

25% CONSTRUCTION COST ESTIMATE

Bruce Freeman Rail Trail

Sudbury Massachusetts

Project No. 608164

Sept 8, 2017

* Special Provision Required

** Special Provision Provided

Item No	Quantity	Unit	Description	Unit Price	Amount
* 100.	1	LS	SCHEDULE OF OPERATIONS - FIXED PRICE \$XX,XXX	\$54,000.00	\$54,000.00
101.	12	A	CLEARING AND GRUBBING	\$15,000.00	\$180,000.00
** 102.	0.5	A	SELECTIVE CLEARING AND THINNING	\$33,000.00	\$16,500.00
** 102.1	4,700	FT	TREE TRIMMING	\$13.00	\$61,100.00
* 102.3	80	HR	CONTROL OF INVASIVE PLANTS EXISTING ON SITE	\$245.00	\$19,600.00
* 102.51	10	EA	INDIVIDUAL TREE PROTECTION	\$215.00	\$2,150.00
* 102.52	11,800	FT	TEMPORARY TREE PROTECTION FENCE	\$5.50	\$64,900.00
115.1	1	LS	DEMOLITION OF BRIDGE NO. S-31-013	\$16,800.00	\$16,800.00
** 120.	10,100	CY	EARTH EXCAVATION	\$30.00	\$303,000.00
121.	50	CY	CLASS A ROCK EXCAVATION	\$100.00	\$5,000.00
123.	230	CY	MUCK EXCAVATION	\$40.00	\$9,200.00
* 129.5	22,800	FT	TRACK EXCAVATION	\$14.50	\$330,600.00
140.	232	CY	BRIDGE EXCAVATION	\$50.00	\$11,600.00
141.	1,580	CY	CLASS A TRENCH EXCAVATION	\$30.00	\$47,400.00
141.1	30	CY	TEST PIT FOR EXPLORATION	\$85.00	\$2,550.00
142.	5	CY	CLASS B TRENCH EXCAVATION	\$32.00	\$160.00
144.	5	CY	CLASS B ROCK EXCAVATION	\$150.00	\$750.00
146.	1	EA	DRAINAGE STRUCTURE REMOVED	\$375.00	\$375.00
150.	3,530	CY	ORDINARY BORROW	\$26.50	\$93,545.00
151.	6,700	CY	GRAVEL BORROW	\$33.00	\$221,100.00
151.1	14	CY	GRAVEL BORROW FOR BRIDGE FOUNDATIONS	\$49.00	\$686.00
151.2	203	CY	GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES	\$42.00	\$8,526.00
* 153.	5	CY	CONTROL DENSITY FILL - EXCAVATABLE	\$150.00	\$750.00
156.	8	TON	CRUSHED STONE	\$37.00	\$296.00
170.	27,290	SY	FINE GRADING AND COMPACTING	\$3.75	\$102,337.50
* 180.1	1	LS	HEALTH AND SAFETY PLAN	\$3,000.00	\$3,000.00
* 180.2	80	HR	IMPLEMENTATION OF HEALTH AND SAFETY PLAN	\$90.00	\$7,200.00
* 180.3	48	HR	PERSONNEL PROTECTION LEVEL C UPGRADE	\$5.00	\$240.00
* 180.4	9,250	CY	MONITORING/HANDLING AND STOCKPILING OF CONTAMINATED SOILS AND SEDIMENTS	\$15.00	\$138,750.00
* 180.42	6,840	CY	CONTAMINATED SOIL REHANDLED AND SPREAD	\$18.00	\$123,120.00
* 180.5	32	HR	LICENSED SITE PROFESSIONAL	\$105.00	\$3,360.00

