

# COST ESTIMATE BACK UP SHEETS

## TWO FEASIBILITY STUDIES OF REGIONAL TRAIL LINKAGE TO THE COMMUNITY PATH EXTENSION (CPX)

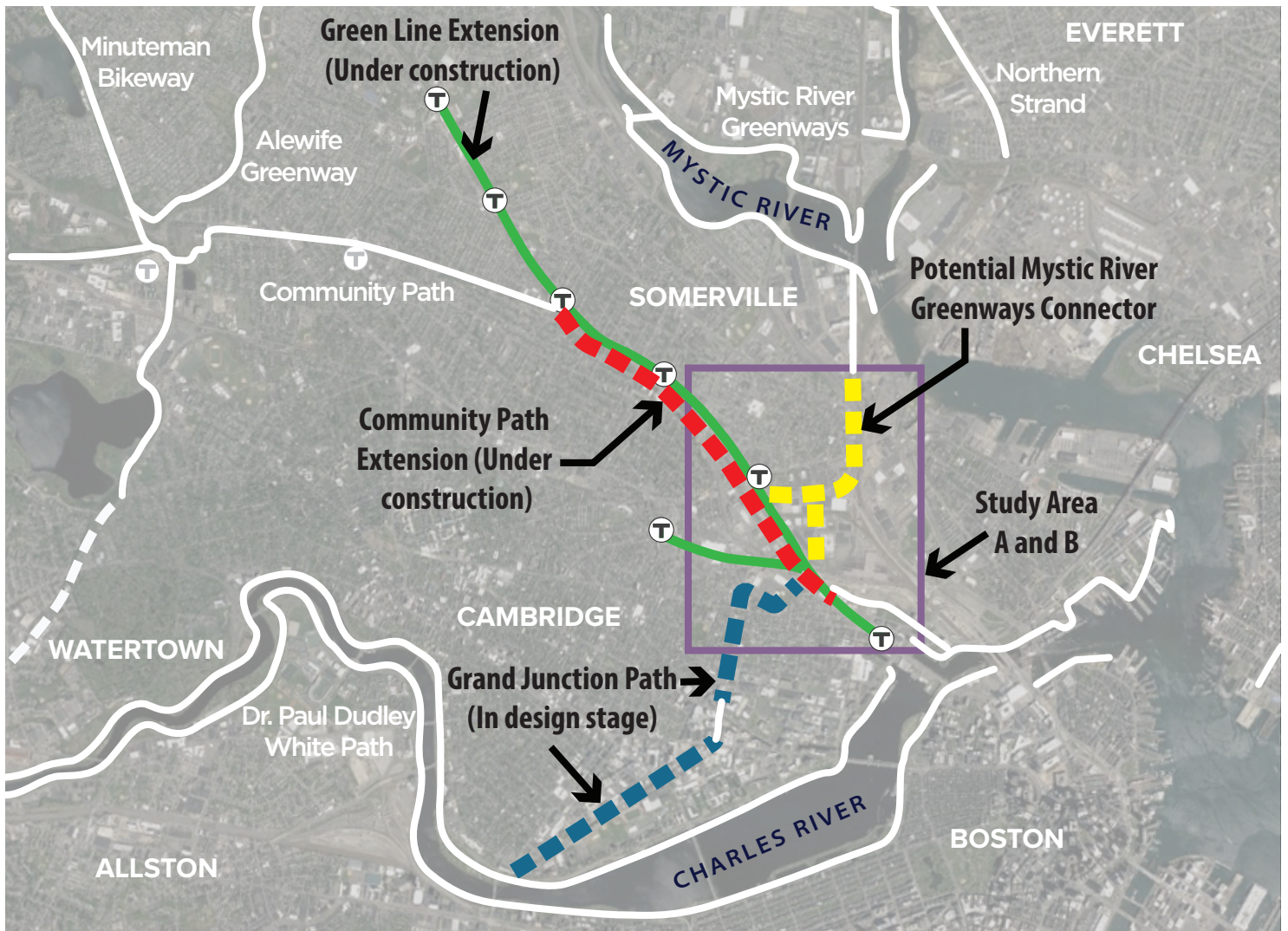
### FEASIBILITY STUDY A:

