

# **SAXONVILLE IMPROVEMENTS PROJECT**

## **Proposed Roadway Improvements To Central Street and Concord Street**

Green Project File No. 20034



Prepared for

City of Framingham Department of Public Works

June 2024

Prepared by



**Saxonville Intersection Improvements Project**  
**Framingham MA**  
**City of Framingham -**  
**ENGINEER'S ESTIMATE - Revised 85% Design**

Prepared by:



Green Project No: 20034

Date: 6/17/2024

ITEM NO.	QUANTITY	UNIT	ITEM DESCRIPTION	UNIT PRICE	AMOUNT
102.511	1	EA	TREE PROTECTION - ARMORING & PRUNING	\$400.00	\$400.00
103.	1	EA	TREE REMOVED - DIAMETER UNDER 24 INCHES	\$3,000.00	\$3,000.00
120.1	5600	CY	UNCLASSIFIED EXCAVATION	\$75.00	\$420,000.00
141.1	80	CY	TEST PIT FOR EXPLORATION	\$130.00	\$10,400.00
142.	20	CY	CLASS B TRENCH EXCAVATION	\$45.00	\$900.00
144.	56	CY	CLASS B ROCK EXCAVATION	\$225.00	\$12,600.00
146.	24	EA	DRAINAGE STRUCTURE REMOVED	\$900.00	\$21,600.00
151.	13230	CY	GRAVEL BORROW	\$65.00	\$859,950.00
153.	5	CY	CONTROLLED DENSITY FILL - EXCAVATABLE	\$175.00	\$875.00
156.	900	TON	CRUSHED STONE	\$65.00	\$58,500.00
170.	33000	SY	FINE GRADING AND COMPACTING	\$12.00	\$396,000.00
180.4	10	CY	MONITORING/HANDLING AND STOCKPILING OF CONTAMINATED SOILS	\$1,000.00	\$10,000.00
183.	5	DAY	DEWATERING	\$1,500.00	\$7,500.00
183.3	100	FT	ASBESTOS PIPE REMOVAL	\$400.00	\$40,000.00
183.5	20	CY	SOIL AND WASTE MANAGEMENT	\$1,000.00	\$20,000.00
201.	15	EA	CATCH BASIN (SINGLE GRATE CATCH BASIN)	\$6,000.00	\$90,000.00
202.	16	EA	MANHOLE (DRAIN MANHOLE)	\$6,500.00	\$104,000.00
202.5	1	EA	MANHOLE (5 FOOT DIAMETER)	\$7,000.00	\$7,000.00
202.6	1	EA	MANHOLE (6 FOOT DIAMETER)	\$8,000.00	\$8,000.00
202.7	2	EA	MANHOLE (7 FOOT DIAMETER)	\$12,000.00	\$24,000.00
202.8	1	EA	MANHOLE WITH DEEP SUMP	\$7,000.00	\$7,000.00
204.	2	EA	GUTTER INLET (DIRECT INLET CATCH BASIN)	\$3,500.00	\$7,000.00
220.	50	EA	DRAINAGE STRUCTURE ADJUSTED (RAISING CASTINGS)	\$550.00	\$27,500.00
220.7	35	EA	SANITARY STRUCTURE ADJUSTED	\$550.00	\$19,250.00
222.3	45	EA	FRAME AND GRATE (OR COVER) MUNICIPAL STANDARD	\$1,200.00	\$54,000.00
223.1	24	EA	FRAME AND GRATE (OR COVER) REMOVED AND STACKED	\$150.00	\$3,600.00
224.12	16	EA	12 INCH HOOD	\$600.00	\$9,600.00
227.3	18	CY	REMOVAL OF DRAINAGE STRUCTURE SEDIMENT	\$350.00	\$6,300.00
227.4	10	SF	MASONRY PLUG	\$125.00	\$1,250.00
238.12	160	FT	12 INCH DUCTILE IRON PIPE	\$260.00	\$41,600.00
241.12	900	FT	12 INCH REINFORCED CONCRETE PIPE	\$140.00	\$126,000.00
241.15	260	FT	15 INCH REINFORCED CONCRETE PIPE	\$160.00	\$41,600.00
244.12	125	FT	12 INCH REINFORCED CONCRETE PIPE CLASS V	\$140.00	\$17,500.00
357.12	4	EA	12 INCH GATE BOX	\$650.00	\$2,600.00
358.	34	EA	GATE BOX ADJUSTED	\$325.00	\$11,050.00
376.5	4	EA	HYDRANT - ADJUSTED	\$2,500.00	\$10,000.00
381.3	9	EA	SERVICE BOX ADJUSTED	\$275.00	\$2,475.00
415.3	2500	SY	PAVEMENT MICRO MILLING	\$35.00	\$87,500.00
440.	134000	LB	CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL	\$0.50	\$67,000.00
443.	300	MGL	WATER FOR ROADWAY DUST CONTROL	\$88.00	\$26,400.00
450.23	5450	TON	SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5)	\$175.00	\$953,750.00
450.32	8700	TON	SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0)	\$175.00	\$1,522,500.00
451.	284	TON	HMA FOR PATCHING	\$328.00	\$93,152.00
452.	7480	GAL	ASPHALT EMULSION FOR TACK COAT	\$10.00	\$74,800.00
453.	5200	FT	HMA JOINT SEALANT	\$1.50	\$7,800.00
472.	260	TON	HOT MIX ASPHALT FOR MISCELLANEOUS WORK	\$300.00	\$78,000.00
504.	1820	FT	GRANITE CURB TYPE VA4 - STRAIGHT	\$85.00	\$154,700.00
504.1	250	FT	GRANITE CURB TYPE VA4 - CURVED	\$100.00	\$25,000.00
509.	325	FT	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - STRAIGHT	\$90.00	\$29,250.00
509.1	225	FT	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED	\$105.00	\$23,625.00
580.	260	FT	CURB REMOVED AND RESET	\$50.00	\$13,000.00
594.	2475	FT	CURB REMOVED AND DISCARDED	\$8.00	\$19,800.00
622.1	160	FT	STEEL W BEAM HIGHWAY GUARD (SINGLE FACED/WOOD POSTS)	\$50.00	\$8,000.00
670.	350	FT	FENCE REMOVED AND RESET	\$100.00	\$35,000.00
697.1	42	EA	SILT SACK	\$240.00	\$10,080.00

701.	2100	SY	CEMENT CONCRETE SIDEWALK	\$100.00	\$210,000.00
701.1	360	SY	CEMENT CONCRETE SIDEWALK AT DRIVEWAYS	\$110.00	\$39,600.00
701.2	440	SY	CEMENT CONCRETE PEDESTRIAN CURB RAMP	\$105.00	\$46,200.00
702.	105	TON	HOT MIX ASPHALT SIDEWALK OR DRIVEWAY	\$300.00	\$31,500.00
706.01	135	SY	BRICK PAVER ACCENT STRIP	\$300.00	\$40,500.00
706.9	315	SY	TEXTURED DECORATIVE PAVEMENT CROSSWALK	\$140.00	\$44,100.00
707.9	2	EA	BICYCLE RACK	\$1,200.00	\$2,400.00
707.16	2	EA	SIX FOOT METAL BENCH	\$2,500.00	\$5,000.00
710.4	5	EA	BOUND - PLAIN GRANITE	\$925.00	\$4,625.00
711.	8	EA	BOUND REMOVED AND RESET	\$725.00	\$5,800.00
748.	1	LS	MOBILIZATION	\$122,000.00	\$122,000.00
751.	165	CY	LOAM BORROW	\$90.00	\$14,850.00
756.	1	LS	NPDES STORMWATER POLLUTION PREVENTION PLAN	\$9,500.00	\$9,500.00
765.	1380	SY	SEEDING	\$2.00	\$2,760.00
767.6	35	CY	AGED PINE BARK MULCH	\$100.00	\$3,500.00
767.12	90	FT	COMPOST FILTER TUBES	\$6.00	\$540.00
772.037	3	EA	ARBORVITAE - DARK AMERICAN 6-7 FEET	\$810.00	\$2,430.00
775.431	1	EA	LOCUST - HONEY - 'SHADEMASTER' 2-2.5 INCH CALIPER	\$1,350.00	\$1,350.00
777.037	1	EA	OAK - NORTHERN RED 2-2.5 INCH CALIPER	\$1,320.00	\$1,320.00
778.027	4	EA	GINKGO - 'GOLD SPIRE' 2-2.5 INCH CALIPER	\$1,380.00	\$5,520.00
778.169	3	EA	BIRCH - RIVER 'HERITAGE' 2-2.5 INCH CALIPER	\$1,260.00	\$3,780.00
783.046	4	EA	SERVICEBERRY - AUTUMN BRILLIANCE 5-6 FEET	\$1,041.00	\$4,164.00
785.591	17	EA	HOLLY - 'SOFT TOUCH' 18-24 INCH CALIPER	\$90.00	\$1,530.00
785.637	9	EA	INKBERRY - 'SHAMROCK' 18-24 INCH	\$160.00	\$1,440.00
786.475	8	EA	JUNIPER - 'SEA GREEN' 2.5-3 FEET	\$144.00	\$1,152.00
789.741	21	EA	CHOKEBERRY-'LOWSCAPE MOUND'- 18-24 INCH SPREAD	\$134.50	\$2,824.50
791.321	4	EA	FOTHERGILLA - 'MOUNT AIRY' 3-4 FEET	\$210.00	\$840.00
793.055	12	EA	NINEBARK SHRUB - 'TINY WINE' 2-3 FEET	\$159.00	\$1,908.00
794.322	8	EA	SUMAC SHRUB - FRAGRANT 'GRO LOW' 18-24 INCH	\$151.00	\$1,208.00
794.741	25	EA	SUMMERSWEET SHRUB 'SUGARTINA' 18-24 INCH	\$143.00	\$3,575.00
794.815	20	EA	SWEETSPIRE-'MERLOT' 2-3 FEET	\$136.00	\$2,720.00
796.425	185	EA	DWARF FOUNTAIN GRASS - LITTLE BUNNY 1 GALLON	\$30.00	\$5,550.00
796.457	15	EA	SWITCH GRASS - 'HEAVY METAL' 1 GALLON	\$38.00	\$570.00
796.459	19	EA	SWITCH GRASS - 'SHENANDOAH' 1 GALLON	\$38.00	\$722.00
796.753	155	EA	DAYLILLY - 'HAPPY RETURNS' 1 GALLON	\$30.00	\$4,650.00
796.754	164	EA	DAYLILLY - 'PURPLE D-ORO' 1 GALLON	\$30.00	\$4,920.00
796.756	8	EA	DAYLILLY - 'STELLA D'ORO' 1 GALLON	\$30.00	\$240.00
796.788	43	EA	LAVENDER - HIDCOTE 1 GALLON	\$38.00	\$1,634.00
804.3	5500	FT	3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC -(UL)	\$55.00	\$302,500.00
811.27	49	EA	ELECTRIC HANDHOLE - (MUNICIPAL STANDARD)	\$1,600.00	\$78,400.00
811.28	4	EA	FIBER OPTIC HANDHOLE POLYMER CONCRETE WITH COVER	\$1,600.00	\$6,400.00
811.31	27	EA	PULL BOX 12 X 12 INCHES - SD2.031	\$1,200.00	\$32,400.00
812.16	49	EA	LIGHT STANDARD FOUNDATION - CONCRETE	\$2,000.00	\$98,000.00
813.8	3	LS	SERVICE CONNECTION (OVERHEAD)	\$13,000.00	\$39,000.00
815.11	2	EA	ELECTRONIC BLANK-OUT SIGN	\$6,000.00	\$12,000.00
816.01	1	LS	TRAFFIC SIGNAL RECONSTRUCTION LOCATION NO. 1	\$205,000.00	\$205,000.00
816.02	1	LS	TRAFFIC SIGNAL RECONSTRUCTION LOCATION NO. 2	\$255,000.00	\$255,000.00
816.03	1	LS	TRAFFIC SIGNAL RECONSTRUCTION LOCATION NO. 3	\$152,000.00	\$152,000.00
816.8	3	LS	TRAFFIC CONTROL SIGNAL REMOVED AND STACKED	\$12,000.00	\$36,000.00
821.93	34	EA	ORNAMENTAL LIGHT POLE - POST TOP (MUNICIPAL STANDARD)	\$7,500.00	\$255,000.00
821.94	15	EA	ORNAMENTAL LIGHT POLE - POST TOP DOUBLE LUMINAIRE (MUNICIPAL STANDARD)	\$8,500.00	\$127,500.00
823.61	1	LS	HIGHWAY LIGHTING LOAD CENTER	\$16,000.00	\$16,000.00
823.913	64	EA	ORNAMENTAL POST TOP ACORN LUMINAIRE, 93 W LED (MUNICIPAL STANDARD)	\$2,000.00	\$128,000.00
825.2	1	EA	RECTANGULAR RAPID FLASHING BEACON (AC POWERED)	\$30,000.00	\$30,000.00
827.991	2	EA	SMALL GATEWAY SIGN	\$4,000.00	\$8,000.00
827.992	3	EA	LARGE GATEWAY SIGN	\$7,500.00	\$22,500.00
832.	160	SF	WARNING-REGULATORY AND ROUTE MARKER - ALUM. PANEL (TYPE A)	\$15.00	\$2,400.00
847.1	33	EA	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST ASSEMBLY - STEEL	\$250.00	\$8,250.00
850.41	6000	HR	ROADWAY FLAGGER	\$80.00	\$480,000.00
851.1	300	DAY	TRAFFIC CONES FOR TRAFFIC MANAGEMENT	\$50.00	\$15,000.00
851.12	4	EA	TEMPORARY PEDESTRIAN CURB RAMP	\$950.00	\$3,800.00
852.	780	SF	SAFETY SIGNING FOR TRAFFIC MANAGEMENT	\$25.00	\$19,500.00
853.1	8	EA	PORTABLE BREAKAWAY BARRICADE TYPE III	\$160.00	\$1,280.00

854.016	5000	FT	TEMPORARY PAVING MARKINGS - 6 INCH (PAINTED)	\$1.00	\$5,000.00
856.	820	DAY	ARROW BOARD	\$10.00	\$8,200.00
856.12	1500	DAY	PORTABLE CHANGEABLE MESSAGE SIGN	\$25.00	\$37,500.00
859.	14700	DAY	REFLECTORIZED DRUM	\$0.25	\$3,675.00
859.1	2860	DAY	REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS	\$5.00	\$14,300.00
860.116	310	LF	4 INCH REFLECTORIZED WHITE LINE (PAINTED)	\$1.00	\$310.00
864.04	625	SF	PAVEMENT ARROWS AND LEGENDS REFL. WHITE (THERMOPLASTIC)	\$18.00	\$11,250.00
866.112	288	FT	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)	\$7.00	\$2,016.00
866.116	2400	LF	4 INCH REFLECTORIZED WHITE LINE (EPOXY)	\$2.35	\$5,640.00
867.112	64	FT	12 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC)	\$7.00	\$448.00
867.116	2400	LF	4 INCH REFLECTORIZED YELLOW LINE (EPOXY)	\$2.35	\$5,640.00
877.2	12	EA	SIGN POST REMOVED AND STACKED	\$35.00	\$420.00
868.12	1850	FT	12 INCH REFLECTORIZED WHITE LINE (EPOXY)	\$6.00	\$11,100.00
874.01	3	EA	STREET NAME SIGN - CITY STANDARD	\$125.00	\$375.00
874.1	4	EA	STREET SIGN REMOVED AND RESET	\$190.00	\$760.00
874.4	14	EA	TRAFFIC SIGN REMOVED AND STACKED	\$45.00	\$630.00
875.	1	LS	PARKING KIOSK	\$10,000.00	\$10,000.00
999.001	4000	HR	POLICE DETAIL	\$60.00	\$240,000.00

**SUBTOTAL:** \$9,040,523.50  
 10% Contingency & Inflation: \$904,052.00  
**TOTAL:** \$9,944,575.50

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/13/2024
CHECKED BY	MPC	DATE	5/14/2024

<u>Item #</u>	<u>Description</u>				<u>Unit</u>
<b>102.511</b>	<b>TREE PROTECTION - ARMORING &amp; PRUNING</b>				<b>EA</b>
<u>Notes:</u>					
<b>Station</b>	<b>Side</b>	<b>Size</b>	<b>Quantity</b>		
2+88	LT	12	1	1	EA
<u>Price Justification:</u>					

Rounding:	SUBTOTAL =	1 EA
Round to next:      1 EA Rounding:              0 EA Percentage:            0.00 %	<b>SAY 1 EA</b>	

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LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	6/14/2024
CHECKED BY	JL	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>		<u>Unit</u>
<b>103.</b>	<b>TREE REMOVED - DIAMETER UNDER 24 INCHES</b>		<b>EA</b>
<u>Notes:</u>			
<u>Station</u>	<u>Side</u>	<u>Quantity</u>	
11+38	RT	1	1 EA
<u>Price Justification:</u>			

Rounding:	SUBTOTAL =	1 EA						
<table border="1"> <tr> <td>Round to next:</td> <td>1 EA</td> </tr> <tr> <td>Rounding:</td> <td>0 EA</td> </tr> <tr> <td>Percentage:</td> <td>0.00 %</td> </tr> </table>	Round to next:	1 EA	Rounding:	0 EA	Percentage:	0.00 %	<b>SAY 1 EA</b>	
Round to next:	1 EA							
Rounding:	0 EA							
Percentage:	0.00 %							

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/13/2024
CHECKED BY	MPC	DATE	5/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>120.1</b>	<b>UNCLASSIFIED EXCAVATION</b>	<b>CY</b>
<u>Notes:</u> Volumes Calculated on Earthwork summary		
	<u>Volume (CF)</u>	
	From Earthwork Calculation Sheet: (Link From Earthwork Sheet)	139603.75
	Add For City Owned Parking Lot:	6,478
		5,171 CY
		240 CY
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	5,410 CY
Round to next: 400 CY Rounding: 190 CY Percentage: 3.50 %	<b>SAY 5600 CY</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/14/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>141.1</b>	<b>TEST PIT FOR EXPLORATION</b>	<b>CY</b>
<u>Notes:</u>	Use at utility trenches or structures where utility crossing occur Assumed test pit size 5' wide x 5' long x 5' deep, 4.6CY	
	Contingency for Drainage Constructions      5      23.0	23.0    CY
	Contingency for traffic signal, street lighting and other potencial needs      12      55.2	55    CY
<u>Price Justification:</u>		

Rounding: SUBTOTAL = 78    CY

Round to next:	20    CY
Rounding:	2    CY
Percentage:	2.30 %

**SAY 80    CY**

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JOB	Saxonville Intersection Improvement	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

