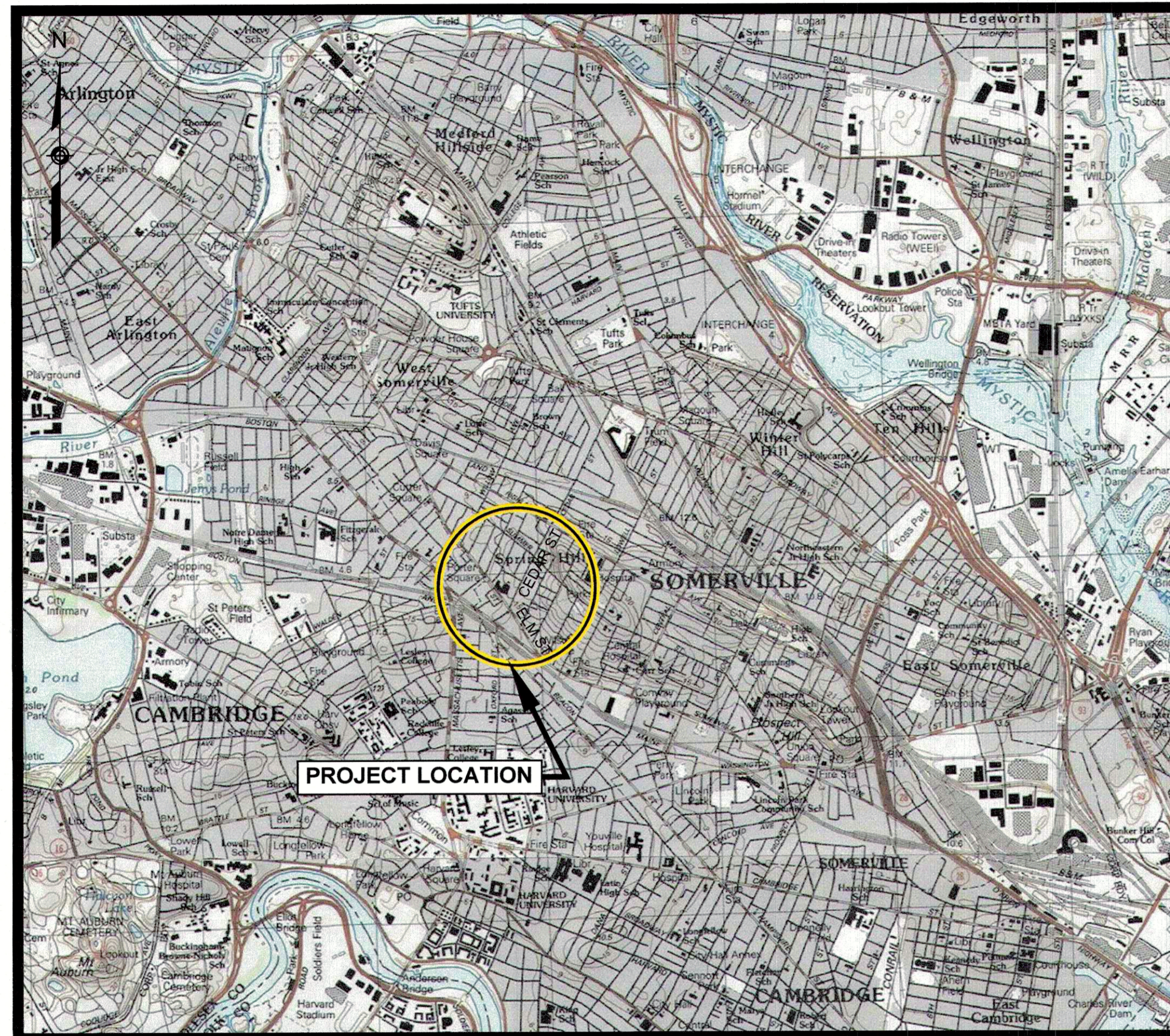


CITY OF SOMERVILLE, MASSACHUSETTS

**DEPARTMENT OF PUBLIC WORKS
1 FRANEY ROAD,
SOMERVILLE, MA 02145**

CEDAR STREET SEWER SEPARATION PROJECT

JOSEPH CURTATONE, MAYOR



LOCUS MAP
NOT TO SCALE

DRAWING INDEX

<u>SHEET NO.</u>	<u>TITLE</u>
1	COVER SHEET
A-1	ABBREVIATIONS, LEGEND AND GENERAL NOTES
S-1 TO S-3	UTILITY PLAN AND PROFILE - ELM STREET
S-4 TO S-7	UTILITY PLAN AND PROFILE - CEDAR STREET
S-8	UTILITY PLAN AND PROFILE - CEDAR AVENUE & HALL STREET
S-9	UTILITY PLAN - LINDEN AVENUE & PORTER STREET
S-10	UTILITY PLAN - WATER MAIN
C-1 TO C-5	ROADWAY CONSTRUCTION PLAN & PROFILE
D-1 TO D-6	TYPICAL SECTIONS AND DETAILS
G-1 TO G-2	CURB TIE AND GRADING PLAN
T-1 TO T-2	SIGNS AND PAVEMENT MARKING PLAN
T-3	SIGN SUMMARY
T-4	SIGNAL PLAN
T-5	TRAFFIC SIGNAL SEQUENCE & TIMING
T-6	TRAFFIC MANAGEMENT PLAN
T-7	TRAFFIC MANAGEMENT PLAN - HIGHLAND
T-8	TRAFFIC MANAGEMENT PLAN - DETOUR PLAN

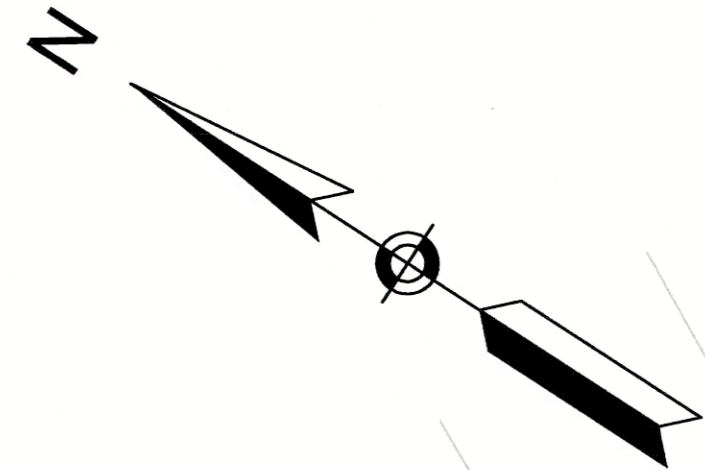
UNLESS OTHERWISE STATED HEREIN, THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, AS AMENDED, THE SUPPLEMENTAL SPECIFICATIONS DATED JUNE 15, 2012, THE JUNE 2014 CONSTRUCTION STANDARD DETAILS, THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS (AS RELATES TO TRAFFIC STANDARD DETAILS ONLY), THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.



DECEMBER 2015

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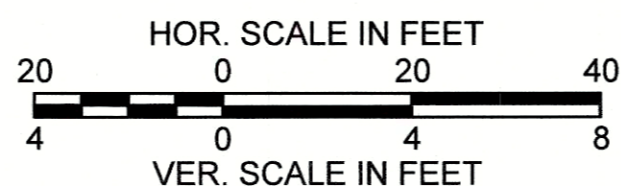
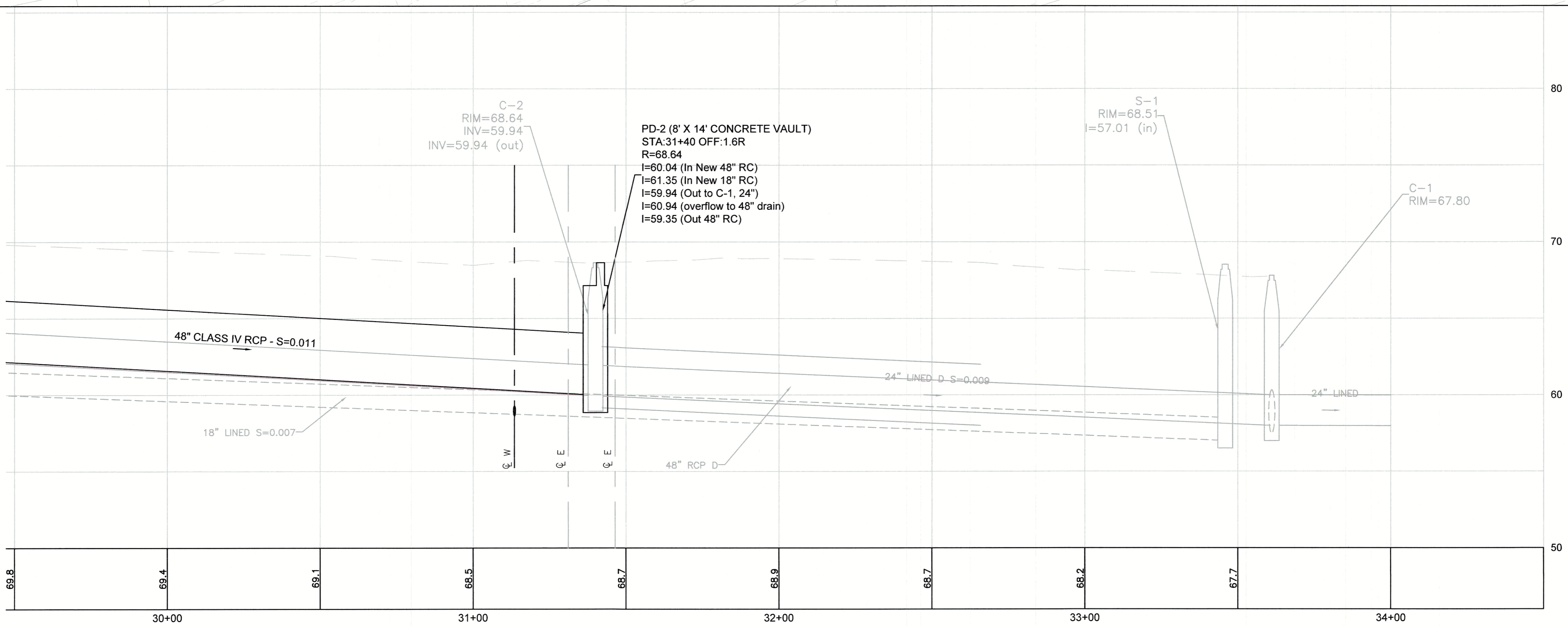
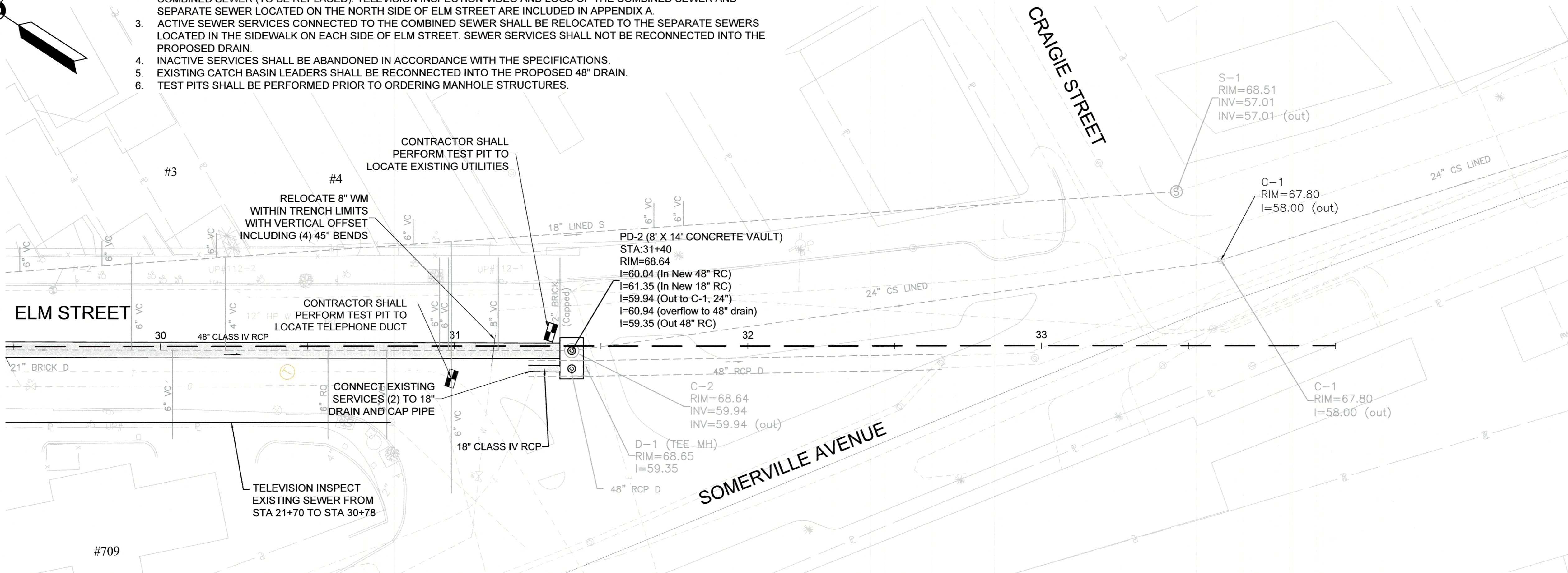
Five Centennial Drive, Peabody, Massachusetts 01960-7985



NOTES:

1. PRIOR TO INSTALLATION OF 48" DRAIN CONTRACTOR SHALL VERIFY ALL ACTIVE SERVICE CONNECTION LOCATIONS IN THE COMBINED SEWER AND SEPARATE SEWERS (2) THROUGH TELEVISION INSPECTION AND DYE TESTING.
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3. ACTIVE SEWER SERVICES CONNECTED TO THE COMBINED SEWER SHALL BE RELOCATED TO THE SEPARATE SEWERS LOCATED IN THE SIDEWALK ON EACH SIDE OF ELM STREET. SEWER SERVICES SHALL NOT BE RECONNECTED INTO THE PROPOSED DRAIN.
4. INACTIVE SERVICES SHALL BE ABANDONED IN ACCORDANCE WITH THE SPECIFICATIONS.
5. EXISTING CATCH BASIN LEADERS SHALL BE RECONNECTED INTO THE PROPOSED 48" DRAIN.
6. TEST PITS SHALL BE PERFORMED PRIOR TO ORDERING MANHOLE STRUCTURES.

CONTINUED ON SHEET NO. S-2



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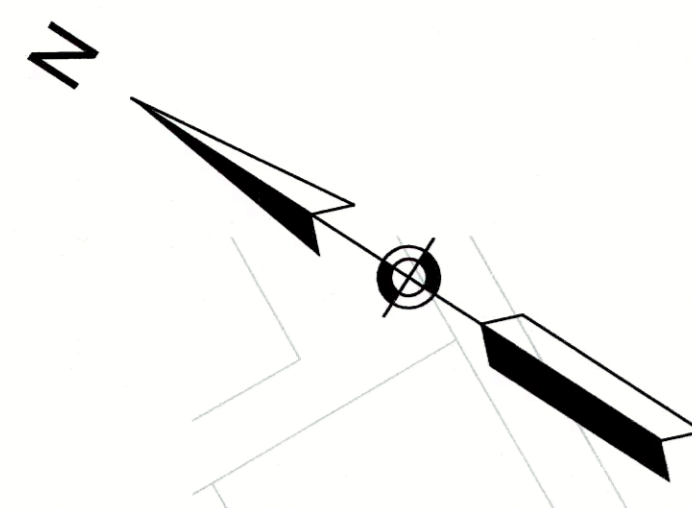
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2					P
3					R
4					O
5					V
6					E
7					D

REGISTERED PROFESSIONAL ENGINEER
 DATE: 12/11/15

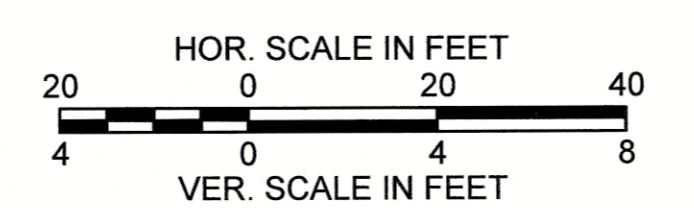
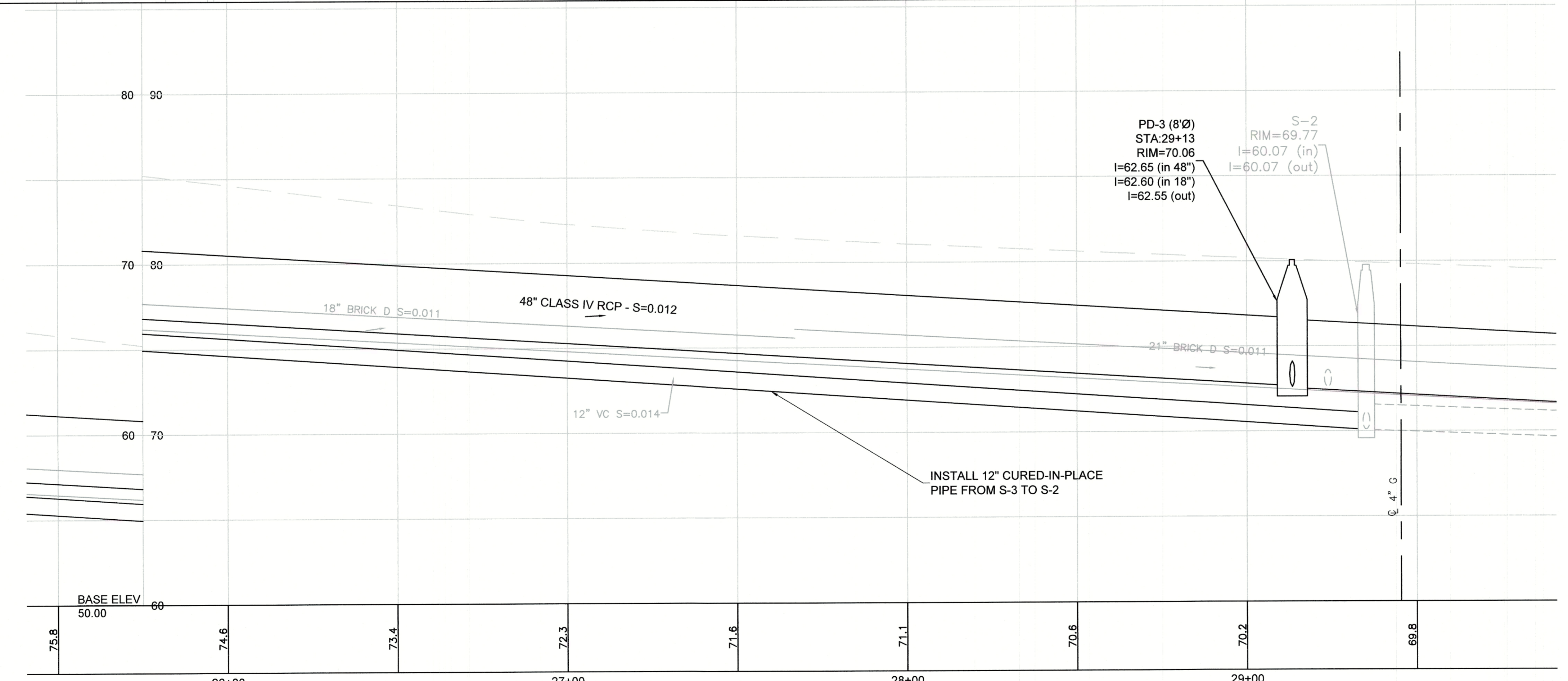
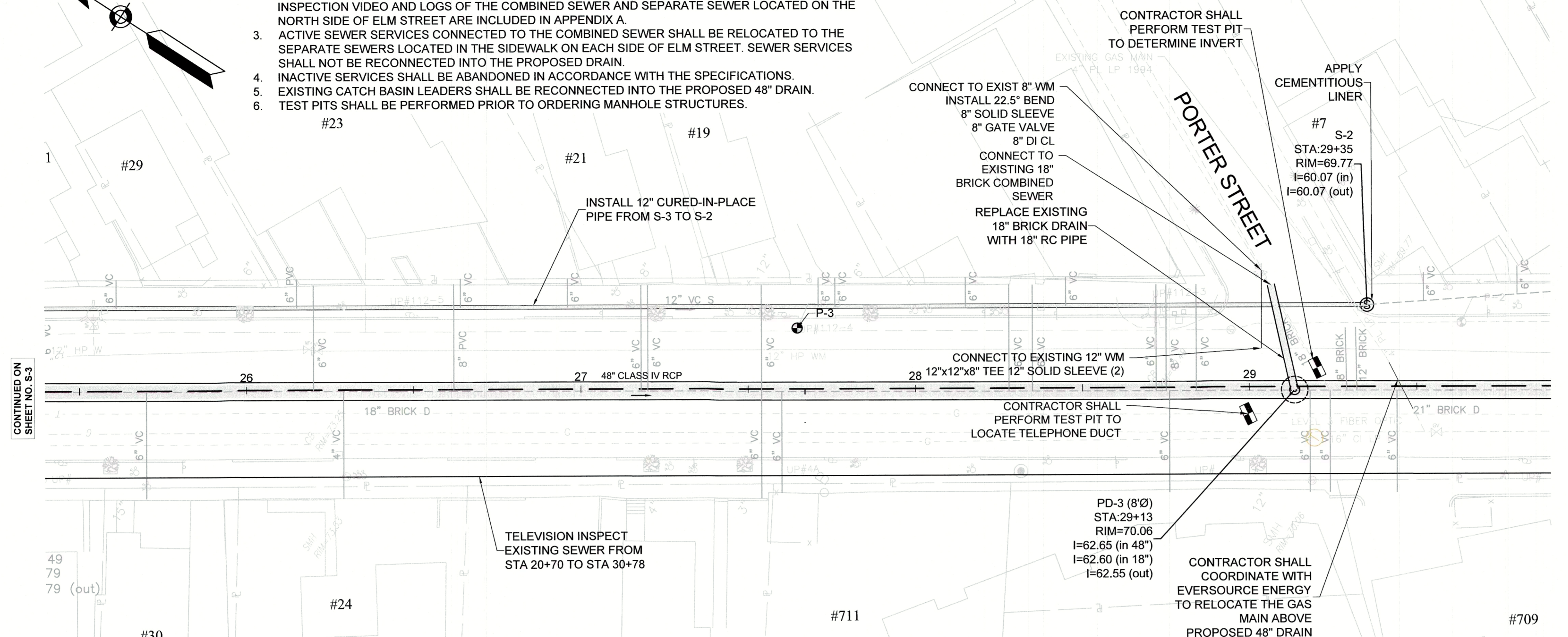


CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT
ELM STREET
UTILITY PLAN AND PROFILE

CADD NO. 214-81
 SCALE: AS NOTED
 CONTRACT: 2130636
 JOB NO. 2130636
 DR. BY: RKP
 TDSN BY: PRG
 CHK. BY: DME
 APP. BY: DME



- NOTES:
1. PRIOR TO INSTALLATION OF 48" DRAIN CONTRACTOR SHALL VERIFY ALL ACTIVE SERVICE CONNECTION LOCATIONS IN THE COMBINED SEWER AND SEPARATE SEWERS (2) THROUGH TELEVISION INSPECTION AND DYE TESTING.
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 5. EXISTING CATCH BASIN LEADERS SHALL BE RECONNECTED INTO THE PROPOSED 48" DRAIN.
 6. TEST PITS SHALL BE PERFORMED PRIOR TO ORDERING MANHOLE STRUCTURES.



No.	Date	Dr. By	Ck. By	App. By	Description

REGISTERED PROFESSIONAL ENGINEER
 DATE: 12/11/15



CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT

**ELM STREET
 UTILITY PLAN AND PROFILE**

CADD NO. 214-80
 SCALE: AS NOTED
 CONTRACT: 21.306.36
 JOB NO. 21.306.36
 DR BY: RKP
 DS/BL BY: CHK BY: APP BY: DME
 PRG: DME

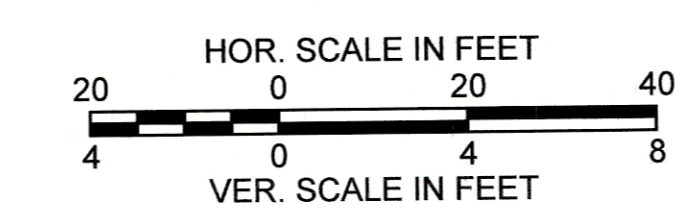
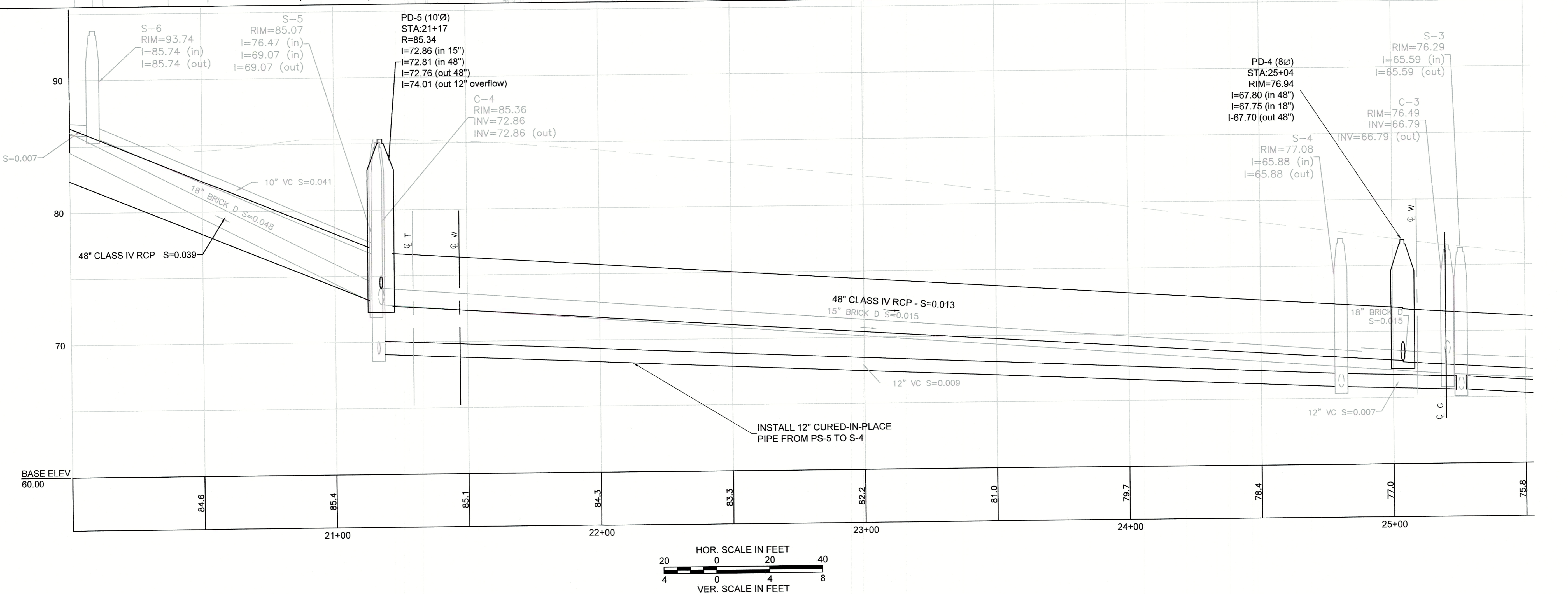
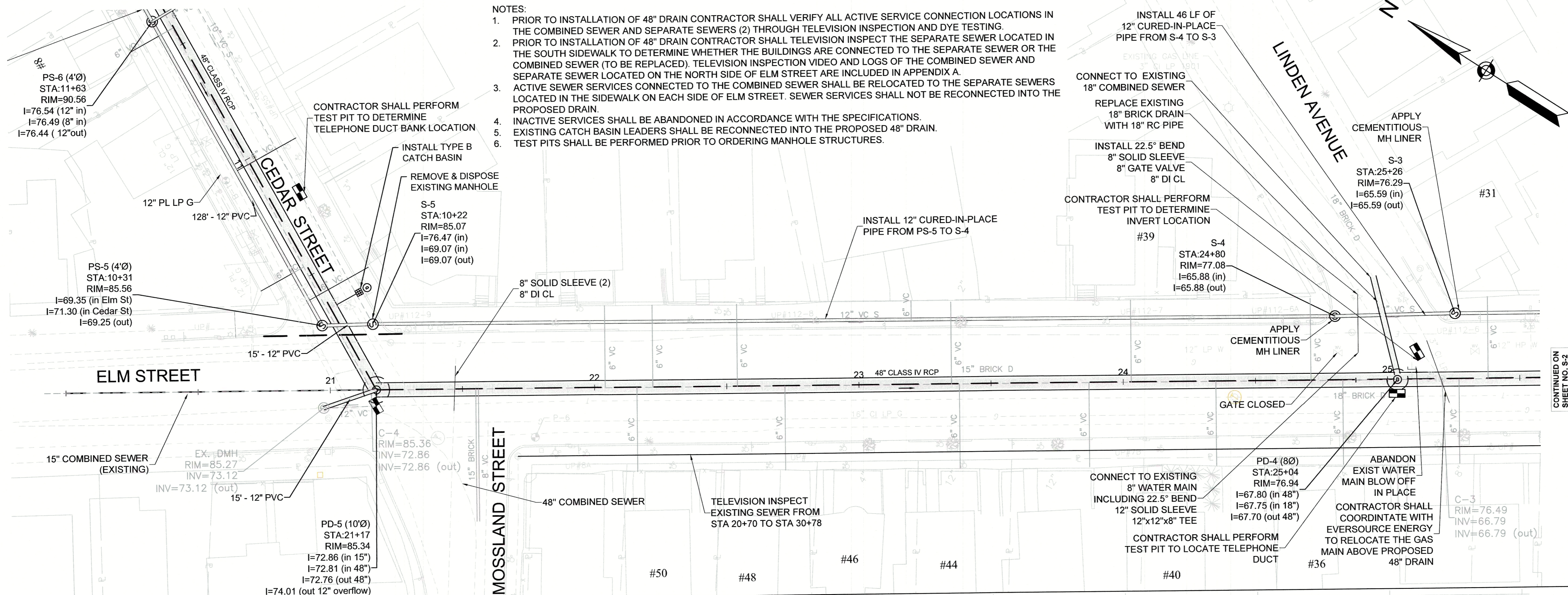
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No.	Date	Dr. By	Chk. By	App. By	Description

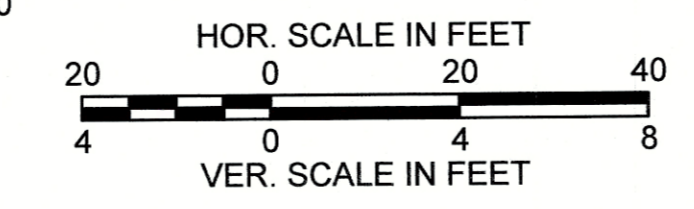
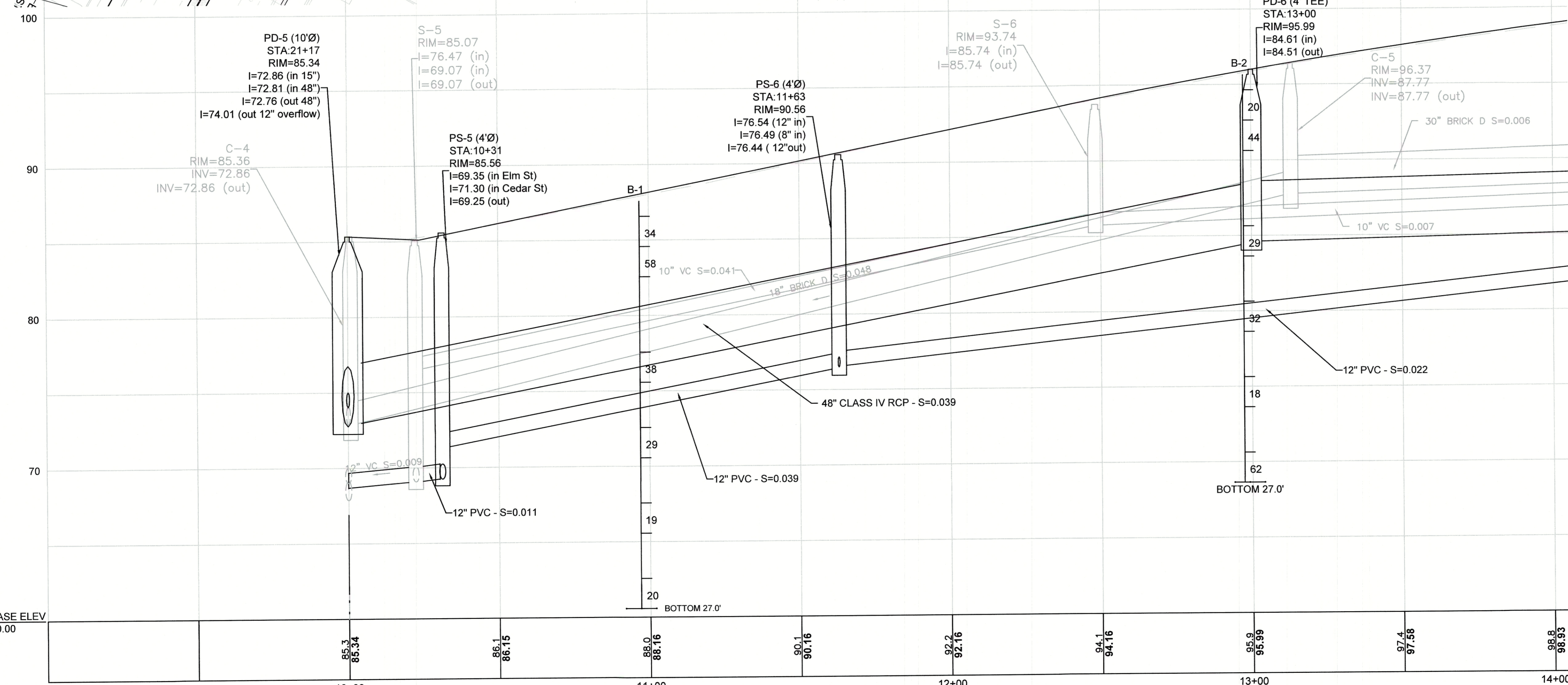
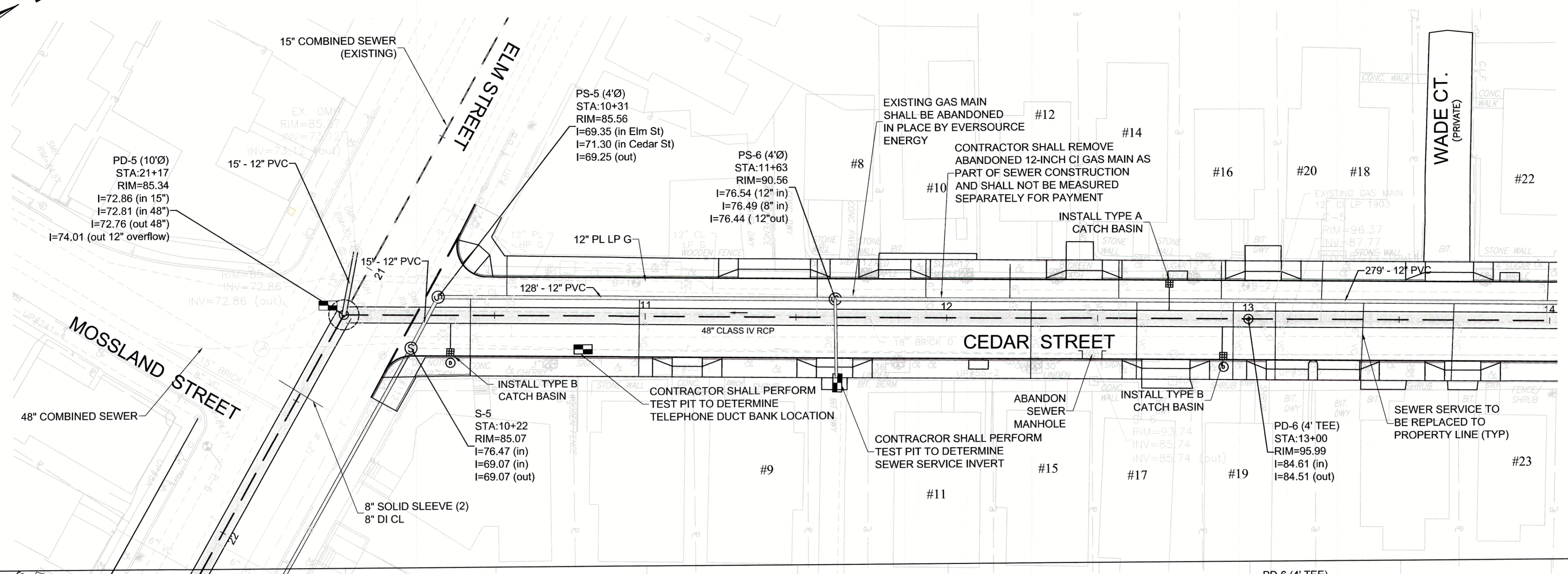
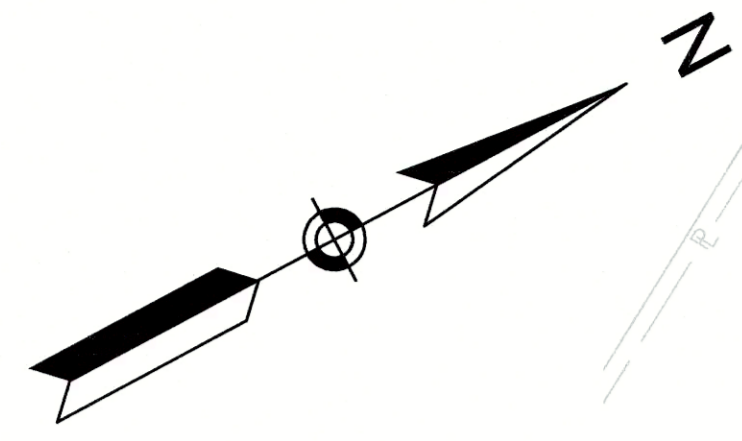


CITY OF SOMERVILLE, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS	CEDAR STREET SEWER SEPARATION PROJECT	ELM STREET UTILITY PLAN AND PROFILE
CADD NO. 214-79	SCALE: AS NOTED	CONTRACT: 2130636
FILE NO. 214-79	DR. BY: RPK	CHK. BY: DME
SHEET 5 OF 33	DATE: 12/14/15	REGISTERED PROFESSIONAL ENGINEER

- NOTES:
1. PRIOR TO INSTALLATION OF 48" DRAIN CONTRACTOR SHALL VERIFY ALL ACTIVE SERVICE CONNECTION LOCATIONS IN THE COMBINED SEWER AND SEPARATE SEWERS (2) THROUGH TELEVISION INSPECTION AND DYE TESTING.
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 6. TEST PITS SHALL BE PERFORMED PRIOR TO ORDERING MANHOLE STRUCTURES.