COMMUNITY PATH EXTENSION: CONNECTION TO THE GRAND JUNCTION PATH

### FEASIBILITY STUDY B:

COMMUNITY PATH EXTENSION: CONNECTION TO THE MYSTIC RIVER GREENWAYS AT ASSEMBLY SQUARE

JUNE 1, 2020



**Massachusetts Department of Transportation  
Highway Division  
CPX Connection Study  
Cambridge, MA**

**Proj. #A2**

**May 2020**

**Computed By: KDC  
Checked By: BB**

ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
102.51*	9	EA	INDIVIDUAL TREE PROTECTION	\$450.00	\$4,050.00	\$0.00
120.	200	CY	EARTH EXCAVATION	\$50.00	\$10,000.00	\$0.00
150.	12	CY	ORDINARY BORROW	\$55.00	\$660.00	\$0.00
151.	150	CY	GRAVEL BORROW	\$60.00	\$9,000.00	\$0.00
170.*	500	SY	FINE GRADING AND COMPACTING	\$12.00	\$6,000.00	\$0.00
440.	500	LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.50	\$250.00	\$0.00
443.	1	MGL	WATER FOR ROADWAY DUST CONTROL	\$100.00	\$100.00	\$0.00
450.22	150	TON	SUPERPAVE SURFACE COURSE – 9.5 (SSC – 9.5)	\$225.00	\$33,750.00	\$0.00
452.	50	GAL	ASPHALT EMULSION FOR TACK COAT	\$10.00	\$500.00	\$0.00
740.*	2	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$7,000.00	\$0.00
748.	1	LS	MOBILIZATION	\$8,700.00	\$8,700.00	\$0.00
767.6*	1	CY	AGED PINE BARK MULCH	\$85.00	\$85.00	\$0.00
852.	4	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$80.00	\$0.00
853.1	6	EA	PORTABLE BREAKAWAY BARRICADE TYPE III	\$140.00	\$840.00	\$0.00
				<b>Subtotal:</b>	<b>\$81,015.00</b>	<b>\$0.00</b>
				<b>10% Construction Engineering:</b>	<b>\$8,101.50</b>	<b>\$0.00</b>
				<b>25% Minor Items:</b>	<b>\$20,253.75</b>	<b>\$0.00</b>
				<b>Subtotal:</b>	<b>\$109,370.25</b>	<b>\$0.00</b>
				<b>30% Construction Contingency:</b>	<b>\$32,811.08</b>	<b>\$0.00</b>
				<b>Total:</b>	<b>\$142,181.33</b>	<b>\$0.00</b>
				<b>5% Inflation (4 years):</b>	<b>\$30,640.96</b>	<b>\$0.00</b>
				<b>Grand Total (2024):</b>	<b>\$172,823.00</b>	<b>\$0.00</b>

\*-Denotes item has special provision

\*\* Estimate does not include costs for snow guard materials or installation

**Massachusetts Department of Transportation  
Highway Division  
CPX Connection Study  
Cambridge, MA**

**Proj. #A3**

**May 2020**

**Computed By: KDC  
Checked By: BB**

ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
102.51*	8	EA	INDIVIDUAL TREE PROTECTION	\$450.00	\$3,600.00	\$0.00
103.*	11	EA	TREE REMOVED - DIAMETER UNDER 24 INCHES	\$1,800.00	\$19,800.00	\$0.00
120.	200	CY	EARTH EXCAVATION	\$50.00	\$10,000.00	\$0.00
150.	10	CY	ORDINARY BORROW	\$55.00	\$550.00	\$0.00
151.	150	CY	GRAVEL BORROW	\$60.00	\$9,000.00	\$0.00
170.*	675	SY	FINE GRADING AND COMPACTING	\$12.00	\$8,100.00	\$0.00
440.	625	LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.50	\$312.50	\$0.00
443.	1	MGL	WATER FOR ROADWAY DUST CONTROL	\$100.00	\$100.00	\$0.00
450.22	150	TON	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5)	\$225.00	\$33,750.00	\$0.00
452	50	GAL	ASPHALT EMULSION FOR TACK COAT	\$10.00	\$500.00	\$0.00
594.	50	FT	CURB REMOVED AND DISCARDED	\$15.00	\$750.00	\$0.00
701.*	75	SY	CEMENT CONCRETE SIDEWALK	\$135.00	\$10,125.00	\$0.00
707.81*	1	EA	BOLLARD	\$1,500.00	\$1,500.00	\$0.00
740.*	4	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$14,000.00	\$0.00
748.	1	LS	MOBILIZATION	\$11,600.00	\$11,600.00	\$0.00
767.6*	1	CY	AGED PINE BARK MULCH	\$85.00	\$85.00	\$0.00
859.	3,529	DD	REFLECTORIZED DRUM	\$0.25	\$882.25	\$0.00
866.04	100	FT	4 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)	\$2.00	\$200.00	\$0.00
				<b>Subtotal:</b>	<b>\$127,534.75</b>	<b>\$0.00</b>
				<b>10% Construction Engineering:</b>	<b>\$12,753.48</b>	<b>\$0.00</b>
				<b>25% Minor Items:</b>	<b>\$31,883.69</b>	<b>\$0.00</b>
				<b>Subtotal:</b>	<b>\$172,171.91</b>	<b>\$0.00</b>
				<b>30% Construction Contingency:</b>	<b>\$51,651.57</b>	<b>\$0.00</b>
				<b>Total:</b>	<b>\$223,823.49</b>	<b>\$0.00</b>
				<b>5% Inflation (4 years):</b>	<b>\$48,235.36</b>	<b>\$0.00</b>
				<b>Grand Total (2024):</b>	<b>\$272,059.00</b>	<b>\$0.00</b>