Item #	Description	Unit																																																																																
<b>142.</b>	<b>CLASS B TRENCH EXCAVATION</b>	<b>CY</b>																																																																																
<u>Notes:</u>	Class B Trench excavation shall include the area of excavation for drainage pipes greater than 5 feet.																																																																																	
<p>Width is defined as the width of the trench, inside diameter plus 3 feet.                      Length is defined as the length of pipe that has a minimum of 5' below grade.                      Up is the depth of pipe at the upstream side of the pipe.                      Down is the depth of pipe at the downstream side of the pipe.</p> <p><b>12" Pipe:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STA</th> <th>to</th> <th>STA</th> <th>Invert Up</th> <th>Invert Down</th> <th>Length</th> <th>Avg. Depth</th> <th>Width</th> <th>Volume</th> <th></th> </tr> </thead> <tbody> <tr> <td>DMH (1-13)</td> <td></td> <td>DMH 1+31 R</td> <td>5.4</td> <td>5.5</td> <td>39</td> <td>0.45</td> <td>4</td> <td>2.9</td> <td>3 CY</td> </tr> <tr> <td>DMH(1-14)</td> <td></td> <td>DMH(1-13)</td> <td>4.5</td> <td>5.3</td> <td>50</td> <td>0.15</td> <td>4</td> <td>1.2</td> <td>1 CY</td> </tr> <tr> <td>DMH(1-21)</td> <td></td> <td>DMH(1-10)</td> <td>5.1</td> <td>4.6</td> <td>97</td> <td>0.05</td> <td>4</td> <td>0.7</td> <td>1 CY</td> </tr> </tbody> </table> <p><b>15" Pipe:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STA</th> <th>to</th> <th>STA</th> <th>Invert Up</th> <th>Invert Down</th> <th>Length</th> <th>Avg. Depth</th> <th>Width</th> <th>Volume</th> <th></th> </tr> </thead> <tbody> <tr> <td>DMH(2-12)</td> <td></td> <td>DMH 10+82</td> <td>5.6</td> <td>4.7</td> <td>61</td> <td>0.30</td> <td>4.25</td> <td>3.1</td> <td>3 CY</td> </tr> <tr> <td>DMH(2-14)</td> <td></td> <td>DMH(2-12)</td> <td>5.8</td> <td>5.4</td> <td>56</td> <td>0.60</td> <td>4.25</td> <td>6.0</td> <td>6 CY</td> </tr> <tr> <td>DMH(2-7)</td> <td></td> <td>DMH(2-14)</td> <td>5.8</td> <td>5.7</td> <td>16</td> <td>0.75</td> <td>4.25</td> <td>2.2</td> <td>2 CY</td> </tr> </tbody> </table>			STA	to	STA	Invert Up	Invert Down	Length	Avg. Depth	Width	Volume		DMH (1-13)		DMH 1+31 R	5.4	5.5	39	0.45	4	2.9	3 CY	DMH(1-14)		DMH(1-13)	4.5	5.3	50	0.15	4	1.2	1 CY	DMH(1-21)		DMH(1-10)	5.1	4.6	97	0.05	4	0.7	1 CY	STA	to	STA	Invert Up	Invert Down	Length	Avg. Depth	Width	Volume		DMH(2-12)		DMH 10+82	5.6	4.7	61	0.30	4.25	3.1	3 CY	DMH(2-14)		DMH(2-12)	5.8	5.4	56	0.60	4.25	6.0	6 CY	DMH(2-7)		DMH(2-14)	5.8	5.7	16	0.75	4.25	2.2	2 CY
STA	to	STA	Invert Up	Invert Down	Length	Avg. Depth	Width	Volume																																																																										
DMH (1-13)		DMH 1+31 R	5.4	5.5	39	0.45	4	2.9	3 CY																																																																									
DMH(1-14)		DMH(1-13)	4.5	5.3	50	0.15	4	1.2	1 CY																																																																									
DMH(1-21)		DMH(1-10)	5.1	4.6	97	0.05	4	0.7	1 CY																																																																									
STA	to	STA	Invert Up	Invert Down	Length	Avg. Depth	Width	Volume																																																																										
DMH(2-12)		DMH 10+82	5.6	4.7	61	0.30	4.25	3.1	3 CY																																																																									
DMH(2-14)		DMH(2-12)	5.8	5.4	56	0.60	4.25	6.0	6 CY																																																																									
DMH(2-7)		DMH(2-14)	5.8	5.7	16	0.75	4.25	2.2	2 CY																																																																									
<u>Price Justification:</u>																																																																																		

Rounding:	SUBTOTAL =	16 CY						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">10 CY</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">4 CY</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">24.11 %</td> </tr> </table>	Round to next:	10 CY	Rounding:	4 CY	Percentage:	24.11 %	<b>SAY 20 CY</b>	
Round to next:	10 CY							
Rounding:	4 CY							
Percentage:	24.11 %							

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/13/2024
CHECKED BY	MPC	DATE	5/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>144.</b>	<b>CLASS B ROCK EXCAVATION</b>	<b>CY</b>
<u>Notes:</u>	Class B Rock shall include the removal of rock encountered in the excavation for drainage structures, fences, guardrail, pipes and walls. Includes boulders greater than 1CY. Class A rock is included in this item	
	1% of excavation contingency incase rock is encountered during excavation: <span style="float: right;">5,410</span> 1% of excavation contingency incase rock is encountered during excavation: <span style="float: right;">16</span>	54 CY 0.16 CY
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	54 CY						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">4 CY</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">2 CY</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">3.20 %</td> </tr> </table>	Round to next:	4 CY	Rounding:	2 CY	Percentage:	3.20 %	<b>SAY 56 CY</b>	
Round to next:	4 CY							
Rounding:	2 CY							
Percentage:	3.20 %							

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>146.</b>	<b>DRAINAGE STRUCTURE REMOVED</b>	<b>EA</b>

Notes:

Concord street				
<u>Structure</u>	<u>Station</u>	<u>Offset</u>		
DMH	1+79	6.2	LT	1 EA
DMH	2+25	2.2	LT	1 EA
CB	3+59	19.0	LT	1 EA
DMH	3+82	3.0	RT	1 EA
DMH	4+33	3.51	RT	1 EA
CB	4+38	17.7	LT	1 EA
DMH	5+39	2.6	RT	1 EA
CB	5+49	12.8	RT	1 EA
DMH	6+48	2.4	RT	1 EA
CB	6+51	16.8	RT	1 EA
CB	8+92	21.0	LT	1 EA
CB	10+37	24.4	RT	1 EA
DMH	10+37	19.7	RT	1 EA
DMH	10+36	14.2	RT	1 EA
CB	10+50	21.3	LT	1 EA
DMH	11+48	10.9	RT	1 EA
DMH	11+50	20.3	RT	1 EA
CB	11+50	24.7	RT	1 EA
CB	12+16	20.6	LT	1 EA
DMH	12+28	11.5	RT	1 EA
CB	12+98	20.1	RT	1 EA
DMH	12+96	14.6	RT	1 EA
CB	13+29	29.2	LT	1 EA
CB	101+91	25.4	LT	1 EA

Price Justification:

Rounding:	SUBTOTAL =	24 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 24 EA**

**GREEN INTERNATIONAL AFFILIATES, INC.**

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 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/13/2024
CHECKED BY	MPC	DATE	5/14/2024

<u>Item #</u>	<u>Description</u>			<u>Unit</u>	
<b>151.</b>	<b>GRAVEL BORROW</b>			<b>CY</b>	
<u>Notes:</u> Areas From Surface Area Worksheet					
	SF	DEPTH (IN)	CF		
Full Depth Reconstruction	266418	12	266,418	9,867	CY
Concrete Sidewalk	12867	8	8,578	318	CY
HMA Driveways	3741	8	2,494	92	CY
Gravel Driveway	36	8	24	1	CY
HMA Sidewalk	181	8	120	4	CY
Brick Paver Accent Strip	1149	5	479	18	CY
Concrete Driveways	3164	8	2,109	78	CY
WCRs	3743	8	2,495	92	CY
		25% Swell Factor		2,618	CY
<u>Price Justification:</u>					

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>13,089</b>	<b>CY</b>
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Round to next:	245	CY
Rounding:	141	CY
Percentage:	1.08	%

SAY 13230 CY
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**GREEN INTERNATIONAL AFFILIATES, INC.**

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>153.</b>	<b>CONTROLLED DENSITY FILL - EXCAVATABLE</b>	<b>CY</b>
<u>Notes:</u>		
Abandoned Drainage Pipe		
Sta	Length (FT)	Diameter (FT)
2+60	99	1
4+36	17	1
8+89	33	1
	Vol (CF)	
	77.75442	3 CY
	13.35177	1 CY
	25.91814	1 CY
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	5 CY
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Round to next:	1 CY
Rounding:	0 CY
Percentage:	3.31 %

**SAY 5 CY**

**GREEN INTERNATIONAL AFFILIATES, INC.**

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 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

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LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/14/2024
CHECKED BY	JRM	DATE	5/15/2024

Item #	Description							Unit																																																																																																																									
<b>156.</b>	<b>CRUSHED STONE</b>							<b>TON</b>																																																																																																																									
<p><u>Notes:</u> Areas From Surface Area Worksheet                      1 CY = 1.4 TONS</p>																																																																																																																																	
<p style="text-align: center;"><u>From Drainage Pipe:</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Item</th> <th>Size (IN)</th> <th>Width (FT)</th> <th>Depth (FT)</th> <th>Pipe A (SF)</th> <th>Net Area (SF)</th> <th>Length (FT)</th> <th>Volume (CF)</th> </tr> </thead> <tbody> <tr> <td>241.12</td> <td>12</td> <td>4.00</td> <td>2.50</td> <td>0.39</td> <td>9.61</td> <td>900.0</td> <td>8,647</td> </tr> <tr> <td>238.12</td> <td>12</td> <td>4.00</td> <td>2.50</td> <td>0.39</td> <td>9.61</td> <td>160.0</td> <td>1,537</td> </tr> <tr> <td>241.15</td> <td>15</td> <td>4.25</td> <td>2.75</td> <td>0.61</td> <td>11.07</td> <td>260.0</td> <td>2,879</td> </tr> <tr> <td>244.12</td> <td>12</td> <td>4.00</td> <td>2.50</td> <td>0.39</td> <td>9.61</td> <td>125.0</td> <td>1,201</td> </tr> <tr> <td colspan="7" style="text-align: right;"><b>Total =</b></td> <td><b>14,264</b></td> <td>CF</td> </tr> </tbody> </table> <p style="text-align: center;"><u>From Drainage Structures:</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Item</th> <th>Inside D (FT)</th> <th>Quantity (EA)</th> <th>Stone Dia (FT)</th> <th>Depth (FT)</th> <th>Stone A (SF)</th> <th>Volume (CF)</th> <th>Net Vol. (CF)</th> </tr> </thead> <tbody> <tr> <td>201</td> <td>4</td> <td>15</td> <td>7.00</td> <td>1.00</td> <td>38.47</td> <td>38.5</td> <td>577.0</td> </tr> <tr> <td>202</td> <td>4</td> <td>16</td> <td>7.00</td> <td>1.00</td> <td>38.47</td> <td>38.5</td> <td>615.4</td> </tr> <tr> <td>202.5</td> <td>5</td> <td>1</td> <td>8.00</td> <td>1.00</td> <td>50.24</td> <td>50.2</td> <td>50.2</td> </tr> <tr> <td>202.6</td> <td>6</td> <td>1</td> <td>9.00</td> <td>1.00</td> <td>63.59</td> <td>63.6</td> <td>63.6</td> </tr> <tr> <td>202.7</td> <td>7</td> <td>2</td> <td>10.00</td> <td>1.00</td> <td>78.50</td> <td>78.5</td> <td>157.0</td> </tr> <tr> <td>202.8</td> <td>5</td> <td>1</td> <td>8.34</td> <td>1.00</td> <td>54.60</td> <td>54.6</td> <td>54.6</td> </tr> <tr> <td>204</td> <td>4</td> <td>2</td> <td>7.34</td> <td>1.00</td> <td>42.29</td> <td>42.3</td> <td>84.6</td> </tr> <tr> <td colspan="7" style="text-align: right;"></td> <td><b>1,602.4</b></td> <td>CF</td> </tr> </tbody> </table> <p style="text-align: right; margin-right: 20px;">Sub Total = <b>15,867</b> CF</p> <p style="text-align: right; margin-right: 20px;">Sub Total = <b>588</b> CY</p>								Item	Size (IN)	Width (FT)	Depth (FT)	Pipe A (SF)	Net Area (SF)	Length (FT)	Volume (CF)	241.12	12	4.00	2.50	0.39	9.61	900.0	8,647	238.12	12	4.00	2.50	0.39	9.61	160.0	1,537	241.15	15	4.25	2.75	0.61	11.07	260.0	2,879	244.12	12	4.00	2.50	0.39	9.61	125.0	1,201	<b>Total =</b>							<b>14,264</b>	CF	Item	Inside D (FT)	Quantity (EA)	Stone Dia (FT)	Depth (FT)	Stone A (SF)	Volume (CF)	Net Vol. (CF)	201	4	15	7.00	1.00	38.47	38.5	577.0	202	4	16	7.00	1.00	38.47	38.5	615.4	202.5	5	1	8.00	1.00	50.24	50.2	50.2	202.6	6	1	9.00	1.00	63.59	63.6	63.6	202.7	7	2	10.00	1.00	78.50	78.5	157.0	202.8	5	1	8.34	1.00	54.60	54.6	54.6	204	4	2	7.34	1.00	42.29	42.3	84.6								<b>1,602.4</b>	CF
Item	Size (IN)	Width (FT)	Depth (FT)	Pipe A (SF)	Net Area (SF)	Length (FT)	Volume (CF)																																																																																																																										
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202.5	5	1	8.00	1.00	50.24	50.2	50.2																																																																																																																										
202.6	6	1	9.00	1.00	63.59	63.6	63.6																																																																																																																										
202.7	7	2	10.00	1.00	78.50	78.5	157.0																																																																																																																										
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							<b>1,602.4</b>	CF																																																																																																																									
							<b>823</b>	<b>TON</b>																																																																																																																									

Rounding:

Round to next:	150 TON
Rounding:	77 TON
Percentage:	9.39 %

SUBTOTAL = **823 TON**

**SAY 900 TON**

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/13/2024
CHECKED BY	MPC	DATE	5/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																																																		
<b>170.</b>	<b>FINE GRADING AND COMPACTING</b>	<b>SY</b>																																																		
<u>Notes:</u> Areas Calculated on Surface Area Worksheet																																																				
	<table border="0"> <tr> <td></td> <td style="text-align: center;">AREA</td> <td style="text-align: center;">AREA</td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;"><u>(SF)</u></td> <td style="text-align: center;"><u>(SY)</u></td> <td></td> <td></td> </tr> <tr> <td>Full Depth:</td> <td style="text-align: right;">266,418</td> <td style="text-align: right;">29,602</td> <td style="text-align: right;">29,602</td> <td style="text-align: right;">SY</td> </tr> <tr> <td>Concrete Sidewalks:</td> <td style="text-align: right;">12,867</td> <td style="text-align: right;">1,430</td> <td style="text-align: right;">1,430</td> <td style="text-align: right;">SY</td> </tr> <tr> <td>HMA Driveways:</td> <td style="text-align: right;">3,741</td> <td style="text-align: right;">416</td> <td style="text-align: right;">416</td> <td style="text-align: right;">SY</td> </tr> <tr> <td>Gravel Driveway:</td> <td style="text-align: right;">36</td> <td style="text-align: right;">4</td> <td style="text-align: right;">4</td> <td style="text-align: right;">SY</td> </tr> <tr> <td>HMA Sidewalks:</td> <td style="text-align: right;">181</td> <td style="text-align: right;">20</td> <td style="text-align: right;">20</td> <td style="text-align: right;">SY</td> </tr> <tr> <td>Brick Paver Accent Strip:</td> <td style="text-align: right;">1,149</td> <td style="text-align: right;">128</td> <td style="text-align: right;">128</td> <td style="text-align: right;">SY</td> </tr> <tr> <td>Concrete Driveways:</td> <td style="text-align: right;">3,164</td> <td style="text-align: right;">352</td> <td style="text-align: right;">352</td> <td style="text-align: right;">SY</td> </tr> <tr> <td>WCRs:</td> <td style="text-align: right;">3,743</td> <td style="text-align: right;">416</td> <td style="text-align: right;">416</td> <td style="text-align: right;">SY</td> </tr> </table>		AREA	AREA				<u>(SF)</u>	<u>(SY)</u>			Full Depth:	266,418	29,602	29,602	SY	Concrete Sidewalks:	12,867	1,430	1,430	SY	HMA Driveways:	3,741	416	416	SY	Gravel Driveway:	36	4	4	SY	HMA Sidewalks:	181	20	20	SY	Brick Paver Accent Strip:	1,149	128	128	SY	Concrete Driveways:	3,164	352	352	SY	WCRs:	3,743	416	416	SY	
	AREA	AREA																																																		
	<u>(SF)</u>	<u>(SY)</u>																																																		
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WCRs:	3,743	416	416	SY																																																
<u>Price Justification:</u>																																																				

Rounding:	SUBTOTAL =	32,367 SY
Round to next: 4125 SY Rounding: 633 SY Percentage: 1.96 %	<b>SAY 33000 SY</b>	

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SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/15/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>180.4</b>	<b>MONITORING/HANDLING AND STOCKPILING OF CONTAMINATED SOILS</b>	<b>CY</b>
<u>Notes:</u>	Contingency	
	10	10 CY
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	10 CY
-----------	------------	-------

Round to next:	1 CY
Rounding:	0 CY
Percentage:	0.00 %

**SAY 10 CY**

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 100 Ames Pond Drive, Suite 200  
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LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/14/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>183.</b>	<b>DEWATERING</b>	<b>DAY</b>
<u>Notes:</u> Contingency		
Total: 5		5 DAY
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	5 DAY
Round to next: 1 DAY Rounding: 0 DAY Percentage: 0.00 %	<b>SAY 5 DAY</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/15/2024
CHECKED BY	JRM	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>183.3</b>	<b>ASBESTOS PIPE REMOVAL</b>	<b>FT</b>
<u>Notes:</u>	Contingency	
	Total: 100	100 FT
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	100 FT
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Round to next:	1 FT
Rounding:	0 FT
Percentage:	0.00 %

**SAY 100 FT**

**GREEN INTERNATIONAL AFFILIATES, INC.**

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CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>183.5</b>	<b>SOIL AND WASTE MANAGEMENT</b>	<b>CY</b>
<u>Notes:</u> Contingency		
Total: 20		20 CY
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>20 CY</b>
------------------	-------------------	--------------

Round to next:	1 CY
Rounding:	0 CY
Percentage:	0.00 %

<b>SAY 20 CY</b>
------------------

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SHEET NO.		OF	
CALCULATED BY	EG	DATE	5/10/2024
CHECKED BY	MA	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>201.</b>	<b>CATCH BASIN (SINGLE GRATE CATCH BASIN)</b>	<b>EA</b>
<u>Notes:</u>		
<p>Concord St.  <u>Station</u></p> <p>13+40                      13+02                      12+27                      12+23                      11+41                      10+45                      10+39                      8+60                      5+46                      4+19                      3+67                      2+60                      1+69                      1+69                      6+50</p>		<p>1 EA                      1 EA</p>
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	15 EA						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">1 EA</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">0 EA</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">0.00 %</td> </tr> </table>	Round to next:	1 EA	Rounding:	0 EA	Percentage:	0.00 %	<p><b>SAY 15 EA</b></p>	
Round to next:	1 EA							
Rounding:	0 EA							
Percentage:	0.00 %							

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	EG	DATE	5/10/2024
CHECKED BY	MA	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>202.</b>	<b>MANHOLE (DRAIN MANHOLE)</b>	<b>EA</b>
<u>Notes:</u>		
<u>Station</u> 12+26 12+26 12+07 11+45 10+40 8+64  4+24 3+80 2+57 2+21 1+69 102+97		1 EA 1 EA 1 EA 1 EA 1 EA 1 EA  1 EA 1 EA 1 EA 1 EA 1 EA 1 EA 1 EA 1 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	16 EA
Round to next:      1 EA Rounding:              0 EA Percentage:            0.00 %	<b>SAY 16 EA</b>	

