

Detailed Cost Estimate Calculation Package

The detailed estimates included in this package were created to be as accurate as possible using the Complete Streets Prioritization Plan (CSPP) project descriptions and Google Earth. These projects have not been “designed” or “engineered”. These estimates should be verified by the design engineer using detailed field survey information and standard engineering practices, if appropriate. Municipalities can expect some variation in actual project costs versus these estimates. It is our objective that the estimates be calculated conservatively so that project costs will not exceed the costs here; however, unforeseen or latent conditions may arise during design or construction that could not be anticipated by the conceptual estimates.

Quantities such as landscaping, drainage, streetscape lighting, etc., when part of a project conceptually, were developed using assumptions of spacing that are typical for roadways. All quantities should be verified by the design engineer prior to establishing final budgets and before a project enters bidding. In addition, the estimates make assumptions for proposed utility work without having evaluated existing subsurface conditions (i.e., water, sewer, drainage, etc.). This should be considered and included to the appropriate extents, by the design engineer for each project.

Prior to bidding a project for construction, a more thorough estimate should be completed to confirm/verify quantities and assumptions made during conceptual estimating. This should include a field visit and survey if the project requires design. Unit prices must also be updated per year to cover inflation and the rise of construction costs.



CALC'D BY: LC
CHK'D BY: KS

DATE: 5/14/2021
DATE: 5/17/2021

LOCATION: PRINCETON
PROJECT: 27

PROPOSED LOCATION - PRINCETON - BALL HILL ROAD
Ball Hill Road Traffic Calming

AREA SUMMARY

Sidewalk Length (ft)	175	ft <i>Total Length</i>
Sidewalk Width (ft)	5.0	ft
Road Length (ft)	20,592	ft
Crosswalk Lengths (ft)	136	ft <i>Total Length</i>
Driveway Lengths (ft)	0	ft <i>Total Length</i>
Bike Lane Length (ft)	0	ft <i>Total Length</i>
Parking Lot Area (sf)	0	
Roadway Area (sf)		

	AREA* (SF)	AREA (SY)
Full Depth Construction	0	0
HMA Shared Use Path	0	0
Cement Concrete Sidewalks	0	0
HMA Sidewalks	963	107
Wheelchair Ramps	1,080	120
Loam and Seed	1,050	117
Concrete Sidewalk Reconstruction	0	0
# WCR	8	
HMA Driveways	0	0
Concrete Medians	0	0
Full Depth <4' along curb	385	43

Project Description:

This project will add a white edge line to either side of the road to make it 18 feet wide, slowing traffic and creating a marked shoulder for bikes. Crosswalks will be added at the intersection with Calamint Road with curb ramps at either end. Transverse warning pavement markings will be added on the Ball Hill Road approaches to the crosswalk. Two speed feedback signs will also be installed.

Additional Notes:



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 27

PROPOSED LOCATION - PRINCETON - BALL HILL ROAD
Ball Hill Road Traffic Calming

120.1 UNCLASSIFIED EXCAVATION 100 CY \$44.00 \$4,400.00

	Area (SF) x	Depth (ft.)	CY
Full Depth =	0	1.46	0.00
Wheelchair Ramps =	1080	1.00	40.00
Full Depth <4' =	385	1.46	20.82
HMA Driveways =	0	1.00	0.00
Exist Sidewalks =	0	1.00	0.00
0	963	1.00	35.65
Concrete Sidewalks =	0	1.00	0.00
HMA Shared Use Path =	0	1.00	0.00
Concrete Medians =	0	1.00	0.00
	Total		<u>96.47</u>

151 GRAVEL BORROW 60 CY \$45.00 \$2,700.00

	Area (SF) x	Depth (ft.)	=	CY
Full Depth =	0	0.50		0.00
Wheelchair Ramps =	1080	0.50		20.00
Full Depth <4' =	385	0.50		7.13
HMA Driveways =	0	0.50		0.00
Exist Sidewalks =	0	0.50		0.00
HMA Sidewalks =	963	0.50		17.82
Concrete Sidewalks =	0	0.50		0.00
HMA Shared Use Path =	0	0.50		0.00
Concrete Medians =	0	0.50		0.00
	SUBTOTAL			<u>45</u>
	25% SWELL			<u>11.24</u> CY
	TOTAL			<u>56.19</u> CY