\*-Denotes item has special provision

**Massachusetts Department of Transportation  
Highway Division  
CPX Connection Study  
Cambridge, MA**

**Proj. #A4**

**May 2020**

**Computed By: KDC  
Checked By: BB**

ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
120.	5	CY	EARTH EXCAVATION	\$60.00	\$300.00	\$0.00
151.	15	CY	GRAVEL BORROW	\$70.00	\$1,050.00	\$0.00
170.*	50	SY	FINE GRADING AND COMPACTING	\$12.00	\$600.00	\$0.00
509.	30	FT	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - STRAIGHT	\$95.00	\$2,850.00	\$0.00
509.1	30	FT	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED	\$100.00	\$3,000.00	\$0.00
594.	50	FT	CURB REMOVED AND DISCARDED	\$15.00	\$750.00	\$0.00
701.2*	50	SY	CEMENT CONCRETE WHEELCHAIR RAMP	\$150.00	\$7,500.00	\$0.00
740.*	3	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$10,500.00	\$0.00
748.	1	LS	MOBILIZATION	\$4,900.00	\$4,900.00	\$0.00
816.01*	1	LS	TRAFFIC SIGNAL RECONSTRUCTION LOCATION NO. 1	\$10,000.00	\$10,000.00	\$0.00
850.41*	21	HR	ROADWAY FLAGGER	\$60.00	\$1,260.00	\$0.00
852.	65	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$1,300.00	\$0.00
859.	2,647	DD	REFLECTORIZED DRUM	\$0.25	\$661.75	\$0.00
865.1	350	SF	CROSS WALKS AND STOP LINES REFL. WHITE (THERMOPLASTIC)	\$2.00	\$700.00	\$0.00
				<b>Subtotal:</b>	<b>\$45,371.75</b>	<b>\$0.00</b>
				<b>10% Construction Engineering:</b>	<b>\$4,537.18</b>	<b>\$0.00</b>
				<b>25% Minor Items:</b>	<b>\$11,342.94</b>	<b>\$0.00</b>
				<b>Subtotal:</b>	<b>\$61,251.86</b>	<b>\$0.00</b>
				<b>30% Construction Contingency:</b>	<b>\$18,375.56</b>	<b>\$0.00</b>
				<b>Total:</b>	<b>\$79,627.42</b>	<b>\$0.00</b>
				<b>5% Inflation (4 years):</b>	<b>\$17,160.21</b>	<b>\$0.00</b>
				<b>Grand Total (2024):</b>	<b>\$96,788.00</b>	<b>\$0.00</b>

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**Massachusetts Department of Transportation  
Highway Division  
CPX Connection Study  
Cambridge, MA**

