

Appendix A: Detailed Trail Section Design and Construction Cost Estimates

BSC engineers developed detailed cost estimates for each of the trail segments, and those segment costs were compiled to develop cost estimates for the 45 trail route options. Costs were developed by making assumptions about how the trail would need to be developed in the context of the surrounding landscape. Required site work and material quantities were estimated based on the existing conditions maps developed as part of this study, site walks, observations, and experience with design and construction of on-road and off-road bicycle facilities and multi-use trails. The latest CTDOT weighted average bid prices were used. Major items of work included Clearing & Grubbing, Unclassified Excavation, Ordinary Borrow, Gravel Borrow, Fine Grading & Compacting, Hot Mix Asphalt, Granite Curb, Guardrail, Chain Link Fence, Pressure Treated Timber Rail Fence, Precast Modular Block Wall, Riprap, Composite Boardwalk (w/Pressure Treated Rails), Cement Concrete Sidewalk, Cement Concrete Wheelchair Ramps, Rectangular Rapid Flashing Beacon (RRFB), HAWK Signal, Signs, Pavement Markings (i.e. Sharrows, Edge, Centerline, Stop), Prefabricated Steel Pedestrian Bridge where anticipated and Police Details. Lump sum percentages were used for Minor Items, Incidentals and Contingencies.

Bridge costs were developed using a unit cost of \$3,000 per linear foot, multiplied by the estimated span between abutments, and rounded to the nearest \$5,000. The cost includes new reinforced concrete abutment supports and fabrication/delivery/installation of a 12-foot wide, 225-foot maximum span, steel thru-truss bridge with a 6-inch concrete deck, horizontal safety rails at 4-inch maximum spacing to a height of 54 inches, IPE (rub rail), steel toe plate with a uniform live load of 90 psf, and a vehicle live load of 10,000 lbs. The exception is the former Castle Bridge crossing, that assumes the new pedestrian bridge structure will utilize the existing piers and abutments, but with the unit cost remaining the same due to the fact that the span of the bridge will be longer than 225 linear feet.

Survey, environmental permitting, roadway design, and structural design costs were estimated at 2%, 1%, 9%, and 20% respectively of the construction cost.

Preferred route estimated section costs are presented herein by potential construction phases. These estimates should be used for planning purposes with the understanding that detailed design has not been conducted, and the true cost of developing trail sections will likely vary based on local conditions and unforeseen issues. Some funding programs may require the inclusion of additional item, contingency or incidental costs when submitting funding requests.

COST ESTIMATE - SECTION 1

BOGUE ROAD TO THOMASTON ROAD PARK & RIDE

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	1.32	\$ 34,320
2.02	EARTH EXCAVATION	CY	\$35.00	2921	\$ 102,235
2.07	BORROW	CY	\$30.00	6491	\$ 194,733
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	1731	\$ 72,700
2.15	FINE GRADING & COMPACTING	SY	\$5.00	7112	\$ 35,560
4.06	BITUMINOUS CONCRETE	TON	\$110.00	1963	\$ 215,920
8.13	GRANITE CURB	LF	\$45.00	0	\$ -
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	16000	\$ 960,000
9.10	METAL BEAM RAIL	LF	\$35.00	1500	\$ 52,500
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	1500	\$ 97,500
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	1500	\$ 82,500
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	1	\$ 150,000
12.07	SIGN FACE	SF	\$12.00	0	\$ -
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	5080	\$ 5,080
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL	\$	2,003,050
POLICE	\$	14,400
CONTINGENCY (20%)	\$	403,490
TOTAL	\$	2,420,939
SAY	\$	2,425,000

Notes:

Includes Segment 3A

Required Pedestrian Bridge (X-0)	LF	\$3,000	175	\$525,000
Contingency (20%)				<u>\$105,000</u>

Subtotal (Bridge Cost): \$ 630,000

Summary of Design Costs

Survey (2% of total const. cost)	Topographical Survey:	\$	48,500
Env. Permitting (1% of total const. cost)	Environmental Permitting:	\$	24,250
Roadway (9% of total const. cost)	Roadway:	\$	218,250
Structural (20% of total bridge cost)	Structural:	\$	126,000