**GREEN INTERNATIONAL AFFILIATES, INC.**

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	EG	DATE	5/10/2024
CHECKED BY	MA	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>202.5</b>	<b>MANHOLE (5 FOOT DIAMETER)</b>	<b>EA</b>
<u>Notes:</u>		
<u>Station</u> 10+34		1 EA
<u>Price Justification:</u>		

<b>Rounding:</b>	SUBTOTAL =
Round to next:      1 EA Rounding:              0 EA Percentage:            0.00 %	1 EA

<b>SAY 1 EA</b>
-----------------

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	EG	DATE	5/10/2024
CHECKED BY	MA	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>202.6</b>	<b>MANHOLE (6 FOOT DIAMETER)</b>	<b>EA</b>
<u>Notes:</u>		
<u>Station</u> 6+44		1 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	1 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

SAY 1 EA
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**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	EG	DATE	5/10/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>202.7</b>	<b>MANHOLE (7 FOOT DIAMETER)</b>	<b>EA</b>
<u>Notes:</u>		
<u>Station</u> 5+33 12+95		1 EA 1 EA
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">1 EA</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">0 EA</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">0.00 %</td> </tr> </table>	Round to next:	1 EA	Rounding:	0 EA	Percentage:	0.00 %	<b>2 EA</b>
Round to next:	1 EA						
Rounding:	0 EA						
Percentage:	0.00 %						

<b>SAY 2 EA</b>
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Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	EG	DATE	5/10/2024
CHECKED BY	JRM	DATE	5/25/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>202.8</b>	<b>MANHOLE WITH DEEP SUMP</b>	<b>EA</b>
<u>Notes:</u>		
<u>Station</u> 4+65		1 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	1 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

SAY 1 EA
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Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	EG	DATE	5/10/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>204.</b>	<b>GUTTER INLET (DIRECT INLET CATCH BASIN)</b>	<b>EA</b>
<u>Notes:</u>		
<u>Station</u> 4+67 6+48		1 EA 1 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =		2 EA						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">1 EA</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">0 EA</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">0.00 %</td> </tr> </table>	Round to next:	1 EA	Rounding:	0 EA	Percentage:	0.00 %	<b>SAY 2 EA</b>		
Round to next:	1 EA								
Rounding:	0 EA								
Percentage:	0.00 %								

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**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																																																																																																																																							
<b>220.</b>	<b>DRAINAGE STRUCTURE ADJUSTED (RAISING CASTINGS)</b>	<b>EA</b>																																																																																																																																							
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Central Street <table border="0"> <thead> <tr> <th><u>Station</u></th> <th><u>Offset</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr><td>101+14</td><td>26.8</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>101+18</td><td>25.2</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>101+38</td><td>7.8</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>101+75</td><td>27.0</td><td>LT</td><td>2</td><td>EA</td></tr> <tr><td>103+03</td><td>27.1</td><td>LT</td><td>2</td><td>EA</td></tr> <tr><td>102+97</td><td>43.7</td><td>LT</td><td>2</td><td>EA</td></tr> <tr><td>101+51</td><td>64.9</td><td>LT</td><td>2</td><td>EA</td></tr> </tbody> </table> Concord Street <table border="0"> <thead> <tr> <th><u>Station</u></th> <th><u>Offset</u></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr><td>13+57</td><td>+16.19</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>13+58</td><td>19.4</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>13+33</td><td>29.1</td><td>LT</td><td>2</td><td>EA</td></tr> <tr><td>13+30</td><td>11.1</td><td>LT</td><td>2</td><td>EA</td></tr> <tr><td>12+67</td><td>14.6</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>12+03</td><td>12.3</td><td>LT</td><td>2</td><td>EA</td></tr> <tr><td>11+90</td><td>6.9</td><td>LT</td><td>2</td><td>EA</td></tr> <tr><td>10+84</td><td>12.7</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>10+21</td><td>+34.36</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>8+83</td><td>16.3</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>6+71</td><td>14.6</td><td>LT</td><td>2</td><td>EA</td></tr> <tr><td>5+65</td><td>17.8</td><td>LT</td><td>2</td><td>EA</td></tr> <tr><td>3+85</td><td>15.2</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>1+56</td><td>16.6</td><td>LT</td><td>2</td><td>EA</td></tr> <tr><td>1+50</td><td>17.3</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>11+00</td><td>84.0</td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td><u>1+20</u></td><td><u>+3.60</u></td><td>RT</td><td>2</td><td>EA</td></tr> <tr><td>1+31</td><td>0.7</td><td>RT</td><td>2</td><td>EA</td></tr> </tbody> </table> x 2 Contingency for winter shutdown		<u>Station</u>	<u>Offset</u>				101+14	26.8	RT	2	EA	101+18	25.2	RT	2	EA	101+38	7.8	RT	2	EA	101+75	27.0	LT	2	EA	103+03	27.1	LT	2	EA	102+97	43.7	LT	2	EA	101+51	64.9	LT	2	EA	<u>Station</u>	<u>Offset</u>				13+57	+16.19	RT	2	EA	13+58	19.4	RT	2	EA	13+33	29.1	LT	2	EA	13+30	11.1	LT	2	EA	12+67	14.6	RT	2	EA	12+03	12.3	LT	2	EA	11+90	6.9	LT	2	EA	10+84	12.7	RT	2	EA	10+21	+34.36	RT	2	EA	8+83	16.3	RT	2	EA	6+71	14.6	LT	2	EA	5+65	17.8	LT	2	EA	3+85	15.2	RT	2	EA	1+56	16.6	LT	2	EA	1+50	17.3	RT	2	EA	11+00	84.0	RT	2	EA	<u>1+20</u>	<u>+3.60</u>	RT	2	EA	1+31	0.7	RT	2	EA	
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1+31	0.7	RT	2	EA																																																																																																																																					
<u>Price Justification:</u>																																																																																																																																									

Rounding:	SUBTOTAL =	50 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 50 EA**

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB Saxonville Intersection Improvem PROJ. NO. 20034  
 LOCATION Framingham MA PRINTED  
 SHEET NO. OF  
 CALCULATED BY MA DATE 5/13/2024  
 CHECKED BY JRM DATE 5/15/2024

20034  
 6/17/2024  
 5/13/2024  
 5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																																																																																																				
<b>220.7</b>	<b>SANITARY STRUCTURE ADJUSTED</b>	<b>EA</b>																																																																																																				
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<u>Price Justification:</u>																																																																																																						

Rounding: SUBTOTAL = 34 EA

Round to next:	5 EA
Rounding:	1 EA
Percentage:	2.94 %

<b>SAY 35 EA</b>
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**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																																													
<b>222.3</b>	<b>FRAME AND GRATE (OR COVER) MUNICIPAL STANDARD</b>	<b>EA</b>																																													
<u>Notes:</u>																																															
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>From Item:</u></th> <th style="text-align: left;"><u>Item</u></th> <th style="text-align: left;"><u>QTY</u></th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>201</td> <td>CB</td> <td>15</td> <td style="text-align: right;">15</td> <td style="text-align: left;">EA</td> </tr> <tr> <td>202</td> <td>MH</td> <td>16</td> <td style="text-align: right;">16</td> <td style="text-align: left;">EA</td> </tr> <tr> <td>202.5</td> <td>MH-5' dia</td> <td>1</td> <td style="text-align: right;">1</td> <td style="text-align: left;">EA</td> </tr> <tr> <td>202.6</td> <td>MH-6' dia</td> <td>1</td> <td style="text-align: right;">1</td> <td style="text-align: left;">EA</td> </tr> <tr> <td>202.7</td> <td>MH-7' dia</td> <td>2</td> <td style="text-align: right;">2</td> <td style="text-align: left;">EA</td> </tr> <tr> <td>202.8</td> <td>DSMH</td> <td>1</td> <td style="text-align: right;">1</td> <td style="text-align: left;">EA</td> </tr> <tr> <td>204</td> <td>GI</td> <td>2</td> <td style="text-align: right;">2</td> <td style="text-align: left;">EA</td> </tr> <tr> <td colspan="2">Existing CBs Grates to be replaced as bicycle safe</td> <td style="text-align: right;">6</td> <td style="text-align: right;">6</td> <td style="text-align: left;">EA</td> </tr> </tbody> </table>	<u>From Item:</u>	<u>Item</u>	<u>QTY</u>			201	CB	15	15	EA	202	MH	16	16	EA	202.5	MH-5' dia	1	1	EA	202.6	MH-6' dia	1	1	EA	202.7	MH-7' dia	2	2	EA	202.8	DSMH	1	1	EA	204	GI	2	2	EA	Existing CBs Grates to be replaced as bicycle safe		6	6	EA		
<u>From Item:</u>	<u>Item</u>	<u>QTY</u>																																													
201	CB	15	15	EA																																											
202	MH	16	16	EA																																											
202.5	MH-5' dia	1	1	EA																																											
202.6	MH-6' dia	1	1	EA																																											
202.7	MH-7' dia	2	2	EA																																											
202.8	DSMH	1	1	EA																																											
204	GI	2	2	EA																																											
Existing CBs Grates to be replaced as bicycle safe		6	6	EA																																											
<u>Price Justification:</u>																																															

Rounding:

Round to next:	5 EA
Rounding:	1 EA
Percentage:	2.27 %

SUBTOTAL = 44 EA

SAY 45 EA
-----------

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>								
<b>223.1</b>	<b>FRAME AND GRATE (OR COVER) REMOVED AND STACKED</b>	<b>EA</b>								
<u>Notes:</u>										
<table border="0" style="width: 100%;"> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">From Item:</td> <td style="padding-left: 20px;"><u>Item</u></td> <td style="padding-left: 20px;"><u>QTY</u></td> <td></td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">146</td> <td style="padding-left: 20px;">R&amp;D STRUCTURES</td> <td style="padding-left: 20px;">24</td> <td style="text-align: right; padding-right: 20px;">24 EA</td> </tr> </table>		From Item:	<u>Item</u>	<u>QTY</u>		146	R&D STRUCTURES	24	24 EA	
From Item:	<u>Item</u>	<u>QTY</u>								
146	R&D STRUCTURES	24	24 EA							
<u>Price Justification:</u>										

Rounding: Round to next:      1 EA Rounding:              0 EA Percentage:          0.00 %	SUBTOTAL =      24 EA
<b>SAY 24 EA</b>	

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	EG	DATE	5/10/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>															
<b>224.12</b>	<b>12 INCH HOOD</b>	<b>EA</b>															
<u>Notes:</u>																	
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>From Item:</u></th> <th style="text-align: left;"><u>Item</u></th> <th style="text-align: left;"><u>QTY</u></th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>201</td> <td>CB</td> <td>15</td> <td style="text-align: right;">15</td> <td style="text-align: right;">EA</td> </tr> <tr> <td>202.8</td> <td>DSMH</td> <td>1</td> <td style="text-align: right;">1</td> <td style="text-align: right;">EA</td> </tr> </tbody> </table>	<u>From Item:</u>	<u>Item</u>	<u>QTY</u>			201	CB	15	15	EA	202.8	DSMH	1	1	EA		
<u>From Item:</u>	<u>Item</u>	<u>QTY</u>															
201	CB	15	15	EA													
202.8	DSMH	1	1	EA													
<u>Price Justification:</u>																	

<u>Rounding:</u>	SUBTOTAL =	16 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

SAY 16 EA
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**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/14/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>						<u>Unit</u>	
<b>227.3</b>	<b>REMOVAL OF DRAINAGE STRUCTURE SEDIMENT</b>						<b>CY</b>	
<u>Notes:</u>								
<u>Station</u>	<u>Type</u>	<u>QTY</u>	<u>Area</u>	<u>Depth</u>	<u>Volume</u>			
101+14	CB	1	12.56	2	0.93	0.93	CY	
101+18	MH	1	12.56	1	0.47	0.47	CY	
101+27	CB	1	12.56	2	0.93	0.93	CY	
101+38	MH	1	12.56	1	0.47	0.47	CY	
101+50	MH	2	12.56	1	0.47	0.47	CY	
101+75	MH	1	12.56	1	0.47	0.47	CY	
103+03	MH	1	12.56	1	0.47	0.47	CY	
13+57	MH	1	12.56	1	0.47	0.47	CY	
13+57	CB	1	12.56	2	0.93	0.93	CY	
13+33	MH	1	12.56	1	0.47	0.47	CY	
13+30	MH	1	12.56	1	0.47	0.47	CY	
12+67	MH	1	12.56	1	0.47	0.47	CY	
12+03	MH	1	12.56	1	0.47	0.47	CY	
11+90	MH	1	12.56	1	0.47	0.47	CY	
10+84	MH	1	12.56	1	0.47	0.47	CY	
10+21	MH	1	12.56	1	0.47	0.47	CY	
8+81	CB	1	12.56	2	0.93	0.93	CY	
6+71	CB	1	12.56	2	0.93	0.93	CY	
5+65	CB	1	12.56	2	0.93	0.93	CY	
3+85	CB	1	12.56	2	0.93	0.93	CY	
1+56	CB	1	12.56	2	0.93	0.93	CY	
1+50	CB	1	12.56	2	0.93	0.93	CY	
1+31	MH	1	12.56	1	0.47	0.47	CY	
1+20	MH	1	12.56	1	0.47	0.47	CY	
11+00	CB	2	25.12	2	1.86	1.86	CY	
<u>Price Justification:</u>								

Rounding:	SUBTOTAL =	17	CY
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Round to next:	1	CY
Rounding:	1	CY
Percentage:	4.58	%

**SAY 18 CY**

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>227.4</b>	<b>MASONRY PLUG</b>	<b>SF</b>
<u>Notes:</u>		
<u>Station</u>	<u>Pipe Dia(in.)</u>	<u>Area(SF)</u>
8+89	12	0.8
4+35	12	0.8
2+60	12	0.8
		Qty.
		2
		2
		2
		2 SF
		2 SF
		2 SF
<u>Price Justification:</u>		

	SUBTOTAL =	6 SF
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Rounding:	
Round to next:	5 SF
Rounding:	4 SF
Percentage:	66.67 %

<b>SAY 10 SF</b>
------------------

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>238.12</b>	<b>12 INCH DUCTILE IRON PIPE</b>	<b>FT</b>

Notes:

Station Start	Station End		Length (FT)			
1+69	1+72	RT	18		18	FT
1+68	1+72	LT	10		10	FT
2+40	2+25	RT	17		17	FT
3+64	3+81	LT	24		24	FT
4+69	4+68	LT	6		6	FT
4+68	4+67	LT	7		7	FT
5+49	5+39	RT	8		8	FT
6+51	6+49	RT	5		5	FT
8+62	8+58	LT	15		15	FT
10+49	10+45	LT	5		5	FT
10+40	10+36	RT	5		5	FT
11+47	11+48	RT	8		8	FT
12+28	12+29	LT	8		8	FT
13+04	12+97	RT	3		3	FT
13+42	13+35	LT	5		5	FT
103+03	102+97	LT	4		4	FT

Price Justification:

Rounding:

Round to next:	20
Rounding:	12
Percentage:	8.11

SUBTOTAL = 148 FT

**SAY 160 FT**

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>241.12</b>	<b>12 INCH REINFORCED CONCRETE PIPE</b>	<b>FT</b>
<u>Notes:</u>		
Station Start	Station End	Length (FT)
1+31	1+20	12
1+72	1+31	39
2+25	1+72	50
2+81	2+25	52
3+80	2+81	97
4+67	3+82	80
5+40	4+67	68
6+47	5+40	104
8+57	6+49	204
8+83	8+58	26
12+24	12+28	7
102+98	101+75	122
		12 FT
		39 FT
		50 FT
		52 FT
		97 FT
		80 FT
		68 FT
		104 FT
		204 FT
		26 FT
		7 FT
		122 FT
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	861 FT
Round to next: 50 FT	<b>SAY 900 FT</b>	
Rounding: 39 FT		
Percentage: 4.53 %		

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																																					
<b>241.15</b>	<b>15 INCH REINFORCED CONCRETE PIPE</b>	<b>FT</b>																																					
<u>Notes:</u>																																							
<table border="1"> <thead> <tr> <th style="text-align: center;">Station Start</th> <th style="text-align: center;">Station End</th> <th style="text-align: center;">Length (FT)</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">10+84</td><td style="text-align: center;">10+36</td><td style="text-align: center;">45</td></tr> <tr><td style="text-align: center;">11+48</td><td style="text-align: center;">10+84</td><td style="text-align: center;">61</td></tr> <tr><td style="text-align: center;">12+08</td><td style="text-align: center;">11+48</td><td style="text-align: center;">56</td></tr> <tr><td style="text-align: center;">12+28</td><td style="text-align: center;">12+08</td><td style="text-align: center;">16</td></tr> <tr><td style="text-align: center;">12+69</td><td style="text-align: center;">12+28</td><td style="text-align: center;">37</td></tr> <tr><td style="text-align: center;">12+97</td><td style="text-align: center;">12+69</td><td style="text-align: center;">23</td></tr> <tr><td style="text-align: center;">13+05</td><td style="text-align: center;">12+97</td><td style="text-align: center;">5</td></tr> </tbody> </table>	Station Start	Station End	Length (FT)	10+84	10+36	45	11+48	10+84	61	12+08	11+48	56	12+28	12+08	16	12+69	12+28	37	12+97	12+69	23	13+05	12+97	5	<table border="1"> <tbody> <tr><td style="text-align: center;">45</td><td style="text-align: center;">FT</td></tr> <tr><td style="text-align: center;">61</td><td style="text-align: center;">FT</td></tr> <tr><td style="text-align: center;">56</td><td style="text-align: center;">FT</td></tr> <tr><td style="text-align: center;">16</td><td style="text-align: center;">FT</td></tr> <tr><td style="text-align: center;">37</td><td style="text-align: center;">FT</td></tr> <tr><td style="text-align: center;">23</td><td style="text-align: center;">FT</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">FT</td></tr> </tbody> </table>	45	FT	61	FT	56	FT	16	FT	37	FT	23	FT	5	FT
Station Start	Station End	Length (FT)																																					
10+84	10+36	45																																					
11+48	10+84	61																																					
12+08	11+48	56																																					
12+28	12+08	16																																					
12+69	12+28	37																																					
12+97	12+69	23																																					
13+05	12+97	5																																					
45	FT																																						
61	FT																																						
56	FT																																						
16	FT																																						
37	FT																																						
23	FT																																						
5	FT																																						
<u>Price Justification:</u>																																							

Rounding: <table border="1" style="margin-left: 20px;"> <tr><td>Round to next:</td><td style="text-align: right;">20 FT</td></tr> <tr><td>Rounding:</td><td style="text-align: right;">17 FT</td></tr> <tr><td>Percentage:</td><td style="text-align: right;">7.00 %</td></tr> </table>	Round to next:	20 FT	Rounding:	17 FT	Percentage:	7.00 %	SUBTOTAL =	243 FT
Round to next:	20 FT							
Rounding:	17 FT							
Percentage:	7.00 %							
<b>SAY 260 FT</b>								

