

Appendix F
Cost Estimates

Cost Estimates Included in Appendix F

Recommended Projects

- S: Churchman's Road Extended, SR 2 to SR 4
- U: SR 273 3rd Lane NB & SB between SR 1 and I-95
- W: SR 7 Intersections
- X: SB I-95 Access from Continental Drive
- Y: SB SR 1 to SB I-95 Connection
- Z: SB SR 1 to NB I-95 Connection
- GG: Christiana Bypass
- HH: Eagle Run Road Connector to Samoset Drive
- JJ: Opening Samoset Drive to Continental Drive
- KK: Telegraph and St James Road Railroad Underpass

Not Recommended Projects

- V: NB I-95 Ramp to Chapman Road
- AA: NB I-95 Ramp from Churchman's Road
- BB: SB I-95 Ramp from Churchman's Road
- CC: Christiana Mall Access Road – Bus Only
- DD: Christiana Mall Road A Extension – East
- II: Brownleaf Road Extension

Note: Estimates do not include costs for design or right-of-way

April, 2021

Churchman's Crossing
Preliminary Cost Estimate - SR 273: 3rd lane NB & SB between SR 1 and I-95

PAVEMENT PATCHING SECTION

a. Surface:		1- 2 Superpave, Type C, 160 Gyration, PG 64-22 (carbonate stone) (401029) Tons		Full-depth Pavement		
				Length	Width	Sq Ft
				9,117	32	291,744
b. Base:		2- 3 Superpave, Type B, 160 Gyration, PG 64-22 (401030) Tons				
		3- 5 Superpave, Bituminous Concrete Base Course, 160 Gyration, PG 64-22 (401031) Tons				
c. Subbase:		4- 8 inches of Graded Aggregate Base Course, Type B Patching (301002) CY				

		NO Contingency	% Contingency
		\$741,000	30
1. GRADING		\$741,000	\$963,300
See Earthwork Summary Sheet			
a.	Excavation	21,700 CY @ \$30.00 =	\$651,000
b.	Borrow	3,000 CY @ \$30.00 =	\$90,000
Total			\$741,000
			\$963,300

2. DRAINAGE		\$1,880,677	\$2,444,880
30 (Percentage of 1,385)			
Stormwater Management	0 EA	\$100,000.00 per EA =	\$1,880,677
Total			\$1,880,677
			\$2,444,880

3. PAVEMENT PATCHING		\$2,746,332	\$3,570,231
291,744 sf / 9 = 32,416 SY		Sav: 32,500 SY	Full Depth Paving Only (1,2,3 & 4)
0 sf / 9 = 0 SY		0 SY	Mill and Overlay Only (1a)
a. Surface:			
(1)	32,500 SY Div. by	8.80 sy/ton =	3,693 Ton,Times
(1a)	0 SY Div. by	8.80 sy/ton =	0 Ton,Times
		\$140.00 per Ton =	\$517,045
		\$140.00 per Ton =	\$0
Total			\$517,045
			\$672,159
b. Base:			
(2)	32,500 SY Div. by	5.79 sy/ton =	5,613 Ton,Times
(3)	32,500 SY Div. by	3.52 sy/ton =	9,233 Ton,Times
		\$130.00 per Ton =	\$729,706
		\$100.00 per Ton =	\$923,295
Total			\$1,653,002
			\$2,148,902
c. Subbase:			
(4)	291,744 SF times	0.666667 ft / 27cf/cy =	7,204 CY, Times
		\$80.00 per CY =	\$576,284
Total			\$576,284
			\$749,170

4. EROSION / SEDIMENT CONTROL		\$0	\$0
Included in Drainage			
		\$0	

5. MISCELLANEOUS		\$2,781,592	\$3,616,070
a. 6" Curb & Gutter (701022) 18,234 LF \$70.00 per LF = \$1,276,380 \$1,659,294			
b. Hot-Mix SUP 182,340 SF \$8.00 per SF = \$1,458,720 \$1,896,336			
c. Guardrail 0 LF \$32.00 per LF = \$0 \$0			
d. CPM Schedule 1 LS \$10,000 \$13,000			
e. Clearing/Grubbing (201000) 1 LS \$25,000 \$32,500			
f. Field Office 1 LS \$10,000 \$13,000			
g. Milling (760010) 0 SY * 2' = 0 SY-IN,Times \$1.00 per SY-IN = \$0 \$0			
h. Fencing (XXXXXX) 0 LF \$180.00 per LF = \$0 \$0			
i. Vehicular Gate (XXXXXX) 0 Each \$5,000.00 per Each = \$0 \$0			
j. Sawcutting (762000) 64 LF \$5.00 per LF = \$320 \$416			
k. PCC Removal (211001) 47 SY \$25.00 per SY = \$1,175 \$1,524			
l. Underdrain (709001) 0 LF \$20.00 per LF = \$0 \$0			
b.4" Sidewalk 0 SF \$15.00 per SF = \$0 \$0			
Total		\$2,781,592	\$3,616,070

B. STRUCTURE CONSTRUCTION		\$7,102,080	\$7,812,288
1. Bridge Over Roadway or Highway 822 (LF) times 32 (width) = 26,304 SF \$270.00 per SF = \$7,102,080 plus 10% = \$7,812,288			
2. Old structure Removal \$0 plus 10% = \$0			
3. Retaining Wall (Modular Block) (607010) 0 (LF) times 5 (height) = 0 SF \$50.00 per SF = \$0 plus 10% = \$0			
4. Box Culvert (Assume 1' buried) 0 SF \$250.00 per SF = \$0 plus 10% = \$0			
Total		\$7,102,080	\$7,812,288

C. LANDSCAPING		\$188,068	\$244,488
a. Topsoil / Seed / Mulch 3 (Percentage of 1,385) \$188,068 \$244,488			
b. Plantings 0 \$400.00 per EA = \$0 \$0			
Total		\$188,068	\$244,488

D. MAINTENANCE OF TRAFFIC (including temporary tie-ins)		\$313,446	\$407,480
5 (Percentage of 1,385) \$313,446			

E. PROJECT TRAFFIC ITEMS		\$188,068	\$244,488
1. Signing Structures \$0 \$0			
2. Path Lighting \$0 \$0			
3. Pavement Markings 3 (Percentage of 1,385) \$188,068 \$244,488			
4. XXXXX \$0 \$0			
Total		\$188,068	\$244,488

F. WETLAND MITIGATION		\$400,000	\$400,000
2.0 Acres times 1 2:1 ratio = 2.0 Ac., Times \$200,000.00 per Ac. = \$400,000 \$520,000			

G. UTILITY RELOCATIONS IN CONTRACT		\$313,446	\$407,480
1. Delmarva Electric \$0 \$0			
2. Verizon \$0 \$0			
3. Other Relocations 5 (Percentage of 1,385) \$313,446 \$407,480			
Total		\$313,446	\$407,480

H. SUBTOTAL		\$16,654,709	\$20,110,706
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I. MISCELLANEOUS ITEMS		\$3,330,942	\$4,022,141
20 (Percentage of H) \$3,330,942 \$4,022,141			

J. CONTRACTOR'S CONSTRUCTION ENGINEERING		\$499,641	\$603,321
3 (Percentage of H) \$499,641 \$603,321			

K. INITIAL EXPENSE		\$499,641	\$603,321
3 (Percentage of H) \$499,641 \$603,321			

L. CONSTRUCTION CONTINGENCY		\$1,665,471	\$2,011,071
10 (Percentage of H) \$1,665,471 \$2,011,071			

M. TOTAL CONSTRUCTION COSTS (H thru L)		\$22,650,404	\$27,350,560
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N. CONSTRUCTION ENGINEERING		\$3,397,561	\$4,102,584
15 (Percentage of M) \$3,397,561 \$4,102,584			

O. TOTAL CONSTRUCTION COSTS (M + N)		\$26,047,965	\$31,453,144
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P. REIMBURSABLE UTILITY RELOCATIONS BY OTHERS		\$0	\$0
\$0 DP Electric+ \$0 Verizon = \$0			

Q. TRAFFIC SECTION ITEMS		\$1,188,068	\$1,544,488
1. Signing 3 (Percentage of 1,385) \$188,068 \$244,488			
2. Signals 4 EA \$250,000.00 per EA = \$1,000,000 \$1,300,000			
Total		\$1,188,068	\$1,544,488

