

CITY OF SOMERVILLE
UTILITY AND ROADWAY EARLY ACTION PROJECT
IFB #15-105-REBID
UNION SQUARE
SOMERVILLE, MASSACHUSETTS

LIST OF DRAWINGS

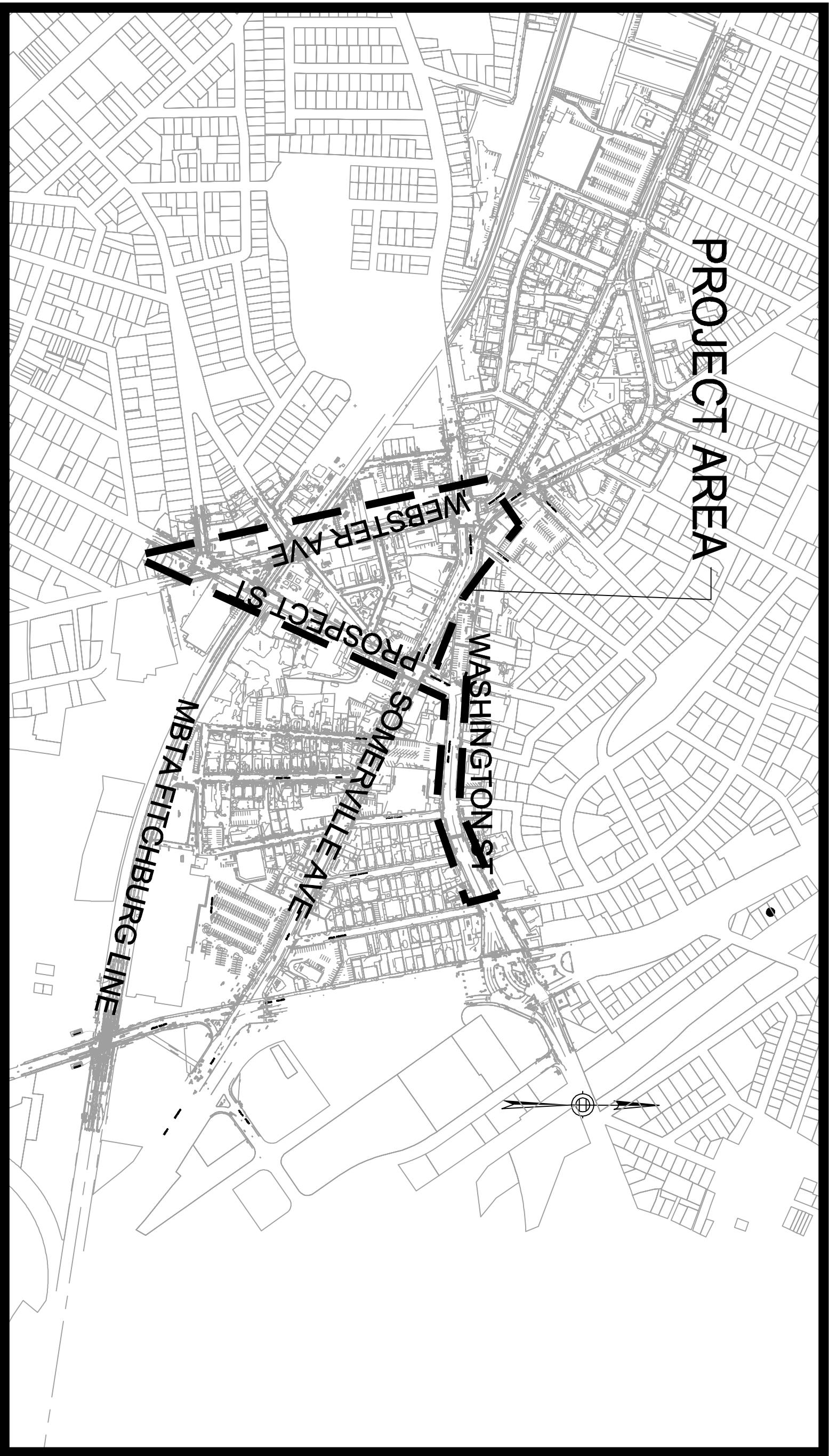
GENERAL

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CIVIL

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* ADD ALTERNATE 1



LOCUS MAP

SCALE: 1"=400'



BID DOCUMENTS

DATE: JANUARY 2016

PARSONS BRINCKERHOFF, INC
75 ARLINGTON STREET BOSTON, MA 02116
Phone: 617-426-7330 • Fax: 617-482-0642

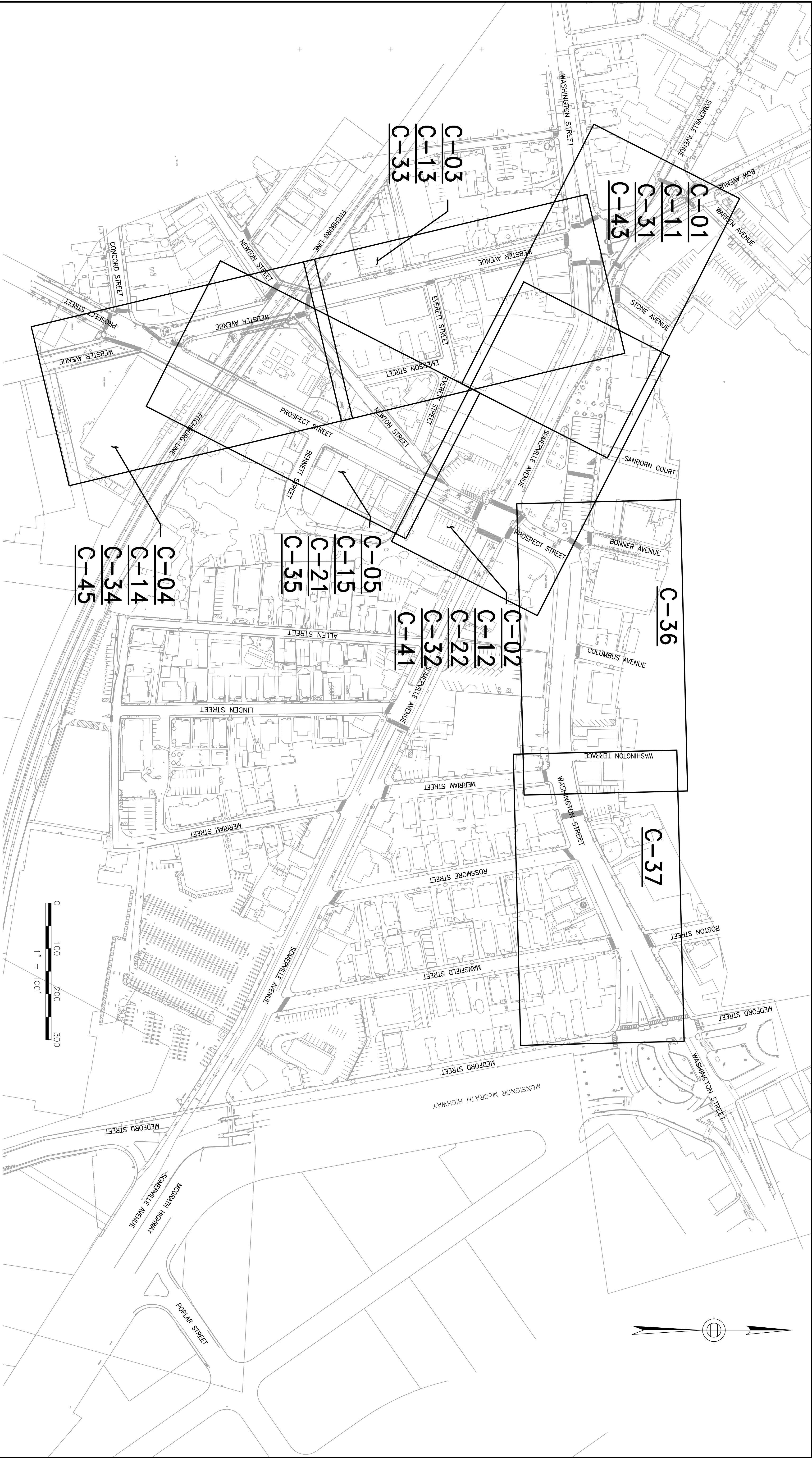
TOOLE DESIGN GROUP
33 BROAD STREET BOSTON, MA 02109
Phone: (617) 619-9910 FAX: (601) 927-2800

BRYANT ASSOCIATES, INC.
98 NORTH WASHINGTON STREET, SUITE B-1, BOSTON, MA 02114
Phone: (617) 248-0300 FAX: (617) 248-0212



SHEET

G-1



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

DESIGNED: LAC
CHECKED: RJB
DRAWN: LAC
CHECKED: RJB

DATE: JAN 4, 2016

NO. DATE

REVISIONS

BY

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT

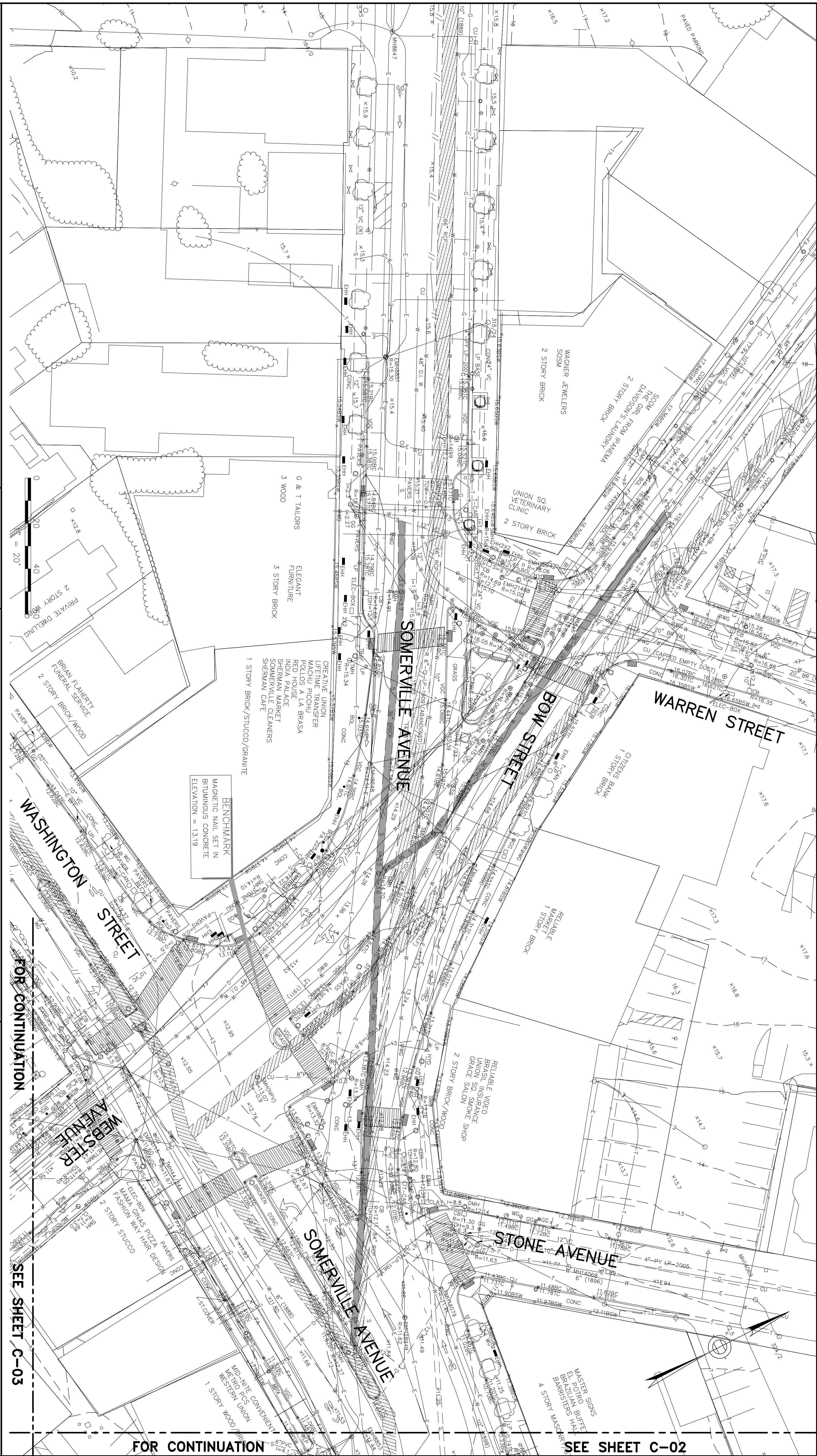
KEYPLAN

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75 Arlington St. Boston, MA 02116
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IFB#15-105-REBID

SCALE: 1"=100
DATE: JAN 4, 2016

SHEET
G-2



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO.

DATE

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COMMONWEALTH OF MASSACHUSETTS

CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY

EARLY ACTION PROJECT

EXISTING CONDITIONS PLANS

SHEET 1 OF 5

DESIGNED: LAC

CHECKED: RLB

DRAWN: LAC

CHECKED: RLB

IFB#15-105-REBID

SCALE: 1"=20'

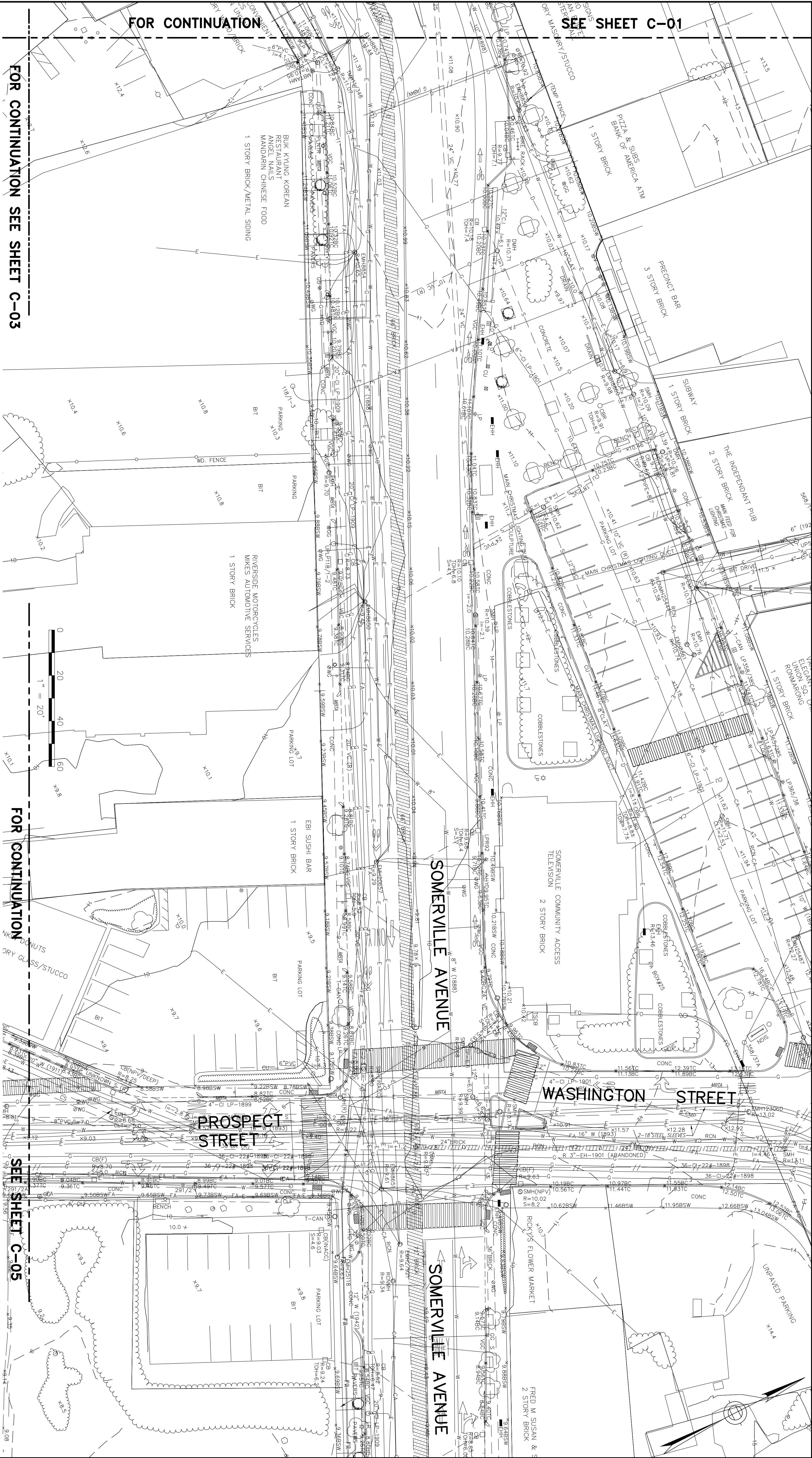
DATE: JAN 4, 2016

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SHEET

C-01



NO.

DATE

REVISIONS

BY

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

DESIGNED: LAC
CHECKED: RLB

DRAWN: LAC
CHECKED: RLB

IFB#15-105-REBID

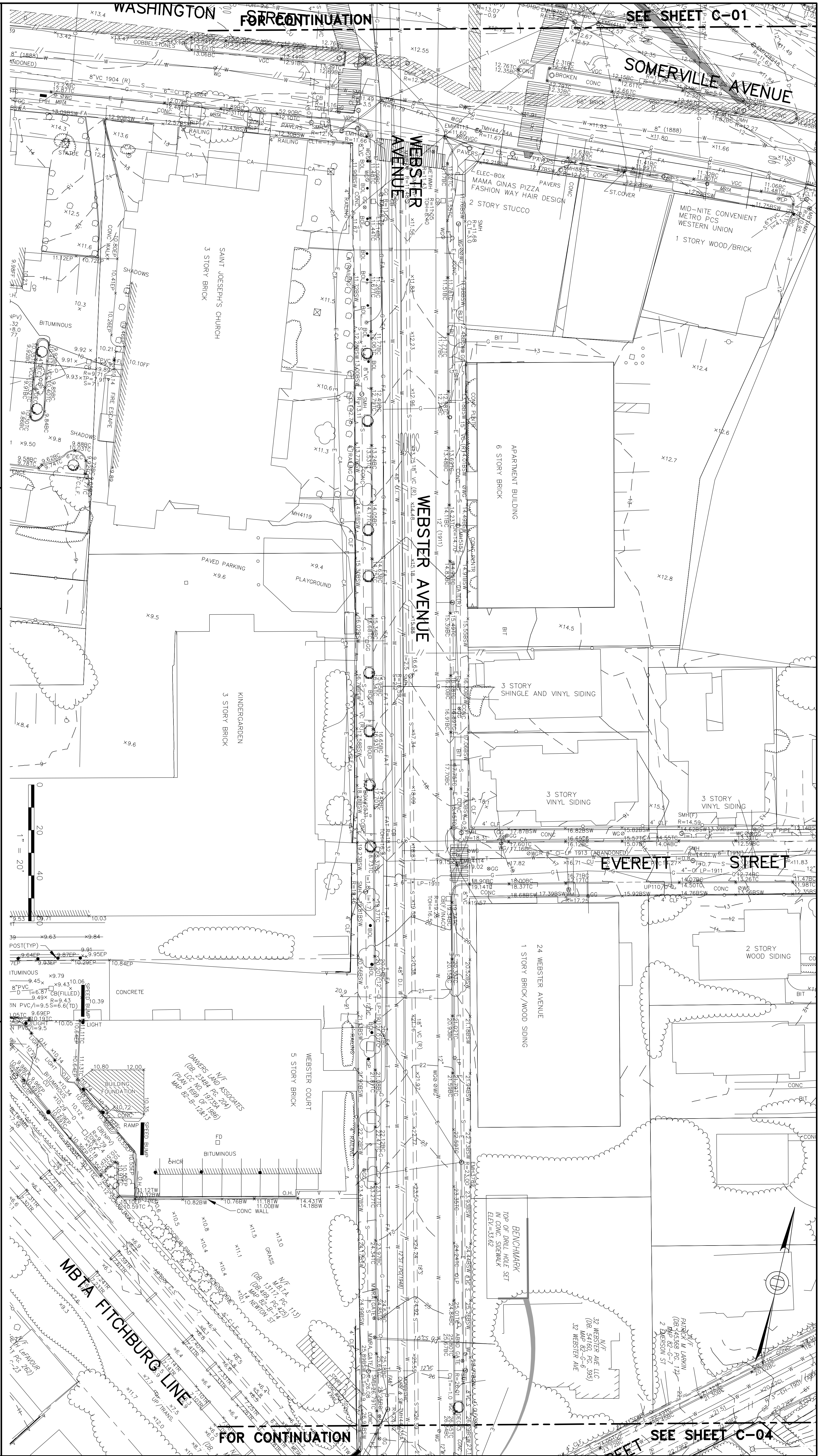
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SHEET
C-02

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
EXISTING CONDITIONS PLANS
SHEET 2 OF 5

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



NO.

DATE

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ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
EXISTING CONDITIONS PLANS
SHEET 3 OF 5

DESIGNED: LAC
CHECKED: RLB
DRAWN: LAC
CHECKED: RLB
IFB#15-105-REBID
SCALE: 1"=20'
DATE: JAN 4, 2016

SHEET
C-03

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE
No. 11800
Burckhardt
1/16

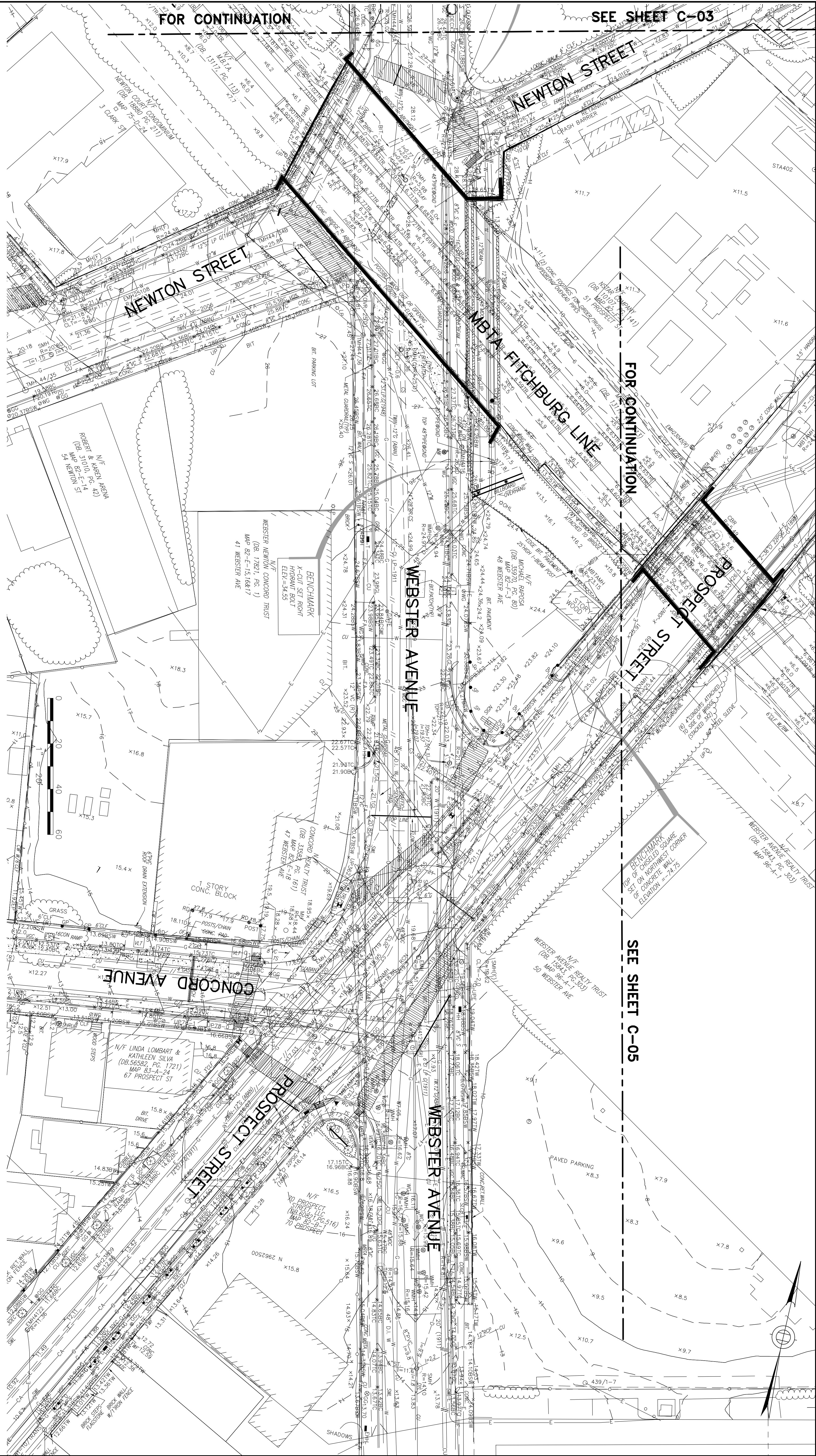
0 20 40
1" = 20'

FOR CONTINUATION

FOR CONTINUATION

SEE SHEET C-01

SEE SHEET C-04



FOR CONTINUATION

SEE SHEET C-03

FOR CONTINUATION

SEE SHEET C-05

NO.

DATE

REVISIONS

BY

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

COMMONWEALTH OF MASSACHUSETTS

CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY

EARLY ACTION PROJECT

EXISTING CONDITIONS PLANS

SHEET 4 OF 5

DESIGNED: LAC

CHECKED: RUB

DRAWN: LAC

CHECKED: RUB

IFB#15-105-REBID

SCALE: 1"=20'

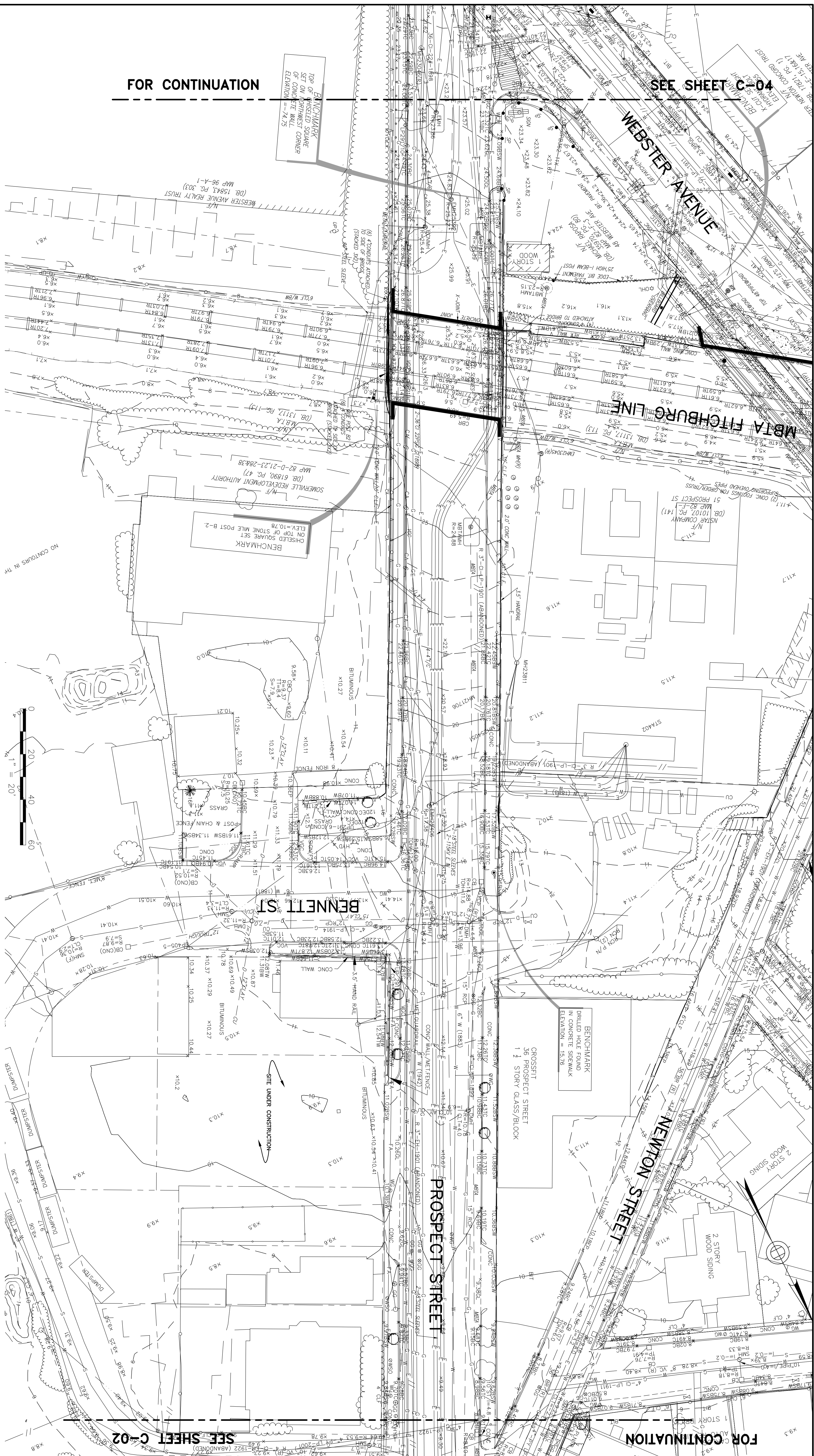
DATE: JAN 4, 2016

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SHEET

C-04



SEE SHEET C-04

WEBSTER AVENUE

MBTA FITCHBURG LINE

BENCHMARK
TOP OF GISELED SQUARE
SET ON NORTHWEST CORNER
OF CONCRETE WALL.
ELEVATION = -74.75

WEBSTER AVENUE REALTY TRUST
(DB. 15843, PG. 303)
MAP 96-A-1

CHISELED SQUARE SET
ON TOP OF STONE MILE POST B-2.
ELEV.=51.78

COMMERVILLE REDEVELOPMENT AUTHORITY
(DB. 61890, PG. 47)
MAP 82-D-21.23-28&38

OR GIRDER/TRUSS
PIPES
51 PROSPECT ST
MAP 82-F-1
(DB. 10107, PG. 141)
NSTAR COMPANY
N/F

NEWTON ST

PROSPECT STREET

SITE UNDER CONSTRUCTION

FOR CONTINUATION

SEE SHEET C-02

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM			

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM



UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
EXISTING CONDITIONS PLANS
SHEET 5 OF 5

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

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SHEET

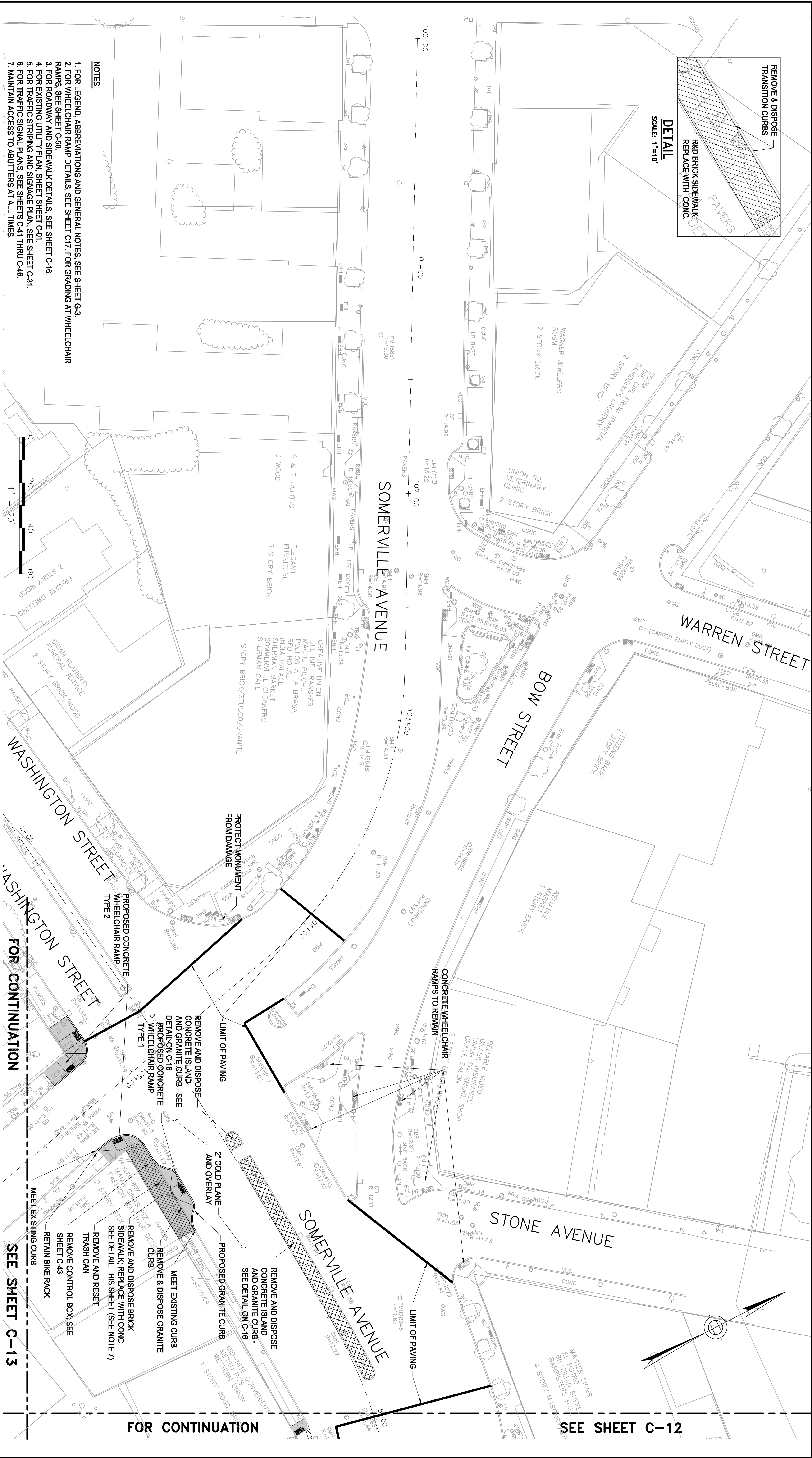
C-05

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

IFB#15-105-REBID

SCALE: 1"=20'

DATE: JAN 4, 2011



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

DESIGNED: LAC
CHECKED: RUB

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SHEET
C-11

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
GENERAL PLANS
SHEET 1 OF 5

DESIGNED: LAC
CHECKED: RUB

IFB#15-105-REBID

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

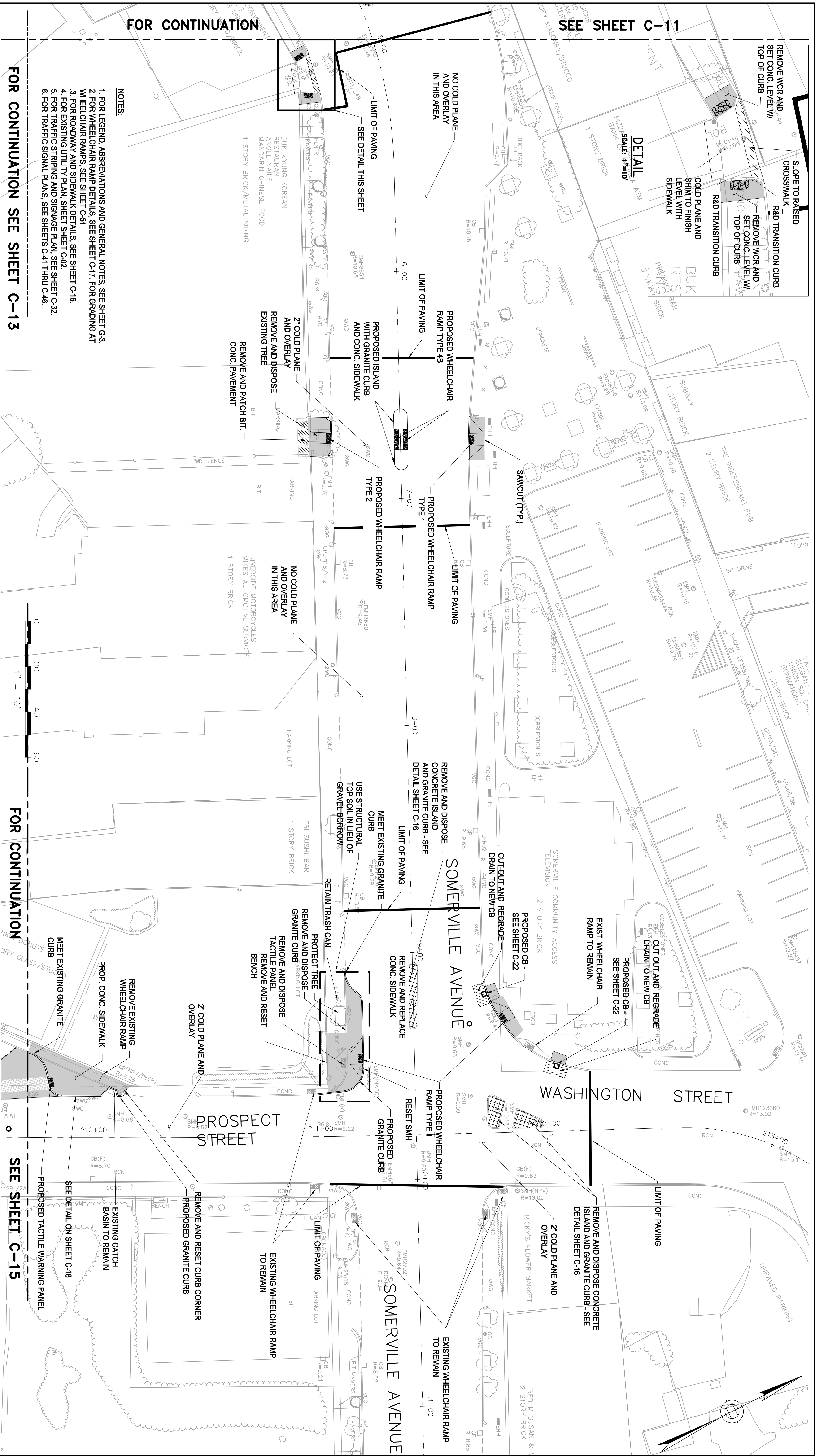
COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

NO. DATE

REVISIONS

BY



FOR CONTINUATION

SEE SHEET C-11

FOR CONTINUATION SEE SHEET C-13

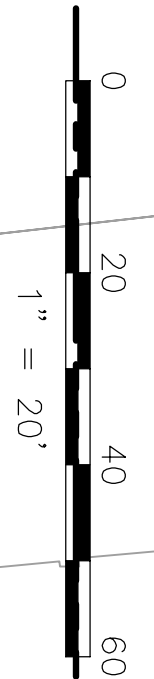
FOR CONTINUATION

SEE SHEET C-15

NOTES:

- 1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET G-3.
- 2. FOR WHEELCHAIR RAMP DETAILS, SEE SHEET C-17. FOR GRADING AT WHEELCHAIR RAMPS, SEE SHEET C-51.
- 3. FOR ROADWAY AND SIDEWALK DETAILS, SEE SHEET C-16.
- 4. FOR EXISTING UTILITY PLAN, SHEET SHEET C-02.
- 5. FOR TRAFFIC STRIPING AND SIGNAGE PLAN, SEE SHEET C-32.
- 6. FOR TRAFFIC SIGNAL PLANS, SEE SHEETS C-41 THRU C-46.