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CONTINUED ON SHEET NO. S-5

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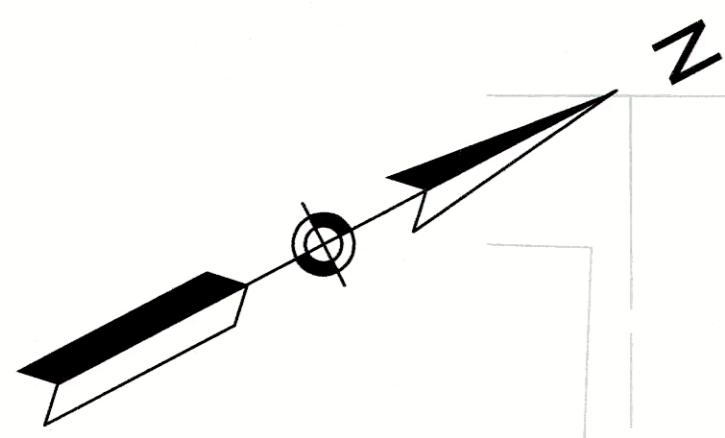
No.	Date	Dr. By	Chk. By	App. By	Description
1		AJ	JP		REVISED
2	12/11/15				DATE

REGISTERED PROFESSIONAL ENGINEER



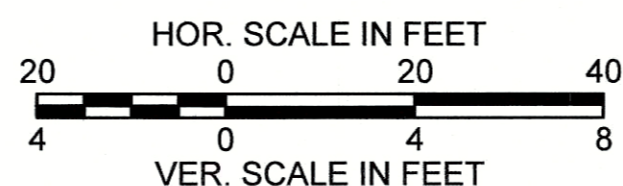
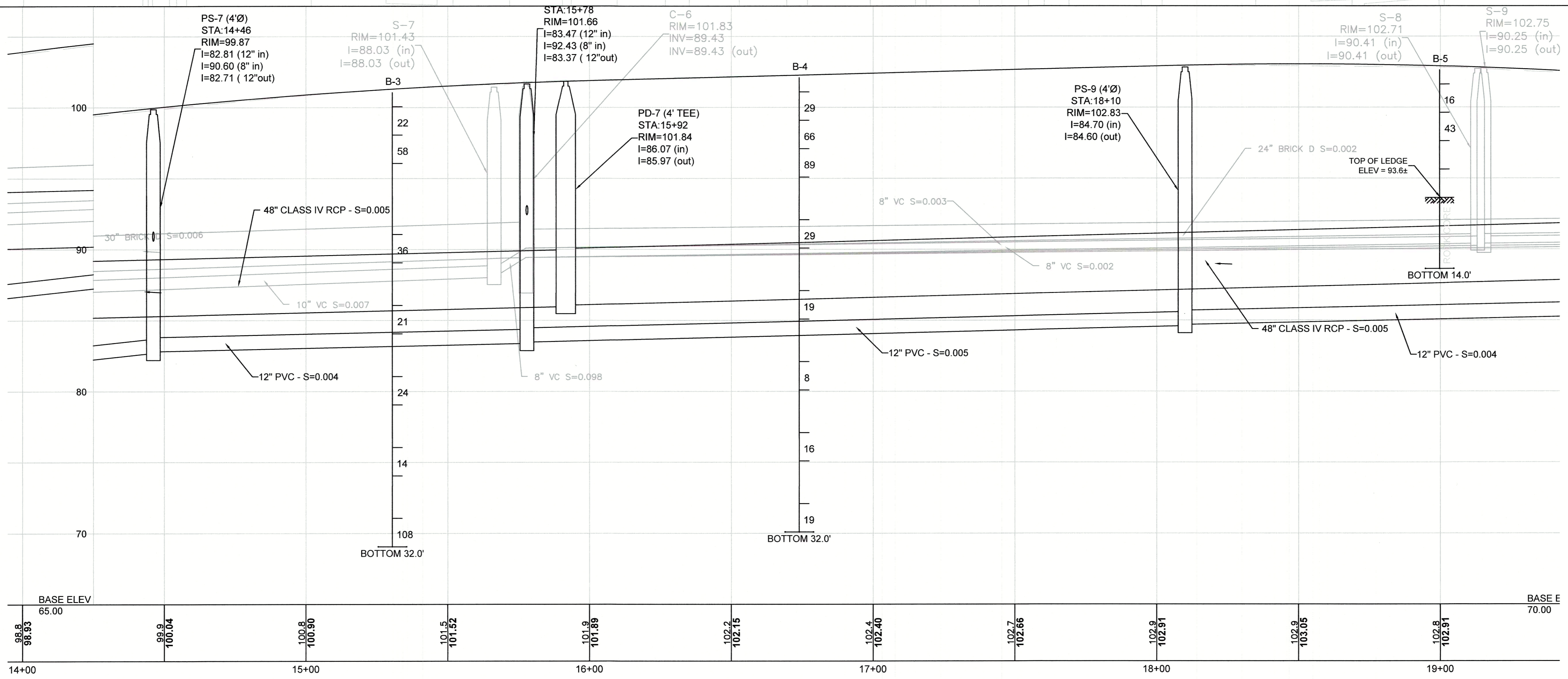
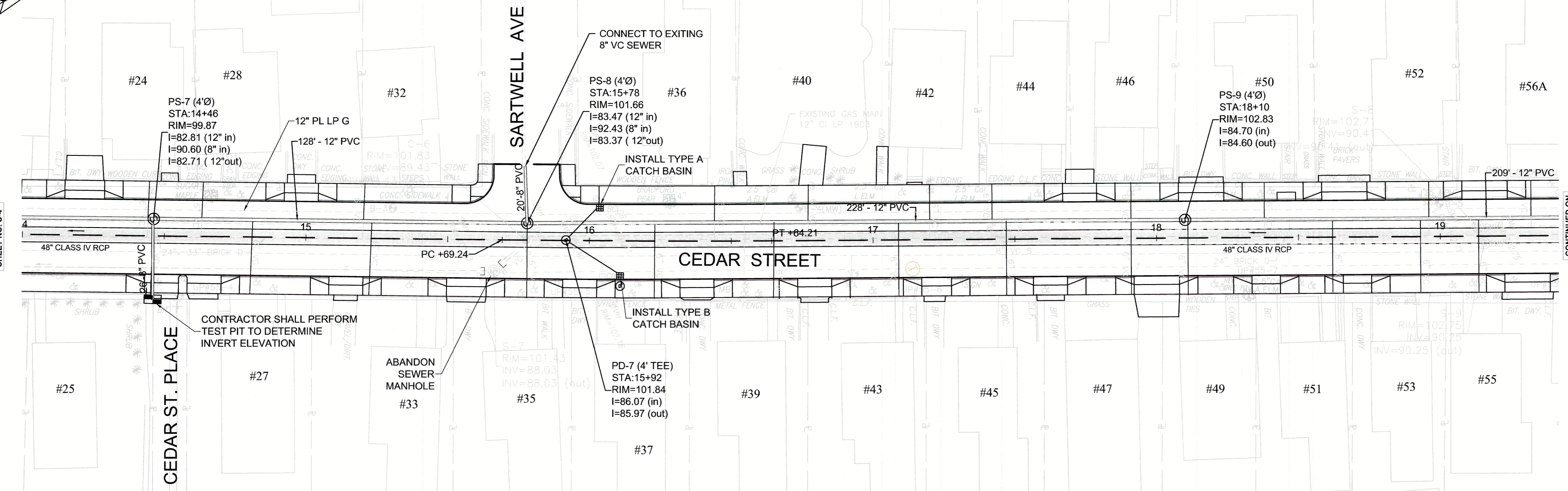
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 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT
UTILITY PLAN AND PROFILE
 CEDAR STREET
 CADD NO. - SCALE: - AS NOTED - CONTRACT: - JOB NO. 2130636 - DR. BY: RKP - DSN. BY: PRG - APP. BY: DME
 FILE NO. 214-78
 SHEET 6 OF 33

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CONTINUED ON SHEET NO. S-4

CONTINUED ON SHEET NO. S-6



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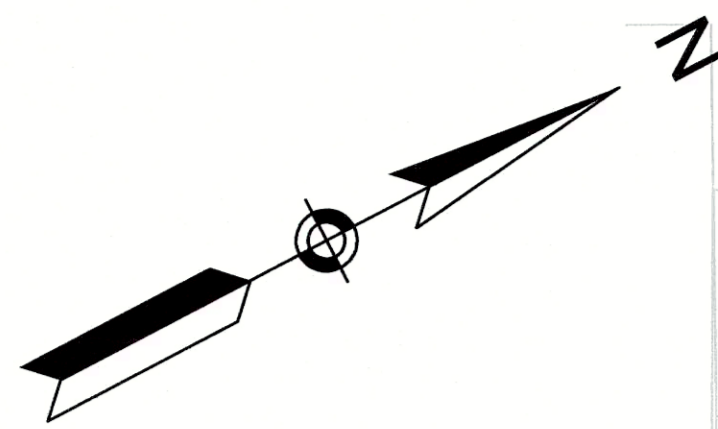
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No.	Date	Dr. By	App. By	Description

REGISTERED PROFESSIONAL ENGINEER
 DATE: 12/11/15



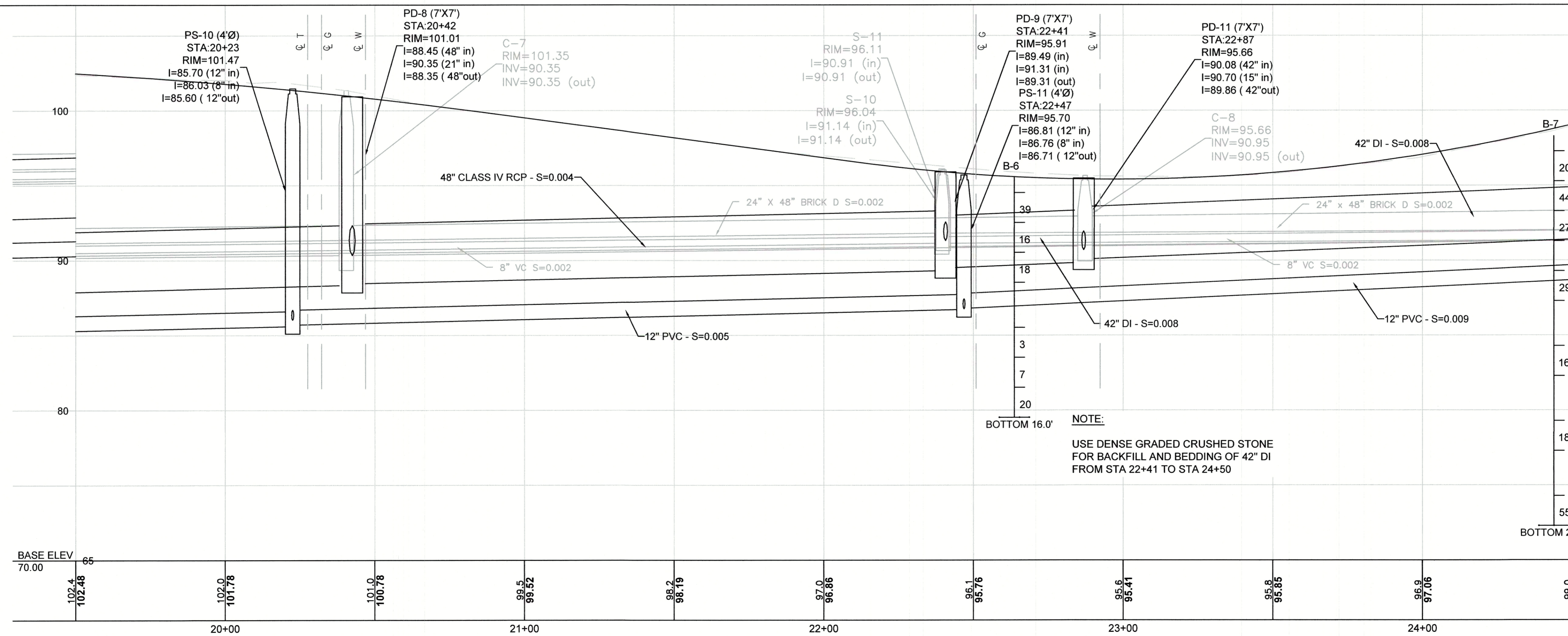
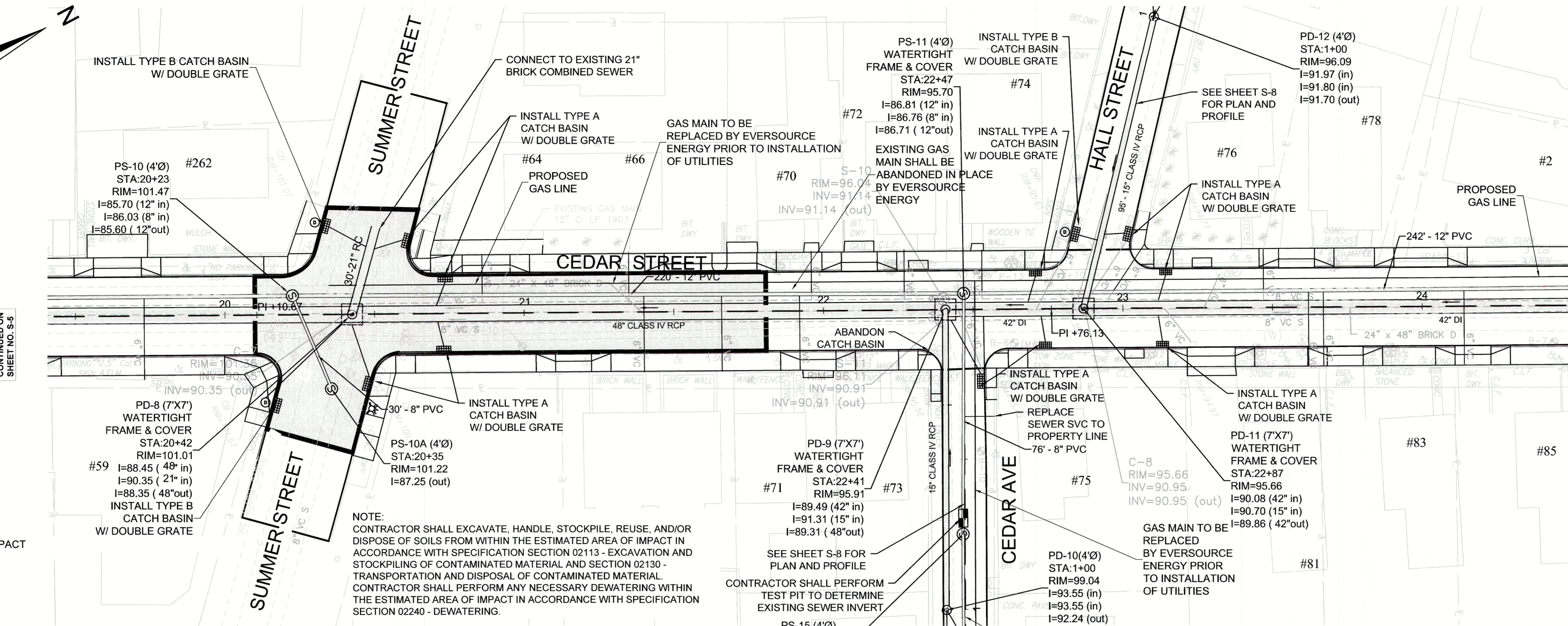
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 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT
**CEDAR STREET
 UTILITY PLAN AND PROFILE**
 CADD NO. - 2130636
 SCALE: AS NOTED
 JOB NO. DR. BY: RKP
 CHECKED BY: DME
 APP. BY: DME