**Proj. #A7**

**May 2020**

**Computed By: KDC  
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ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
120.	100	CY	EARTH EXCAVATION	\$50.00	\$5,000.00	\$0.00
150	10	CY	ORDINARY BORROW	\$55.00	\$550.00	\$0.00
151.	75	CY	GRAVEL BORROW	\$65.00	\$4,875.00	\$0.00
170.*	300	SY	FINE GRADING AND COMPACTING	\$12.00	\$3,600.00	\$0.00
440.	275	LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.50	\$137.50	\$0.00
443.	1	MGL	WATER FOR ROADWAY DUST CONTROL	\$100.00	\$100.00	\$0.00
450.22	75	TON	SUPERPAVE SURFACE COURSE – 9.5 (SSC – 9.5)	\$225.00	\$16,875.00	\$0.00
452.	25	GAL	ASPHALT EMULSION FOR TACK COAT	\$10.00	\$250.00	\$0.00
740.*	4	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$14,000.00	\$0.00
748.	1	LS	MOBILIZATION	\$5,600.00	\$5,600.00	\$0.00
852.	4	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$80.00	\$0.00
853.1	4	EA	PORTABLE BREAKAWAY BARRICADE TYPE III	\$140.00	\$560.00	\$0.00
				<b>Subtotal:</b>	<b>\$51,627.50</b>	<b>\$0.00</b>
				<b>10% Construction Engineering:</b>	<b>\$5,162.75</b>	<b>\$0.00</b>
				<b>25% Minor Items:</b>	<b>\$12,906.88</b>	<b>\$0.00</b>
				<b>Subtotal:</b>	<b>\$69,697.13</b>	<b>\$0.00</b>
				<b>30% Construction Contingency:</b>	<b>\$20,909.14</b>	<b>\$0.00</b>
				<b>Total:</b>	<b>\$90,606.26</b>	<b>\$0.00</b>
				<b>5% Inflation (4 years):</b>	<b>\$19,526.22</b>	<b>\$0.00</b>
				<b>Grand Total (2024):</b>	<b>\$110,133.00</b>	<b>\$0.00</b>

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**Massachusetts Department of Transportation  
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CPX Connection Study  
Cambridge, MA**

**Proj. #A9**

**May 2020**

**Computed By: KDC  
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ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
120.	100	CY	EARTH EXCAVATION	\$55.00	\$5,500.00	\$0.00
150.	20	CY	ORDINARY BORROW	\$55.00	\$1,100.00	\$0.00
151.	100	CY	GRAVEL BORROW	\$60.00	\$6,000.00	\$0.00
170.*	350	SY	FINE GRADING AND COMPACTING	\$12.00	\$4,200.00	\$0.00
440.	325	LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.50	\$162.50	\$0.00
443.	1	MGL	WATER FOR ROADWAY DUST CONTROL	\$100.00	\$100.00	\$0.00
450.22	100	TON	SUPERPAVE SURFACE COURSE – 9.5 (SSC – 9.5)	\$225.00	\$22,500.00	\$0.00
452.	25	GAL	ASPHALT EMULSION FOR TACK COAT	\$10.00	\$250.00	\$0.00
740.*	6	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$21,000.00	\$0.00
748.	1	LS	MOBILIZATION	\$15,500.00	\$15,500.00	\$0.00
852.	4	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$80.00	\$0.00
853.1	4	EA	PORTABLE BREAKAWAY BARRICADE TYPE III	\$140.00	\$560.00	\$0.00
999.XXX*	12	LF	PREFABRICATED PEDESTRIAN BRIDGE	\$5,600.00	\$67,200.00	\$0.00
				<b>Subtotal:</b>	<b>\$144,152.50</b>	<b>\$0.00</b>
				<b>10% Construction Engineering:</b>	<b>\$14,415.25</b>	<b>\$0.00</b>
				<b>25% Minor Items:</b>	<b>\$36,038.13</b>	<b>\$0.00</b>
				<b>Subtotal:</b>	<b>\$194,605.88</b>	<b>\$0.00</b>
				<b>30% Construction Contingency:</b>	<b>\$58,381.76</b>	<b>\$0.00</b>
				<b>Total:</b>	<b>\$252,987.64</b>	<b>\$0.00</b>
				<b>5% Inflation (8 years):</b>	<b>\$120,790.32</b>	<b>\$0.00</b>
				<b>Grand Total (2028):</b>	<b>\$373,778.00</b>	<b>\$0.00</b>