CONSTRUCTION PROJECT ESTIMATE (O thru Q)		\$27,236,033	\$32,997,632
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HAZARDOUS MATERIALS		\$0	
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April, 2021

Churchman's Crossing
Preliminary Cost Estimate - SR 7 Intersections: SR 4/SR 7, SR 7/Telegraph Rd, SR 7/Delaware Park Blvd
 Intersection Improvements along SR7 between Delaware Park Boulevard and SR4, including turn lanes and ped/bike improvements

PAVEMENT PATCHING SECTION		Full-depth Pavement	
a. Surface:		Length	Width
1- 2	Superpave, Type C, 160 Gyration, PG 64-22 (carbonate stone) (401029) Tons		0
b. Base:		Length	Width
2- 3	Superpave, Type B, 160 Gyration, PG 64-22 (401030) Tons	2,000	120
3- 5	Superpave, Bituminous Concrete Base Course, 160 Gyration, PG 64-22 (401031) Tons		240,000
c. Subbase:			
4- 8	inches of Graded Aggregate Base Course, Type B Patching (301002) CY		
		NO Contingency	% Contingency
			30
1. GRADING		\$60,000	\$78,000
See Earthwork Summary Sheet			
a. Excavation	0 CY @ \$30.00 =	\$0	\$0
b. Borrow	2,000 CY @ \$30.00 =	\$60,000	\$78,000
Total		\$60,000	\$78,000
2. DRAINAGE		\$52,667	\$68,467
5 (Percentage of 1,385)			
Stormwater Management	0 EA	\$100,000 per EA =	\$52,667
Total		\$52,667	\$68,467
3. PAVEMENT PATCHING		\$424,773	\$552,205
0 sf / 9 = 0 SY		Sav: 0 SY	Full Depth Paving Only (1,2,3 & 4)
240,000 sf / 9 = 26,667 SY		26,700 SY	Mill and Overlay Only (1a)
a. Surface:			
(1) 0 SY Div. by	8.80 sy/ton =	0 Ton,Times	\$140.00 per Ton =
(1a) 26,700 SY Div. by	8.80 sy/ton =	3,034 Ton,Times	\$140.00 per Ton =
Total		\$424,773	\$552,205
b. Base:			
(2) 0 SY Div. by	5.79 sy/ton =	0 Ton,Times	\$130.00 per Ton =
(3) 0 SY Div. by	3.52 sy/ton =	0 Ton,Times	\$100.00 per Ton =
Total		\$0	\$0
c. Subbase:			
(4) 0 SF times	0.666667 ft / 27cf/cy =	0 CY, Times	\$80.00 per CY =
Total		\$0	\$0
4. EROSION / SEDIMENT CONTROL		\$0	\$0
Included in Drainage			
		\$0	\$0
5. MISCELLANEOUS		\$568,564	\$739,133
a. 6" Curb & Gutter (701022)	4,000 LF	\$70.00 per LF =	\$280,000
b. Hot-Mix SUP	0 SF	\$8.00 per SF =	\$0
c. Guardrail	0 LF	\$32.00 per LF =	\$0
d. CPM Schedule	1 LS	\$10,000	\$10,000
e. Clearing/Grubbing (201000)	1 LS	\$25,000	\$25,000
f. Field Office	1 LS	\$10,000	\$10,000
g. Milling (760010)	26,700 SY * 2' =	53,400 SY-IN,Times	\$1.00 per SY-IN =
h. Fencing (XXXXXX)	0 LF	\$180.00 per LF =	\$0
i. Vehicular Gate (XXXXXX)	0 Each	\$5,000.00 per Each =	\$0
j. Sawcutting (762000)	255 LF	\$5.00 per LF =	\$1,275
k. PCC Removal (211001)	1,556 SY	\$25.00 per SY =	\$38,888
l. Underdrain (709001)	0 LF	\$20.00 per LF =	\$0
b.4" Sidewalk	10,000 SF	\$15.00 per SF =	\$150,000
Total		\$568,564	\$739,133
B. STRUCTURE CONSTRUCTION		\$0	\$0
1. Bridge Over Roadway or Highway	0 (LF) times	42 (width) =	0 SF
		\$270.00 per SF =	\$0 plus 10% =
		\$0	\$0
2. Old structure Removal	\$0 plus 10% = \$0		
3. Retaining Wall (Modular Block) (607010)	0 (LF) times	5 (height) =	0 SF
		\$50.00 per SF =	\$0 plus 10% =
		\$0	\$0
4. Box Culvert	0 SF	\$250.00 per SF =	\$0 plus 10% =
		\$0	\$0
Total		\$0	\$0
C. LANDSCAPING		\$10,533	\$13,693
a. Topsoil / Seed / Mulch	1 (Percentage of 1,385)	\$10,533	\$13,693
b. Plantings	0	\$400.00 per EA =	\$0
Total		\$10,533	\$13,693
D. MAINTENANCE OF TRAFFIC (including temporary tie-ins)		\$105,334	\$136,934
10 (Percentage of 1,385)		\$105,334	\$136,934
E. PROJECT TRAFFIC ITEMS		\$52,667	\$68,467
1. Signing Structures		\$0	\$0
2. Path Lighting		\$0	\$0
3. Pavement Markings	5 (Percentage of 1,385)	\$7,500.00 per EA =	\$52,667
4. XXXXX		\$10,000.00 per EA =	\$0
Total		\$52,667	\$68,467
F. WETLAND MITIGATION		\$0	\$0
0.0 Acres times 1 2:1 ratio =		0.0 Ac., Times	\$200,000.00 per Ac. =
		\$0	\$0
G. UTILITY RELOCATIONS IN CONTRACT		\$84,267	\$109,547
1. Delmarva Electric		\$0	\$0
2. Verizon		\$0	\$0
3. Other Relocations	8 (Percentage of 1,385)	\$84,267	\$109,547
Total		\$84,267	\$109,547
H. SUBTOTAL		\$1,358,804	\$1,766,446
I. MISCELLANEOUS ITEMS		\$271,761	\$353,289
20 (Percentage of H)		\$271,761	\$353,289
J. CONTRACTOR'S CONSTRUCTION ENGINEERING		\$40,764	\$52,993
3 (Percentage of H)		\$40,764	\$52,993
K. INITIAL EXPENSE		\$40,764	\$52,993
3 (Percentage of H)		\$40,764	\$52,993
L. CONSTRUCTION CONTINGENCY		\$135,880	\$176,645
10 (Percentage of H)		\$135,880	\$176,645
M. TOTAL CONSTRUCTION COSTS (H thru L)		\$1,847,974	\$2,402,366
N. CONSTRUCTION ENGINEERING		\$277,196	\$360,355
15 (Percentage of M)		\$277,196	\$360,355
O. TOTAL CONSTRUCTION COSTS (M + N)		\$2,125,170	\$2,762,721
P. REIMBURSABLE UTILITY RELOCATIONS BY OTHERS		\$0	\$0
		\$0 DP Electric+ \$0 Verizon =	\$0
Q. TRAFFIC SECTION ITEMS		\$760,533	\$988,693
1. Signing	1 (Percentage of 1,385)	\$10,533	\$13,693
2. Signals	3 EA	\$250,000.00 per EA =	\$750,000
Total		\$760,533	\$988,693
CONSTRUCTION PROJECT ESTIMATE (O thru Q)		\$2,885,703	\$3,751,414
HAZARDOUS MATERIALS		\$0	\$0

April, 2021

Churchman's Crossing
Preliminary Cost Estimate - Southbound I-95 Access from Continental Drive

PAVEMENT PATCHING SECTION

Table with 3 columns: Item ID, Description, and Quantity. Includes items for Surface, Base, and Subbase with various materials and quantities.

Table for Full-depth Pavement and Mill & Overlay. Columns: Length, Width, Sq Ft. Values: 800, 30, 24,000.

NO Contingency % Contingency 30

Table 1. GRADING. Summary of earthwork costs including excavation and borrow, totaling \$81,000 and \$105,300.

Table 2. DRAINAGE. Summary of stormwater management costs, totaling \$243,527 and \$316,585.

Table 3. PAVEMENT PATCHING. Detailed breakdown of paving costs for surface, base, and subbase, totaling \$275,416 and \$358,040.

Table 4. EROSION / SEDIMENT CONTROL. Summary of erosion control costs, totaling \$0 and \$0.

Table 5. MISCELLANEOUS. Summary of various construction materials and services, totaling \$361,217 and \$469,582.