170 FINE GRADING AND COMPACTING 230 SY \$7.00 \$1,610.00

HMA Driveways =	0.00 SY
Full Depth <4' =	42.78 SY
New Sidewalks and SUP =	106.94 SY
Wheelchair Ramps =	120.00 SY
TOTAL	<u>226.94 SY</u>

431 HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE 43 SY \$60.00 \$2,580.00

Full Depth <4' 43 SY | *Along new curb*



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 27

PROPOSED LOCATION - PRINCETON - BALL HILL ROAD
Ball Hill Road Traffic Calming

440 CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL 341 LB \$1.00 \$341.00

Sidewalks =	106.94 SY
Wheelchair Ramps =	120.00 SY
TOTAL	226.94 SY

*Estimate 1.5 LB per SY 340.42 LB

509.1 GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED 125 FT \$58.00 \$7,250.00

Assume 13' per ramp	124.80 FT
Total	124.80 FT

702 HOT MIX ASPHALT WALK SURFACE 30 TON \$212.00 \$6,360.00

Area (SY)	Depth (in.)	Ton/sy/in	Tons
106.94	4	0.056	23.96

701.2 CEMENT CONCRETE WHEELCHAIR RAMP 120 SY \$95.00 \$11,400.00

Total for 8 Ramps	120 SY
Total	120 SY

734 SIGN REMOVED AND RESET 2 EA \$357.00 \$714.00

Stop signs on calamint rd	2 EA
Total	2 EA

748* MOBILIZATION 1 LS \$8,850.00 \$8,850.00

3% of Project Subtotal: \$ 295,000 = \$ 8,850

751 LOAM BORROW 20 CY \$56.00 \$1,120.00

	Area (SF)	Depth (ft.)	Conversion	Volume	
Loam:	1,050 sf*	0.33 ft	/27 =	12.96	CY
+ 20% swell:		12.96 cy*	20% =	2.59	CY
TOTAL				15.56	CY

765 SEEDING 120 SY \$2.00 \$240.00

Total	116.67 SY
--------------	------------------



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 27

PROPOSED LOCATION - PRINCETON - BALL HILL ROAD
Ball Hill Road Traffic Calming

824.11*	SPEED FEEDBACK SIGN	2	LS	\$7,500.00	\$15,000.00
	Speed feedback sign	Total	2	LS	
816.01	TRAFFIC SIGNAL CONSTRUCTION LOCATION #2	1	LS	\$110,000.00	\$110,000.00
	Speed feedback sign	Total	0	LS	
832	WARNING-REGULATORY AND ROUTE MARKER-ALUM. PANEL (TYPE A)	44	SF	\$14.00	\$616.00
	W11-2 (4)	36.0	SF	Ped crossing signs	
	W16-7P (4)	8.0	SF	Ped crossing signs	
	Total	44.00	SF		
847.1	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL	4	EA	\$149.00	\$596.00
	Total	4	EA	Ped crossing signs, 2 per CW	
		4	EA		
854.1	PAVEMENT MARKING REMOVAL	60	SF	\$2.00	\$120.00
	DBYL:	30	SF	6" inch line	
	Stop Lines:	30	SF		
	Total	60	SF		
866.106	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)	41184	FT	\$2.00	\$82,368.00
	SWL:	Total	41184	FT	
866.112	12 INCH REFL. WHITE (THERMOPLASTIC)	574	FT	\$5.00	\$2,870.00
	CWs:	544	FT		
	Stop Lines:	30	FT		
	Total	574	FT		

Project Total, SAY: \$259,135.00



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 27

PROPOSED LOCATION - PRINCETON - BALL HILL ROAD
Ball Hill Road Traffic Calming

CONTINGENCIES	1	LS	\$59,602.00	\$59,602.00
CONSTRUCTION	10%	of Project Subtotal:		\$25,913.50
TRAFFIC POLICE	5%	of Project Subtotal:		\$12,956.75
CONSTRUCTION ENGINEER/OVERSIGHT	8%	of Project Subtotal:		\$20,730.80
			Project Total:	\$318,737
			Project Total, SAY:	\$320,000.00