\*-Denotes item has special provision

**Massachusetts Department of Transportation  
Highway Division  
CPX Connection Study  
Cambridge, MA**

**Proj. #B1**

**May 2020**

**Computed By: KDC  
Checked By: BB**

ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
120.	1,200	CY	EARTH EXCAVATION	\$50.00	\$60,000.00	\$0.00
150	200	CY	ORDINARY BORROW	\$55.00	\$11,000.00	\$0.00
151.	750	CY	GRAVEL BORROW	\$50.00	\$37,500.00	\$0.00
170.*	3,700	SY	FINE GRADING AND COMPACTING	\$12.00	\$44,394.00	\$0.00
440.	3,700	LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.50	\$1,849.75	\$0.00
443.	4	MGL	WATER FOR ROADWAY DUST CONTROL	\$100.00	\$400.00	\$0.00
450.22	840	TON	SUPERPAVE SURFACE COURSE – 9.5 (SSC – 9.5)	\$210.00	\$176,400.00	\$0.00
452.	270	GAL	ASPHALT EMULSION FOR TACK COAT	\$10.00	\$2,700.00	\$0.00
655.3*	3,180	FT	METAL FENCE	\$85.00	\$270,300.00	\$0.00
740.*	10	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$35,000.00	\$0.00
748.	1	LS	MOBILIZATION	\$51,300.00	\$51,300.00	\$0.00
852.	4	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$80.00	\$0.00
853.1	6	EA	PORTABLE BREAKAWAY BARRICADE TYPE III	\$140.00	\$840.00	\$0.00
				<b>Subtotal:</b>	<b>\$691,763.75</b>	<b>\$0.00</b>
				<b>10% Construction Engineering:</b>	<b>\$69,176.38</b>	<b>\$0.00</b>
				<b>25% Minor Items:</b>	<b>\$172,940.94</b>	<b>\$0.00</b>
				<b>Subtotal:</b>	<b>\$933,881.06</b>	<b>\$0.00</b>
				<b>30% Construction Contingency:</b>	<b>\$280,164.32</b>	<b>\$0.00</b>
				<b>Total:</b>	<b>\$1,214,045.38</b>	<b>\$0.00</b>
				<b>5% Inflation (4 years):</b>	<b>\$261,634.37</b>	<b>\$0.00</b>
				<b>Grand Total (2024):</b>	<b>\$1,475,680.00</b>	<b>\$0.00</b>

\*-Denotes item has special provision

\*\* Estimate does not include removal of the railroad ties and tracks. It also assumes the ballast can be removed and is not contaminated requiring hazardous waste removal or disposal.

**Massachusetts Department of Transportation  
Highway Division  
CPX Connection Study  
Cambridge, MA**

**Proj. #B2**

**May 2020**

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Checked By: BB**

ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
103.*	10	EA	TREE REMOVED - DIAMETER UNDER 24 INCHES	\$1,800.00	\$18,000.00	\$0.00
120.	80	CY	EARTH EXCAVATION	\$50.00	\$4,000.00	\$0.00
141.1	15	CY	TEST PIT FOR EXPLORATION	\$55.00	\$825.00	\$0.00
146.	1	EA	DRAINAGE STRUCTURE REMOVED	\$1,200.00	\$1,200.00	\$0.00
150	6	CY	ORDINARY BORROW	\$60.00	\$360.00	\$0.00
151.	75	CY	GRAVEL BORROW	\$65.00	\$4,875.00	\$0.00
170.*	175	SY	FINE GRADING AND COMPACTING	\$12.00	\$2,100.00	\$0.00
201.	1	EA	CATCH BASIN	\$6,500.00	\$6,500.00	\$0.00
222.*	1	EA	FRAME AND GRATE	\$2,150.00	\$2,150.00	\$0.00
440.	175	LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.50	\$87.50	\$0.00
443.	1	MGL	WATER FOR ROADWAY DUST CONTROL	\$100.00	\$100.00	\$0.00
450.22	315	TON	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5)	\$225.00	\$70,875.00	\$0.00
452.	260	GAL	BITUMEN FOR TACK COAT	\$10.00	\$2,600.00	\$0.00
506.	50	FT	GRANITE CURB TYPE VB - STRAIGHT	\$65.00	\$3,250.00	\$0.00
594.	50	FT	CURB REMOVED AND DISCARDED	\$15.00	\$750.00	\$0.00
740.*	12	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$42,000.00	\$0.00
748.	1	LS	MOBILIZATION	\$20,300.00	\$20,300.00	\$0.00
852.	4	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$80.00	\$0.00
853.1	4	EA	PORTABLE BREAKAWAY BARRICADE TYPE III	\$140.00	\$560.00	\$0.00
853.2	70	FT	TEMPORARY CONCRETE BARRIER	\$50.00	\$3,500.00	\$0.00
859.	1,278	DD	REFLECTORIZED DRUM	\$0.25	\$319.50	\$0.00
999.XXX*	330	SF	FILL TYPE RETAINING WALL	\$120.00	\$39,600.00	\$0.00
999.XXX*	166	LF	PEDESTRIAN RAILING	\$300.00	\$49,800.00	\$0.00
<b>Subtotal:</b>					<b>\$273,832.00</b>	<b>\$0.00</b>
<b>10% Construction Engineering:</b>					<b>\$27,383.20</b>	<b>\$0.00</b>
<b>25% Minor Items:</b>					<b>\$68,458.00</b>	<b>\$0.00</b>
<b>Subtotal:</b>					<b>\$369,673.20</b>	<b>\$0.00</b>
<b>30% Construction Contingency:</b>					<b>\$110,901.96</b>	<b>\$0.00</b>
<b>Total:</b>					<b>\$480,575.16</b>	<b>\$0.00</b>
<b>5% Inflation (4 years):</b>					<b>\$103,566.95</b>	<b>\$0.00</b>
<b>Grand Total (2024):</b>					<b>\$584,143.00</b>	<b>\$0.00</b>