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MA	DATE	5/13/2024
CHECKED BY	JRM	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																								
<b>244.12</b>	<b>12 INCH REINFORCED CONCRETE PIPE CLASS V</b>	<b>FT</b>																								
<u>Notes:</u>																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Station Start</th> <th style="width: 20%;">Station End</th> <th style="width: 20%;">Length (FT)</th> <th style="width: 40%;"></th> </tr> </thead> <tbody> <tr> <td>10+45</td> <td>10+36</td> <td style="text-align: center;">22</td> <td style="text-align: right;">22 FT</td> </tr> <tr> <td>12+03</td> <td>12+08</td> <td style="text-align: center;">20</td> <td style="text-align: right;">20 FT</td> </tr> <tr> <td>12+29</td> <td>12+03</td> <td style="text-align: center;">22</td> <td style="text-align: right;">22 FT</td> </tr> <tr> <td>13+32</td> <td>12+97</td> <td style="text-align: center;">40</td> <td style="text-align: right;">40 FT</td> </tr> <tr> <td>13+35</td> <td>13+32</td> <td style="text-align: center;">14</td> <td style="text-align: right;">14 FT</td> </tr> </tbody> </table>		Station Start	Station End	Length (FT)		10+45	10+36	22	22 FT	12+03	12+08	20	20 FT	12+29	12+03	22	22 FT	13+32	12+97	40	40 FT	13+35	13+32	14	14 FT	
Station Start	Station End	Length (FT)																								
10+45	10+36	22	22 FT																							
12+03	12+08	20	20 FT																							
12+29	12+03	22	22 FT																							
13+32	12+97	40	40 FT																							
13+35	13+32	14	14 FT																							
<u>Price Justification:</u>																										

Rounding: <table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">25 FT</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">7 FT</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">5.93 %</td> </tr> </table>	Round to next:	25 FT	Rounding:	7 FT	Percentage:	5.93 %	SUBTOTAL =	118 FT
Round to next:	25 FT							
Rounding:	7 FT							
Percentage:	5.93 %							
<b>SAY 125 FT</b>								

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/13/2024
CHECKED BY	MPC	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>357.12</b>	<b>12 INCH GATE BOX</b>	<b>EA</b>
<u>Notes:</u>		
From Item 358:      34 Contingency of 10%:   3.4 TOTAL:                3		4 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =		4 EA
Round to next:      1 EA Rounding:              0 EA Percentage:            0.00 %	<b>SAY 4 EA</b>		

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB Saxonville Intersection Improvem PROJ. NO. 20034  
 LOCATION Framingham MA PRINTED  
 SHEET NO. OF  
 CALCULATED BY CW DATE 5/13/2024  
 CHECKED BY MA DATE 5/13/2024

20034  
 6/17/2024  
 5/13/2024  
 5/13/2024

<u>Item #</u>	<u>Description</u>				<u>Unit</u>	
<b>358.</b>	<b>GATE BOX ADJUSTED</b>				<b>EA</b>	
<u>Notes:</u>						
<u>Concord st</u>						
	<u>Station</u>	<u>Offset</u>	<u>Station</u>	<u>Offset</u>		
	0+68.10	9.15 RT	13+11.45	19.00 RT	2	EA
	1+22.28	16.55 LT	<u>Central Street</u>		1	EA
	2+14.78	6.24 RT	102+26.15	26.67 LT	2	EA
	2+14.86	26.96 LT	102+00.65	10.10 LT	2	EA
	2+17.35	9.33 RT	101+57.42	15.59 LT	2	EA
	3+74.15	18.33 RT	101+59.15	37.18 LT	2	EA
	3+84.73	6.53 LT	<u>Watson Place</u>		1	EA
	3+84.97	11.28 LT	300+46.96	8.85 RT	2	EA
	4+6.37	11.06 RT			1	EA
	4+23.03	12.67 RT			1	EA
	4+29.75	9.10 LT			1	EA
	4+48.23	5.55 LT			1	EA
	7+32.26	13.61 RT			1	EA
	7+53.19	9.24 RT			1	EA
	7+64.50	12.88 RT			1	EA
	8+38.74	24.18 RT			1	EA
	8+55.97	9.41 RT			1	EA
	8+88.16	9.62 RT			1	EA
	9+52.61	22.97 RT			1	EA
	10+7.56	11.21 RT			1	EA
	10+30.46	10.62 RT			1	EA
	10+55.93	9.72 RT			1	EA
	11+78.34	7.73 RT			1	EA
	11+87.96	5.20 RT			1	EA
	11+74.81	62.00 RT			1	EA
	12+41.61	8.25 RT			1	EA
<u>Elm Street</u>						
	13+00.67	3.43 RT			1	EA
	13+04.57	6.59 RT			1	EA
<u>Price Justification:</u>						

Rounding: SUBTOTAL = 34 EA

Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 34 EA**

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	EG	DATE	5/10/2024
CHECKED BY	MA	DATE	5/13/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>															
<b>376.5</b>	<b>HYDRANT - ADJUSTED</b>	<b>EA</b>															
<u>Notes:</u>																	
<table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;"><u>Station</u></th> <th style="text-align: left;"><u>Offset</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>4+25</td> <td>RT</td> <td style="text-align: right;">1 EA</td> </tr> <tr> <td>8+75</td> <td>RT</td> <td style="text-align: right;">1 EA</td> </tr> <tr> <td>13+10</td> <td>RT</td> <td style="text-align: right;">1 EA</td> </tr> <tr> <td>102+00</td> <td>LT</td> <td style="text-align: right;">1 EA</td> </tr> </tbody> </table>	<u>Station</u>	<u>Offset</u>		4+25	RT	1 EA	8+75	RT	1 EA	13+10	RT	1 EA	102+00	LT	1 EA		
<u>Station</u>	<u>Offset</u>																
4+25	RT	1 EA															
8+75	RT	1 EA															
13+10	RT	1 EA															
102+00	LT	1 EA															
<u>Price Justification:</u>																	

Rounding:	SUBTOTAL =	4 EA
Round to next:      1 EA Rounding:            0 EA Percentage:         0.00 %	<b>SAY 4 EA</b>	

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 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/13/2024
CHECKED BY	MA	DATE	5/13/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																														
<b>381.3</b>	<b>SERVICE BOX ADJUSTED</b>	<b>EA</b>																														
<u>Notes:</u>																																
<table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;"><u>Station</u></th> <th style="text-align: left;"><u>Offset</u></th> <th></th> </tr> </thead> <tbody> <tr><td>1+79.06</td><td>24.31 RT</td><td style="text-align: right;">1 EA</td></tr> <tr><td>3+14.87</td><td>24.73 RT</td><td style="text-align: right;">1 EA</td></tr> <tr><td>9+22.08</td><td>20.92 RT</td><td style="text-align: right;">1 EA</td></tr> <tr><td>12+43.23</td><td>30.26 RT</td><td style="text-align: right;">1 EA</td></tr> <tr><td>13+43.57</td><td>31.05 RT</td><td style="text-align: right;">1 EA</td></tr> <tr><td>13+61.56</td><td>26.18 RT</td><td style="text-align: right;">1 EA</td></tr> <tr><td>13+72.00</td><td>29.84 LT</td><td style="text-align: right;">1 EA</td></tr> <tr><td>102+95.62</td><td>31.53 LT</td><td style="text-align: right;">1 EA</td></tr> <tr><td>103+02.87</td><td>32.40 LT</td><td style="text-align: right;">1 EA</td></tr> </tbody> </table>	<u>Station</u>	<u>Offset</u>		1+79.06	24.31 RT	1 EA	3+14.87	24.73 RT	1 EA	9+22.08	20.92 RT	1 EA	12+43.23	30.26 RT	1 EA	13+43.57	31.05 RT	1 EA	13+61.56	26.18 RT	1 EA	13+72.00	29.84 LT	1 EA	102+95.62	31.53 LT	1 EA	103+02.87	32.40 LT	1 EA		
<u>Station</u>	<u>Offset</u>																															
1+79.06	24.31 RT	1 EA																														
3+14.87	24.73 RT	1 EA																														
9+22.08	20.92 RT	1 EA																														
12+43.23	30.26 RT	1 EA																														
13+43.57	31.05 RT	1 EA																														
13+61.56	26.18 RT	1 EA																														
13+72.00	29.84 LT	1 EA																														
102+95.62	31.53 LT	1 EA																														
103+02.87	32.40 LT	1 EA																														
<u>Price Justification:</u>																																

<b>Rounding:</b>	<b>SUBTOTAL =</b>		<b>9 EA</b>
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

SAY 9 EA
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**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/14/2024
CHECKED BY	MPC	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>		<u>Unit</u>
<b>415.3</b>	<b>PAVEMENT MICRO MILLING</b>		<b>SY</b>
<u>Notes:</u> Areas taken from surface area worksheet			
<u>Area</u>	<u>Area (SF)</u>	<u>Area (SY)</u>	
Pavement Milling and Overlay	21,380	<b>2,376</b>	<b>2376 SY</b>
<u>Price Justification:</u>			

Rounding:		SUBTOTAL =	<b>2,376 SY</b>
Round to next:	250 SY	<b>SAY 2500 SY</b>	
Rounding:	124 SY		
Percentage:	5.24 %		

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/14/2024
CHECKED BY	MPC	DATE	5/15/2023

<u>Item #</u>	<u>Description</u>		<u>Unit</u>
<b>440.</b>	<b>CALCIUM CHLORIDE FOR ROADWAY DUST CONTROL</b>		<b>LB</b>
<u>Notes:</u> Areas taken from surface area worksheet			
<u>Area</u>	Area (SF)	Area (SY)	
Full Depth	266,418	29,602.0	
Reclaim	0	0	
	Area:	29,602.0 SY	
	Conversions:	1.5 LB/SY Total:	
	<u>Number of Applications:</u>	3	
		133209 LB	133,209.0 LB
<u>Price Justification:</u>			

Rounding:	SUBTOTAL =	133,209.0 LB
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Round to next:	2000 LB
Rounding:	791 LB
Percentage:	0.59 %

**SAY 134000 LB**

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 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/14/2024
CHECKED BY	MPC	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																							
<b>443.</b>	<b>WATER FOR ROADWAY DUST CONTROL</b>	<b>MGL</b>																							
<u>Notes:</u> Areas taken from surface area worksheet																									
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Area</u></th> <th style="text-align: right;"><u>Area (SF)</u></th> <th style="text-align: right;"><u>Area (SY)</u></th> </tr> </thead> <tbody> <tr> <td>Full Depth Areas</td> <td style="text-align: right;">266418</td> <td style="text-align: right;">29602</td> </tr> <tr> <td>Box Widening</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total Area (SY):</td> <td style="text-align: right;">29602</td> </tr> <tr> <td colspan="2" style="text-align: right;">Number of Applications:</td> <td style="text-align: right;">10</td> </tr> <tr> <td colspan="2" style="text-align: right;">Unit (GAL/SY):</td> <td style="text-align: right;">1</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total (GAL):</td> <td style="text-align: right;">296020</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total (MGAL):</td> <td style="text-align: right;">296</td> </tr> </tbody> </table>	<u>Area</u>	<u>Area (SF)</u>	<u>Area (SY)</u>	Full Depth Areas	266418	29602	Box Widening	0	0	Total Area (SY):		29602	Number of Applications:		10	Unit (GAL/SY):		1	Total (GAL):		296020	Total (MGAL):		296	296 MGL
<u>Area</u>	<u>Area (SF)</u>	<u>Area (SY)</u>																							
Full Depth Areas	266418	29602																							
Box Widening	0	0																							
Total Area (SY):		29602																							
Number of Applications:		10																							
Unit (GAL/SY):		1																							
Total (GAL):		296020																							
Total (MGAL):		296																							
<u>Price Justification:</u>																									

Rounding:	SUBTOTAL =	296.0 MGL
Round to next: 4 MGL Rounding: 4 MGL Percentage: 1.34 %	<b>SAY 300 MGL</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/14/2024
CHECKED BY	MPC	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>					<u>Unit</u>	
<b>450.23</b>	<b>SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5)</b>					<b>TON</b>	
<u>Notes:</u> Areas taken from surface area worksheet							
<u>Construction</u>	<u>Area</u> (SF)	<u>Area</u> (SY)	<u>Depth</u> (IN)	<u>Unit Weigth</u> (Ton/SY/IN)			
FDR	266,418	29,602	3	0.056	4973.1	TON	
Reclaim	0	0	0	0.056			
Mill & Overlay	21,380	2,376	1.5	0.056	199.5	TON	
<u>Price Justification:</u>							

<u>Rounding:</u>	SUBTOTAL =	5,173 TON
Round to next: 2725 TON Rounding: 277 TON Percentage: 5.36 %	<b>SAY 5450 TON</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/14/2024
CHECKED BY	MPC	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>				<u>Unit</u>
<b>450.32</b>	<b>SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0)</b>				<b>TON</b>
<u>Notes:</u> Areas taken from surface area worksheet					
<u>Construction</u>	Area (SF)	Area (SY)	Depth (IN)	Unit Weigth (Ton/SY/IN)	
FDR	266,418	29,602	5	0.056	8288.6 TON
<u>Price Justification:</u>					

Rounding:	SUBTOTAL =	8,289 TON
Round to next: 435 TON Rounding: 411 TON Percentage: 4.96 %	<b>SAY 8700 TON</b>	

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JOB Saxonville Intersection Improvem PROJ. NO. 20034  
 LOCATION Framingham MA PRINTED 6/17/2024  
 SHEET NO. OF  
 CALCULATED BY CW DATE 5/14/2024  
 CHECKED BY MPC DATE 5/15/2024

<u>Item #</u>	<u>Description</u>							<u>Unit</u>
<b>451.</b>	<b>HMA FOR PATCHING</b>							<b>TON</b>
<u>Notes:</u> For traffic signal conduit at Concord/Water St								
<u>Patch for Traffic Signal Conduit crossing the road</u>								
	<u>Length</u> (FT)	<u>Width</u> (FT)	<u>Area</u> (SF)	<u>Area</u> (SY)	<u>Depth</u> IN	<u>TON</u>		
	120	2	240	27	6.50	10	10 TON	
<u>Patch for Drainage</u>								
	<u>Size</u> (FT)	<u>Width</u> (FT)	<u>Length</u> (FT)	<u>Area</u> (SF)	<u>Depth</u> (IN)			
Item 238.12	1	6	160	960	4.5	0.056	27 TON	
Item 241.12	1	6	900	5,400	4.5	0.056	151 TON	
Item 241.15	1	6	260	1,625	4.5	0.056	46 TON	
Item 244.12	1	6	125	750	4.5	0.056	21 TON	
	<u>Diameter</u> (FT)	<u>Quantity</u> (EA)	<u>Ex. Dia</u> (SF)	<u>Ex. Area</u> (SF)	<u>Total Area</u> (SF)	<u>Depth</u> (IN)	<u>TON/SY/IN</u>	
Item 201.	4	15	7	26	388.58	4.5	0.056	
Item202.	4	16	7	26	414.48	4.5	0.056	
Item 202.5	5	1	8	31	30.62	4.5	0.056	
Item 202.6	6	1	9	35	35.33	4.5	0.056	
Item 202.7	7	2	10	40	80.07	4.5	0.056	
Item 202.8	4	1	7	26	25.91	4.5	0.056	
Item 204	4	2	7	26	51.81	4.5	0.056	
<u>Price Justification:</u>								

Rounding:	SUBTOTAL =	283 TON
Round to next: 1 TON Rounding: 1 TON Percentage: 0.34 %	<b>SAY 284 TON</b>	

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LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/14/2024
CHECKED BY	MPC	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																					
<b>452.</b>	<b>ASPHALT EMULSION FOR TACK COAT</b>	<b>GAL</b>																					
<u>Notes:</u>	Application rate between Pavement layers = 0.08 Gal/SY Application rate for milled surfaces = 0.09 Gal/SY Areas from the surface area worksheet																						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 10%;">Area (SF)</th> <th style="width: 10%;">Area (SY)</th> <th style="width: 10%;">Rate (Gal / SY)</th> <th style="width: 10%;">Applications</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>Full depth Area</td> <td style="text-align: right;">266,418</td> <td style="text-align: right;">29,602</td> <td style="text-align: center;">0.08</td> <td style="text-align: center;">3</td> <td></td> <td style="text-align: right;">7,104 GAL</td> </tr> <tr> <td>Mill and Overlay</td> <td style="text-align: right;">21,380</td> <td style="text-align: right;">2,376</td> <td style="text-align: center;">0.09</td> <td style="text-align: center;">1</td> <td></td> <td style="text-align: right;">214 GAL</td> </tr> </tbody> </table>		Area (SF)	Area (SY)	Rate (Gal / SY)	Applications			Full depth Area	266,418	29,602	0.08	3		7,104 GAL	Mill and Overlay	21,380	2,376	0.09	1		214 GAL	
	Area (SF)	Area (SY)	Rate (Gal / SY)	Applications																			
Full depth Area	266,418	29,602	0.08	3		7,104 GAL																	
Mill and Overlay	21,380	2,376	0.09	1		214 GAL																	
<u>Price Justification:</u>																							

Rounding:	SUBTOTAL =	7,318 GAL						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">220 GAL</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">162 GAL</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">2.21 %</td> </tr> </table>	Round to next:	220 GAL	Rounding:	162 GAL	Percentage:	2.21 %	<b>SAY 7480 GAL</b>	
Round to next:	220 GAL							
Rounding:	162 GAL							
Percentage:	2.21 %							

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	5/14/2024
CHECKED BY	MPC	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>													
<b>453.</b>	<b>HMA JOINT SEALANT</b>	<b>FT</b>													
<u>Notes:</u> Assume 4 passes so 3 joints for the length of the roadway															
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>Length</u></th> <th style="text-align: center;"><u>Passes</u></th> </tr> </thead> <tbody> <tr> <td>Central Street</td> <td style="text-align: center;">325</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Concord Street</td> <td style="text-align: center;">1,340</td> <td style="text-align: center;">3</td> </tr> </tbody> </table>		<u>Length</u>	<u>Passes</u>	Central Street	325	3	Concord Street	1,340	3	<table style="width: 100%;"> <tr> <td style="text-align: right;">975</td> <td style="text-align: left;">FT</td> </tr> <tr> <td style="text-align: right;">4,020</td> <td style="text-align: left;">FT</td> </tr> </table>	975	FT	4,020	FT
	<u>Length</u>	<u>Passes</u>													
Central Street	325	3													
Concord Street	1,340	3													
975	FT														
4,020	FT														
<u>Price Justification:</u>															

Rounding: Round to next: 400 FT Rounding: 205 FT Percentage: 4.10 %	SUBTOTAL = 4,995 FT
<b>SAY 5200 FT</b>	