Table B. STRUCTURE CONSTRUCTION. Summary of structure construction costs, totaling \$0 and \$0.

Table C. LANDSCAPING. Summary of landscaping costs including topsoil and plantings, totaling \$35,882 and \$46,646.

Table D. MAINTENANCE OF TRAFFIC (including temporary tie-ins). Summary of traffic maintenance costs, totaling \$143,527 and \$186,585.

Table E. PROJECT TRAFFIC ITEMS. Summary of project traffic items including signing and markings, totaling \$21,529 and \$27,988.

Table F. WETLAND MITIGATION. Summary of wetland mitigation costs, totaling \$0 and \$0.

Table G. UTILITY RELOCATIONS IN CONTRACT. Summary of utility relocation costs, totaling \$57,411 and \$74,634.

Table H. SUBTOTAL. Summary of subtotal costs, totaling \$1,219,507 and \$1,585,359.

Table I. MISCELLANEOUS ITEMS. Summary of miscellaneous items costs, totaling \$243,901 and \$317,072.

Table J. CONTRACTOR'S CONSTRUCTION ENGINEERING. Summary of contractor's construction engineering costs, totaling \$36,585 and \$47,561.

Table K. INITIAL EXPENSE. Summary of initial expense costs, totaling \$36,585 and \$47,561.

Table L. CONSTRUCTION CONTINGENCY. Summary of construction contingency costs, totaling \$121,951 and \$158,536.

Table M. TOTAL CONSTRUCTION COSTS (H thru L). Summary of total construction costs, totaling \$1,658,530 and \$2,156,089.

Table N. CONSTRUCTION ENGINEERING. Summary of construction engineering costs, totaling \$248,779 and \$323,413.

Table O. TOTAL CONSTRUCTION COSTS (M + N). Summary of total construction costs, totaling \$1,907,309 and \$2,479,502.

Table P. REIMBURSABLE UTILITY RELOCATIONS BY OTHERS. Summary of reimbursable utility relocation costs, totaling \$0 and \$0.

Table Q. TRAFFIC SECTION ITEMS. Summary of traffic section items costs, totaling \$21,529 and \$27,988.

Table CONSTRUCTION PROJECT ESTIMATE (O thru Q). Summary of total project estimate costs, totaling \$1,928,838 and \$2,507,490.

Table HAZARDOUS MATERIALS. Summary of hazardous materials costs, totaling \$0.

April, 2021

Churchman's Crossing
Preliminary Cost Estimate - SB SR 1 to SB I-95 Connection

PAVEMENT PATCHING SECTION		Full-depth Pavement		Concrete bridge over n	
		Length	Width	Sq Ft	
a. Surface:		2,804	30	84,120	
1- 2	Superpave, Type C, 160 Gyration, PG 64-22 (carbonate stone) (401029) Tons				
b. Base:					
2- 3	Superpave, Type B, 160 Gyration, PG 64-22 (401030) Tons				
3- 5	Superpave, Bituminous Concrete Base Course, 160 Gyration, PG 64-22 (401031) Tons				
c. Subbase:					
4- 8	inches of Graded Aggregate Base Course, Type B Patching (301002) CY				
				NO Contingency	% Contingency
					30
1. GRADING				\$279,000	\$362,700
See Earthwork Summary Sheet					
a.	Excavation	6,300	CY @	\$30.00 =	\$189,000
b.	Borrow	3,000	CY @	\$30.00 =	\$90,000
				Total	\$279,000
					\$362,700
2. DRAINAGE				\$343,111	\$446,045
20 (Percentage of 1,385)					
Stormwater Management	1	EA	\$100,000.00	per EA =	\$243,111
				Total	\$343,111
					\$446,045
3. PAVEMENT PATCHING				\$793,807	\$1,031,950
	84,120	sf / 9 =	9,347	SY	Sav: 9,400 SY
	0	sf / 9 =	0	SY	Saf: 0 SY
Full Depth Paving Only (1,2,3 & 4)					
Mill and Overlay Only (1a)					
a. Surface:					
(1)	9,400	SY Div. by	8.80	sy/ton =	1,068
(1a)	0	SY Div. by	8.80	sy/ton =	0
				Ton,Times	\$140.00
				per Ton =	\$149,545
				Total	\$0
					\$149,545
b. Base:					
(2)	9,400	SY Div. by	5.79	sy/ton =	1,623
(3)	9,400	SY Div. by	3.52	sy/ton =	2,670
				Ton,Times	\$130.00
				per Ton =	\$211,054
				Total	\$267,045
					\$478,099
c. Subbase:					
(4)	84,120	SF times	0.666667	ft /ZT/cy =	2,077
				CY, Times	\$80.00
				per CY =	\$166,163
				Total	\$166,163
					\$166,163
4. EROSION / SEDIMENT CONTROL				\$0	\$0
Included in Drainage					
					\$0
5. MISCELLANEOUS				\$142,750	\$185,575
a.	6" Curb & Gutter (701022)	0	LF	\$70.00	per LF = \$0
b.	Hot-Mix SUP	0	SF	\$8.00	per SF = \$0
c.	Guardrail	1,000	LF	\$32.00	per LF = \$32,000
d.	CPM Schedule	1	LS	\$10,000	\$10,000
e.	Clearing/Grubbing (201000)	1	LS	\$25,000	\$25,000
f.	Field Office	1	LS	\$10,000	\$10,000
g.	Milling (760010)	0	SY * 2' =	0	SY-IN,Times \$1.00
h.	Fencing (XXXXXX)	0	LF	\$180.00	per LF = \$0
i.	Vehicular Gate (XXXXXX)	0	Each	\$5,000.00	per Each = \$0
j.	Sawcutting (762000)	1,150	LF	\$5.00	per LF = \$5,750
k.	PCC Removal (211001)	0	SY	\$25.00	per SY = \$0
l.	Underdrain (709001)	3,000	LF	\$20.00	per LF = \$60,000
b.4"	Sidewalk	0	SF	\$15.00	per SF = \$0
				Total	\$142,750
					\$185,575
B. STRUCTURE CONSTRUCTION				\$4,050,000	\$4,455,000
1.	Bridge Over Roadway or Highway	500	(LF) times	30	(width) = 15,000
			SF	\$270.00	per SF = \$4,050,000
				plus 10% =	\$4,455,000
2.	Old structure Removal				\$0 plus 10% = \$0
3.	Retaining Wall (Modular Block) (607010)	0	(LF) times	5	(height) = 0
			SF	\$50.00	per SF = \$0
				plus 10% =	\$0
4.	Box Culvert		(Assume 1' buried)	0	SF
				\$250.00	per SF = \$0
				plus 10% =	\$0
				Total	\$4,050,000
					\$4,455,000
C. LANDSCAPING				\$36,467	\$47,407
a.	Topsoil / Seed / Mulch	3	(Percentage of 1,385)		\$36,467
b.	Plantings	0		\$400.00	per EA = \$0
				Total	\$36,467
					\$47,407
D. MAINTENANCE OF TRAFFIC (including temporary tie-ins)				\$243,111	\$316,045
20 (Percentage of 1,385)					
					\$243,111
E. PROJECT TRAFFIC ITEMS				\$60,778	\$79,011
1.	Signing Structures				\$0
2.	Path Lighting				\$0
3.	Pavement Markings	5	(Percentage of 1,385)	\$7,500.00	per EA = \$60,778
4.	XXXXX				\$0
				Total	\$60,778
					\$79,011
F. WETLAND MITIGATION				\$0	\$0
0.0 Acres times 1 2:1 ratio = 0.0 Ac., Times \$200,000.00 per Ac. = \$0					
G. UTILITY RELOCATIONS IN CONTRACT				\$97,245	\$126,418
1.	Delmarva Electric				\$0
2.	Verizon				\$0
3.	Other Relocations	8	(Percentage of 1,385)		\$97,245
				Total	\$97,245
					\$126,418
H. SUBTOTAL				\$6,046,270	\$7,050,150
I. MISCELLANEOUS ITEMS				\$1,209,254	\$1,410,030
20 (Percentage of H)					
					\$1,209,254
					\$1,410,030
J. CONTRACTOR'S CONSTRUCTION ENGINEERING				\$181,388	\$211,505
3 (Percentage of H)					
					\$181,388
					\$211,505
K. INITIAL EXPENSE				\$181,388	\$211,505
3 (Percentage of H)					
					\$181,388
					\$211,505
L. CONSTRUCTION CONTINGENCY				\$604,627	\$705,015
10 (Percentage of H)					
					\$604,627
					\$705,015
M. TOTAL CONSTRUCTION COSTS (H thru L)				\$8,222,927	\$9,588,205
N. CONSTRUCTION ENGINEERING				\$1,233,439	\$1,438,231
15 (Percentage of M)					
					\$1,233,439
					\$1,438,231
O. TOTAL CONSTRUCTION COSTS (M + N)				\$9,456,366	\$11,026,435
P. REIMBURSABLE UTILITY RELOCATIONS BY OTHERS				\$0	\$0
\$0 DP Electric+ \$0 Verizon = \$0					
Q. TRAFFIC SECTION ITEMS				\$36,467	\$47,407
1.	Signing	3	(Percentage of 1,385)		\$36,467
2.	Signals	0	EA	\$250,000.00	per EA = \$0
				Total	\$36,467
					\$47,407
CONSTRUCTION PROJECT ESTIMATE (O thru Q)				\$9,492,832	\$11,073,842
HAZARDOUS MATERIALS				\$0	\$0