CONTINUED ON
SHEET NO. S-5

CONTINUED ON
SHEET NO. S-7

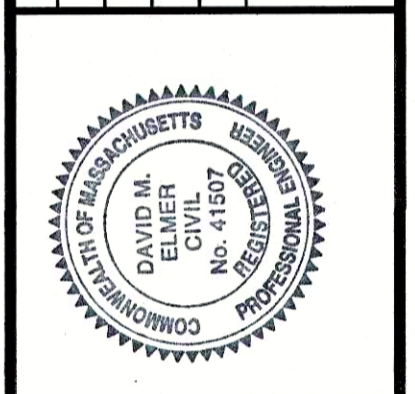
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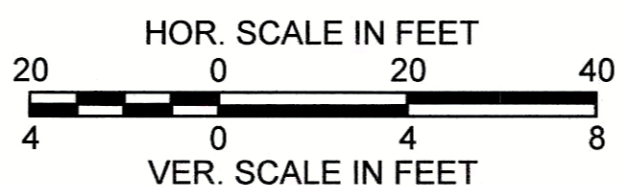
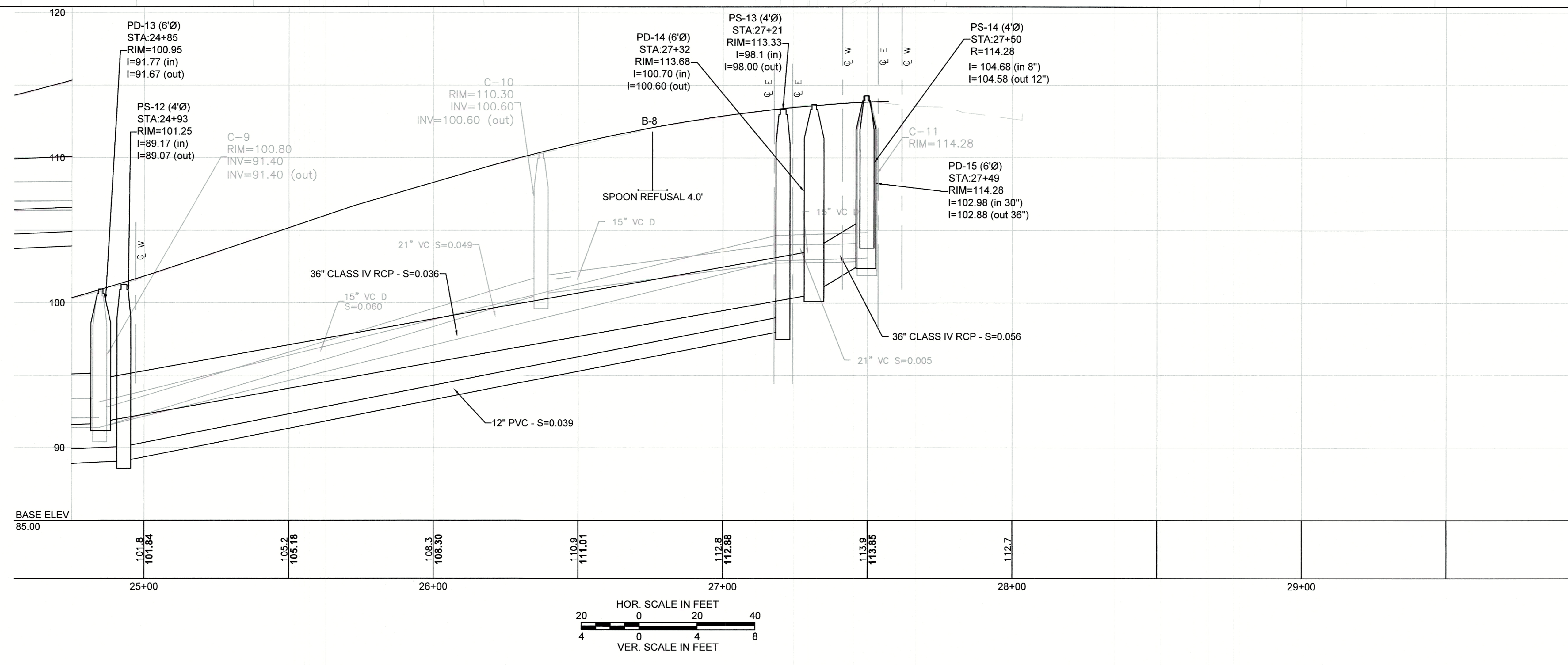
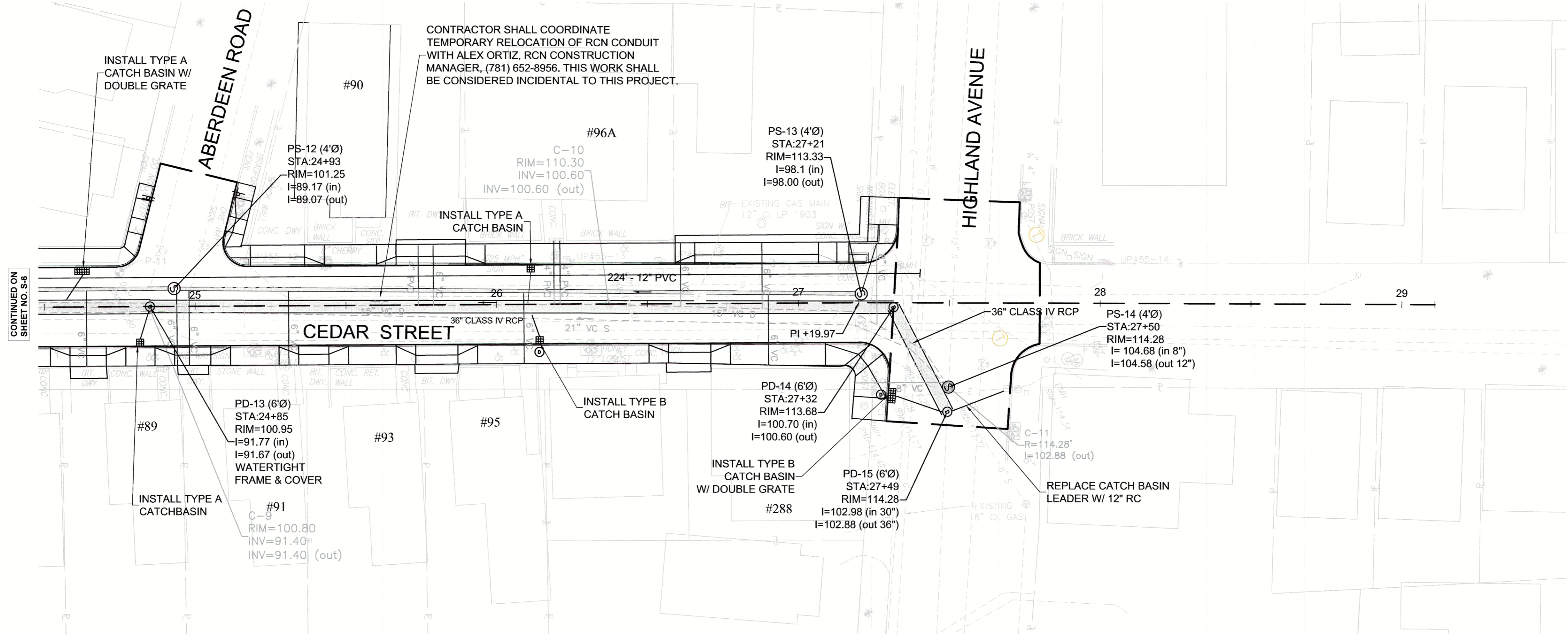
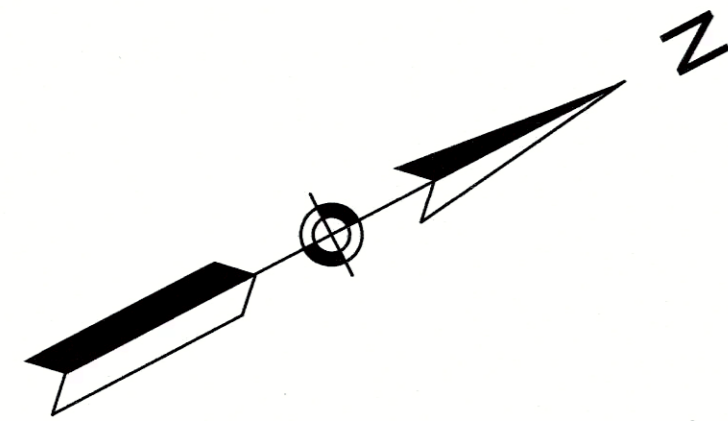
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No.	Date	Dr. By	Ck. By	App. By	Description

REGISTERED PROFESSIONAL ENGINEER
 DATE 12/1/15



CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT
**CEDAR STREET
 UTILITY PLAN AND PROFILE**
 CADD NO. 214-76
 SCALE: AS NOTED
 CONTRACT: 2130636
 JOB NO. 2130636
 DR. BY: RKP
 DSN. BY: RKP
 CHK. BY: DME
 APP. BY: DME



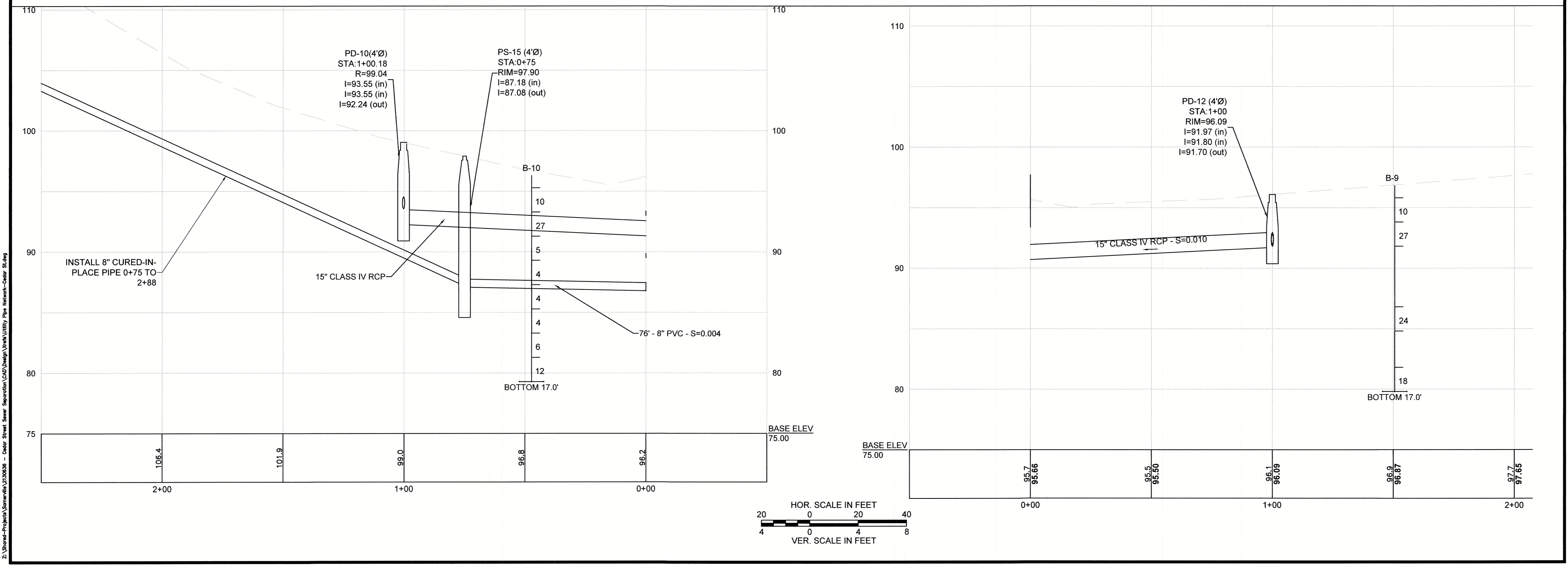
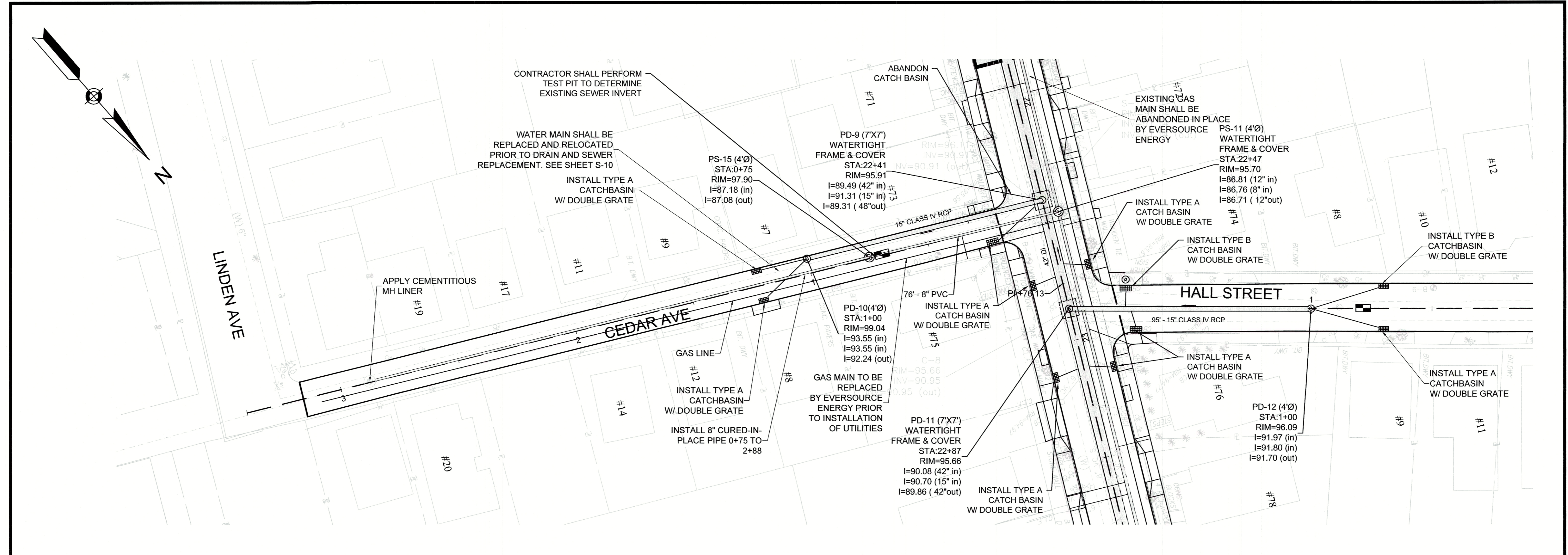
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					REGISTERED PROFESSIONAL ENGINEER
					DATE: 12/11/15



CITY OF SOMERVILLE, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS CEDAR STREET SEWER SEPARATION PROJECT			
CEDAR STREET UTILITY PLAN AND PROFILE			
CADD NO. 214-75	SCALE: AS NOTED	CONTRACT: 2130636	DR. BY: RKP
			DSN. BY: []
			CHK. BY: []
			APP. BY: []
			DME



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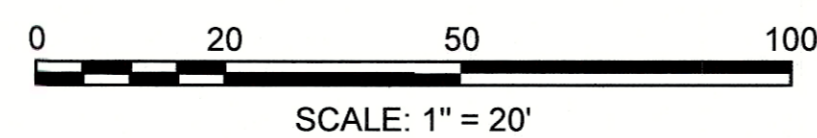
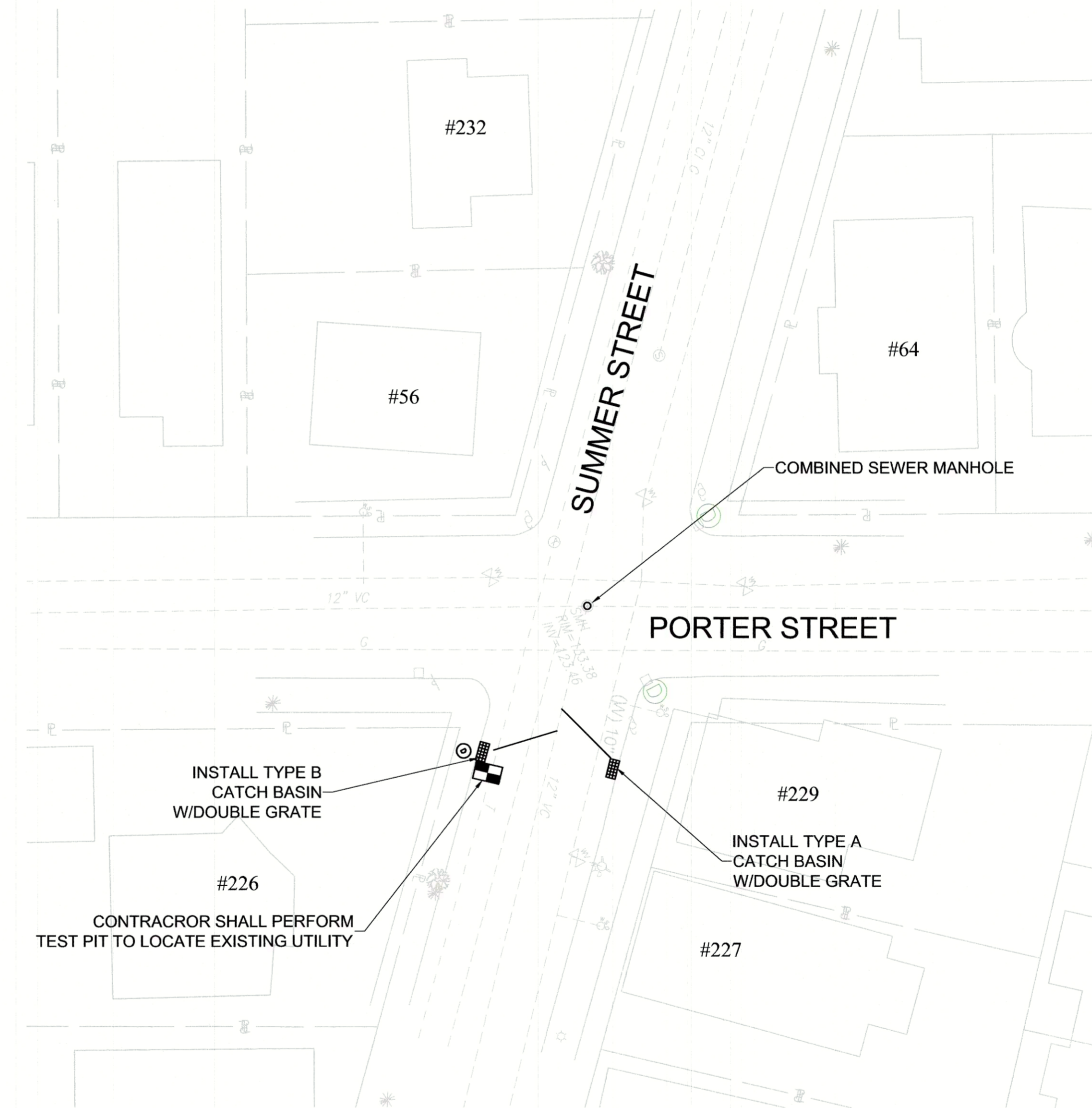
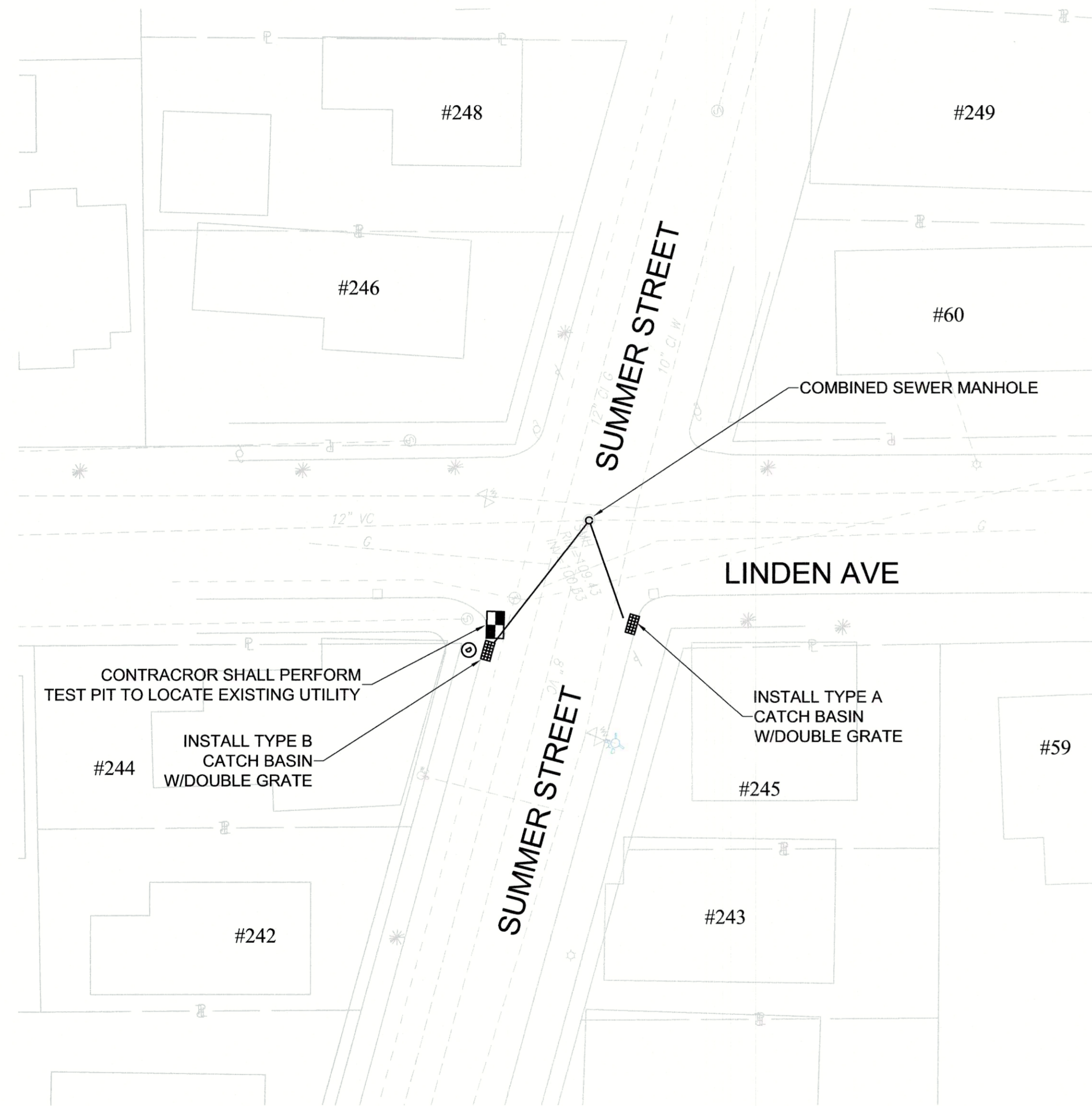
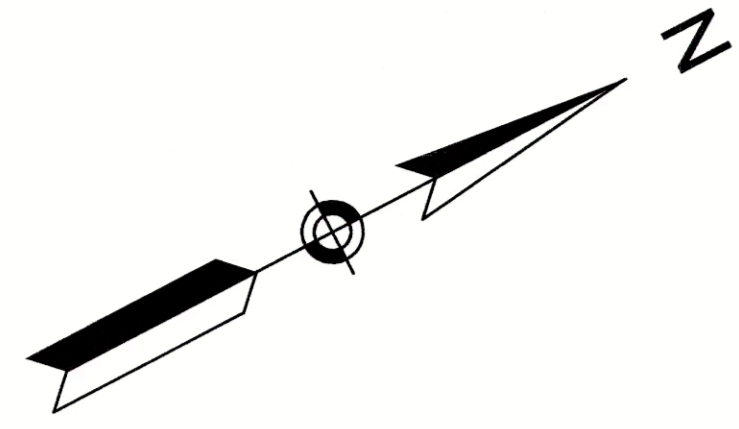
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No.	Date	Dir. By	Chk. By	App. By	Description