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
GENERAL PLANS
SHEET 2 OF 5

DESIGNED: LAC
CHECKED: RAB
DRAWN: LAC
CHECKED: RAB

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SHEET

C-12

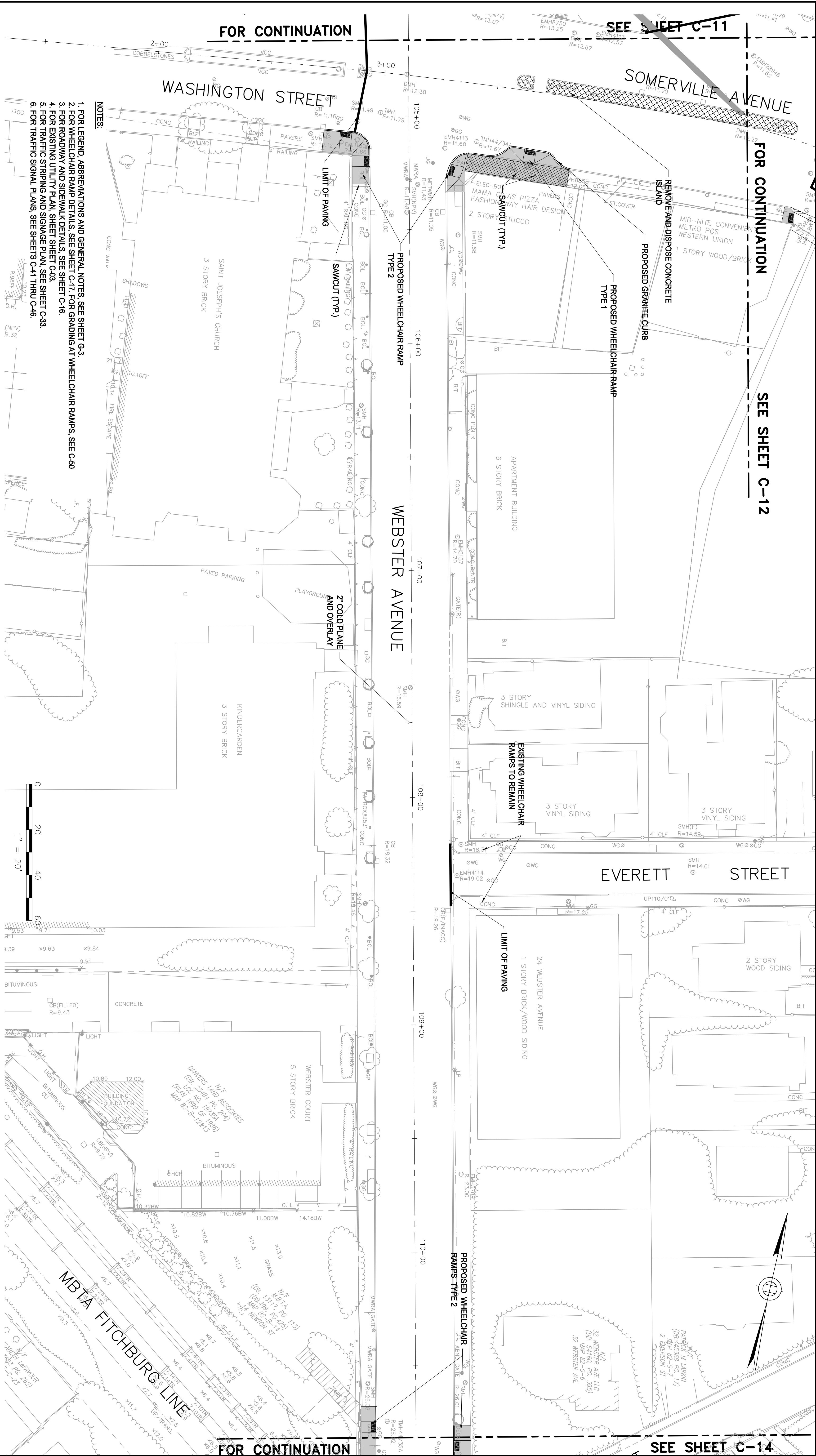
IFB#15-105-REBID

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

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

NO.	DATE	REVISIONS	BY





NO.

DATE

REVISIONS

BY

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

DESIGNED: LAC

CHECKED: RLB

DRAWN: LAC

CHECKED: RLB

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IFB#15-105-REBID

SCALE: 1"=20'

DATE: JAN 4, 2016

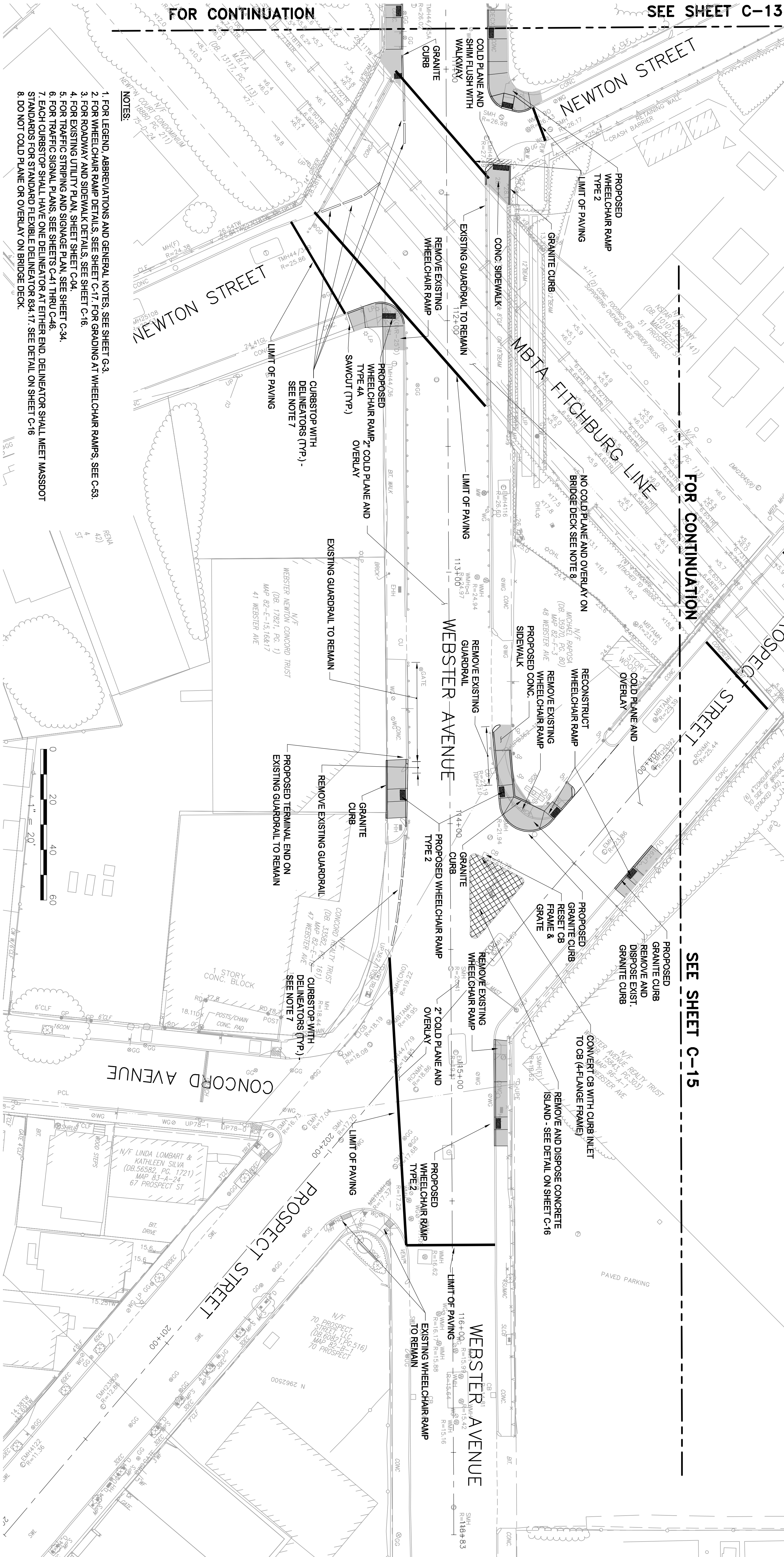
SHEET

C-13

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
GENERAL PLANS
SHEET 3 OF 5

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET G-3.
2. FOR WHEELCHAIR RAMP DETAILS, SEE SHEET C-17. FOR GRADING AT WHEELCHAIR RAMPS, SEE C-53.
3. FOR ROADWAY AND SIDEWALK DETAILS, SEE SHEET C-16.
4. FOR EXISTING UTILITY PLAN, SEE SHEET C-04.
5. FOR TRAFFIC STRIPING AND SIGNAGE PLAN, SEE SHEET C-34.
6. FOR TRAFFIC SIGNAL PLANS, SEE SHEETS C-41 THRU C-46.
7. EACH CURBSTOP SHALL HAVE ONE DELINEATOR AT EITHER END. DELINEATOR SHALL MEET MASSDOT STANDARDS FOR STANDARD FLEXIBLE DELINEATOR 834.17. SEE DETAIL ON SHEET C-16.
8. DO NOT COLD PLANE OR OVERLAY ON BRIDGE DECK.

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO.		DATE	REVISIONS	BY



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
GENERAL PLANS
SHEET 4 OF 5

DESIGNED: LAC
CHECKED: RJB

DRAWN: LAC
CHECKED: RJB

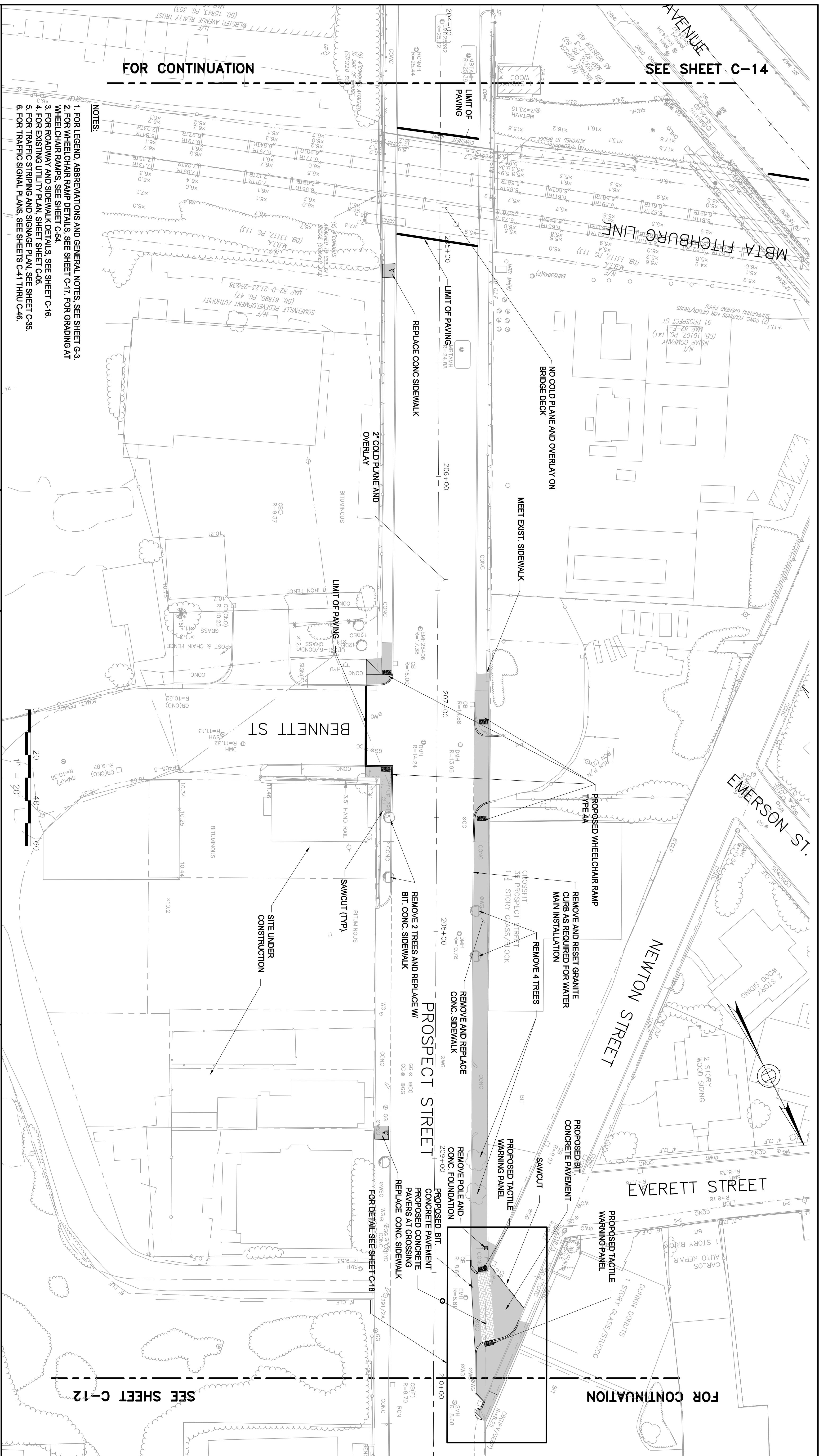
IFB#15-105-REBID

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

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SHEET
C-14

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



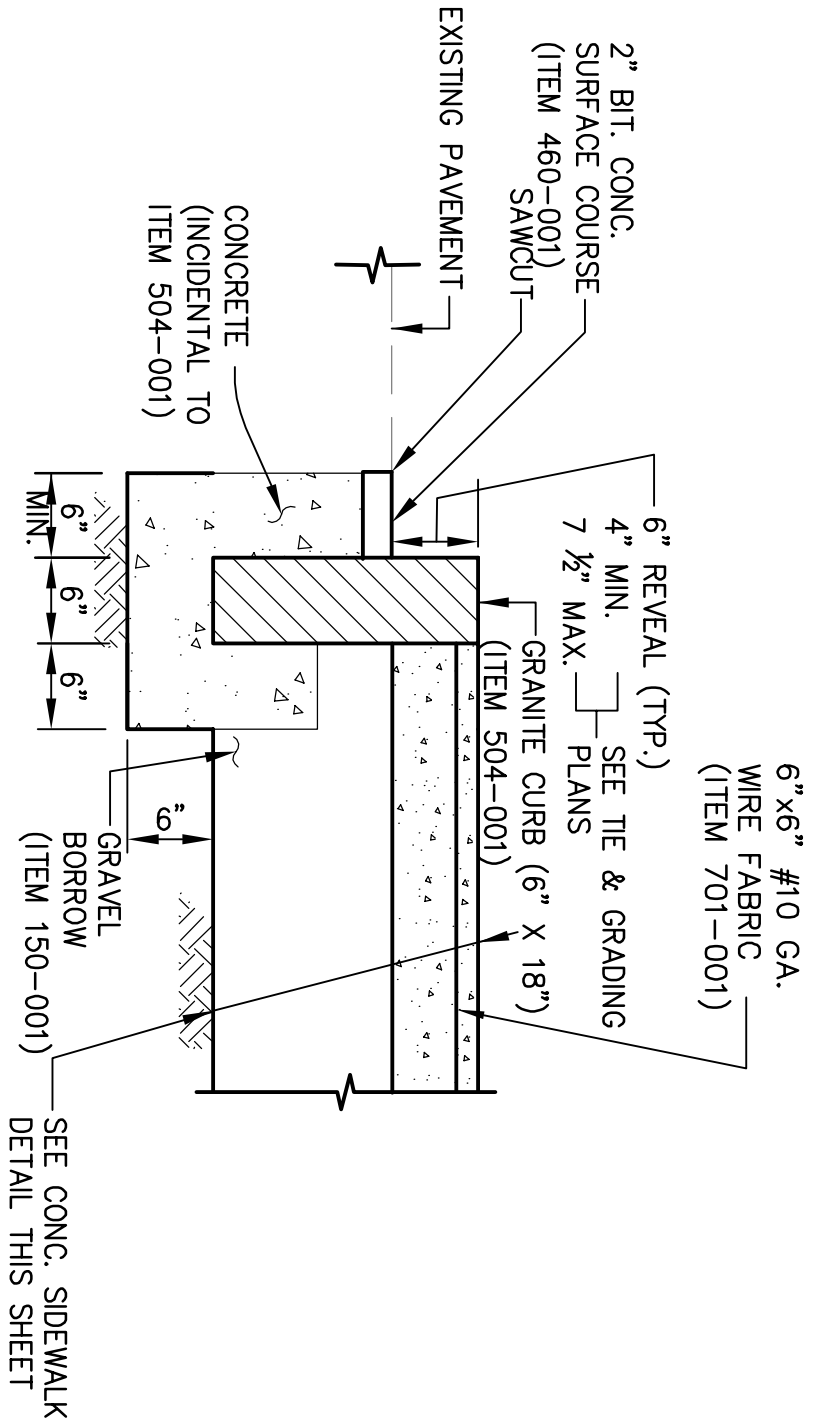
ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM			
NO.	DATE	REVISIONS	BY



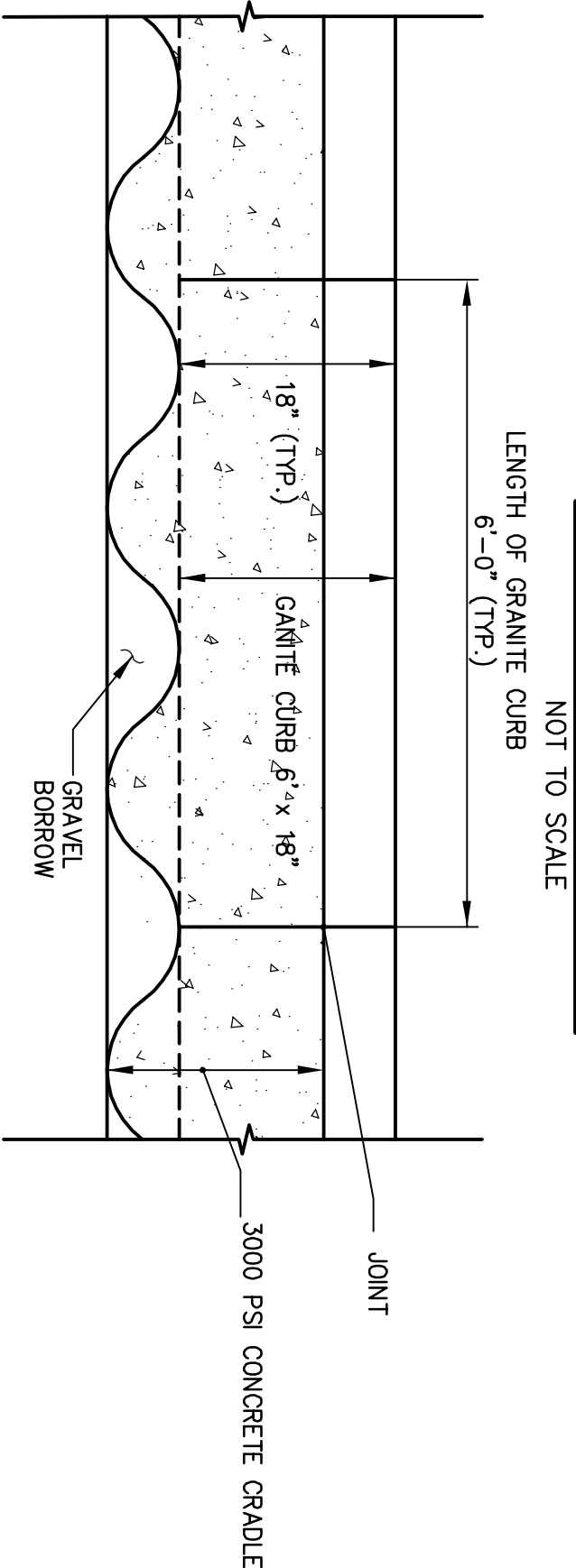
COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
GENERAL PLANS
SHEET 5 OF 5

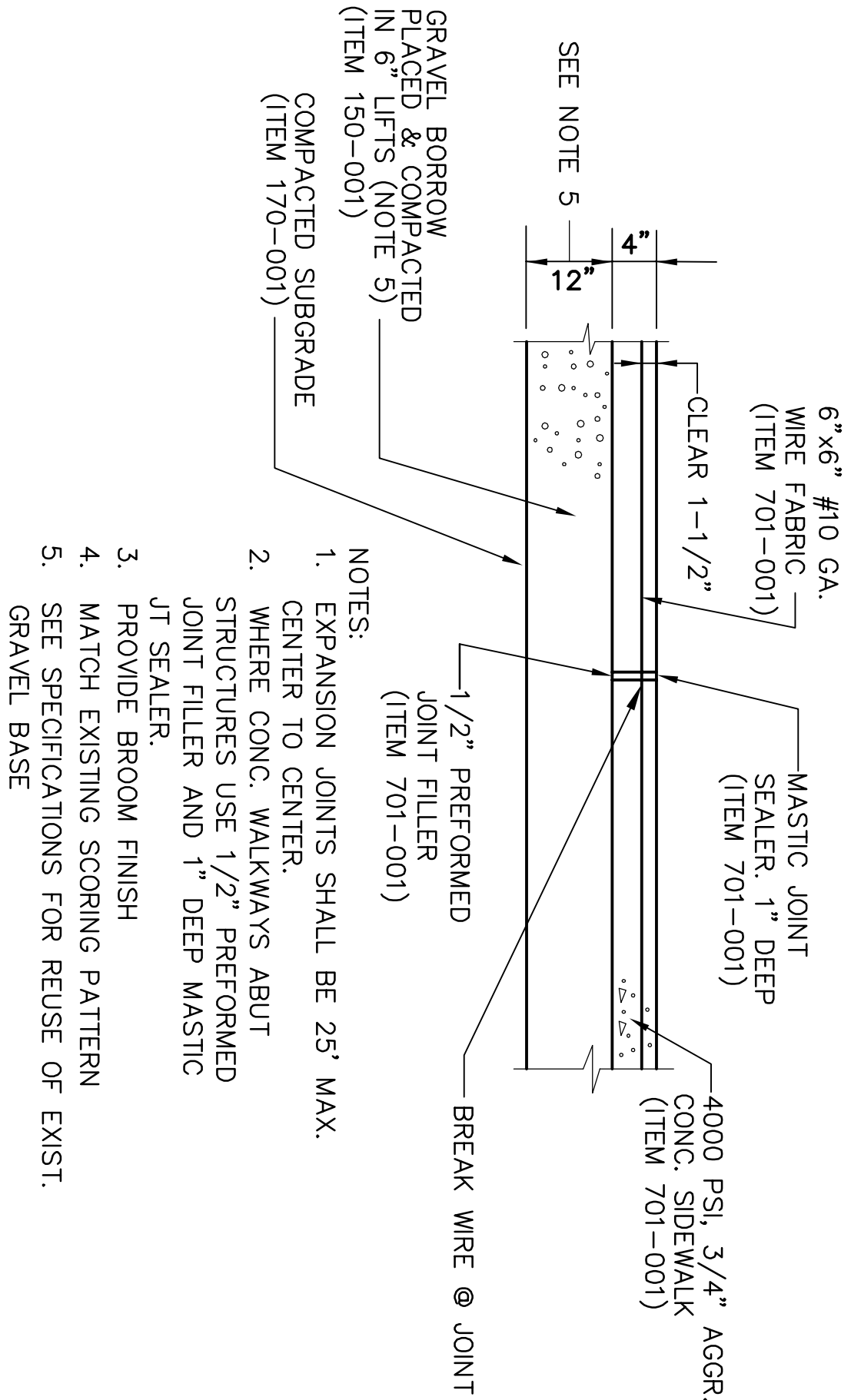
DESIGNED:	LAC
CHECKED:	RJB
DRAWN:	LAC
CHECKED:	RJB
PARSONS BRINCKERHOFF	
Parsons Brinckerhoff, Inc. 75 Arlington St. Boston, MA 02116 PH. (617)426-7330 FAX (617)482-8487	
IFB# 15-105-REBID	
SCALE: 1"=20'	
DATE: JAN 4, 2016	
CITY OF SOMERVILLE 93 HIGHLAND AVENUE SOMERVILLE, MA 02143	
SHEET C-15	



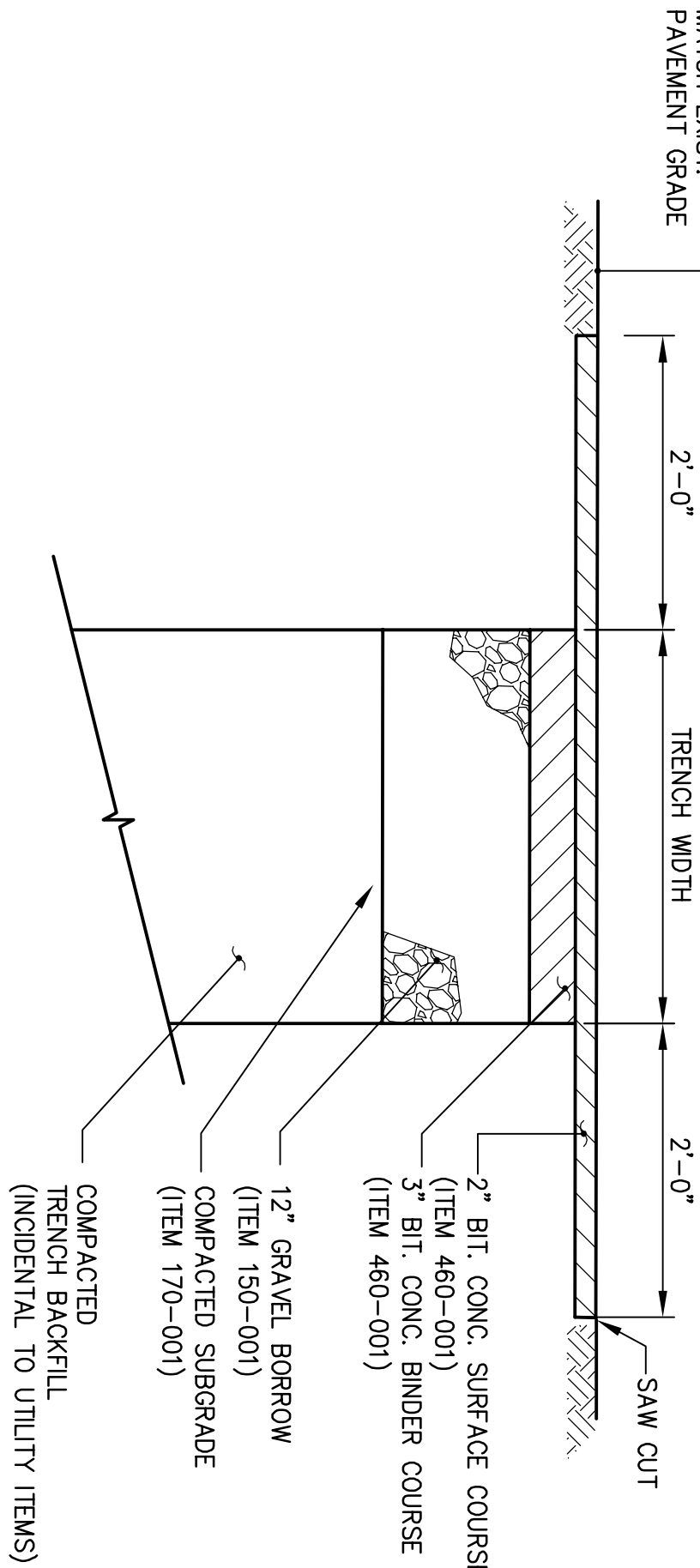
TYPICAL GRANITE CURB WITH
CONCRETE SIDEWALK



