



CITY OF SOMERVILLE, MASSACHUSETTS
Department of Purchasing
JOSEPH A. CURTATONE
MAYOR

To: All Parties on Record with the City of Somerville as Holding **IFB 15-105-Rebid**
USQ Utility and Roadway Construction

From: Alex Nosnik, Assistant Director, Purchasing

Date: January 27, 2016

Re: Change in Specification, New Unit Price Form

Addendum No. 3 to IFB 15-105-Rebid

Please acknowledge receipt of this Addendum by signing below and including this form in your proposal package. Failure to do so may subject the proposer to disqualification.

X

Name of Authorized Signatory
Title of Authorized Signatory

Reminder of Due Date: bids are due at 2/3/16 at 11AM

The purpose of this Addendum is to make the following changes:

1. Section 00020 Table of Contents

Under Part 3: Technical Specifications, DIVISION 2 – Sitework Payment Items,
DELETE Bid Item “824-001 RECTANGULAR RAPIDLY FLASHING BEACON
SYSTEM”

2. Section 00020 Table of Contents

Under Part 3: Technical Specifications, DIVISION 2 – Sitework Payment Items, **ADD** a
new Bid Item “ITEM NO. 815-990 PEDESTRIAN HYBRID BEACON TRAFFIC
SIGNAL”

3. Section 00315 Unit Price Bid Form

DELETE Section 00315 Unit Price Bid Form **Rev1** consisting of 19 pages in its entirety and **REPLACE** with the new Section 00315 Unit Price Bid Form-**Rev2**, consisting of 19 pages and included as Attachment 1 to this Addendum No. 3.

PLEASE NOTE: THE BID FORM ATTACHED TO THIS ADDENDUM CONTAINS A SIGNIFICANT CHANGE REGARDING THE PROPOSED CONTRACT PRICE AND THE BID SCHEDULE.

BIDDERS MUST USE THE BID FORM ATTACHED HERETO (AND IDENTIFIED BY “REV 2” IN THE UPPER RIGHT HAND CORNER OF EACH PAGE) TO SUBMIT THEIR BID. ALL OTHER COPIES OF THE BID FORM SHOULD BE DISCARDED.

BIDS NOT RECEIVED ON THE REVISED BID FORM WILL BE REJECTED.

4. Technical Specifications

In the Table of Contents, **DELETE** Bid Item “824-001 RECTANGULAR RAPIDLY FLASHING BEACON SYSTEM”

5. Technical Specifications

In the Table of Contents, **ADD** a new Bid Item “ITEM NO. 815-990 PEDESTRIAN HYBRID BEACON TRAFFIC SIGNAL”

6. Technical Specifications

ADD new Bid Item No. 815-990, included as Attachment 2 to this Addendum No. 3.

7. Technical Specifications – Item No. 824-001

DELETE Bid Item 824-001 RECTANGULAR RAPIDLY FLASHING BEACON SYSTEM, pages 172 through 174 inclusive, in its entirety.

8. Drawings – Sheet C-31

DELETE Sheet C-31 in its entirety and **REPLACE** with Sheet C-31, Rev. 1, included as Attachment 3 to this Addendum No. 3.

9. Drawings – Sheet C-41

DELETE Sheet C-41 in its entirety and **REPLACE** with Sheet C-41, Rev. 1, included as Attachment 4 to this Addendum No. 3.

City of Somerville
Union Square Utility and Roadway Early Action Project
IFB# 15-105-Rebid

Addendum No. 3

Attachment 1 - Section 00315 Unit Price Bid Form-**Rev2**,

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

Bidder must fill in Bid Schedule in Ink

Bidder shall fill in Computed Total
 (Subject to verification)