CALC'D BY: LC
CHK'D BY: KS

DATE: 5/14/2021
DATE: 5/17/2021

LOCATION: PRINCETON
PROJECT: 30

PROPOSED LOCATION - PRINCETON - BROOKS STATION ROAD AT BALL HILL ROAD
Brooks Station Road at Ball Hill Road: sidewalk and crosswalks

AREA SUMMARY

Sidewalk Length (ft)	160	ft <i>Total Length</i>
Sidewalk Width (ft)	5.00	ft
Crosswalk Lengths (ft)	170	ft <i>Total Length</i>
Driveway Lengths (ft)	0	ft <i>Total Length</i>
Bike Lane Length (ft)	0	ft <i>Total Length</i>
Parking Lot Area (sf)	0	
Roadway Area (sf)	0	

	AREA* (SF)	AREA (SY)
Mill & Overlay	0	0
HMA Shared Use Path	0	0
Cement Concrete Sidewalks	0	0
HMA Sidewalks	880	98
Wheelchair Ramps	720	80
Loam and Seed	1,620	180
Concrete Sidewalk Reconstruction	0	0
# WCR	8	
HMA Driveways	0	0
Concrete Medians	0	0
Full Depth <4', 2' along curb + 3' widening	1,088	121

Project Description:

This project will install a left-side stop sign and a "Stop Ahead" sign (W3-1) on the Brooks Station Road southbound approach and adding crosswalks across all four legs of the intersection. Curb ramps will be constructed on either end of each crosswalk. Sidewalk will be constructed from the southwest corner of the intersection to the entrance of the cemetery.

Additional Notes:

The road appears to be 24' wide today. The travel width can be reduced to 22' with a 5' sidewalk, requiring a 3' widening of the roadway. There appears to be width before the stone wall but this should be confirmed.



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 30

PROPOSED LOCATION - PRINCETON - BROOKS STATION ROAD AT BALL HILL ROAD
Brooks Station Road at Ball Hill Road: sidewalk and crosswalks

102.2* TREE TRIMMING 1 LS \$2,000.00 \$2,000.00

120.1 UNCLASSIFIED EXCAVATION 120 CY \$44.00 \$5,280.00

	Area (SF) x	Depth (ft.)	CY
Wheelchair Ramps =	720	1.00	26.67
Full Depth <4' =	1088	1.46	58.83
		Total	118.09

151 GRAVEL BORROW 65 CY \$45.00 \$2,925.00

	Area (SF) x	Depth (ft.)	=	CY
Wheelchair Ramps =	720	0.50		13.33
Full Depth <4' =	1088	0.50		20.15
		SUBTOTAL		50
		25% SWELL		12.44 CY
		TOTAL		62.22 CY

170 FINE GRADING AND COMPACTING 180 SY \$7.00 \$1,260.00

HMA Driveways =	0.00 SY
Full Depth <4' =	120.89 SY
New Sidewalks and SUP =	97.78 SY
Wheelchair Ramps =	80.00 SY
TOTAL	177.78 SY

201.2* DRY WELL 1 EA \$5,000.00 \$5,000.00

431 HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE 36 SY \$60.00 \$2,160.00

Full Depth <4' 36 SY | *Along new curb*

440 CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL 120 LB \$1.00 \$120.00

Shared use path =	0.00 SY
Wheelchair Ramps =	80.00 SY
TOTAL	80.00 SY

*Estimate 1.5 LB per SY 120.00 LB



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 30

PROPOSED LOCATION - PRINCETON - BROOKS STATION ROAD AT BALL HILL ROAD
Brooks Station Road at Ball Hill Road: sidewalk and crosswalks

451* HMA FOR PATCHING 2 TON \$214.00 \$428.00

	<u>Area (SY)</u>	
Full Depth <4' =	121	From Area Summary
Mill and Overlay =	0.00	From Area Summary
<hr/>		
	121 SY	