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JOB Saxonville Intersection Improv PROJ. NO. 20034  
 LOCATION Framingham MA PRINTED  
 SHEET NO. OF  
 CALCULATED BY CW DATE 5/14/2024  
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20034  
 6/17/2024  
 5/14/2024  
 5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																																																																																																																		
<b>472.</b>	<b>HOT MIX ASPHALT FOR MISCELLANEOUS WORK</b>	<b>TON</b>																																																																																																																		
<u>Notes:</u> Based on lengths of proposed pipes, estimated utility crossings, and temporary WCRs and Driveways. 1 Truck -= 20 Tons																																																																																																																				
Total length of each width of water pipe * 3+pipe diameter*4" depth Total length of each width of drain pipe * 3+pipe diameter*4" depth 1' wide* length of WCRs and DWs*2" depth  Convert to Tons <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Item</th> <th>Length (Ft)</th> <th>Width (Ft)</th> <th>(SY)</th> <th>(IN)</th> <th>(Ton/SY/IN)</th> <th></th> </tr> </thead> <tbody> <tr> <td>238.12</td> <td>148</td> <td>4</td> <td>66</td> <td>6</td> <td>22.1</td> <td style="text-align: right;">22 TON</td> </tr> <tr> <td>241.12</td> <td>861</td> <td>4</td> <td>383</td> <td>6</td> <td>128.6</td> <td style="text-align: right;">129 TON</td> </tr> <tr> <td>241.15</td> <td>243</td> <td>4.5</td> <td>122</td> <td>6</td> <td>40.8</td> <td style="text-align: right;">41 TON</td> </tr> <tr> <td>244.12</td> <td>118</td> <td>4</td> <td>52</td> <td>6</td> <td>17.6</td> <td style="text-align: right;">18 TON</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>Misc work</td> <td>20</td> <td style="text-align: right;">20 TON</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Diameter (FT)</th> <th>Quantity (EA)</th> <th>Ex. Dia (SF)</th> <th>Ex. Area (SF)</th> <th>Total Area (SF)</th> <th>Depth (IN)</th> <th>TON/SY/IN</th> <th></th> </tr> </thead> <tbody> <tr> <td>Item 201.</td> <td>4</td> <td>15</td> <td>7</td> <td>26</td> <td>388.58</td> <td>4.5</td> <td>0.056</td> <td style="text-align: right;">11 TON</td> </tr> <tr> <td>Item 202.</td> <td>4</td> <td>16</td> <td>7</td> <td>26</td> <td>414.48</td> <td>4.5</td> <td>0.056</td> <td style="text-align: right;">12 TON</td> </tr> <tr> <td>Item 202.5</td> <td>5</td> <td>1</td> <td>8</td> <td>31</td> <td>30.62</td> <td>4.5</td> <td>0.056</td> <td style="text-align: right;">1 TON</td> </tr> <tr> <td>Item 202.6</td> <td>6</td> <td>1</td> <td>9</td> <td>35</td> <td>35.33</td> <td>4.5</td> <td>0.056</td> <td style="text-align: right;">1 TON</td> </tr> <tr> <td>Item 202.7</td> <td>7</td> <td>2</td> <td>10</td> <td>40</td> <td>80.07</td> <td>4.5</td> <td>0.056</td> <td style="text-align: right;">2 TON</td> </tr> <tr> <td>Item 202.8</td> <td>4</td> <td>1</td> <td>7</td> <td>26</td> <td>25.91</td> <td>4.5</td> <td>0.056</td> <td style="text-align: right;">1 TON</td> </tr> <tr> <td>Item 204</td> <td>4</td> <td>2</td> <td>7</td> <td>26</td> <td>51.81</td> <td>4.5</td> <td>0.056</td> <td style="text-align: right;">1 TON</td> </tr> </tbody> </table>		Item	Length (Ft)	Width (Ft)	(SY)	(IN)	(Ton/SY/IN)		238.12	148	4	66	6	22.1	22 TON	241.12	861	4	383	6	128.6	129 TON	241.15	243	4.5	122	6	40.8	41 TON	244.12	118	4	52	6	17.6	18 TON					Misc work	20	20 TON		Diameter (FT)	Quantity (EA)	Ex. Dia (SF)	Ex. Area (SF)	Total Area (SF)	Depth (IN)	TON/SY/IN		Item 201.	4	15	7	26	388.58	4.5	0.056	11 TON	Item 202.	4	16	7	26	414.48	4.5	0.056	12 TON	Item 202.5	5	1	8	31	30.62	4.5	0.056	1 TON	Item 202.6	6	1	9	35	35.33	4.5	0.056	1 TON	Item 202.7	7	2	10	40	80.07	4.5	0.056	2 TON	Item 202.8	4	1	7	26	25.91	4.5	0.056	1 TON	Item 204	4	2	7	26	51.81	4.5	0.056	1 TON	
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<u>Price Justification:</u>																																																																																																																				

Rounding:	SUBTOTAL =	258 TON
Round to next: 20 TON Rounding: 2 TON Percentage: 0.83 %	<b>SAY 260 TON</b>	



**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>504.1</b>	<b>GRANITE CURB TYPE VA4 - CURVED</b>	<b>FT</b>
<u>Notes:</u> Lengths taken from Plan Quantities AutoCAD Civil 3D drawing		
Total Length		240
SubTotal =	230	230 FT
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	230 FT						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">25 FT</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">20 FT</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">8.70 %</td> </tr> </table>	Round to next:	25 FT	Rounding:	20 FT	Percentage:	8.70 %	<b>SAY 250 FT</b>	
Round to next:	25 FT							
Rounding:	20 FT							
Percentage:	8.70 %							

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>509.</b>	<b>GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - STRAIGHT</b>	<b>FT</b>
<u>Notes:</u> Lengths taken from Plan Quantities AutoCAD Civil 3D drawing		
Total Length		262
SubTotal = 316		SubTotal = 0
<u>Price Justification:</u>		

Rounding:		SUBTOTAL =	316 FT
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Round to next:	13 FT
Rounding:	9 FT
Percentage:	2.85 %

**SAY 325 FT**

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 TEWKSBURY, MA 01876  
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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>509.1</b>	<b>GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED</b>	<b>FT</b>
<u>Notes:</u> Lengths taken from Plan Quantities AutoCAD Civil 3D drawing		
Total Lentgh		199
SubTotal =	216	216 FT
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	216 FT
Round to next: 75 FT Rounding: 9 FT Percentage: 4.17 %	<b>SAY 225 FT</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>580.</b>	<b>CURB REMOVED AND RESET</b>	<b>FT</b>
<u>Notes:</u> Lengths taken from Plan Quantities AutoCAD Civil 3D drawing		
Total Length		
SubTotal = 250	SubTotal = 0	250 FT
<u>Price Justification:</u>		

Rounding:

Round to next:	20 FT
Rounding:	10 FT
Percentage:	4.00 %

SUBTOTAL = 250 FT

**SAY 260 FT**

**GREEN INTERNATIONAL AFFILIATES, INC.**

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 100 Ames Pond Drive, Suite 200  
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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>594.</b>	<b>CURB REMOVED AND DISCARDED</b>	<b>FT</b>
<u>Notes:</u> Lengths taken from Plan Quantities AutoCAD Civil 3D drawing		
Total Length		
SubTotal = 2,426	SubTotal = 0	2,426 FT
<u>Price Justification:</u>		

<u>Rounding:</u>	SUBTOTAL = 2,426 FT
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Round to next:	75 FT
Rounding:	49 FT
Percentage:	2.02 %

**SAY 2475 FT**

**GREEN INTERNATIONAL AFFILIATES, INC.**

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 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

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SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>622.1</b>	<b>STEEL W BEAM HIGHWAY GUARD (SINGLE FACED/WOOD POSTS)</b>	<b>FT</b>
<u>Notes:</u> QTY taken from quantities dwg		
Parking Lot	152	152 FT
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	152 FT
Round to next: 20 FT Rounding: 8 FT Percentage: 5.26 %	<b>SAY 160 FT</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>				<u>Unit</u>
<b>670.</b>	<b>FENCE REMOVED AND RESET</b>				<b>FT</b>
<u>Notes:</u>					
<u>Station Start</u>	<u>Station End</u>	<u>Offset</u>	<u>FT</u>		
3+25	6+65	RT	340.00		340 FT
<u>Price Justification:</u>					

Rounding:		SUBTOTAL =	340 FT
Round to next:	25 FT	<b>SAY 350 FT</b>	
Rounding:	10 FT		
Percentage:	2.94 %		

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>697.1</b>	<b>SILT SACK</b>	<b>EA</b>
<u>Notes:</u>		
<u>From Item:</u>	<u>Total</u>	
201.	12	12 EA
204.	2	2 EA
220.	27	27 EA
220.3	1	1 EA
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>42 EA</b>
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 42 EA</b>
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 TEWKSBURY, MA 01876  
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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/14/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>701.</b>	<b>CEMENT CONCRETE SIDEWALK</b>	<b>SY</b>
<u>Notes:</u> Areas from Surface Area Worksheet		
Concrete Sidewalk Area:	12,867 SF	1,430 SY
Danforth Parking Area:	550 SF	550 SY
<u>Price Justification:</u>		

	SUBTOTAL =	1,980 SY
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Rounding:	
Round to next:	150 SY
Rounding:	120 SY
Percentage:	6.08 %

<b>SAY 2100 SY</b>
--------------------

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**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/14/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>701.1</b>	<b>CEMENT CONCRETE SIDEWALK AT DRIVEWAYS</b>	<b>SY</b>
<u>Notes:</u> Areas from Surface Area Worksheet		
Concrete Sidewalk DW Area: 3,164 SF		352 SY
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	352 SY						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">20 SY</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">8 SY</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">2.40 %</td> </tr> </table>	Round to next:	20 SY	Rounding:	8 SY	Percentage:	2.40 %	<b>SAY 360 SY</b>	
Round to next:	20 SY							
Rounding:	8 SY							
Percentage:	2.40 %							

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/14/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>701.2</b>	<b>CEMENT CONCRETE PEDESTRIAN CURB RAMP</b>	<b>SY</b>
<u>Notes:</u> Areas from Surface Area Worksheet		
Concrete Sidewalk WCR Area: 3,743 SF		416 SY
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	416 SY
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Round to next:	40 SY
Rounding:	24 SY
Percentage:	5.80 %

**SAY 440 SY**

**GREEN INTERNATIONAL AFFILIATES, INC.**

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 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/14/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																		
<b>702.</b>	<b>HOT MIX ASPHALT SIDEWALK OR DRIVEWAY</b>	<b>TON</b>																		
<u>Notes:</u> Areas from Surface Area Worksheet																				
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 15%; text-align: center;">Area (SF)</th> <th style="width: 15%; text-align: center;">Area (SY)</th> <th style="width: 15%; text-align: center;">Depth (IN)</th> <th style="width: 15%; text-align: center;">Unit Weight (Ton / SY / IN)</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td>HMA Walkway:</td> <td style="text-align: center;">181</td> <td style="text-align: center;">20.1</td> <td style="text-align: center;">3.0</td> <td style="text-align: center;">0.056</td> <td style="text-align: right;">3.4 TON</td> </tr> <tr> <td>HMA Driveways:</td> <td style="text-align: center;">3,741</td> <td style="text-align: center;">415.7</td> <td style="text-align: center;">4.00</td> <td style="text-align: center;">0.056</td> <td style="text-align: right;">93.1 TON</td> </tr> </tbody> </table>		Area (SF)	Area (SY)	Depth (IN)	Unit Weight (Ton / SY / IN)		HMA Walkway:	181	20.1	3.0	0.056	3.4 TON	HMA Driveways:	3,741	415.7	4.00	0.056	93.1 TON	
	Area (SF)	Area (SY)	Depth (IN)	Unit Weight (Ton / SY / IN)																
HMA Walkway:	181	20.1	3.0	0.056	3.4 TON															
HMA Driveways:	3,741	415.7	4.00	0.056	93.1 TON															
<u>Price Justification:</u>																				

Rounding:	SUBTOTAL =		96.5 TON
Round to next: 15 TON Rounding: 9 TON Percentage: 8.82 %	<b>SAY 105 TON</b>		

**GREEN INTERNATIONAL AFFILIATES, INC.**

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LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/14/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>706.01</b>	<b>BRICK PAVER ACCENT STRIP</b>	<b>SY</b>
<u>Notes:</u> Areas from Surface Area Worksheet		
	Brick Paver Area: <span style="color: blue;">1,149 SF</span>	128 SY
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	128 SY
Round to next: <span style="color: blue;">15 SY</span> Rounding: <span style="color: blue;">7 SY</span> Percentage: <span style="color: blue;">5.75 %</span>	<b>SAY 135 SY</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/16/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>706.9</b>	<b>TEXTURED DECORATIVE PAVEMENT CROSSWALK</b>	<b>SY</b>
<u>Notes:</u> Areas from Surface Area Worksheet		
<u>For Proposed Crosswalks along Mainline</u>		
	North of Watson Place <b>210</b>	<b>23 SY</b>
	South of Fuller Street <b>215</b>	<b>24 SY</b>
	South of Danforth Street <b>320</b>	<b>36 SY</b>
	Elm Street SB Approach <b>372</b>	<b>41 SY</b>
	Central Street EB Approach (@ Elm St) <b>392</b>	<b>44 SY</b>
	Central Street WB Approach (@ Water St) <b>415</b>	<b>46 SY</b>
	Water Street SB Approach <b>420</b>	<b>47 SY</b>
	Central Street EB Approach (@ Water St) <b>370</b>	<b>41 SY</b>
<u>Price Justification:</u>		

	SUBTOTAL =	<b>302 SY</b>
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Rounding:	
Round to next:	<b>15 SY</b>
Rounding:	<b>13 SY</b>
Percentage:	<b>4.46 %</b>

<b>SAY 315 SY</b>
-------------------

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>707.9</b>	<b>BICYCLE RACK</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 2		2 EA
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>2 EA</b>
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 2 EA</b>
-----------------

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>707.16</b>	<b>SIX FOOT METAL BENCH</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 2		2 EA
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>2 EA</b>
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

SAY 2 EA
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 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>710.4</b>	<b>BOUND - PLAIN GRANITE</b>	<b>EA</b>
<u>Notes:</u> Contingency to account for broken bounds		
Assume 5 broken bounds to be preplaced: 5		5 EA
<u>Price Justification:</u>		

	SUBTOTAL =	5 EA
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Rounding:	
Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

SAY 5 EA
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 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>711.</b>	<b>BOUND REMOVED AND RESET</b>	<b>EA</b>
<u>Notes:</u> Total taken from plans		
Total bounds within limits of work: 8		8 EA
<u>Price Justification:</u>		

	SUBTOTAL =	8 EA
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Rounding:	
Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 8 EA</b>
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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>748.</b>	<b>MOBILIZATION</b>	<b>LS</b>
<u>Notes:</u>		
		1.0 LS
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>		<b>1.0 LS</b>
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Round to next:	1 LS
Rounding:	0 LS
Percentage:	0.00 %

SAY 1 LS
----------

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Civil & Structural Engineers  
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**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>				<u>Unit</u>
<b>751.</b>	<b>LOAM BORROW</b>				<b>CY</b>
<u>Notes:</u> Areas from Surface Area Worksheet					
	Area (SF)	Depth (IN)	Volume (CF)	Volume (CY)	
Grassed Areas:	9,954	4	3,318	123	123 CY
			Swell Factor 25%		31 CY
<u>Price Justification:</u>					

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>154 CY</b>
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Round to next:	15 CY
Rounding:	11 CY
Percentage:	7.41 %

**SAY 165 CY**

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
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**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/13/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>756.</b>	<b>NPDES STORMWATER POLLUTION PREVENTION PLAN</b>	<b>LS</b>
<u>Notes:</u>		
Lump Sum Item:	NPDES Stormwater Pollution Prevention Plan	1 LS
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	1 LS
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Round to next:	1 LS
Rounding:	0 LS
Percentage:	0.00 %

**SAY 1 LS**

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
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**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/14/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>													
<b>765.</b>	<b>SEEDING</b>	<b>SY</b>													
<u>Notes:</u> Areas from Surface Area Worksheet															
	<table border="1"> <thead> <tr> <th></th> <th>Area (SF)</th> <th>Area (SY)</th> </tr> </thead> <tbody> <tr> <td>Grassed Areas:</td> <td>9,954</td> <td>1106.01</td> </tr> <tr> <td>Danforth St Plaza</td> <td>1976</td> <td>219.56</td> </tr> </tbody> </table>		Area (SF)	Area (SY)	Grassed Areas:	9,954	1106.01	Danforth St Plaza	1976	219.56	<table border="1"> <tbody> <tr> <td>1,106</td> <td>SY</td> </tr> <tr> <td>220</td> <td>SY</td> </tr> </tbody> </table>	1,106	SY	220	SY
	Area (SF)	Area (SY)													
Grassed Areas:	9,954	1106.01													
Danforth St Plaza	1976	219.56													
1,106	SY														
220	SY														
<u>Price Justification:</u>															

Rounding:	SUBTOTAL =	1,326 SY						
<table border="1"> <tr> <td>Round to next:</td> <td>60 SY</td> </tr> <tr> <td>Rounding:</td> <td>54 SY</td> </tr> <tr> <td>Percentage:</td> <td>4.11 %</td> </tr> </table>	Round to next:	60 SY	Rounding:	54 SY	Percentage:	4.11 %	<b>SAY 1380 SY</b>	
Round to next:	60 SY							
Rounding:	54 SY							
Percentage:	4.11 %							

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/14/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>				<u>Unit</u>
<b>767.6</b>	<b>AGED PINE BARK MULCH</b>				<b>CY</b>
<u>Notes:</u> Area from AutoCAD drawing					
	Area (ft)	Depth (in)	Volume (CF)	Volume (CY)	
Mulch	199.13	4	66.37667	2.458395	2 CY
Landscape	2300	4	766.6667	28.39506	28 CY
<u>Price Justification:</u>					

Rounding:	SUBTOTAL =	31 CY
Round to next: 5 CY Rounding: 4 CY Percentage: 13.44 %	<b>SAY 35 CY</b>	

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 239 Littleton Road, Suite 3  
 WESTFORD, MA 01886  
**(978) 923-0400 (978) 399-0033 (Fax)**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	10/14/2021
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>						
<b>767.12</b>	<b>COMPOST FILTER TUBES</b>	<b>FT</b>						
<u>Notes:</u> Areas from Surface Area Worksheet								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"><u>Station Start</u></th> <th style="width: 30%;"><u>Station End</u></th> <th style="width: 40%;"><u>Length (FT)</u></th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;">at Water Street</td> </tr> </tbody> </table>	<u>Station Start</u>	<u>Station End</u>	<u>Length (FT)</u>	at Water Street			0 70 FT
<u>Station Start</u>	<u>Station End</u>	<u>Length (FT)</u>						
at Water Street								
<u>Price Justification:</u>								

Rounding: Round to next: 30 FT Rounding: 20 FT Percentage: 28.57 %	SUBTOTAL = 70 FT
<b>SAY 90 FT</b>	

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
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 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>772.037</b>	<b>ARBORVITAE - DARK AMERICAN 6-7 FEET</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 3		3 EA
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>3 EA</b>
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 3 EA</b>
-----------------

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Civil & Structural Engineers  
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 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>775.431</b>	<b>LOCUST - HONEY - 'SHADEMASTER' 2-2.5 INCH CALIPER</b>	<b>EA</b>
<u>Notes:</u>	QTY taken from Landscape Plans	
Total 1		1 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	1 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 1 EA**

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Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u> <b>777.037</b>	<u>Description</u> <b>OAK - NORTHERN RED 2-2.5 INCH CALIPER</b>	<u>Unit</u> <b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 1		1 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	1 EA
-----------	------------	------

Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 1 EA**

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>778.027</b>	<b>GINKGO - 'GOLD SPIRE' 2-2.5 INCH CALIPER</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 4		4 EA
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>4 EA</b>
------------------	-------------------	-------------

Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 4 EA</b>
-----------------

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>778.169</b>	<b>BIRCH - RIVER 'HERITAGE' 2-2.5 INCH CALIPER</b>	<b>EA</b>
<u>Notes:</u>	QTY taken from Landscape Plans	
Total 3		3 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	3 EA
-----------	------------	------

Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 3 EA**

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>783.046</b>	<b>SERVICEBERRY - AUTUMN BRILLIANCE 5-6 FEET</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 4		4 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	4 EA
Round to next:      1 EA Rounding:              0 EA Percentage:            0.00 %	<b>SAY 4 EA</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
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SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
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<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>785.591</b>	<b>HOLLY – ‘SOFT TOUCH’ 18-24 INCH CALIPER</b>	<b>EA</b>
<u>Notes:</u>	QTY taken from Landscape Plans	
Total 17		17 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	17 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 17 EA**

**GREEN INTERNATIONAL AFFILIATES, INC.**

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 100 Ames Pond Drive, Suite 200  
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<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>785.637</b>	<b>INKBERRY - 'SHAMROCK' 18-24 INCH</b>	<b>EA</b>
<u>Notes:</u>	QTY taken from Landscape Plans	
Total 9		9 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	9 EA
-----------	------------	------

Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 9 EA**

**GREEN INTERNATIONAL AFFILIATES, INC.**

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<u>Item #</u> <b>786.475</b>	<u>Description</u> <b>JUNIPER - 'SEA GREEN' 2.5-3 FEET</b>	<u>Unit</u> <b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 8		8 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	8 EA
-----------	------------	------

Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 8 EA**

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<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>789.741</b>	<b>CHOKEBERRY-'LOWSCAPE MOUND'- 18-24 INCH SPREAD</b>	<b>EA</b>
<u>Notes:</u>	QTY taken from Landscape Plans	
Total 21		21 EA
<u>Price Justification:</u>		

Rounding:

Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

SUBTOTAL = 21 EA

**SAY 21 EA**

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<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>791.321</b>	<b>FOTHERGILLA - 'MOUNT AIRY' 3-4 FEET</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 4		4 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	4 EA
-----------	------------	------

Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 4 EA</b>
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<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>793.055</b>	<b>NINEBARK SHRUB - 'TINY WINE' 2-3 FEET</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 12		12 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	12 EA
Round to next: 1 EA Rounding: 0 EA Percentage: 0.00 %	<b>SAY 12 EA</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
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SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>794.322</b>	<b>SUMAC SHRUB – FRAGRANT ‘GRO LOW’ 18-24 INCH</b>	<b>EA</b>
<u>Notes:</u>	QTY taken from Landscape Plans	
Total 8		8 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	8 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 8 EA**

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
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 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
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CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>794.741</b>	<b>SUMMERSWEET SHRUB 'SUGARTINA' 18-24 INCH</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 25		25 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	25 EA
Round to next:      1 EA Rounding:              0 EA Percentage:            0.00 %	<b>SAY 25 EA</b>	

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<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>794.815</b>	<b>SWEETSPIRE-'MERLOT' 2-3 FEET</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 20		20 EA
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>20 EA</b>
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 20 EA</b>
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**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>796.425</b>	<b>DWARF FOUNTAIN GRASS - LITTLE BUNNY 1 GALLON</b>	<b>EA</b>
<u>Notes:</u>	QTY taken from Landscape Plans	
Total 185		185 EA
<u>Price Justification:</u>		

Rounding:

Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

SUBTOTAL = 185 EA

**SAY 185 EA**

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 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>796.457</b>	<b>SWITCH GRASS – ‘HEAVY METAL’ 1 GALLON</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 15		15 EA
<u>Price Justification:</u>		

<u>Rounding:</u>	SUBTOTAL =	15 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 15 EA</b>
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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>796.459</b>	<b>SWITCH GRASS – ‘SHENANDOAH’ 1 GALLON</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 19		19 EA
<u>Price Justification:</u>		

<u>Rounding:</u>	SUBTOTAL =	19 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 19 EA</b>
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 TEWKSBURY, MA 01876  
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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>796.753</b>	<b>DAYLILLY - 'HAPPY RETURNS' 1 GALLON</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 155		155 EA
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>155 EA</b>
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 155 EA</b>
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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>796.754</b>	<b>DAYLILLY - 'PURPLE D-ORO' 1 GALLON</b>	<b>EA</b>
<u>Notes:</u>	QTY taken from Landscape Plans	
Total 164		164 EA
<u>Price Justification:</u>		

Rounding:

Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

SUBTOTAL = 164 EA

**SAY 164 EA**

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>796.756</b>	<b>DAYLILLY - 'STELLA D'ORO' 1 GALLON</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 8		8 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	8 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 8 EA**

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	YLZ	DATE	6/13/2024
CHECKED BY	JL	DATE	6/16/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>796.788</b>	<b>LAVENDER - HIDCOTE 1 GALLON</b>	<b>EA</b>
<u>Notes:</u> QTY taken from Landscape Plans		
Total 43		43 EA
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>	<b>43 EA</b>
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 43 EA</b>
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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/21/2024
CHECKED BY	AV	DATE	5/28/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																								
<b>804.3</b>	<b>3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC -(UL)</b>	<b>FT</b>																								
<u>Notes:</u>	Lengths taken from Plans Street Lighting Conduit assumes 1 conduit crossing																									
	<table border="1"> <thead> <tr> <th><u>Signal Location</u></th> <th><u>Length (LF)</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Central St / Water St</td> <td>460</td> <td>460 FT</td> </tr> <tr> <td>Concord St / Fuller St (RRFB)</td> <td>85</td> <td>85 FT</td> </tr> <tr> <td>Central St / Concord St / Elm St</td> <td>505</td> <td>505 FT</td> </tr> <tr> <td>Concord St / Watson Pl</td> <td>235</td> <td>235 FT</td> </tr> <tr> <td> </td> <td></td> <td></td> </tr> <tr> <td>Fiberoptic Conduit</td> <td>988</td> <td>988 FT</td> </tr> <tr> <td>Street Lighting Conduit</td> <td>2900</td> <td>2,900 FT</td> </tr> </tbody> </table>	<u>Signal Location</u>	<u>Length (LF)</u>		Central St / Water St	460	460 FT	Concord St / Fuller St (RRFB)	85	85 FT	Central St / Concord St / Elm St	505	505 FT	Concord St / Watson Pl	235	235 FT	 			Fiberoptic Conduit	988	988 FT	Street Lighting Conduit	2900	2,900 FT	
<u>Signal Location</u>	<u>Length (LF)</u>																									
Central St / Water St	460	460 FT																								
Concord St / Fuller St (RRFB)	85	85 FT																								
Central St / Concord St / Elm St	505	505 FT																								
Concord St / Watson Pl	235	235 FT																								
Fiberoptic Conduit	988	988 FT																								
Street Lighting Conduit	2900	2,900 FT																								
<u>Price Justification:</u>																										

Rounding:		SUBTOTAL =	5,173 FT
Round to next:	500 FT	<b>SAY 5500 FT</b>	
Rounding:	327 FT		
Percentage:	6.32 %		

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/14/2024
CHECKED BY	MPC	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>811.27</b>	<b>ELECTRIC HANDHOLE - (MUNICIPAL STANDARD)</b>	<b>EA</b>
<u>Notes:</u>	Taken from Concord St - PH1 -13JUL2020 provided by EA	
	Handholes for Street Lighting: 49	49 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	49 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 49 EA**

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/14/2024
CHECKED BY	MPC	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>811.28</b>	<b>FIBER OPTIC HANDHOLE POLYMER CONCRETE WITH COVER</b>	<b>EA</b>
<u>Notes:</u>		
Total from Plans: 4		4 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	4 EA						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">1 EA</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">0 EA</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">0.00 %</td> </tr> </table>	Round to next:	1 EA	Rounding:	0 EA	Percentage:	0.00 %	<b>SAY 4 EA</b>	
Round to next:	1 EA							
Rounding:	0 EA							
Percentage:	0.00 %							

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/21/2024
CHECKED BY	AV	DATE	5/28/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>															
<b>811.31</b>	<b>PULL BOX 12 X 12 INCHES - SD2.031</b>	<b>EA</b>															
<u>Notes:</u>																	
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Signal Location</u></th> <th style="text-align: center;"><u>QTY</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Central St / Water St</td> <td style="text-align: center;">6</td> <td style="text-align: right;">6 EA</td> </tr> <tr> <td>Concord St / Fuller St (RRFB)</td> <td style="text-align: center;">3</td> <td style="text-align: right;">3 EA</td> </tr> <tr> <td>Central St / Concord St / Elm St</td> <td style="text-align: center;">13</td> <td style="text-align: right;">13 EA</td> </tr> <tr> <td>Concord St / Watson Pl</td> <td style="text-align: center;">5</td> <td style="text-align: right;">5 EA</td> </tr> </tbody> </table>		<u>Signal Location</u>	<u>QTY</u>		Central St / Water St	6	6 EA	Concord St / Fuller St (RRFB)	3	3 EA	Central St / Concord St / Elm St	13	13 EA	Concord St / Watson Pl	5	5 EA	
<u>Signal Location</u>	<u>QTY</u>																
Central St / Water St	6	6 EA															
Concord St / Fuller St (RRFB)	3	3 EA															
Central St / Concord St / Elm St	13	13 EA															
Concord St / Watson Pl	5	5 EA															
<u>Price Justification:</u>																	

Rounding: Round to next:      1 EA Rounding:              0 EA Percentage:          0.00 %	SUBTOTAL =      27 EA
<b>SAY 27 EA</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/14/2024
CHECKED BY	MPC	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>812.16</b>	<b>LIGHT STANDARD FOUNDATION - CONCRETE</b>	<b>EA</b>
<u>Notes:</u> Taken from Concord St - PH1 -13JUL2020 provided by EA		
49 Light Poles = 49 Light Foundations	49 Foundations	49 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	49 EA
Round to next:      1 EA Rounding:              0 EA Percentage:            0.00 %	<b>SAY 49 EA</b>	

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JOB	Saxonville Intersection Improvement	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/21/2024
CHECKED BY	AV	DATE	5/28/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>												
<b>813.8</b>	<b>SERVICE CONNECTION (OVERHEAD)</b>	<b>LS</b>												
<u>Notes:</u>	Central St and Concord St Signal Systems AC Powered RRFB at Concord St / Fuller St													
	<table border="0"> <thead> <tr> <th style="text-align: left;"><u>Signal Location</u></th> <th style="text-align: center;"><u>QTY</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Central St / Water St</td> <td style="text-align: center;">1</td> <td style="text-align: right;">1 LS</td> </tr> <tr> <td>Concord St / Fuller St (RRFB)</td> <td style="text-align: center;">1</td> <td style="text-align: right;">1 LS</td> </tr> <tr> <td>Concord St / Watson Pl</td> <td style="text-align: center;">1</td> <td style="text-align: right;">1 LS</td> </tr> </tbody> </table>	<u>Signal Location</u>	<u>QTY</u>		Central St / Water St	1	1 LS	Concord St / Fuller St (RRFB)	1	1 LS	Concord St / Watson Pl	1	1 LS	
<u>Signal Location</u>	<u>QTY</u>													
Central St / Water St	1	1 LS												
Concord St / Fuller St (RRFB)	1	1 LS												
Concord St / Watson Pl	1	1 LS												
<u>Price Justification:</u>														

	SUBTOTAL =	3 LS
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Rounding:	
Round to next:	1 LS
Rounding:	0 LS
Percentage:	0.00 %

SAY 3 LS
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**(978) 923-0400**

JOB	Saxonville Intersection Improvemen	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/14/2024
CHECKED BY	AV	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>816.01</b>	<b>TRAFFIC SIGNAL RECONSTRUCTION LOCATION NO. 1</b>	<b>LS</b>
<u>Notes:</u> Central Street at Water Street		
<u>Item</u>	<u>Qty.</u>	<u>Unit Price</u> <u>Extended Cost</u>
Signal post foundation	5	\$2,500   \$ 12,500
Pedestrian signal head	4	\$1,200   \$ 4,800
Pedestrian push button, sign and saddle	4	\$700   \$ 2,800
Mast arm foundation	2	\$4,000   \$ 8,000
8 ft signal post	2	\$2,100   \$ 4,200
10 ft signal post	3	\$2,300   \$ 6,900
15 ft ornamental mast arm	1	\$24,000   \$ 24,000
20 ft x 25 ft. ornamental dual mast arm	2	\$34,000   \$ 68,000
3-section signal head	9	\$1,800   \$ 16,200
Video Detection System	1	\$20,000   \$ 20,000
Pre-emption detector	3	\$500   \$ 1,500
Pre-emption strobe light	1	\$800   \$ 800
Pre-emption phase selector/rack	1	\$500   \$ 500
SUBTOTAL:		\$ 170,200
20% contingency		\$ 34,040
<b>TOTAL:</b>		<b>\$ 205,000.00</b>
		1   LS

Rounding:

Round to next:	1 LS
Rounding:	0 LS
Percentage:	0.00 %

SUBTOTAL = 1 LS

**SAY 1 LS**

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**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/21/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>816.02</b>	<b>TRAFFIC SIGNAL RECONSTRUCTION LOCATION NO. 2</b>	<b>LS</b>
<u>Notes:</u> Central Street at Concord Street Intersection		
<u>Item</u>	<u>Qty.</u>	<u>Unit Price</u> <u>Cost</u>
NEMA TS-2, Type 1 Controller and Cabinet	1	\$20,000    \$ 20,000
Controller Cabinet Foundation	1	\$1,500     \$ 1,500
Signal post foundation	8	\$2,500     \$ 20,000
Pedestrian signal head	6	\$1,200     \$ 7,200
Pedestrian push button, sign and saddle	6	\$700        \$ 4,200
Mast arm foundation	3	\$4,000     \$ 12,000
8 ft signal post	4	\$2,100     \$ 8,400
10 ft signal post	4	\$2,300     \$ 9,200
15 ft ornamental mast arm	1	\$24,000    \$ 24,000
30 ft. ornamental mast arm	1	\$30,000    \$ 30,000
35 ft. ornamental mast arm	1	\$32,000    \$ 32,000
3-section signal head	10	\$1,800     \$ 18,000
5-section signal head	1	\$2,500     \$ 2,500
Video Detection System	1	\$20,000    \$ 20,000
Pre-emption detector	3	\$500        \$ 1,500
Pre-emption strobe light	1	\$800        \$ 800
Pre-emption phase selector/rack	1	\$500        \$ 500
SUBTOTAL:		\$ 211,800
20% contingency		\$ 42,360
<b>TOTAL:</b>		<b>\$ 255,000.00</b>
		1 LS

Rounding:	SUBTOTAL =	1 LS
Round to next: 1 LS		
Rounding: 0 LS		
Percentage: 0.00 %		
<b>SAY 1 LS</b>		

**GREEN INTERNATIONAL AFFILIATES, INC.**

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/5/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>816.03</b>	<b>TRAFFIC SIGNAL RECONSTRUCTION LOCATION NO. 3</b>	<b>LS</b>
<u>Notes:</u> Central Street at Concord Street Intersection		
<u>Item</u>	<u>Qty.</u>	<u>Unit Price</u> <u>Cost</u>
		1    LS
NEMA TS-2, Type 1 Controller and Cabinet	1	\$20,000    \$    20,000
Controller Cabinet Foundation	1	\$1,500      \$    1,500
Signal post foundation	4	\$2,500      \$   10,000
Pedestrian signal head	4	\$1,200      \$    4,800
Pedestrian push button, sign and saddle	4	\$700        \$    2,800
Mast arm foundation	1	\$4,000      \$    4,000
10 ft signal post	1	\$2,300      \$    2,300
8 ft signal post	3	\$2,100      \$    6,300
45 ft. ornamental mast arm	1	\$41,200     \$   41,200
3-section signal head	6	\$1,800      \$   10,800
Video Detection System	1	\$20,000     \$   20,000
Pre-emption detector	3	\$500        \$    1,500
Pre-emption strobe light	1	\$800        \$      800
Pre-emption phase selector/rack	1	\$500        \$      500
		SUBTOTAL:                    \$            126,500
		20% contingency            \$            25,300
		<b>TOTAL:                        \$            152,000.00</b>

Rounding:	SUBTOTAL =	1    LS
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Round to next:	1 LS
Rounding:	0 LS
Percentage:	0.00 %

**SAY 1 LS**



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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/14/2024
CHECKED BY	MPC	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>821.93</b>	<b>ORNAMENTAL LIGHT POLE - POST TOP (MUNICIPAL STANDARD)</b>	<b>EA</b>
<u>Notes:</u> Taken from Concord St - PH1 -13JUL2020 provided by EA		
	34 Light Poles = 34 Ornamental Light Pole: <b>34</b> Post Tops	<b>34 EA</b>
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	<b>34 EA</b>
Round to next: <b>1 EA</b> Rounding: <b>0 EA</b> Percentage: <b>0.00 %</b>	<b>SAY 34 EA</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/14/2024
CHECKED BY	MPC	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>821.94</b>	<b>ORNAMENTAL LIGHT POLE - POST TOP DOUBLE LUMINAIRE (MUNICIPAL STANDARD)</b>	<b>EA</b>
<u>Notes:</u>		
	15	15 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	15 EA
Round to next:      1 EA Rounding:              0 EA Percentage:          0.00 %	<b>SAY 15 EA</b>	

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 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/14/2024
CHECKED BY	MPC	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>823.61</b>	<b>HIGHWAY LIGHTING LOAD CENTER</b>	<b>LS</b>
<u>Notes:</u>	Taken from Concord St - PH1 -13JUL2020 provided by EA	
		1 LS
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	1 LS
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Round to next:	1 LS
Rounding:	0 LS
Percentage:	0.00 %

**SAY 1 LS**

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/14/2024
CHECKED BY	MPC	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																
<b>823.913</b>	<b>ORNAMENTAL POST TOP ACORN LUMINAIRE, 93 W LED (MUNICIPAL STANDARD)</b>	<b>EA</b>																
<u>Notes:</u>	Taken from Concord St - PH1 -13JUL2020 provided by EA																	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Label</u></th> <th style="text-align: left;"><u>QTY</u></th> <th style="text-align: left;"><u>Ornaments</u></th> <th style="text-align: left;"><u>Total</u></th> </tr> </thead> <tbody> <tr> <td>B1</td> <td style="text-align: center;">34</td> <td style="text-align: center;">1</td> <td style="text-align: center;">34</td> </tr> <tr> <td>B2</td> <td style="text-align: center;">15</td> <td style="text-align: center;">2</td> <td style="text-align: center;">30</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">64</td> </tr> </tbody> </table>	<u>Label</u>	<u>QTY</u>	<u>Ornaments</u>	<u>Total</u>	B1	34	1	34	B2	15	2	30				64	<b>64 EA</b>
<u>Label</u>	<u>QTY</u>	<u>Ornaments</u>	<u>Total</u>															
B1	34	1	34															
B2	15	2	30															
			64															
<u>Price Justification:</u>																		

Rounding: Round to next:      1 EA Rounding:            0 EA Percentage:          0.00 %	SUBTOTAL =      64 EA
<b>SAY 64 EA</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/21/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>825.2</b>	<b>RECTANGULAR RAPID FLASHING BEACON (AC POWERED)</b>	<b>EA</b>
<u>Notes:</u> Concord Street at Fuller St		
<u>Location</u>	<u>QTY</u>	<u>UNIT</u>
Concord St at Fuller St	1.00	EA
		1 EA
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	1 EA						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">1 EA</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">0 EA</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">0.00 %</td> </tr> </table>	Round to next:	1 EA	Rounding:	0 EA	Percentage:	0.00 %	<b>SAY 1 EA</b>	
Round to next:	1 EA							
Rounding:	0 EA							
Percentage:	0.00 %							