Subtotal (Design Cost): **\$ 417,000**

TOTAL SECTION 1 COST \$ 3,472,000

COST ESTIMATE - SECTION 2, PHASE I

THOMASTON ROAD PARK & RIDE TO EAST LITCHFIELD STATION

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	0	\$ 3,432
2.02	EARTH EXCAVATION	CY	\$35.00	454	\$ 15,899
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	269	\$ 11,306
2.15	FINE GRADING & COMPACTING	SY	\$5.00	1,106	\$ 5,530
4.06	BITUMINOUS CONCRETE	TON	\$110.00	305	\$ 33,578
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	250	\$ 11,250
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	0	\$ -
9.10	METAL BEAM RAIL	LF	\$35.00	0	\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	0	\$ -
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	790	\$ 43,450
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	0	\$ -
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	790	\$ 790
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 125,235

Notes:

Includes Segment 4B & 4C

POLICE \$ -

CONTINGENCY (20%) \$ 25,047

TOTAL \$ 150,282

SAY \$ 155,000

Required Pedestrian Bridge under Rte 118 LF \$3,000 300 \$900,000

Contingency (20%) \$180,000

Subtotal (Bridge Cost): \$ 1,080,000

Summary of Design Costs

Survey (2% of total const. cost) Topographical Survey: \$ 3,100

Env. Permitting (1% of total const. cost) Environmental Permitting: \$ 1,550

Roadway (9% of total const. cost) Roadway: \$ 13,950

Structural (20% of total bridge cost) Structural: \$ 216,000

Subtotal (Design Cost): \$ 234,600

TOTAL SECTION 2, PHASE I COST \$ 1,469,600

COST ESTIMATE - SECTION 2, PHASE II EAST LITCHFIELD STATION TO CAMPVILLE HILL ROAD

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	4	\$ 102,961
2.02	EARTH EXCAVATION	CY	\$35.00	6,538	\$ 228,821
2.07	BORROW	CY	\$30.00	9,583	\$ 287,500
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	3,874	\$ 162,717
2.15	FINE GRADING & COMPACTING	SY	\$5.00	15,918	\$ 79,590
4.06	BITUMINOUS CONCRETE	TON	\$110.00	4,393	\$ 483,270
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	0	\$ -
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	32,200	\$ 1,932,000
9.10	METAL BEAM RAIL	LF	\$35.00	0	\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	3,870	\$ 251,550
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	11,370	\$ 625,350
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	0	\$ -
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	11,370	\$ 11,370
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 4,165,130

Notes:

Includes Segment 4D, 3D, 9A, 9B & 3F

POLICE \$ -

CONTINGENCY (20%) \$ 833,026

TOTAL \$ 4,998,157

SAY \$ 5,061,000

Required Pedestrian Bridge (X-1)	LF	\$3,000	175	\$525,000
Required Pedestrian Bridge (X-2)	LF	\$3,000	130	\$390,000
Required Pedestrian Bridge (X-3)	LF	\$3,000	210	\$630,000
Required Pedestrian Bridge under Rte 8	LF	\$3,000	250	\$750,000
Contingency (20%)				\$459,000

Subtotal (Bridge Cost): \$2,754,000

Summary of Design Costs

Survey (2% of total const. cost)	Topographical Survey:	\$	101,220
Env. Permitting (1% of total const. cost)	Environmental Permitting:	\$	50,610
Roadway (9% of total const. cost)	Roadway:	\$	455,490
Structural (20% of total bridge cost)	Structural:	\$	550,800

Subtotal (Design Cost): \$ 1,158,120

TOTAL SECTION 2, PHASE II COST \$ 8,973,120

COST ESTIMATE - SECTION 3 CAMPVILLE HILL ROAD TO WILDCAT HILL ROAD

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	0	\$ -
2.02	EARTH EXCAVATION	CY	\$35.00	0	\$ -
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	0	\$ -
2.15	FINE GRADING & COMPACTING	SY	\$5.00	0	\$ -
4.06	BITUMINOUS CONCRETE	TON	\$110.00	0	\$ -
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	0	\$ -
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	0	\$ -
9.10	METAL BEAM RAIL	LF	\$35.00	0	\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	0	\$ -
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	0	\$ -
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	96	\$ 1,152
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	16,260	\$ 16,260
12.10	4 INCH YELLOW LINE	LF	\$1.00	0	\$ -
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 17,412