Area for patching: **6 SY** = 120.9 sy * 5% | Assume 5% of area

Area (SY)	Depth (in.)	Ton/sy/in	Tons
6 SY	3	0.056	1.02

450.23* SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) 12 TON \$109.00 \$1,308.00

	<u>Area (SY)</u>
Full Depth :	0.00
Full Depth <4' :	121
Mill and Overlay :	0.00
HMA Paths:	0.00
<hr/>	
	121 SY

Area (SY)	Depth (in.)	Ton/sy/in	Tons
120.89	1.75	0.056	11.85

450.32* SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC -19.0) 16 TON \$123.00 \$1,968.00

	<u>Area (SY)</u>
Full Depth :	0.00
Full Depth <4' :	121
HMA Paths:	0.00
<hr/>	
	121 SY

Area (SY)	Depth (in.)	Ton/sy/in	Tons
120.89	2.25	0.056	15.23

506 GRANITE CURB TYPE VB - STRAIGHT 200 FT \$43.00 \$8,600.00

Sidewalk Length Total **200** FT



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 30

PROPOSED LOCATION - PRINCETON - BROOKS STATION ROAD AT BALL HILL ROAD
Brooks Station Road at Ball Hill Road: sidewalk and crosswalks

509.1 GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED 125 FT \$58.00 \$7,250.00

Assume 13' per ramp
Total 124.80 FT
124.80 FT

665.1* TIMBER TWO-RAIL FENCE 180.00 FT \$65.00 \$11,700.00

Along SW adjacent to cemetery
Total 173.00 FT
173.00 FT

702 HOT MIX ASPHALT WALK SURFACE 30 TON \$212.00 \$6,360.00

Area (SY)	Depth (in.)	Ton/sy/in	Tons
97.78	4	0.056	21.90

701.2 CEMENT CONCRETE WHEELCHAIR RAMP 80 SY \$95.00 \$7,600.00

Total for 8 Ramps
Total 80 SY
80 SY

748* MOBILIZATION 1 LS \$3,755.00 \$3,755.00

3% of Project Subtotal: \$3,754.8

832 WARNING-REGULATORY AND ROUTE MARKER-ALUM. PANEL (TYPE A) 44 SF \$14.00 \$616.00

W3-1 9.0 SF | Stop ahead sign
W11-2 (4) 36.0 SF | Ped crossing signs
W16-7P (4) 8.0 SF | Ped crossing signs
Total 44.00 SF

847.1 SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL 4 EA \$149.00 \$596.00

1 | Stop ahead sign
4 EA | Ped crossing signs, 1 per CW
Total 4 EA



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 30

PROPOSED LOCATION - PRINCETON - BROOKS STATION ROAD AT BALL HILL ROAD
Brooks Station Road at Ball Hill Road: sidewalk and crosswalks

866.112 12 INCH REFL. WHITE (THERMOPLASTIC) 760 FT \$5.00 \$3,800.00

CWs:	680	FT
Stop Lines:	80	FT
Total	760	FT

874.71* MISCELLANEOUS SIGNS REMOVED AND RESET 4 EA \$200.00 \$800.00

R1-1	4	EA
Total	4	EA

Project Total, SAY:	\$71,526.00
---------------------	-------------

CONTINGENCIES 1 LS \$16,451.00 \$16,451.00

CONSTRUCTION	10%	of Project Subtotal:	\$7,152.60
TRAFFIC POLICE	5%	of Project Subtotal:	\$3,576.30
CONSTRUCTION ENGINEER/OVERSIGHT	8%	of Project Subtotal:	\$5,722.08

Project Total:	\$87,977
Project Total, SAY:	\$90,000.00



CALC'D BY: LC
CHK'D BY: KS

DATE: 5/14/2021
DATE: 5/17/2021

LOCATION: PRINCETON
PROJECT: 42

PROPOSED LOCATION - PRINCETON - HUBBARDSTON RD AT GOODNOW RD
Hubbardston at Goodnow: Traffic split around median and crosswalks added