April, 2021

Churchman's Crossing
Preliminary Cost Estimate - SB SR 1 to NB I-95 Connection

PAVEMENT PATCHING SECTION

Milling and Overlay

Length	Width	Sq Ft
3,348	30	100,440

a. Surface:
 1- 2 Superpave, Type C, 160 Gyration, PG 64-22 (carbonate stone) (401029) Tons

b. Base:
 2- 3 Superpave, Type B, 160 Gyration, PG 64-22 (401030) Tons
 3- 5 Superpave, Bituminous Concrete Base Course, 160 Gyration, PG 64-22 (401031) Tons

c. Subbase:
 4- 8 inches of Graded Aggregate Base Course, Type B Patching (301002) CY

NO Contingency % Contingency
 \$30,000 30

1. GRADING			\$330,000	\$429,000
See Earthwork Summary Sheet				
a. Excavation	7,500 CY @	\$30.00 =	\$225,000	\$292,500
b. Borrow	3,500 CY @	\$30.00 =	\$105,000	\$136,500
Total			\$330,000	\$429,000

2. DRAINAGE			\$128,963	\$167,652
5 (Percentage of 1,385)				
Stormwater Management	1 EA	\$100,000.00 per EA =	\$28,963	\$37,652
Total			\$128,963	\$167,652

3. PAVEMENT PATCHING			\$178,182	\$231,636
0	sf / 9 =	0 SY	Sav: 0 SY	Full Depth Paving Only (1,2,3 & 4)
100,440	sf / 9 =	11,160 SY	Sav: 11,200 SY	Mill and Overlay Only (1a)
a. Surface:				
(1)	0 SY Div. by	8.80 sy/ton =	0 Ton,Times	\$140.00 per Ton = \$0
(1a)	11,200 SY Div. by	8.80 sy/ton =	1,273 Ton,Times	\$140.00 per Ton = \$178,182
Total			\$178,182	\$231,636
b. Base:				
(2)	0 SY Div. by	5.79 sy/ton =	0 Ton,Times	\$130.00 per Ton = \$0
(3)	0 SY Div. by	3.52 sy/ton =	0 Ton,Times	\$100.00 per Ton = \$0
Total			\$0	\$0
c. Subbase:				
(4)	0 SF times	0.666667 ft / 27cf/cy =	0 CY, Times	\$80.00 per CY = \$0
Total			\$0	\$0

4. EROSION / SEDIMENT CONTROL			\$0	\$0
Included in Drainage \$0				

5. MISCELLANEOUS			\$71,081	\$92,405
a. 6" Curb & Gutter (701022)	0 LF	\$70.00 per LF =	\$0	\$0
b. Hot-Mix SUP	0 SF	\$8.00 per SF =	\$0	\$0
c. Guardrail	0 LF	\$32.00 per LF =	\$0	\$0
d. CPM Schedule	1 LS	\$10,000	\$10,000	\$13,000
e. Clearing/Gubbing (201000)	1 LS	\$25,000	\$25,000	\$32,500
f. Field Office	1 LS	\$10,000	\$10,000	\$13,000
g. Milling (760010)	11,200 SY * 2' =	22,400 SY-IN,Times	\$1.00 per SY-IN =	\$22,400
h. Fencing (XXXXXX)	0 LF	\$180.00 per LF =	\$0	\$0
i. Vehicular Gate (XXXXXX)	0 Each	\$5,000.00 per Each =	\$0	\$0
j. Sawcutting (762000)	125 LF	\$5.00 per LF =	\$625	\$813
k. PCC Removal (211001)	122 SY	\$25.00 per SY =	\$3,056	\$3,972
l. Underdrain (709001)	0 LF	\$20.00 per LF =	\$0	\$0
b.4" Sidewalk	0 SF	\$15.00 per SF =	\$0	\$0
Total			\$71,081	\$92,405

B. STRUCTURE CONSTRUCTION			\$0	\$0
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1. Bridge Over Roadway or Highway (LF) times	30 (width) =	0 SF	\$270.00 per SF =	\$0 plus 10% = \$0
2. Old structure Removal			\$0 plus 10% =	\$0
3. Retaining Wall (Modular Block) (607010) (LF) times	0 (height) =	0 SF	\$50.00 per SF =	\$0 plus 10% = \$0
4. Box Culvert (Assume 1' buried)	0 SF	\$250.00 per SF =	\$0 plus 10% =	\$0
Total			\$0	\$0

C. LANDSCAPING			\$5,793	\$7,530
a. Topsoil / Seed / Mulch	1 (Percentage of 1,385)	\$5,793	\$5,793	\$7,530
b. Plantings	0	\$400.00 per EA =	\$0	\$0
Total			\$5,793	\$7,530

D. MAINTENANCE OF TRAFFIC (including temporary tie-ins)			\$144,816	\$188,260
25 (Percentage of 1,385)		\$144,816		

E. PROJECT TRAFFIC ITEMS			\$17,378	\$22,591
1. Signing Structures		\$0	\$0	\$0
2. Path Lighting		\$0	\$0	\$0
3. Pavement Markings	3 (Percentage of 1,385)	\$7,500.00 per EA =	\$17,378	\$22,591
4. XXXXX		\$10,000.00 per EA =	\$0	\$0
Total			\$17,378	\$22,591

F. WETLAND MITIGATION			\$0	\$0
0.0 Acres times	1 2:1 ratio =	0.0 Ac., Times	\$200,000.00 per Ac. =	\$0

G. UTILITY RELOCATIONS IN CONTRACT			\$46,341	\$60,243
1. Delmarva Electric		\$0	\$0	\$0
2. Verizon		\$0	\$0	\$0
3. Other Relocations	8 (Percentage of 1,385)	\$46,341	\$46,341	\$60,243
Total			\$46,341	\$60,243

H. SUBTOTAL			\$922,553	\$1,199,318
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I. MISCELLANEOUS ITEMS			\$184,511	\$239,864
20 (Percentage of H)		\$184,511	\$184,511	\$239,864

J. CONTRACTOR'S CONSTRUCTION ENGINEERING			\$27,677	\$35,980
3 (Percentage of H)		\$27,677	\$27,677	\$35,980

K. INITIAL EXPENSE			\$27,677	\$35,980
3 (Percentage of H)		\$27,677	\$27,677	\$35,980

L. CONSTRUCTION CONTINGENCY			\$92,255	\$119,932
10 (Percentage of H)		\$92,255	\$92,255	\$119,932

M. TOTAL CONSTRUCTION COSTS (H thru L)			\$1,254,671	\$1,631,073
15 (Percentage of M)		\$188,201	\$188,201	\$244,661

N. CONSTRUCTION ENGINEERING			\$188,201	\$244,661
15 (Percentage of M)		\$188,201	\$188,201	\$244,661

O. TOTAL CONSTRUCTION COSTS (M + N)			\$1,442,872	\$1,875,734
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P. REIMBURSABLE UTILITY RELOCATIONS BY OTHERS			\$0	\$0
\$0 DP Electric+	\$0 Verizon =	\$0	\$0	\$0

Q. TRAFFIC SECTION ITEMS			\$17,378	\$22,591
1. Signing	3 (Percentage of 1,385)	\$17,378	\$17,378	\$22,591
2. Signals	0 EA	\$250,000.00 per EA =	\$0	\$0
Total			\$17,378	\$22,591