Item No.	Description	Units	Approximate Quantity	Computed Total
100- 001	MOBILIZATION The sum of _____ _____ Lump Sum (\$ _____) Lump Sum	Lump Sum	1	
102- 051	INDIVIDUAL TREE PROTECTION The sum of _____ _____ Each (\$ _____) Each	Each	27	
103- 001	INDIVIDUAL TREE REMOVED - UNDER 24 INCHES The sum of _____ _____ Each (\$ _____) Each	Each	6	
104- 001	INDIVIDUAL TREE REMOVED - DIAMETER 24 INCHES AND OVER The sum of _____ _____ Each (\$ _____) Each	Each	1	
108- 501	STREET SWEEPING The sum of _____ _____ Hour (\$ _____) Hour	Hour	300	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
119- 001	RODENT CONTROL The sum of Lump Sum (\$ _____) Lump Sum	Lump Sum	1	
129- 001	ROADWAY EXCAVATION BY COLD PLANE The sum of SQUARE YARD (\$ _____) SQUARE YARD	SY	10,500	
129- 002	ROADWAY PAVEMENT REMOVAL The sum of SQUARE YARD (\$ _____) SQUARE YARD	SY	150	
129- 003	SIDEWALK REMOVAL The sum of SQUARE YARD (\$ _____) SQUARE YARD	SY	1,000	
141- 001	TEST PITS The sum of CUBIC YARD (\$ _____) CUBIC YARD	CY	200	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
144- 001	CLASS B ROCK EXCAVATION The sum of CUBIC YARD (\$ _____) CUBIC YARD	CY	50	
150- 001	ORDINARY BORROW The sum of CUBIC YARD (\$ _____) CUBIC YARD	CY	100	
151- 001	GRAVEL BORROW The sum of CUBIC YARD (\$ _____) CUBIC YARD	CY	500	
152- 001	DENSE-GRADED CRUSHED STONE The sum of CY (\$ _____) CY	CY	175	
153- 001	FLOWABLE FILL (CDF) The sum of CUBIC YARD (\$ _____) CUBIC YARD	CY	50	

BID SCHEDULE
Section 00315 - Unit Price Form

Rev. 2

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
156- 002	CRUSHED STONE (3/4-INCH) The sum of _____ _____ Ton (\$ _____) Ton	Ton	60	
170- 001	FINE GRADING AND COMPACTION - SUBGRADE AREAS The sum of _____ _____ SQUARE YARD (\$ _____) SQUARE YARD	SY	1,325	
200- 005	FRAMES AND GRATES OR COVERS The sum of _____ _____ Each (\$ _____) Each	Each	10	
201- 021	CATCH BASIN WITH DEEP SUMP AND TRAP The sum of _____ _____ Each (\$ _____) Each	Each	2	
202- 002	DRAIN MANHOLE The sum of _____ _____ Each (\$ _____) Each	Each	1	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
210- 001	SANITARY SEWER MANHOLE The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	1	
210- 998	CONNECTION TO EXISTING SANITARY SEWER The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	1	
220- 001	DRAINAGE & SANITARY STRUCTURES - ADJUSTED The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	8	
220- 510	DRAINAGE & SANITARY STRUCTURES - REMODELED The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	4	
220- 908	DRAINAGE STRUCTURES ABANDONED The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	1	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
220- 909	DRAINAGE STRUCTURES REMOVED The sum of _____ _____ Each (\$ _____) Each	Each	1	
223- 001	FRAME AND GRATE OR COVER REMOVE AND STACK The sum of _____ _____ Each (\$ _____) Each	Each	5	
226- 001	CATCH BASIN CLEANING The sum of _____ _____ Each (\$ _____) Each	Each	10	
238- 012	12-INCH DUCTILE IRON PIPE (DIP) FOR STORM DRAIN The sum of _____ _____ LINEAR FOOT (\$ _____) LINEAR FOOT	LF	50	
250- 010	10-INCH PVC SEWER PIPE The sum of _____ _____ LINEAR FOOT (\$ _____) LINEAR FOOT	LF	50	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
250- 012	12-INCH PVC SEWER PIPE The sum of _____ _____ LINEAR FOOT (\$ _____) LINEAR FOOT	LF	100	
252- 912	12 INCH HIGH DENSITY POLYETHYLENE (HDPE) PIPE FOR STORM DRAIN The sum of _____ _____ LINEAR FOOT (\$ _____) LINEAR FOOT	LF	50	
303- 006	6 INCH DUCTILE IRON WATER PIPE The sum of _____ _____ LINEAR FOOT (\$ _____) LINEAR FOOT	LF	75	
303- 008	8 INCH DUCTILE IRON WATER PIPE The sum of _____ _____ LINEAR FOOT (\$ _____) LINEAR FOOT	LF	50	
303- 012	12 INCH DUCTILE IRON WATER PIPE The sum of _____ _____ LINEAR FOOT (\$ _____) LINEAR FOOT	LF	250	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
303- 016	16 INCH DUCTILE IRON WATER PIPE The sum of _____ _____ _____ LINEAR FOOT (\$ _____) _____ LINEAR FOOT	LF	230	
309- 001	DUCTILE IRON FITTINGS FOR WATER PIPE The sum of _____ _____ _____ LB (\$ _____) _____ LB	LB	300	
347- 001	1-INCH COPPER TUBING TYPE K The sum of _____ _____ _____ LINEAR FOOT (\$ _____) _____ LINEAR FOOT	LF	80	
347- 002	1-1/2-INCH COPPER TUBING TYPE K The sum of _____ _____ _____ LINEAR FOOT (\$ _____) _____ LINEAR FOOT	LF	20	
350- 006	6 INCH GATE AND GATE BOX The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	2	

