLD NICHOLSON RD – BLUE OPTION

ROADWAY AND CONSTRUCTION													
	Depth	Depth	Width	Length	Area	Volume	Density	Weight	Weight	Cost	Cost	Cost	
	(inches)	(ft)	(ft)	(ft)	(sy)	(cf)	(lbs/cf)	(lbs)	(tons)	(\$/sy)	(\$/ton)	(\$/lf)	
Lane													
<i>Asphalt Surface</i>	1.5	0.125	22	1		2.75	146.67	403	0.20		\$ 130	26.22	
<i>Asphalt Base</i>	7	0.583	22	1		12.83	146.67	1882	0.94		\$ 130	122.35	
<i>Crushed Stone Base</i>	12	1.000	22	1		22.00	146.67	3227	1.61		\$ 40	64.53	
Shoulder													
<i>Asphalt Surface</i>	1.5	0.125	2	1		0.25	146.67	37	0.02		\$ 130	2.38	
<i>Asphalt Base</i>	3	0.250	2	1		0.50	146.67	73	0.04		\$ 130	4.77	
<i>Crushed Stone Base</i>	12	1.000	2	1		2.00	146.67	293	0.15		\$ 40	5.87	
<i>Full Depth CSB</i>	12	1.000	22.8693	1		22.87	146.67	3354	1.68		\$ 40	67.08	
											Total:	\$ 293	per l.f.
<i>Length</i> 1590											Total:	\$ 1,548,102	per mile
											Const	\$ 466,190	Total

UTILITY RELOCATION					
	Poles (no.)	Length (ft)	Cost (\$/each)	Cost (\$/lf)	Cost (\$)
Water Relocation		1150		\$ 100	\$115,000
Overhead Utilities	10		\$ 1,000		\$ 10,000
Gas		0		\$ 200	\$ -
Total:					\$125,000

RIGHT-OF-WAY			
	Area (acre)	Value (\$/Acre)	R/W Cost
ROW	0.91	\$ 35,000	\$ 31,850
Total			\$ 31,850

TOTALS, with contingencies					
	Const	2% contingency	Rounding	Add'l 2% contingency	Rounding
Engineering and Design	\$ 69,928	\$ 83,914	\$ 84,000	\$100,800	\$101,000
Right of Way	\$ 31,850	\$ 38,220	\$ 38,000	\$45,600	\$46,000
Utilities Relocation	\$ 125,000	\$ 150,000	\$ 150,000	\$180,000	\$180,000
Construction	\$ 466,190	\$ 559,428	\$ 559,000	\$670,800	\$671,000
Total				\$998,000	

SPOT IMPROVEMENT #2: OLD NICHOLSON RD – NEW CONNECTION OPTION

ROADWAY AND CONSTRUCTION														
	Depth (inches)	Depth (ft)	Width (ft)	Length (ft)	Area (sy)	Volume (cf)	Density (lbs/cf)	Weight (lbs)	Weight (tons)	Cost (\$/sy)	Cost (\$/ton)	Cost (\$/lf)		
Lane														
<i>Asphalt Surface</i>	1.5	0.125	22	1		2.75	146.67	403	0.20		\$ 130	26.22		
<i>Asphalt Base</i>	7	0.583	22	1		12.83	146.67	1882	0.94		\$ 130	122.35		
<i>Crushed Stone Base</i>	12	1.000	22	1		22.00	146.67	3227	1.61		\$ 40	64.53		
Shoulder														
<i>Asphalt Surface</i>	1.5	0.125	2	1		0.25	146.67	37	0.02		\$ 130	2.38		
<i>Asphalt Base</i>	3	0.250	2	1		0.50	146.67	73	0.04		\$ 130	4.77		
<i>Crushed Stone Base</i>	12	1.000	2	1		2.00	146.67	293	0.15		\$ 40	5.87		
<i>Full Depth CSB</i>	12	1.000	22.8693	1		22.87	146.67	3354	1.68		\$ 40	67.08		
											Total:	\$ 293	per l.f.	
											Total:	\$ 1,548,102	per mile	
											Const	\$ 441,854	Total	
<i>Length</i>	<u>1507</u>													

UTILITY RELOCATION					
	Poles (no.)	Length (ft)	Cost (\$/each)	Cost (\$/lf)	Cost (\$)
Water Relocation		200		\$ 100	\$20,000
Overhead Utilities	0		\$ 1,000		\$ -
Gas		0		\$ 200	\$ -
Total:					\$20,000

RIGHT-OF-WAY			
	Area (acre)	Value (\$/Acre)	R/W Cost
ROW	1.73	\$ 35,000	\$ 60,550
Total			\$ 60,550

TOTALS, with contingencies					
	Const	2% contingency	Rounding	Add'l 2% contingency	Rounding
Engineering and Design	\$66,278	\$79,534	\$80,000	\$96,000	\$96,000
Right of Way	\$60,550	\$72,660	\$73,000	\$87,600	\$88,000
Utilities Relocation	\$20,000	\$24,000	\$24,000	\$28,800	\$29,000
Construction	\$441,854	\$530,225	\$530,000	\$636,000	\$636,000
Total					\$849,000