CONSTRUCTION PROJECT ESTIMATE (O thru Q)			\$1,460,250	\$1,898,325
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HAZARDOUS MATERIALS			\$0	\$0
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April, 2021

Churchman's Crossing
Preliminary Cost Estimate - Eagle Run Road Connector to Samoset Drive

PAVEMENT PATCHING SECTION

a. Surface:									
1 - 2"	Superpave, Type C, 160 Gyration, PG 64-22 (carbonate stone) (401029) Tons								
		Length	Width	Sq Ft					
		3,341	60	200,460					
b. Base:									
2 - 3"	Superpave, Type B, 160 Gyration, PG 64-22 (401030) Tons								
3 - 5"	Superpave, Bituminous Concrete Base Course, 160 Gyration, PG 64-22 (401031) Tons								
c. Subbase:									
4 - 8	inches of Graded Aggregate Base Course, Type B Patching (301002) CY								

NO
Contingency **30**
% Contingency

1. GRADING		\$505,467	\$657,107
See Earthwork Summary Sheet			
a.	Excavation 14,849 CY @ \$30.00 =	\$445,467	\$579,107
b.	Borrow 2,000 CY @ \$30.00 =	\$60,000	\$78,000
Assuming roughly 2' of fill in raised on-grade sections		Total	\$505,467 \$657,107

2. DRAINAGE		\$688,545	\$895,108
20 (Percentage of 1,385)			
Stormwater Management	0 EA	\$100,000.00 per EA =	\$688,545 \$895,108
		Total	\$688,545 \$895,108

3. PAVEMENT PATCHING		\$1,884,957	\$2,450,444
200,460	sf / 9 = 22,273 SY	Sav: 22,300 SY	Full Depth Paving Only (1,2,3 & 4)
0	sf / 9 = 0 SY	0 SY	Mill and Overlay Only (1a)

a. Surface:									
(1)	22,300 SY Div. by 8.80 sy/ton = 2,534 Ton,Times	\$140.00 per Ton =	\$354,773						
(1a)	0 SY Div. by 8.80 sy/ton = 0 Ton,Times	\$140.00 per Ton =	\$0						
		Total	\$354,773	\$461,205					
b. Base:									
(2)	22,300 SY Div. by 5.79 sy/ton = 3,851 Ton,Times	\$130.00 per Ton =	\$500,691						
(3)	22,300 SY Div. by 3.52 sy/ton = 6,335 Ton,Times	\$100.00 per Ton =	\$633,523						
		Total	\$1,134,214	\$1,474,478					
c. Subbase:									
(4)	200,460 SF times 0.666667 ft / 27cf/cy = 4,950 CY, Times	\$80.00 per CY =	\$395,970						
		Total	\$395,970	\$514,761					

4. EROSION / SEDIMENT CONTROL		\$0	\$0
Included in Drainage			
		\$0	

5. MISCELLANEOUS		\$1,052,300	\$1,367,990
a.	6" Curb & Gutter (701022) 6,682 LF	\$70.00 per LF =	\$467,740 \$608,062
b.	Hot-Mix SUP (8' wide) 0 SF	\$8.00 per SF =	\$0 \$0
c.	Guardrail 0 LF		\$0 \$0
d.	CPM Schedule 1 LS		\$10,000 \$13,000
e.	Clearing/Grubbing (201000) 1 LS		\$40,000 \$52,000
f.	Field Office 0 LS		\$0 \$0
g.	Milling (760010) 0 SY * 2' = 0 SY-IN,Times	\$1.00 per SY-IN =	\$0 \$0
h.	Fencing (XXXXXX) 0 LF	\$180.00 per LF =	\$0 \$0
i.	Vehicular Gate (XXXXXX) 0 Each	\$5,000.00 per Each =	\$0 \$0
j.	Sawcutting (762000) 6,682 LF	\$5.00 per LF =	\$33,410 \$43,453
k.	PCC Removal (211001) 0 SY	\$25.00 per SY =	\$0 \$0
l.	Underdrain (709001) 0 LF	\$20.00 per LF =	\$0 \$0
m.	4" Sidewalk 33,410 SF	\$15.00 per SF =	\$501,150 \$651,495
		Total	\$1,052,300 \$1,367,990

B. STRUCTURE CONSTRUCTION		\$20,794,800	\$22,874,280
1.	Bridge over I-95 ### (LF) times 58 (width) = 74,240 SF	\$270.00 per SF =	##### plus 10% = \$22,049,280
2.	Old structure Removal		\$0 plus 10% = \$0
3.	Retaining Wall (Modular Block) (607010) 0 ### (LF) times 15 (height) = 15,000 SF	\$50.00 per SF =	\$750,000 plus 10% = \$825,000
4.	Box Culvert (Assume 1 buried) 0 SF	\$250.00 per SF =	\$0 plus 10% = \$0
		Total	\$20,794,800 \$22,874,280

C. LANDSCAPING		\$172,136	\$223,777
a.	Topsoil / Seed / Mulch 5 (Percentage of 1,385)	\$172,136	\$223,777
b.	Plantings 0	\$400.00 per EA =	\$0 \$0
		Total	\$172,136 \$223,777

D. MAINTENANCE OF TRAFFIC (including temporary tie-ins)		\$688,545	\$895,108
20 (Percentage of 1,385)		\$688,545	

E. PROJECT TRAFFIC ITEMS		\$181,354	\$235,761
1.	Signing Structures 15	\$7,500.00 per EA =	\$112,500 \$146,250
2.	Path Lighting 2 (Percentage of 1,385)	\$68,854 per EA =	\$89,511 \$89,511
3.	Pavement Markings 0	\$10,000.00 per EA =	\$0 \$0
4.	XXXXX 0		\$0 \$0
		Total	\$181,354 \$235,761

F. WETLAND MITIGATION		\$0	\$0
0.0	Acres times 1 2:1 ratio = 0.0 Ac., Times	\$200,000.00 per Ac. =	\$0 \$0

G. UTILITY RELOCATIONS IN CONTRACT		\$275,418	\$358,043
1.	Delmarva Electric	\$0	\$0
2.	Verizon	\$0	\$0
3.	Other Relocations 8 (Percentage of 1,385)	\$275,418	\$358,043
		Total	\$275,418 \$358,043

H. SUBTOTAL		\$26,243,521	\$29,957,618
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I. MISCELLANEOUS ITEMS		\$5,248,704	\$5,991,524
20 (Percentage of H)		\$5,248,704	\$5,991,524

J. CONTRACTOR'S CONSTRUCTION ENGINEERING		\$787,306	\$898,729
3 (Percentage of H)		\$787,306	\$898,729

K. INITIAL EXPENSE		\$787,306	\$898,729
3 (Percentage of H)		\$787,306	\$898,729

L. CONSTRUCTION CONTINGENCY		\$2,624,352	\$2,995,762
10 (Percentage of H)		\$2,624,352	\$2,995,762

M. TOTAL CONSTRUCTION COSTS (H thru L)		\$35,691,189	\$40,742,380
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N. CONSTRUCTION ENGINEERING		\$5,353,678	\$6,111,354
15 (Percentage of M)		\$5,353,678	\$6,111,354

O. TOTAL CONSTRUCTION COSTS (M + N)		\$41,044,867	\$46,853,734
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P. REIMBURSABLE UTILITY RELOCATIONS BY OTHERS		\$5,000,000	\$6,500,000
		\$5,000,000 DP Electric+ \$0 Verizon = \$5,000,000	

Q. TRAFFIC SECTION ITEMS		\$34,427	\$44,755
1.	Signing 1 (Percentage of 1,385)	\$34,427	\$44,755
2.	Signals 0 EA	\$250,000.00 per EA =	\$0 \$0
		Total	\$34,427 \$44,755

CONSTRUCTION PROJECT ESTIMATE (O thru Q)		\$46,079,294	\$53,398,469
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HAZARDOUS MATERIALS		\$0	
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Churchman's Crossing
Preliminary Cost Estimate - Opening Samoset Drive/Continental Drive: SR 4 to Churchman's Road

PAVEMENT PATCHING SECTION

a. Surface:									
1- 2"	Superpave, Type C, 160 Gyration, PG 64-22 (carbonate stone) (401029) Tons	Length	Width	Sq Ft					
		2,600	50	130,000					
b. Base:									
2- 3"	Superpave, Type B, 160 Gyration, PG 64-22 (401030) Tons								
3- 5"	Superpave, Bituminous Concrete Base Course, 160 Gyration, PG 64-22 (401031) Tons								
c. Subbase:									
4- 8	inches of Graded Aggregate Base Course, Type B Patching (301002) CY								