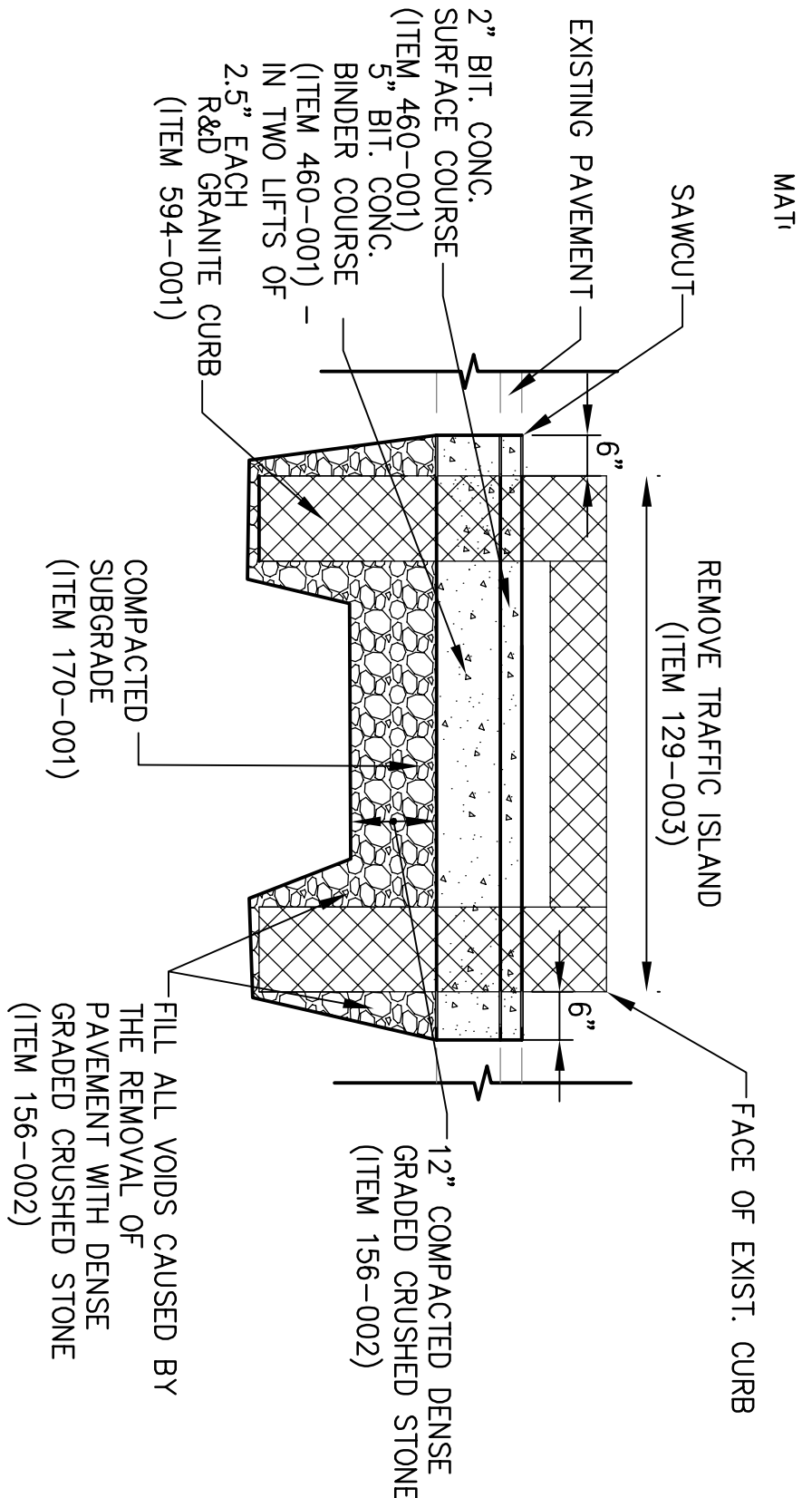
CONCRETE GRADE FOR GRANITE CURB
LONGITUDINAL SECTION



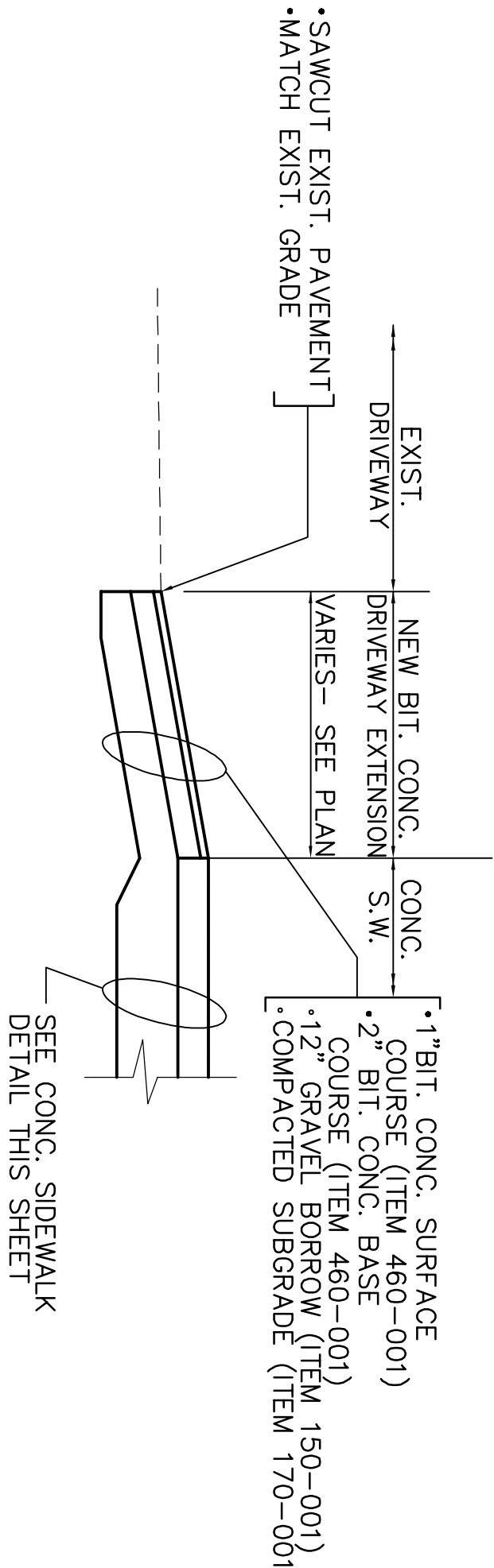
CONCRETE SIDEWALK & DRIVEWAY DETAIL



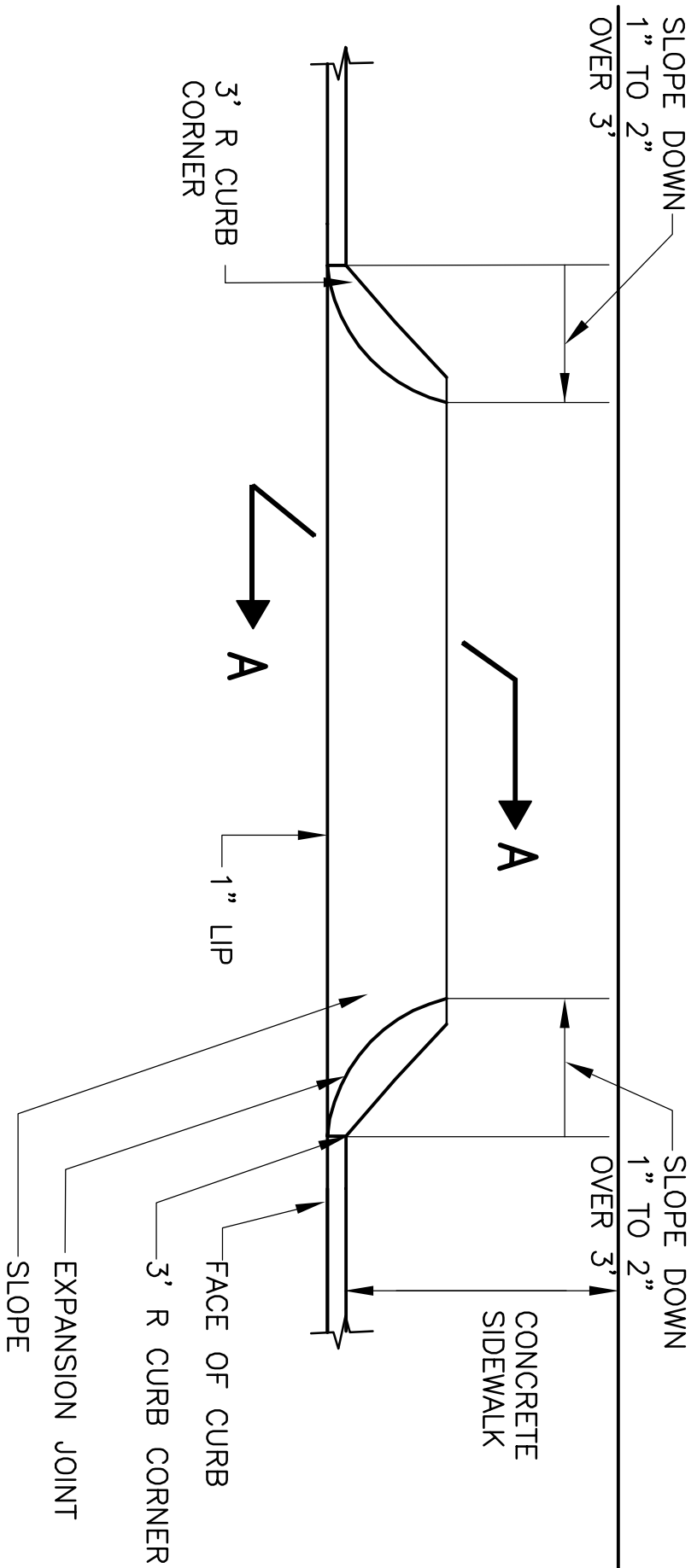
TEMPORARY PATCH



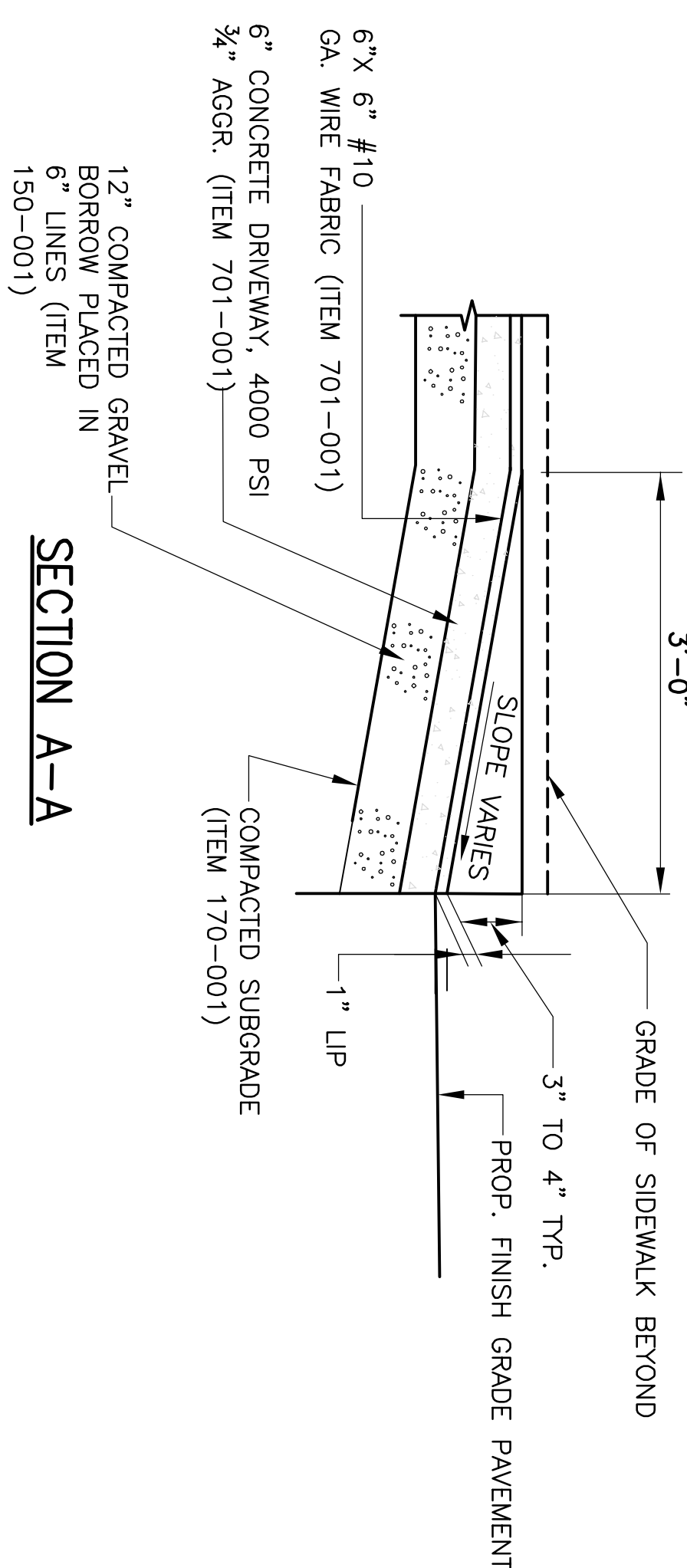
TRAFFIC ISLAND REMOVAL



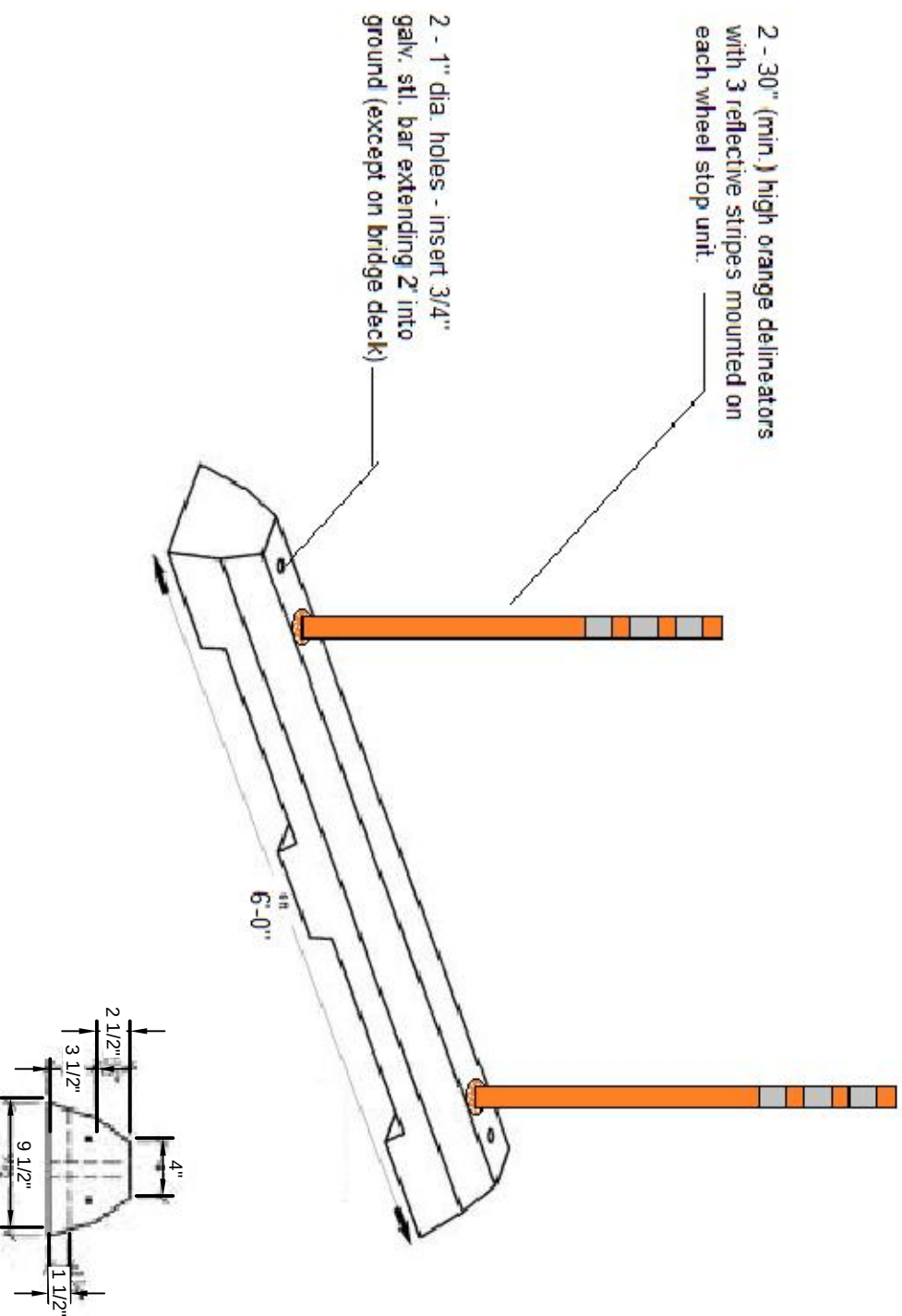
BIT. CONC. DRIVEWAY



PLAN



CONCRETE PAVEMENT DRIVEWAY DETAIL



PRECAST CONCRETE WHEELSTOP W/ DELINEATORS

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
ROADWAY DETAILS

DESIGNED: R.B.
CHECKED: R.B.
DRAWN: L.A.C.
CHECKED: R.B.
PARSONS
BRINCKERHOFF
75 Arlington St., Boston, MA 02116
PH. (617) 426-7330 FAX (617) 482-8487

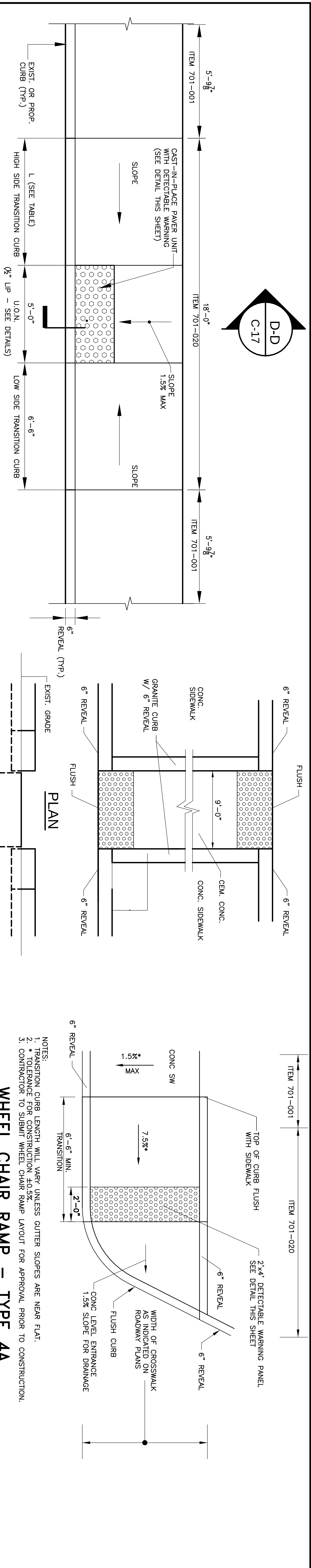
IFB#15-105-REBID

SCALE: NTS
DATE: JAN 4, 2016



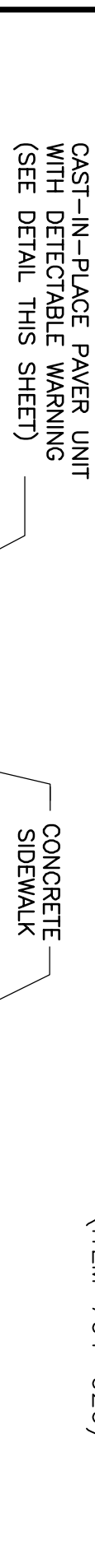
CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

SHEET
C-16



WHEEL CHAIR RAMP – TYPE 2

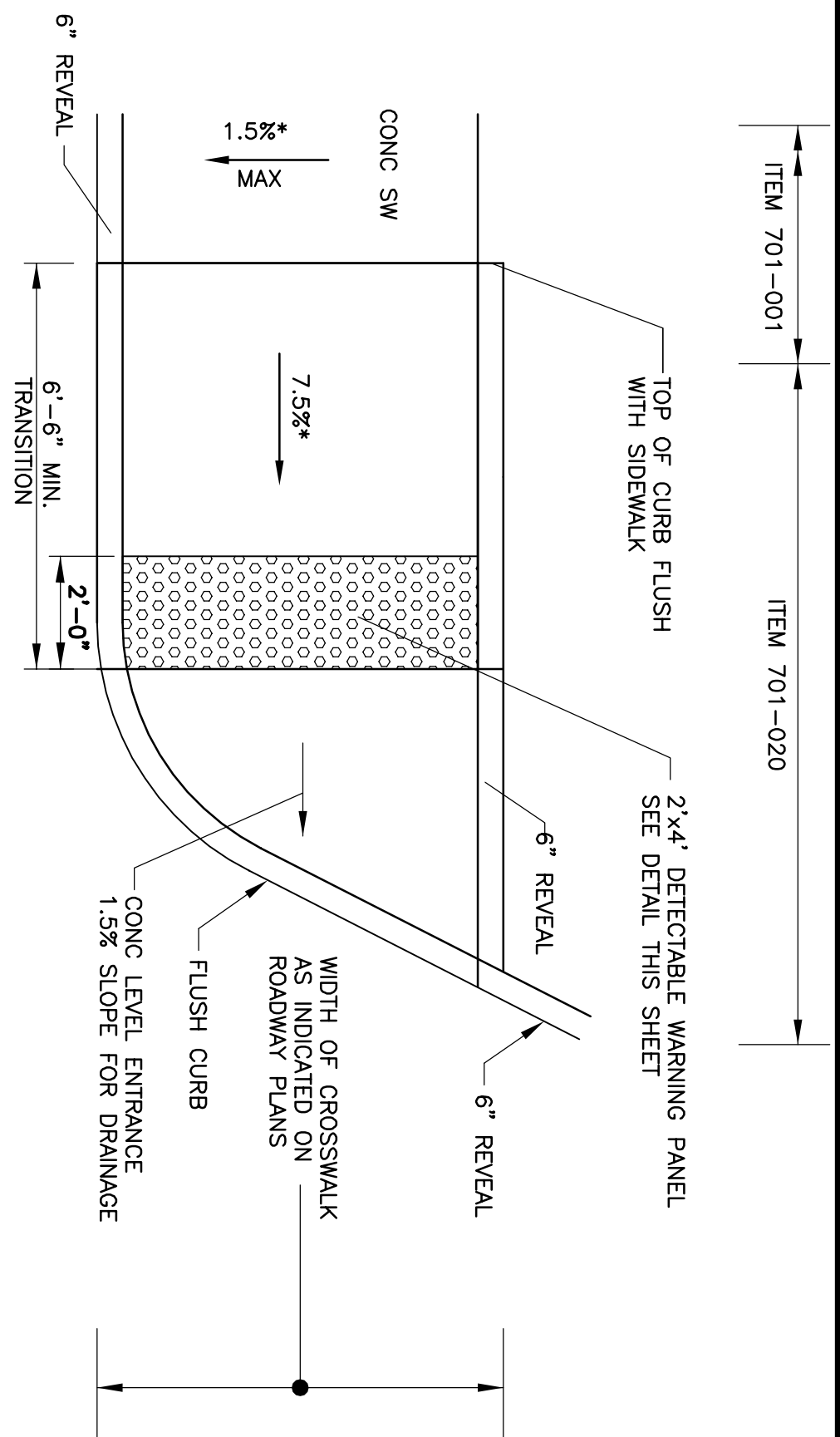
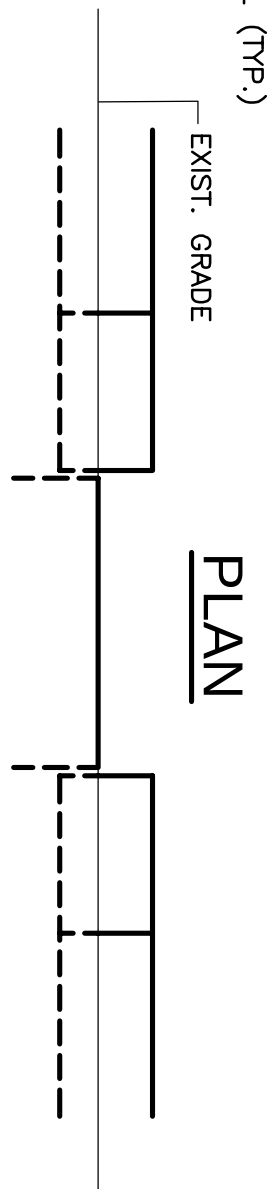
NOT TO SCALE (ITEM 701-020)



WHEEL CHAIR RAMP – TYPE 4B

NOT TO SCALE (ITEM 701-020)

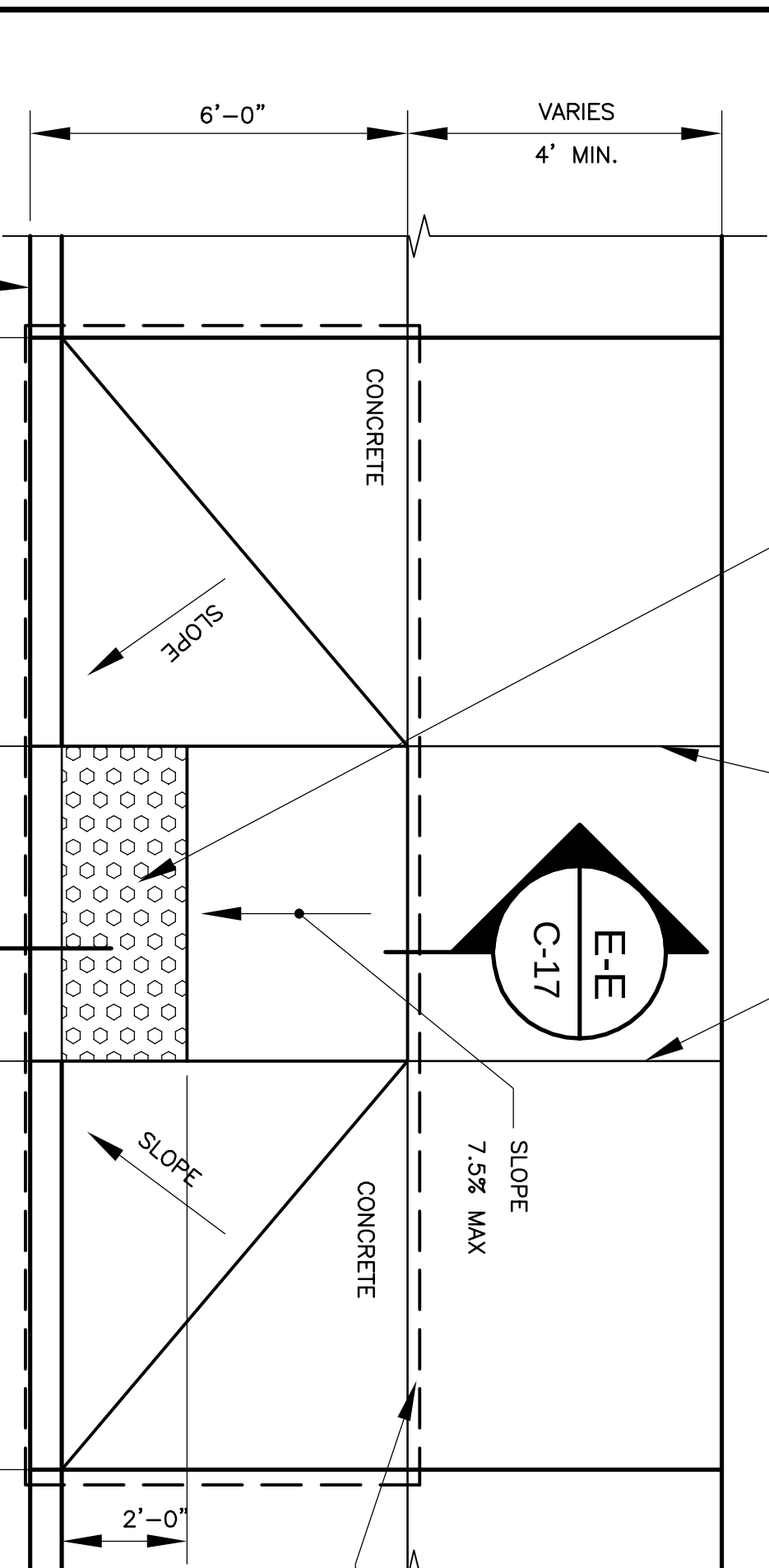
PROFILE



- NOTES:
1. TRANSITION CURB LENGTH WILL VARY UNLESS GUTTER SLOPES ARE NEAR FLAT.
 2. * TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$.
 3. CONTRACTOR TO SUBMIT WHEEL CHAIR RAMP LAYOUT FOR APPROVAL PRIOR TO CONSTRUCTION.

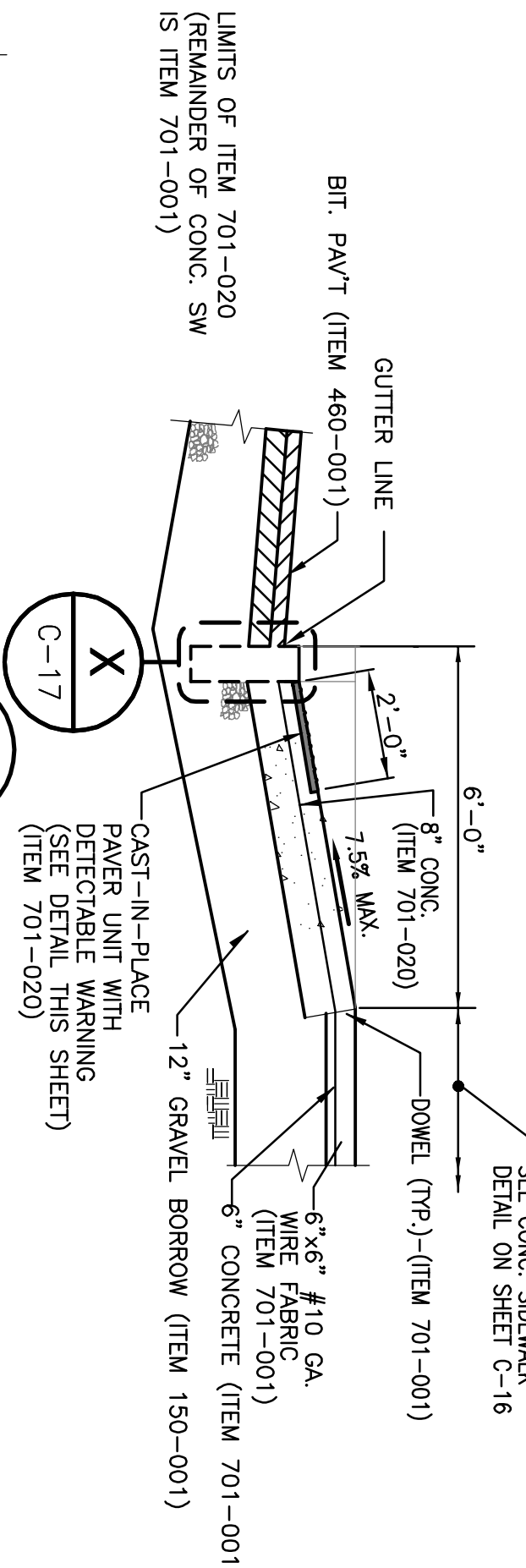
WHEEL CHAIR RAMP – TYPE 4A

NOT TO SCALE (ITEM 701-020)



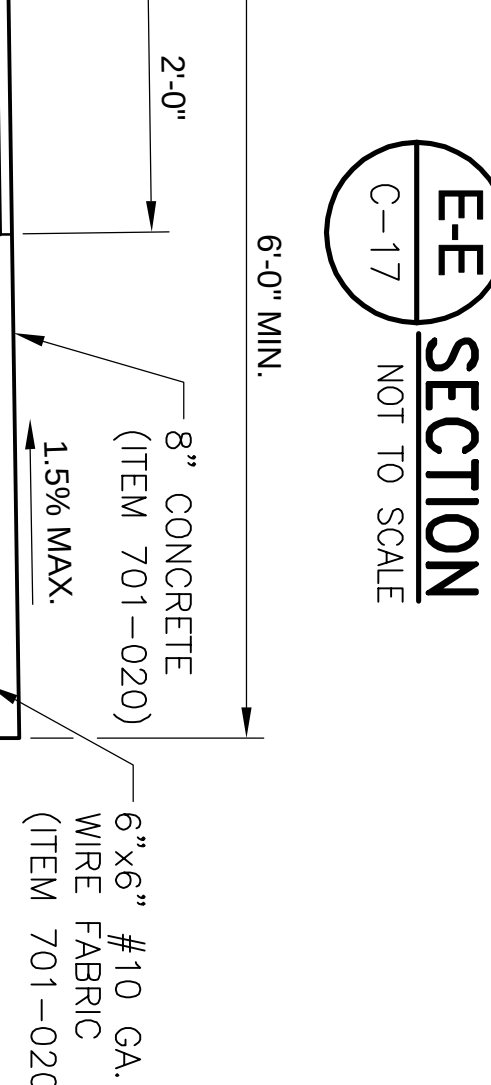
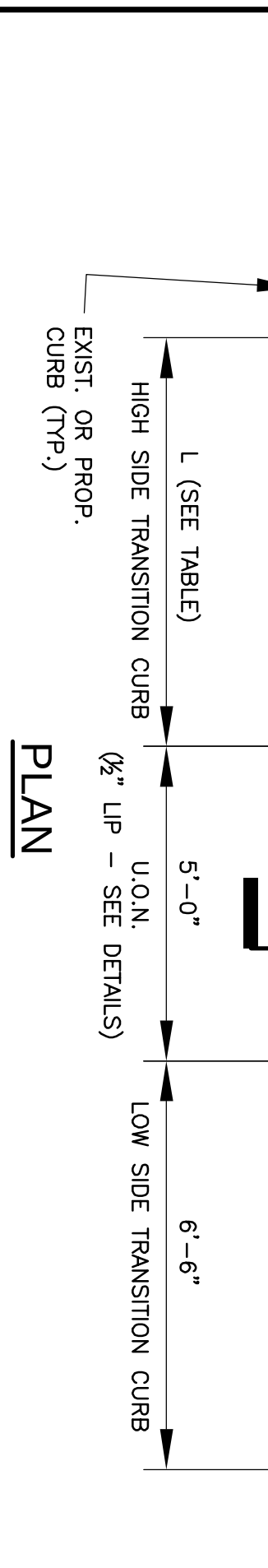
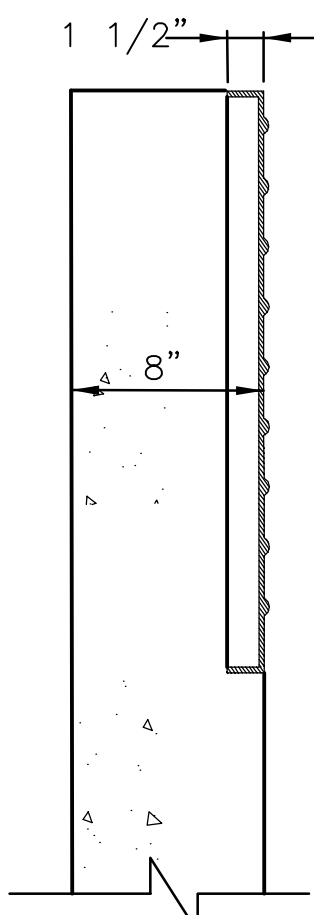
E-E SECTION

NOT TO SCALE



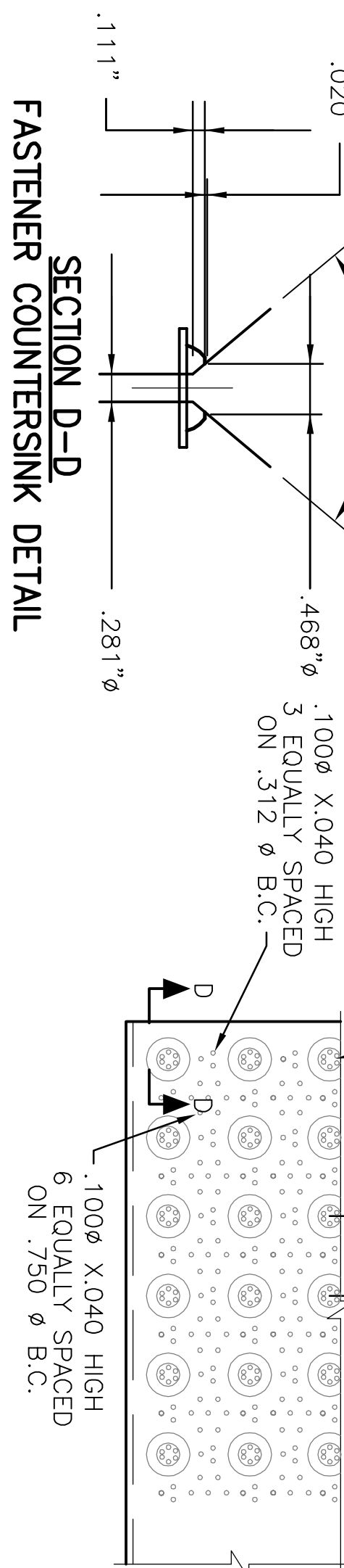
SECTION B-B

NTS 80°



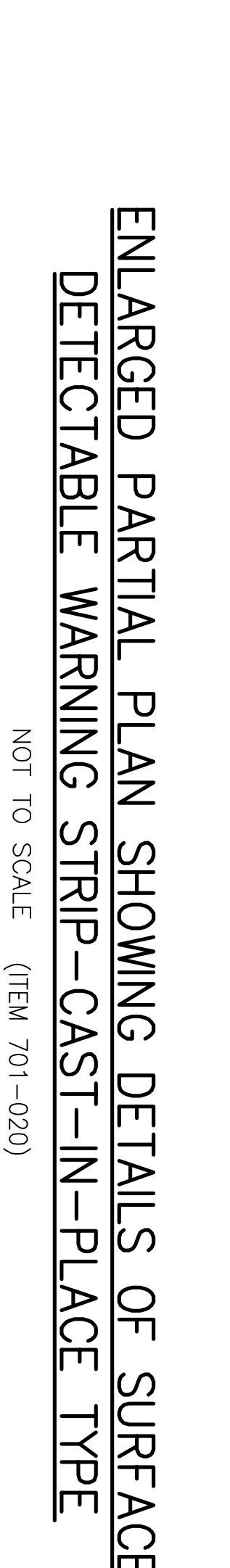
SECTION D-D

FASTENER COUNTERSINK DETAIL



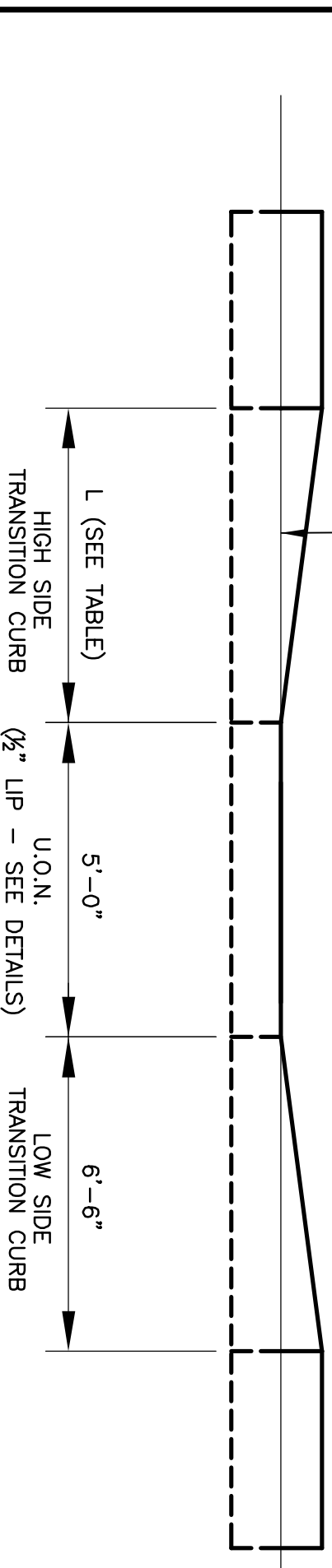
ENLARGED PARTIAL PLAN SHOWING DETAILS OF SURFACE DETECTABLE WARNING STRIP-CAST-IN-PLACE TYPE

NOT TO SCALE (ITEM 701-020)

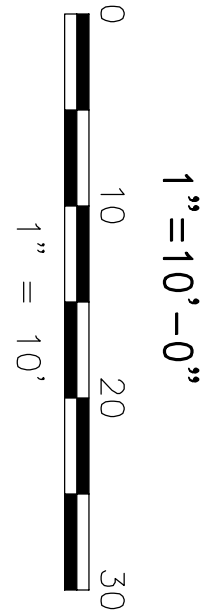
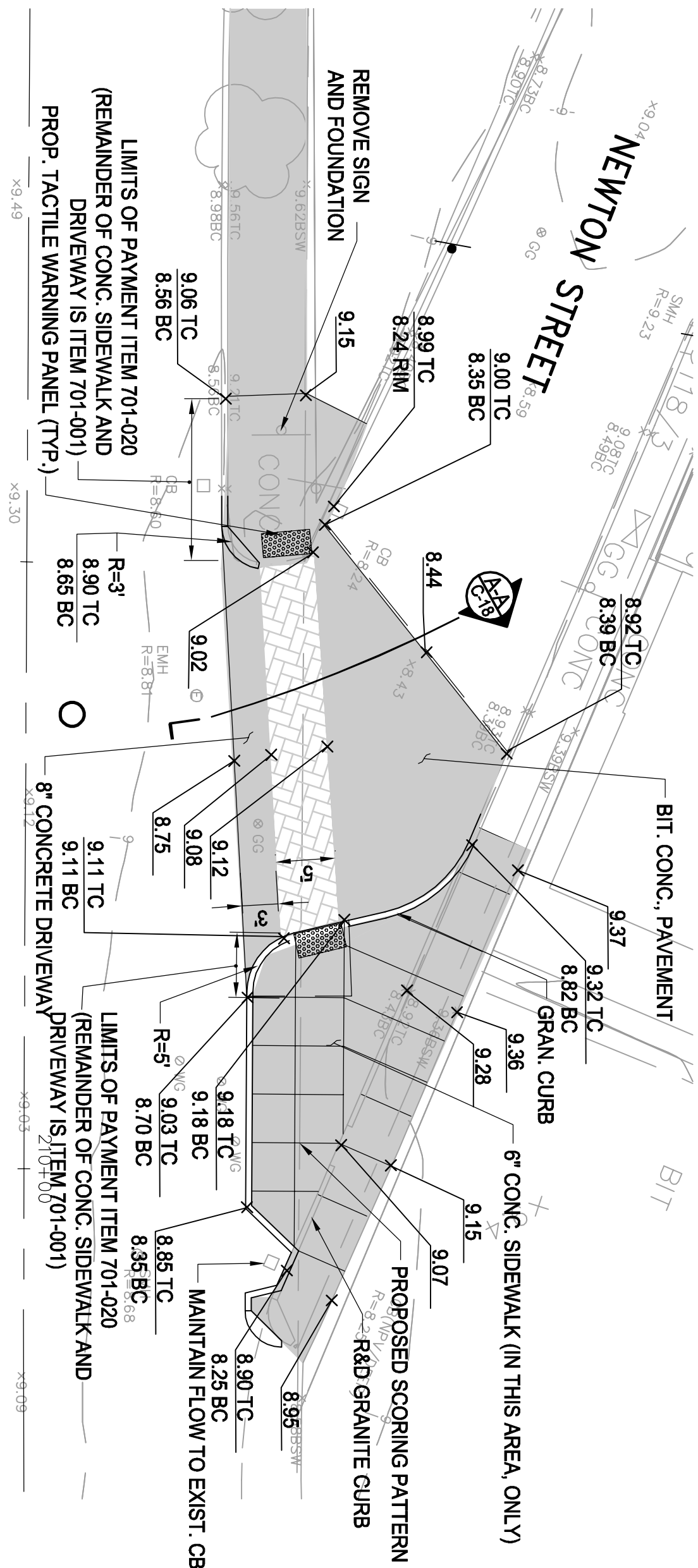


WHEEL CHAIR RAMP – TYPE 1

NOT TO SCALE (ITEM 701-020)

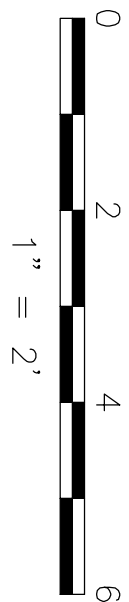
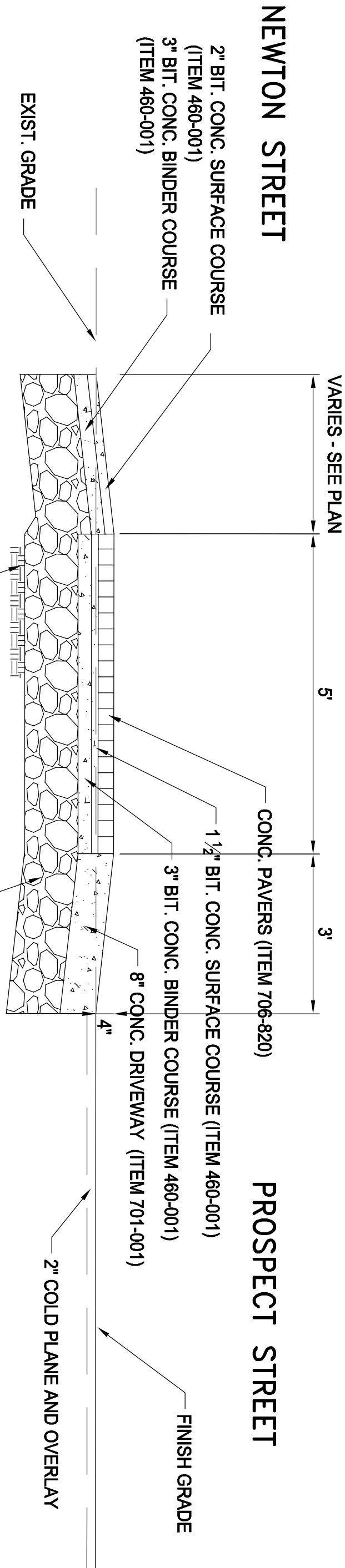


ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM



NOTE: FOR PLAN, SEE SHEET C-15

PROSPECT STREET SPEED TABLE/RAISED CROSSWALK



SECTION A-A 1"=2'-0"

