

Attachment 2

Appendix B

Conceptual Cost Estimate

Item	MASS Ref.	Work Description	Units	Estimated Quantity	Unit Price	Total Price
Red Route Option 1						
R1-1	20.02	Storm Water Pollution Prevention Plan (Type 2)	LS	1	\$20,000	\$20,000
R1-2	20.07	Remove Sidewalk	SY	830	\$16	\$13,280
R1-3	20.08	Remove Curb and Gutter	LF	4,620	\$8	\$36,960
R1-4	20.09	Remove Pavement	SY	11,152	\$3	\$33,456
R1-5	20.10	Unusable Excavation	CY	4,910	\$20	\$98,200
R1-6	20.21	Classified Fill and Backfill (Type II-A)	TON	5,100	\$17	\$86,700
R1-7	20.22	Leveling Course	TON	1,160	\$34	\$39,440
R1-8	20.25	Geotextile (Type A)	SY	581	\$2	\$1,162
R1-9	30.02	P.C.C. Curb and Gutter (All Types)	LF	4,620	\$37	\$170,940
R1-10	30.03	P.C.C. Sidewalk (4" thick)	SY	620	\$127	\$78,740
R1-11	30.04	P.C.C. Curb Ramp (All Types)	EA	15	\$3,500	\$52,500
R1-12	40.06	A.C. Pavement	TON	1,640	\$120	\$196,800
R1-13	50.06	Adjust Manhole to Finish Grade	EA	8	\$900	\$7,200
R1-14	55.02	Furnish, Install, and Televiser Pipe (18", Type S, CPEP)	LF	2,726	\$60	\$163,560
R1-15	55.05	Construct Type 1 Manhole	EA	7	\$6,000	\$42,000
R1-16	55.09	Construct Catch Basin	EA	19	\$4,400	\$83,600
R1-17	60.04	Adjust Wate Valve	EA	1	\$500	\$500
R1-18	65.02	Construction Survey Measurement	LS	1	\$67,000	\$67,000
R1-19	70.10	Traffic Markings (Paint, 4" White)	LF	567	\$5	\$2,835
R1-20	70.10	Traffic Markings (Paint, 4" Yellow)	LF	4,145	\$5	\$20,725
R1-21	70.11	Standard Signs	LS	1	\$10,000	\$10,000
R1-22	70.12	Traffic Maintenance	LS	1	\$20,000	\$20,000
R1-23	75.03	Topsoil (4" depth)	MSF	37	\$650	\$24,050
R1-24	75.04	Seeding (Schedule A)	MSF	37	\$300	\$11,100
R1-25	75.xx	Landscaping	LS	1	\$20,000	\$20,000
R1-26	80.xx	Furnish and Install Pedestrian Light	EA	47	\$7,300	\$343,100
R1-27	80.xx	Furnish and Install Roadway Light	EA	12	\$5,700	\$68,400
R1-28	80.xx	Electrical	LS	1	\$141,000	\$141,000
R1-29	80.28	Remove Luminaire Pole (all types)	EA	33	\$900	\$29,700
R1-30	xx.xx	Remove and Replace Pedestrian Bridge	SF	1,750	\$250	\$437,500
<i>Subtotal Construction Costs:</i>						\$2,320,448
<i>Concept Level Contingency (20%)</i>						\$464,000
Total Construction Costs:						\$2,784,000

Item	MASS Ref.	Work Description	Units	Estimated Quantity	Unit Price	Total Price
Red Route Option 2						
R2-1	20.02	Storm Water Pollution Prevention Plan (Type 2)	LS	1	\$20,000	\$20,000
R2-2	20.07	Remove Sidewalk	SY	830	\$16	\$13,280
R2-3	20.08	Remove Curb and Gutter	LF	3,930	\$8	\$31,440
R2-4	20.09	Remove Pavement	SY	14,071	\$3	\$42,213
R2-5	20.10	Unusable Excavation	CY	6,960	\$20	\$139,200
R2-6	20.21	Classified Fill and Backfill (Type II-A)	TON	10,990	\$17	\$186,830
R2-7	20.22	Leveling Course	TON	1,370	\$34	\$46,580
R2-8	20.25	Geotextile (Type A)	SY	4,562	\$2	\$9,124
R2-9	30.02	P.C.C. Curb and Gutter (All Types)	LF	4,790	\$37	\$177,230
R2-10	30.03	P.C.C. Sidewalk (4" thick)	SY	620	\$127	\$78,740
R2-11	30.04	P.C.C. Curb Ramp (All Types)	EA	24	\$3,500	\$84,000
R2-12	40.06	A.C. Pavement	TON	1,900	\$120	\$228,000
R2-13	50.06	Adjust Manhole to Finish Grade	EA	8	\$900	\$7,200
R2-14	55.02	Furnish, Install, and Televiser Pipe (18", Type S, CPEP)	LF	2,581	\$60	\$154,860
R2-15	55.05	Construct Type 1 Manhole	EA	8	\$6,000	\$48,000
R2-16	55.09	Construct Catch Basin	EA	21	\$4,600	\$96,600
R2-17	60.04	Adjust Wate Valve	EA	1	\$500	\$500
R2-18	65.02	Construction Survey Measurement	LS	1	\$85,000	\$85,000
R2-19	70.10	Traffic Markings (Paint, 4" White)	LF	567	\$5	\$2,835
R2-20	70.10	Traffic Markings (Paint, 4" Yellow)	LF	4,145	\$5	\$20,725
R2-21	70.11	Standard Signs	LS	1	\$10,000	\$10,000
R2-22	70.12	Traffic Maintenance	LS	1	\$20,000	\$20,000
R2-23	75.03	Topsoil (4" depth)	MSF	98	\$650	\$63,700
R2-24	75.04	Seeding (Schedule A)	MSF	98	\$300	\$29,400
R2-25	75.xx	Landscaping	LS	1	\$20,000	\$20,000
R2-26	80.xx	Furnish and Install Pedestrian Light	EA	85	\$7,300	\$620,500
R2-27	80.xx	Furnish and Install Roadway Light	EA	6	\$5,700	\$34,200
R2-28	80.xx	Electrical	LS	1	\$210,000	\$210,000
R2-29	80.28	Remove Luminaire Pole (all types)	EA	28	\$900	\$25,200
R2-30	xx.xx	Remove and Replace Pedestrian Bridge	SF	1,750	\$250	\$437,500
<i>Subtotal Construction Costs:</i>						\$2,942,857
<i>Concept Level Contingency (20%)</i>						\$589,000
Total Construction Costs:						\$3,532,000