NO Contingency **30** % Contingency

1. GRADING									
	See Earthwork Summary Sheet								
a.	Excavation 9,600 CY @ \$30.00 =				\$288,889			\$375,556	
b.	Borrow 2,000 CY @ \$30.00 =				\$60,000			\$78,000	
	Assuming roughly 2' of fill in raised on-grade sections								
					\$348,889			\$453,556	

2. DRAINAGE									
	20 (Percentage of 1,385)								
Stormwater Management	0 EA	\$100,000.00	per EA =		\$497,382			\$646,596	
								\$0	
					\$497,382			\$646,596	

3. PAVEMENT PATCHING									
	130,000 sf / 9 = 14,444 SY	Sav: 14,500 SY	Full Depth Paving Only (1,2,3 & 4)						
	0 sf / 9 = 0 SY	0 SY	Mill and Overlay Only (1a)						

a. Surface:									
(1)	14,500 SY Div. by 8.80 sy/ton = 1,648 Ton,Times	\$140.00	per Ton =	\$230,682					
(1a)	0 SY Div. by 8.80 sy/ton = 0 Ton,Times	\$140.00	per Ton =	\$0					
				\$230,682				\$299,886	
b. Base:									
(2)	14,500 SY Div. by 5.79 sy/ton = 2,504 Ton,Times	\$130.00	per Ton =	\$325,561					
(3)	14,500 SY Div. by 3.52 sy/ton = 4,119 Ton,Times	\$100.00	per Ton =	\$411,932					
				\$737,493				\$958,741	
c. Subbase:									
(4)	130,000 SF times 0.666667 ft / 27cf/cy = 3,210 CY, Times	\$80.00	per CY =	\$256,790					
				\$256,790				\$333,827	

4. EROSION / SEDIMENT CONTROL									
	Included in Drainage				\$0			\$0	

5. MISCELLANEOUS									
a.	6" Curb & Gutter (701022)	5,200 LF	\$70.00	per LF =	\$364,000			\$473,200	
b.	Hot-Mix SUP (8' wide)	0 SF	\$8.00	per SF =	\$0			\$0	
c.	Guardrail	0 LF		per LF =	\$0			\$0	
d.	CPM Schedule	1 LS	\$10,000		\$10,000			\$13,000	
e.	Clearing/Grubbing (201000)	1 LS	\$40,000		\$40,000			\$52,000	
f.	Field Office	0 LS			\$0			\$0	
g.	Milling (760010)	0 SY * 2' = 0 SY-IN,Times	\$1.00	per SY-IN =	\$0			\$0	
h.	Fencing (XXXXXX)	0 LF	\$180.00	per LF =	\$0			\$0	
i.	Vehicular Gate (XXXXXX)	0 Each	\$5,000.00	per Each =	\$0			\$0	
j.	Sawcutting (762000)	5,200 LF	\$5.00	per LF =	\$26,000			\$33,600	
k.	PCC Removal (211001)	3,322 SY	\$25.00	per SY =	\$83,056			\$107,972	
l.	Underdrain (709001)	0 LF	\$20.00	per LF =	\$0			\$0	
m.	4" Sidewalk	26,000 SF	\$15.00	per SF =	\$390,000			\$507,000	
					\$913,056			\$1,186,972	

B. STRUCTURE CONSTRUCTION									
1.	XXXXX (LF) times 0 (width) = 0 SF	\$84.00	per SF =	\$0	plus 10% =	\$0		\$0	
2.	Old structure Removal				\$0	plus 10% =	\$0	\$0	
3.	Retaining Wall (Modular Block) (607010) 0 (LF) times 0 (height) = 0 SF	\$50.00	per SF =	\$0	plus 10% =	\$0		\$0	
4.	Box Culvert (Assume 1' buried) 0 SF	\$250.00	per SF =	\$0	plus 10% =	\$0		\$0	
				Total	\$0			\$0	

C. LANDSCAPING									
a.	Topsoil / Seed / Mulch 5 (Percentage of 1,385)				\$124,345			\$161,649	
b.	Plantings 0	\$400.00	per EA =	\$0				\$0	
				Total	\$124,345			\$161,649	

D. MAINTENANCE OF TRAFFIC (including temporary tie-ins)									
	1 (Percentage of 1,385)				\$24,869			\$24,869	

E. PROJECT TRAFFIC ITEMS									
1.	Signing Structures 15 (Percentage of 1,385)	\$7,500.00	per EA =	\$0				\$0	
2.	Path Lighting 2			\$112,500				\$146,250	
3.	Pavement Markings 2			\$49,738				\$64,660	
4.	XXXXX 0	\$10,000.00	per EA =	\$0				\$0	
				Total	\$162,238			\$210,910	

F. WETLAND MITIGATION									
	0.0 Acres times 1 2:1 ratio = 0.0 Ac., Times	\$200,000.00	per Ac. =	\$0				\$0	

G. UTILITY RELOCATIONS IN CONTRACT									
1.	Delmarva Electric				\$0			\$0	
2.	Verizon				\$0			\$0	
3.	Other Relocations 8 (Percentage of 1,385)				\$198,953			\$258,639	
				Total	\$198,953			\$258,639	

H. SUBTOTAL									
					\$3,494,697			\$4,543,106	

I. MISCELLANEOUS ITEMS									
	20 (Percentage of H)				\$698,939			\$908,621	

J. CONTRACTOR'S CONSTRUCTION ENGINEERING									
	3 (Percentage of H)				\$104,841			\$136,293	

K. INITIAL EXPENSE									
	3 (Percentage of H)				\$104,841			\$136,293	

L. CONSTRUCTION CONTINGENCY									
	10 (Percentage of H)				\$349,470			\$454,311	

M. TOTAL CONSTRUCTION COSTS (H thru L)									
					\$4,752,788			\$6,178,624	

N. CONSTRUCTION ENGINEERING									
	15 (Percentage of M)				\$712,918			\$926,794	

O. TOTAL CONSTRUCTION COSTS (M + N)									
					\$5,465,706			\$7,105,418	

P. REIMBURSABLE UTILITY RELOCATIONS BY OTHERS									
		\$0	DP Electric+	\$0	Verizon =	\$0		\$0	

Q. TRAFFIC SECTION ITEMS									
1.	Signing 1 (Percentage of 1,385)				\$24,869			\$32,330	
2.	Signals 0 EA	\$250,000.00	per EA =	\$0				\$0	
				Total	\$24,869			\$32,330	

CONSTRUCTION PROJECT ESTIMATE (O thru Q)									
					\$5,490,575			\$7,137,748	

HAZARDOUS MATERIALS									
									\$0

April, 2021

Churchman's Crossing
Preliminary Cost Estimate - Christiana Mall Access Road-Bus Only
Bus-Only from Christiana Mall area near Cabela's to I-95 NB

PAVEMENT PATCHING SECTION

Table with columns for item description, quantity, unit, and cost. Includes items for Surface, Base, and Subbase with quantities like 1-2, 2-3, 3-5, 4-8 and units like Tons, CY, SF.

Table for Full-depth Pavement and Mill & Overlay with columns for Length, Width, and Sq Ft. Values include 400, 30, 12,000 and 1,150, 20, 23,000.

Table for GRADING section with columns for item, quantity, unit, cost, and contingency. Total cost is \$39,000 with 30% contingency.

Table for DRAINAGE section with columns for item, quantity, unit, cost, and contingency. Total cost is \$18,595 with 30% contingency.

Table for PAVEMENT PATCHING section with columns for item, quantity, unit, cost, and contingency. Total cost is \$158,546 with 30% contingency.

Table for EROSION / SEDIMENT CONTROL section with columns for item, quantity, unit, cost, and contingency. Total cost is \$0.

Table for MISCELLANEOUS section with columns for item, quantity, unit, cost, and contingency. Total cost is \$174,356 with 30% contingency.

Table for STRUCTURE CONSTRUCTION section with columns for item, quantity, unit, cost, and contingency. Total cost is \$0.

Table for LANDSCAPING section with columns for item, quantity, unit, cost, and contingency. Total cost is \$11,157 with 30% contingency.

Table for MAINTENANCE OF TRAFFIC section with columns for item, quantity, unit, cost, and contingency. Total cost is \$18,595 with 30% contingency.