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM			
NO.	DATE	REVISIONS	BY

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY EARLY ACTION PROJECT NEWTON STREET SPEED TABLE DETAIL

DESIGNED: LAC
CHECKED: RJB
DRAWN: LAC
CHECKED: RJB

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

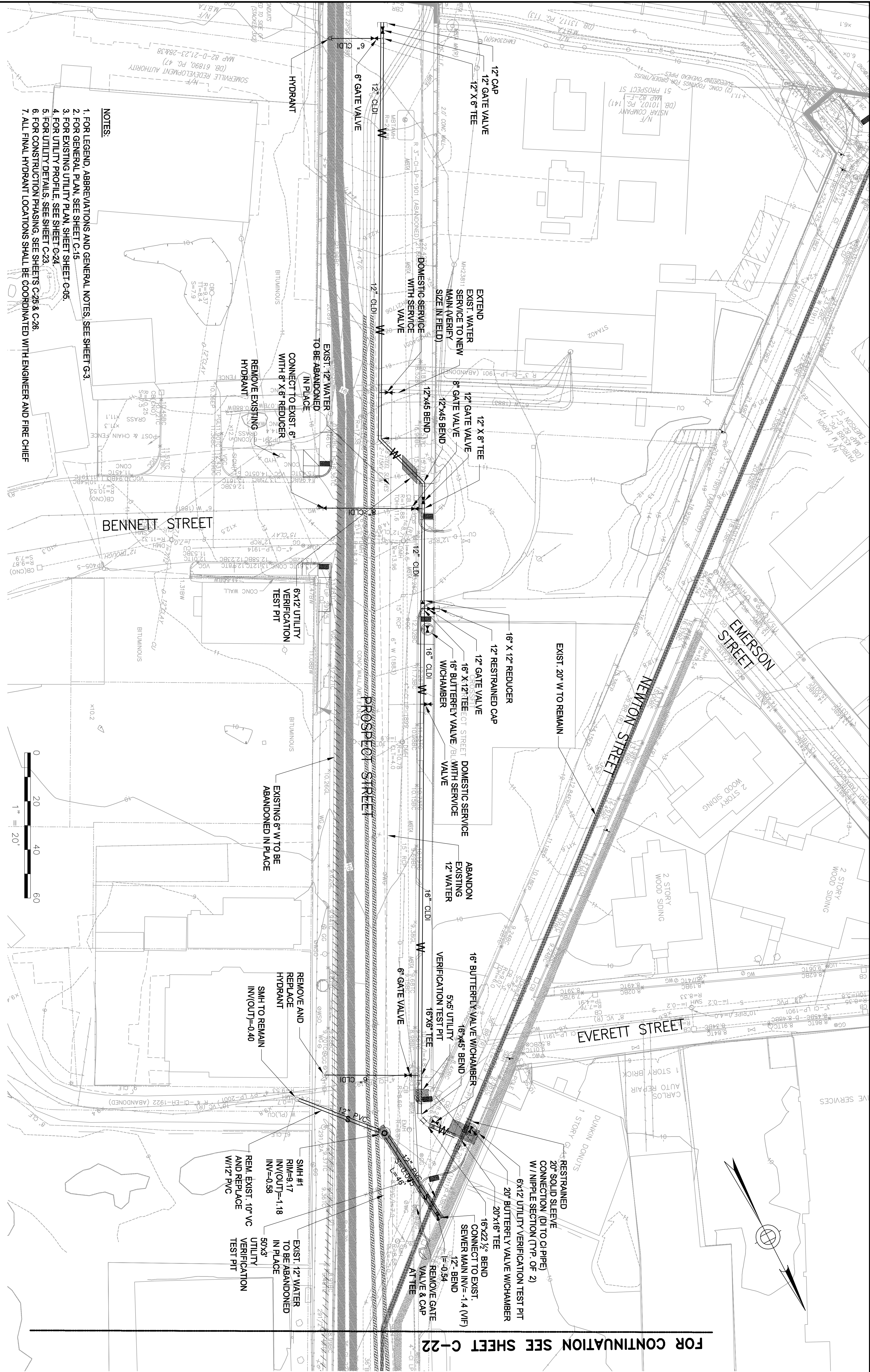
SHEET

C-18

IFB#15-105-REBID

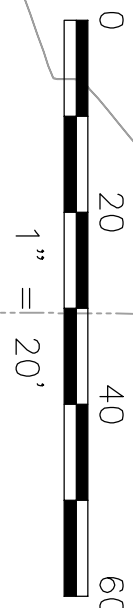
SCALE: AS NOTED
DATE: JAN 4, 2016

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



- NOTES:
1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET G-3.
 2. FOR GENERAL PLAN, SEE SHEET C-15
 3. FOR EXISTING UTILITY PLAN, SHEET SHEET C-06.
 4. FOR UTILITY PROFILE, SEE SHEET C-24.
 5. FOR UTILITY DETAILS, SEE SHEET C-23.
 6. FOR CONSTRUCTION PHASING, SEE SHEETS C-25 & C-26.
 7. ALL FINAL HYDRANT LOCATIONS SHALL BE COORDINATED WITH ENGINEER AND FIRE CHIEF

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
WATER AND SEWER IMPROVEMENTS
PROSPECT STREET

DESIGNED: JF
CHECKED: RJB
DRAWN: KW
CHECKED: RJB

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

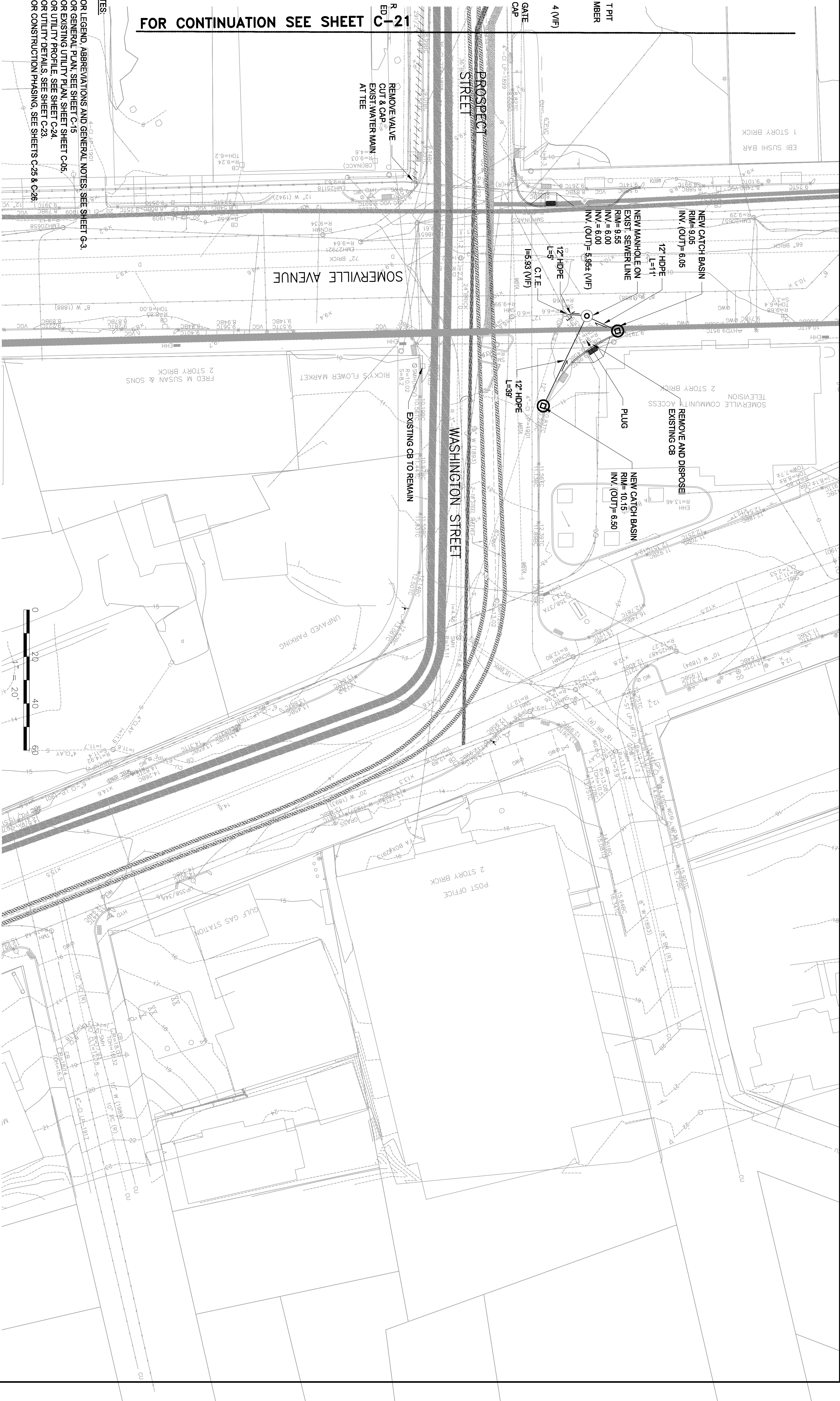
IFB#15-105-REBID

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

SHEET

C-21

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET G-3.
2. FOR GENERAL PLAN, SEE SHEET C-15
3. FOR EXISTING UTILITY PLAN, SHEET SHEET C-05.
4. FOR UTILITY PROFILE, SEE SHEET C-24.
5. FOR UTILITY DETAILS, SEE SHEET C-23.
6. FOR CONSTRUCTION PHASING, SEE SHEETS C-25 & C-26.

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO.	DATE	
		REVISIONS
		BY

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
DRAINAGE IMPROVEMENTS
SOMERVILLE AVE & WASHINGTON ST

DESIGNED: RJB
CHECKED: RJB

DRAWN: LAC
CHECKED: RJB

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75 Arlington St. Boston, MA 02116
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IFB#15-105-REBID

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

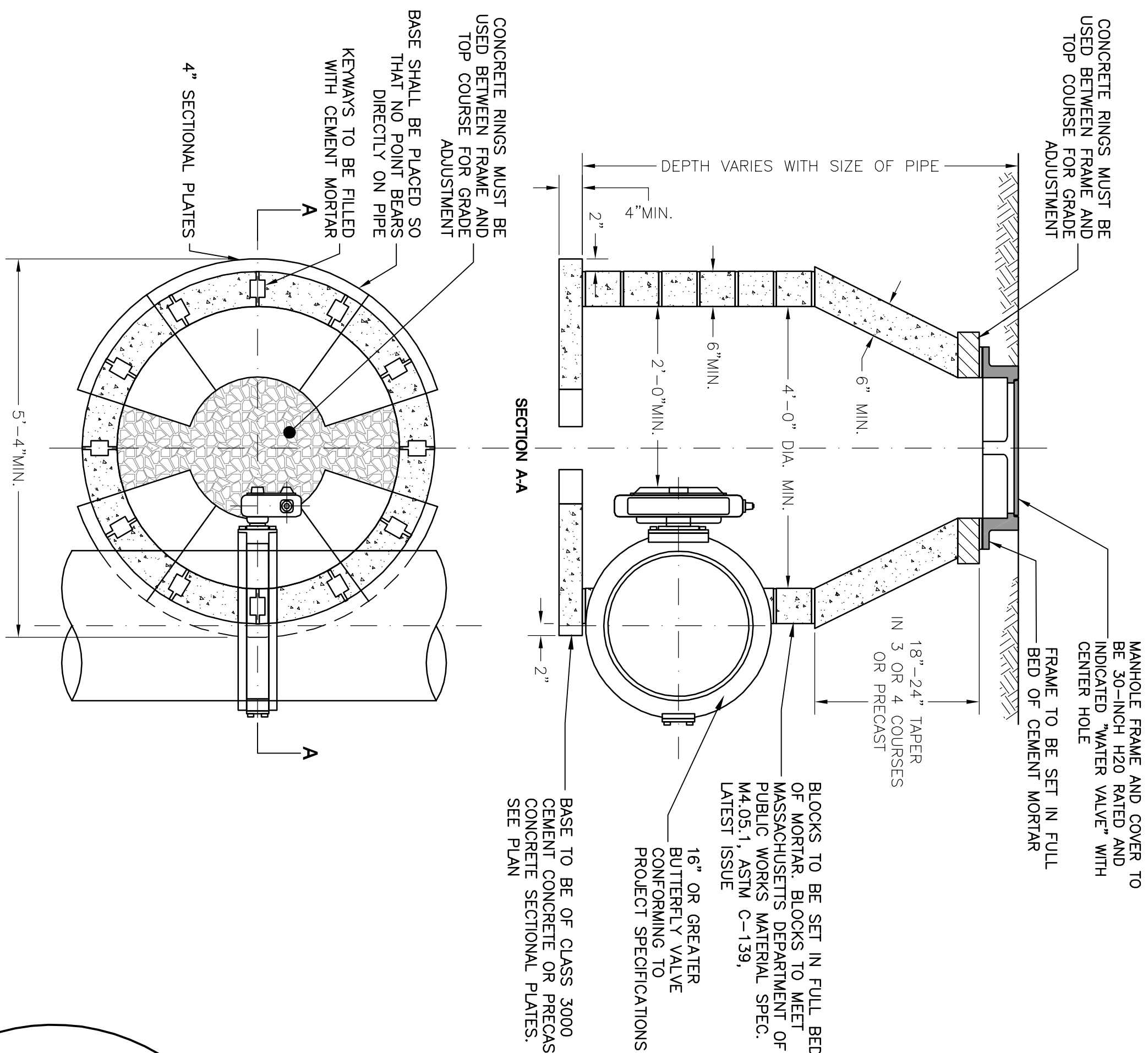
SHEET

C-22

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

NOTES FOR MANHOLES

1. ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH
2. 1000 PSI
3. 1000 LBS PER SQ INCH, USING 3/4" MAXIMUM SIZE AGGREGATE
4. REINFORCING STEEL BARS SHALL BE DEFORMED BARS OF NEW BILLET STEEL
5. ASTM A615 GRADE 60
6. CASTED WIRE FABRIC SHALL CONFORM TO ASTM A185.
7. COLD RING FRAME TYPE "A" AND COVER TYPE "A-2". COVERS SHALL BE MARKED "SEWER" OR "DRAIN"
8. DESIGN LINE LOAD - HS20-44
9. MINIMUM COVER FOR REINFORCING IN WALLS OR SLABS POURED AGAINST EXISTING SHALL BE 3 INCHES. ALL OTHER SHALL BE 2 INCHES UNLESS OTHERWISE NOTED
10. USE 2'-0" LENGTHS OF PIPE STUDS AT ALL MANHOLES FOR PVC PIPE, USE 7'-0" MAX LENGTH OF PIPE STUDS AT ALL MANHOLES FOR RC OR DI PIPE.
11. MAXIMUM PRESSURE ON SOIL BELOW CAST IN PLACE CONCRETE BASE SHALL NOT EXCEED ALLOWABLE BEARING PRESSURE
12. WHERE WEI CONDITION EXIST, SUBSTITUTE CRUSHED STONE FOR SCREENED GRAVEL FOR SUBBASE AT MANHOLE AND CATCH BASINS.

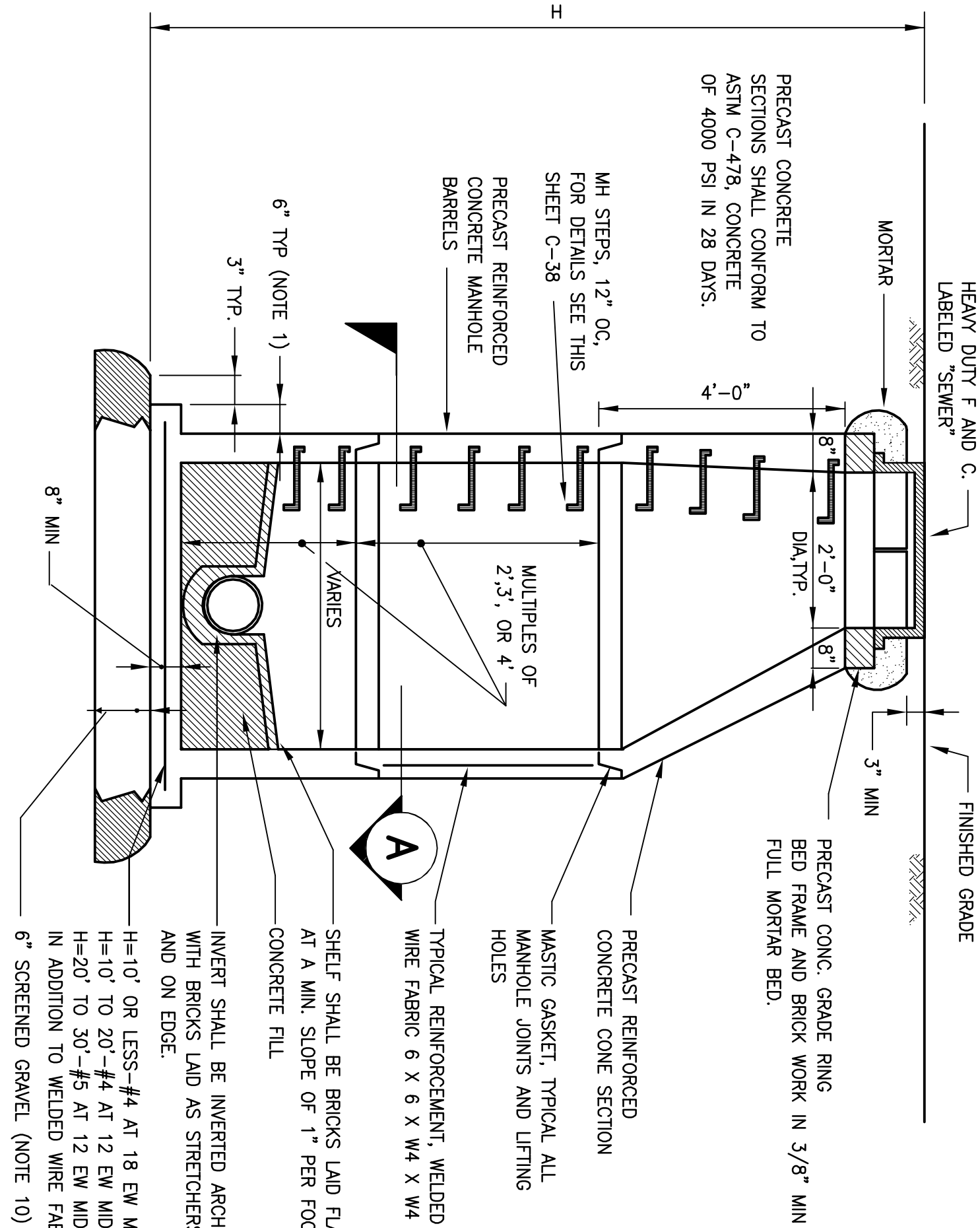


16-INCH OR GREATER BUTTERFLY VALVE & CHAMBER

NOT TO SCALE

- 1) PRECAST MANHOLES CONFORMING TO THESE DIMENSIONS ARE ACCEPTABLE. DESIGN SHOWN FOR MANHOLE DEPTHS OF 9' OR LESS. STANDARD MANHOLE DEPTH APPROX. 8'-6".
- 2) BUTTER FLY VALVES SHALL BE USED FOR MAINS 16-INCH OR GREATER.
- 3) ALL BUTTERFLY VALVES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS.

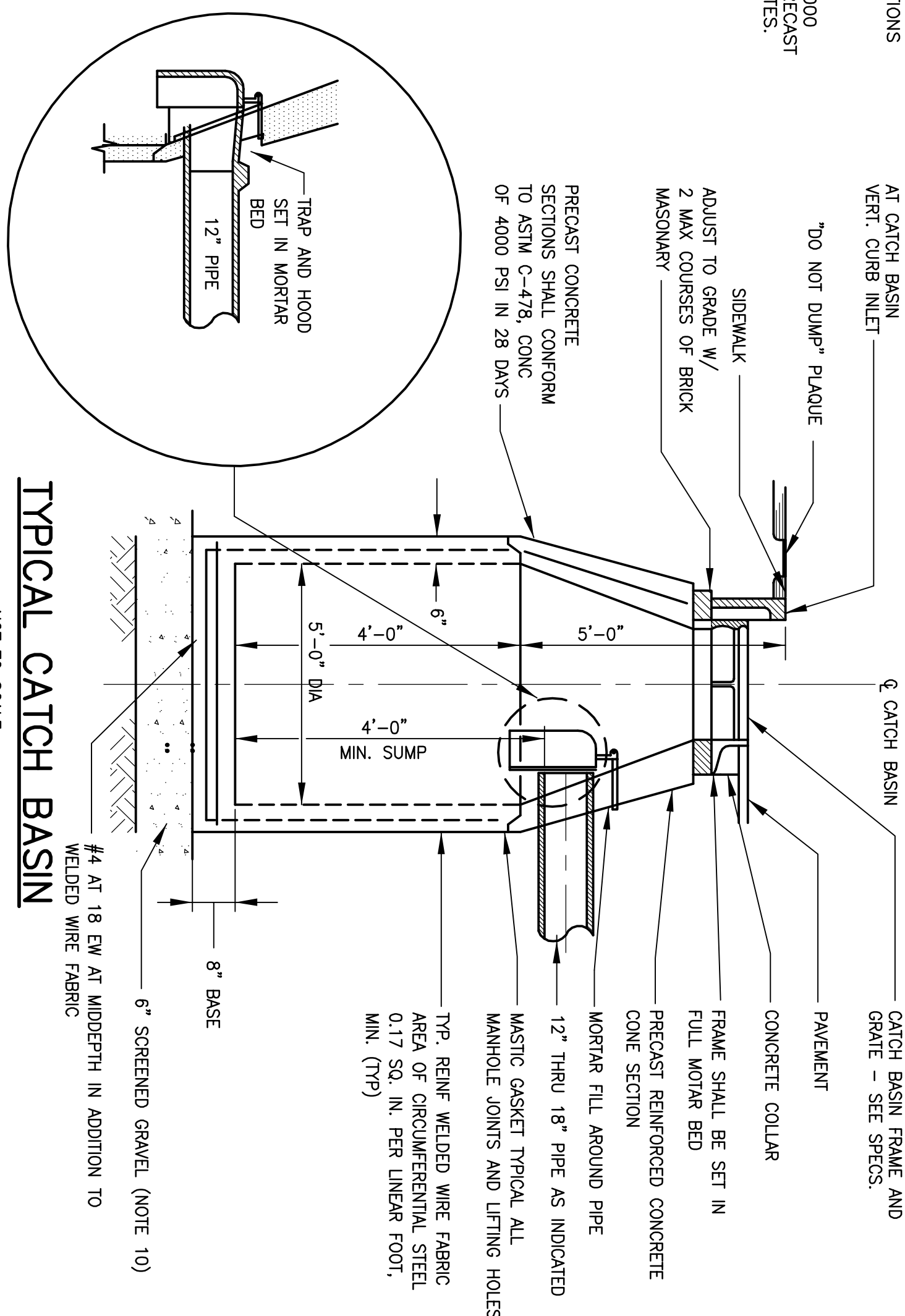
ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

[illegible]

TYPICAL PRECAST CONCRETE MANHOLE

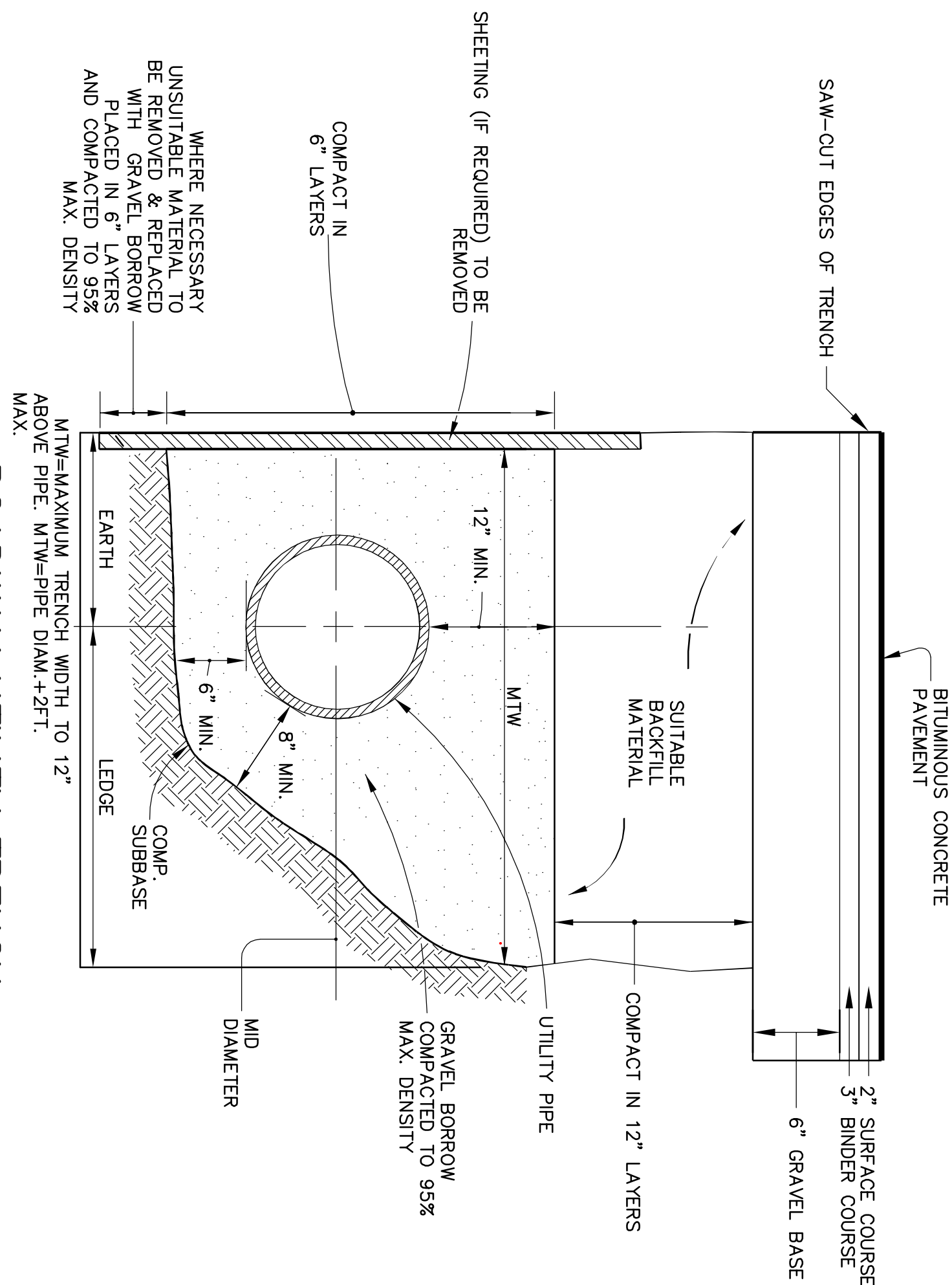
NOT TO SCALE

1. 6" LIP OPTIONAL UNLESS OTHERWISE NOTED



TYPICAL CATCH BASIN

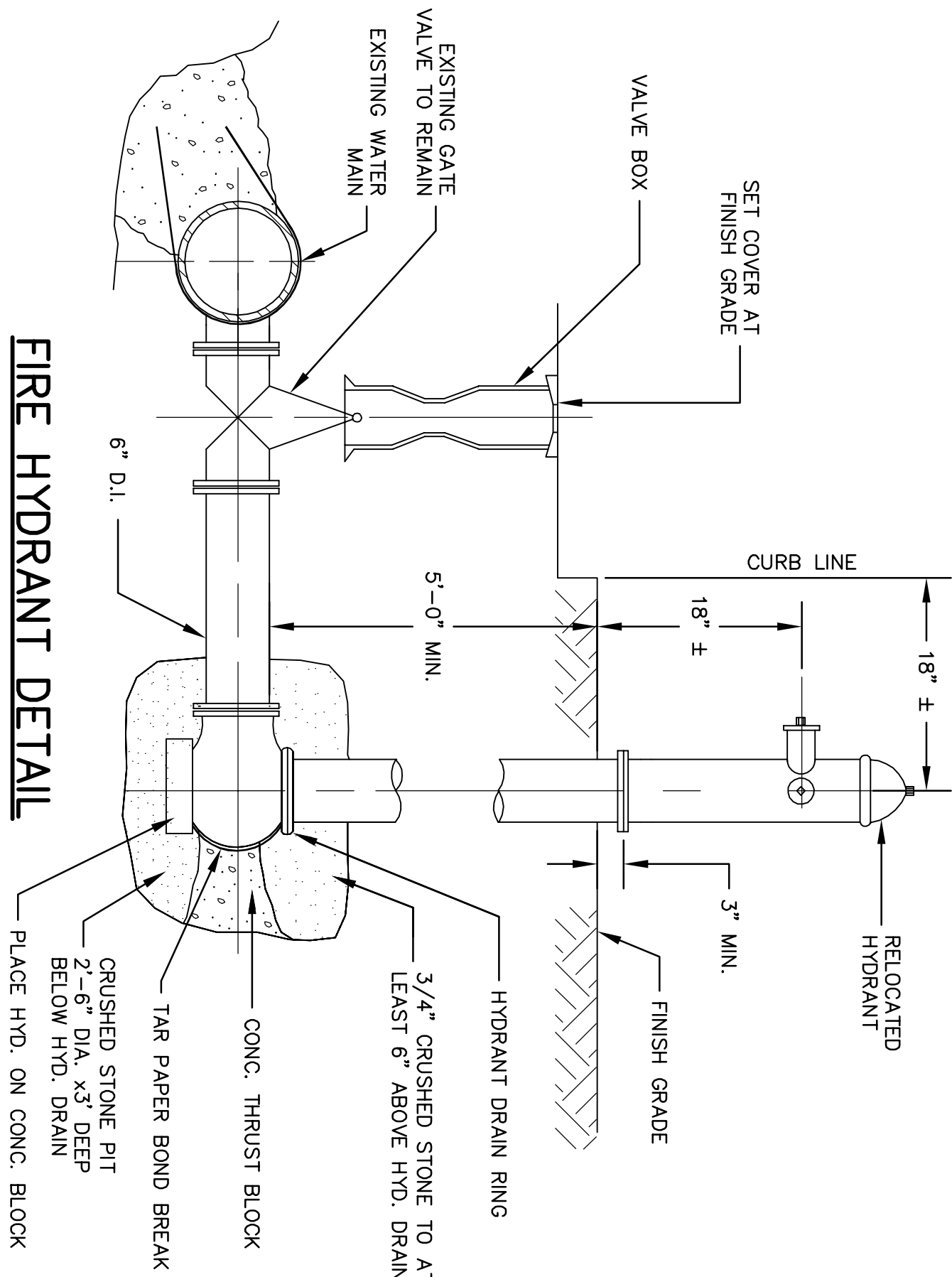
NOT TO SCALE



ROADWAY UTILITY TRENCH

NOT TO SCALE

- NOTE:** FOR TEMPORARY PATCH REQUIREMENTS SEE DRAWING C-16, TEMPORARY PATCH SHALL REMAIN IN PLACE UNTIL FINAL PAVING OPERATION.



FIRE HYDRANT DETAIL

NOT TO SCALE

- NOTE: ALL JOINTS ON HYDRANT BRANCH TO BE RESTRAINED JOINTS

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

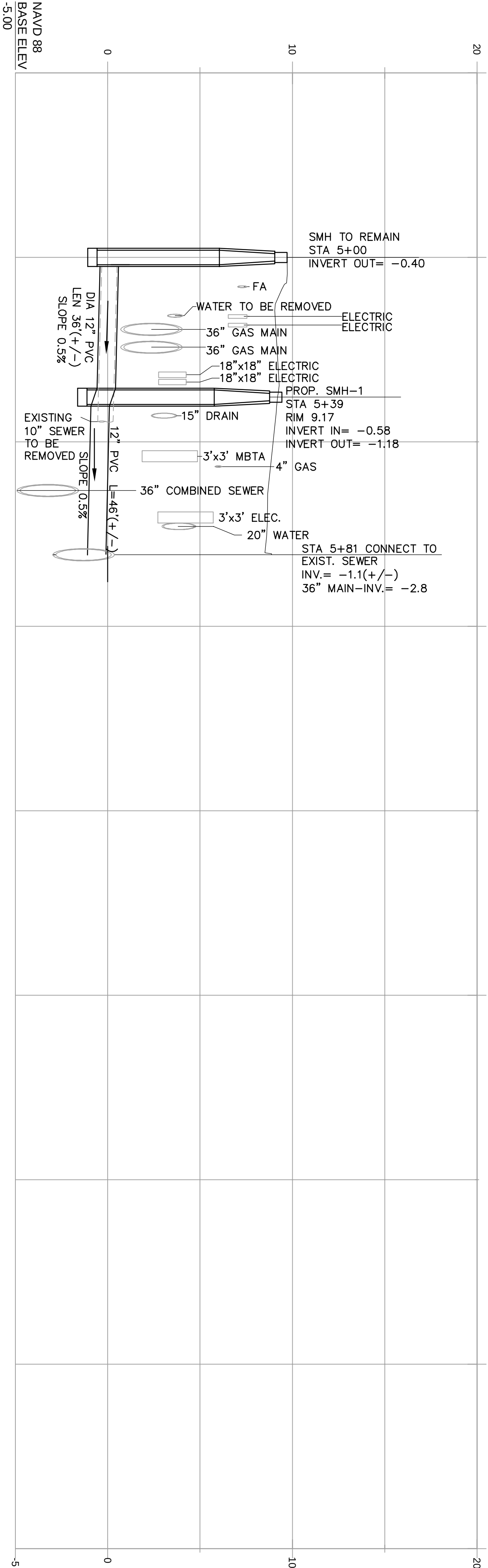
UNION SQ. UTILITY AND ROADWAY EARLY ACTION PROJECT UTILITY DETAILS

DESIGNED: KEM	PARSONS BRINCKERHOFF Parsons Brinckerhoff, Inc. 75 Arlington St. Boston, MA 02116 PH. (617)426-7330 FAX (617)482-8487
CHECKED: GRB	
DRAWN: KEM	SCALE: N.T.S. DATE: JAN 4, 2016
CHECKED: GRB	

SHEET

C-23

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



PROSPECT STREET SEWER MAIN PROFILE
SCALE: VERTICAL: 1"=4'
HORIZONTAL: 1"=20'

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

DESIGNED: JF
CHECKED: RUB

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SHEET
C-24

DRAWN: AM
CHECKED: JF

IFB#15-105-REBID

SCALE: AS NOTED
DATE: JAN 4, 2016

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

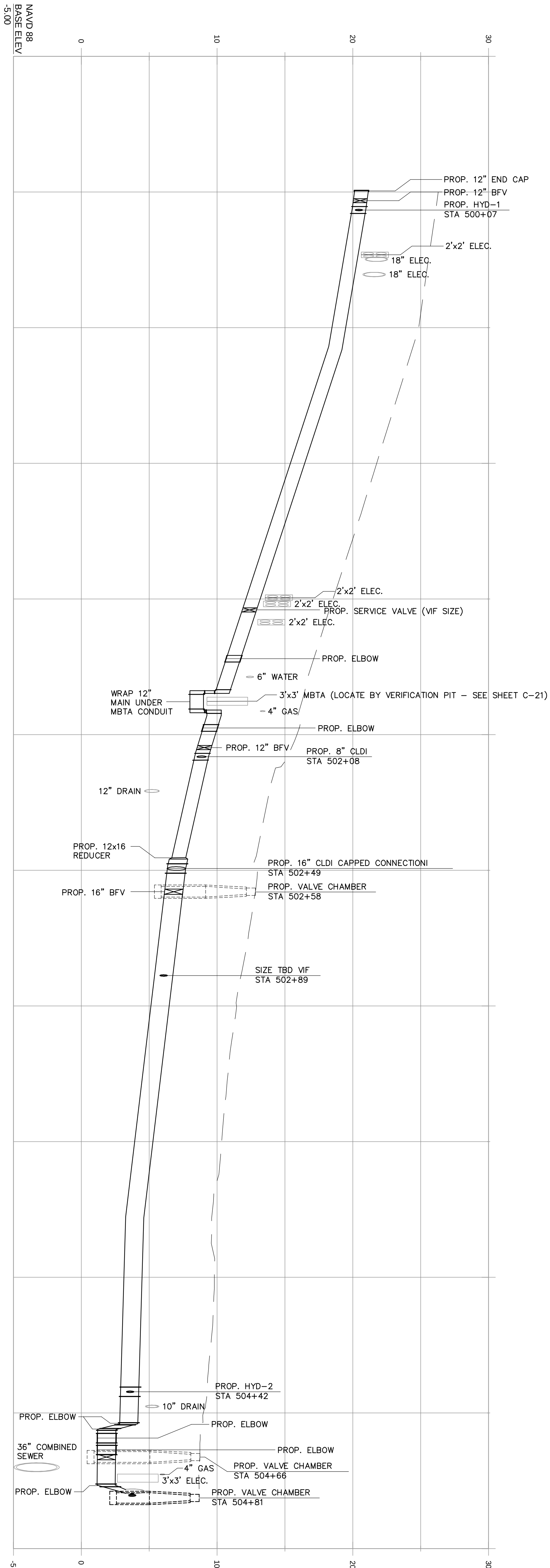
UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
PROSPECT STREET SEWER PROFILE

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

NO. DATE

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BY



499+50		
500+00	26.3 26.30	
	24.8 24.84	
501+00	21.8 21.75	
	18.5 18.53	
502+00	15.9 15.89	
	13.0 12.98	
503+00	11.4 11.44	
	10.3 10.34	
504+00	9.8 9.80	
	9.0 8.98	
505+00		

PROSPECT STREET WATER MAIN PROFILE
SCALE: VERTICAL: 1"=4'
HORIZONTAL: 1"=20'

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

PROJECT: 1
BURCKHART
CIVIL
No. 21880

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
PROSPECT STREET WATER PROFILE