Item No	Quantity	Unit	Description	Unit Price	Amount
* 180.51	700	HR	ENVIRONMENTAL MONITOR AND WETLAND SPECIALIST	\$95.00	\$66,500.00
* 180.6	2	EA	MISCELLANEOUS SOILS TESTING	\$1,000.00	\$2,000.00
* 181.11	390	TON	DISPOSAL OF UNREGULATED SOIL	\$30.00	\$11,700.00
* 181.12	390	TON	DISPOSAL OF REGULATED SOIL - IN-STATE FACILITY	\$52.50	\$20,475.00
* 181.13	2,930	TON	DISPOSAL OF REGULATED SOIL - OUT-OF-STATE FACILITY	\$100.00	\$293,000.00
* 181.14	200	TON	DISPOSAL OF HAZARDOUS WASTE	\$375.00	\$75,000.00
* 184.1	1,520	TON	REMOVAL AND DISPOSAL OF TREATED WOOD PRODUCTS	\$160.00	\$243,200.00
** 201.	1	EA	CATCH BASIN	\$3,200.00	\$3,200.00
* 222.3	1	EA	FRAME AND GRATE (OR COVER) MUNICIPAL STANDARD	\$740.00	\$740.00
223.2	1	EA	FRAME AND GRATE (OR COVER) REMOVED AND DISCARDED	\$88.00	\$88.00
224.10	1	EA	10 INCH HOOD	\$450.00	\$450.00
227.3	1	CY	REMOVAL OF DRAINAGE STRUCTURE SEDIMENT	\$200.00	\$200.00
227.31	560	FT	REMOVAL OF DRAINAGE PIPE SEDIMENT	\$8.50	\$4,760.00
238.10	20	FT	10 INCH DUCTILE IRON PIPE	\$135.00	\$2,700.00
238.12	30	FT	12 INCH DUCTILE IRON PIPE	\$100.00	\$3,000.00
258.	30	SY	STONE FOR PIPE ENDS	\$55.00	\$1,650.00
440.	190	LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.40	\$76.00
443.	55	MGL	WATER FOR ROADWAY DUST CONTROL	\$50.00	\$2,750.00
* 450.90	5,920	TON	CONTRACTOR QUALITY CONTROL	\$3.50	\$20,720.00
* 452.	1,360	GAL	ASPHALT EMULSION FOR TACK COAT	\$7.00	\$9,520.00
* 453.	210	FT	HMA JOINT SEALANT	\$1.00	\$210.00
* 455.22	2,210	TON	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5)	\$120.00	\$265,200.00
* 455.23	8	TON	SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5)	\$95.00	\$760.00
* 455.32	3,690	TON	SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0)	\$110.00	\$405,900.00
* 455.41	12	TON	SUPERPAVE BASE COURSE - 25.0 (SBC - 25.0)	\$165.00	\$1,980.00
** 472.	15	TON	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	\$190.00	\$2,850.00
482.3	220	FT	SAWING ASPHALT PAVEMENT	\$4.00	\$880.00
506.	15	FT	GRANITE CURB TYPE VB – STRAIGHT	\$35.00	\$525.00
506.1	10	FT	GRANITE CURB TYPE VB – CURVED	\$45.00	\$450.00
509.1	10	FT	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS – CURVED	\$50.00	\$500.00
511.1	235	FT	GRANITE EDGING TYPE SB - STRAIGHT	\$25.00	\$5,875.00
512.1	20	FT	GRANITE EDGING TYPE SB (RADIUS 10 FEET OF LESS)	\$35.00	\$700.00
583.	50	FT	EDGING REMOVED AND RESET	\$21.00	\$1,050.00
597.	75	FT	EDGING REMOVED AND DISCARDED	\$10.00	\$750.00
620.1	25	FT	STEEL W BEAM HIGHWAY GUARD (SINGLE FACED)	\$23.00	\$575.00
620.3	40	FT	STEEL W BEAM HIGHWAY GUARD - CURVED (SINGLE FACED)	\$25.00	\$1,000.00