Table for PROJECT TRAFFIC ITEMS section with columns for item, quantity, unit, cost, and contingency. Total cost is \$11,157 with 30% contingency.

Table for WETLAND MITIGATION section with columns for item, quantity, unit, cost, and contingency. Total cost is \$0.

Table for UTILITY RELOCATIONS IN CONTRACT section with columns for item, quantity, unit, cost, and contingency. Total cost is \$11,157 with 30% contingency.

Table for SUBTOTAL section with columns for item, quantity, unit, cost, and contingency. Total cost is \$442,563 with 30% contingency.

Table for MISCELLANEOUS ITEMS section with columns for item, quantity, unit, cost, and contingency. Total cost is \$88,513 with 30% contingency.

Table for CONTRACTOR'S CONSTRUCTION ENGINEERING section with columns for item, quantity, unit, cost, and contingency. Total cost is \$13,277 with 30% contingency.

Table for INITIAL EXPENSE section with columns for item, quantity, unit, cost, and contingency. Total cost is \$13,277 with 30% contingency.

Table for CONSTRUCTION CONTINGENCY section with columns for item, quantity, unit, cost, and contingency. Total cost is \$44,256 with 30% contingency.

Table for TOTAL CONSTRUCTION COSTS (H thru L) section with columns for item, quantity, unit, cost, and contingency. Total cost is \$601,886 with 30% contingency.

Table for CONSTRUCTION ENGINEERING section with columns for item, quantity, unit, cost, and contingency. Total cost is \$90,283 with 30% contingency.

Table for TOTAL CONSTRUCTION COSTS (M + N) section with columns for item, quantity, unit, cost, and contingency. Total cost is \$692,169 with 30% contingency.

Table for REIMBURSABLE UTILITY RELOCATIONS BY OTHERS section with columns for item, quantity, unit, cost, and contingency. Total cost is \$0.

Table for TRAFFIC SECTION ITEMS section with columns for item, quantity, unit, cost, and contingency. Total cost is \$3,719 with 30% contingency.

Table for CONSTRUCTION PROJECT ESTIMATE (O thru Q) section with columns for item, quantity, unit, cost, and contingency. Total cost is \$695,888 with 30% contingency.

Table for HAZARDOUS MATERIALS section with columns for item, quantity, unit, cost, and contingency. Total cost is \$0.

April, 2021

Churchman's Crossing
Preliminary Cost Estimate - Christiana Mall Road A Extension - East
 2 Lane roadway with sidewalks connecting Christiana Fashion Area with Airport Road

PAVEMENT PATCHING SECTION

a. Surface:	1- 2	Superpave, Type C, 160 Gyration, PG 64-22 (carbonate stone) (401029) Tons	Full-depth Pavement	Length	Width	Sq Ft
				3,000	32	96,000
b. Base:	2- 3	Superpave, Type B, 160 Gyration, PG 64-22 (401030) Tons	Mill & Overlay	Length	Width	Sq Ft
						0
	3- 5	Superpave, Bituminous Concrete Base Course, 160 Gyration, PG 64-22 (401031) Tons				
c. Subbase:	4- 8	inches of Graded Aggregate Base Course, Type B Patching (301002) CY				

			NO Contingency	% Contingency	
				30	

1. GRADING					\$306,000	\$397,800
		See Earthwork Summary Sheet				
a.		Excavation 7,200 CY @ \$30.00 =		\$216,000		\$280,800
b.		Borrow 3,000 CY @ \$30.00 =		\$90,000		\$117,000
				Total	\$306,000	\$397,800

2. DRAINAGE					\$646,555	\$840,522
	25	(Percentage of 1,385)				
Stormwater Management	1	EA	\$100,000.00 per EA =	\$546,555		\$710,522
				\$100,000		\$130,000
				Total	\$646,555	\$840,522

3. PAVEMENT PATCHING						\$904,076	\$1,175,299
	96,000	sf / 9 =	10,667	SY	Sav: 10,700	SY	Full Depth Paving Only (1,2,3 & 4)
	0	sf / 9 =	0	SY	Say: 0	SY	Mill and Overlay Only (1a)
a. Surface:							
(1)	10,700	SY Div. by	8.80	sy/ton =	1,216	Ton,Times	\$140.00 per Ton =
(1a)	0	SY Div. by	8.80	sy/ton =	0	Ton,Times	\$140.00 per Ton =
							\$170,227
							\$0
							Total
							\$170,227
							\$221,295
b. Base:							
(2)	10,700	SY Div. by	5.79	sy/ton =	1,848	Ton,Times	\$130.00 per Ton =
(3)	10,700	SY Div. by	3.52	sy/ton =	3,040	Ton,Times	\$100.00 per Ton =
							\$240,242
							\$303,977
							Total
							\$544,219
							\$707,485
c. Subbase:							
(4)	96,000	SF times	0.666667	ft / 27cf/cy =	2,370	CY, Times	\$80.00 per CY =
							\$189,630
							Total
							\$189,630
							\$246,519

4. EROSION / SEDIMENT CONTROL						\$0	\$0
		Included in Drainage				\$0	

5. MISCELLANEOUS						\$976,144	\$1,268,988
a.	6,000	LF	\$70.00	per LF =		\$420,000	\$546,000
b.	0	SF	\$8.00	per SF =		\$0	\$0
c.	0	LF	\$32.00	per LF =		\$0	\$0
d.	1	LS				\$10,000	\$13,000
e.	1	LS				\$25,000	\$32,500
f.	1	LS				\$10,000	\$13,000
g.	0	SY * 2' =	0	SY-IN,Times	\$1.00	per SY-IN =	\$0
h.	0	LF	\$180.00	per LF =		\$0	\$0
i.	0	Each	\$5,000.00	per Each =		\$0	\$0
j.	140	LF	\$5.00	per LF =		\$700	\$910
k.	18	SY	\$25.00	per SY =		\$444	\$578
l.	3,000	LF	\$20.00	per LF =		\$60,000	\$78,000
b.4" Sidewalk	30,000	SF	\$15.00	per SF =		\$450,000	\$585,000
						Total	\$976,144
							\$1,268,988

B. STRUCTURE CONSTRUCTION						\$15,162,000	\$16,678,200
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1.	Bridge Over Roadway or Highway	###	(LF) times	42	(width) =	42,000	SF	\$361.00	per SF =	#####	plus 10% =	\$16,678,200
2.	Old structure Removal									\$0	plus 10% =	\$0
3.	Retaining Wall (Modular Block) (607010)	0	(LF) times	5	(height) =	0	SF	\$50.00	per SF =		plus 10% =	\$0
4.	Box Culvert		(Assume 1' buried)	0			SF	\$250.00	per SF =		plus 10% =	\$0
										Total		\$15,162,000
												\$16,678,200

C. LANDSCAPING						\$65,587	\$85,263
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a.	Topsoil / Seed / Mulch	3	(Percentage of 1,385)			\$65,587	\$85,263
b.	Plantings	0		\$400.00	per EA =	\$0	\$0
						Total	\$65,587
							\$85,263

D. MAINTENANCE OF TRAFFIC (including temporary tie-ins)						\$65,587	\$85,263
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	3	(Percentage of 1,385)				\$65,587	
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E. PROJECT TRAFFIC ITEMS						\$65,587	\$85,263
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1.	Signing Structures					\$0	\$0
2.	Path Lighting					\$0	\$0
3.	Pavement Markings	3	(Percentage of 1,385)	\$7,500.00	per EA =	\$65,587	\$85,263
4.	XXXXX			\$10,000.00	per EA =	\$0	\$0
						Total	\$65,587
							\$85,263

F. WETLAND MITIGATION						\$1,000,000	\$1,000,000
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	5.0	Acres times	1	2:1 ratio =	5.0	Ac., Times	\$200,000.00	per Ac. =	\$1,000,000		\$1,300,000
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G. UTILITY RELOCATIONS IN CONTRACT						\$65,587	\$85,263
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1.	Delmarva Electric					\$0	\$0
2.	Verizon					\$0	\$0
3.	Other Relocations	3	(Percentage of 1,385)			\$65,587	\$85,263
						Total	\$65,587
							\$85,263