BID SCHEDULE
Section 00315 - Unit Price Form

Rev. 2

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
350- 008	8 INCH GATE AND GATE BOX The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	1	
350- 012	12 INCH GATE AND GATE BOX The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	3	
356- 016	16 INCH BUTTERFLY VALVE AND BOX The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	3	
356- 020	20 INCH BUTTERFLY VALVE AND BOX The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	1	
358- 002	GATE BOX AND SERVICE BOX ADJUSTED The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	20	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
371- 990	CONNECTION TO EXISTING 20 INCH WATER MAIN The sum of _____ _____ Lump Sum (\$ _____) Lump Sum	Lump Sum	1	
376- 001	HYDRANT The sum of _____ _____ Each (\$ _____) Each	Each	2	
376- 003	HYDRANT - REMOVED AND STACKED The sum of _____ _____ Each (\$ _____) Each	Each	1	
460- 001	HOT MIX ASPHALT PAVEMENT (ALL COURSES) The sum of _____ _____ Ton (\$ _____) Ton	Ton	1,500	
460- 002	HOT MIX ASPHALT FOR PATCHING The sum of _____ _____ Ton (\$ _____) Ton	Ton	150	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
460- 003	LIQUID ASPHALT PRICE ADJUSTMENT The sum of <u>Twenty thousand dollars and 00 cents</u> <div style="text-align: right;">Allowance</div> (\$ <u>20,000.00</u>) <div style="text-align: right;">Allowance</div>	Allowance	1	\$ 20,000
464- 001	BITUMEN FOR TACK COAT The sum of <div style="text-align: right;">Gallon</div> (\$ _____) <div style="text-align: right;">Gallon</div>	Gallon	700	
504- 001	GRANITE CURB - TYPE VA-4 The sum of <div style="text-align: right;">LINEAR FOOT</div> (\$ _____) <div style="text-align: right;">LINEAR FOOT</div>	LF	700	
516- 001	GRANITE CURB CORNER The sum of <div style="text-align: right;">Each</div> (\$ _____) <div style="text-align: right;">Each</div>	Each	6	
580- 001	GRANITE CURB - REMOVE & RESET The sum of <div style="text-align: right;">LINEAR FOOT</div> (\$ _____) <div style="text-align: right;">LINEAR FOOT</div>	LF	100	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
594- 001	CURB - REMOVE & DISCARD The sum of LINEAR FOOT (\$ _____) LINEAR FOOT	LF	800	
635- 100	HIGHWAY GUARD REMOVED AND DISCARDED The sum of LINEAR FOOT (\$ _____) LINEAR FOOT	LF	50	
697- 001	SEDIMENTATION FENCE The sum of LINEAR FOOT (\$ _____) LINEAR FOOT	LF	300	
701- 001	CEMENT CONCRETE SIDEWALKS & DRIVEWAYS (ALL THICKNESSES) The sum of SQUARE YARD (\$ _____) SQUARE YARD	SY	750	
701- 020	CEMENT CONCRETE WHEELCHAIR RAMPS The sum of Each (\$ _____) Each	Each	27	