REGISTERED PROFESSIONAL ENGINEER
[Signature]
 DATE: 12/1/16



CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT
**CEDAR AVENUE & HALL STREET
 UTILITY PLAN AND PROFILE**
 SCALE: AS NOTED
 CONTRACT: 2130636
 CADD NO. 214-74
 JOB NO. 2130636
 DES. BY: RKP
 DSN. BY: PRG
 CHK. BY: DME
 APP. BY: DME



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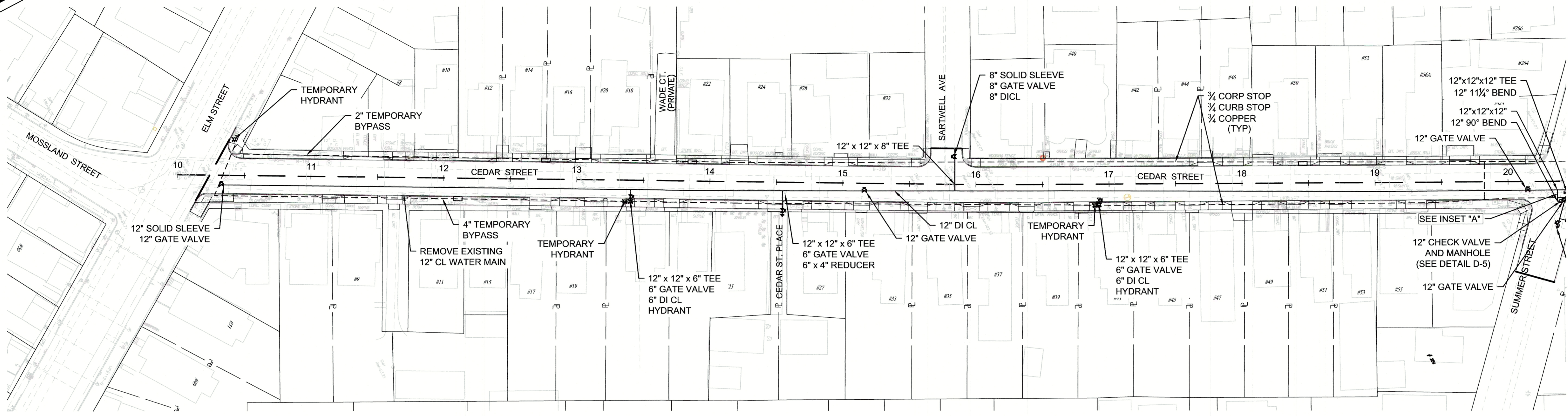
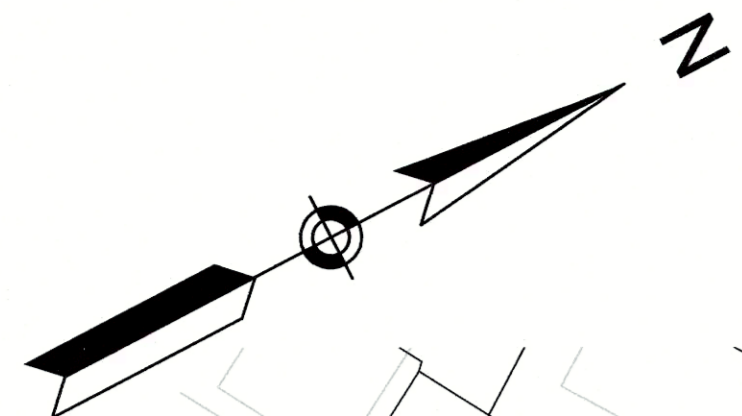
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		A	P	R	O	V	E	D

REGISTERED PROFESSIONAL ENGINEER
 DATE: 12/1/15

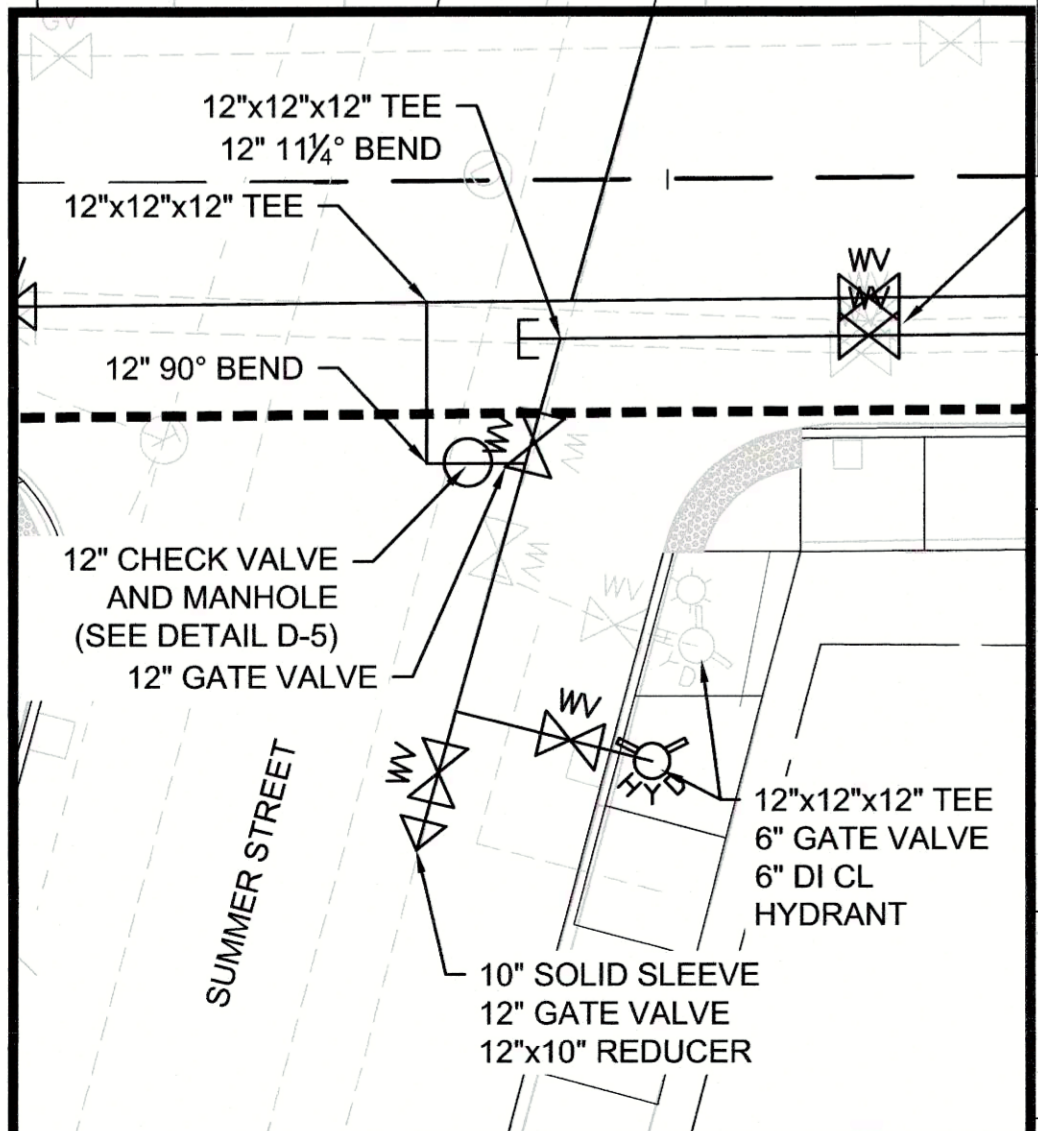
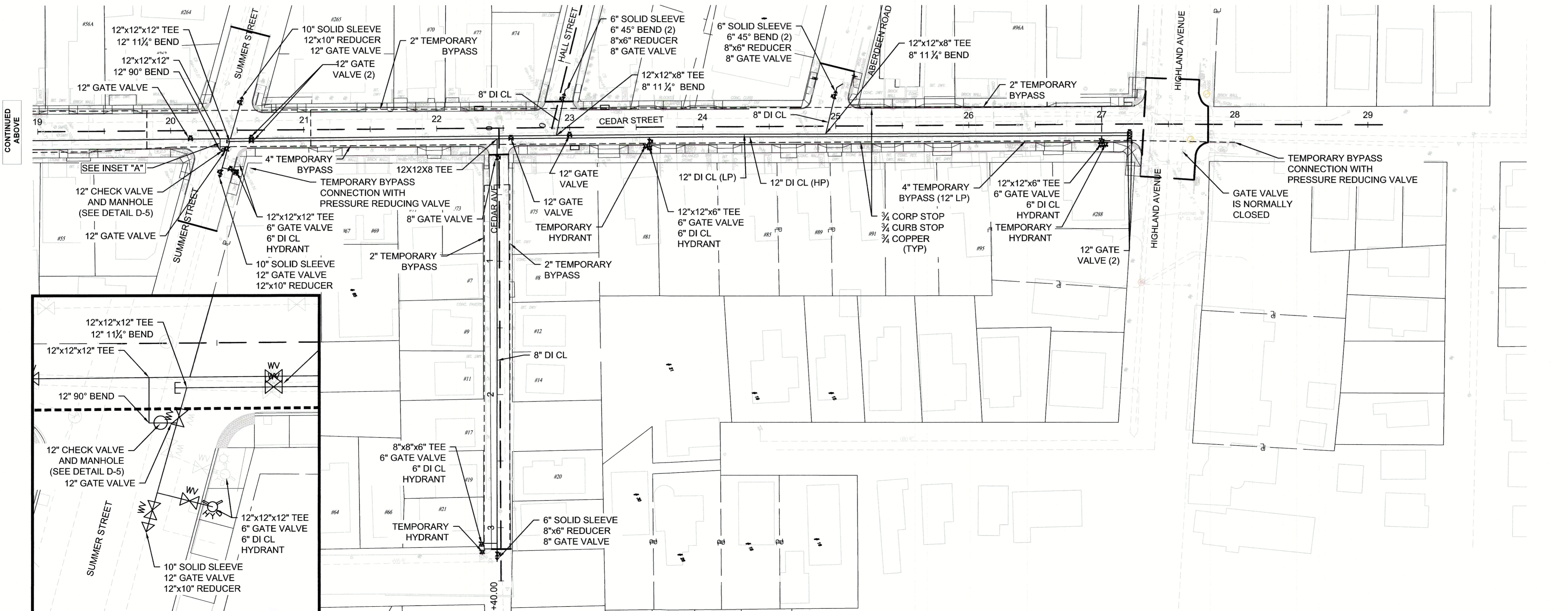


CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT
**LINDEN AVENUE & PORTER STREET
 UTILITY PLAN AND PROFILE**

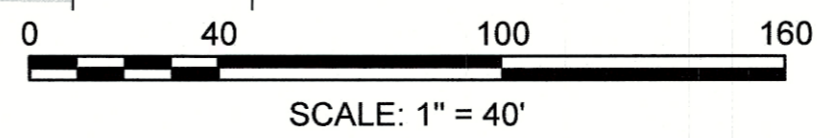
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 CONTRACT: 2130636
 JOB NO. 2130636
 DR. BY: RKP
 CHK. BY: PRG
 APP. BY: DME



CONTINUED BELOW



INSET "A"
SCALE 1" = 10'



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No.	Date	Dir. By	Ck. By	App. By	Description
					V E D
					R O
					P
					A

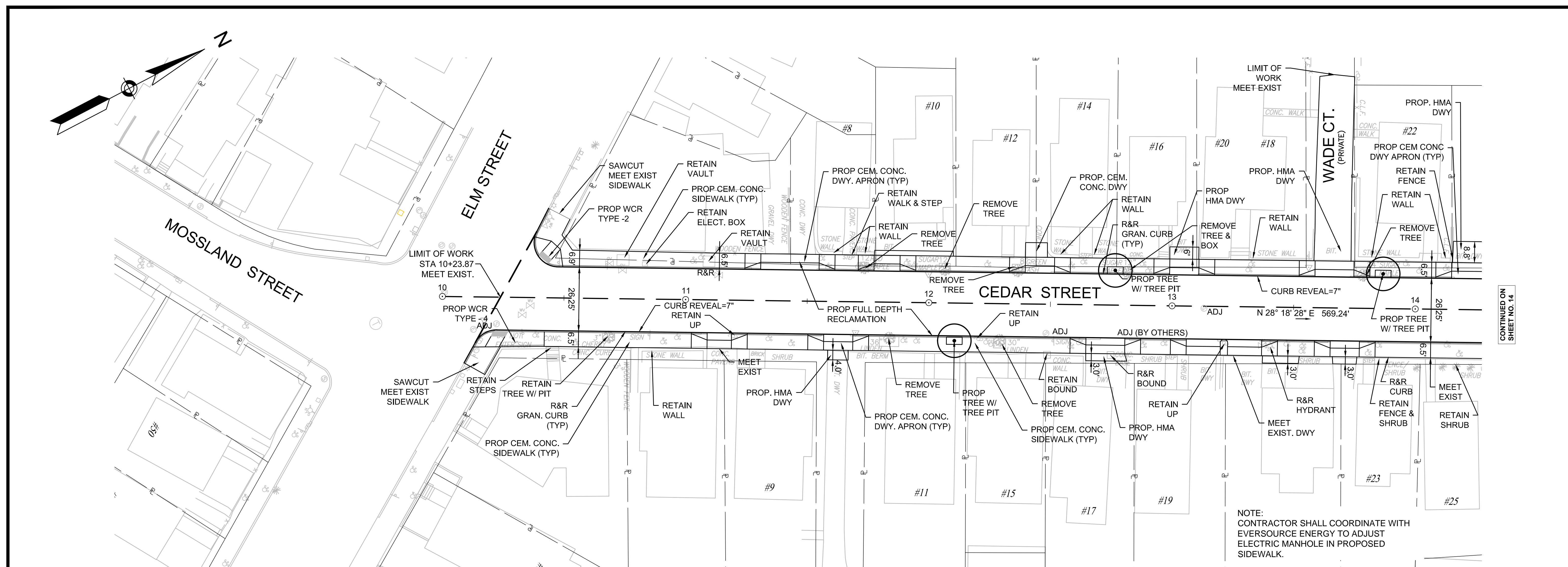
REGISTERED PROFESSIONAL ENGINEER
DATE: 12/11/15



CITY OF SOMERVILLE, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
CEDAR STREET SEWER SEPARATION PROJECT
**CEDAR STREET & CEDAR AVENUE
UTILITY PLAN - WATER MAIN**

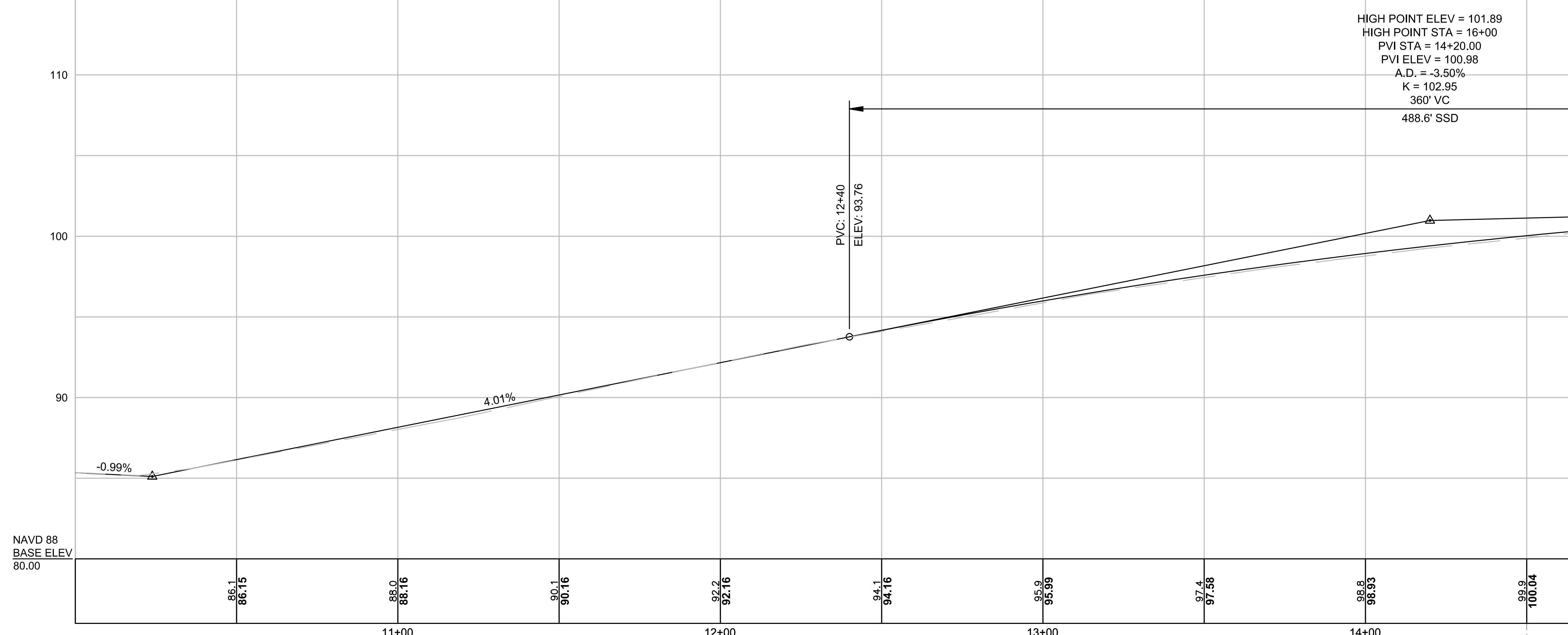
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CONTRACT: 2130636
JOB NO. DR. BY: RKP
DATE: 12/11/15
PRG. DME
CHK. BY: DME
APP. BY: DME

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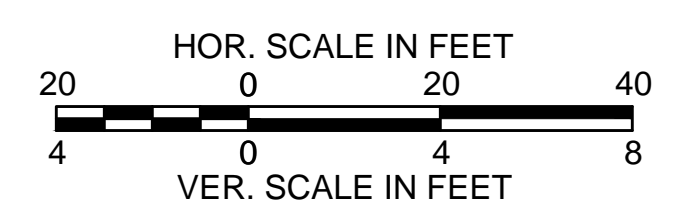


NOTE:
CONTRACTOR SHALL COORDINATE WITH
EVERSOURCE ENERGY TO ADJUST
ELECTRIC MANHOLE IN PROPOSED
SIDEWALK.