SPOT IMPROVEMENT #3: CHAMBERS ROAD

ROADWAY AND CONSTRUCTION														
	Depth (inches)	Depth (ft)	Width (ft)	Length (ft)	Area (sy)	Volume (cf)	Density (lbs/cf)	Weight (lbs)	Weight (tons)	Cost (\$/sy)	Cost (\$/ton)	Cost (\$/lf)		
Lane														
<i>Asphalt Surface</i>	1.5	0.125	22	1		2.75	146.67	403	0.20		\$ 130	26.22		
<i>Asphalt Base</i>	7	0.583	22	1		12.83	146.67	1882	0.94		\$ 130	122.35		
<i>Crushed Stone Base</i>	12	1.000	11	1		11.00	146.67	1613	0.81		\$ 40	32.27		
Shoulder														
<i>Asphalt Surface</i>	1.5	0.125	2	1		0.25	146.67	37	0.02		\$ 130	2.38		
<i>Asphalt Base</i>	3	0.250	2	1		0.50	146.67	73	0.04		\$ 130	4.77		
<i>Crushed Stone Base</i>	12	1.000	2	1		2.00	146.67	293	0.15		\$ 40	5.87		
<i>Full Depth CSB</i>	12	1.000	22.8693	1		22.87	146.67	3354	1.68		\$ 40	67.08		
											Total:	\$ 261	per l.f.	
<i>Length</i> 2320											Total:	\$ 1,377,730	per mile	
											Const	\$ 605,366	Total	

UTILITY RELOCATION					
	Poles (no.)	Length (ft)	Cost (\$/each)	Cost (\$/lf)	Cost (\$)
Water Relocation		1100		\$ 65	\$ 71,500
Overhead Utilities	8		\$ 200		\$ 1,600
Gas		0		\$ 100	\$ -
Total:					\$ 73,100

RIGHT-OF-WAY			
	Area (acre)	Value (\$/Acre)	R/W Cost
ROW	0.56	\$ 35,000	\$ 19,600
Total			\$ 19,600

TOTALS, with contingencies					
	Const	2% contingency	Rounding	Add'l 2% contingency	Rounding
Engineering and Design	\$90,805	\$108,966	\$109,000	\$130,800	\$131,000
Right of Way	\$19,600	\$23,520	\$24,000	\$28,800	\$29,000
Utilities Relocation	\$73,100	\$87,720	\$88,000	\$105,600	\$106,000
Construction	\$605,366	\$726,439	\$726,000	\$871,200	\$871,000
Total \$1,137,000					

COST ESTIMATE — West 1 Concept

CATEGORY (Code / Item)	QUANTITY	RATE	COST
EARTHWORK			
CO-001 / Roadway Excavation	809014.09 yd ³	6	\$4,854,085
CO-002 / Fill-Generic Material	657422.84 yd ³	0.01	\$6,574
PAVEMENT			
CO-005 / Concrete Jersey Barrier	868.56 ft	32	\$27,795
CO-027 / Asphalt-All Layers	27548.18 yd ³	198	\$5,207,604
STRUCTURE			
CO-034 / Bridge Deck	14162.43 ft ²	500	\$2,832,484
OTHER			
Drainage	percentage	8.11	\$818,790
Electrical	percentage	1	\$100,961
Incidental Items	percentage	20.5	\$2,069,692
Traffic Control	percentage	3.42	\$345,285
Environmental	percentage	6.57	\$663,311
Signing and Marking	percentage	2.15	\$217,065
ALTERNATIVE 3			\$21,750,000
15% Contingency			\$3,260,000
TOTAL			\$25,010,000

UTILITY IMPACT — West 1 Concept

Measured from proposed ROW to proposed ROW, or cross country utility

LOCATION	UTILITIES AFFECTED	EXTENT OF IMPACT
Starting at Mary Grubbs Highway	6 inch sanitary sewer; 6 inch water; 3 phase, communications	1,150 linear feet
McCoy Ford Road	8 inch water; Single phase communications	1,661 linear feet
Private Road	8 inch water; Other (not visible)	360 linear feet
Beaver Road (KY 1292)	3 phase ,communications	1,762 linear feet
Gaines Way - underground services	6 inch water; Underground	182 linear feet
I-75/Chambers Road	Transmission?; 3 phase, communications	700 linear feet
Tie-in to US 25	Communication only	550 linear feet
TOTAL		6395 linear feet

Note: No gas transmission mains were identified, per NPMS viewer.