Notes:

Includes Segment 10A & 10B

POLICE \$ 2,160

CONTINGENCY (20%) \$ 3,914

TOTAL \$ 23,486

SAY \$ 25,000

Required Pedestrian Bridge

LF \$3,000 \$0

Contingency (20%)

\$0

Subtotal (Bridge Cost): \$0

Summary of Design Costs

Survey (2% of total const. cost)
 Env. Permitting (1% of total const. cost)
 Roadway (9% of total const. cost)
 Structural (20% of total bridge cost)

Topographical Survey: \$ 500
 Environmental Permitting: \$ 250
 Roadway: \$ 2,250
 Structural: \$ -

Subtotal (Design Cost): \$ 3,000

TOTAL SECTION 3 COST \$ 28,000

COST ESTIMATE - SECTION 4, PHASE I

WILDCAT HILL ROAD TO NEW BRIDGE OVER NAUGATUCK RIVER

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	0	\$ 8,580
2.02	EARTH EXCAVATION	CY	\$35.00	357	\$ 12,478
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	211	\$ 8,873
2.15	FINE GRADING & COMPACTING	SY	\$5.00	868	\$ 4,340
4.06	BITUMINOUS CONCRETE	TON	\$110.00	240	\$ 26,352
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	0	\$ -
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	0	\$ -
9.10	METAL BEAM RAIL	LF	\$35.00	0	\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	1,240	\$ 80,600
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	0	\$ -
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	0	\$ -
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	620	\$ 620
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 141,843

Notes:

Includes Segment 12A

POLICE \$ -

CONTINGENCY (20%) \$ 28,369

TOTAL \$ 170,212

SAY \$ 175,000

Required Pedestrian Bridge

LF \$3,000 \$0

Contingency (20%)

\$0

Subtotal (Bridge Cost): \$0

Summary of Design Costs

Survey (2% of total const. cost)
 Env. Permitting (1% of total const. cost)
 Roadway (9% of total const. cost)
 Structural (20% of total bridge cost)

Topographical Survey: \$ 3,500
 Environmental Permitting: \$ 1,750
 Roadway: \$ 15,750
 Structural: \$ -

Subtotal (Design Cost): \$ 21,000

TOTAL SECTION 4, PHASE I COST \$ 196,000

COST ESTIMATE - SECTION 4, PHASE II NEW BRIDGE OVER NAUGATUCK RIVER

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00		\$ -
2.02	EARTH EXCAVATION	CY	\$35.00		\$ -
2.07	BORROW	CY	\$30.00		\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00		\$ -
2.15	FINE GRADING & COMPACTING	SY	\$5.00		\$ -
4.06	BITUMINOUS CONCRETE	TON	\$110.00		\$ -
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00		\$ -
8.13	GRANITE CURB	LF	\$45.00		\$ -
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00		\$ -
9.10	METAL BEAM RAIL	LF	\$35.00		\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00		\$ -
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00		\$ -
9.21	CONCRETE SIDEWALK	SY	\$55.00		\$ -
11.06	RRFB	EA	\$30,000.00		\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00		\$ -
12.07	SIGN FACE	SF	\$12.00		\$ -
12.09	PAVEMENT SHARROWS	SF	\$6.00		\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00		\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00		\$ -
12.10	12 INCH WHITE LINE	LF	\$2.50		\$ -

ITEM SUBTOTAL \$ -

Notes:

Includes Bridge Structure X-5

POLICE \$ -

CONTINGENCY (20%) \$ -

TOTAL \$ -

SAY \$ -

Required Pedestrian Bridge	LF	\$3,000	365	\$1,095,000
Contingency (20%)				\$219,000