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Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
702- 001	HOT MIX ASPHALT WALKWAY The sum of _____ _____ SQUARE YARD (\$ _____) SQUARE YARD	SY	200	
703- 801	CONCRETE WHEEL STOP WITH DELINEATORS The sum of _____ _____ LINEAR FOOT (\$ _____) LINEAR FOOT	LF	50	
706- 880	HEAVY DUTY INTERLOCKING CONCRETE PAVERS The sum of _____ _____ SQUARE FOOT (\$ _____) SQUARE FOOT	SF	200	
707- 999	REMOVE AND RESET STREET FURNITURE The sum of _____ _____ Each (\$ _____) Each	Each	-	
740- 001	ENGINEER'S FIELD OFFICE AND RELATED EQUIPMENT FOR ENGINEER The sum of _____ _____ Month (\$ _____) Month	Month	5	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
751- 009	STRUCTURAL LOAM The sum of CUBIC YARD (\$ _____) CUBIC YARD	CY	25	
801- 301	3 INCH NON-METALLIC CONDUIT The sum of LINEAR FOOT (\$ _____) LINEAR FOOT	LF	925	
801- 302	3 INCH NON-METALLIC CONDUIT UNDER ROADWAYS The sum of LINEAR FOOT (\$ _____) LINEAR FOOT	LF	1,700	
806- 301	3 INCH METALLIC (GALVANIZED STEEL) CONDUIT The sum of LINEAR FOOT (\$ _____) LINEAR FOOT	LF	50	
811- 310	PULL BOX 12 X 12 INCHES The sum of Each (\$ _____) Each	Each	34	

BID SCHEDULE
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Item No.	Description	Units	Approximate Quantity	Computed Total
815- 098	FOOTING COST ADJUSTMENT The sum of _____ _____ _____ VLF (\$ _____) _____ VLF	VLF	100	
815- 701	TRAFFIC CONTROL SIGNAL – PROSPECT STREET & SOMERVILLE AVENUE The sum of _____ _____ _____ Lump Sum (\$ _____) _____ Lump Sum	Lump Sum	1	
815- 702	TRAFFIC CONTROL SIGNAL – WASHINGTON STREET, WEBSTER AVENUE, SOMERVILLE AVENUE & BOW STREET The sum of _____ _____ _____ Lump Sum (\$ _____) _____ Lump Sum	Lump Sum	1	
815- 703	TRAFFIC CONTROL SIGNAL – PROSPECT STREET & WEBSTER AVENUE The sum of _____ _____ _____ Lump Sum (\$ _____) _____ Lump Sum	Lump Sum	1	
815- 799	TRAFFIC CONTROL SIGNAL – ALLOWANCE FOR ADDITIONAL EQUIPMENT The sum of One Hundred Thousand Dollars and _____ 00 cents _____ Allowance (\$ 100,000.00 _____) _____ Allowance	Allowance	1	\$ 100,000

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Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
815- 990	PEDESTRIAN HYBRID BEACON TRAFFIC SIGNAL The sum of _____ _____ Lump Sum (\$ _____) Lump Sum	Lump Sum	1	
820- 700	ROADWAY LIGHTING MODIFICATIONS The sum of _____ _____ Lump Sum (\$ _____) Lump Sum	Lump Sum	1	
828- 001	PERMANENT TRAFFIC SIGNAGE The sum of _____ _____ SQUARE FOOT (\$ _____) SQUARE FOOT	SF	430	
850- 001	TRAFFIC MANAGEMENT DURING CONSTRUCTION The sum of _____ _____ Lump Sum (\$ _____) Lump Sum	Lump Sum	1	
850- 002	TRAFFIC CONTROL SERVICES The sum of One Hundred Fifty Thousand Dollars and 00 cents Allowance (\$ 150,000.00) Allowance	Allowance	1	\$ 150,000

Rev. 2

Bidder must fill in Bid Schedule in Ink

Item No.	Description	Units	Approximate Quantity	Computed Total
852- 100	TEMPORARY CONSTRUCTION SIGNS The sum of SQUARE FOOT (\$ _____) SQUARE FOOT	SF	300	
854- 026	TEMPORARY PAVEMENT MARKINGS – 4-INCH PAINT The sum of LINEAR FOOT (\$ _____) LINEAR FOOT	LF	2,000	
854- 120	PAVEMENT MARKING REMOVAL The sum of LINEAR FOOT (\$ _____) LINEAR FOOT	LF	1,400	
856- 105	PORTABLE CHANGEABLE MESSAGE SIGN The sum of Day (\$ _____) Day	Day	200	
860- 001	4-INCH WHITE PAVEMENT MARKINGS The sum of LINEAR FOOT (\$ _____) LINEAR FOOT	LF	13,250	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
860- 002	4-INCH YELLOW PAVEMENT MARKINGS The sum of _____ _____ _____ LINEAR FOOT (\$ _____) _____ LINEAR FOOT	LF	5,500	
860- 004	12-INCH WHITE STOP LINES The sum of _____ _____ _____ SQUARE FOOT (\$ _____) _____ SQUARE FOOT	SF	375	
860- 005	CROSSWALK STRIPING The sum of _____ _____ _____ SQUARE FOOT (\$ _____) _____ SQUARE FOOT	SF	5,100	
860- 006	PAVEMENT ARROWS AND LEGENDS The sum of _____ _____ _____ SQUARE FOOT (\$ _____) _____ SQUARE FOOT	SF	4,250	
860- 900	GREEN BIKE LANE PAINT The sum of _____ _____ _____ SQUARE FOOT (\$ _____) _____ SQUARE FOOT	SF	8,500	