CONTINUED ON
SHEET NO. 14



HIGH POINT ELEV = 101.89
HIGH POINT STA = 16+00
PVI STA = 14+20.00
PVI ELEV = 100.98
A.D. = -3.50%
K = 102.95
360' VC
488.6' SSD

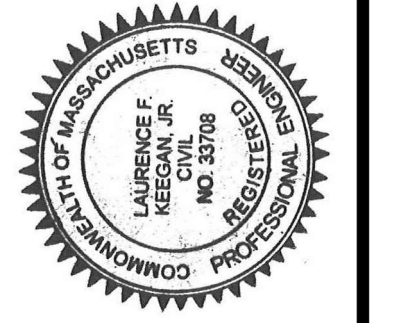


STA 14+50.00 MAPLE ST
CEDAR ST. PLACE

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No.	Date	Dr. By	Ck. By	App. By	Description

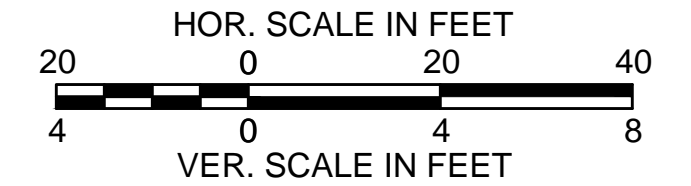
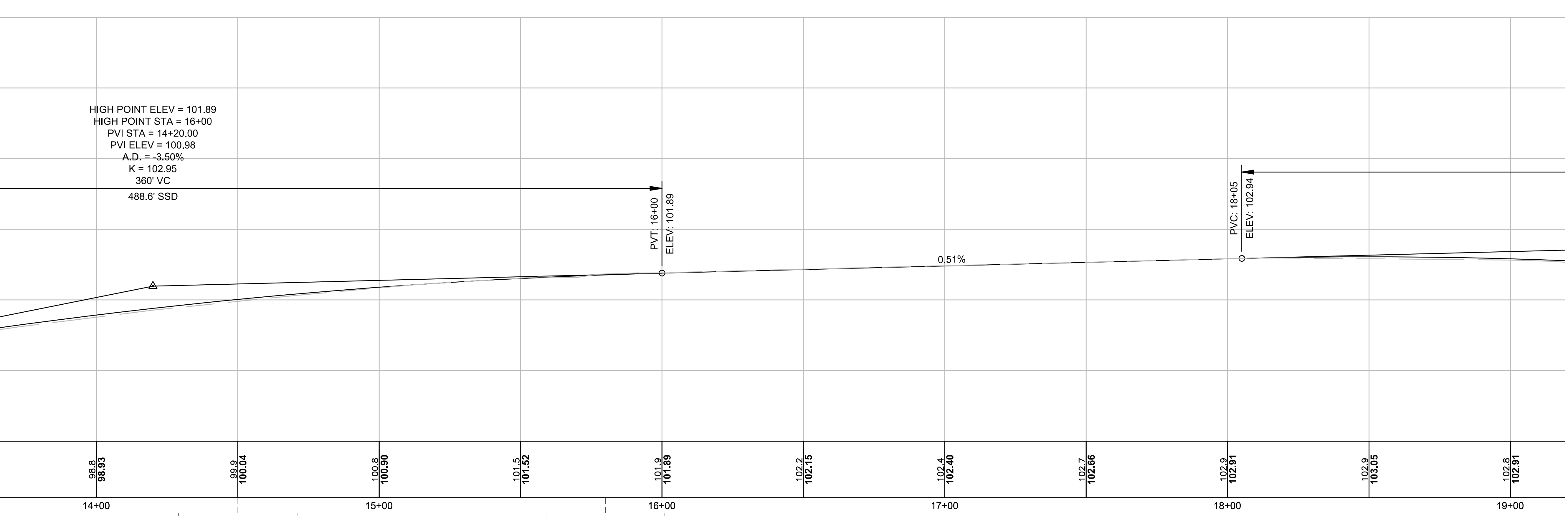
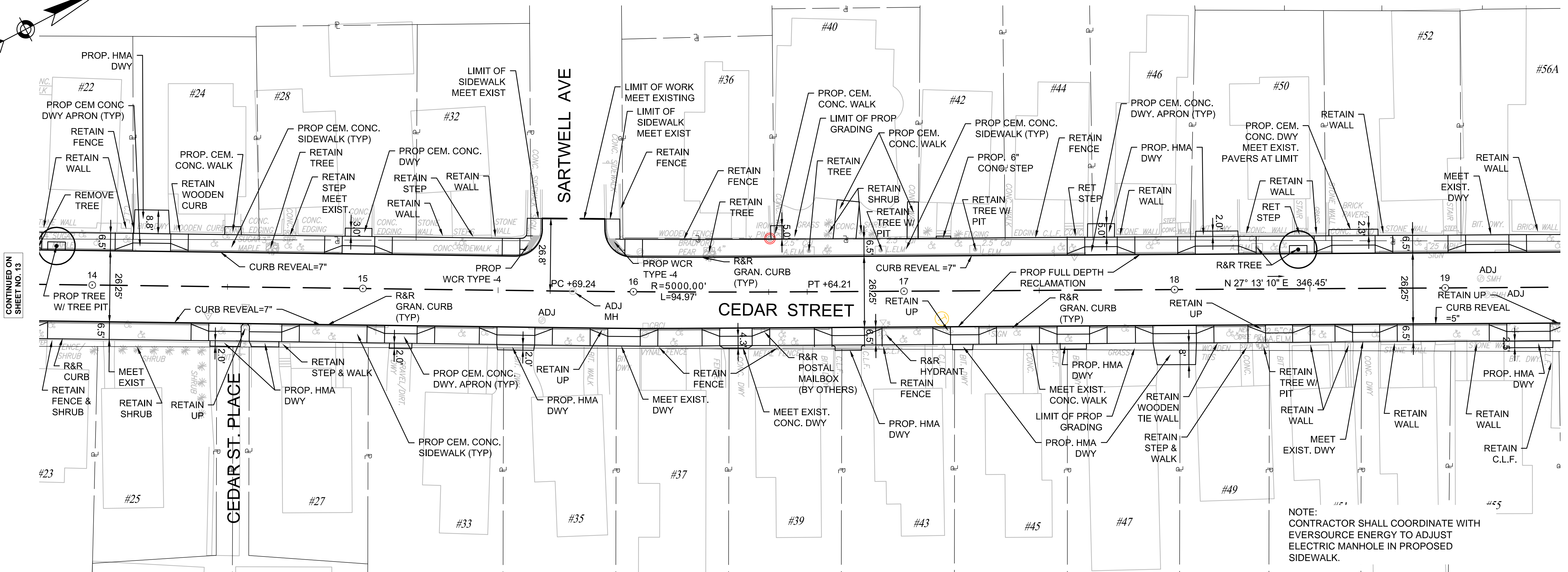
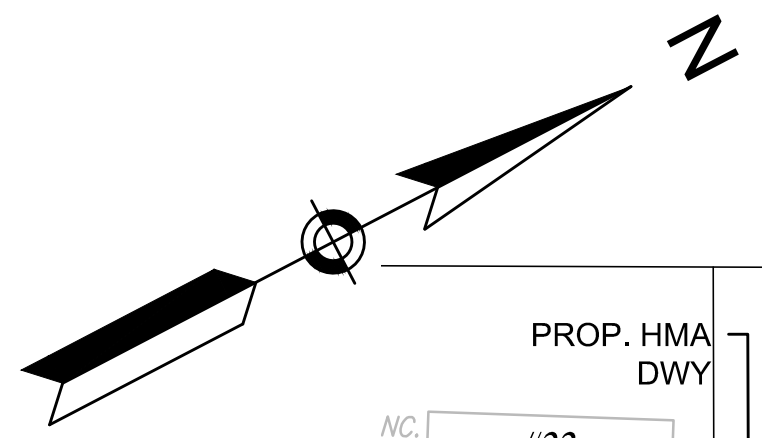
REGISTERED PROFESSIONAL ENGINEER
Lawrence J. Keenan



CITY OF SOMERVILLE, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
CEDAR STREET SEWER SEPARATION PROJECT

ROADWAY CONSTRUCTION PLAN AND PROFILE

CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR BY	DSN BY	CHK BY	APP BY
	AS NOTED		2130636	RKP	RKP	LFK	LFK



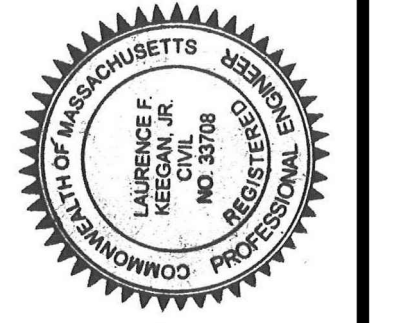
NOTE:
CONTRACTOR SHALL COORDINATE WITH
EVERSOURCE ENERGY TO ADJUST
ELECTRIC MANHOLE IN PROPOSED
SIDEWALK.

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No.	Date	Dr. By	Ck. By	App. By	Description

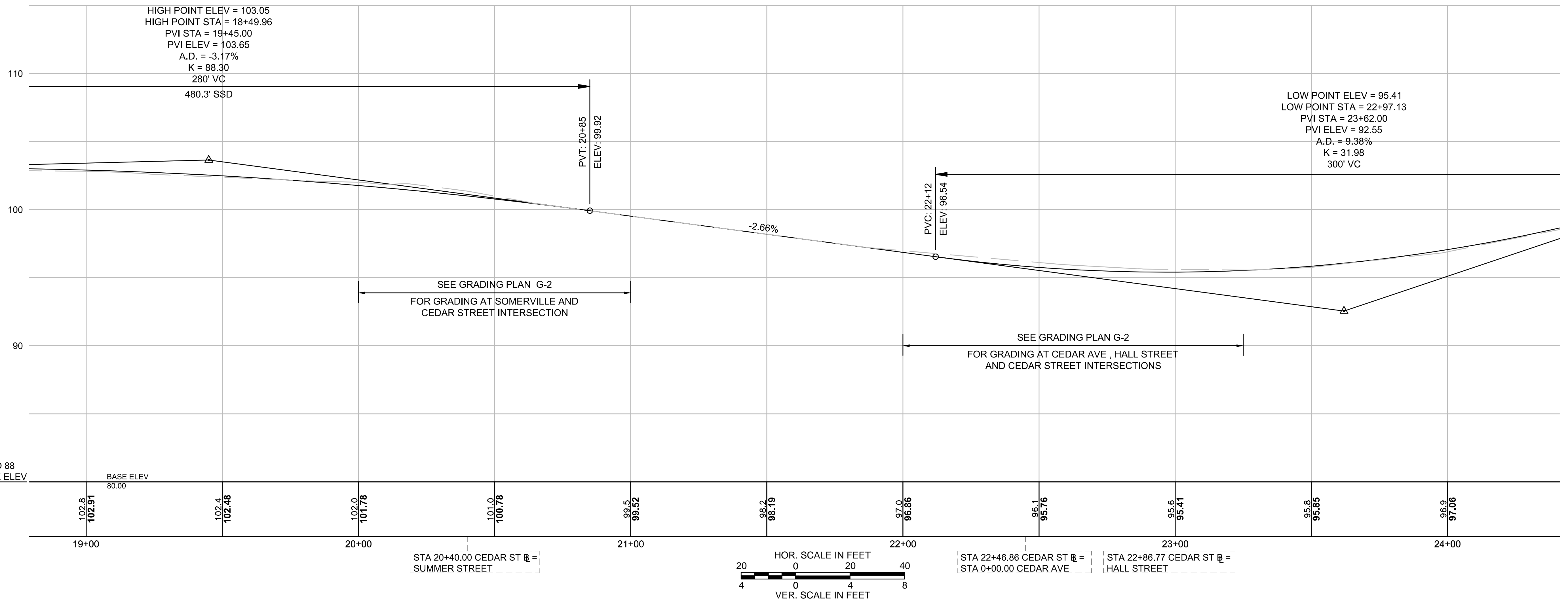
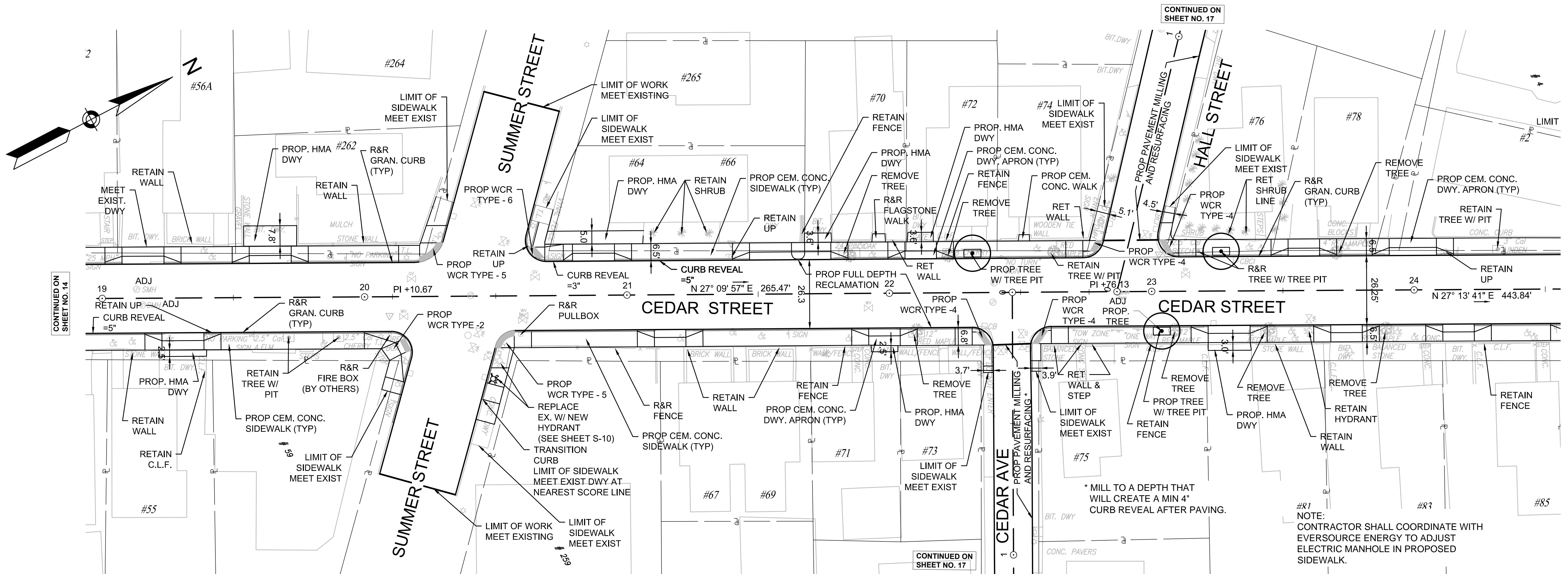
REGISTERED PROFESSIONAL ENGINEER
James E. Keenan
DATE: 12-10-15



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DEPARTMENT OF PUBLIC WORKS
CEDAR STREET SEWER SEPARATION PROJECT

ROADWAY CONSTRUCTION PLAN AND PROFILE

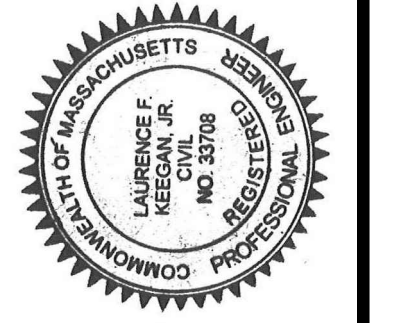
CADD NO. - SCALE: AS NOTED - CONTRACT: - JOB NO. 2130636 - DR BY: RKP - DR BY: RKP - CHK BY: RKP - APP BY: LFK



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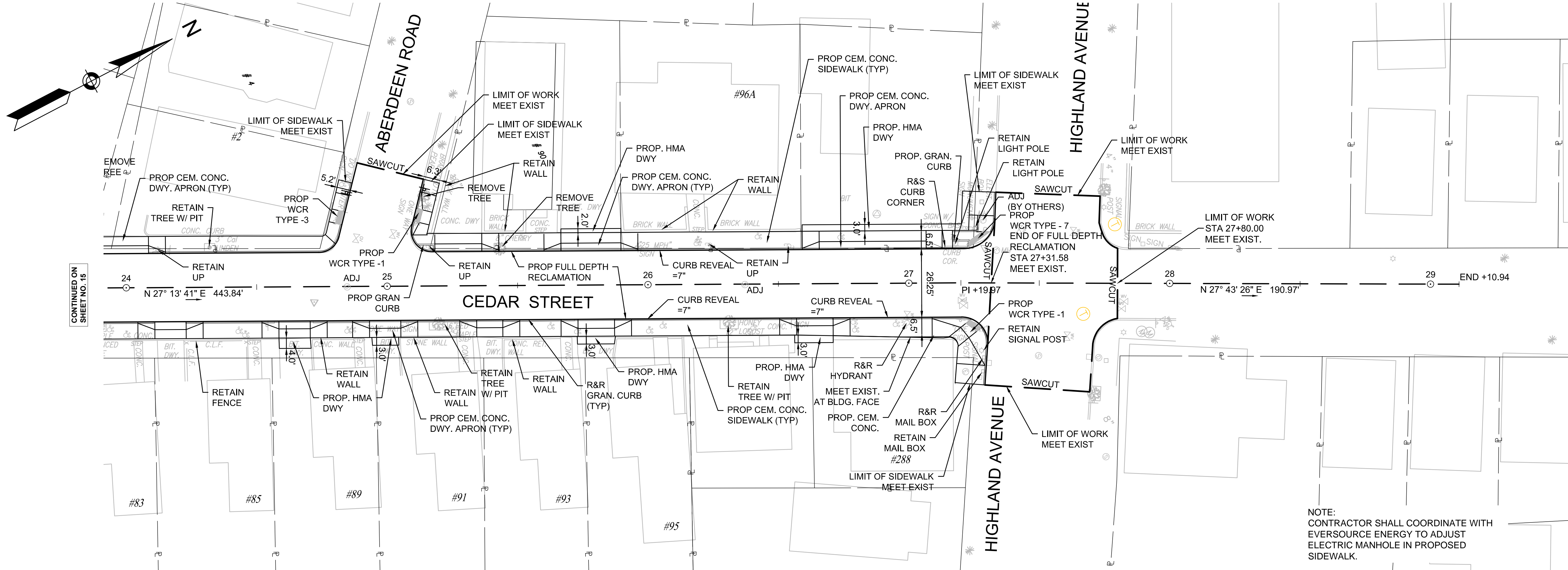
REGISTERED PROFESSIONAL ENGINEER
Laurel Kegan