Subtotal (Bridge Cost): \$1,325,000

Summary of Design Costs

Survey (2% of total const. cost)	Topographical Survey:	\$		-
Env. Permitting (1% of total const. cost)	Environmental Permitting:	\$		-
Roadway (9% of total const. cost)	Roadway:	\$		-
Structural (20% of total bridge cost)	Structural:	\$	265,000	

Subtotal (Design Cost): \$ 265,000

TOTAL SECTION 4, PHASE II COST \$ 1,590,000

COST ESTIMATE - SECTION 4, PHASE III
SOUTH SIDE OF NEW BRIDGE OVER NAUGATUCK RIVER TO VISTA
PICNIC AREA

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	0	\$ -
2.02	EARTH EXCAVATION	CY	\$35.00	6,187	\$ 216,545
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	3,666	\$ 153,988
2.15	FINE GRADING & COMPACTING	SY	\$5.00	15,064	\$ 75,320
4.06	BITUMINOUS CONCRETE	TON	\$110.00	4,158	\$ 457,343
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	280	\$ 12,600
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	0	\$ -
9.10	METAL BEAM RAIL	LF	\$35.00	10,760	\$ 376,600
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	0	\$ -
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	0	\$ -
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	480	\$ 5,760
12.09	PAVEMENT SHARROWS	SF	\$6.00	10	\$ 60
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	10,760	\$ 10,760
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 1,308,976

Notes:

Includes Segment 14A, 14B, 17A & 16C

POLICE \$ -

CONTINGENCY (20%) \$ 261,795

TOTAL \$ 1,570,771

SAY \$ 1,575,000

Required Pedestrian Bridge LF \$3,000 \$0
 Contingency (20%) \$0

Subtotal (Bridge Cost): \$0

Summary of Design Costs

Survey (2% of total const. cost)	Topographical Survey:	\$ 31,500
Env. Permitting (1% of total const. cost)	Environmental Permitting:	\$ 15,750
Roadway (9% of total const. cost)	Roadway:	\$ 141,750
Structural (20% of total bridge cost)	Structural:	\$ -

Subtotal (Design Cost): \$ 189,000

TOTAL SECTION 4, PHASE III COST \$ 1,764,000

COST ESTIMATE - SECTION 5, PHASE I VISTA PICNIC AREA TO ROUTE 222

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	1	\$ 13,728
2.02	EARTH EXCAVATION	CY	\$35.00	1,179	\$ 41,256
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	699	\$ 29,338
2.15	FINE GRADING & COMPACTING	SY	\$5.00	2,870	\$ 14,350
4.06	BITUMINOUS CONCRETE	TON	\$110.00	792	\$ 87,133
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	410	\$ 18,450
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	3,200	\$ 192,000
9.10	METAL BEAM RAIL	LF	\$35.00	410	\$ 14,350
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	1,660	\$ 107,900
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	1,850	\$ 101,750
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	0	\$ -
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	2,050	\$ 2,050
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 622,305

Notes:

Includes Segment 18A, 18B, 19A, 19B & 16E

POLICE \$ -

CONTINGENCY (20%) \$ 124,461

TOTAL \$ 746,767

SAY \$ 769,000

Required Pedestrian Bridge over NRR

LF \$3,000 85 \$255,000

Contingency (20%)

\$51,000

Subtotal (Bridge Cost): \$306,000

Summary of Design Costs

Survey (2% of total const. cost)

Topographical Survey: \$ 15,380

Env. Permitting (Not Required)

Environmental Permitting: \$ -

Roadway (9% of total const. cost)

Roadway: \$ 69,210

Structural (20% of total bridge cost)