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**Proj. #B3**

**May 2020**

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ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
103.*	30	EA	TREE REMOVED - DIAMETER UNDER 24 INCHES	\$1,800.00	\$54,000.00	\$0.00
120.	2,400	CY	EARTH EXCAVATION	\$50.00	\$120,000.00	\$0.00
141.1	60	CY	TEST PIT FOR EXPLORATION	\$55.00	\$3,300.00	\$0.00
150	644	CY	ORDINARY BORROW	\$35.00	\$22,540.00	\$0.00
151.	4,610	CY	GRAVEL BORROW	\$55.00	\$253,550.00	\$0.00
170.*	11,000	SY	FINE GRADING AND COMPACTING	\$12.00	\$132,000.00	\$0.00
440.	10,550	LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.50	\$5,275.00	\$0.00
443.	11	MGL	WATER FOR ROADWAY DUST CONTROL	\$100.00	\$1,100.00	\$0.00
450.22	2,400	TON	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5)	\$205.00	\$492,000.00	\$0.00
452.	774	GAL	ASPHALT EMULSION FOR TACK COAT	\$13.00	\$10,062.00	\$0.00
740.*	12	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$42,000.00	\$0.00
748.	1	LS	MOBILIZATION	\$101,400.00	\$101,400.00	\$0.00
756.*	1	LS	NPDES STORMWATER POLLUTION PREVENTION PLAN	\$30,000.00	\$30,000.00	\$0.00
852.	4	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$80.00	\$0.00
853.1	4	EA	PORTABLE BREAKAWAY BARRICADE TYPE III	\$140.00	\$560.00	\$0.00
853.2	40	FT	TEMPORARY CONCRETE BARRIER	\$50.00	\$2,000.00	\$0.00
859.	1,278	DD	REFLECTORIZED DRUM	\$0.25	\$319.50	\$0.00
999.XXX*	16,920	SF	FILL TYPE RETAINING WALL	\$120.00	\$2,030,400.00	\$0.00
999.XXX*	600	LF	PEDESTRIAN RAILING	\$300.00	\$180,000.00	\$0.00
				<b>Subtotal:</b>	<b>\$3,480,586.50</b>	<b>\$0.00</b>
				<b>10% Construction Engineering:</b>	<b>\$348,058.65</b>	<b>\$0.00</b>
				<b>25% Minor Items:</b>	<b>\$870,146.63</b>	<b>\$0.00</b>
				<b>Subtotal:</b>	<b>\$4,698,791.78</b>	<b>\$0.00</b>
				<b>30% Construction Contingency:</b>	<b>\$1,409,637.53</b>	<b>\$0.00</b>
				<b>Total:</b>	<b>\$6,108,429.31</b>	<b>\$0.00</b>
				<b>5% Inflation (4 years):</b>	<b>\$1,316,404.69</b>	<b>\$0.00</b>
				<b>Grand Total (2024):</b>	<b>\$7,424,835.00</b>	<b>\$0.00</b>