DESIGNED: JF
CHECKED: RUB

DRAWN: AM
CHECKED: JF

IFB#15-105-REBID

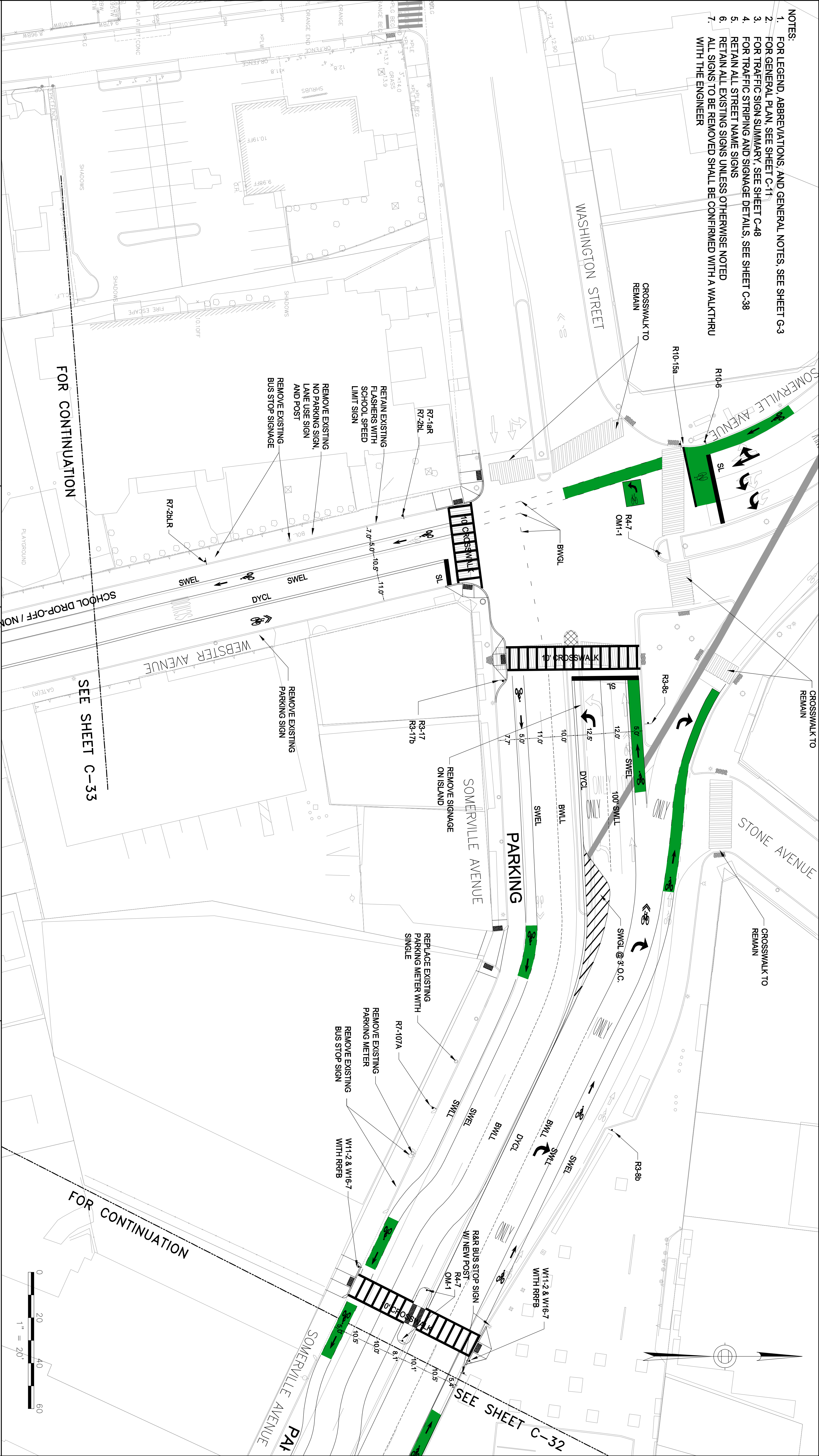
SCALE: AS NOTED
DATE: JAN 4, 2016

SHEET
C-25

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

NO. DATE
REVISIONS
BY

- 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

DESIGNED: KTC
CHECKED: RUB

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SHEET
C-31

DRAWN: LAG
CHECKED: RUB

IFB#15-105-REBID

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

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
TRAFFIC STRIPING AND SIGNAGE
SHEET 1 OF 7

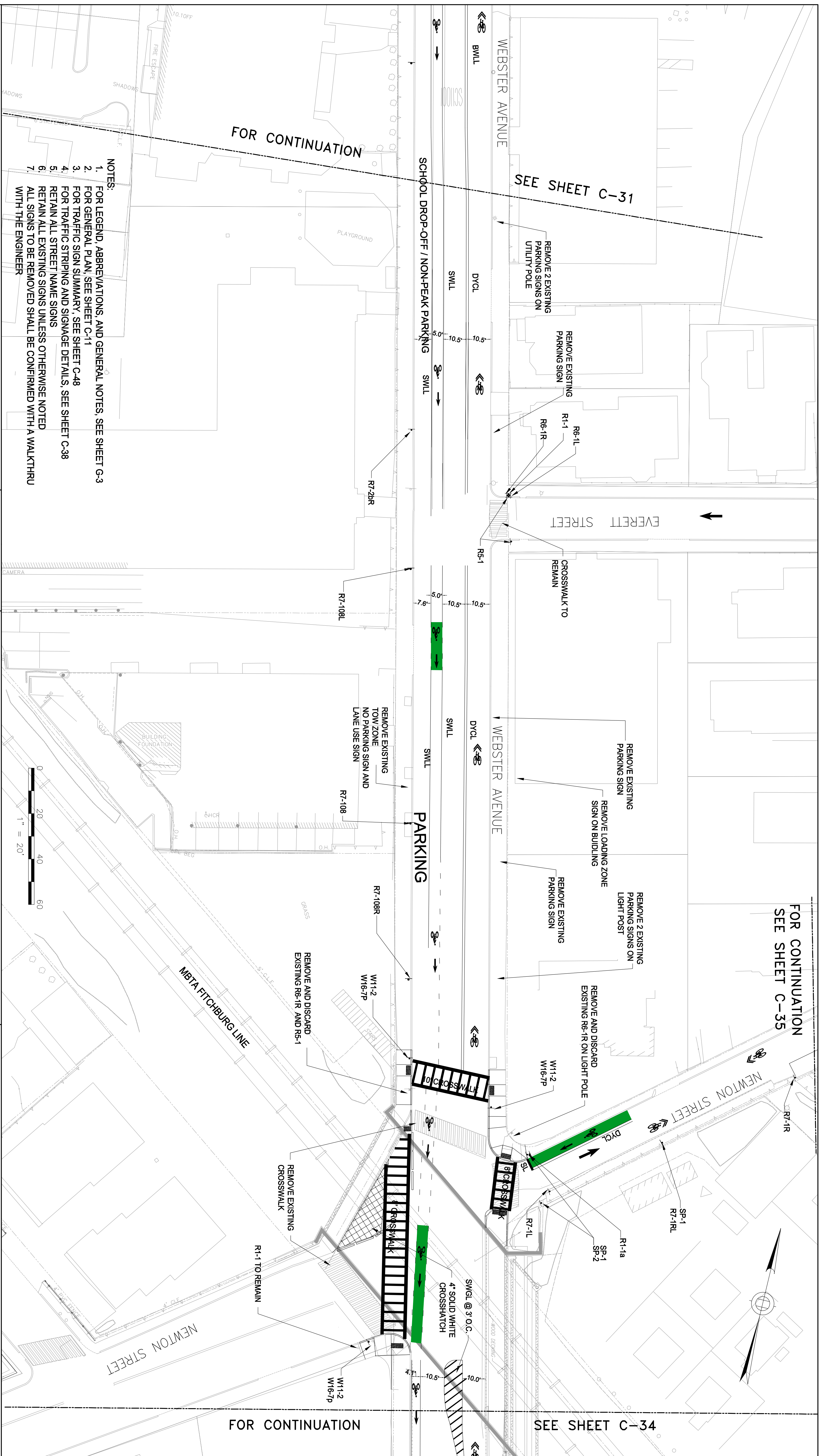
NO. DATE

REVISIONS

BY

FOR CONTINUATION

SEE SHEET C-32



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 3 OF 7

DESIGNED: KTC

PARSONS

Parsons Brinckerhoff, Inc.

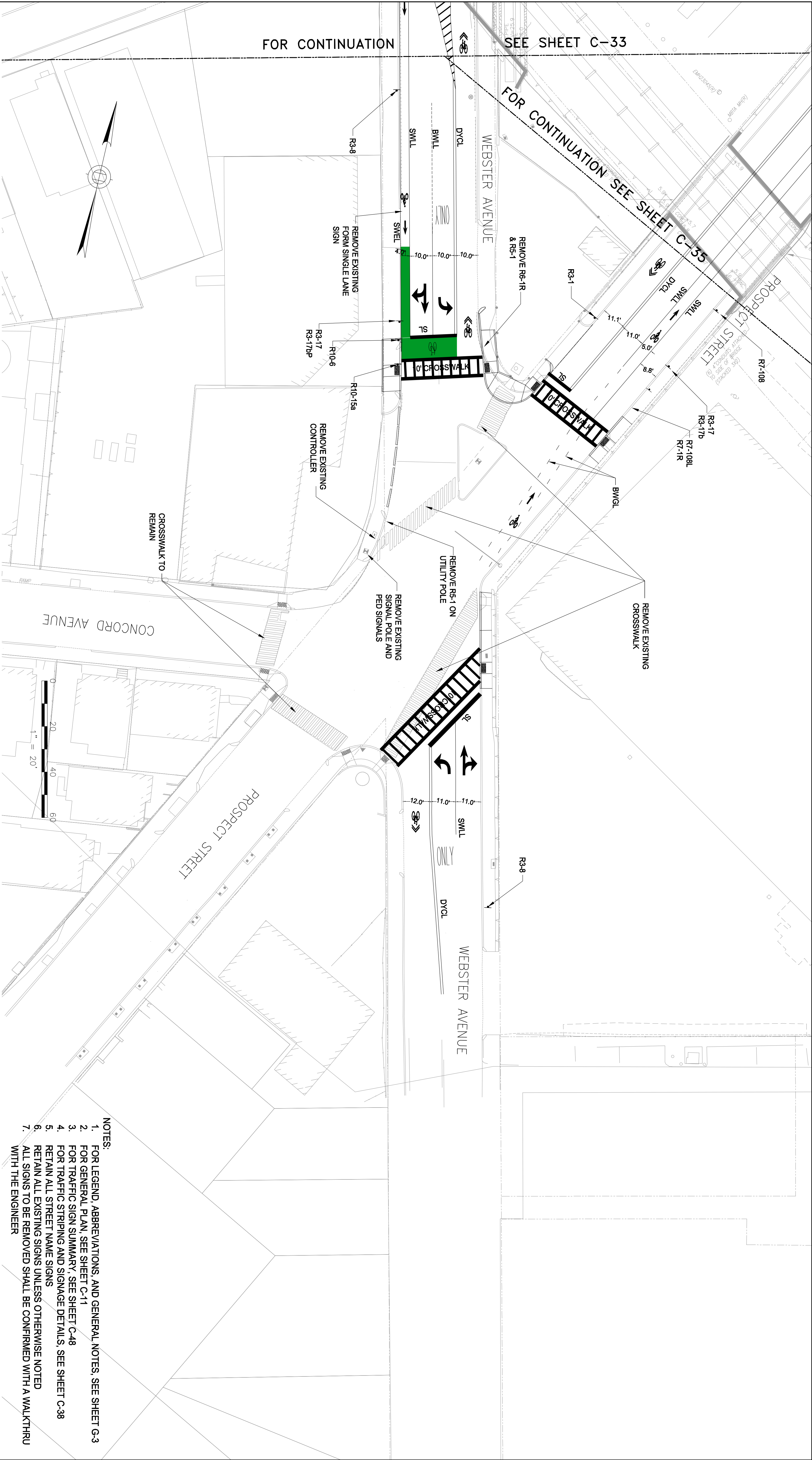
CHECKED: RJB
BRINGERHOFF
13 Allingtown St. Boston, MA 02110
PH (617)426-7330 FAX (617)482-8810

DRAWN: LAC

CHECKED: RJB	IFB#15-105-REBID	DATE: 1-20
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CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

33



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

DESIGNED: KTC
CHECKED: RJB

DRAWN: LAC
CHECKED: RJB

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
TRAFFIC STRIPING AND SIGNAGE
SHEET 4 OF 7

DESIGNED: KTC
CHECKED: RJB

DRAWN: LAC
CHECKED: RJB

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PH. (617)426-7330 FAX (617)482-8487

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

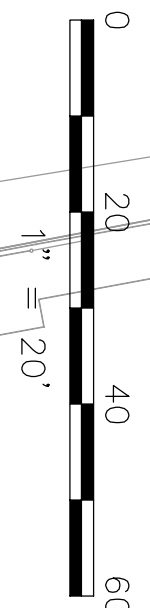
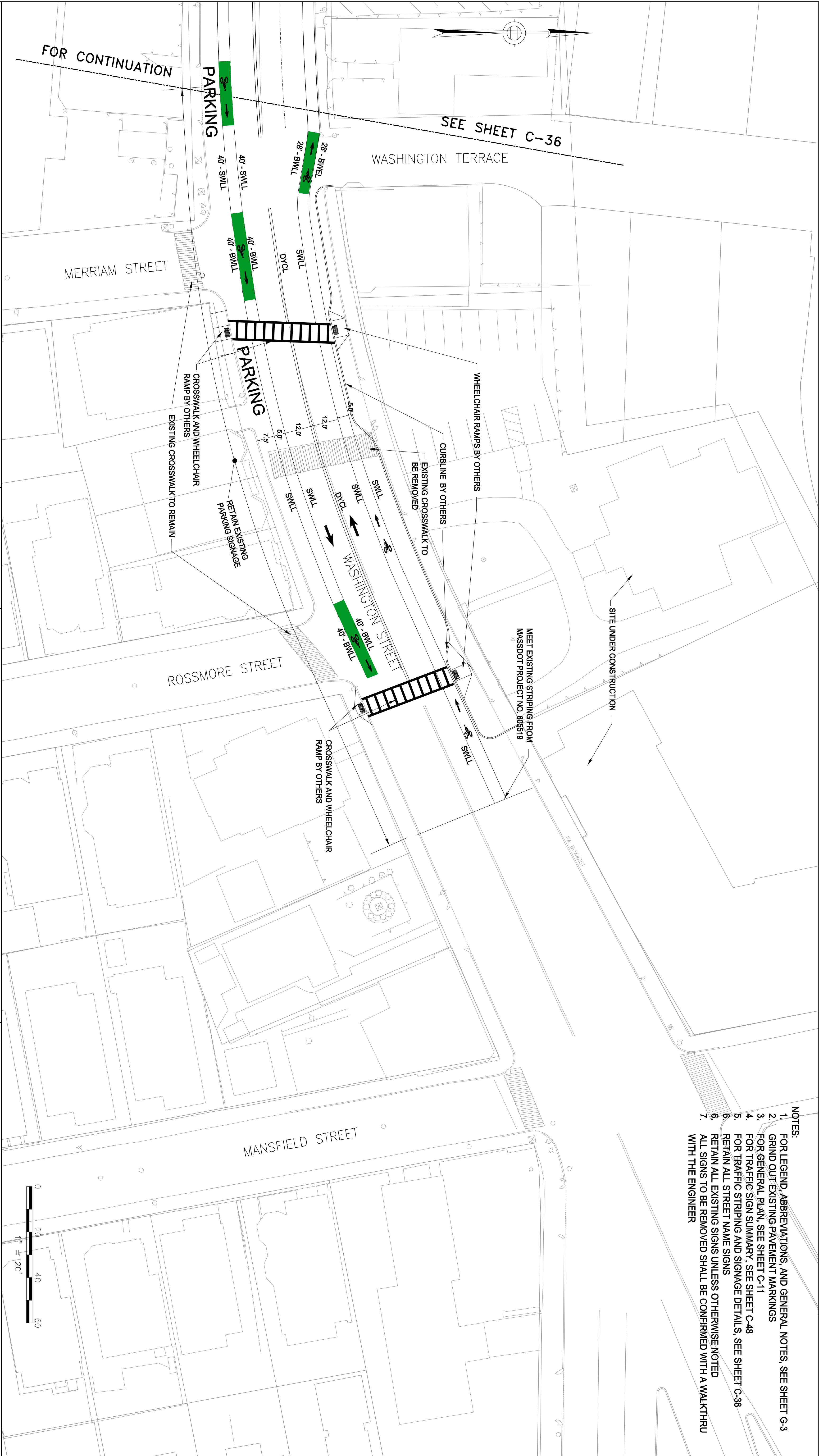
SHEET
C-34

NO. DATE

REVISIONS

BY

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



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO.	DATE	
REVISIONS		BY

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
TRAFFIC STRIPING AND SIGNAGE
SHEET 7 OF 7

DESIGNED: KTC
CHECKED: RJB
DRAWN: LAG
CHECKED: RJB

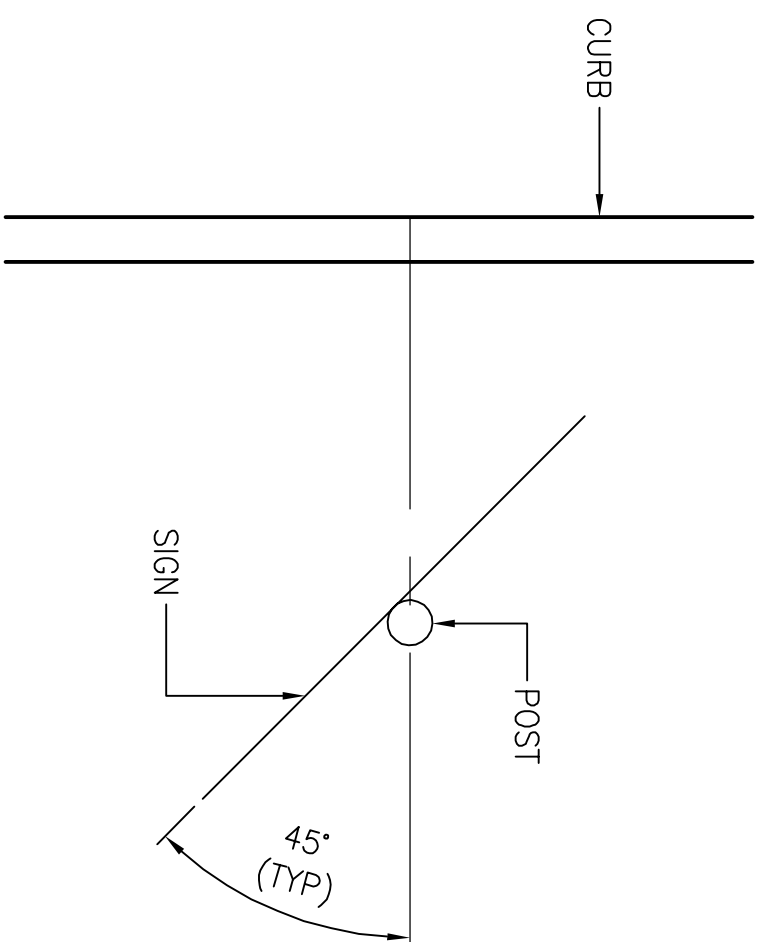
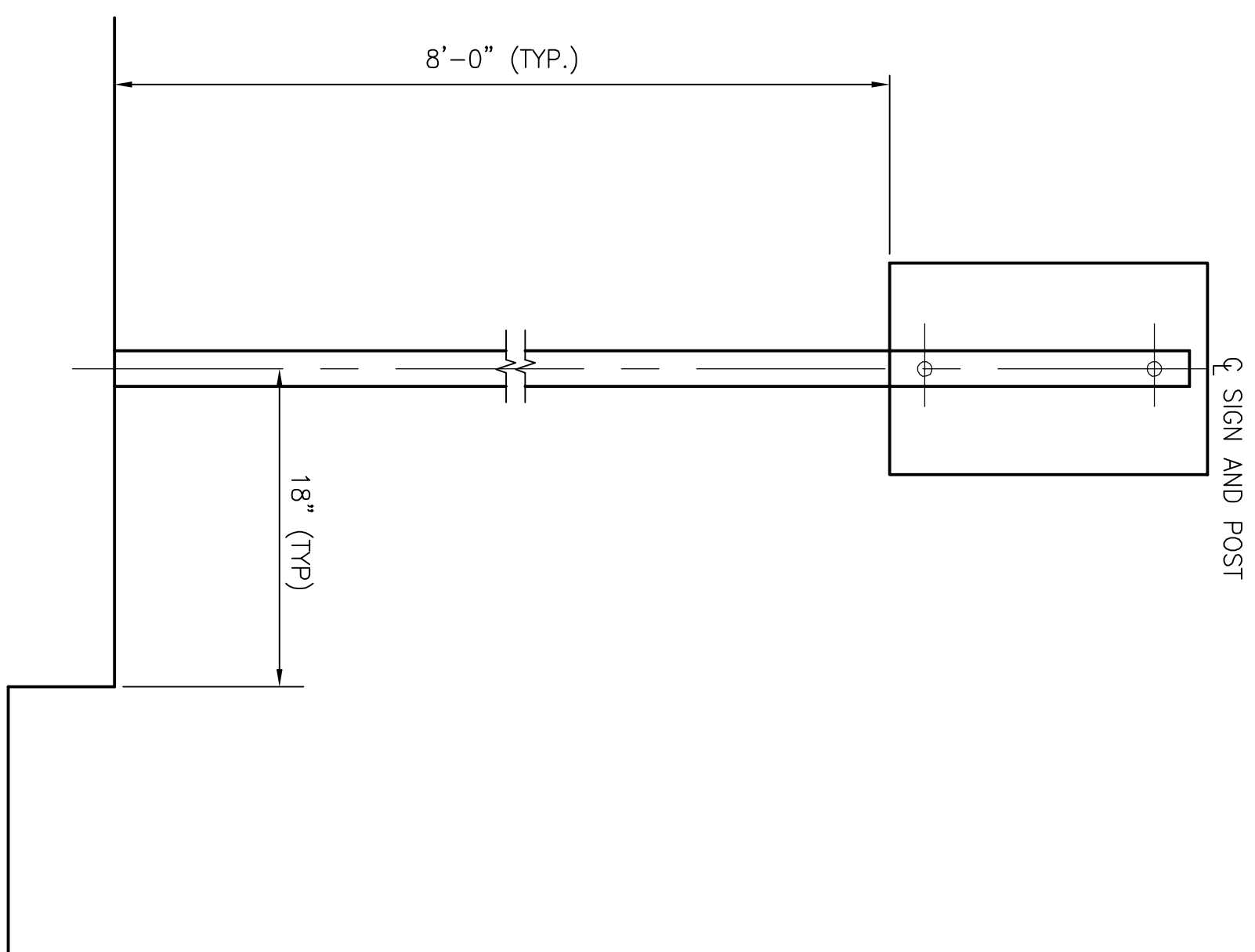
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BRINCKERHOFF**
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75 Arlington St. Boston, MA 02116
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IFB#15-105-REBID

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

SHEET
C-37

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



PLAN - PARKING SIGN ONLY

NTS

ABBREVIATIONS:

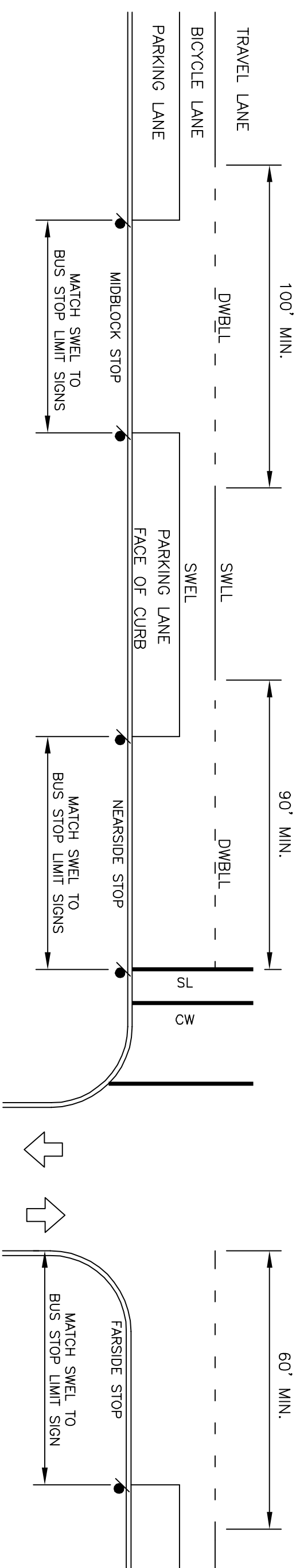
BWGL	BROKEN WHITE GUIDE LINE
BWLL	BROKEN WHITE LANE LINE
DYCL	DOUBLE YELLOW CENTER LINE
SWEL	SOLID WHITE EDGE LINE
SWGL	SOLID WHITE GUIDE LINE
SWLL	SOLID WHITE LANE LINE
DWBL	DOUBLE WHITE BROKEN LANE LINE
SYCL	SOLID WHITE CENTER LINE
SYGL	SOLID YELLOW GORE LINE
BDYGL	BROKEN DOUBLE YELLOW GUIDE LINE

SINGLE PARKING SIGN MOUNTING DETAIL

NTS

BUS STOP STRIPING NOTES:

1. MATCH EDGE OF PARKING LANE LINES TO BUS STOP LIMIT SIGNS (I.E. SIGN WITH ARROW IN ONE DIRECTION). IF A BUS STOP LIMIT SIGN DOES NOT EXIST, USE DIMENSIONS PER MTRA BUS STOP PLANNING AND DESIGN GUIDELINES AS SHOWN.
2. FOR MIDBLOCK BUS STOPS, INSTALL DOTTED BICYCLE LANE LINE A MINIMUM OF 100' CENTERED ON BUS STOP LIMITS IF SIGNS ARE LESS THAN 100'.
3. FOR NEARSIDE BUS STOPS, INSTALL DOTTED BICYCLE LANE LINE A MINIMUM OF 90' PRIOR TO THE STOP LANE.
4. FOR FRASIDE BUS STOPS, INSTALL DOTTED BICYCLE LANE LINE A MINIMUM OF 60' FROM THE EDGE OF THE INTERSECTION.
5. BUS STOP STRIPING IS BASED ON 40' BUS LENGTHS PER THE MTRA BUS STOP PLANNING AND DESIGN GUIDELINES UNLESS OTHERWISE NOTED.



TYPICAL STRIPING WITH BUS STOPS

(UNLESS OTHERWISE NOTED)

NTS

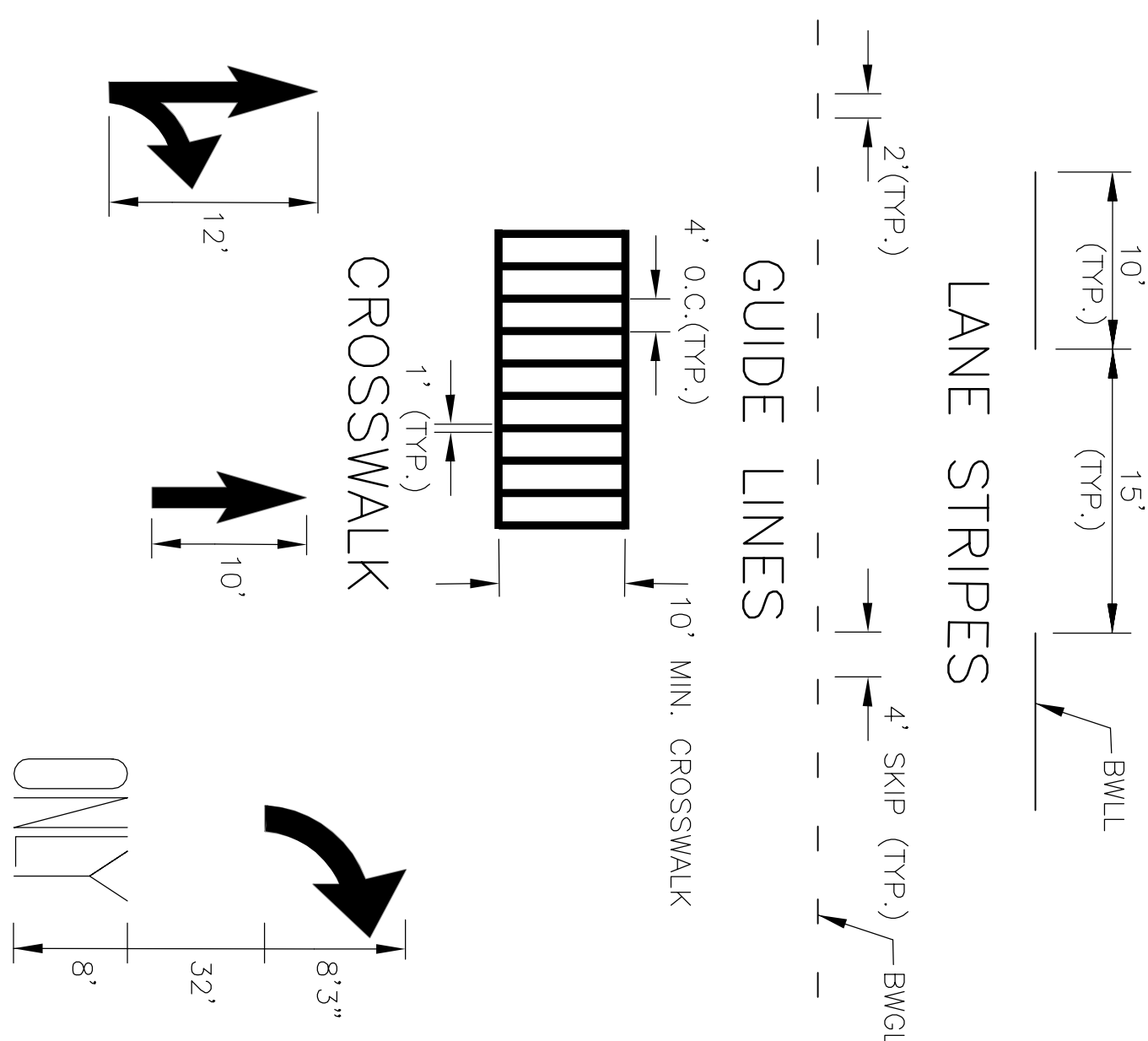
ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM					
NO.	DATE	REVISIONS			BY



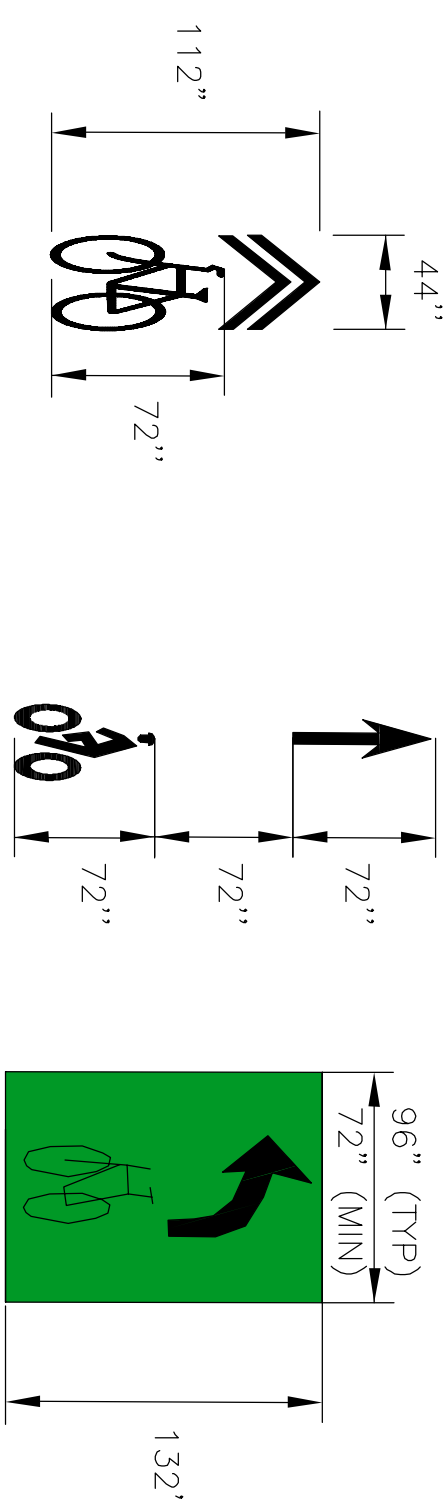
COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY EARLY ACTION PROJECT TRAFFIC STRIPING AND SIGNAGE DETAILS

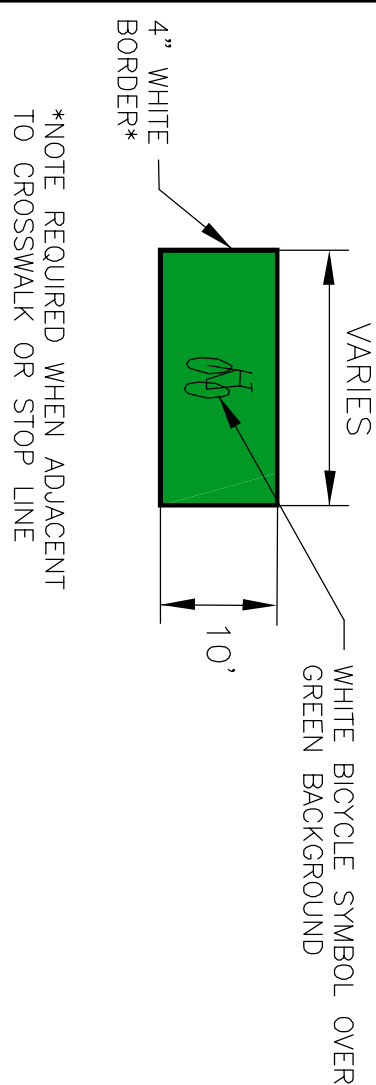
STRIPING DETAILS



TURNING MARKINGS



BICYCLE MARKINGS



NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET G-3.
2. FOR TRAFFIC SIGN SUMMARY, SEE SHEET C-48
3. PRIOR TO INSTALLATION OF PERMANENT PAVEMENT MARKINGS, PROVIDE A SPRAY PAINT LAYOUT FOR APPROVAL BY THE ENGINEER.
4. EXACT LOCATION OF EACH SIGN WILL BE AS DETERMINED IN THE FIELD BY THE ENGINEER.