BID SCHEDULE
Section 00315 - Unit Price Form

Union Square Early Action Project - IFB 15-105-REBID

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Item No.	Description	Units	Approximate Quantity	Computed Total
874- 200	TRAFFIC SIGN REMOVED AND RESET The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	40	
874- 300	TRAFFIC SIGN REMOVED AND DISCARDED The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	30	
875- 001	PARKING METER REMOVED AND RESET The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	1	
875- 002	PARKING METER REMOVED AND STACKED The sum of _____ _____ _____ Each (\$ _____) _____ Each	Each	1	
999- 999	DEMOBILIZATION The sum of _____ _____ _____ Lump Sum (\$ _____) _____ Lump Sum	Lump Sum	1	

City of Somerville
Union Square Utility and Roadway Early Action Project
IFB# 15-105-Rebid

Addendum No. 3

Attachment 2 - Bid Item No. 815-990

ITEM NO. 815-990 PEDESTRIAN HYBRID BEACON TRAFFIC SIGNAL LUMP SUM

General

Furnish and install a pedestrian hybrid beacon traffic signal system (Pedestrian HAWK/a.k.a High-Intensity Activated Crosswalk) for one location as indicated on the Drawings and as specified herein. The Pedestrian HAWK signal shall be installed per Chapter 4F of the MUTCD (latest edition).

Materials

The work of this Section shall include the furnishing and installation of part or all of the following items:

A pedestrian hybrid traffic control signal with built in conflict monitor, cabinet, and foundations; anchor bolts and foundations for mast arms; signal heads; backplates; wireless Ethernet communication for interconnect between Pedestrian HAWK signal and traffic signal at the intersection of Prospect Street/Somerville/Washington signal; all cable and wiring; ground rods, equipment grounding and bonding; service connection and meter post; pole risers, and all other equipment, materials and incidental costs necessary to provide a complete, fully operational Pedestrian HAWK signal as specific herein and as shown on the plans. All required mast arms for installation will be supplied by the City of Somerville.

The pedestrian HAWK Signal shall consist of a three signal section; a 12” circular yellow signal indication centered below two 12” horizontally aligned circular red signal indications. (See figure in Item No. 815-990-Appendix A, attached hereto.) As specified and shown on the plan, HAWK signals consist of the following components:

- Two pedestrian HAWK beacon faces shall be installed for each approach of Somerville Avenue.
- A stop line shall be installed for each approach to the crosswalks.
- A pedestrian signal head and pushbutton shall be installed at each end of the marked crosswalk on the mast arm pole.
- The pedestrian HAWK signal shall be activated by APS pedestrian signal pushbutton.
- A “Crosswalk Stop on Red” (R10-23) sign shall be mounted adjacent to the pedestrian HAWK signal face for each Somerville approach.
- The TS 2 Type 1 cabinet shall, at a minimum, meet the requirements of configuration 3 as defined in Table 5-2, “Type 1 Configurations” of the NEMA TS 2 Standard and according to the Item numbers listed above and on the traffic signal plans, and the requirements specified under Chapter 4F of the Manual of Uniformed Traffic Control Devices (MUTCD), latest edition.. Provide cabinets that allow for 50% more equipment to be installed by the City at a future time.

Shop drawings and material data for pedestrian hybrid beacon traffic signal system shall be provided by the Contractor.

A. Cabinet Power Supply

1. A power supply shall be supplied and installed in the TS 2 cabinet. As a minimum, the power supply shall meet all requirements of Paragraph 5.3.5 of the NEMA TS 2 Standard.
2. The unit shall be AC line powered and provide regulated DC power, unregulated AC power, a line frequency reference for the rack mounted loop amplifiers, bus interface units, load switches and other auxiliary cabinet equipment as required.