\*-Denotes item has special provision

**Massachusetts Department of Transportation  
Highway Division  
CPX Connection Study  
Cambridge, MA**

**Proj. #B4**

**May 2020**

**Computed By: KDC  
Checked By: BB**

ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
120.	40	CY	EARTH EXCAVATION	\$50.00	\$2,000.00	\$0.00
150.	12	CY	ORDINARY BORROW	\$55.00	\$660.00	\$0.00
151.	20	CY	GRAVEL BORROW	\$65.00	\$1,300.00	\$0.00
170.*	75	SY	FINE GRADING AND COMPACTING	\$3.00	\$225.00	\$0.00
220.*	1	EA	DRAINAGE STRUCTURE ADJUSTED	\$500.00	\$500.00	\$0.00
506.	50	FT	GRANITE CURB TYPE VB - STRAIGHT	\$65.00	\$3,250.00	\$0.00
506.1	60	FT	GRANITE CURB TYPE VB - CURVED	\$70.00	\$4,200.00	\$0.00
509.	30	FT	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - STRAIGHT	\$95.00	\$2,850.00	\$0.00
509.1	50	FT	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED	\$100.00	\$5,000.00	\$0.00
594.	100	FT	CURB REMOVED AND DISCARDED	\$15.00	\$1,500.00	\$0.00
701.*	50	SY	CEMENT CONCRETE SIDEWALK	\$135.00	\$6,750.00	\$0.00
701.2*	50	SY	CEMENT CONCRETE WHEELCHAIR RAMP	\$120.00	\$6,000.00	\$0.00
740.*	3	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$10,500.00	\$0.00
748.	1	LS	MOBILIZATION	\$10,500.00	\$10,500.00	\$0.00
850.41*	21	HR	ROADWAY FLAGGER	\$60.00	\$1,260.00	\$0.00
852.	23	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$460.00	\$0.00
859.	320	DD	REFLECTORIZED DRUM	\$0.25	\$80.00	\$0.00
865.1	200	SF	CROSS WALKS AND STOP LINES REFL. WHITE (THERMOPLASTIC)	\$2.00	\$400.00	\$0.00
867.04	100	FT	4 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC)	\$2.00	\$200.00	\$0.00
999.XXX*	4	EA	RECTANGULAR RAPID FLASHING BEACON	\$10,000.00	\$40,000.00	\$0.00
				<b>Subtotal:</b>	<b>\$97,635.00</b>	<b>\$0.00</b>
				<b>10% Construction Engineering:</b>	<b>\$9,763.50</b>	<b>\$0.00</b>
				<b>25% Minor Items:</b>	<b>\$24,408.75</b>	<b>\$0.00</b>
				<b>Subtotal:</b>	<b>\$131,807.25</b>	<b>\$0.00</b>
				<b>30% Construction Contingency:</b>	<b>\$39,542.18</b>	<b>\$0.00</b>
				<b>Total:</b>	<b>\$171,349.43</b>	<b>\$0.00</b>
				<b>5% Inflation (4 years):</b>	<b>\$36,926.87</b>	<b>\$0.00</b>
				<b>Grand Total (2024):</b>	<b>\$208,277.00</b>	<b>\$0.00</b>

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**Massachusetts Department of Transportation  
Highway Division  
CPX Connection Study  
Cambridge, MA**

**Proj. #B5**

**May 2020**

**Computed By: KDC  
Checked By: BB**

ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
120.	450	CY	EARTH EXCAVATION	\$50.00	\$22,500.00	\$0.00
150.	23	CY	ORDINARY BORROW	\$55.00	\$1,265.00	\$0.00
151.	350	CY	GRAVEL BORROW	\$55.00	\$19,250.00	\$0.00
170.*	1,560	SY	FINE GRADING AND COMPACTING	\$12.00	\$18,720.00	\$0.00
506.	3,500	FT	GRANITE CURB TYPE VB - STRAIGHT	\$40.00	\$140,000.00	\$0.00
594.	15	FT	CURB REMOVED AND DISCARDED	\$15.00	\$225.00	\$0.00
701.*	1,520	SY	CEMENT CONCRETE SIDEWALK	\$135.00	\$205,200.00	\$0.00
701.1*	50	SY	CEMENT CONCRETE SIDEWALK AT DRIVEWAY	\$150.00	\$7,500.00	\$0.00
740.*	8	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$28,000.00	\$0.00
748.	1	LS	MOBILIZATION	\$41,100.00	\$41,100.00	\$0.00
850.41*	56	HR	ROADWAY FLAGGER	\$60.00	\$3,360.00	\$0.00
852.	13	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$260.00	\$0.00
853.1	4	EA	PORTABLE BREAKAWAY BARRICADE TYPE III	\$140.00	\$560.00	\$0.00
859.	20,441	DD	REFLECTORIZED DRUM	\$0.25	\$5,110.25	\$0.00
866.04	1,700	FT	4 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)	\$2.00	\$3,400.00	\$0.00
867.04	500	FT	4 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC)	\$2.00	\$1,000.00	\$0.00
874.2*	1	EA	TRAFFIC SIGN REMOVED AND RESET	\$110.00	\$110.00	\$0.00
				<b>Subtotal:</b>	<b>\$497,560.25</b>	<b>\$0.00</b>
				<b>10% Construction Engineering:</b>	<b>\$49,756.03</b>	<b>\$0.00</b>
				<b>25% Minor Items:</b>	<b>\$124,390.06</b>	<b>\$0.00</b>
				<b>Subtotal:</b>	<b>\$671,706.34</b>	<b>\$0.00</b>
				<b>30% Construction Contingency:</b>	<b>\$201,511.90</b>	<b>\$0.00</b>
				<b>Total:</b>	<b>\$873,218.24</b>	<b>\$0.00</b>
				<b>5% Inflation (4 years):</b>	<b>\$188,183.99</b>	<b>\$0.00</b>
				<b>Grand Total (2024):</b>	<b>\$1,061,403.00</b>	<b>\$0.00</b>