AREA SUMMARY

Sidewalk Length (ft)	15	ft <i>Total Length</i>
Sidewalk Width (ft)	5.0	ft
Crosswalk Lengths (ft)	70	ft <i>Total Length</i>
Driveway Lengths (ft)	0	ft <i>Total Length</i>
Bike Lane Length (ft)	0	ft <i>Total Length</i>
Parking Lot Area (sf)	0	
Roadway Area (sf)	0	

	AREA* (SF)	AREA (SY)
Mill & Overlay	0	0
HMA Shared Use Path	0	0
Cement Concrete Sidewalks	0	0
HMA Sidewalks	83	9
Wheelchair Ramps	540	60
Loam and Seed	360	40
Concrete Sidewalk Reconstruction	0	0
# WCR	4	
HMA Driveways	0	0
Concrete Medians	173	19
Full Depth <4' along curb	174	19

Project Description:

This project will restrict traffic to one-way on either side of the median, creating a safer approach and turn maneuvers. Crosswalks will also be added across Goodnow Road and Hubbardston Road on the south leg of the intersection with accompanying curb ramps, for connection to future sidewalks.

Additional Notes:



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 42

PROPOSED LOCATION - PRINCETON - HUBBARDSTON RD AT GOODNOW RD
Hubbardston at Goodnow: Traffic split around median and crosswalks added

120.1 UNCLASSIFIED EXCAVATION 30 CY \$44.00 \$1,320.00

	Area (SF) x	Depth (ft.)	CY
Wheelchair Ramps =	540	1.00	20.00
Full Depth <4' =	174	1.46	9.41
HMA Driveways =	0	1.00	0.00
HMA Shared Use Path =	0	1.00	0.00
		Total	<u>29.41</u>

151 GRAVEL BORROW 20 CY \$45.00 \$900.00

	Area (SF) x	Depth (ft.)	=	CY
Wheelchair Ramps =	540	0.50		10.00
Full Depth <4' =	174	0.50		3.22
HMA Driveways =	0	0.50		0.00
HMA Shared Use Path =	0	0.50		0.00
		SUBTOTAL		<u>13</u>
		25% SWELL		<u>3.31</u> CY
		TOTAL		<u>16.53</u> CY

170 FINE GRADING AND COMPACTING 70 SY \$7.00 \$490.00

HMA Driveways =	0.00 SY
Full Depth <4' =	19.33 SY
New Sidewalks and SUP =	9.17 SY
Wheelchair Ramps =	60.00 SY
TOTAL	<u>69.17 SY</u>

431 HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE 20 SY \$60.00 \$1,200.00

Full Depth <4' 19 SY | *Along new curb*

440 CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL 90 LB \$1.00 \$90.00

Shared use path =	0.00 SY
Wheelchair Ramps =	60.00 SY
TOTAL	<u>60.00 SY</u>

*Estimate 1.5 LB per SY 90.00 LB



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 42

PROPOSED LOCATION - PRINCETON - HUBBARDSTON RD AT GOODNOW RD
Hubbardston at Goodnow: Traffic split around median and crosswalks added

451* HMA FOR PATCHING 1 TON \$214.00 \$214.00

	<u>Area (SY)</u>	
Full Depth <4' =	19	From Area Summary
Mill and Overlay =	0.00	From Area Summary
	19 SY	

Area for patching: 1 SY = 19.3 sy * 5% | Assume 5% of area

Area (SY)	Depth (in.)	Ton/sy/in	Tons
1 SY	3	0.056	0.16

450.23* SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) 10 TON \$109.00 \$1,090.00

	<u>Area (SY)</u>
Full Depth :	0.00
Full Depth <4' :	19
Mill and Overlay :	0.00
HMA Paths:	0.00
	19 SY

Area (SY)	Depth (in.)	Ton/sy/in	Tons
19.33	1.75	0.056	1.89

450.32* SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC -19.0) 3 TON \$123.00 \$369.00