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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/12/2024
CHECKED BY	AV	DATE	6/14/2024

<u>Item #</u> <b>832.</b>	<u>Description</u> <b>WARNING-REGULATORY AND ROUTE MARKER - ALUM. PANEL (TYPE A)</b>	<u>Unit</u> <b>SF</b>
<u>Notes:</u>		
From sign summary sheet:	150.5 SF	151 SF
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	151 SF
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Round to next:	16 SF
Rounding:	10 SF
Percentage:	6.31 %

**SAY 160 SF**



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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/13/2024
CHECKED BY	AV	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																
<b>850.41</b>	<b>ROADWAY FLAGGER</b>	<b>HR</b>																
<u>Notes:</u>																		
<p>Estimated Construction Duration: 54 Weeks</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="border-bottom: 1px solid black;">Days</th> <th style="border-bottom: 1px solid black;">Hours/Day</th> <th style="border-bottom: 1px solid black;">Details/day</th> <th style="border-bottom: 1px solid black;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">270</td> <td style="text-align: center;">8</td> <td style="text-align: center;">4</td> <td style="text-align: center;">8,640</td> </tr> </tbody> </table> <p>Estimated Temporary Detour Duration: 6 Weeks</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="border-bottom: 1px solid black;">Days</th> <th style="border-bottom: 1px solid black;">Hours/Day</th> <th style="border-bottom: 1px solid black;">Details/day</th> <th style="border-bottom: 1px solid black;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">30</td> <td style="text-align: center;">8</td> <td style="text-align: center;">4</td> <td style="text-align: center;">960</td> </tr> </tbody> </table> <p>Hours for flaggers (60%) 5760</p> <p>Hours for police details (40%) 3840</p>		Days	Hours/Day	Details/day	Total	270	8	4	8,640	Days	Hours/Day	Details/day	Total	30	8	4	960	5,760 HR
Days	Hours/Day	Details/day	Total															
270	8	4	8,640															
Days	Hours/Day	Details/day	Total															
30	8	4	960															
<u>Price Justification:</u>																		

Rounding:	SUBTOTAL =	5,760 HR
Round to next: 300 HR Rounding: 240 HR Percentage: 4.17 %	<b>SAY 6000 HR</b>	

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SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/12/2024
CHECKED BY	AV	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>						
<b>851.1</b>	<b>TRAFFIC CONES FOR TRAFFIC MANAGEMENT</b>	<b>DAY</b>						
<u>Notes:</u>								
<p><u>Construction Duration:</u></p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">20</td> <td style="text-align: center;">Work Days per month</td> </tr> <tr> <td style="text-align: center;">14</td> <td style="text-align: center;">Months</td> </tr> <tr> <td colspan="2" style="border-top: 1px solid black; text-align: center;">280</td> </tr> </table>		20	Work Days per month	14	Months	280		<b>280 DAY</b>
20	Work Days per month							
14	Months							
280								
<u>Price Justification:</u>								

Rounding:	SUBTOTAL =		280 DAY
Round to next: 100 DAY Rounding: 20 DAY Percentage: 7.14 %	<b>SAY 300 DAY</b>		

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
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SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/22/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>851.12</b>	<b>TEMPORARY PEDESTRIAN CURB RAMP</b>	<b>EA</b>
<u>Notes:</u>	From typical temporary traffic management details (Maximum used per detail x 2)	
	Max per Setup:     2 No. of Setups:       2 Total:                 4	4 EA
<u>Price Justification:</u>		

	SUBTOTAL =	4 EA
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Rounding:	
Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

<b>SAY 4 EA</b>
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<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>852.</b>	<b>SAFETY SIGNING FOR TRAFFIC MANAGEMENT</b>	<b>SF</b>
<u>Notes:</u> From Temporary Traffic Management Plans Sign Summary Sheet		
From sign summary sheet:	748 SF	748 SF
<u>Price Justification:</u>		

Rounding:	SUBTOTAL =	748 SF
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Round to next:	78 SF
Rounding:	32 SF
Percentage:	4.28 %

<b>SAY 780 SF</b>
-------------------

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<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>853.1</b>	<b>PORTABLE BREAKAWAY BARRICADE TYPE III</b>	<b>EA</b>
<u>Notes:</u> For use during pedestrian detour around road work (maximum used in typical setup x 2)		
	Max per Setup: 2 No. of Setups: 4 Total: 8	8 EA
<u>Price Justification:</u>		

<u>Rounding:</u>	SUBTOTAL =	8 EA
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Round to next:	1 EA
Rounding:	0 EA
Percentage:	0.00 %

**SAY 8 EA**

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CALCULATED BY	MP	DATE	5/21/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>									
<b>854.016</b>	<b>TEMPORARY PAVING MARKINGS - 6 INCH (PAINTED)</b>	<b>FT</b>									
<u>Notes:</u>											
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black;">From Item 866.116</td> <td style="border-bottom: 1px solid black; text-align: right;">2298</td> <td style="border-bottom: 1px solid black; text-align: right;">FT</td> </tr> <tr> <td style="border-bottom: 1px solid black;">From Item 867.116</td> <td style="border-bottom: 1px solid black; text-align: right;">2321</td> <td style="border-bottom: 1px solid black; text-align: right;">FT</td> </tr> <tr> <td style="text-align: right;">Subtotal</td> <td style="text-align: right;">4619</td> <td style="text-align: right;">4,619 FT</td> </tr> </table>		From Item 866.116	2298	FT	From Item 867.116	2321	FT	Subtotal	4619	4,619 FT	
From Item 866.116	2298	FT									
From Item 867.116	2321	FT									
Subtotal	4619	4,619 FT									
<u>Price Justification:</u>											

Rounding: <table border="1" style="margin-left: 20px; width: 150px;"> <tr> <td>Round to next:</td> <td style="text-align: right;">500 FT</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">381 FT</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">8.26 %</td> </tr> </table>	Round to next:	500 FT	Rounding:	381 FT	Percentage:	8.26 %	SUBTOTAL = <b>4,619 FT</b>
Round to next:	500 FT						
Rounding:	381 FT						
Percentage:	8.26 %						
<b>SAY 5000 FT</b>							

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CALCULATED BY	MP	DATE	5/22/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																
<b>856.</b>	<b>ARROW BOARD</b>	<b>DAY</b>																
<u>Notes:</u> From typical temporary traffic management details (Maximum used per detail x 2)																		
<p><u>Construction Duration</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Days</td> <td style="width: 20%; text-align: center;">28</td> <td style="width: 30%;">Days per Month</td> <td style="width: 20%;"></td> </tr> <tr> <td></td> <td style="text-align: center;">14</td> <td>Months</td> <td></td> </tr> </table> <hr/> <p>Total Days: 392</p> <hr/> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Units</td> <td style="width: 20%; text-align: center;">2</td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">784</td> <td></td> <td></td> </tr> </table>		Days	28	Days per Month			14	Months		Units	2				784			784 DAY
Days	28	Days per Month																
	14	Months																
Units	2																	
	784																	
<u>Price Justification:</u>																		

Rounding:	SUBTOTAL =	784 DAY
Round to next: 82 DAY Rounding: 36 DAY Percentage: 4.59 %	<b>SAY 820 DAY</b>	

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<u>Item #</u>	<u>Description</u>	<u>Unit</u>																												
<b>856.12</b>	<b>PORTABLE CHANGEABLE MESSAGE SIGN</b>	<b>DAY</b>																												
<u>Notes:</u> Central St (1 EA), Water St (1 EA), Elm St (1 EA), Concord St (1 EA)																														
<u>Construction Duration</u> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Days</td> <td style="width: 20%; text-align: center;">30</td> <td style="width: 30%;">Days per Month</td> <td style="width: 20%;"></td> </tr> <tr> <td></td> <td style="text-align: center;">12</td> <td>Months</td> <td></td> </tr> <tr> <td colspan="4"><hr/></td> </tr> <tr> <td>Total Days:</td> <td style="text-align: center;">360</td> <td></td> <td></td> </tr> <tr> <td colspan="4"><hr/></td> </tr> <tr> <td>Units</td> <td style="text-align: center;">4</td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">1440</td> <td></td> <td></td> </tr> </table>		Days	30	Days per Month			12	Months		<hr/>				Total Days:	360			<hr/>				Units	4				1440			1,440 DAY
Days	30	Days per Month																												
	12	Months																												
<hr/>																														
Total Days:	360																													
<hr/>																														
Units	4																													
	1440																													
<u>Price Justification:</u>																														

Rounding:	SUBTOTAL =		1,440 DAY
Round to next: 100 DAY Rounding: 60 DAY Percentage: 4.17 %	<b>SAY 1500 DAY</b>		

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CALCULATED BY	MP	DATE	5/21/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																
<b>859.</b>	<b>REFLECTORIZED DRUM</b>	<b>DAY</b>																
<u>Notes:</u>																		
<p><u>Construction Duration:</u></p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">20</td> <td style="text-align: center;">Work Days per month</td> </tr> <tr> <td style="text-align: center;">14</td> <td style="text-align: center;">Months</td> </tr> <tr> <td colspan="2" style="text-align: center;">-----</td> </tr> <tr> <td style="text-align: center;">280</td> <td></td> </tr> </table> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Units</td> <td style="text-align: center;">50</td> <td style="text-align: center;">maximum per set-up</td> </tr> <tr> <td colspan="2" style="text-align: center;">-----</td> </tr> <tr> <td></td> <td style="text-align: center;">14000</td> <td></td> </tr> </table>		20	Work Days per month	14	Months	-----		280		Units	50	maximum per set-up	-----			14000		14,000 DAY
20	Work Days per month																	
14	Months																	
-----																		
280																		
Units	50	maximum per set-up																
-----																		
	14000																	
<u>Price Justification:</u>																		

Rounding:	SUBTOTAL =	14,000 DAY
Round to next: 2100 DAY Rounding: 700 DAY Percentage: 5.00 %	<b>SAY 14700 DAY</b>	

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<u>Item #</u>	<u>Description</u>	<u>Unit</u>																	
<b>859.1</b>	<b>REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS</b>	<b>DAY</b>																	
<u>Notes:</u>																			
<p><u>Construction Duration:</u></p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">20</td> <td style="text-align: center;">Days per month</td> </tr> <tr> <td style="text-align: center;">13.5</td> <td style="text-align: center;">Months</td> </tr> <tr> <td colspan="2" style="text-align: center;">_____</td> </tr> <tr> <td style="text-align: center;">270</td> <td></td> </tr> </table> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Units</td> <td style="text-align: center;">10</td> <td style="text-align: center;">Maximum per set-up</td> </tr> <tr> <td colspan="3" style="text-align: center;">_____</td> </tr> <tr> <td></td> <td style="text-align: center;">2700</td> <td></td> </tr> </table>		20	Days per month	13.5	Months	_____		270		Units	10	Maximum per set-up	_____				2700		<b>2,700 DAY</b>
20	Days per month																		
13.5	Months																		
_____																			
270																			
Units	10	Maximum per set-up																	
_____																			
	2700																		
<u>Price Justification:</u>																			

Rounding:	SUBTOTAL =		2,700 DAY
Round to next: 260 DAY Rounding: 160 DAY Percentage: 5.93 %	<b>SAY 2860 DAY</b>		

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<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>860.116</b>	<b>4 INCH REFLECTORIZED WHITE LINE (PAINTED)</b>	<b>LF</b>
<u>Notes:</u>	Danforth St Municipal Parking Lot	
297		297 LF
<u>Price Justification:</u>		297 LF

Rounding:	SUBTOTAL =	297 LF
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Round to next:	31 LF
Rounding:	13 LF
Percentage:	4.38 %

**SAY 310 LF**

**GREEN INTERNATIONAL AFFILIATES, INC.**

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CALCULATED BY	MP	DATE	5/22/2024
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<u>Item #</u>	<u>Description</u>	<u>Unit</u>																																																						
<b>864.04</b>	<b>PAVEMENT ARROWS AND LEGENDS REFL. WHITE (THERMOPLASTIC)</b>	<b>SF</b>																																																						
<u>Notes:</u>																																																								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>Area (SF)</u></th> <th style="text-align: center;"><u>Each</u></th> <th style="text-align: center;"><u>Total Area</u> (SF)</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td style="padding-left: 20px;">Turn Arrow</td> <td style="text-align: center;">17</td> <td style="text-align: center;">8</td> <td style="text-align: center;">136 SF</td> <td style="text-align: center;">136</td> <td style="text-align: center;">SF</td> </tr> <tr> <td style="padding-left: 20px;">Turn/Through Arrow</td> <td style="text-align: center;">28.8</td> <td style="text-align: center;">3</td> <td style="text-align: center;">86 SF</td> <td style="text-align: center;">86</td> <td style="text-align: center;">SF</td> </tr> <tr> <td style="padding-left: 20px;">Through Arrow</td> <td style="text-align: center;">12.5</td> <td style="text-align: center;">1</td> <td style="text-align: center;">13 SF</td> <td style="text-align: center;">13</td> <td style="text-align: center;">SF</td> </tr> <tr> <td style="padding-left: 20px;">Sharrow</td> <td style="text-align: center;">13.0</td> <td style="text-align: center;">16</td> <td style="text-align: center;">208 SF</td> <td style="text-align: center;">208</td> <td style="text-align: center;">SF</td> </tr> <tr> <td style="padding-left: 20px;">Bike Detector</td> <td style="text-align: center;">1.0</td> <td style="text-align: center;">14</td> <td style="text-align: center;">14 SF</td> <td style="text-align: center;">14</td> <td style="text-align: center;">SF</td> </tr> <tr> <td style="padding-left: 20px;">Bike Lane Marking</td> <td style="text-align: center;">14.1</td> <td style="text-align: center;">8</td> <td style="text-align: center;">113 SF</td> <td style="text-align: center;">113</td> <td style="text-align: center;">SF</td> </tr> <tr> <td style="padding-left: 40px;">"ONLY"</td> <td style="text-align: center;">22.3</td> <td style="text-align: center;">1</td> <td style="text-align: center;">22 SF</td> <td style="text-align: center;">22</td> <td style="text-align: center;">SF</td> </tr> <tr> <td colspan="4"></td> <td style="text-align: center;"><b>592</b></td> <td style="text-align: center;"><b>SF</b></td> </tr> </tbody> </table>		<u>Area (SF)</u>	<u>Each</u>	<u>Total Area</u> (SF)			Turn Arrow	17	8	136 SF	136	SF	Turn/Through Arrow	28.8	3	86 SF	86	SF	Through Arrow	12.5	1	13 SF	13	SF	Sharrow	13.0	16	208 SF	208	SF	Bike Detector	1.0	14	14 SF	14	SF	Bike Lane Marking	14.1	8	113 SF	113	SF	"ONLY"	22.3	1	22 SF	22	SF					<b>592</b>	<b>SF</b>	
	<u>Area (SF)</u>	<u>Each</u>	<u>Total Area</u> (SF)																																																					
Turn Arrow	17	8	136 SF	136	SF																																																			
Turn/Through Arrow	28.8	3	86 SF	86	SF																																																			
Through Arrow	12.5	1	13 SF	13	SF																																																			
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Bike Detector	1.0	14	14 SF	14	SF																																																			
Bike Lane Marking	14.1	8	113 SF	113	SF																																																			
"ONLY"	22.3	1	22 SF	22	SF																																																			
				<b>592</b>	<b>SF</b>																																																			
<u>Price Justification:</u>																																																								

Rounding:	SUBTOTAL =	592 SF
Round to next: 125 SF Rounding: 33 SF Percentage: 5.57 %	<b>SAY 625 SF</b>	



**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/22/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																																																																		
<b>866.116</b>	<b>4 INCH REFLECTORIZED WHITE LINE (EPOXY)</b>	<b>LF</b>																																																																		
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Danforth Street	62	SWL (x1)	62	62	LF																																																															
		<b>2,298 LF</b>																																																																		
<u>Price Justification:</u>																																																																				

<b>Rounding:</b>	<b>SUBTOTAL =</b>
	<b>2,298 LF</b>

Round to next:	150 LF
Rounding:	102 LF
Percentage:	4.45 %

SAY 2400 LF
-------------

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/22/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>				
<b>867.112</b>	<b>12 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC)</b>	<b>FT</b>				
<u>Notes:</u>						
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 60%;"><u>Location</u></th> <th style="width: 20%;"><u>Length</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Concord St North of Fuller St.</td> <td style="text-align: center;">60</td> </tr> </tbody> </table>	<u>Location</u>	<u>Length</u>	Concord St North of Fuller St.	60	60 FT
<u>Location</u>	<u>Length</u>					
Concord St North of Fuller St.	60					
<u>Price Justification:</u>						

Rounding: Round to next: 16 FT Rounding: 4 FT Percentage: 6.67 %	SUBTOTAL = 60 FT
<b>SAY 64 FT</b>	

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LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
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<u>Item #</u>	<u>Description</u>	<u>Unit</u>																																																						
<b>867.116</b>	<b>4 INCH REFLECTORIZED YELLOW LINE (EPOXY)</b>	<b>LF</b>																																																						
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	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: right;">Water St</td> <td style="width: 10%; text-align: right;">15</td> <td style="width: 20%;">DBYL (X2)</td> <td style="width: 10%; text-align: right;">30</td> <td style="width: 10%; text-align: right;">30</td> <td style="width: 10%; text-align: right;">LF</td> </tr> <tr> <td style="text-align: right;">Central st</td> <td style="text-align: right;">168</td> <td>SYL (x1)</td> <td style="text-align: right;">168</td> <td style="text-align: right;">168</td> <td style="text-align: right;">LF</td> </tr> <tr> <td style="text-align: right;">Central st</td> <td style="text-align: right;">29</td> <td>DBYL (X2)</td> <td style="text-align: right;">58</td> <td style="text-align: right;">58</td> <td style="text-align: right;">LF</td> </tr> <tr> <td style="text-align: right;">Concord Street north of Central St</td> <td style="text-align: right;">72</td> <td>DBYL (X2)</td> <td style="text-align: right;">144</td> <td style="text-align: right;">144</td> <td style="text-align: right;">LF</td> </tr> <tr> <td style="text-align: right;">Danforth Street</td> <td style="text-align: right;">62</td> <td>SYL (x1)</td> <td style="text-align: right;">62</td> <td style="text-align: right;">62</td> <td style="text-align: right;">LF</td> </tr> <tr> <td style="text-align: right;">Concord St North of Watson Place</td> <td style="text-align: right;">641</td> <td>DBYL (X2)</td> <td style="text-align: right;">1,282</td> <td style="text-align: right;">1,282</td> <td style="text-align: right;">LF</td> </tr> <tr> <td style="text-align: right;">Watson Place</td> <td style="text-align: right;">15</td> <td>DBYL (X2)</td> <td style="text-align: right;">30</td> <td style="text-align: right;">30</td> <td style="text-align: right;">LF</td> </tr> <tr> <td style="text-align: right;">Concord St South East of Watson Place</td> <td style="text-align: right;">250</td> <td>DBYL (X2)</td> <td style="text-align: right;">500</td> <td style="text-align: right;">500</td> <td style="text-align: right;">LF</td> </tr> <tr> <td style="text-align: right;">Victoria Garden</td> <td style="text-align: right;">23.5</td> <td>DBYL (X2)</td> <td style="text-align: right;">47</td> <td style="text-align: right;">47</td> <td style="text-align: right;">LF</td> </tr> </table>	Water St	15	DBYL (X2)	30	30	LF	Central st	168	SYL (x1)	168	168	LF	Central st	29	DBYL (X2)	58	58	LF	Concord Street north of Central St	72	DBYL (X2)	144	144	LF	Danforth Street	62	SYL (x1)	62	62	LF	Concord St North of Watson Place	641	DBYL (X2)	1,282	1,282	LF	Watson Place	15	DBYL (X2)	30	30	LF	Concord St South East of Watson Place	250	DBYL (X2)	500	500	LF	Victoria Garden	23.5	DBYL (X2)	47	47	LF	
Water St	15	DBYL (X2)	30	30	LF																																																			
Central st	168	SYL (x1)	168	168	LF																																																			
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Danforth Street	62	SYL (x1)	62	62	LF																																																			
Concord St North of Watson Place	641	DBYL (X2)	1,282	1,282	LF																																																			
Watson Place	15	DBYL (X2)	30	30	LF																																																			
Concord St South East of Watson Place	250	DBYL (X2)	500	500	LF																																																			
Victoria Garden	23.5	DBYL (X2)	47	47	LF																																																			
<u>Price Justification:</u>																																																								