\*-Denotes item has special provision

**Massachusetts Department of Transportation  
Highway Division  
CPX Connection Study  
Cambridge, MA**

**Proj. #B8**

**May 2020**

**Computed By: KDC  
Checked By: BB**

ITEM NO.	PART. QUANTITY	NON-PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
740.*	2		MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$7,000.00	\$0.00
748.	1		LS	MOBILIZATION	\$5,300.00	\$5,300.00	\$0.00
834.18	190		EA	REFLECTORIZED FLEXIBLE DELINEATOR POST (WHITE)	\$50.00	\$9,500.00	\$0.00
850.41*	14		HR	ROADWAY FLAGGER	\$60.00	\$840.00	\$0.00
852.	9		SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$180.00	\$0.00
859.	5,111		DD	REFLECTORIZED DRUM	\$0.25	\$1,277.75	\$0.00
866.106	12,600		FT	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)	\$2.00	\$25,200.00	\$0.00
<b>Subtotal:</b>						<b>\$49,297.75</b>	<b>\$0.00</b>
<b>10% Construction Engineering:</b>						<b>\$4,929.78</b>	<b>\$0.00</b>
<b>25% Minor Items:</b>						<b>\$12,324.44</b>	<b>\$0.00</b>
<b>Subtotal:</b>						<b>\$66,551.96</b>	<b>\$0.00</b>
<b>30% Construction Contingency:</b>						<b>\$19,965.59</b>	<b>\$0.00</b>
<b>Total:</b>						<b>\$86,517.55</b>	<b>\$0.00</b>
<b>5% Inflation (4 years):</b>						<b>\$18,645.07</b>	<b>\$0.00</b>
<b>Grand Total (2024):</b>						<b>\$105,163.00</b>	<b>\$0.00</b>

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**Massachusetts Department of Transportation  
Highway Division  
CPX Connection Study  
Cambridge, MA**

**Proj. #B9**

**May 2020**

**Computed By: KDC  
Checked By: BB**

ITEM NO.	PART. QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	PART. COST	NON-PART. COST
415.1	20	SY	PAVEMENT STANDARD MILLING	\$7.00	\$140.00	\$0.00
440.	25	LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.50	\$12.50	\$0.00
443.	1	MGL	WATER FOR ROADWAY DUST CONTROL	\$100.00	\$100.00	\$0.00
450.22	1	TON	SUPERPAVE SURFACE COURSE – 9.5 (SSC – 9.5)	\$300.00	\$300.00	\$0.00
452.	5	GAL	ASPHALT EMULSION FOR TACK COAT	\$10.00	\$50.00	\$0.00
460.*	1	TON	HOT MIX ASPHALT	\$225.00	\$225.00	\$0.00
740.*	2	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$3,500.00	\$7,000.00	\$0.00
748.	1	LS	MOBILIZATION	\$1,400.00	\$1,400.00	\$0.00
850.41*	14	HR	ROADWAY FLAGGER	\$60.00	\$840.00	\$0.00
61	9	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$180.00	\$0.00
859.	122	DD	REFLECTORIZED DRUM	\$0.25	\$30.50	\$0.00
866.04	100	FT	4 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)	\$2.00	\$200.00	\$0.00
				<b>Subtotal:</b>	<b>\$10,478.00</b>	<b>\$0.00</b>
				<b>10% Construction Engineering:</b>	<b>\$1,047.80</b>	<b>\$0.00</b>
				<b>25% Minor Items:</b>	<b>\$2,619.50</b>	<b>\$0.00</b>
				<b>Subtotal:</b>	<b>\$14,145.30</b>	<b>\$0.00</b>
				<b>30% Construction Contingency:</b>	<b>\$4,243.59</b>	<b>\$0.00</b>
				<b>Total:</b>	<b>\$18,388.89</b>	<b>\$0.00</b>
				<b>5% Inflation (4 years):</b>	<b>\$3,962.92</b>	<b>\$0.00</b>
				<b>Grand Total (2024):</b>	<b>\$22,352.00</b>	<b>\$0.00</b>

\*-Denotes item has special provision