Structural: \$ 44,410

Subtotal (Design Cost): \$ 129,000

TOTAL SECTION 5, PHASE I COST \$ 1,204,000

COST ESTIMATE - SECTION 5, PHASE II ROUTE 222 TO RAILROAD ANNEX

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	1	\$ 24,711
2.02	EARTH EXCAVATION	CY	\$35.00	1,656	\$ 57,960
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	981	\$ 41,216
2.15	FINE GRADING & COMPACTING	SY	\$5.00	4,032	\$ 20,160
4.06	BITUMINOUS CONCRETE	TON	\$110.00	1,113	\$ 122,412
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	1,070	\$ 48,150
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	11,360	\$ 681,600
9.10	METAL BEAM RAIL	LF	\$35.00	0	\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	680	\$ 44,200
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	2,490	\$ 136,950
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	1	\$ 150,000
12.07	SIGN FACE	SF	\$12.00	0	\$ -
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	1,750	\$ 1,750
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 1,329,108

Notes:

Includes Segment 21B, 20C & 23A

POLICE \$ -

CONTINGENCY (20%) \$ 265,822

TOTAL \$ 1,594,930

SAY \$ 1,605,000

Required Pedestrian Bridge

LF

\$3,000

\$0

Contingency (20%)

\$0

Subtotal (Bridge Cost):

\$0

Summary of Design Costs

Survey (2% of total const. cost)

Topographical Survey: \$ 32,100

Env. Permitting (1% of total const. cost)

Environmental Permitting: \$ 16,050

Roadway (9% of total const. cost)

Roadway: \$ 144,450

Structural (20% of total bridge cost)

Structural: \$ -

Subtotal (Design Cost):

\$ 192,600

TOTAL SECTION 5, PHASE II COST

\$ 1,797,600

COST ESTIMATE - SECTION 5, PHASE III RAILROAD ANNEX TO ELM STREET

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	0	\$ -
2.02	EARTH EXCAVATION	CY	\$35.00	1,898	\$ 66,413
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	1,124	\$ 47,227
2.15	FINE GRADING & COMPACTING	SY	\$5.00	4,620	\$ 23,100
4.06	BITUMINOUS CONCRETE	TON	\$110.00	1,275	\$ 140,263
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	3,600	\$ 162,000
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	2,400	\$ 144,000
9.10	METAL BEAM RAIL	LF	\$35.00	0	\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	950	\$ 61,750
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	2,200	\$ 121,000
9.21	CONCRETE SIDEWALK	SY	\$55.00	500	\$ 27,500
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	1	\$ 150,000
12.07	SIGN FACE	SF	\$12.00	64	\$ 768
12.09	PAVEMENT SHARROWS	SF	\$6.00	1	\$ 6
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	3,750	\$ 3,750
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 947,776

Notes:

Includes Segment 24A, 20F, 20G, 20H, 26A

POLICE \$ 29,520

CONTINGENCY (20%) \$ 195,459

TOTAL \$ 1,172,755

SAY \$ 1,175,000

Required Pedestrian Bridge LF \$3,000 \$0
Contingency (20%) \$0

Subtotal (Bridge Cost): \$0

Summary of Design Costs

Survey (2% of total const. cost)	Topographical Survey: \$ 23,500
Env. Permitting (1% of total const. cost)	Environmental Permitting: \$ 11,750
Roadway (9% of total const. cost)	Roadway: \$ 105,750
Structural (20% of total bridge cost)	Structural: \$ -

Subtotal (Design Cost): \$ 141,000

TOTAL SECTION 5, PHASE III COST \$ 1,316,000

COST ESTIMATE - SECTION 6, PHASE I ELM STREET FROM EAST MAIN STREET TO MAPLE STREET

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	0	\$ -
2.02	EARTH EXCAVATION	CY	\$35.00	0	\$ -
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	0	\$ -
2.15	FINE GRADING & COMPACTING	SY	\$5.00	0	\$ -
4.06	BITUMINOUS CONCRETE	TON	\$110.00	0	\$ -
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	0	\$ -
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	0	\$ -
9.10	METAL BEAM RAIL	LF	\$35.00	0	\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	0	\$ -
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	0	\$ -
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	128	\$ 1,536
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	3,960	\$ 3,960
12.10	4 INCH YELLOW LINE	LF	\$1.00	0	\$ -
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 5,496

Notes:

Includes Segment 28A & 28B

POLICE \$ 1,440

CONTINGENCY (20%) \$ 1,387

TOTAL \$ 8,323

SAY \$ 20,000

Required Pedestrian Bridge

LF \$3,000 \$0

Contingency (20%)