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 CEDAR STREET SEWER SEPARATION PROJECT

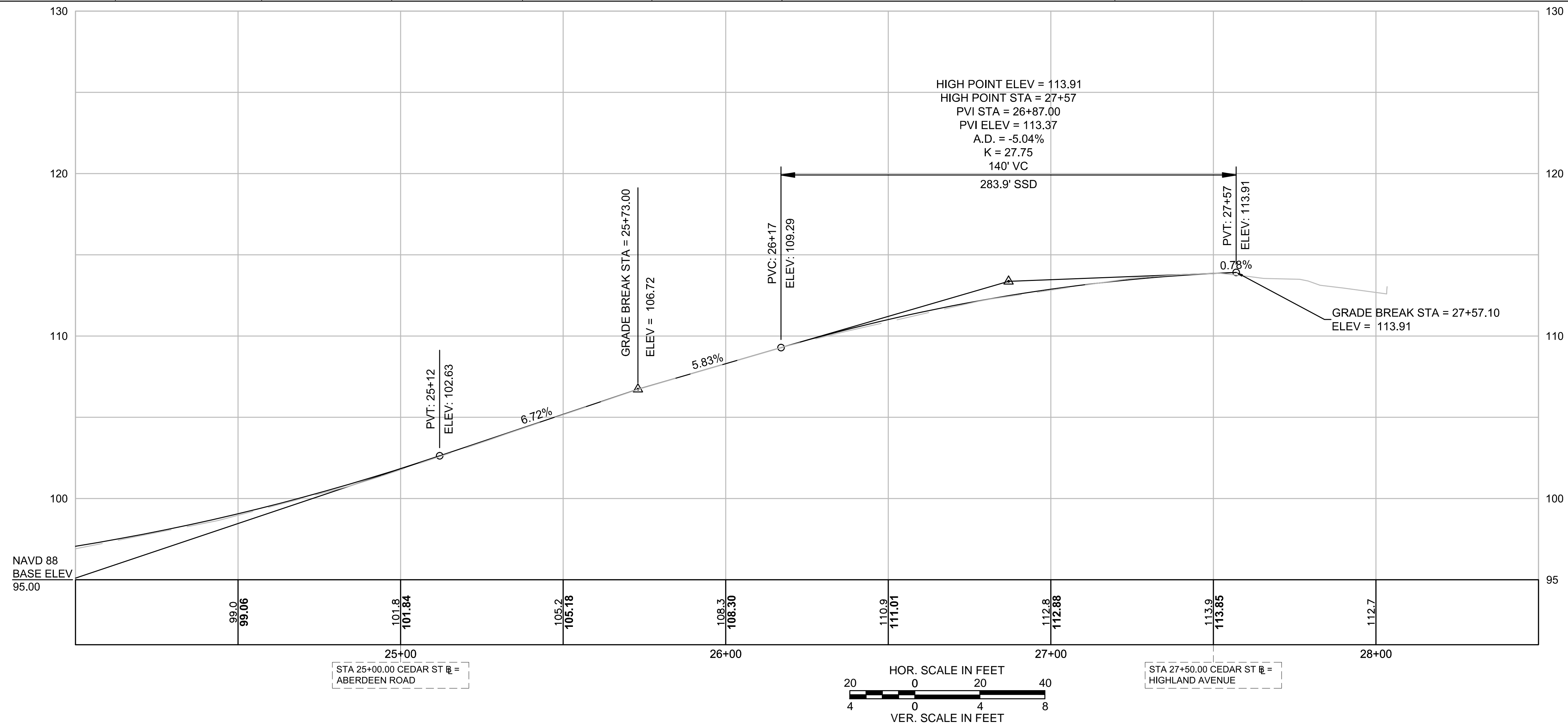
ROADWAY CONSTRUCTION PLAN AND PROFILE

CADD NO. - SCALE: AS NOTED - CONTRACT: - JOB NO. 2130636 - DR BY: RKP - DSN BY: RKP - CHK BY: LFK - APP BY: LFK



CONTINUED ON SHEET NO. 15

NOTE:
CONTRACTOR SHALL COORDINATE WITH
EVERSOURCE ENERGY TO ADJUST
ELECTRIC MANHOLE IN PROPOSED
SIDEWALK.



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No.	Date	Dr. By	Ck. By	App. By	Description

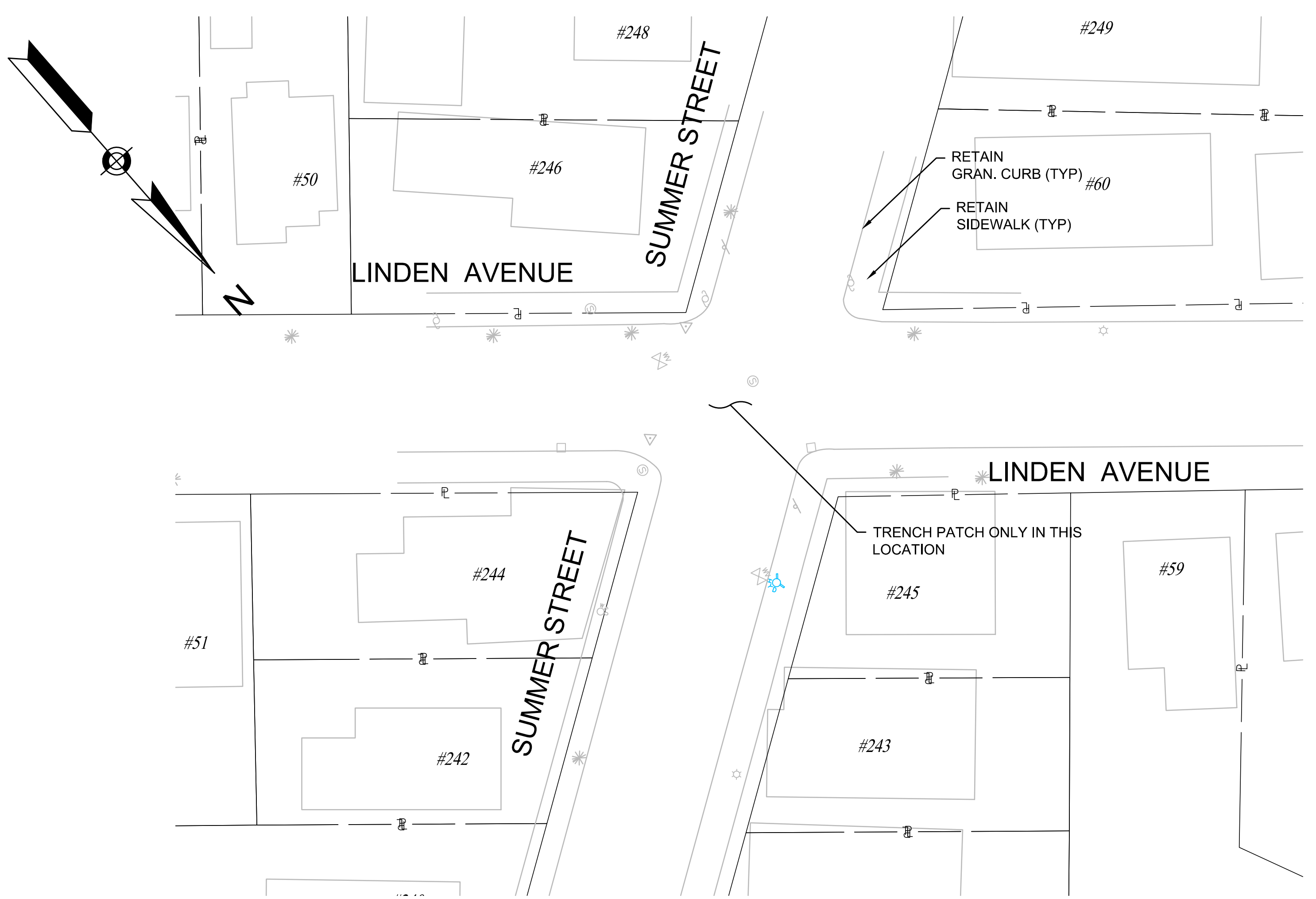
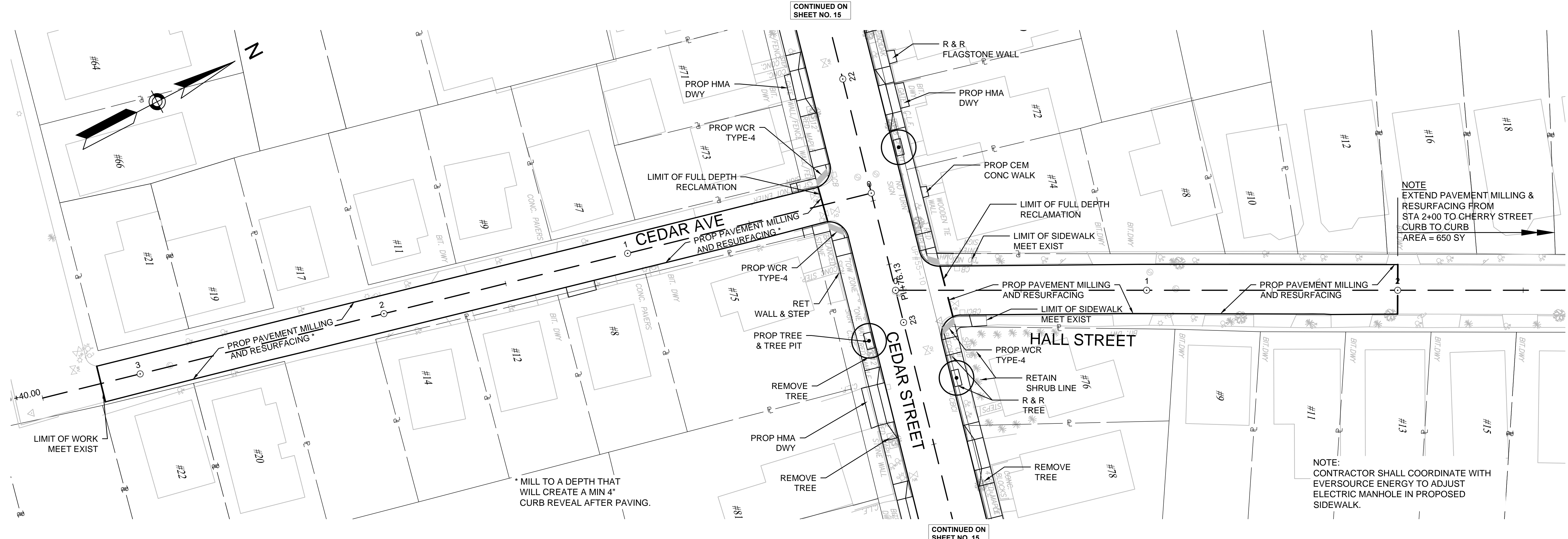
DATE: 12-10-15



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DEPARTMENT OF PUBLIC WORKS
CEDAR STREET SEWER SEPARATION PROJECT
ROADWAY CONSTRUCTION PLAN AND PROFILE

CADD NO. -
SCALE: AS NOTED
CONTRACT: -
JOB NO. 2130636
DR BY: RKP
DSN BY: RKP
CHK BY: LFK
APP BY: LFK

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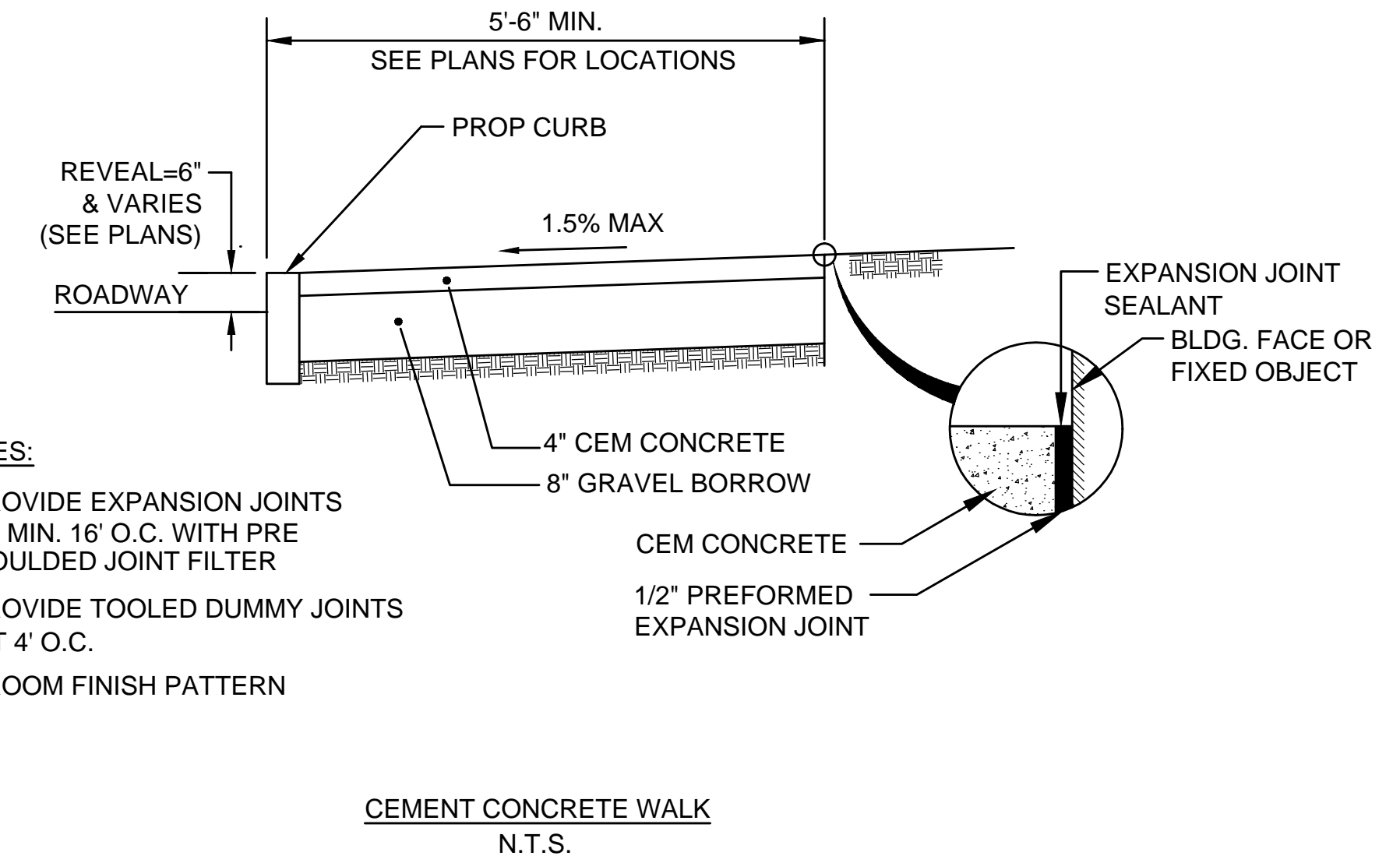
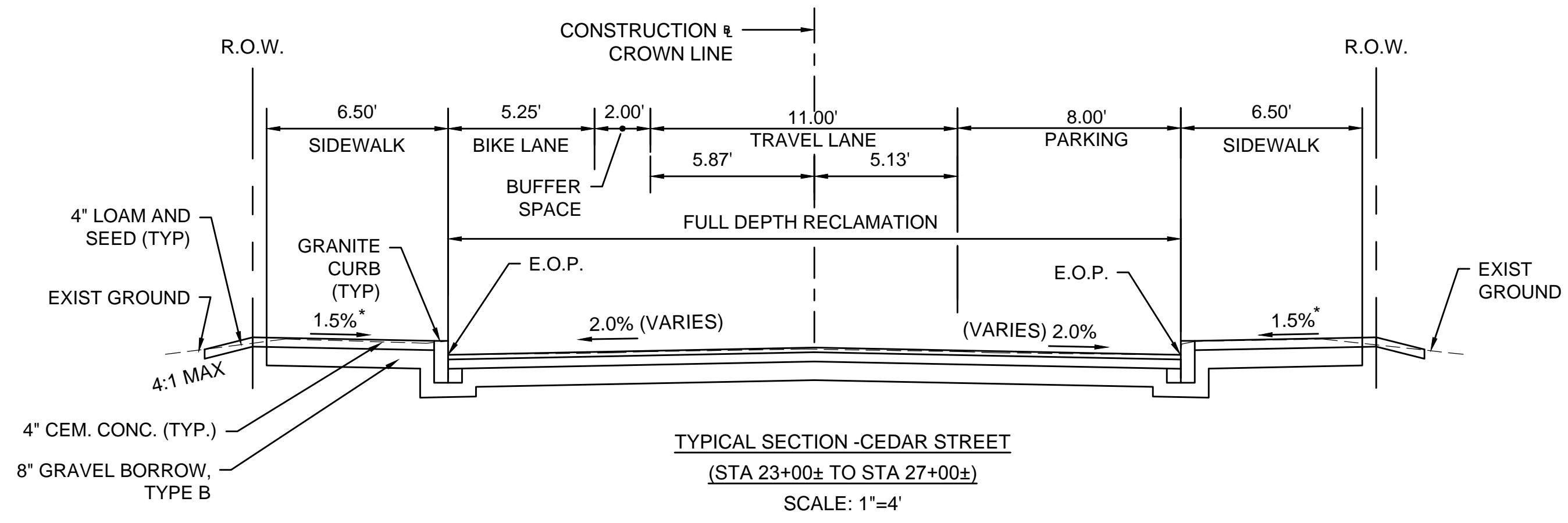
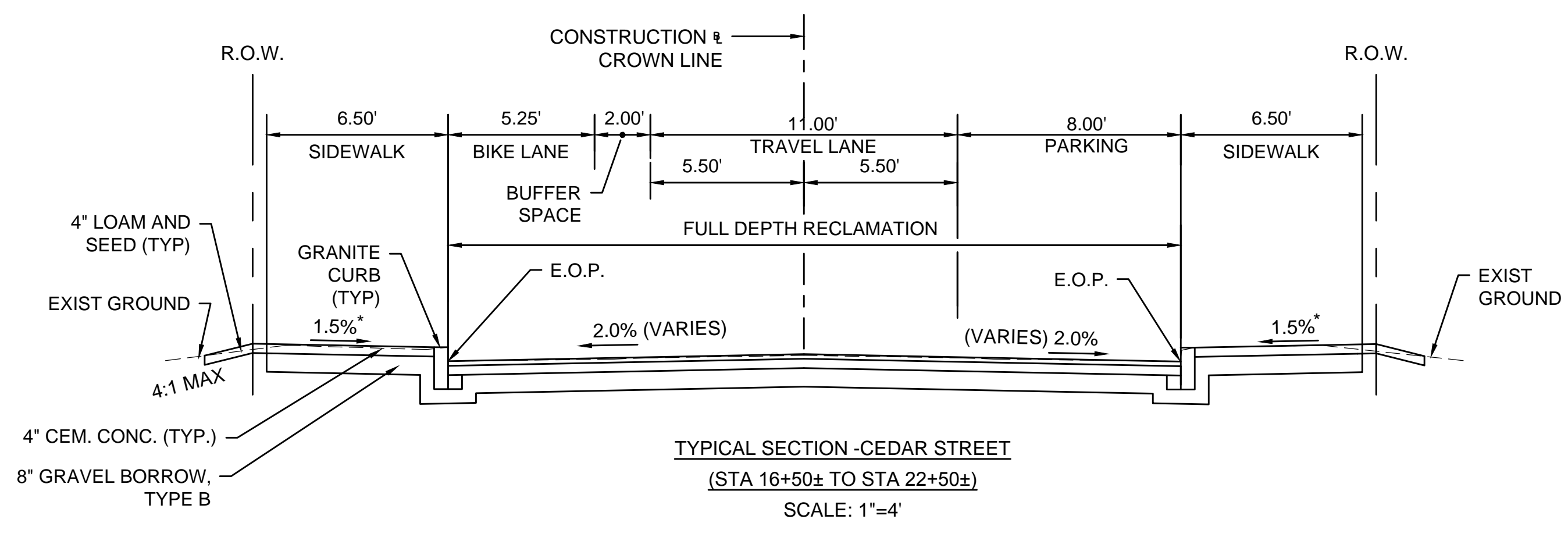
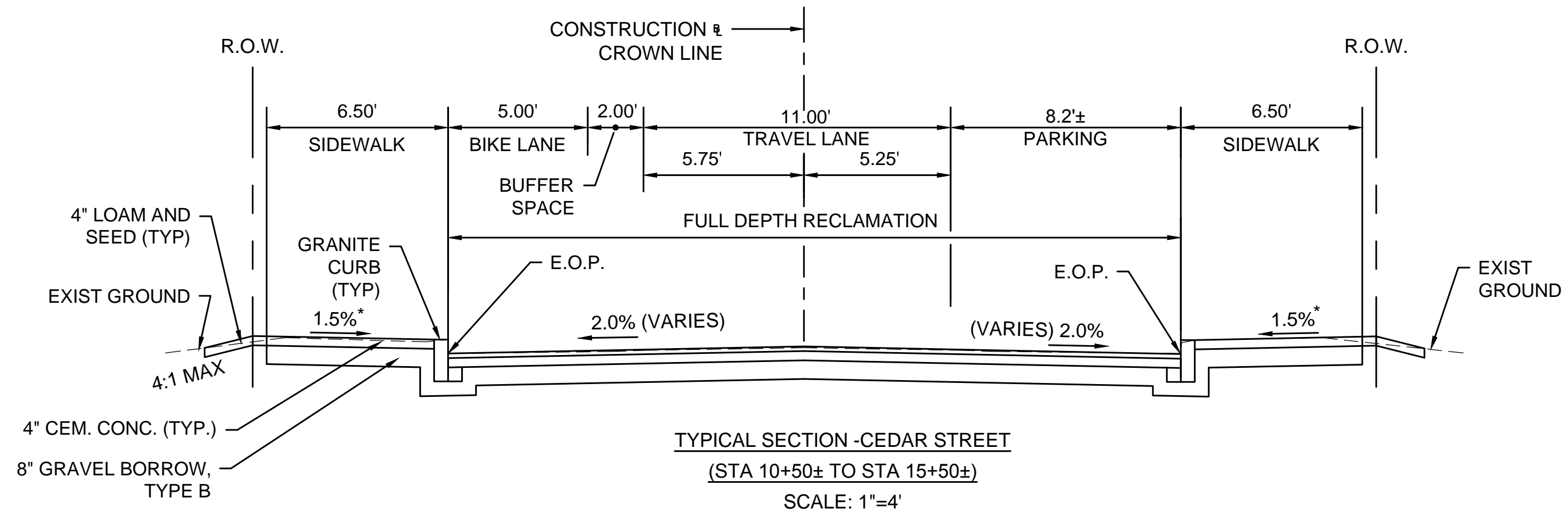
REGISTERED PROFESSIONAL ENGINEER
Samuel K. Keenan