	<u>Area (SY)</u>
Full Depth :	0.00
Full Depth <4' :	19
HMA Paths:	0.00
	19 SY

Area (SY)	Depth (in.)	Ton/sy/in	Tons
19.33	2.25	0.056	2.44

506 GRANITE CURB TYPE VB - STRAIGHT 71 FT \$43.00 \$3,053.00

Median Total 71 FT

509.1 GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED 65 FT \$58.00 \$3,770.00

Assume 13' per ramp
 Total 62.40 FT



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 42

PROPOSED LOCATION - PRINCETON - HUBBARDSTON RD AT GOODNOW RD
 Hubbardston at Goodnow: Traffic split around median and crosswalks added

516 GRANITE CURB CORNER TYPE A 4 EA \$302.00 \$1,208.00

Corners of median Total 4 EA

701 CEMENT CONCRETE SIDEWALK 20 SY \$61.00 \$1,220.00

Cement concrete median Total 19 SY
 19 SY

701.2 CEMENT CONCRETE WHEELCHAIR RAMP 60 SY \$95.00 \$5,700.00

Total for 4 Ramps Total 60 SY
 60 SY

702 HOT MIX ASPHALT WALK SURFACE 10 TON \$212.00 \$2,120.00

Area (SY)	Depth (in.)	Ton/sy/in	Tons
9.17	4	0.056	2.05

748* MOBILIZATION 1 LS \$3,755.00 \$3,755.00

3% of Project Subtotal: \$3,754.8

751 LOAM BORROW 10 CY \$56.00 \$560.00

	Area (SF)	Depth (ft.)	Conversion	Volume	
Loam:	360 sf*	0.33 ft	/27 =	4.44	CY
+ 20% swell:		4.44 cy*	20% =	0.89	CY
			TOTAL	5.33	CY

765 SEEDING 40 SY \$2.00 \$80.00

Total 40.00 SY

832 WARNING-REGULATORY AND ROUTE MARKER-ALUM. PANEL (TYPE A) 11 SF \$14.00 \$154.00

W11-2 (1) 9.0 SF | Ped crossing signs
 W16-7P (1) 2.0 SF | Ped crossing signs
 Total 11.00 SF

847.1 SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL 1 EA \$149.00 \$149.00

Total 1 EA | Ped crossing signs, 1 per CW
 1 EA



CALC'D BY:	LC	DATE:	5/14/2021	LOCATION:	PRINCETON
CHK'D BY:	KS	DATE:	5/17/2021	PROJECT:	42

PROPOSED LOCATION - PRINCETON - HUBBARDSTON RD AT GOODNOW RD
Hubbardston at Goodnow: Traffic split around median and crosswalks added

854.1	PAVEMENT MARKING REMOVAL		116	SF	\$2.00	\$232.00
	Crosswalks:		0	SF		
	SWL:		40	SF	6" inch line	
	DBYL:		40	SF	6" inch line	
	Stop Lines:		36	SF		
		Total	116	SF		
866.106	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)		15	FT	\$2.00	\$30.00
	SWL:	Total	15	FT		
866.106	6 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)		15	FT	\$2.00	\$30.00
	SWL:		15	FT	Shoulder re-striping	
		Total	15	FT		
866.112	12 INCH REFL. WHITE (THERMOPLASTIC)		1436	FT	\$5.00	\$7,180.00
	CWs:		1400	FT		
	Stop Lines:		36	FT		
		Total	1436	FT		
874.1*	STREET SIGNS REMOVED AND RESET		2	EA	\$110.00	\$220.00
	Contingency		2	EA		
		Total	2	EA		
874.2*	TRAFFIC SIGNS REMOVED AND RESET		2	EA	\$110.00	\$220.00
	R1-1		2	EA		
		Total	2	EA		
Project Total, SAY:						\$35,354.00

CONTINGENCIES

		1	LS	\$8,132.00	\$8,132.00
CONSTRUCTION	10%	of Project Subtotal:		\$3,535.40	
TRAFFIC POLICE	5%	of Project Subtotal:		\$1,767.70	
CONSTRUCTION ENGINEER/OVERSIGHT	8%	of Project Subtotal:		\$2,828.32	