<b>Rounding:</b>	<b>SUBTOTAL =</b>		<b>2,321 LF</b>
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Round to next:	150 LF
Rounding:	79 LF
Percentage:	3.40 %

SAY 2400 LF
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Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/21/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>				<u>Unit</u>
<b>874.01</b>	<b>STREET NAME SIGN - CITY STANDARD</b>				<b>EA</b>
<u>Notes:</u>					
	<u>Street Name</u>	<u>Qty.</u>	<u>Station</u>	<u>Offset</u>	
	Central Street	1	12+63	RT	1 EA
	Elm Street	1	12+63	RT	1 EA
	Concord Street	1	12+63	RT	1 EA
<u>Price Justification:</u>					

Rounding:	SUBTOTAL =	3 EA
Round to next:      1 EA Rounding:              0 EA Percentage:            0.00 %	<b>SAY 3 EA</b>	

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JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/22/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																														
<b>874.1</b>	<b>STREET SIGN REMOVED AND RESET</b>	<b>EA</b>																														
<u>Notes:</u>																																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Station</u></th> <th style="text-align: left;"><u>Offset</u></th> <th style="text-align: left;"><u>QTY</u></th> <th style="text-align: left;"><u>Sign</u></th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>101+60</td> <td>30' RT</td> <td style="text-align: center;">1</td> <td>D3-1(1)</td> <td style="text-align: center;">1</td> <td style="text-align: center;">EA</td> </tr> <tr> <td>101+60</td> <td>30' RT</td> <td style="text-align: center;">1</td> <td>D3-1(4)</td> <td style="text-align: center;">1</td> <td style="text-align: center;">EA</td> </tr> <tr> <td>500+39</td> <td>13' LT</td> <td style="text-align: center;">1</td> <td>R9-6</td> <td style="text-align: center;">1</td> <td style="text-align: center;">EA</td> </tr> <tr> <td>500+56</td> <td>28' RT</td> <td style="text-align: center;">1</td> <td>D3-1 (Danforth Street)</td> <td style="text-align: center;">1</td> <td style="text-align: center;">EA</td> </tr> </tbody> </table>	<u>Station</u>	<u>Offset</u>	<u>QTY</u>	<u>Sign</u>			101+60	30' RT	1	D3-1(1)	1	EA	101+60	30' RT	1	D3-1(4)	1	EA	500+39	13' LT	1	R9-6	1	EA	500+56	28' RT	1	D3-1 (Danforth Street)	1	EA		
<u>Station</u>	<u>Offset</u>	<u>QTY</u>	<u>Sign</u>																													
101+60	30' RT	1	D3-1(1)	1	EA																											
101+60	30' RT	1	D3-1(4)	1	EA																											
500+39	13' LT	1	R9-6	1	EA																											
500+56	28' RT	1	D3-1 (Danforth Street)	1	EA																											
<u>Price Justification:</u>																																

Rounding: <table border="1" style="margin-left: 20px;"> <tr> <td>Round to next:</td> <td style="text-align: right;">1 EA</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">0 EA</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">0.00 %</td> </tr> </table>	Round to next:	1 EA	Rounding:	0 EA	Percentage:	0.00 %	SUBTOTAL =	4 EA
Round to next:	1 EA							
Rounding:	0 EA							
Percentage:	0.00 %							
<b>SAY 4 EA</b>								

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SHEET NO.		OF	
CALCULATED BY	MP	DATE	5/22/2024
CHECKED BY	AV	DATE	5/30/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																																																				
<b>874.4</b>	<b>TRAFFIC SIGN REMOVED AND STACKED</b>	<b>EA</b>																																																				
<u>Notes:</u>																																																						
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SubTotal = 14		14 EA																																																				
<u>Price Justification:</u>																																																						

Rounding:	SUBTOTAL =	14 EA
Round to next: 1 EA Rounding: 0 EA Percentage: 0.00 %	<b>SAY 14 EA</b>	

**GREEN INTERNATIONAL AFFILIATES, INC.**

Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MPC	DATE	5/15/2024
CHECKED BY	JL	DATE	5/15/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>
<b>875.</b>	<b>PARKING KIOSK</b>	<b>LS</b>
<u>Notes:</u>		
	Number of Kiosk's: 1	1 LS
<u>Price Justification:</u>		

<b>Rounding:</b>	<b>SUBTOTAL =</b>						
<table border="1" style="width: 100%;"> <tr> <td>Round to next:</td> <td style="text-align: right;">1 LS</td> </tr> <tr> <td>Rounding:</td> <td style="text-align: right;">0 LS</td> </tr> <tr> <td>Percentage:</td> <td style="text-align: right;">0.00 %</td> </tr> </table>	Round to next:	1 LS	Rounding:	0 LS	Percentage:	0.00 %	<b>1 LS</b>
Round to next:	1 LS						
Rounding:	0 LS						
Percentage:	0.00 %						

<b>SAY 1 LS</b>
-----------------

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Civil & Structural Engineers  
 100 Ames Pond Drive, Suite 200  
 TEWKSBURY, MA 01876  
**(978) 923-0400**

JOB	Saxonville Intersection Improvem	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	MP	DATE	6/13/2024
CHECKED BY	AV	DATE	6/14/2024

<u>Item #</u>	<u>Description</u>	<u>Unit</u>																
<b>999.001</b>	<b>POLICE DETAIL</b>	<b>HR</b>																
<u>Notes:</u>																		
<p>Estimated Construction Duration: 54 Weeks</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Days</th> <th style="text-align: center;">Hours/Day</th> <th style="text-align: center;">Details/day</th> <th style="text-align: center;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">270</td> <td style="text-align: center;">8</td> <td style="text-align: center;">4</td> <td style="text-align: center;">8,640</td> </tr> </tbody> </table> <p>Estimated Temporary Detour Duration: 6 Weeks</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Days</th> <th style="text-align: center;">Hours/Day</th> <th style="text-align: center;">Details/day</th> <th style="text-align: center;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">30</td> <td style="text-align: center;">8</td> <td style="text-align: center;">4</td> <td style="text-align: center;">960</td> </tr> </tbody> </table> <p>Hours for flaggers (60%) 5760                      Hours for police details (40%) 3840</p>		Days	Hours/Day	Details/day	Total	270	8	4	8,640	Days	Hours/Day	Details/day	Total	30	8	4	960	3,840 HR
Days	Hours/Day	Details/day	Total															
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Days	Hours/Day	Details/day	Total															
30	8	4	960															
<u>Price Justification:</u>																		

Rounding:	SUBTOTAL =	3,840 HR
Round to next: 500 HR Rounding: 160 HR Percentage: 4.17 %	<b>SAY 4000 HR</b>	

**SURFACE AREA WORKSHEET**

**SUMMARY OF AREAS:**

PAVEMENT MILLING AND OVERLAY :	21,380 SF	-----	2,376 SY
PAVEMENT OVERLAY:	0 SF	-----	0 SY
FULL DEPTH RECONSTRUCTION:	266,418 SF	-----	29,602 SY
FULL DEPTH RECLAMATION :	0 SF	-----	0 SY
CEMENT CONCRETE SIDEWALK:	12,867 SF	-----	1,430 SY
CEMENT CONCRETE DRIVEWAY :	3,164 SF	-----	352 SY
CEMENT CONCRETE SIDEWALK AT WHEELCHAIR RA	3,743 SF	-----	416 SY
HMA SIDEWALKS:	181 SF	-----	20 SY
HMA DRIVEWAYS:	3,741 SF	-----	416 SY
LOAM AND SEED AREAS:	9,954 SF	-----	1,106 SY
BRICK PAVER ACCENT STRIP:	1,149 SF	-----	128 SY
GRAVEL DRIVEWAY:	36 SF	-----	4 SY

**PAVEMENT MILLING AND OVERLAY** Unit: SF

STA.	to	STA.	OFFSET	AREA
101+10		102+80	-	12,119.00
0+60		1+65	-	3,861.0
FIT Lot			-	5,400.0
<b>TOTAL:</b>				<b>21,380</b>

**PAVEMENT OVERLAY** Unit: SF

<b>TOTAL:</b>				<b>0</b>
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**FULL DEPTH RECONSTRUCTION** Unit: SF

STA.	to	STA.	OFFSET	AREA
City owned lot			RT	6,478.00
1+65		7+60		225,524.65
7+60		12+80	-	24,483.00
12+80		14+00	-	9,932.32
<b>TOTAL:</b>				<b>266,418</b>

**FULL DEPTH RECLAMATION** Unit: SF

<b>TOTAL:</b>				<b>0</b>
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**CEMENT CONCRETE SIDEWALK** Unit: SF

STA.	to	STA.	OFFSET	AREA	STA.	to	STA.	OFFSET	AREA
1+65		1+70	LT	43.18	11+65		11+70	RT	77.34
1+65		2+85	RT	677.13	5+55		5+60	LT	10.09
1+80		1+90	LT	161.66	5+55		5+65	RT	61.24
2+15		2+25	LT	96.20	12+00		12+75	RT	489.21
2+35		3+05	LT	347.13	12+15		12+75	LT	295.26
3+30		3+75	LT	177.55	13+05		13+25	RT	171.85
3+30		4+30	RT	652.69	13+10		13+50	LT	588.38
3+75		3+80	LT	34.16	13+55		13+90	RT	204.34
4+10		4+15	LT	105.37	13+60		13+95	LT	216.16
4+20		4+30	LT	105.05	101+15		101+35	RT	78.20
4+55		4+75	LT	126.28	101+65		101+70	RT	48.98
4+55		6+50	RT	1,534.20	102+00		103+40	RT	679.63
5+05		6+15	LT	563.22	102+80		102+90	LT	64.22
6+55		7+35	LT	383.52	Private Walks:				
7+35		8+40	RT	900.18	2+60			LT	9.93
7+65		9+75	LT	1,041.16	3+25			LT	5.31
8+85		9+50	RT	373.41	3+65			LT	8.11
9+85		9+90	RT	34.48	4+45			LT	38.27
10+25		11+45	LT	585.58	8+70			RT	26.41
10+40		11+45	RT	562.05	8+75		9+35	RT	108.31
11+60		11+65	LT	25.06	10+50			RT	18.33
Extra SW at Water St. Intersection				808.00	10+75			LT	13.62
Parking lot				194.60	11+55			RT	97.37
					12+40			RT	14.92
					12+60			RT	9.80
<b>TOTAL:</b>									<b>12,867</b>

**CEMENT CONCRETE DRIVEWAY**

Unit: SF

STA.	to	STA.	OFFSET	AREA	STA.	to	STA.	OFFSET	AREA
2+90		3+35	RT	294.74	11+70		12+25	LT	260.90
3+00		3+35	LT	198.60	12+75		13+10	RT	210.60
4+75		5+05	LT	191.56	13+25		13+55	RT	230.40
6+15		6+55	LT	230.29	101+25		101+75	RT	256.29
7+35		7+70	LT	197.01	102+90		103+25	LT	612.34
9+50		9+85	RT	223.53					
9+75		10+25	LT	257.67					

TOTAL: 3,164

**CEMENT CONCRETE SIDEWALK AT WHEELCHAIR RAMPS**

Unit: SF

STA.	to	STA.	OFFSET	AREA	STA.	to	STA.	OFFSET	AREA
1+80		1+95	LT	182.00	13+20		13+35	RT	52.53
2+15		2+30	LT	166.00	13+25		13+40	LT	91.53
3+75		3+90	LT	136.00	13+50		13+65	LT	136.99
4+15		4+30	LT	236.20	101+85		102+00	RT	108.73
4+40		4+55	LT	223.73	101+85		102+00	LT	127.78
4+40		4+55	RT	148.24	103+40		103+55	RT	93.82
6+50		6+65	RT	135.01	103+40		103+55	LT	136.95
7+00		7+15	RT	180.67	500+40		500+55	LT	135.75
8+35		8+50	RT	130.27	500+40		500+55	RT	108.78
8+35		8+50	LT	53.09	500+65		500+80	RT	65.28
8+70		8+85	RT	122.81	501+00		501+15	RT	58.99
9+90		10+05	RT	83.83					
10+25		10+40	RT	61.12	Extra WCRs at Water St. Intersection				497.00
11+45		11+60	RT	159.84					
11+45		11+60	LT	110.13					

TOTAL: 3,743

**HMA SIDEWALKS**

Unit: SF

STA.	to	STA.	OFFSET	AREA	STA.	to	STA.	OFFSET	AREA
Private Walks:					5+60			RT	8.06
2+20			RT	17.91	7+10			RT	67.23
2+60			RT	21.35	8+45			RT	17.38
4+00			RT	26.38	9+00			RT	7.87
5+35			LT	14.47					

TOTAL: 181

**HMA DRIVEWAYS**

Unit: SF

STA.	to	STA.	OFFSET	AREA	STA.	to	STA.	OFFSET	AREA
3+00		3+20	RT	77.44					
4+80		4+95	LT	82.19					
5+80		7+75	LT	1,127.89					
9+15		10+25	LT	506.15					
9+50		10+00	RT	544.09					
11+60		12+15	LT	358.95					
12+60		13+50	RT	339.59					
102+90		103+15	LT	208.98					
101+15		102+15	RT	496.00					

TOTAL: 3,741

**LOAM AND SEED AREAS**

Unit: SF

STA.	to	STA.	OFFSET	AREA	STA.	to	STA.	OFFSET	AREA
1+65		1+80	LT	71.39	9+30		9+50	RT	48.10
1+65		2+35	RT	48.38	10+20		10+70	LT	215.25
2+05		2+60	LT	199.13	10+50		11+70	RT	4,294.25
2+40		2+60	RT	56.69	10+75		11+75	LT	213.54
2+65		3+15	LT	184.84	11+50		11+80	RT	451.86
2+65		3+00	RT	48.08	12+05		12+40	RT	23.38
3+20		3+25	LT	18.84	12+15		102+55	LT	1,196.68
3+20		4+00	RT	338.92	12+40		12+55	RT	44.02
3+30		3+60	LT	75.22	12+60		12+65	RT	14.02
3+65		3+80	LT	110.04	102+15		102+40	RT	48.94
4+00		5+65	RT	501.95					
4+10		4+45	LT	127.57					
4+50		4+85	LT	185.04					
4+95		5+40	LT	55.41					
5+45		5+80	LT	82.74					
5+70		6+75	RT	222.32					
7+00		7+05	RT	81.12					
7+10		8+45	RT	462.88					
7+65		9+20	LT	533.53					

TOTAL: 9,954

**BRICK PAVER ACCENT STRIP**

Unit: SF

STA.	to	STA.	OFFSET	AREA	STA.	to	STA.	OFFSET	AREA
1+80		2+80		126.37	8+80		9+50	RT	91.63
2+45		3+05	LT	82.75	10+40		11+45	RT	143.96
3+35		3+65	LT	43.81					
3+35		4+40	RT	139.91					
4+55		6+50	RT	258.56					
4+65		4+75	LT	11.44					
5+05		5+80	LT	103.77					
7+25		8+40	RT	146.76					

TOTAL: 1,149

**GRAVEL DRIVEWAY**

Unit: SF

STA.	to	STA.	OFFSET	AREA	STA.	to	STA.	OFFSET	AREA
3+15		3+30	LT	36.17					

TOTAL: 36

**GREEN INTERNATIONAL AFFILIATES, INC.**

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**(978) 923-0400**

JOB	Ille Intersection Improvement	PROJ. NO.	20034
LOCATION	Framingham MA	PRINTED	6/17/2024
SHEET NO.		OF	
CALCULATED BY	CW	DATE	6/11/2024
CHECKED BY	MPC	DATE	6/14/2024

Totals	<b>139,603.8 CF</b>	<b>384.0 CF</b>
	<b>5,170.5 CY</b>	<b>14.2 CY</b>

**EARTH EXCAVATION WORKSHEET**

Station	Length (FT)	X-Sect Cut (SF)	Cut Avg. (SF)	Cut Vol. (CF)	X-Sect Fill (SF)	Fill Avg. (SF)	Fill Vol. (CF)
1+00		4.85			0.00		
	50		4.3	213.8		1.2	61.0
1+50		3.70			2.44		
	50		71.0	3552.3		1.2	61.0
2+00		138.39			0.00		
	50		104.3	5215.3		0.0	0.0
2+50		70.22			0.00		
	50		95.7	4784.0		0.0	0.0
3+00		121.14			0.00		
	50		100.2	5008.5		0.0	0.0
3+50		79.20			0.00		
	50		115.0	5747.8		0.0	0.0
4+00		150.71			0.00		
	50		120.3	6017.0		0.0	0.0
4+50		89.97			0.00		
	50		87.8	4388.5		0.0	0.0
5+00		85.57			0.00		
	50		83.2	4161.5		0.0	0.0
5+50		80.89			0.00		
	50		79.8	3991.5		0.0	0.0
6+00		78.77			0.00		
	50		104.7	5234.8		0.0	0.0
6+50		130.62			0.00		
	50		118.1	5906.3		0.0	0.0
7+00		105.63			0.00		
	50		85.6	4279.5		0.0	0.0
7+50		65.55			0.00		
	50		69.4	3467.8		0.0	0.0
8+00		73.16			0.00		
	50		78.5	3925.0		0.0	0.0
8+50		83.84			0.00		
	50		84.9	4244.3		0.0	0.0
9+00		85.93			0.00		
	50		99.9	4994.3		0.0	0.0
9+50		113.84			0.00		
	50		100.0	5001.3		0.0	0.0
10+00		86.21			0.00		
	50		84.7	4233.5		0.0	0.0
10+50		83.13			0.00		
	50		75.0	3750.8		0.0	0.0
11+00		66.90			0.00		
	50		109.5	5474.0		0.0	0.0
11+50		152.06			0.00		
	50		152.4	7620.3		0.0	0.0
12+00		152.75			0.00		
	50		127.0	6351.8		0.0	0.0
12+50		101.32			0.00		