B. Surge Protection

1. Wherever expensive electronic equipment is located (cabinets, wireless devices, etc.), each input & output should be surge protected except traffic signal outputs. Signal outputs from load switches do not need surge suppression since the load switches act as surge suppressors.
2. The surge protector must be electrically connected to the nearest grounded metal structure or nearest ground rod.
3. Surge protection for all pedestrian button, and wireless device connections should have peak surge current protection of at least 10K amperes with a response time of less than 5 nanoseconds. The product complies when a lab report from an independent test laboratory stating the product passes this specification is submitted with the shop drawings.
4. Units shall be unconditionally warranted for at least 10 years.

C. LED Traffic Signal Housings

1. All Red and Yellow signal housings shall conform to the following: The LED signal module shall conform to "Vehicle Traffic Control Signal Heads – Part 2: Light Emitting Diode (LED) Vehicle Traffic Signal Modules", July 1998 Version or most current version, Institute of Transportation Engineers (ITE), 525 School St., S.W., Suite 410, Washington DC 20024-2797, Telephone: (202) 554-8050, FAX: (202) – 863-5486 and shall conform to the following: (In the case of a conflict, the special provision shall overrule.). LED signal modules must be type tested and approved by the MHD according to the requirements of Subsection 815.21, of the MHD Specifications.
2. LED signal modules shall fit without modifications into existing traffic signal housings conforming to "Vehicle Traffic Control Signal Heads" (VTC SH) published in the Equipment and Materials Standards of the Institute of Transportation Engineers. The LED signal module shall be a single, self-contained device not requiring onsite assembly for installation. LED signal assembly construction shall conform to ASTM specifications for the materials. Each LED signal module shall comprise a smooth surfaced Red and Green UV stabilized polycarbonate outer shell, multiple LED light sources, a power supply and a polycarbonate back cover assembled in a gasketed or silicon sealed unit.
3. The minimum luminous intensity values and light output shall be maintained within the rated input voltage of 117 Volts AC. LED signal modules shall not be allowed to fall

short of the minimum intensity values at any of the 44 measuring points of the standard when lamp is turned on cold for measurements and after a 30 minute warm-up time period at 100% duty cycle.

4. The maximum wattage for 12 inch ball should be 20 watts. The LED sources shall not be powered above the 70% of the manufacturer's specified rated load. This shall be clearly shown in layman's terms through calculations, schematics, catalogue cuts, etc. The LED sources shall be made of the type shown clearly in a catalogue cut or similar literature.

D. Pedestrian Heads

1. Pedestrian head indications shall be illuminated LED type displaying the full-filled graphical symbols of a walking person and upraised hand, both within a single housing and a countdown timer.
2. APS Pedestrian push button controls shall be raised from or flush with their housings and shall be a minimum of 1 inch in the smallest dimension. The force required to activate the controls shall be no greater than 5 lbs. Verbal message utilized by the APS system shall be coordinated with the City of Somerville.
3. Pedestrian push buttons shall be located on mast arm poles.
4. A maximum mounting height of 3.5 feet above the finish sidewalk grade shall be used for pedestrian push buttons. Signage for APS system shall comply with the MUTCD 2009.
5. Any programmable hardware component associated with Pedestrian HAWK signal shall be initially programmed by the Contractor based on information contained on the plans. Three sets of hard copy programming per device shall be supplied in three ring binders supplied by the Contractor.

E. Mast Arms and Mast Arm Foundations

1. Mast arm foundations shall be fabricated and constructed in conformance with the Interim 1998 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and the Contract Documents.
2. Mast arms and poles shall comply with City of Somerville specifications, as included in Attachment D to the Technical Specifications.
3. For all mast arm pole foundation designs shall be submitted to the Engineer for review.
4. Contractor responsible for soil borings for mast arm foundation design.

EXECUTION

The Contractor shall install and perform testing of the equipment grounding system in the presence of the Engineer in accordance with the MHD Specifications.

After the Contractor has completed the installation of the controller and all other associated signal equipment, and after Contractor has set the signal equipment to operate as specified in the

contract documents only then shall the testing period begin. During this period, the Contractor, under the direction of the Engineer will make necessary adjustments and tests to ensure safe and efficient operation of the equipment. This period shall not last for less than 30 days. No request for final acceptance will be considered until successful completion of the testing period.