COST ESTIMATE — West 2 Concept

CATEGORY (Code / Item)	QUANTITY	RATE	COST
EARTHWORK			
CO-001 / Roadway Excavation	595426.58 yd ³	6	\$3,572,559
CO-002 / Fill-Generic Material	602941.76 yd ³	0.01	\$6,029
PAVEMENT			
CO-005 / Concrete Jersey Barrier	929.32 ft	32	\$29,738
CO-027 / Asphalt-All Layers	20366.13 yd ³	198	\$4,032,494
STRUCTURE			
Bridge Per Square Foot	15152.1 ft ²	500	\$7,576,050
OTHER			
Drainage	percentage	8.11	\$619,671
Electrical	percentage	1	\$76,408
Incidental Items	percentage	20.5	\$1,566,368
Traffic Control	percentage	3.42	\$261,316
Environmental	percentage	6.57	\$502,002
Signing and Marking	percentage	2.15	\$164,278
		ALTERNATIVE 4	\$18,410,000
		15% Contingency	\$2,760,000
		TOTAL	\$21,170,000

UTILITY IMPACT — West 2 Concept

Measured from proposed ROW to proposed ROW, or cross country utility

LOCATION	UTILITIES AFFECTED	EXTENT OF IMPACT
Starting at Mary Grubbs Highway	6 inch sanitary sewer; 6 inch water; 3 phase, communications	450 linear feet
Private Road	Assumed	250 linear feet
Beaver Road (KY 1292)	8 inch water; 3 phase ,communications	200 linear feet
Lassing Way - underground	6 inch water; Underground	290 linear feet
I-75/Chambers Road	Transmission?; 3 phase, communications	700 linear feet
Tie-in to US 25	Communication only	650 linear feet
		TOTAL 2540 linear feet

Note: No gas transmission mains were identified, per NPMS viewer.

COST ESTIMATE — East 3 Concept

CATEGORY (Code / Item)	QUANTITY	RATE	COST
EARTHWORK			
CO-001 / Roadway Excavation	389147.21 yd ³	6	\$2,334,883
CO-002 / Fill-Generic Material	359271.61 yd ³	0.01	\$3,593
PAVEMENT			
CO-027 / Asphalt-All Layers	17242.35 yd ³	198	\$3,413,985
OTHER			
Drainage	percentage	8.11	\$466,525
Electrical	percentage	1	\$57,525
Incidental Items	percentage	20.5	\$1,179,255
Traffic Control	percentage	3.42	\$196,734
Environmental	percentage	6.57	\$377,937
Signing and Marking	percentage	2.15	\$123,678
		ALTERNATIVE 3	\$8,160,000
		15% Contingency	\$1,220,000
		TOTAL	\$9,380,000

UTILITY IMPACT — East 3 Concept

Measured from proposed ROW to proposed ROW, or cross country utility

LOCATION	UTILITIES AFFECTED	EXTENT OF IMPACT
Starting at Mary Grubbs Hwy/ Richard Knock	None in GIS	160 linear feet
High Street	6 inch sanitary sewer: 6 inch water; 3 phase communications	165 linear feet
Percival Road	8 inch water; None visible	200 linear feet
KY 16	12 inch water; Minor transmission? and 3 phase	480 linear feet
Chambers Road	12 inch water; single phase	180 linear feet
Tie-in to US 25	3 phase, communications	500 linear feet
	TOTAL	1685 linear feet

Note: No gas transmission mains were identified, per NPMS viewer.

COST ESTIMATE — East 4 Concept

CATEGORY (Code / Item)	QUANTITY	RATE	COST
EARTHWORK			
CO-001 / Roadway Excavation	304218.89 yd ³	6	\$1,825,313
CO-002 / Fill-Generic Material	365011.31 yd ³	0.01	\$3,650
PAVEMENT			
CO-005 / Concrete Jersey Barrier	270.99 ft	32	\$8,672
CO-027 / Asphalt-All Layers	16702.25 yd ³	198	\$3,307,046
STRUCTURE			
CO-034 / Bridge Deck	4418.44 ft ²	500	\$2,209,220
OTHER			
Drainage	percentage	8.11	\$417,234
Electrical	percentage	1	\$51,447
Incidental Items	percentage	20.5	\$1,054,660
Traffic Control	percentage	3.42	\$175,948
Environmental	percentage	6.57	\$338,006
Signing and Marking	percentage	2.15	\$110,611
		ALTERNATIVE 3	\$9,510,000
		15% Contingency	\$1,430,000
		TOTAL	\$10,940,000

UTILITY IMPACT — East 4 Concept

Measured from proposed ROW to proposed ROW, or cross country utility

LOCATION	UTILITIES AFFECTED	EXTENT OF IMPACT
Starting at Mary Grubbs Hwy/ Richard Knock	None in GIS	160 linear feet
High Street	6 inch sanitary sewer; 6 inch water; 3 phase communications	165 linear feet
Percival Road	8 inch water; None visible	200 linear feet
KY 16	12 inch water; Minor transmission? and 3 phase	480 linear feet
Hoop Drive	Single phase, communications	Unknown
Tie-in to US 25	3 phase, communications	500 linear feet
	TOTAL	1505 linear feet

Note: No gas transmission mains were identified, per NPMS viewer.