DESIGNED: LAC	PARSONS BRINCKERHOFF Parsons Brinckerhoff, Inc. 75 Arlington St. Boston, MA 02116 PH. (617)426-7330 FAX (617)482-8487
CHECKED: RJB	
DRAWN: LAC	
CHECKED: RJB	

IFB#15-105-REBID	
SCALE: AS SHOWN	
DATE: JAN 4, 2016	

SHEET

33

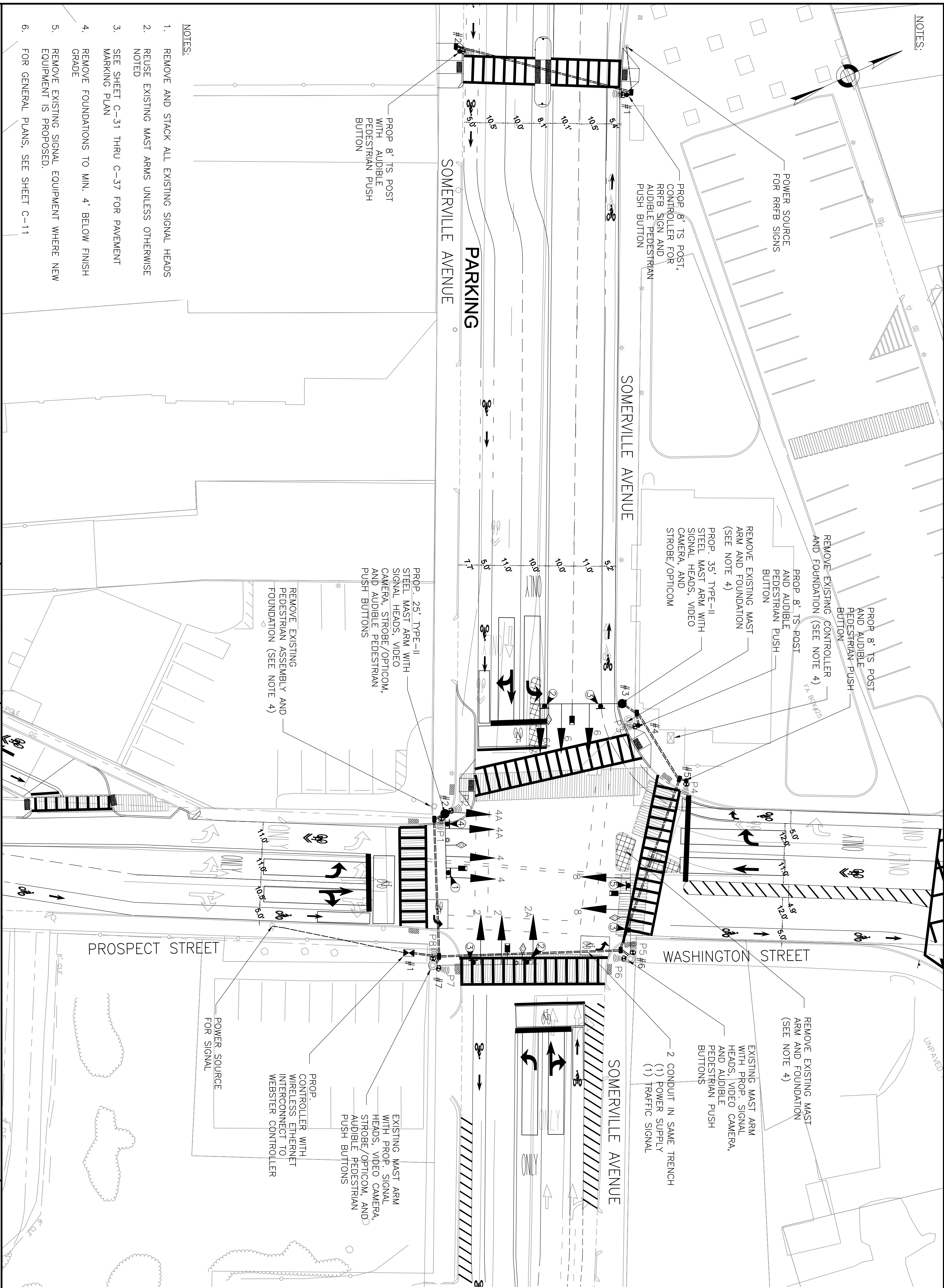
CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

NOTES:

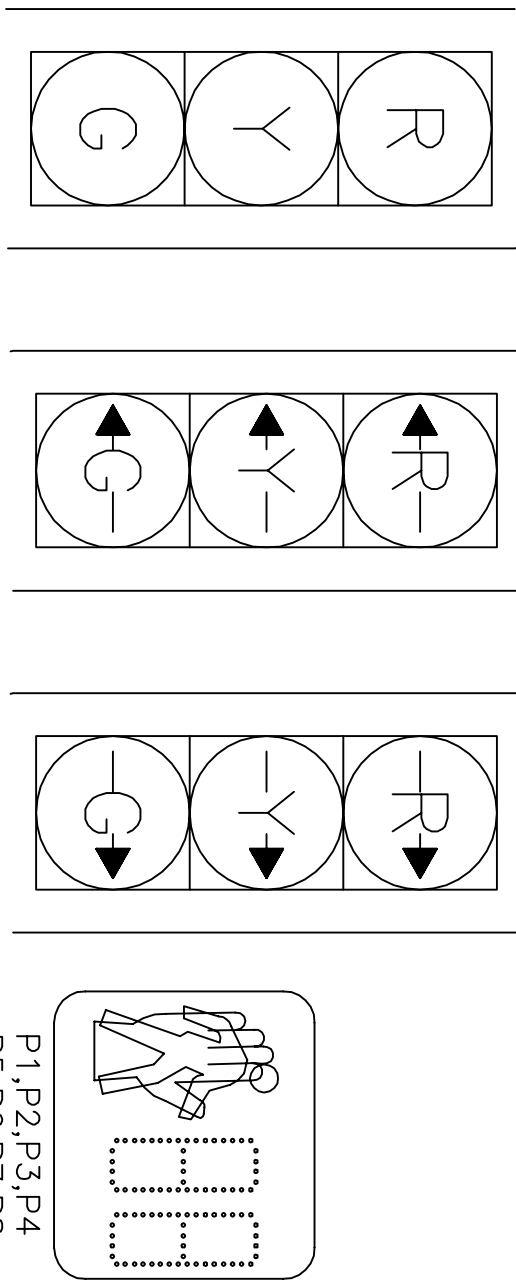
- NOTES:
1. REMOVE AND STACK ALL EXISTING SIGNAL HEADS
 2. REUSE EXISTING MAST ARMS UNLESS OTHERWISE NOTED
 3. SEE SHEET C-31 THRU C-37 FOR PAVEMENT MARKING PLAN
 4. REMOVE FOUNDATIONS TO MIN. 4' BELOW FINISH GRADE
 5. REMOVE EXISTING SIGNAL EQUIPMENT WHERE NEW EQUIPMENT IS PROPOSED.
 6. FOR GENERAL PLANS, SEE SHEET C-11

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO.		DATE	REVISIONS
			BY



SIGNAL FACES



2, 4, 6, 8
8 TOTAL

2A, 6A
2 TOTAL

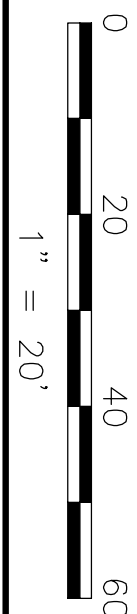
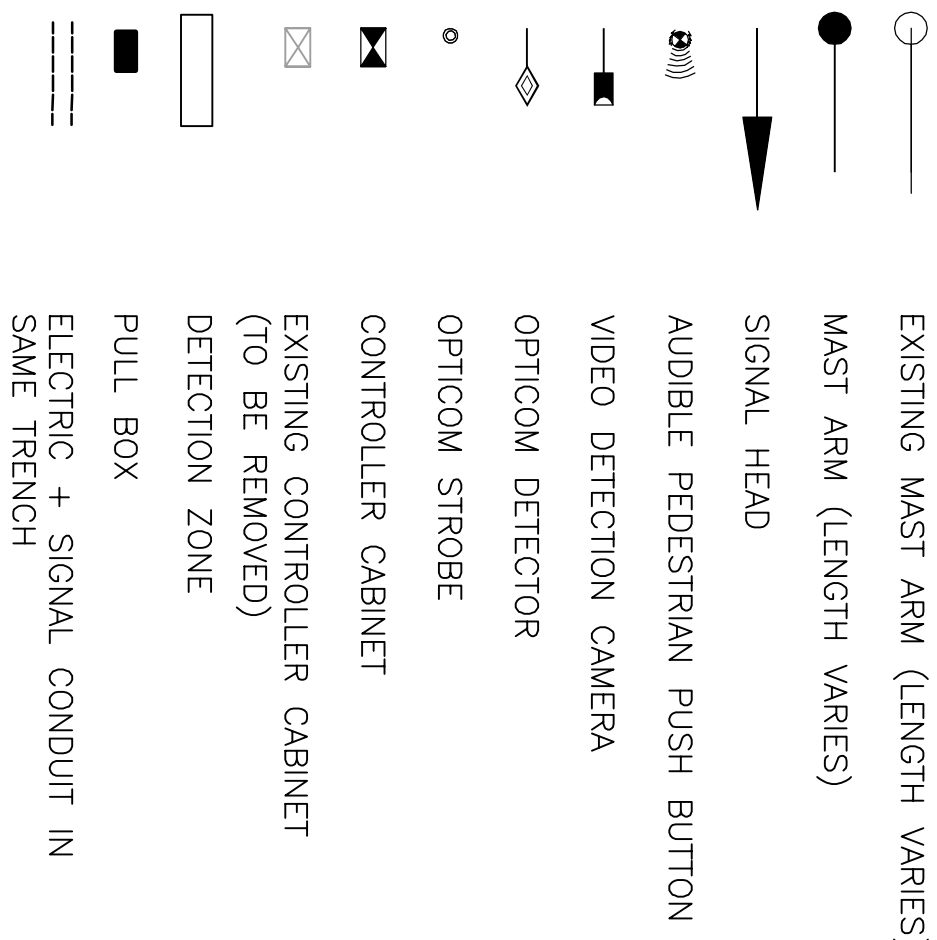
4A
2 TOTAL

P1, P2, P3, P4
P5, P6, P7, P8
8 TOTAL

SIGN SUMMARY

ID	NAME	DESCRIPTION	QUANTITY
①	R3-2		1
②	R3-5		2
③	R10-11		3
④	R10-11b		1
⑤	R10-12		1

SYMBOL LEGEND



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
PROSPECT/SOMERVILLE/WASHINGTON
SIGNAL PLAN

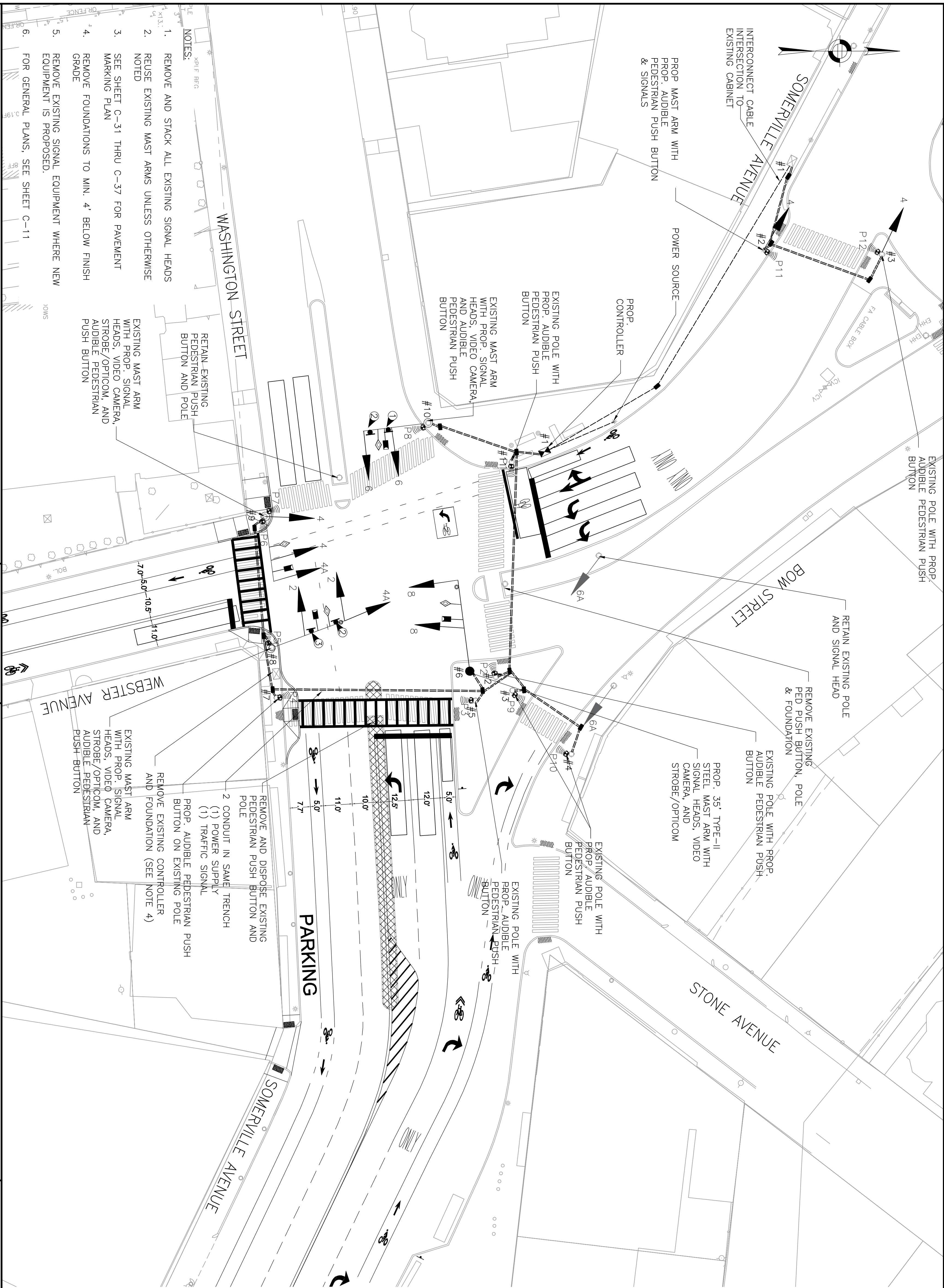
DESIGNED:KTC
CHECKED: RDB
PARSONS BRINCKERHOFF
Parsons Brinckerhoff, Inc.
75 Arlington St. Boston, MA 02116
PH. (617)426-7330 FAX (617)482-8487

DRAWN: BLT
CHECKED: RDB
IFB#15-105-REBID

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

SHEET
C-41

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



- NOTES:
1. REMOVE AND STACK ALL EXISTING SIGNAL HEADS
 2. REUSE EXISTING MAST ARMS UNLESS OTHERWISE NOTED
 3. SEE SHEET C-31 THRU C-37 FOR PAVEMENT MARKING PLAN
 4. REMOVE FOUNDATIONS TO MIN. 4' BELOW FINISH GRADE
 5. REMOVE EXISTING SIGNAL EQUIPMENT WHERE NEW EQUIPMENT IS PROPOSED.
 6. FOR GENERAL PLANS, SEE SHEET C-11

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO.		DATE	REVISIONS
			BY



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
WEBSTER/SOMERVILLE/WASHINGTON
SIGNAL PLAN

DESIGNED: KTC
CHECKED: RDB
DRAWN: BLT
CHECKED: RDB

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

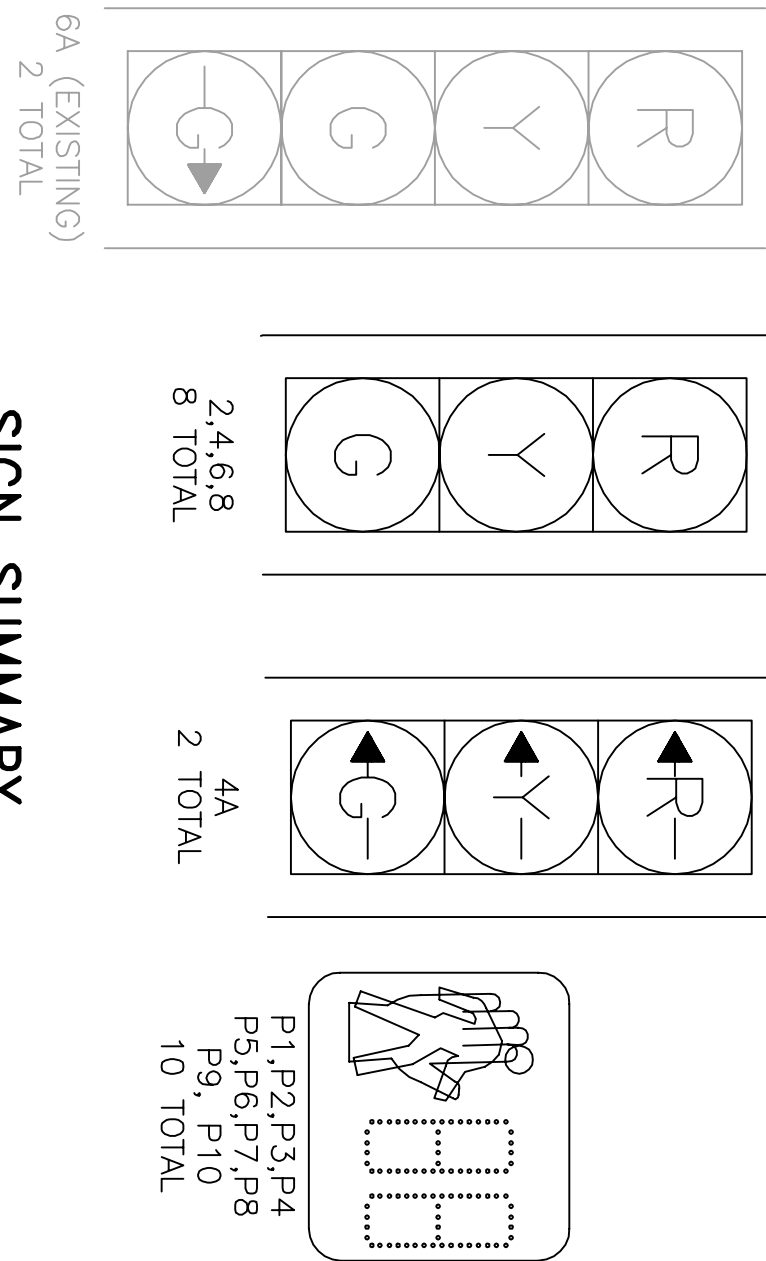
IFB#15-105-REBID

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

SHEET
C-43

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

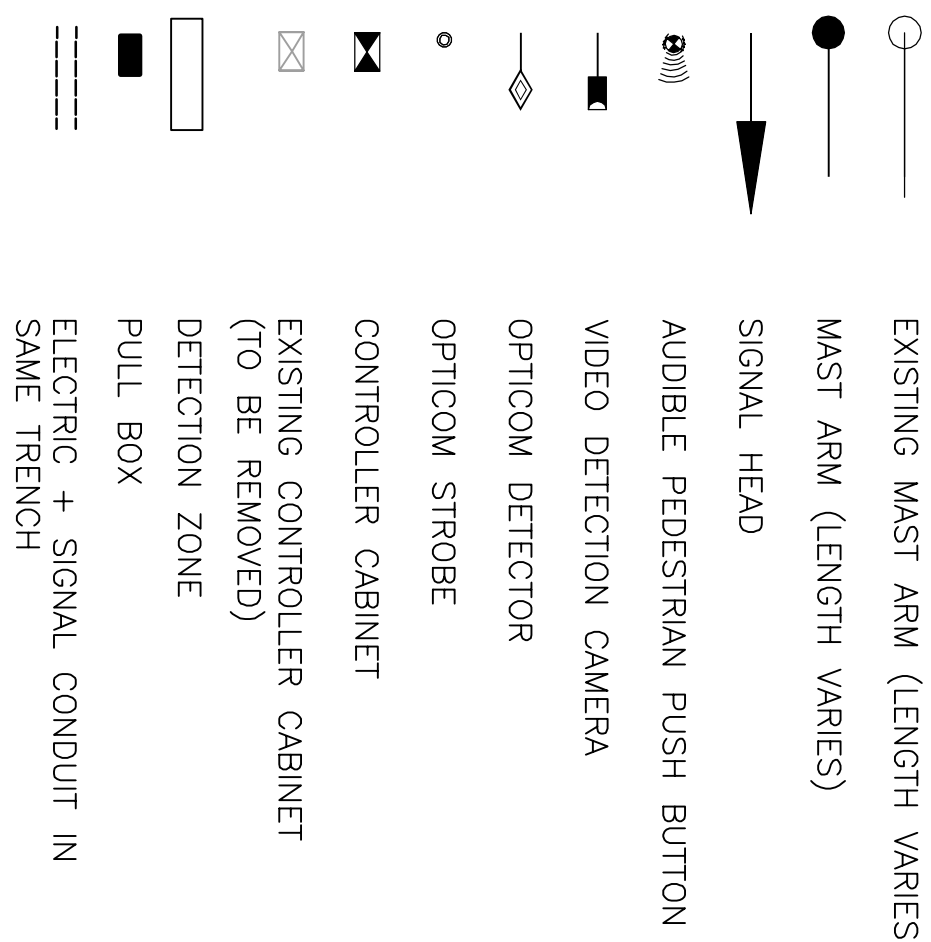
SIGNAL FACES



SIGN SUMMARY

ID	NAME	DESCRIPTION	QUANTITY
①	R3-8c	ONLY	1
②	R10-12	LEFT TURN YIELD ON GREEN	2
③	R3-8d	↑↑	1

SYMBOL LEGEND



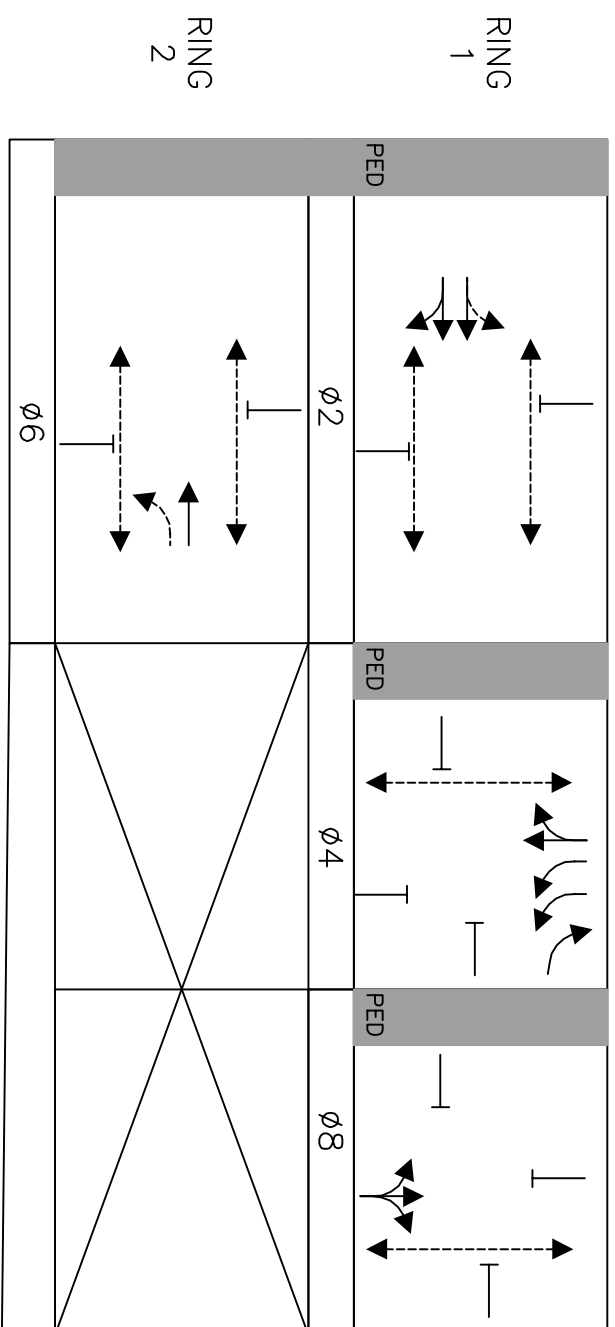
MAJOR ITEMS REQUIRED

	MAJOR ITEMS REQUIRED
QUANTITY	
1	4DW CONTROLLER WITH INTERNAL RCU IN TYPE 'CB' CABINET,
	FOUNDATION, MMU, BUS INTERFACE UNITS, FLASHER LOAD SWITCHES
8	12"- 3 SECTION (R,Y,G) L.E.D. VEHICLE SIGNAL INDICATION
3	12"- 3 SECTION (R,Y,G LEFT) L.E.D. VEHICLE SIGNAL INDICATION
10	16"- PEDESTRIAN L.E.D. SIGNAL COUNTDOWN INDICATION
10	AUDIBLE PEDESTRIAN PUSHBUTTON, SIGN & SADDLE
4	VIDEO DETECTION CAMERA CAPABLE OF REMOTE DATA COLLECTION (OR 1 GRIDSART 360 CAMERA WITH TRAFFIC COUNT MODULE)
1	OPTICOM PRE-EMPTION SYSTEM (4 DETECTORS, 2 STROBES, 1 4-CHANNEL PHASE SELECTOR)
1	35-FT STEEL MAST ARM AND POLE
1	CABINET POWER SUPPLY
1	RADIO FOR WIRELESS ETHERNET
1	SERVICE CONNECTION AND METER POST

P.L.S. ALL MISCELLANEOUS EQUIPMENT, WIRING, CABLE AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL.

NOTE: HAND HOLES/ PULL BOXES AND CONDUIT SHOULD BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

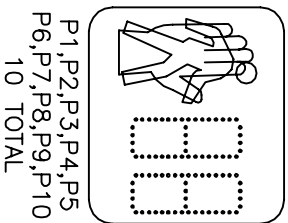
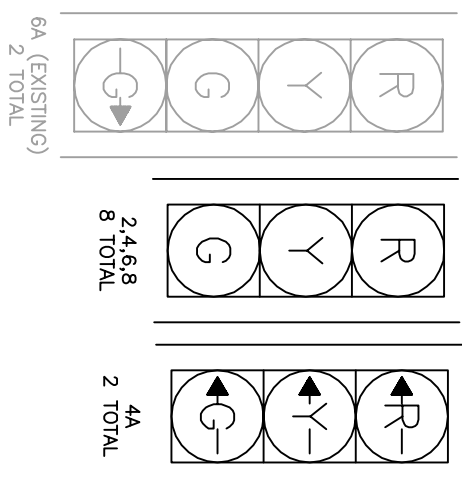
PHASING DIAGRAM



SIGNAL FACES

NOTE:

1. ALL VEHICLE INDICATIONS SHALL BE 12" L.E.D. AND SHALL BE EQUIPPED WITH TUNNEL VISORS.
2. ALL PEDESTRIAN INDICATIONS SHALL BE 16" L.E.D. AND SHALL COUNTDOWN AND BE EQUIPPED WITH SUN CAP VISORS.
3. ALL VEHICLE INDICATIONS MOUNTED ON MAST ARMS SHALL BE RIGID MOUNTED AND BE EQUIPPED WITH 5" NON-LOUVERED BACKPLATES.
4. PEDESTRIAN WALK AND DON'T WALK SYMBOLS SHALL BE SOLID-TYPE L.E.D. OUTLINED SYMBOLS SHALL NOT BE USED PER BID SPECS.



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

[illegible]

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
WEBSTER/SOMERVILLE/WASHINGTON
SIGNAL DATA

DESIGNED:	KTC
CHECKED:	RDB
DRAWN:	BLT
CHECKED:	RDB

PARSONS BRINCKERHOFF	
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-44

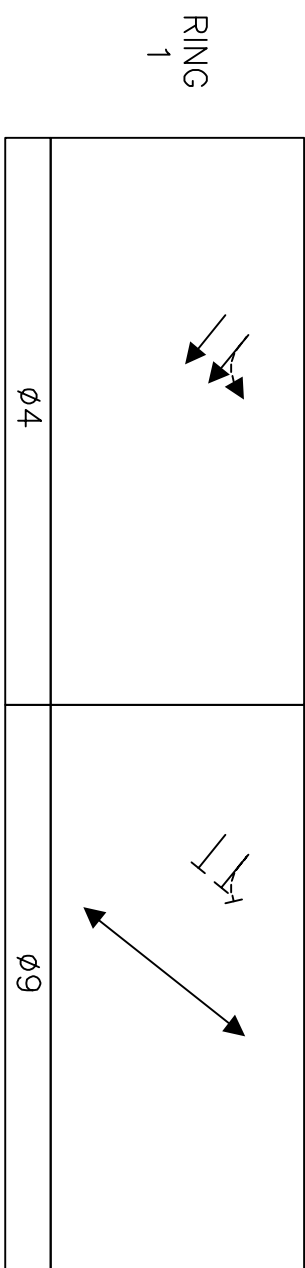
CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

MAJOR ITEMS REQUIRED

[illegible]

NOTE: HAND HOLES/ PULL BOXES AND CONDUIT SHOULD BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

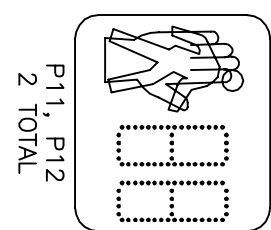
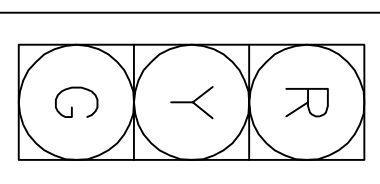
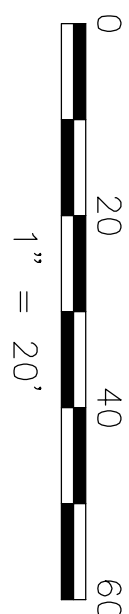
PHASING DIAGRAM



SIGNAL FACES

NOTE:

1. ALL PEDESTRIAN INDICATORS SHALL BE 16" LED, AND SHALL COUNTDOWN AND BE EQUIPPED WITH SUN CAP VISORS.
2. PEDESTRIAN WALK AND DON'T WALK SYMBOLS SHALL BE SOLID-TYPE LED. OUTLINED SYMBOLS SHALL NOT BE USED PER BID SPECS.

[illegible]

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
SOMERVILLE / WARREN
SIGNAL DATA

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM			
NO.	DATE	REVISIONS	BY



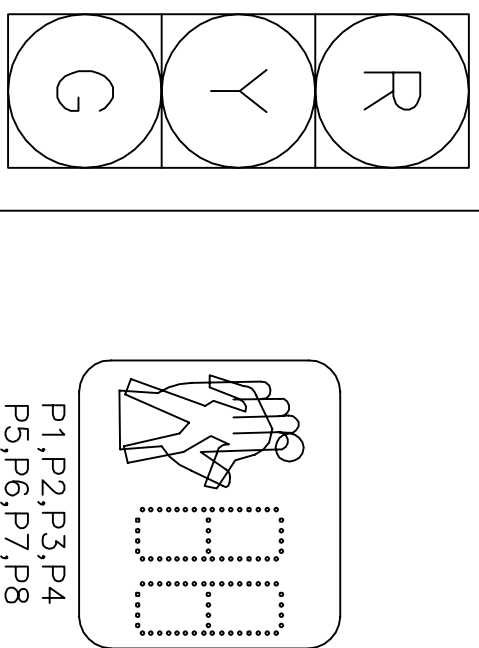
DESIGNED:	Parsons Brinckerhoff, Inc. 75 Arlington St. Boston, MA 02116 PH. (617)426-7330 FAX (617)482-8487
CHECKED:	
DRAWN:	
CHECKED:	
IFB#15-105-REBID	
CITY OF SOMERVILLE 93 HIGHLAND AVENUE SOMERVILLE, MA 02143	

SHEET

C-45

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

SIGNAL FACES

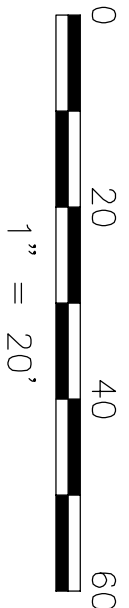
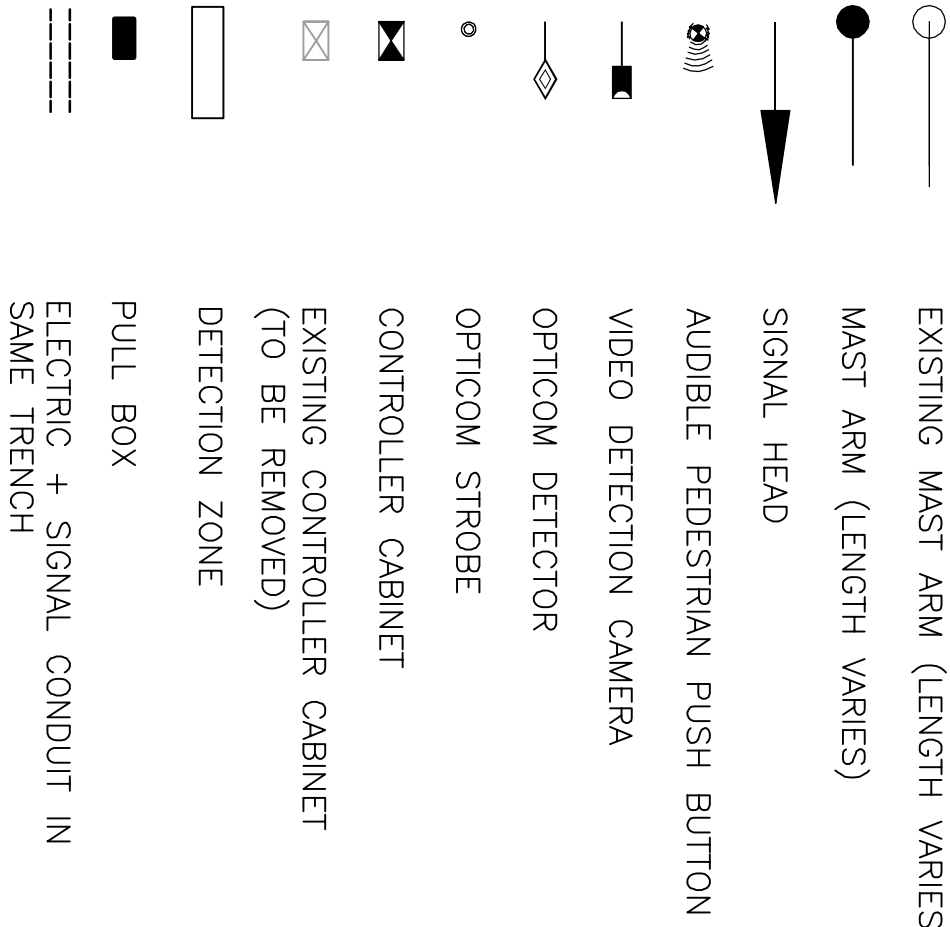


2,4,6,8
10 TOTAL

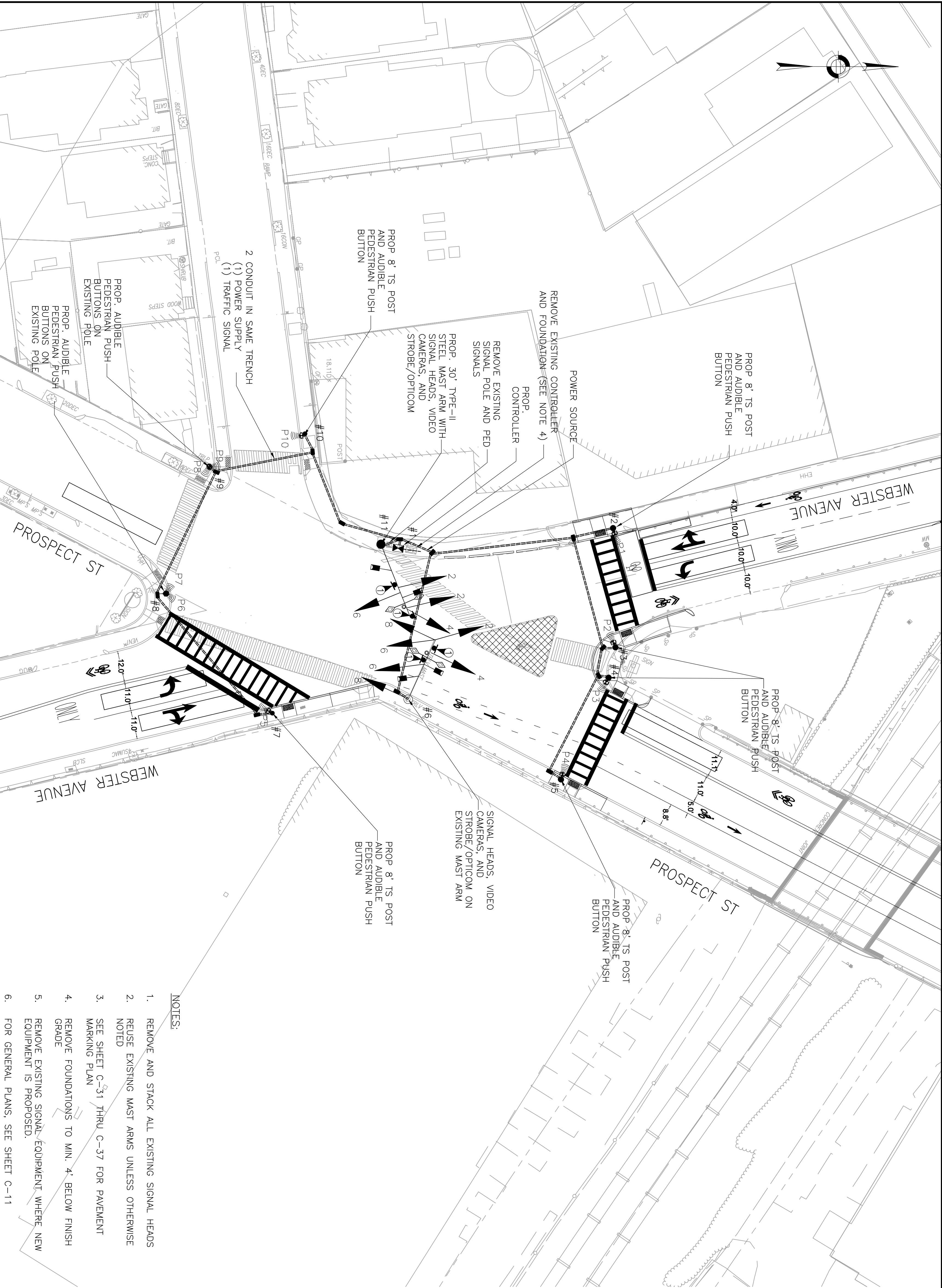
SIGN SUMMARY

ID	NAME	DESCRIPTION	QUANTITY
①	R10-12		4

SYMBOL LEGEND



- NOTES:
- REMOVE AND STACK ALL EXISTING SIGNAL HEADS
 - REUSE EXISTING MAST ARMS UNLESS OTHERWISE NOTED
 - SEE SHEET C-31 THRU C-37 FOR PAVEMENT MARKING PLAN
 - REMOVE FOUNDATIONS TO MIN. 4' BELOW FINISH GRADE
 - REMOVE EXISTING SIGNAL EQUIPMENT WHERE NEW EQUIPMENT IS PROPOSED.
 - FOR GENERAL PLANS, SEE SHEET C-11



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO.	DATE	REVISIONS



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
PROSPECT/WEBSTER
SIGNAL PLAN

DESIGNED: KTC
CHECKED: RDB

DRAWN: BLT
CHECKED: RDB

IFB#15-105-REBID

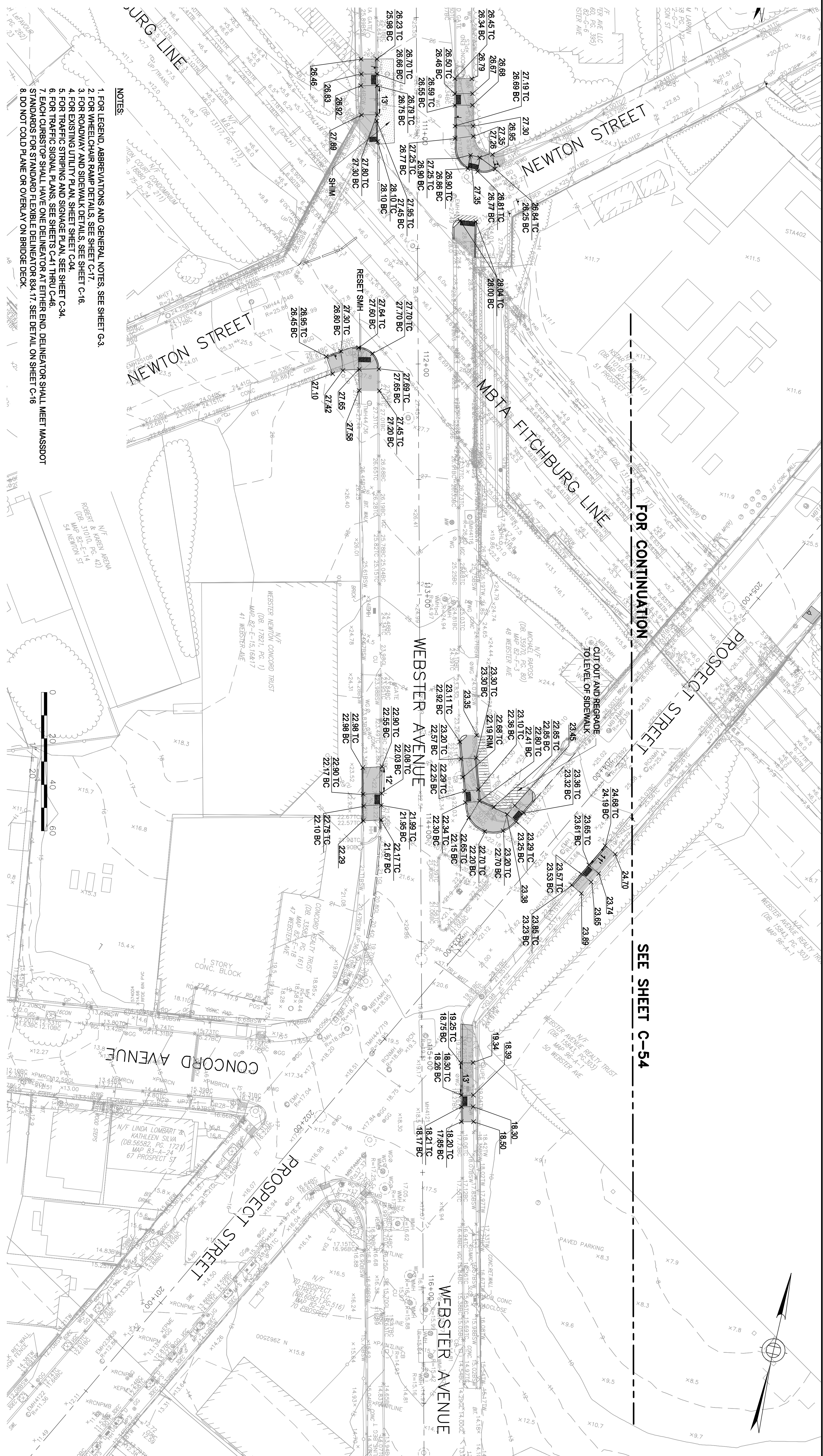
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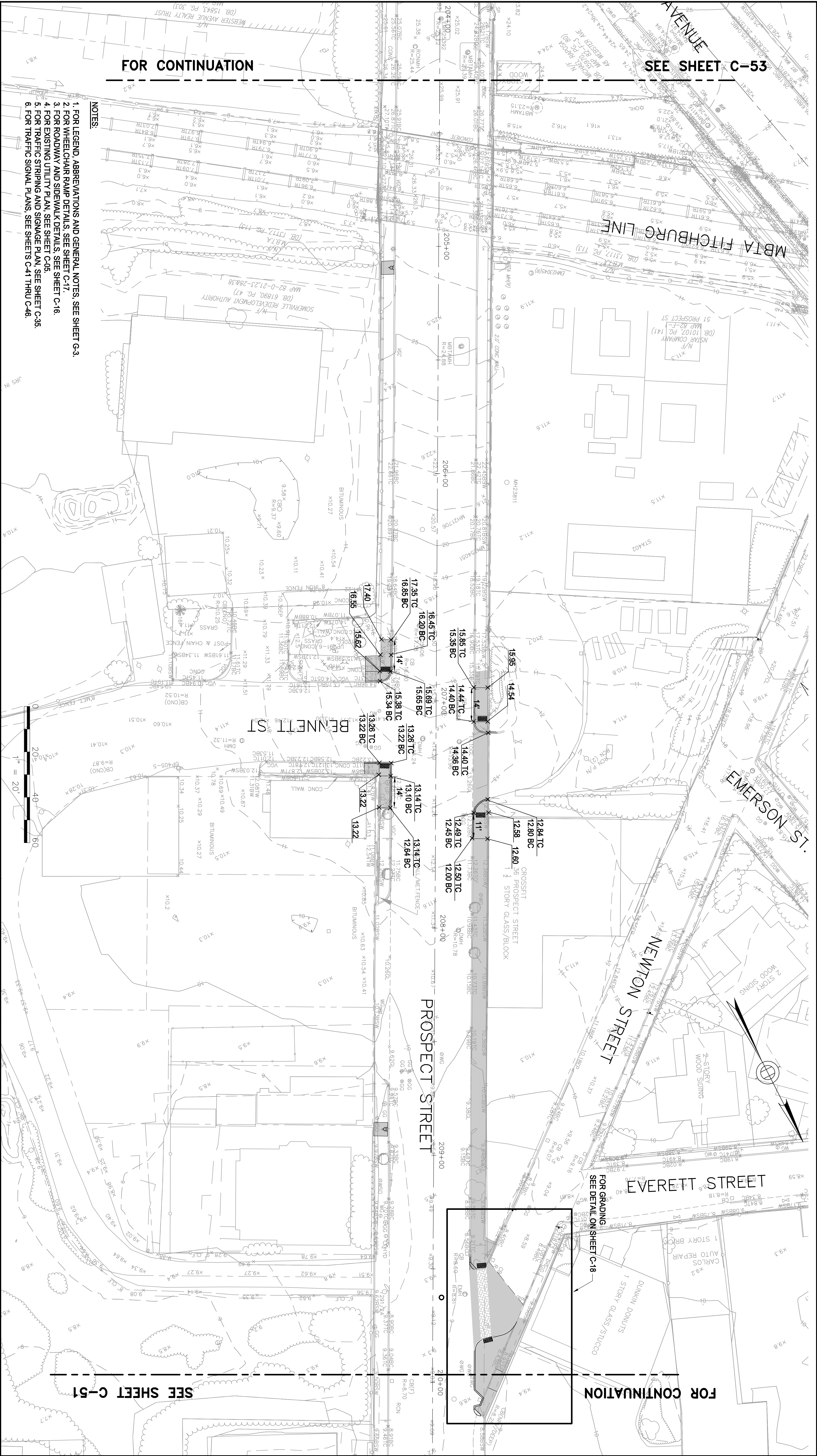
DATE: JAN 4, 2016

SHEET
C-46

PARSONS
BRINCKERHOFF
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75 Arlington St. Boston, MA 02116
PH. (617)426-7330 FAX (617)482-8487

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

[illegible]



NO.