H. SUBTOTAL						\$19,257,122	\$21,701,859
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I. MISCELLANEOUS ITEMS						\$3,851,424	\$4,340,372
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	20	(Percentage of H)				\$3,851,424	\$4,340,372
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J. CONTRACTOR'S CONSTRUCTION ENGINEERING						\$577,714	\$651,056
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	3	(Percentage of H)				\$577,714	\$651,056
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K. INITIAL EXPENSE						\$577,714	\$651,056
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	3	(Percentage of H)				\$577,714	\$651,056
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L. CONSTRUCTION CONTINGENCY						\$1,925,712	\$2,170,186
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	10	(Percentage of H)				\$1,925,712	\$2,170,186
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M. TOTAL CONSTRUCTION COSTS (H thru L)						\$26,189,686	\$29,514,528
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N. CONSTRUCTION ENGINEERING						\$3,928,453	\$4,427,179
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	15	(Percentage of M)				\$3,928,453	\$4,427,179
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O. TOTAL CONSTRUCTION COSTS (M + N)						\$30,118,139	\$33,941,707
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P. REIMBURSABLE UTILITY RELOCATIONS BY OTHERS						\$0	\$0
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			\$0	DP Electric+	\$0	Verizon =	\$0
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Q. TRAFFIC SECTION ITEMS						\$65,587	\$85,263
1.	Signing	3	(Percentage of 1,385)			\$65,587	\$85,263
2.	Signals	0	EA	\$250,000.00	per EA =	\$0	\$0
						Total	\$65,587
							\$85,263

CONSTRUCTION PROJECT ESTIMATE (O thru Q)						\$30,183,725	\$34,026,969
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HAZARDOUS MATERIALS							\$0
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April, 2021

Churchman's Crossing
Preliminary Cost Estimate - Brownleaf Road Extension

PAVEMENT PATCHING SECTION

Table with 3 columns: Length, Width, Sq Ft. Rows include Superpave, Type C, 160 Gyration, PG 64-22 (carbonate stone) Tons, Superpave, Type B, 160 Gyration, PG 64-22 (401030) Tons, Superpave, Bituminous Concrete Base Course, 160 Gyration, PG 64-22 (401031) Tons, inches of Graded Aggregate Base Course, Type B Patching (301002) CY.

Table with columns: NO Contingency, % Contingency. Rows include GRADING, See Earthwork Summary Sheet, Excavation 5,025 CY @ \$30.00 = \$150,756, Borrow 2,000 CY @ \$30.00 = \$60,000, Total \$210,756, \$273,982.

Table with columns: NO Contingency, % Contingency. Rows include DRAINAGE, Stormwater Management 20 (Percentage of 1,385) EA, \$100,000.00 per EA = \$321,188, Total \$421,188, \$547,544.

Table with columns: NO Contingency, % Contingency. Rows include PAVEMENT PATCHING, Full Depth Paving Only (1,2,3 & 4) Mill and Overlay Only (1a), Surface: (1) 7,600 SY Div. by 8.80 sy/ton = 864 Ton, Times \$140.00 per Ton = \$120,909, Base: (2) 7,600 SY Div. by 5.79 sy/ton = 1,313 Ton, Times \$130.00 per Ton = \$170,639, Subbase: (4) 67,840 SF times 0.666667 ft / 27c/cy = 1,675 CY, Times \$80.00 per CY = \$134,005, Total \$386,548, \$502,513.

Table with columns: NO Contingency, % Contingency. Rows include EROSION / SEDIMENT CONTROL, Included in Drainage \$0, Total \$0, \$0.

Table with columns: NO Contingency, % Contingency. Rows include MISCELLANEOUS, a. 6" Curb & Gutter (701022) 4,240 LF \$70.00 per LF = \$296,800, b. Hot-Mix SUP (8' wide) 0 SF \$8.00 per SF = \$0, c. Guardrail 0 LF \$0 per LF = \$0, d. CPM Schedule 1 LS \$10,000, e. Clearing/Grubbing (201000) 1 LS \$40,000, f. Field Office 0 LS, g. Milling (760010) 0 SY * 2' = 0 SY-IN, Times \$1.00 per SY-IN = \$0, h. Fencing (XXXXXX) 0 LF \$180.00 per LF = \$0, i. Vehicular Gate (XXXXXX) 0 Each \$5,000.00 per Each = \$0, j. Sawcutting (762000) 4,240 LF \$5.00 per LF = \$21,200, k. PCC Removal (211001) 2,709 SY \$25.00 per SY = \$67,722, l. Underdrain (709001) 0 LF \$20.00 per LF = \$0, m. 4' Sidewalk 21,200 SF \$15.00 per SF = \$318,000, Total \$753,722, \$979,839.

Table with columns: NO Contingency, % Contingency. Rows include STRUCTURE CONSTRUCTION, 1. XXXXX 0 (LF) times 0 (width) = 0 SF \$84.00 per SF = \$0 plus 10% = \$0, 2. Old structure Removal \$0 plus 10% = \$0, 3. Retaining Wall (Modular Block) (607010) 0 (LF) times 0 (height) = 0 SF \$50.00 per SF = \$0 plus 10% = \$0, 4. Box Culvert (Assume 1' buried) 0 SF \$250.00 per SF = \$0 plus 10% = \$0, Total \$0, \$0.

Table with columns: NO Contingency, % Contingency. Rows include LANDSCAPING, a. Topsoil / Seed / Mulch 5 (Percentage of 1,385) \$80,297, b. Plantings 0 \$400.00 per EA = \$0, Total \$80,297, \$104,386.

Table with columns: NO Contingency, % Contingency. Rows include MAINTENANCE OF TRAFFIC (including temporary tie-ins), 3 (Percentage of 1,385) \$48,178, Total \$48,178, \$62,632.

Table with columns: NO Contingency, % Contingency. Rows include PROJECT TRAFFIC ITEMS, 1. Signing Structures 15 \$7,500.00 per EA = \$112,500, 2. Path Lighting 2 (Percentage of 1,385) \$32,119, 3. Pavement Markings 0 \$10,000.00 per EA = \$0, 4. XXXXX \$0, Total \$144,619, \$188,004.

Table with columns: NO Contingency, % Contingency. Rows include WETLAND MITIGATION, 0.0 Acres times 1 2:1 ratio = 0.0 Ac., Times \$200,000.00 per Ac. = \$0, Total \$0, \$0.

Table with columns: NO Contingency, % Contingency. Rows include UTILITY RELOCATIONS IN CONTRACT, 1. Delmarva Electric \$0, 2. Verizon \$0, 3. Other Relocations 8 (Percentage of 1,385) \$128,475, Total \$128,475, \$167,018.

Table with columns: NO Contingency, % Contingency. Rows include SUBTOTAL, \$2,428,697, \$3,157,306.

Table with columns: NO Contingency, % Contingency. Rows include MISCELLANEOUS ITEMS, 20 (Percentage of H) \$485,739, \$631,461.

Table with columns: NO Contingency, % Contingency. Rows include CONTRACTOR'S CONSTRUCTION ENGINEERING, 3 (Percentage of H) \$72,861, \$94,719.

Table with columns: NO Contingency, % Contingency. Rows include INITIAL EXPENSE, 3 (Percentage of H) \$72,861, \$94,719.

Table with columns: NO Contingency, % Contingency. Rows include CONSTRUCTION CONTINGENCY, 10 (Percentage of H) \$242,870, \$315,731.

Table with columns: NO Contingency, % Contingency. Rows include TOTAL CONSTRUCTION COSTS (H thru L), \$3,303,028, \$4,293,936.

Table with columns: NO Contingency, % Contingency. Rows include CONSTRUCTION ENGINEERING, 15 (Percentage of M) \$495,454, \$644,090.

Table with columns: NO Contingency, % Contingency. Rows include TOTAL CONSTRUCTION COSTS (M + N), \$3,798,482, \$4,938,027.

Table with columns: NO Contingency, % Contingency. Rows include REIMBURSABLE UTILITY RELOCATIONS BY OTHERS, \$0 DP Electric+ \$0 Verizon = \$0, Total \$16,059, \$20,877.

Table with columns: NO Contingency, % Contingency. Rows include TRAFFIC SECTION ITEMS, 1. Signing 1 (Percentage of 1,385) \$16,059, 2. Signals 0 EA \$250,000.00 per EA = \$0, Total \$16,059, \$20,877.

Table with columns: NO Contingency, % Contingency. Rows include CONSTRUCTION PROJECT ESTIMATE (O thru Q), \$3,814,542, \$4,958,904.

Table with columns: NO Contingency, % Contingency. Rows include HAZARDOUS MATERIALS, \$0.