\$0

Subtotal (Bridge Cost): \$0

Summary of Design Costs

Survey (2% of total const. cost)

Topographical Survey: \$ 400

Env. Permitting (1% of total const. cost)

Environmental Permitting: \$ 200

Roadway (9% of total const. cost)

Roadway: \$ 1,800

Structural (20% of total bridge cost)

Structural: \$ -

Subtotal (Design Cost): \$ 2,400

TOTAL SECTION 6, PHASE I COST \$ 22,400

COST ESTIMATE - SECTION 6, PHASE II MAPLE STREET AND ELM STREET TO MCMAHON DRIVE

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	1	\$ 14,415
2.02	EARTH EXCAVATION	CY	\$35.00	1,006	\$ 35,219
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	596	\$ 25,044
2.15	FINE GRADING & COMPACTING	SY	\$5.00	2,450	\$ 12,250
4.06	BITUMINOUS CONCRETE	TON	\$110.00	676	\$ 74,382
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	460	\$ 20,700
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	1,200	\$ 72,000
9.10	METAL BEAM RAIL	LF	\$35.00	0	\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	1,260	\$ 81,900
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	1,750	\$ 96,250
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	64	\$ 768
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	640	\$ 640
12.10	4 INCH YELLOW LINE	LF	\$1.00	1,260	\$ 1,260
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 434,828

Notes:

Includes Segment 32A, 32B, 31B, 31C

POLICE \$ 720

CONTINGENCY (20%) \$ 87,110

TOTAL \$ 522,657

SAY \$ 525,000

Required Ped. Bridge over Northfield Brook LF \$3,000 75 \$225,000

Contingency (20%) \$45,000

Subtotal (Bridge Cost): \$270,000

Summary of Design Costs

Survey (2% of total const. cost) Topographical Survey: \$ 10,500

Env. Permitting (1% of total const. cost) Environmental Permitting: \$ 5,250

Roadway (9% of total const. cost) Roadway: \$ 47,250

Structural (20% of total bridge cost) Structural: \$ 54,000

Subtotal (Design Cost): \$ 117,000

TOTAL SECTION 6, PHASE II COST \$ 912,000

COST ESTIMATE - SECTION 6, PHASE III MCMAHON DRIVE TO WATERTOWN ROAD

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	1	\$ 32,810
2.02	EARTH EXCAVATION	CY	\$35.00	1,374	\$ 48,099
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	814	\$ 34,204
2.15	FINE GRADING & COMPACTING	SY	\$5.00	3,346	\$ 16,730
4.06	BITUMINOUS CONCRETE	TON	\$110.00	923	\$ 101,585
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	0	\$ -
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	0	\$ -
9.10	METAL BEAM RAIL	LF	\$35.00	0	\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	2,390	\$ 155,350
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	0	\$ -
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	0	\$ -
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	0	\$ -
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 388,777

Notes:

Includes Segment 31D

POLICE \$ 14,400

CONTINGENCY (20%) \$ 80,635

TOTAL \$ 483,813

SAY \$ 600,000

Required Pedestrian Bridge

LF \$3,000 \$0

Contingency (20%)

\$0

Subtotal (Bridge Cost): \$0

Summary of Design Costs

Survey (2% of total const. cost)

Topographical Survey: \$ 12,000

Env. Permitting (1% of total const. cost)

Environmental Permitting: \$ 6,000

Roadway (9% of total const. cost)

Roadway: \$ 54,000

Structural (20% of total bridge cost)

Structural: \$ -

Subtotal (Design Cost): \$ 72,000

TOTAL SECTION 6, PHASE III COST \$ 672,000

COST ESTIMATE - SECTION 7, PHASE I WATERTOWN ROAD TO PINE HILL ROAD

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	0	\$ -
2.02	EARTH EXCAVATION	CY	\$35.00	455	\$ 15,932
2.07	BORROW	CY	\$30.00	0	\$ -
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	270	\$ 11,330
2.15	FINE GRADING & COMPACTING	SY	\$5.00	1,108	\$ 5,542
4.06	BITUMINOUS CONCRETE	TON	\$110.00	306	\$ 33,649
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	950	\$ 42,750
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	0	\$ -
9.10	METAL BEAM RAIL	LF	\$35.00	0	\$ -
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	250	\$ 16,250
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	0	\$ -
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	0	\$ -
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	950	\$ 950
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 126,403