After the initial 30-day test period the Contractor shall make adjustments to the signal timing on up to three occasions. Engineer will provide updated timing plans based on the remote data collection.

METHOD OF MEASUREMENT AND PAYMENT

ITEM NO. 815-990

MEASUREMENT

Except for the work of Items 801-30,801-302, 806-301, 811-310, and 815-098, all traffic signal work will be measured as a lump sum.

Measurement under Item 815-098 will be by the vertical linear foot when authorized by the Engineer.

PAYMENT

The lump sum price bid for this item shall be full compensation for all labor, materials and equipment necessary or incidental to the installation of the complete pedestrian hybrid beacon traffic signal system.

No separate payment will be made for excavation, backfill, concrete, temporary installations, restoration of damaged facilities or other incidental work but all costs in connection therewith shall be included in the Lump Sum price bid.

The cost of maintenance of the proposed traffic signal equipment shall be deemed to be included in the various traffic signal contract items, and no additional payments shall be made thereof, except as provided by Subsection 7.17 of the MHD Specifications as amended.

Pay Item

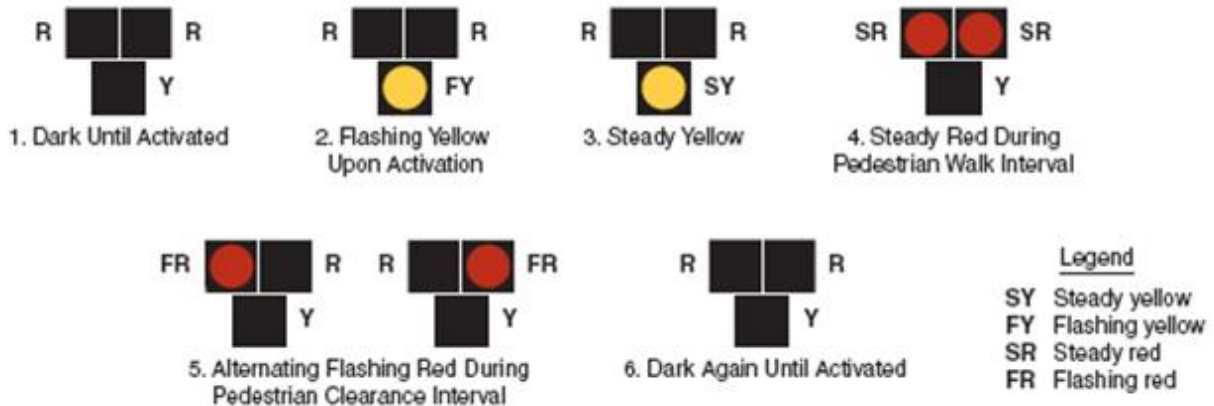
Pay Unit

**ITEM NO. 815-990 PEDESTRIAN HYBRID BEACON
TRAFFIC SIGNAL**

LUMP SUM

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ITEM NO. 815-990 – APPENDIX A – SEQUENCE FOR PEDESTRIAN HYBRID SIGNAL