Project Total:	\$43,486
Project Total, SAY:	\$50,000.00



CALC'D BY: LC
CHK'D BY: KS

DATE: 5/14/2021
DATE: 5/17/2021

LOCATION: PRINCETON
PROJECT: 45

PROPOSED LOCATION - PRINCETON - HUBBARDSTON RD AT RADFORD RD/ALLEN HILL RD
Hubbardston at Radford and Allen Hill: Tree trimming to improve sight lines

AREA SUMMARY

Sidewalk Length (ft)	0	ft <i>Total Length</i>
Sidewalk Width (ft)	0.0	ft
Crosswalk Lengths (ft)	70	ft <i>Total Length</i>
Driveway Lengths (ft)	0	ft <i>Total Length</i>
Bike Lane Length (ft)	0	ft <i>Total Length</i>
Parking Lot Area (sf)	0	
Roadway Area (sf)	0	

	AREA* (SF)	AREA (SY)
Mill & Overlay	0	0
HMA Shared Use Path	0	0
Cement Concrete Sidewalks	0	0
HMA Sidewalks	0	0
Wheelchair Ramps	540	60
Loam and Seed	360	40
Concrete Sidewalk Reconstruction	0	0
# WCR	4	
HMA Driveways	0	0
Concrete Medians	0	0
Full Depth <4' along curb	144	16

Project Description:

This project would remove protruding vegetation that impedes sight lines at the Radford Road northbound approach and install intersection warning signage. Crosswalks will also be added across Radford Rd and Allen Hill Rd with accompanying curb ramps, for connection to existing and future sidewalks.

Additional Notes:



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 45

PROPOSED LOCATION - PRINCETON - HUBBARDSTON RD AT RADFORD RD/ALLEN HILL RD
Hubbardston at Radford and Allen Hill: Tree trimming to improve sight lines

102.2*	TREE TRIMMING	1	LS	\$2,000.00	\$2,000.00
120.1	UNCLASSIFIED EXCAVATION	30	CY	\$44.00	\$1,320.00

	Area (SF) x	Depth (ft.)	CY
Wheelchair Ramps =	540	1.00	20.00
Full Depth <4' =	144	1.46	7.79
HMA Driveways =	0	1.00	0.00
HMA Shared Use Path =	0	1.00	0.00
		Total	<u>27.79</u>

151	GRAVEL BORROW	20	CY	\$45.00	\$900.00
------------	----------------------	-----------	-----------	----------------	-----------------

	Area (SF) x	Depth (ft.)	=	CY
Wheelchair Ramps =	540	0.50		10.00
Full Depth <4' =	144	0.50		2.67
HMA Driveways =	0	0.50		0.00
HMA Shared Use Path =	0	0.50		0.00
		SUBTOTAL		<u>13</u>
		25% SWELL		<u>3.17</u> CY
		TOTAL		<u>15.83</u> CY

170	FINE GRADING AND COMPACTING	60	SY	\$7.00	\$420.00
------------	------------------------------------	-----------	-----------	---------------	-----------------

HMA Driveways =	0.00 SY
Full Depth <4' =	16.00 SY
New Sidewalks and SUP =	0.00 SY
Wheelchair Ramps =	60.00 SY
TOTAL	<u>60.00 SY</u>

431	HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE	16	SY	\$60.00	\$960.00
------------	--	-----------	-----------	----------------	-----------------

Full Depth <4' 16 SY | *Along new curb*

440	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	90	LB	\$1.00	\$90.00
------------	--	-----------	-----------	---------------	----------------

Shared use path =	0.00 SY
Wheelchair Ramps =	60.00 SY
TOTAL	<u>60.00 SY</u>

*Estimate 1.5 LB per SY 90.00 LB



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 45

PROPOSED LOCATION - PRINCETON - HUBBARDSTON RD AT RADFORD RD/ALLEN HILL RD
 Hubbardston at Radford and Allen Hill: Tree trimming to improve sight lines

451* HMA FOR PATCHING 1 TON \$214.00 \$214.00

	<u>Area (SY)</u>	
Full Depth <4' =	16	From Area Summary
Mill and Overlay =	0.00	From Area Summary
	16 SY	