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627.1	2	EA	STEEL W BEAM TERMINAL SECTION (SINGLE FACED)	\$75.00	\$150.00
627.8	1	EA	STEEL BEAM HIGHWAY GUARD TANGENT END TREATMENT	\$2,200.00	\$2,200.00
* 635.1	160	FT	HIGHWAY GUARD REMOVED AND DISCARDED	\$4.00	\$640.00
* 655.3	1,620	FT	TIMBER PEDESTRIAN RAILING	\$130.00	\$210,600.00
* 655.4	1,150	FT	SPLIT RAIL WOOD FENCE	\$25.00	\$28,750.00
* 655.5	12,560	FT	WOOD RAILING	\$45.00	\$565,200.00
* 655.6	1,620	FT	WOOD RAILING MOUNTED ON WALL	\$65.00	\$105,300.00
* 656.96	990	FT	96 INCH STOCKADE FENCE	\$40.00	\$39,600.00
* 673.	60	FT	FENCE REMOVED AND DISCARDED	\$6.00	\$360.00
685.	1,140	CY	STONE MASONRY WALL IN CEMENT MORTAR	\$575.00	\$655,500.00
* 690.91	125	SF	MASONRY REPOINTING	\$100.00	\$12,500.00
* 690.92	114	CY	MASONRY REMOVED AND STOCKPILED	\$400.00	\$45,600.00
* 690.93	6	CY	MASONRY RESET	\$1,000.00	\$6,000.00
697.	4,800	FT	SEDIMENTATION FENCE	\$4.25	\$20,400.00
* 697.1	5	EA	SILT SACK	\$190.00	\$950.00
* 698.3	30	SY	GEOTEXTILE FABRIC FOR SEPARATION	\$5.00	\$150.00
** 701.2	220	SY	CEMENT CONCRETE WHEELCHAIR RAMP	\$80.00	\$17,600.00
** 702.	15	TON	HOT MIX ASPHALT WALK SURFACE	\$180.00	\$2,700.00
** 703.	120	TON	HOT MIX ASPHALT DRIVEWAY	\$180.00	\$21,600.00
* 706.01	15	EA	GATEWAY	\$5,000.00	\$75,000.00
707.1	6	EA	PARK BENCH	\$2,000.00	\$12,000.00
** 710.4	1	EA	BOUND - PLAIN GRANITE	\$450.00	\$450.00
** 711.	1	EA	BOUND REMOVED AND RESET	\$450.00	\$450.00
* 712.11	10	EA	BOUND REMOVED AND DISCARDED	\$200.00	\$2,000.00
* 714.2	5	EA	WHISTLE POST REMOVED AND RESET	\$450.00	\$2,250.00
* 723.1	1	EA	BOULDER REMOVED AND RESET	\$160.00	\$160.00
* 740.	24	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$2,850.00	\$68,400.00
748.	1	LS	MOBILIZATION	\$200,000.00	\$200,000.00
751.	3,680	CY	LOAM BORROW	\$40.00	\$147,200.00
* 753.	120	CY	WETLAND SOIL	\$40.00	\$4,800.00
* 756.	1	LS	NPDES STORMWATER POLLUTION PREVENTION PLAN	\$4,500.00	\$4,500.00
765.	33,100	SY	SEEDING	\$1.50	\$49,650.00
* 765.9	2	LB	WETLAND SEED	\$135.00	\$270.00
* 767.12	30,200	FT	COMPOST FILTER TUBES	\$4.50	\$135,900.00
* 767.731	4,410	SY	JUTE MESH EROSION CONTROL FABRIC	\$5.00	\$22,050.00
* 772.340	5	EA	CEDAR - EASTERN WHITE 5-6 FEET	\$300.00	\$1,500.00
773.236	15	EA	PINE - RED 5-6 FEET	\$350.00	\$5,250.00
773.436	12	EA	PINE - WHITE 5-6 FEET	\$350.00	\$4,200.00
* 775.028	4	EA	ELM - AMERICAN - 'VALLEY FORGE' 2-2.5 INCH CALIPER	\$600.00	\$2,400.00
776.543	2	EA	MAPLE - RED - 'OCTOBER GLORY' 2-2.5 INCH CALIPER	\$600.00	\$1,200.00
777.036	5	EA	OAK - NORTHERN RED 2-2.5 INCH CALIPER	\$600.00	\$3,000.00