DATE

REVISIONS

BY

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET G-3.

2. FOR WHEELCHAIR RAMP DETAILS, SEE SHEET C-17.

3. FOR ROADWAY AND SIDEWALK DETAILS, SEE SHEET C-16.

4. FOR EXISTING UTILITY PLAN, SEE SHEET C-05.

5. FOR TRAFFIC STRIPING AND SIGNAGE PLAN, SEE SHEET C-35.

6. FOR TRAFFIC SIGNAL PLANS, SEE SHEETS C-41 THRU C-46.

COMMONWEALTH OF MASSACHUSETTS

CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY

EARLY ACTION PROJECT

GRADING PLANS

SHEET 4 OF 4

DESIGNED: LAC

CHECKED: RJB

DRAWN: LAC

CHECKED: RJB

PARSONS
BRINCKERHOFF

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

IFB#15-105-REBID

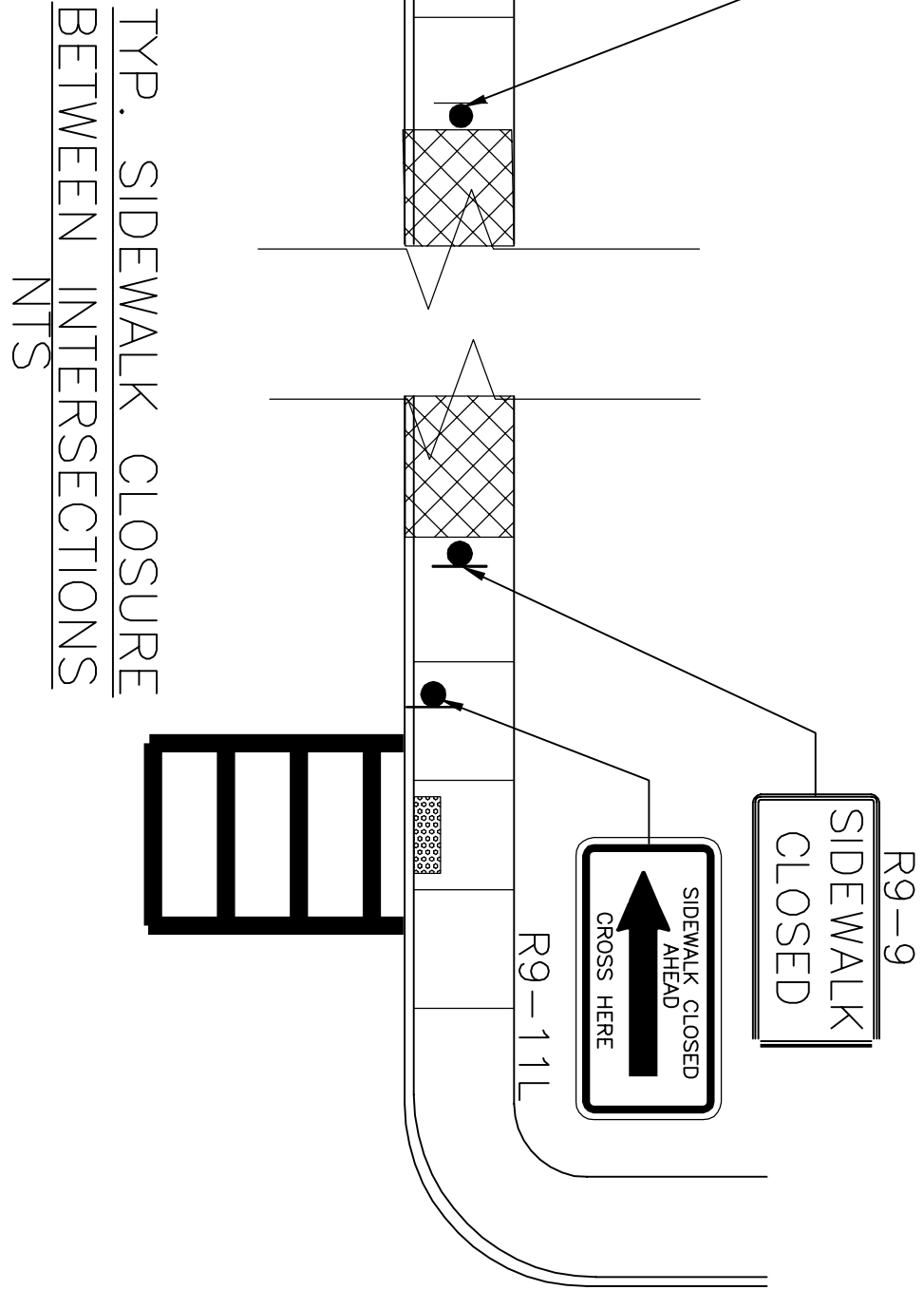
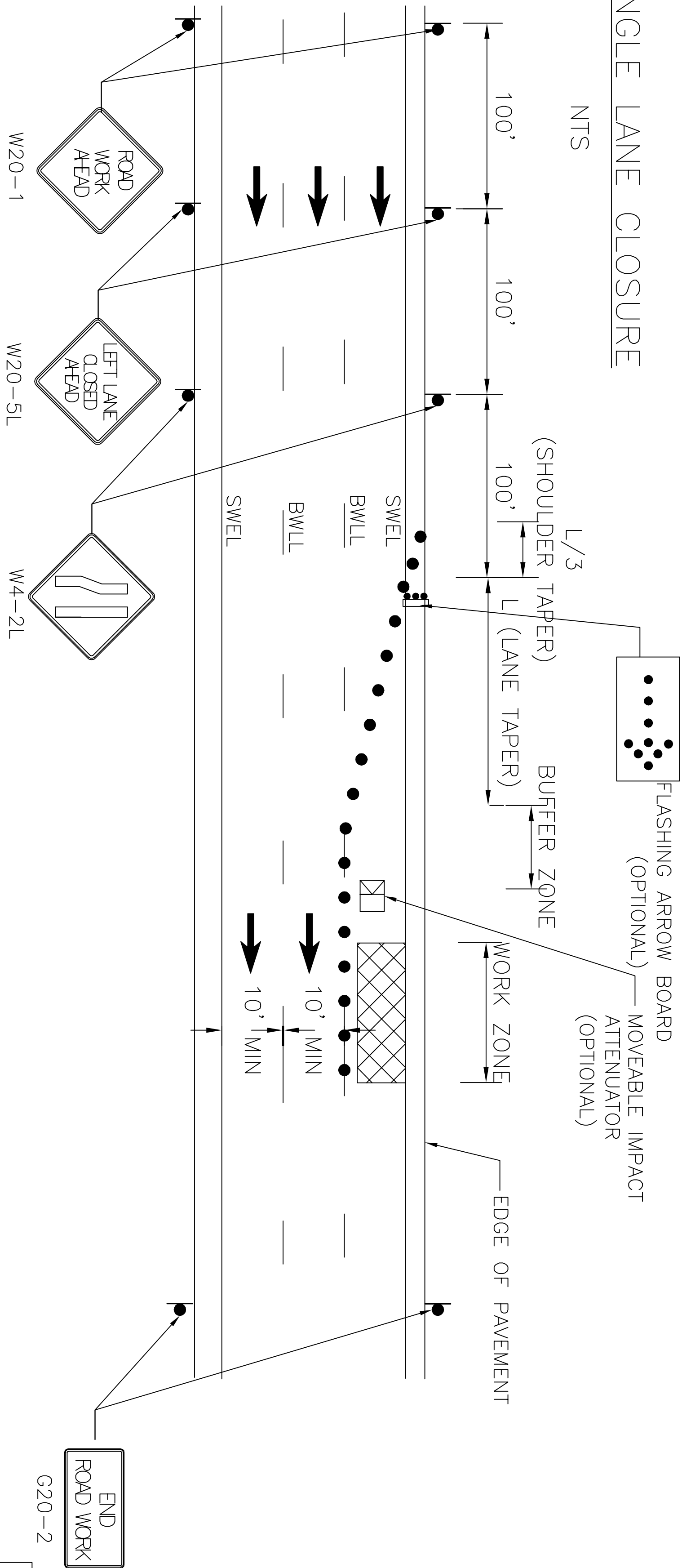
SCALE: 1"=20'

DATE: JAN 4, 2016

SHEET

C-54

SINGLE LANE CLOSURE



KEY

▲ 36" REFLECTORIZED CONE

● REFLECTORIZED DRUM

SLU (FLASHING ARROW)

WORK ZONE

MOVEABLE IMPACT ATTENUATOR

WARNING SIGN

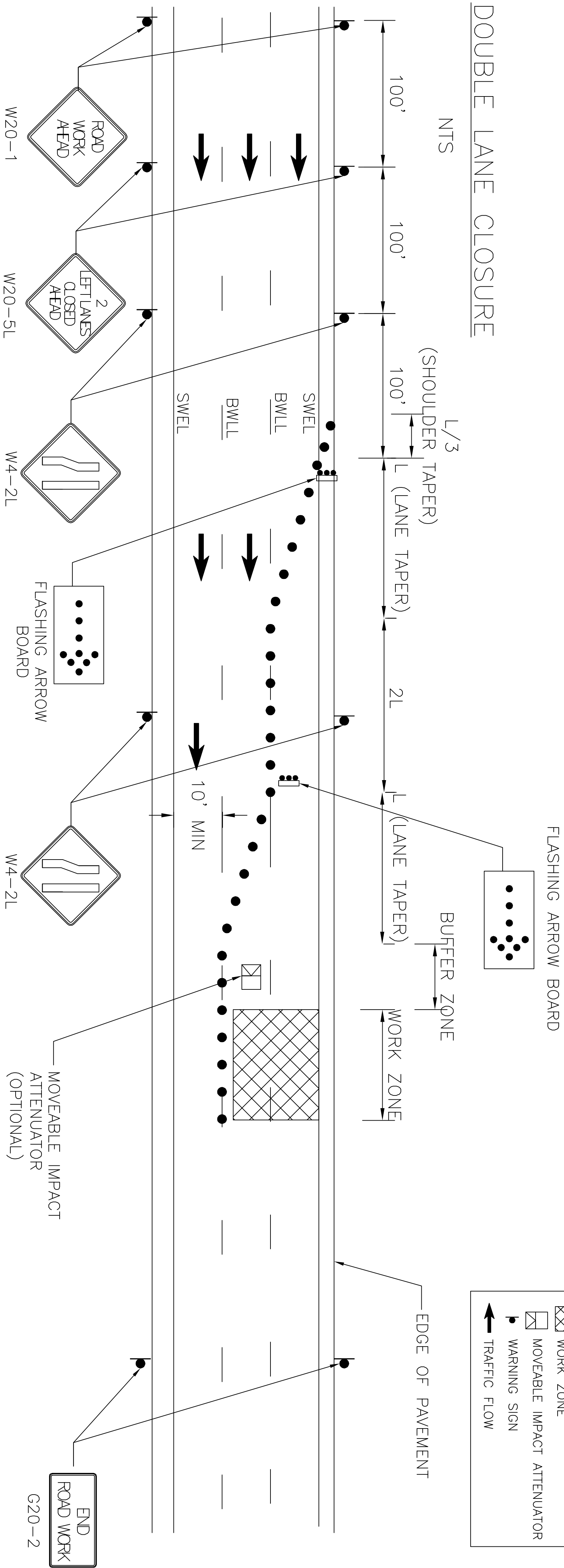
TRAFFIC FLOW

POSTED SPEED LIMIT	25 MPH
$L = (WS^2)/60$	125 FT
MERGING TAPER = L	125 FT
SHIFTING TAPER = (1/2)L	63 FT
SHOULDER TAPER = (1/3)L	42 FT
BUFFER SPACE*	
20 MPH POSTED SPEED	115 FT
25 MPH POSTED SPEED	155 FT
30 MPH POSTED SPEED	200 FT
*STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED	

TRAFFIC CONTROL GENERAL NOTES

- CONTRACTOR SHALL SUBMIT TRAFFIC MANAGEMENT PLANS TO THE CITY OF SOMERVILLE FOR APPROVAL
- ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES AND OTHER DEVICES SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED.
- ALL DRUMS SHALL BE SET AT 20' ON CENTER MAX, ON LOCAL ROADWAY
- ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES. GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORKING HOURS, TO MAINTAIN SUCH ACCESS.
- EXCAVATION EDGES IN EXCESS OF 4" DEEP SHALL BE PROTECTED DURING NON-WORK HOURS
- 10' MINIMUM LANE WIDTHS SHALL BE MAINTAINED AT ANY TIME DURING CONSTRUCTION.
- NON-ESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
- ALL TEMPORARY MARKINGS SHALL BE WATER-BORNE PAINT OR APPROVED TAPE.
- POLICE DETAILS SHALL BE COORDINATED WITH THE CITY OF SOMERVILLE
- REVERSE TAPERS AND USE RIGHT LANE SIGNAGE FOR RIGHT LANE CLOSURES.

DOUBLE LANE CLOSURE



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY

EARLY ACTION PROJECT
CONSTRUCTION PHASING
TYPICAL LANE CLOSURES

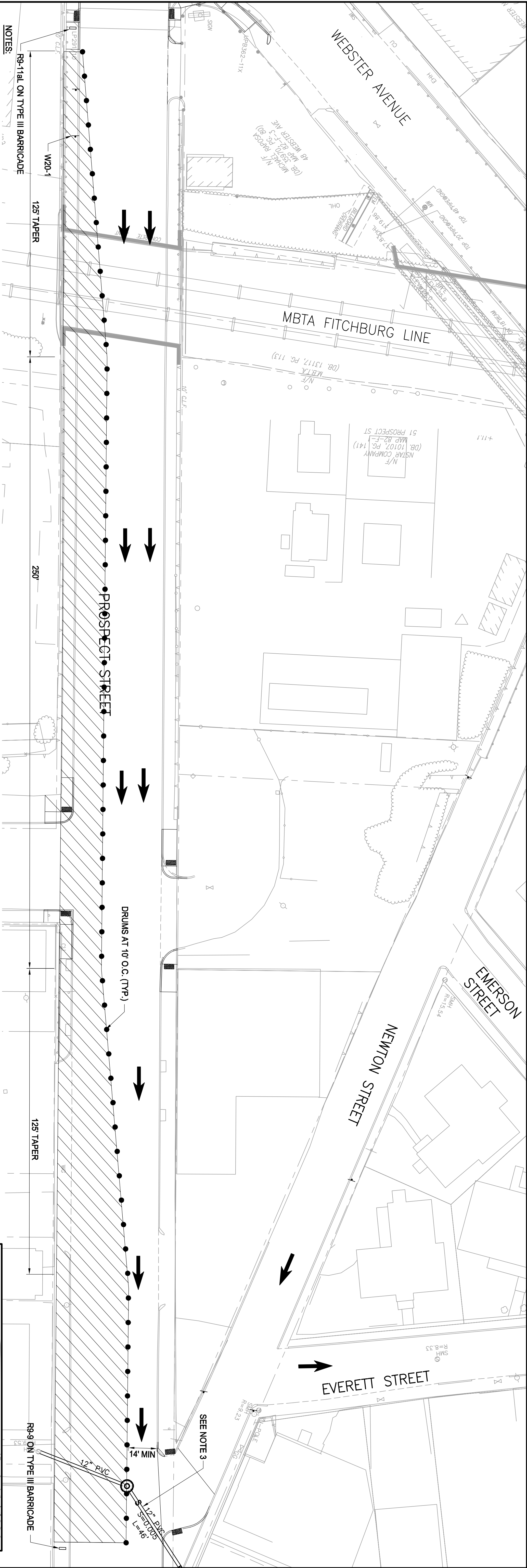
DESIGNED: KTC
CHECKED: RJB
PARSONS BRINCKERHOFF
Parsons Brinckerhoff, Inc.
75 Arlington St. Boston, MA 02116
PH. (617)426-7330 FAX (617)482-8487

DRAWN: BLT
CHECKED: RJB
IFB#15-105-REBID

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

SHEET
C-60

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



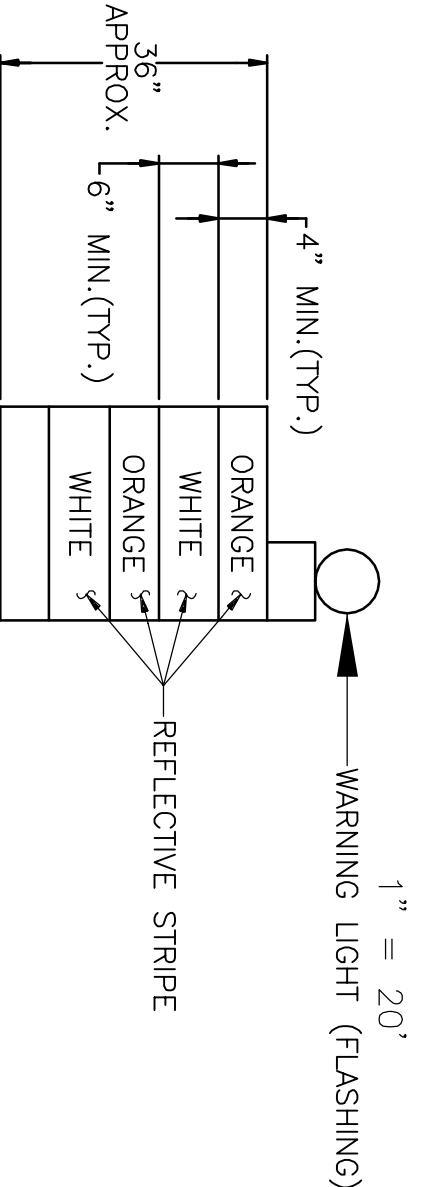
- NOTES:
1. LANE CLOSURE WORK HOURS: 7 AM TO 7 PM
 2. A MINIMUM OF ONE 14' TRAVEL LANE MUST BE MAINTAINED AT ALL TIMES.
 3. FOR CONNECTION TO EXISTING SEWER, NEWTON STREET WILL BE CLOSED AT EVERETT STREET DURING THE WORK HOURS OF: 7 AM TO 6 PM. FOR ADDITIONAL SIGNAGE SEE SHEET C-64.

LEGEND:

WORK ZONE BARRELL

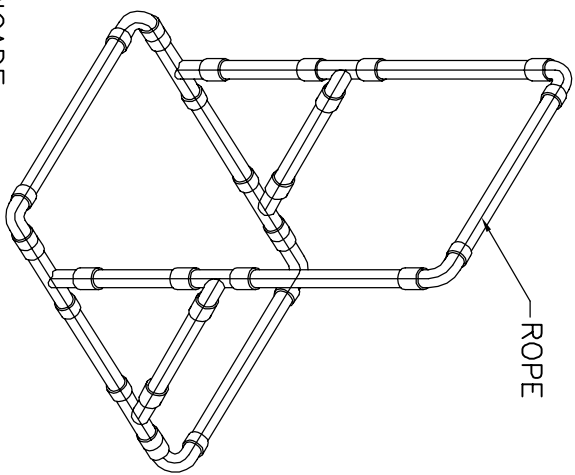
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	COLOR
	HEIGHT	WIDTH		
R9-9	12"	24"	SIDEWALK CLOSED	BLACK ON WHITE
R9-11R	12"	24"	SIDEWALK CLOSED AHEAD CROSS HERE	BLACK ON WHITE
R9-11oL	12"	24"	SIDEWALK CLOSED CROSS HERE	BLACK ON WHITE

TRAFFIC DRUM
FRONT VIEW
N.T.S.

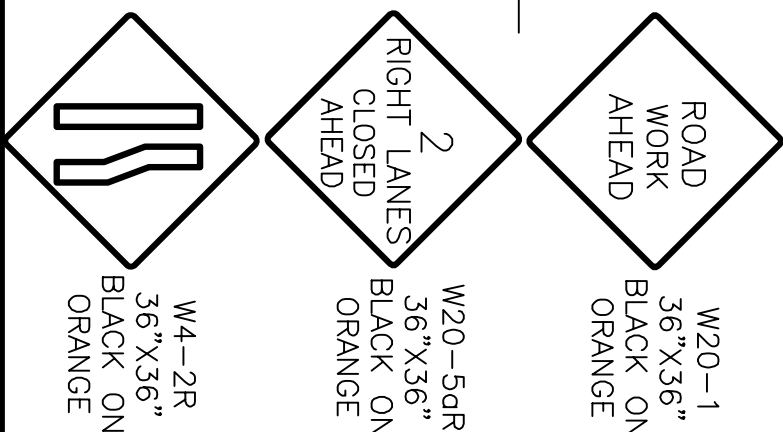
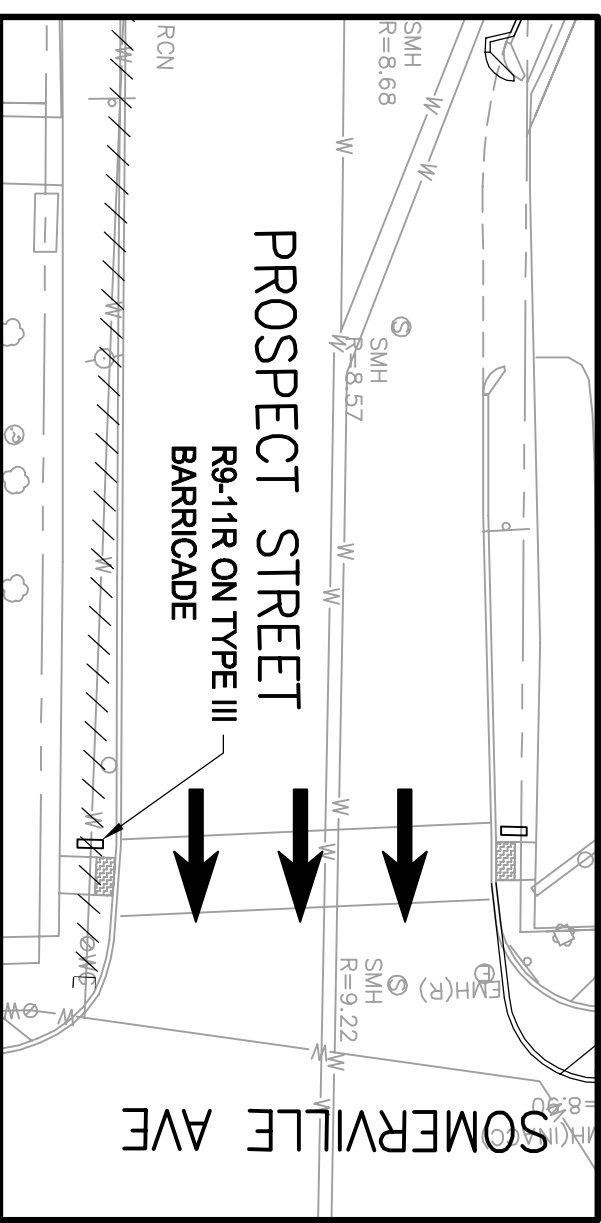
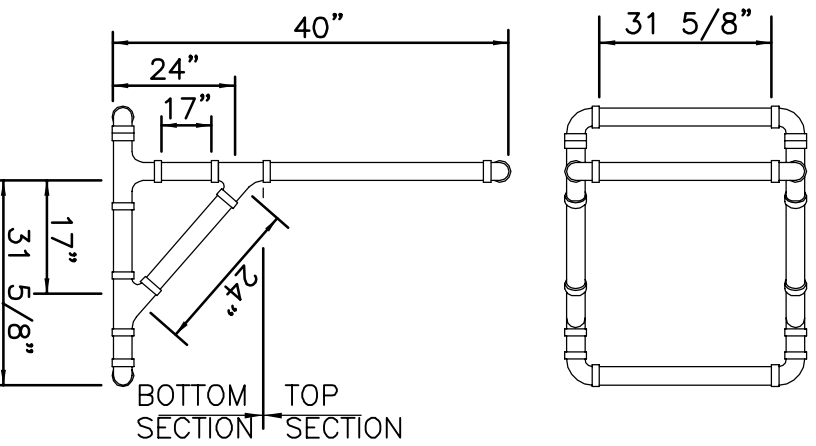


- TRAFFIC DRUM NOTES:
1. TRAFFIC DRUM SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION M.U.T.C.D.
 2. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED NOT SUITABLE FOR THE PURPOSE INTENDED.
 3. THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE FLEXIBLE ENCAPSULATED LENS REFLECTIVE SHEETING.
 4. REFLECTORIZED STRIPES SHOULD NOT BE PLACED OVER THE PROTRUDING CIRCUMFERENCAL RIBS OF THE DRUM.
 5. THE SECTIONS OF DRUMS NOT COVERED WITH REFLECTORIZED STRIPES SHALL BE ORANGE.
 6. THE DESIGN OF THE DRUM WILL ALLOW FOR THE ATTACHMENT OF A BARRICADE WARNING LIGHT.

POSTED SPEED LIMIT	25 MPH
$L = (WS^2)/60$	125 FT
MERGING TAPER = L	125 FT
SHIFTING TAPER = $(1/2)L$	63 FT
SHOULDER TAPER = $(1/3)L$	42 FT



- BARRICADE
NOTES: 1. DIMENSIONS ARE APPROXIMATE.
2. BOTTOM SECTION MAY BE FILLED WITH SAND FOR BALLAST.
3. SUPPORT SHALL BE LOOSELY THREADED WITH ROPE, KNOTTED AS REQUIRED.



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO.	DATE	REVISIONS



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
CONSTRUCTION PHASING
SEWER LINE CONSTRUCTION

DESIGNED: LAC
CHECKED: RLB

DRAWN: LAC
CHECKED: RLB

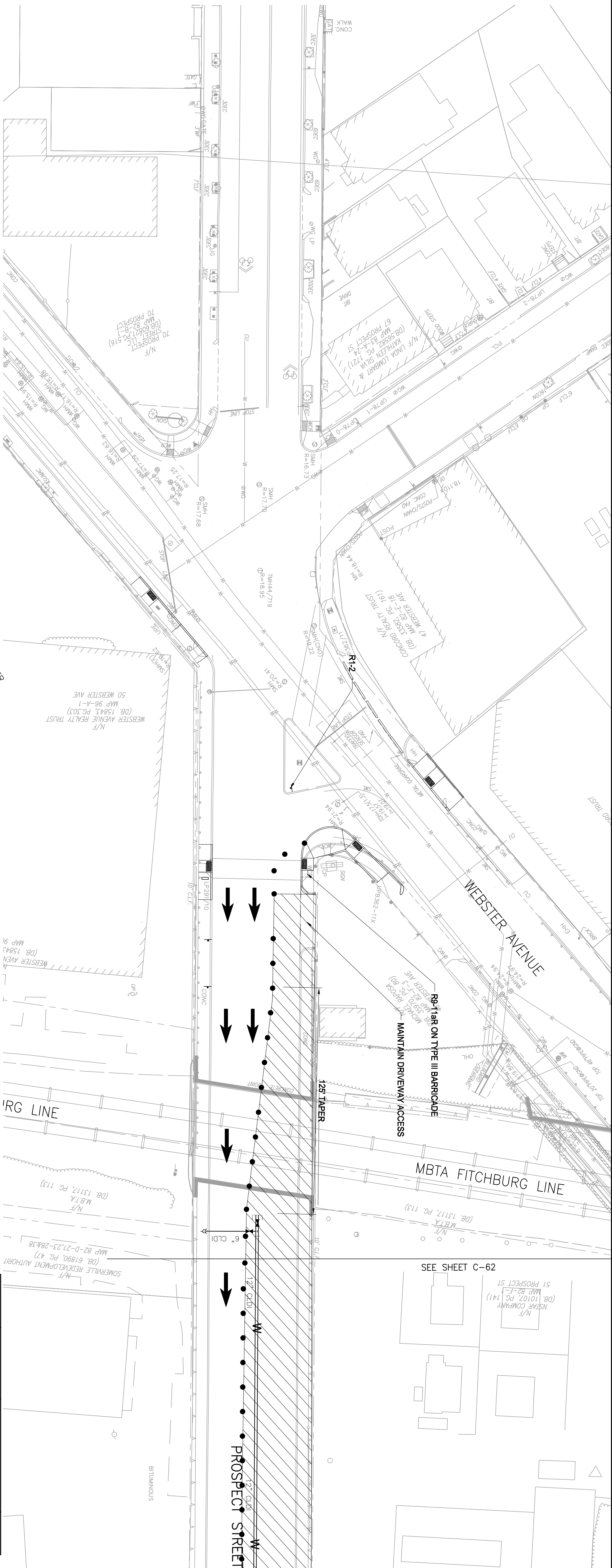
IFB#15-105-REBID

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

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143

SHEET

C-61

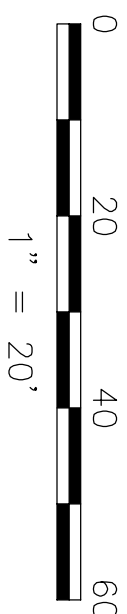


- NOTES:**
1. LANE CLOSURE WORK HOURS: 7 AM TO 7 PM
 2. A MINIMUM OF ONE 1/4" TRAVEL LANE MUST BE MAINTAINED AT ALL TIMES.
 3. FOR CONNECTION TO EXISTING WATER MAIN, NEWTON STREET WILL BE CLOSED AT EVERETT STREET DURING THE WORK HOURS OF: 7 AM TO 5 PM
 4. FOR PROPOSED LATERALS, TRAVEL LANE MUST BE DETOURED THROUGH THE WORK ZONE.
 5. MAINTAIN SIDEWALK ON EASTERN SIDE OF PROSPECT STREET AT ALL TIMES.