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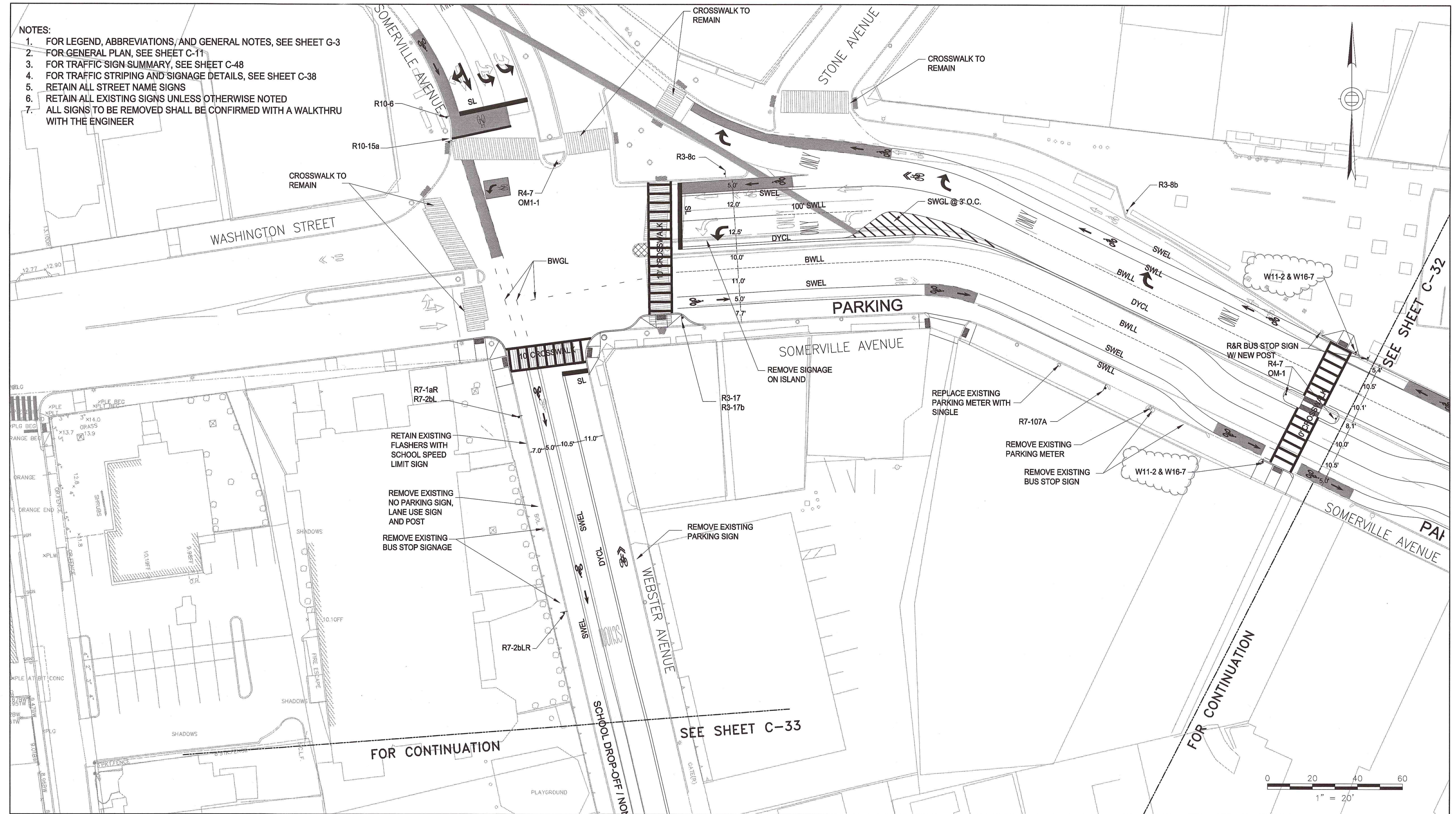
Addendum No. 3 to IFB 15-105-Rebid

City of Somerville
Union Square Utility and Roadway Early Action Project
IFB# 15-105-Rebid

Addendum No. 3

Attachment 3 - Sheet C-31, Rev. 1

- NOTES:
1. FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES, SEE SHEET G-3
 2. FOR GENERAL PLAN, SEE SHEET C-11
 3. FOR TRAFFIC SIGN SUMMARY, SEE SHEET C-48
 4. FOR TRAFFIC STRIPING AND SIGNAGE DETAILS, SEE SHEET C-38
 5. RETAIN ALL STREET NAME SIGNS
 6. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED
 7. ALL SIGNS TO BE REMOVED SHALL BE CONFIRMED WITH A WALKTHRU WITH THE ENGINEER



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

**UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT**

TRAFFIC STRIPING AND SIGNAGE
SHEET 1 OF 7

DESIGNED: KTC
CHECKED: RJB

DRAWN: LAC
CHECKED: RJB

Parsons Brinckerhoff, Inc.
75 Arlington St. Boston, MA 02116
PH. (617)426-7330 FAX (617)482-8487

IFB#15-105-REBID

SCALE: 1"=20'
DATE: JAN 4, 2016

SHEET
C-31

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

NO.	DATE	REVISIONS	BY
1	1/26/16	DELETED RRFB	

Addendum No. 3 to IFB 15-105-Rebid

City of Somerville
Union Square Utility and Roadway Early Action Project
IFB# 15-105-Rebid

Addendum No. 3

Attachment 4 - Sheet C-41, Rev. 1