Notes:

Includes Segment 16M from ramp to Pine Hill Road

POLICE \$ -

CONTINGENCY (20%) \$ 25,281

TOTAL \$ 151,683

SAY \$ 175,000

Required Pedestrian Bridge
Contingency (20%)

LF \$3,000 \$0
\$0

Subtotal (Bridge Cost): \$0

Summary of Design Costs

Survey (2% of total const. cost)
Env. Permitting (1% of total const. cost)
Roadway (9% of total const. cost)
Structural (20% of total bridge cost)

Topographical Survey: \$ 3,500
Environmental Permitting: \$ 1,750
Roadway: \$ 15,750
Structural: \$ -

Subtotal (Design Cost): \$ 21,000

TOTAL SECTION 7, PHASE I COST \$ 196,000

COST ESTIMATE - SECTION 7, PHASE II

PINE HILL ROAD TO TRAILHEAD ON OLD WATERBURY ROAD

ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL COST
2.01	CLEARING AND GRUBBING	A	\$26,000.00	1	\$ 28,829
2.02	EARTH EXCAVATION	CY	\$35.00	1,936	\$ 67,754
2.07	BORROW	CY	\$30.00	0	\$ 14,400
2.14	COMPACTED GRANULAR FILL	CY	\$42.00	1,147	\$ 48,181
2.15	FINE GRADING & COMPACTING	SY	\$5.00	4,713	\$ 23,567
4.06	BITUMINOUS CONCRETE	TON	\$110.00	1,301	\$ 143,097
6.04	STEEL TRUSS PEDESTRIAN BRIDGE	LF	\$3,000.00	0	\$ -
8.13	GRANITE CURB	LF	\$45.00	2,170	\$ 97,650
8.25	PRECAST MODULAR BLOCK WALL (6'-8' HT)	SF	\$60.00	9,600	\$ 576,000
9.10	METAL BEAM RAIL	LF	\$35.00	910	\$ 31,850
9.13	96 INCH CHAIN LINK FENCE	LF	\$65.00	2,340	\$ 152,100
9.17	PRESSURE TREATED TIMBER RAIL FENCE	LF	\$55.00	3,300	\$ 181,500
9.21	CONCRETE SIDEWALK	SY	\$55.00	0	\$ -
11.06	RRFB	EA	\$30,000.00	0	\$ -
11.06	HAWK SIGNAL	EA	\$150,000.00	0	\$ -
12.07	SIGN FACE	SF	\$12.00	0	\$ -
12.09	PAVEMENT SHARROWS	SF	\$6.00	0	\$ -
12.10	4 INCH WHITE LINE	LF	\$1.00	0	\$ -
12.10	4 INCH YELLOW LINE	LF	\$1.00	4,040	\$ 4,040
12.10	12 INCH WHITE LINE	LF	\$2.50	0	\$ -

ITEM SUBTOTAL \$ 1,368,968

Notes:

Includes Segment 16M (Pine Hill to Bridge),
37A, 37B, 37C

POLICE \$ 36,000

CONTINGENCY (20%) \$ 280,994

TOTAL \$ 1,685,961

SAY \$ 1,700,000

Required Pedestrian Bridge
Contingency (20%)

LF \$3,000 \$0

Subtotal (Bridge Cost): \$0

Summary of Design Costs

Survey (2% of total const. cost)
Env. Permitting (1% of total const. cost)
Roadway (9% of total const. cost)
Structural (20% of total bridge cost)

Topographical Survey: \$ 34,000
Environmental Permitting: \$ 17,000
Roadway: \$ 153,000
Structural: \$ -

Subtotal (Design Cost): \$ 204,000

TOTAL SECTION 7, PHASE II COST \$ 1,904,000