LEGEND:

WORK ZONE

● BARRELL



ROAD
WORK
AHEAD

2
LEFT LANES
CLOSED
AHEAD

W20-1
36"x36"
BLACK ON
ORANGE

W20-5g
36"x36"
BLACK ON
ORANGE

W4-2L
36"x36"
BLACK ON
ORANGE

ROAD
WORK
AHEAD

END
ROAD WORK

W20-1
36"x36"
BLACK ON
ORANGE

G20-2
36"x18"
BLACK ON
ORANGE

IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	COLOR
	HEIGHT	WIDTH		
R9-11aR	12"	24"	SIDEWALK CLOSED CROSS HERE	BLACK ON WHITE
R1-2	36"	36"		RED AND WHITE
POSTED SPEED LIMIT			25 MPH	
L = (MS ²)/60			125 FT	
MERGING TAPER = L			125 FT	
SHIFTING TAPER = (1/2)L			63 FT	
SHOULDER TAPER = (1/3)L			42 FT	

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO.		DATE	REVISIONS



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
CONSTRUCTION PHASING
WATER MAIN CONSTRUCTION

DESIGNED: LAC
CHECKED: RJB

**PARSONS
BRINCKERHOFF**
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75 Arlington St. Boston, MA 02116
PH. (617)426-7330 FAX (617)482-8487

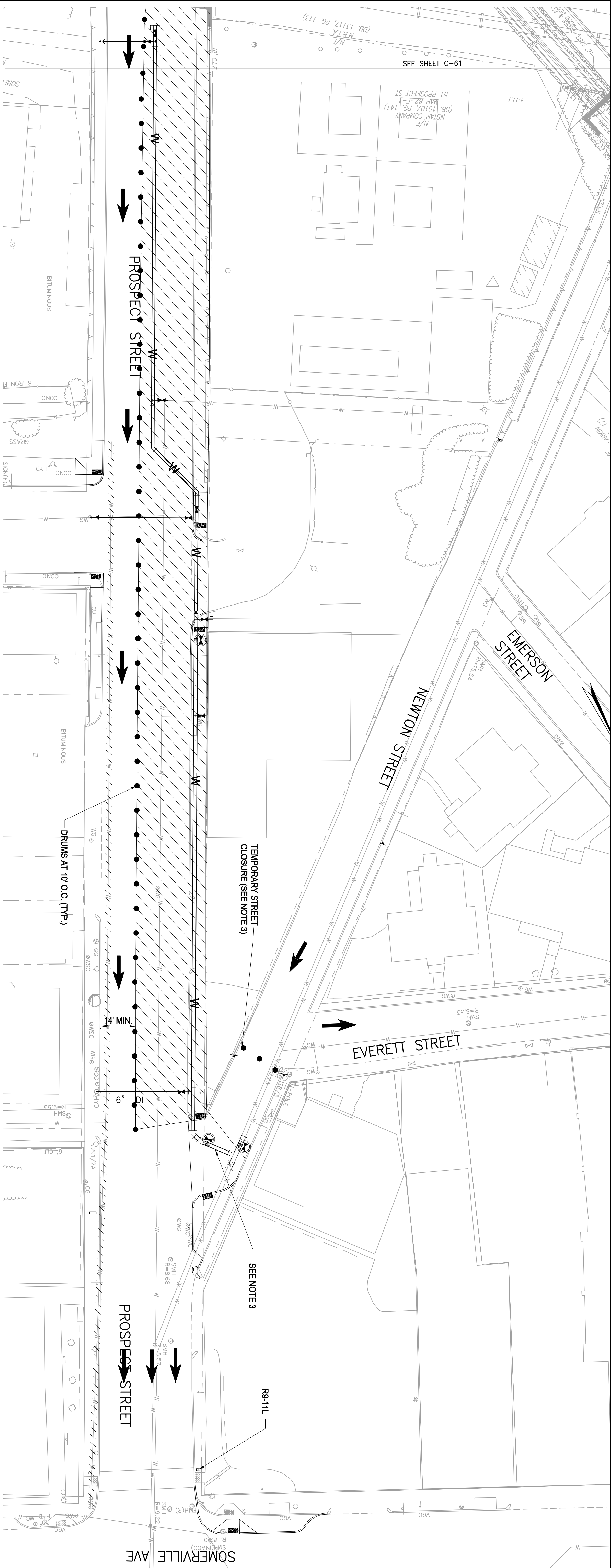
SHEET
C-62

DRAWN: LAC
CHECKED: RJB

IFB#15-105-REBID

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

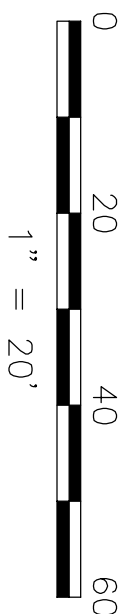
CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



NOTES:

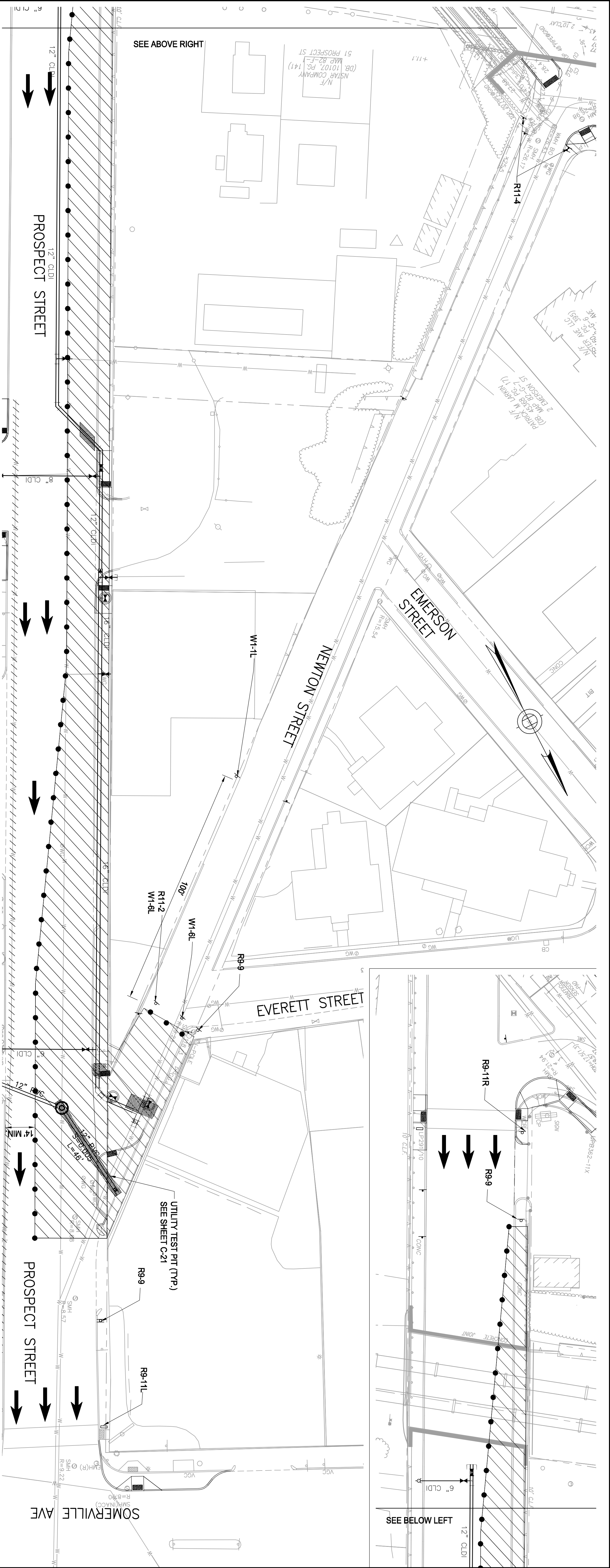
1. LANE CLOSURE WORK HOURS: 7 AM TO 7 PM
2. A MINIMUM OF ONE 14' TRAVEL LANE MUST BE MAINTAINED AT ALL TIMES.
3. FOR CONNECTION TO EXISTING WATER MAIN, NEWTON STREET WILL BE CLOSED AT EVERETT STREET DURING THE WORK HOURS OF: 7 AM TO 5 PM
4. FOR PROPOSED LATERALS, TRAVEL LANE MUST BE DETOURED THROUGH THE WORK ZONE.
5. MAINTAIN SIDEWALK ON EASTERN SIDE OF PROSPECT STREET AT ALL TIMES.

LEGEND:



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

COMMONWEALTH OF MASSACHUSETTS CITY OF SOMERVILLE		UNION SQ. UTILITY AND ROADWAY EARLY ACTION PROJECT CONSTRUCTION PHASING WATER MAIN CONSTRUCTION 2 OF 2			
DESIGNED: LAC CHECKED: RJB	DRAWN: LAC CHECKED: RJB		IFB#15-105-REBID	SCALE: 1"=20' DATE: JAN 4, 2016	SHEET C-63
PARSONS BRINCKERHOFF Parsons Brinckerhoff, Inc. 75 Arlington St. Boston, MA 02116 PH. (617)426-7330 FAX (617)482-8487		CITY OF SOMERVILLE 93 HIGHLAND AVENUE SOMERVILLE, MA 02143			
NO.	DATE	REVISIONS		BY	



PROSPECT STREET

EMERSON STREET

NEWTON STREET

EVERETT STREET

PROSPECT STREET

SOMERVILLE AVE

NOTES:
1. FOR CONNECTION TO EXISTING WATER MAIN, NEWTON STREET WILL BE CLOSED AT EVERETT STREET DURING THE WORK HOURS OF: 7 AM TO 5 PM

LEGEND:

WORK ZONE

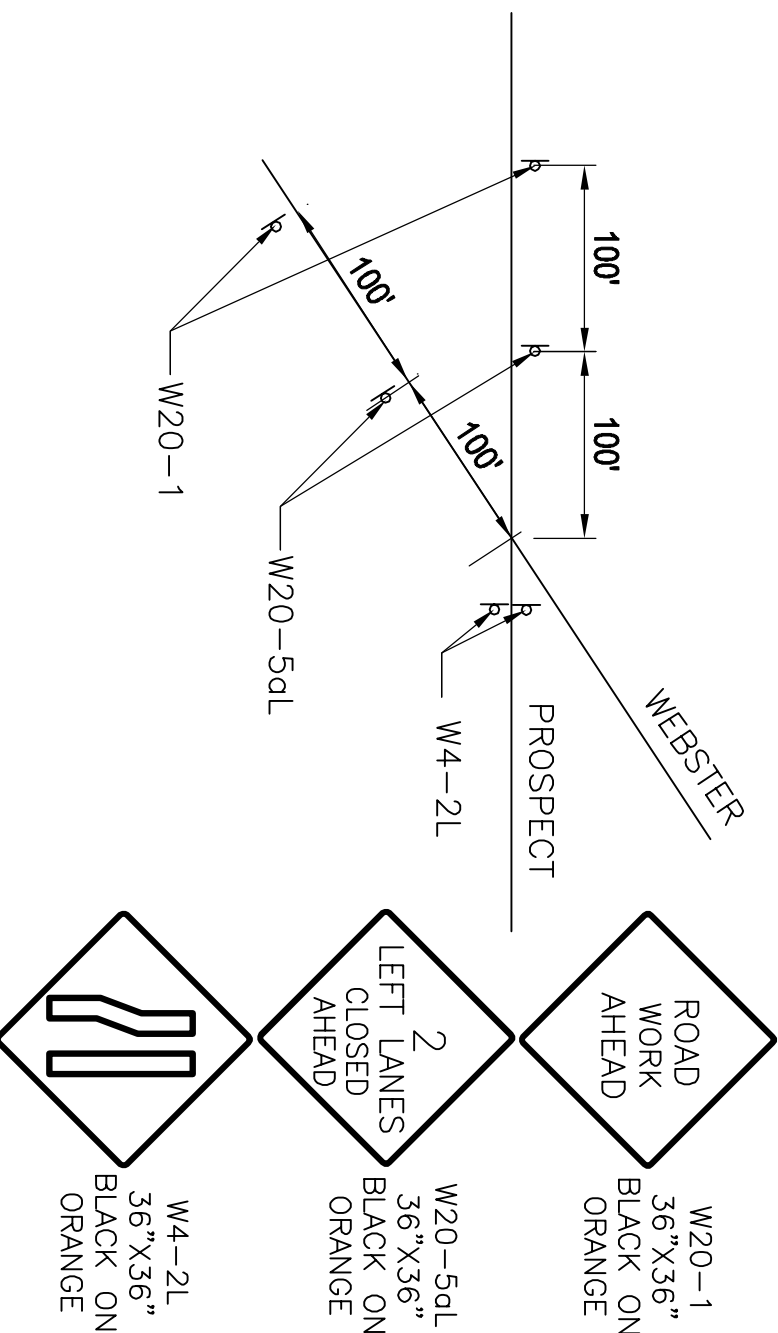
BARRELL

0 20 40 60
1" = 20'

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	COLOR
	HEIGHT	WIDTH		
R9-9	12"	24"	SIDEWALK CLOSED	BLACK ON WHITE
R9-11L	12"	24"	SIDEWALK CLOSED AHEAD CROSS HERE	BLACK ON WHITE
R9-11R	12"	24"	SIDEWALK CLOSED AHEAD CROSS HERE	BLACK ON WHITE

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	COLOR
	HEIGHT	WIDTH		
R11-2	30"	48"	ROAD CLOSED	BLACK ON WHITE
R11-4	30"	48"	ROAD CLOSED THRU TRAFFIC	BLACK ON WHITE

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	COLOR
	HEIGHT	WIDTH		
W1-1L	24"	48"	Left Turn Arrow	BLACK ON ORANGE
W1-6L	24"	48"	Right Turn Arrow	BLACK ON ORANGE



ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO. DATE

REVISIONS

BY

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
CONSTRUCTION PHASING
NEWTON STREET CLOSURE

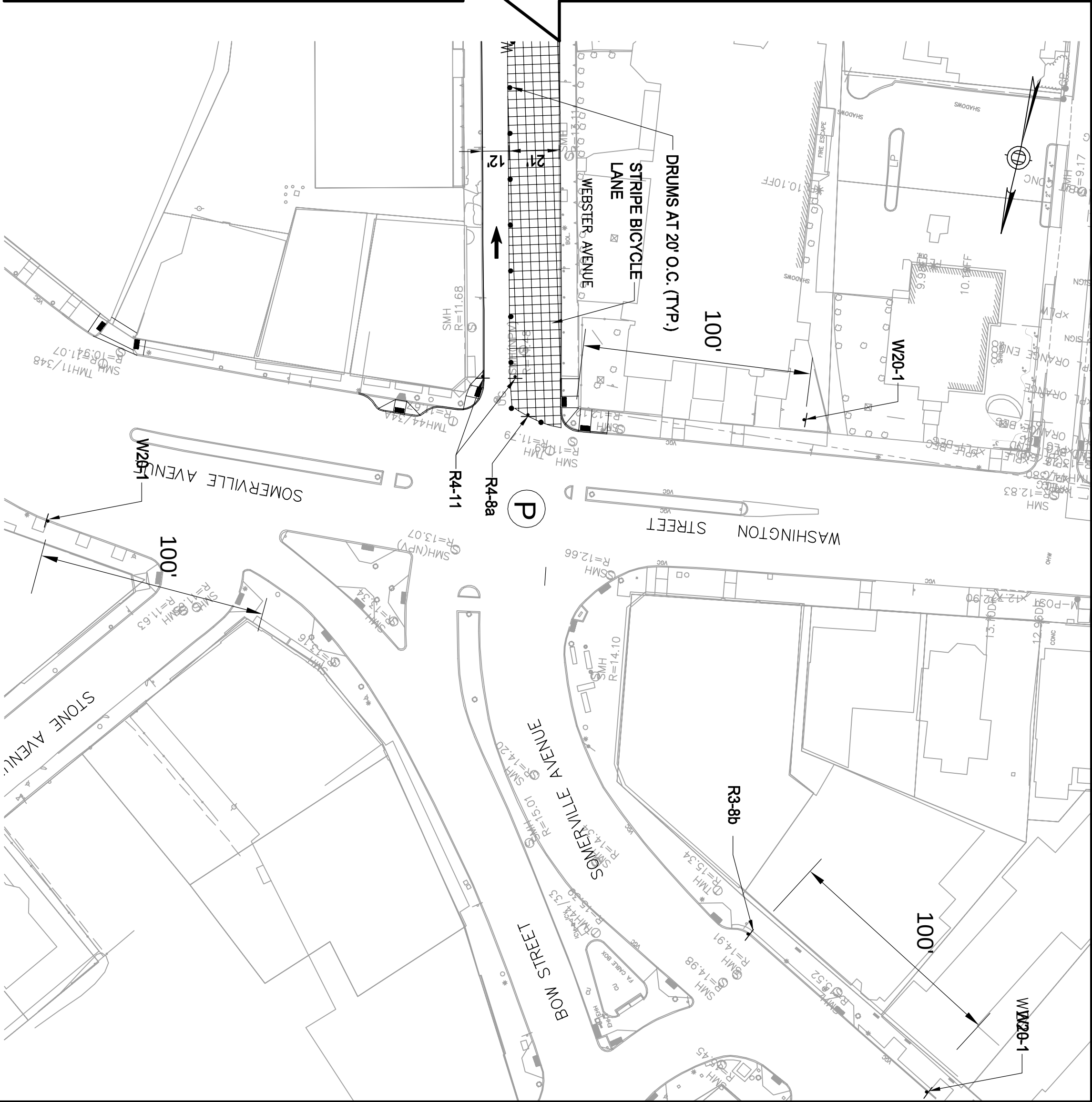
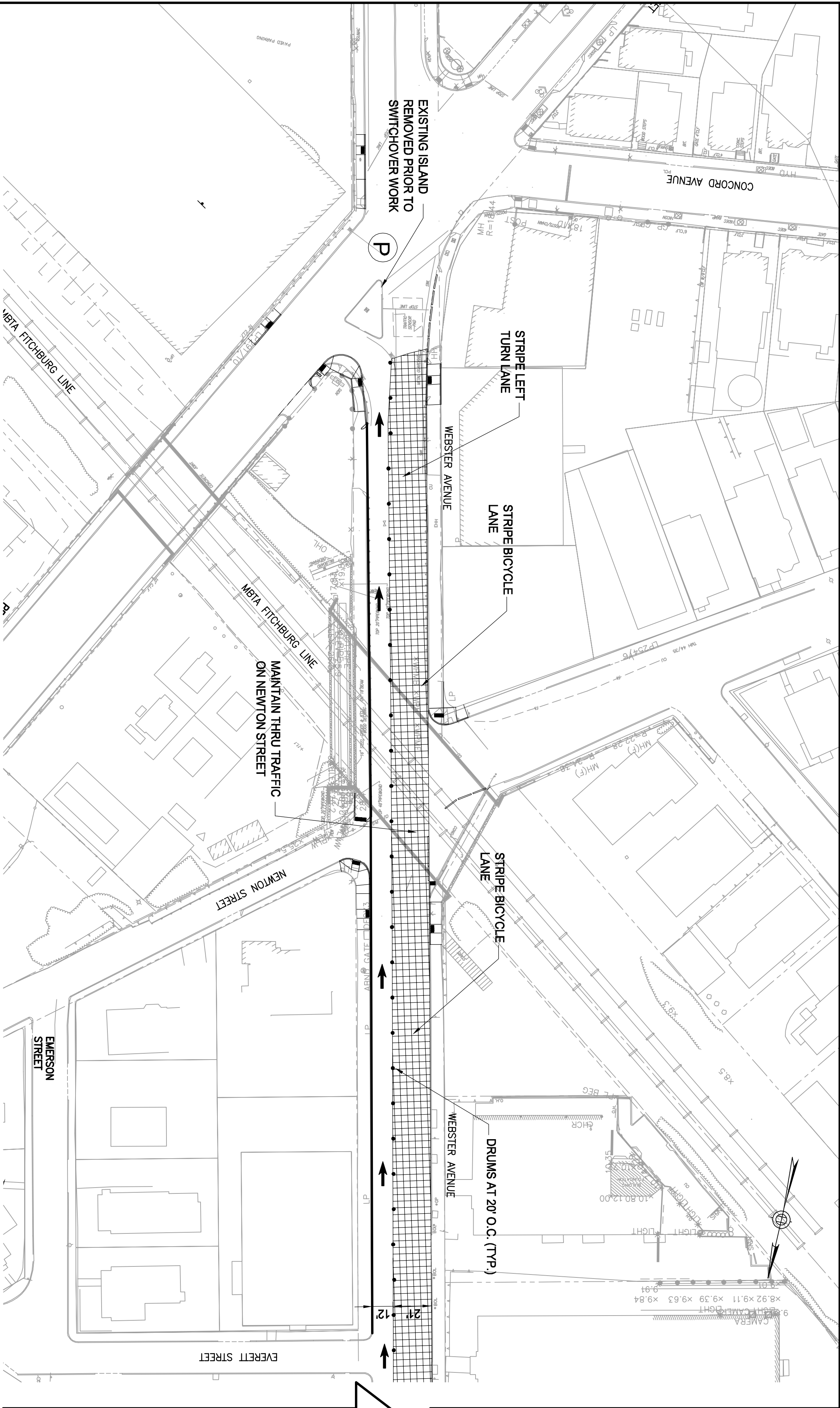
DESIGNED: LAC
CHECKED: RLB
DRAWN: LAC
CHECKED: RLB

IFB#15-105-REBID

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

SHEET

C-64



NOTES:

1. MAINTAIN EXISTING ONE-WAY TRAFFIC PATTERN ON WEBSTER AVENUE AND PROSPECT STREET UNTIL THE DESIGNATED WEEKEND SWITCHOVER TO TWO-WAY OPERATIONS.
2. PRIOR TO SWITCHOVER TO TWO-WAY OPERATION, MAINTAIN ALL TRAFFIC SIGNAGE AND TRAFFIC CONTROL SIGNAL SYSTEMS IN CURRENT CONFIGURATION TO SUPPORT ONE-WAY OPERATIONS.
3. PRIOR TO THE SWITCHOVER TO TWO-WAY OPERATION, NEW TRAFFIC CONTROL EQUIPMENT MAY BE INSTALLED, BUT SHALL BE COVERED AND NOT PLACE IN OPERATION.
4. PRIOR TO THE SWITCHOVER TO TWO-WAY OPERATION, NEW TRAFFIC SIGNAGE MAY BE INSTALLED, BUT SHALL BE COVERED UNTIL THE SWITCHOVER.
5. PRIOR TO THE SWITCHOVER TO TWO WAY OPERATIONS, MAINTAIN:
 - 5.1. AT LEAST ONE SOUTHBOUND TRAFFIC LANE ON WEBSTER AVENUE
 - 5.2. AT LEAST ONE NORTHBOUND TRAFFIC LANE ON PROSPECT STREET
 - 5.3. AT LEAST ONE EASTBOUND AND ONE WESTBOUND TRAFFIC LANE ON SOMERVILLE AVENUE.
6. AT ALL TIMES, MAINTAIN ACCESS TO EVERETT AND EMERSON STREETS VIA NEWTON STREET AND ALL ABUTTER ACCESS. (NOTE: NEWTON STREET BETWEEN EVERETT AND PROSPECT STREETS MAY BE CLOSED FOR SEWER, WATER, AND SPEED TABLE CONSTRUCTION)
7. THE SWITCHOVER FROM ONE-WAY TO TWO-WAY OPERATIONS ON WEBSTER AVENUE AND PROSPECT STREET SHALL OCCUR ON A DESIGNATED WEEKEND SWITCHOVER APPROVED BY THE CITY.
8. PERFORM ALL WORK REQUIRED PRIOR TO THE SWITCHOVER AS DETAILED IN SPECIFICATIONS.
9. BAN ALL PARKING ON WEBSTER AVENUE PRIOR TO WORK AND RESTRICT TRAFFIC TO A SINGLE 12 FT SOUTHBOUND LANE.
10. PROVIDE TRAFFIC OFFICERS AT SIGNALIZED INTERSECTIONS.
11. UTILIZE EXISTING TRAFFIC SIGNALS AT WEBSTER AVENUE AND PROSPECT STREET AND AT WEBSTER AVENUE AND SOMERVILLE AVENUE DURING THIS PHASE. AT COMPLETION OF PHASE, TURN OFF OLD SIGNAL SYSTEM AND ACTIVATE NEW SIGNAL SYSTEM.
12. CONTRACTOR TO SUBMIT FINAL TMP PLAN TO CITY OF SOMERVILLE FOR APPROVAL FOR THIS WORK

LEGEND:

- WORK ZONE
- BARRELL
- POLICE OFFICER

SIGNAGE:

- ONLY ONLY
- KEEP LEFT
- ONLY MAY USE FULL LANE
- ROAD WORK AHEAD
- R3-80 48"x30" BLACK ON WHITE
- R4-80 24"x30" BLACK ON WHITE
- R4-11 30"x30" BLACK ON ORANGE
- W20-1 36"x36" BLACK ON ORANGE

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

NO.	DATE	REVISIONS	BY



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
CONSTRUCTION PHASING
PH. 1B STRIPING CONVERSION TMP

DESIGNED: KTC
CHECKED: RJB
PARSONS BRINCKERHOFF
Parsons Brinckerhoff, Inc.
75 Arlington St. Boston, MA 02116
PH. (617)426-7330 FAX (617)482-8487

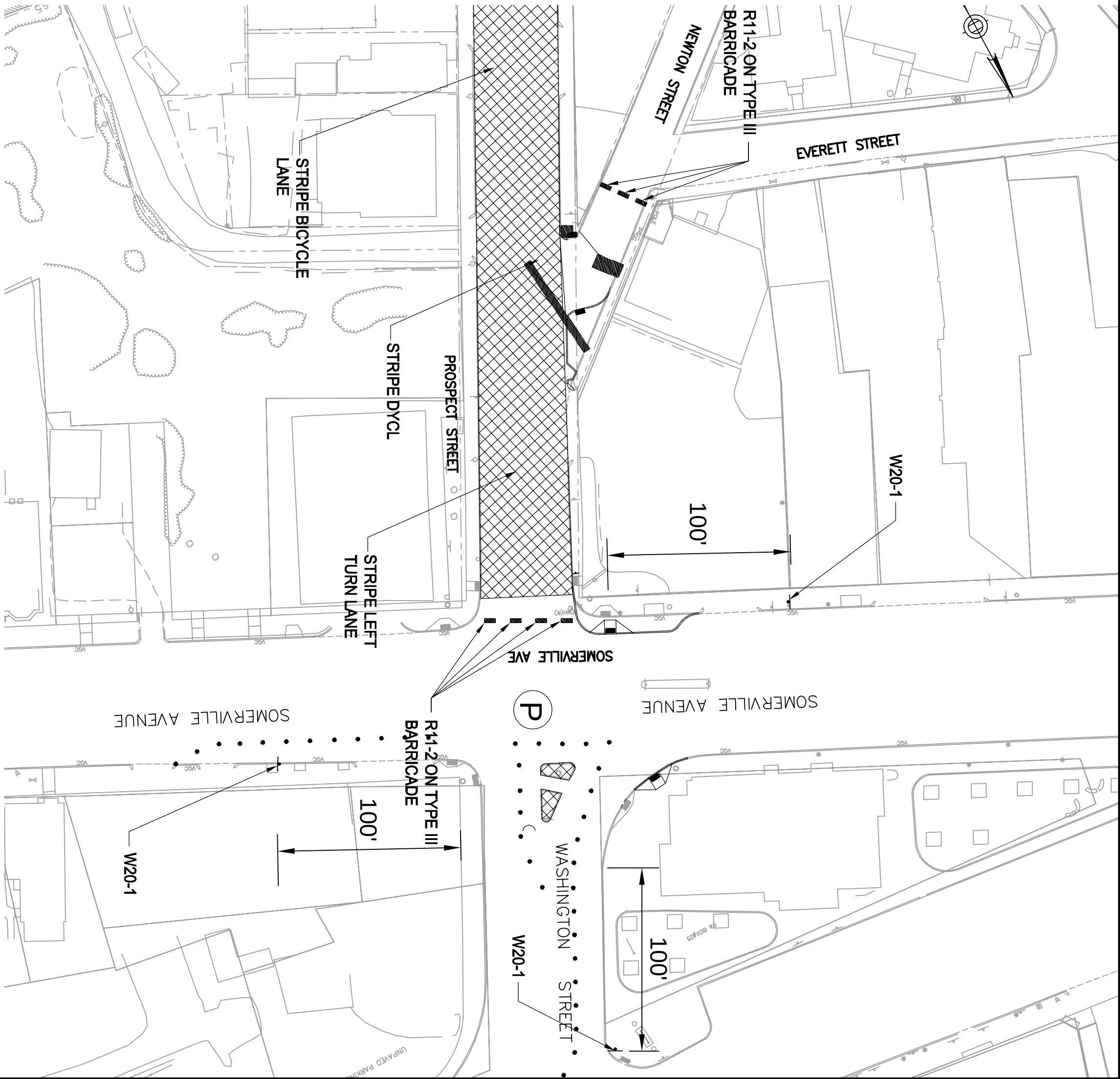
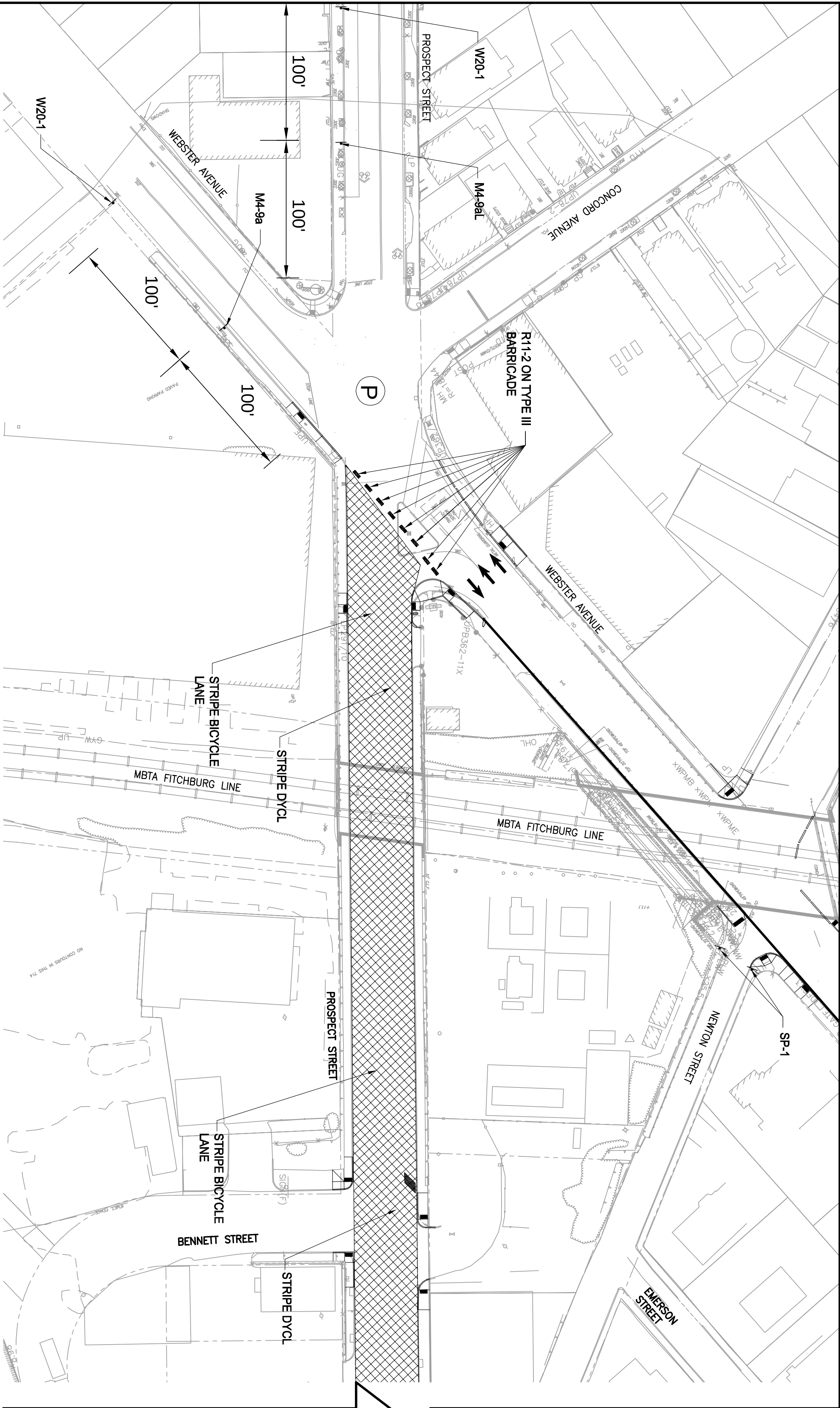
DRAWN: KTC
CHECKED: RJB
IFB#15-105-REBID

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

SHEET

C-66

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



NOTES:

1. MAINTAIN EXISTING ONE-WAY TRAFFIC PATTERN ON WEBSTER AVENUE AND PROSPECT STREET UNTIL THE DESIGNATED WEEKEND SWITCHOVER TO TWO-WAY OPERATIONS.
2. PRIOR TO SWITCHOVER TO TWO-WAY OPERATION, MAINTAIN ALL TRAFFIC SIGNAGE AND TRAFFIC CONTROL SIGNAL SYSTEMS IN CURRENT CONFIGURATION TO SUPPORT ONE-WAY OPERATIONS.
3. PRIOR TO THE SWITCHOVER TO TWO-WAY OPERATION, NEW TRAFFIC CONTROL EQUIPMENT MAY BE INSTALLED, BUT SHALL BE COVERED AND NOT PLACE IN OPERATION.
4. PRIOR TO THE SWITCHOVER TO TWO-WAY OPERATION, NEW TRAFFIC SIGNAGE MAY BE INSTALLED, BUT SHALL BE COVERED UNTIL THE SWITCHOVER.
5. PRIOR TO THE SWITCHOVER TO TWO WAY OPERATIONS, MAINTAIN:
 - 5.1. AT LEAST ONE SOUTHBOUND TRAFFIC LANE ON WEBSTER AVENUE
 - 5.2. AT LEAST ONE NORTHBOUND TRAFFIC LANE ON PROSPECT STREET
 - 5.3. AT LEAST ONE EASTBOUND AND ONE WESTBOUND TRAFFIC LANE ON SOMERVILLE AVENUE.
6. AT ALL TIMES, MAINTAIN ACCESS TO EVERETT AND EMERSON STREETS VIA NEWTON STREET AND ALL ABUTTER ACCESS. (NOTE: NEWTON STREET BETWEEN EVERETT AND PROSPECT STREETS MAY BE CLOSED FOR SEWER, WATER, AND SPEED TABLE CONSTRUCTION)
7. THE SWITCHOVER FROM ONE-WAY TO TWO-WAY OPERATIONS ON WEBSTER AVENUE AND PROSPECT STREET SHALL OCCUR ON A DESIGNATED WEEKEND SWITCHOVER APPROVED BY THE CITY.
8. PERFORM ALL WORK REQUIRED PRIOR TO THE SWITCHOVER AS DETAILED IN SPECIFICATIONS.
9. CLOSE PROSPECT STREET TO ALL TRAFFIC AND DETOUR VIA SOMERVILLE AVENUE
10. RE-STRIP FOR TWO-WAY OPERATIONS AND UNWRAP ALL TRAFFIC AND PARKING SIGNAGE FOR TWO-WAY OPERATIONS.
11. PROVIDE TRAFFIC OFFICERS AT SIGNALIZED INTERSECTIONS.
12. UTILIZE NEW SIGNAL SYSTEM AT WEBSTER STREET/PROSPECT STREET DURING THIS PHASE. PROSPECT STREET AND SOMERVILLE AVENUE INTERSECTION TO USE EXISTING SIGNAL SYSTEM WITH POLICE CONTROL TO MODIFY TIMING AS NECESSARY.
13. CONTRACTOR TO SUBMIT FINAL TMP PLAN TO CITY OF SOMERVILLE FOR APPROVAL FOR THIS WORK

LEGEND:

WORK ZONE

BARRELL

TYPE II BARRICADE

P

POLICE OFFICER

SIGNAGE:

ROAD CLOSED

R11-2
48"x30"
BLACK ON
ORANGE

DETOUR
TO
SOMERVILLE
AVE.

M4-9aL
36"x48"
BLACK ON
ORANGE

DETOUR
TO
SOMERVILLE
AVE.

M4-9a
36"x48"
BLACK ON
ORANGE

ROAD
WORK
AHEAD

W20-1
36"x36"
BLACK ON
ORANGE

NO OUTLET
TO
PROSPECT
STREET

SP-1
36"x36"
BLACK ON
ORANGE

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM	
NO.	DATE
REVISIONS	
	BY



COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
CONSTRUCTION PHASING
PH. 2A STRIPING CONVERSION TMP

DESIGNED: KTC
CHECKED: RUB

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

SHEET

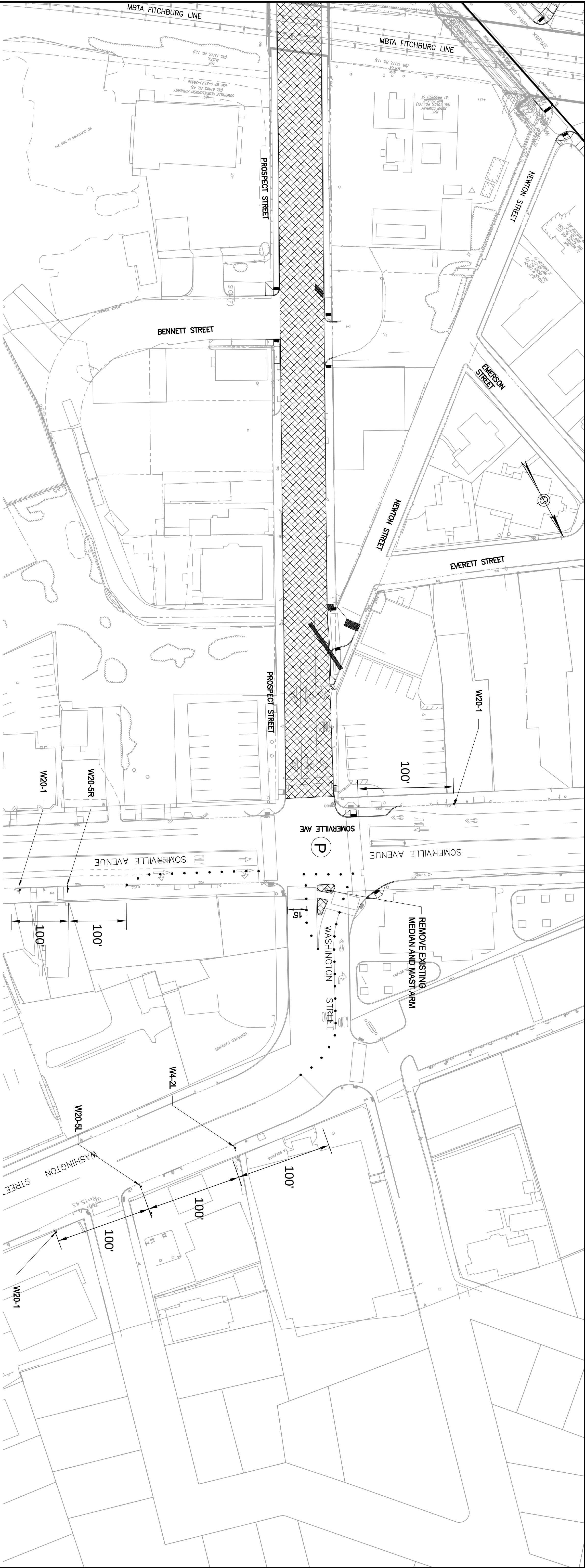
DRAWN: KTC
CHECKED: RUB

IFB#15-105-REBID

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

C-67

CITY OF SOMERVILLE
93 HIGHLAND AVENUE
SOMERVILLE, MA 02143



- NOTES:
1. MAINTAIN TRAFFIC CONTROL PLAN FROM PHASE 2A, INCLUDING ROAD CLOSURE, SIGNAGE, AND BARRICADES DURING THIS PHASE OF CONSTRUCTION.
 2. PROVIDE TRAFFIC OFFICERS AT SIGNALIZED INTERSECTIONS.
 3. UTILIZE NEW SIGNAL SYSTEM AT WEBSTER STREET/PROSPECT STREET DURING THIS PHASE. PROSPECT STREET AND SOMERVILLE AVENUE INTERSECTION TO USE EXISTING SIGNAL SYSTEM WITH POLICE CONTROL TO MODIFY TIMING AS NECESSARY.
 4. AT COMPLETION OF WORK, ACTIVATE NEW SIGNAL SYSTEM AT PROSPECT STREET AND SOMERVILLE AVENUE INTERSECTION.
 5. CONTRACTOR TO SUBMIT FINAL TMP PLAN TO CITY OF SOMERVILLE FOR APPROVAL FOR THIS WORK

LEGEND:

WORK ZONE

POLICE OFFICER

BARRELL

SIGNAGE:

W4-2L
36"X36"
BLACK ON
ORANGE

W20-1
36"X36"
BLACK ON
ORANGE

W20-5L
36"X36"
BLACK ON
ORANGE

W20-5R
36"X36"
BLACK ON
ORANGE

ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM

DESIGNED: KTC

CHECKED: RJB

DRAWN: KTC

CHECKED: RJB

DATE: JAN 4, 2016

SCALE: 1"=20'

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CITY OF SOMERVILLE
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C-68

COMMONWEALTH OF MASSACHUSETTS
CITY OF SOMERVILLE

UNION SQ. UTILITY AND ROADWAY
EARLY ACTION PROJECT
CONSTRUCTION PHASING
PH. 2B STRIPING CONVERSION TMP

NO. DATE

REVISIONS

BY

Richard J. Burckhardt
No. 31800
Professional Seal
Professional Engineer
No. 14116