Item No	Quantity	Unit	Description	Unit Price	Amount
783.639	5	EA	ZELKOVA - 'GREEN VASE' 2-2.5 INCH CALIPER	\$600.00	\$3,000.00
785.633	39	EA	INKBERRY 2-3 FEET	\$100.00	\$3,900.00
789.631	28	EA	BLUEBERRY - HIGHBUSH 18-24 INCH	\$75.00	\$2,100.00
* 789.911	25	EA	CHOKEBERRY - RED (3-4' B&B)	\$60.00	\$1,500.00
794.731	17	EA	SUMMERSWEET SHRUB 18-24 INCH	\$50.00	\$850.00
795.151	14	EA	WINTERBERRY - MALE 18-24 INCH	\$40.00	\$560.00
795.155	195	EA	WINTERBERRY - FEMALE 18-24 INCH	\$40.00	\$7,800.00
804.3	500	FT	3 INCH ELECTRICAL CONDUIT-TYPE NM - PLASTIC (UL)	\$35.00	\$17,500.00
811.31	10	EA	PULL BOX 12 X 12 INCHES - SD2.031	\$860.00	\$8,600.00
* 824.01	1	LS	PEDESTRIAN HYBRID BEACON - HUDSON ROAD	\$65,000.00	\$65,000.00
* 824.02	1	LS	PEDESTRIAN HYBRID BEACON - NORTH ROAD	\$80,000.00	\$80,000.00
* 824.401	1	LS	RECTANGULAR RAPID FLASHING BEACON - OLD LANCASTER ROAD	\$15,000.00	\$15,000.00
* 824.402	1	LS	RECTANGULAR RAPID FLASHING BEACON - PANTRY ROAD	\$15,000.00	\$15,000.00
* 824.403	1	LS	RECTANGULAR RAPID FLASHING BEACON - HAYNES ROAD	\$15,000.00	\$15,000.00
832.	470	SF	WARNING-REGULATORY AND ROUTE MARKER - ALUM. PANEL (TYPE A)	\$11.00	\$5,170.00
833.5	7	EA	DEMOUNTABLE REFLECTORIZED DELINEATOR - GUARD RAIL	\$6.00	\$42.00
833.7	4	EA	DELINEATION FOR GUARD RAIL TERMINI	\$38.00	\$152.00
847.1	57	EA	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL	\$105.00	\$5,985.00
850.41	640	HR	ROADWAY FLAGGER	\$55.00	\$35,200.00
852.	600	SF	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	\$15.00	\$9,000.00
* 852.1	1	LS	TEMPORARY PEDESTRIAN MANAGEMENT GUIDANCE SYSTEM	\$10,000.00	\$10,000.00
853.1	8	EA	PORTABLE BREAKAWAY BARRICADE TYPE III	\$120.00	\$960.00
859.	2,400	DAY	REFLECTORIZED DRUM	\$0.25	\$600.00
* 859.1	160	DAY	REFLECTORIZED DRUM WITH SEQUENTIAL FLASHING WARNING LIGHTS	\$20.00	\$3,200.00
860.112	100	FT	12 INCH REFLECTORIZED WHITE LINE (PAINTED)	\$4.00	\$400.00
* 861.104	7,480	FT	4 INCH REFLECTORIZED YELLOW LINE (PAINTED)	\$1.00	\$7,480.00
864.	450	SF	PAVEMENT ARROW REFLECTORIZED WHITE (PAINTED)	\$2.50	\$1,125.00
864.04	645	SF	PAVEMENT ARROWS AND LEGENDS REFL. WHITE (THERMOPLASTIC)	\$6.00	\$3,870.00
866.112	1,315	FT	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)	\$2.50	\$3,287.50
* 867.104	3,610	FT	4 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC)	\$1.00	\$3,610.00
874.	14	EA	STREET NAME SIGN	\$100.00	\$1,400.00
* 874.2	10	EA	TRAFFIC SIGN REMOVED AND RESET	\$100.00	\$1,000.00
* 874.4	10	EA	TRAFFIC SIGN REMOVED AND STACKED	\$25.00	\$250.00
901.	60	CY	4000 PSI, 1.5IN., 565 CEMENT CONCRETE	\$800.00	\$48,000.00

Item No	Quantity	Unit	Description	Unit Price	Amount
* 909.2	480	SF	CEMENTITIOUS MORTAR FOR PATCHING	\$70.00	\$33,600.00
910.1	12,000	LB	STEEL REINFORCEMENT FOR STRUCTURES - EPOXY COATED	\$2.65	\$31,800.00
941.	6,000	FT	TREATED TIMBER PILES	\$50.00	\$300,000.00
* 955.	275	MBM	TREATED TIMBER	\$1,500.00	\$412,500.00
983.1	64	TON	RIPRAP	\$75.00	\$4,800.00
* 991.1	1	LS	CONTROL OF WATER - STRUCTURE NO. S-31-013	\$20,000.00	\$20,000.00
* 992.1	1	LS	ALTERATION TO BRIDGE STRUCTURE NO. S-31-007	\$284,437.50	\$284,437.50
* 994.1	1	LS	TEMPORARY PROTECTIVE SHIELDING	\$10,800.00	\$10,800.00
* 995.01	1	LS	BRIDGE STRUCTURE, BRIDGE NO. S-31-013	\$229,549.25	\$229,549.25

Subtotal: \$7,461,987.75
 Police Detail (1%): \$74,619.88
 Inflation (2% each year for 5 years): \$776,649.68
 Contingency (15%): \$1,119,298.16
 Total: \$9,432,555.47