Item	MASS Ref.	Work Description	Units	Estimated Quantity	Unit Price	Total Price		
Green Route								
B-1	20.02	Storm Water Pollution Prevention Plan (Type 2)	LS	1	\$2,000	\$2,000		
B-2	20.xx	ARRC Construction & Survey Safety Monitoring ¹	LS	1	\$500,000	\$500,000		
B-3	20.09	Remove Pavement	SY	12	\$2	\$24		
B-4	20.10	Unusable Excavation	CY	220	\$32	\$7,040		
B-5	20.21	Classified Fill and Backfill (Type II-A)	TON	340	\$15	\$5,100		
B-6	20.22	Leveling Course	TON	40	\$30	\$1,200		
B-7	20.25	Geotextile (Type A)	SY	427	\$2	\$854		
B-8	40.06	A.C. Pavement (Class E)	TON	490	\$100	\$49,000		
B-9	65.02	Construction Survey Measurement	LS	1	\$351,000	\$351,000	<i>steel girder</i>	<i>pre-stressed</i>
B-10	70.18	Fence (6-foot height, curled inward)	LF	4,800	\$60	\$288,000	<i>bridge</i>	<i>concrete</i>
B-11	70.xx	Fence (4-foot high snow proof)	LF	4,800	\$50	\$240,000	<i>+20%</i>	<i>girder bridge</i>
B-12	xx.xx	Architectural Bridge, 2400' x 14' (steel H-truss)	SF	33,600	\$250	\$8,400,000	<i>\$10,080,000</i>	<i>\$10,920,000</i>
B-13	xx.xx	Furnish Steel Piles (36" diameter)	LF	5,470	\$120	\$656,400		
B-14	xx.xx	Drive Steel Piles	EA	48	\$15,000	\$720,000		
B-15	xx.xx	Concrete for Piers & Caps (Class A)	CY	1,600	\$500	\$800,000		
B-16	xx.xx	Reinforcing Steel for Piers & Caps	LBS	62,000	\$1	\$37,200		
B-17	80.xx	Furnish and Install Pedestrian Light	EA	52	\$7,300	\$379,600		
B-18	80.xx	Electrical	LS	1	\$130,000	\$130,000		
<i>Subtotal Construction Costs:</i>						<i>\$12,567,418</i>	<i>\$14,247,418</i>	<i>\$15,087,418</i>
<i>Concept Level Contingency (20%)</i>						<i>\$2,513,000</i>	<i>\$2,849,000</i>	<i>\$3,017,000</i>
Total Construction Costs:						\$15,080,000	\$17,096,000	\$18,104,000

1. Required on-site surveillance and monitoring by ARRC personnel during construction on/near railroad yard and tracks

Item	MASS Ref.	Work Description	Units	Estimated Quantity	Unit Price	Total Price
Blue Route						
B-1	20.02	Storm Water Pollution Prevention Plan (Type 2)	LS	1	\$60,000	\$60,000
B-2	20.xx	ARRC Construction & Survey Safety Monitoring ¹	LS	1	\$5,000,000	\$5,000,000
B-3	20.09	Remove Pavement	SY	671	\$2	\$1,342
B-4	20.10	Unusable Excavation	CY	4,760	\$32	\$152,320
B-5	20.21	Classified Fill and Backfill (Type II-A)	TON	39,190	\$15	\$587,850
B-6	20.22	Leveling Course	TON	850	\$30	\$25,500
B-7	20.24	Rip Rap (Class II)	TON	5,440	\$115	\$625,600
B-8	20.25	Geotextile (Type A)	SY	18,691	\$2	\$37,382
B-9	40.06	A.C. Pavement (Class E)	TON	600	\$100	\$60,000
B-10	50.06	Adjust Sewer Manhole Cone to Finish Grade	EA	7	\$2,000	\$14,000
B-11	55.20	Culverts (36-inch)	LF	315	\$200	\$63,000
B-12	65.02	Construction Survey Measurement	LS	1	\$65,000	\$65,000
B-13	70.18	Fence (8-foot height)	LF	2,456	\$45	\$110,520
B-14	80.xx	Furnish and Install Pedestrian Light	EA	49	\$7,300	\$357,700
B-15	80.xx	Electrical	LS	1	\$122,500	\$122,500
<i>Subtotal Construction Costs:</i>						\$7,282,714
<i>Concept Level Contingency (20%)</i>						\$1,457,000
Total Construction Costs:						\$8,740,000

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