Area for patching: 1 SY = 16.0 sy * 5% | Assume 5% of area

Area (SY)	Depth (in.)	Ton/sy/in	Tons
1 SY	3	0.056	0.13

450.23* SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5) 10 TON \$109.00 \$1,090.00

	<u>Area (SY)</u>
Full Depth :	0.00
Full Depth <4' :	16
Mill and Overlay :	0.00
HMA Paths:	0.00
	16 SY

Area (SY)	Depth (in.)	Ton/sy/in	Tons
16.00	1.75	0.056	1.57

450.32* SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC -19.0) 3 TON \$123.00 \$369.00

	<u>Area (SY)</u>
Full Depth :	0.00
Full Depth <4' :	16
HMA Paths:	0.00
	16 SY

Area (SY)	Depth (in.)	Ton/sy/in	Tons
16.00	2.25	0.056	2.02

509.1 GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED 65 FT \$58.00 \$3,770.00

Assume 13' per ramp

Total	62.40	FT
	62.40	FT

701.2 CEMENT CONCRETE WHEELCHAIR RAMP 60 SY \$95.00 \$5,700.00

Total for 4 Ramps

Total	60	SY
	60	SY



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 45

PROPOSED LOCATION - PRINCETON - HUBBARDSTON RD AT RADFORD RD/ALLEN HILL RD
Hubbardston at Radford and Allen Hill: Tree trimming to improve sight lines

748*	MOBILIZATION	1	LS	\$3,755.00	\$3,755.00
	3% of Project Subtotal:	\$3,754.8			
751	LOAM BORROW	10	CY	\$56.00	\$560.00
	Loam:	360 sf*	0.33 ft	/27 =	4.44 CY
	+ 20% swell:		4.44 cy*	20% =	0.89 CY
			TOTAL		5.33 CY
765	SEEDING	40	SY	\$2.00	\$80.00
	Total	40.00	SY		
832	WARNING-REGULATORY AND ROUTE MARKER-ALUM. PANEL (TYPE A)	22	SF	\$14.00	\$308.00
	W11-2 (2)	18.0	SF	Ped crossing signs	
	W16-7P (2)	4.0	SF	Ped crossing signs	
	Total	22.00	SF		
847.1	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL	2	EA	\$149.00	\$298.00
	Ped crossing sign	2	EA	Ped crossing signs, 1 per CW	
	Total	2	EA		
854.1	PAVEMENT MARKING REMOVAL	40	SF	\$2.00	\$80.00
	Crosswalks:	0	SF		
	SWL:	0	SF	6" inch line	
	DBYL:	0	SF	6" inch line	
	Stop Lines:	40	SF		
	Total	40	SF		
866.112	12 INCH REFL. WHITE (THERMOPLASTIC)	1440	FT	\$5.00	\$7,200.00
	CWs:	1400	FT		
	Stop Lines:	40	FT		
	Total	1440	FT		



CALC'D BY: LC	DATE: 5/14/2021	LOCATION: PRINCETON
CHK'D BY: KS	DATE: 5/17/2021	PROJECT: 45

PROPOSED LOCATION - PRINCETON - HUBBARDSTON RD AT RADFORD RD/ALLEN HILL RD
Hubbardston at Radford and Allen Hill: Tree trimming to improve sight lines

874.1*	STREET SIGNS REMOVED AND RESET		2	EA	\$110.00	\$220.00
	Contingency		<u>2</u>	EA		
		Total	2	EA		
874.2*	TRAFFIC SIGNS REMOVED AND RESET		2	EA	\$110.00	\$220.00
	R1-1		<u>2</u>	EA		
		Total	2	EA		

Project Total, SAY:	\$27,554.00
---------------------	--------------------

CONTINGENCIES		1	LS	\$6,338.00	\$6,338.00
CONSTRUCTION	10%	of Project Subtotal:		\$2,755.40	
TRAFFIC POLICE	5%	of Project Subtotal:		\$1,377.70	
CONSTRUCTION ENGINEER/OVERSIGHT	8%	of Project Subtotal:		\$2,204.32	
				Project Total:	\$33,892
				Project Total, SAY:	\$40,000.00