DATE: 12-10-15

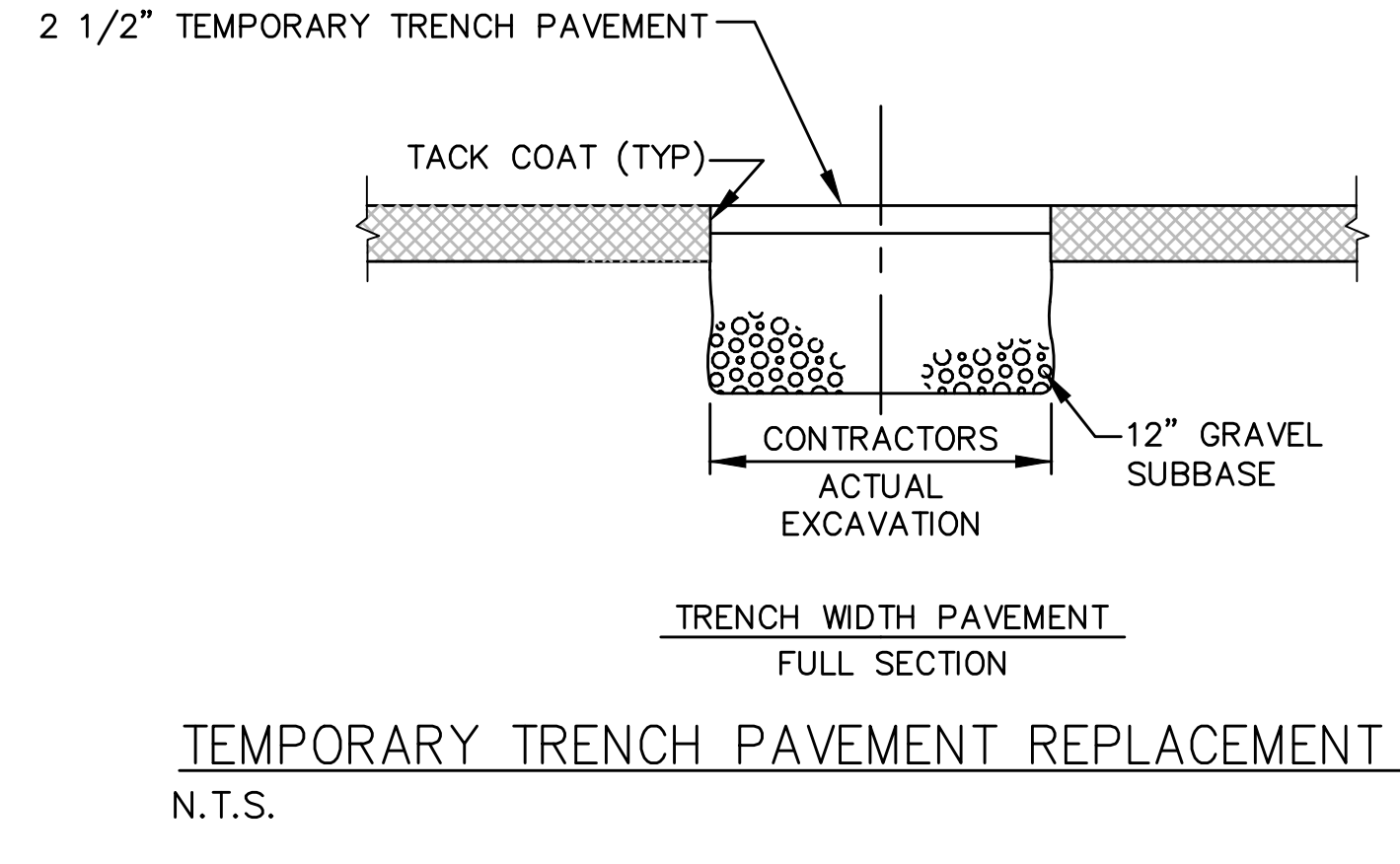
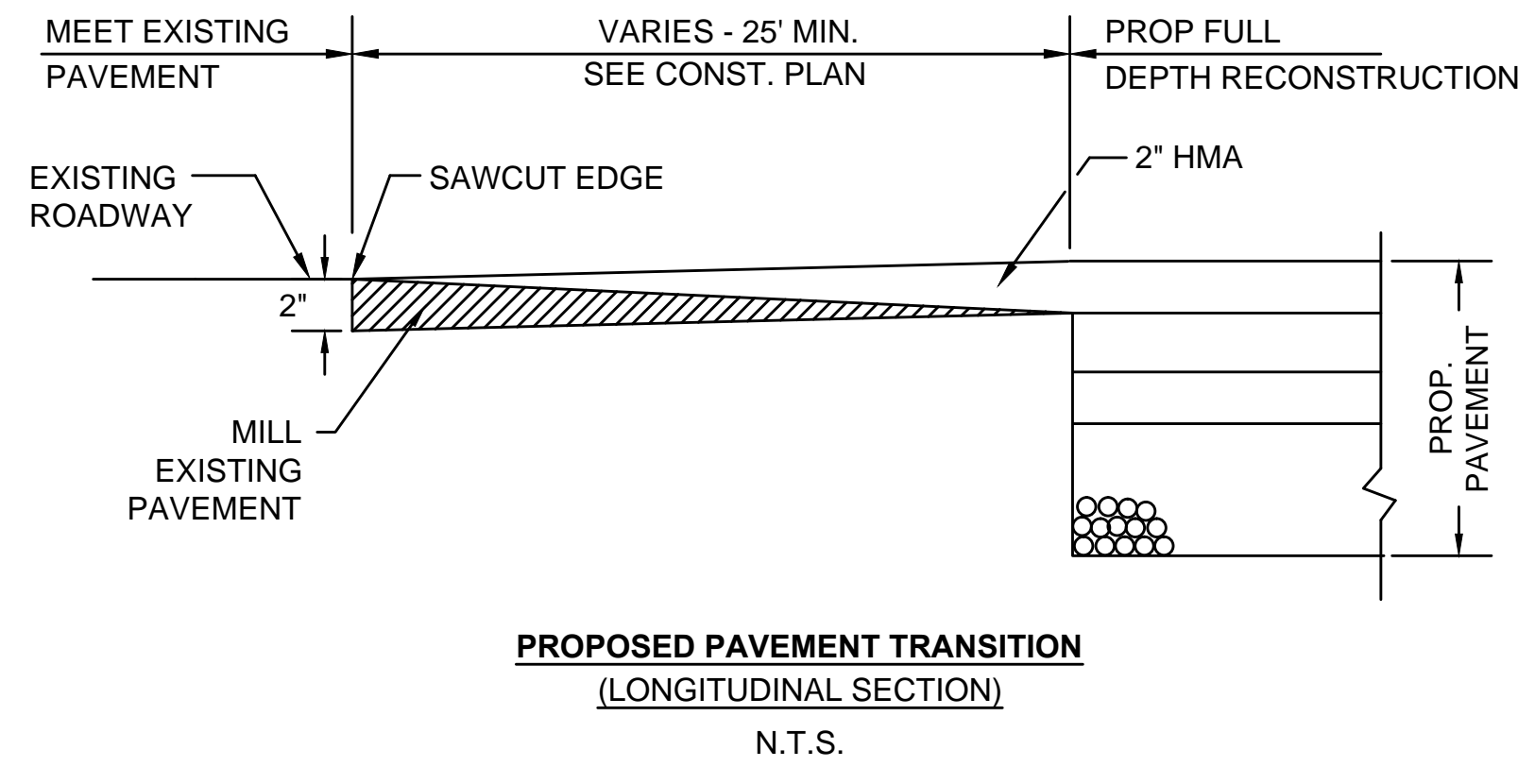
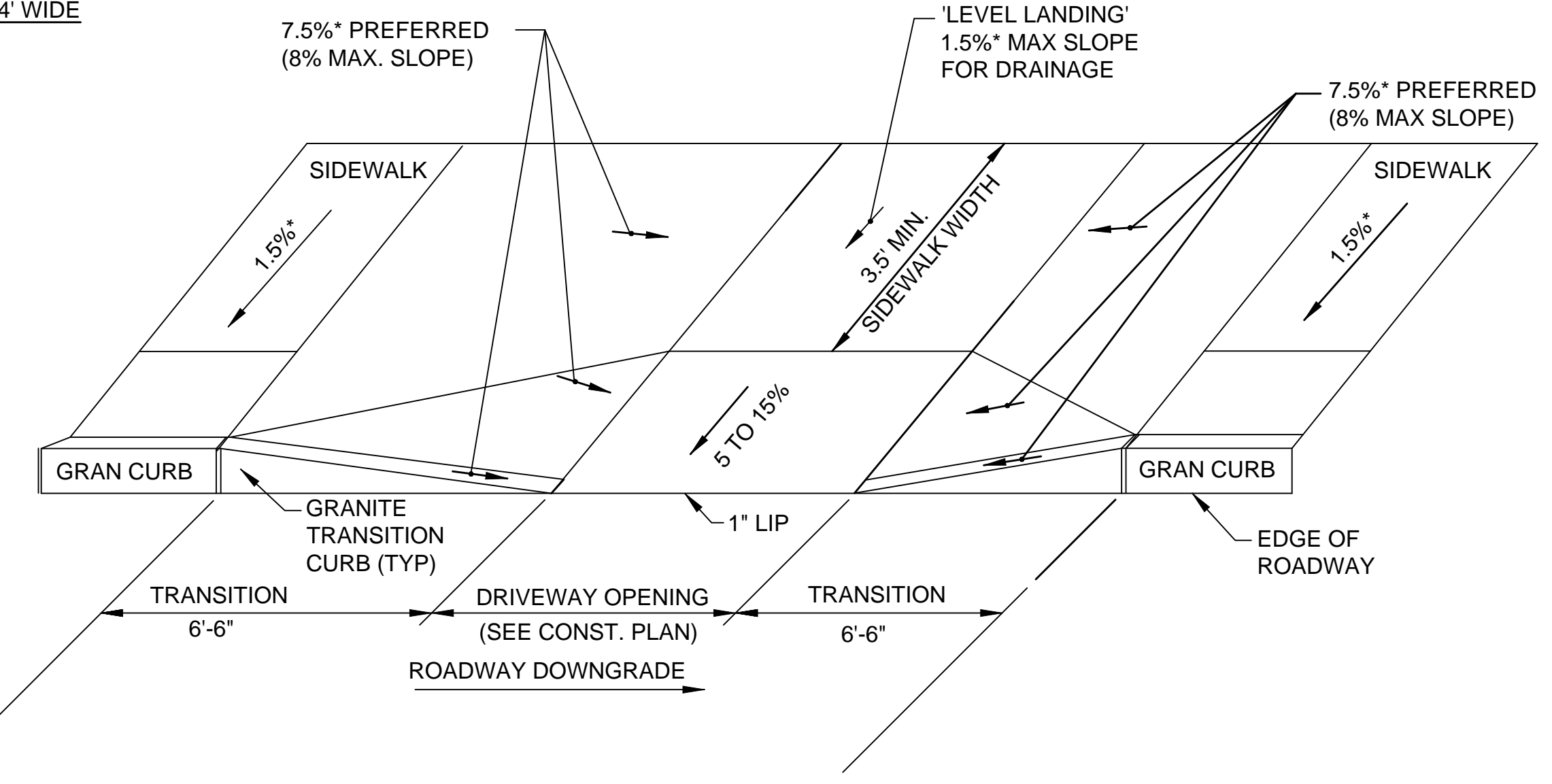
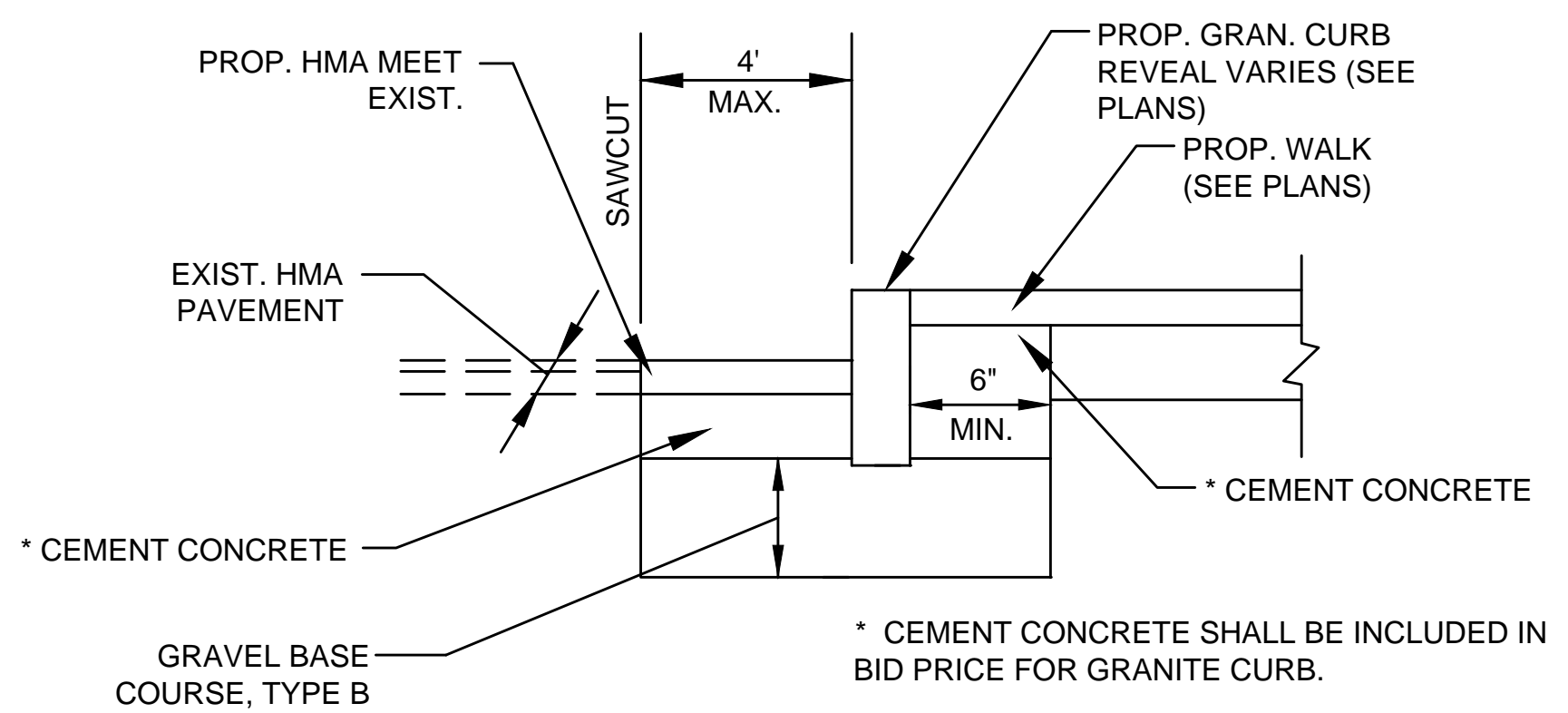


CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT
 ROADWAY CONSTRUCTION PLAN AND PROFILE

CADD NO. - SCALE: AS NOTED - CONTRACT: - JOB NO. 2130636 - DR BY DS BY RKP - CHK BY RKP - APP BY LFK



- NOTES:**
1. PROVIDE EXPANSION JOINTS AT MIN. 16' O.C. WITH PRE MOULDED JOINT FILTER
 2. PROVIDE TOOLED DUMMY JOINTS AT 4' O.C.
 3. BROOM FINISH PATTERN



PAVEMENT NOTES

PAVEMENT MILLING AND PROPOSED RESURFACING:
2" HOT MIX ASPHALT - MODIFIED TOP COURSE OVER
2" MILLED SURFACE

PROPOSED FULL DEPTH RECLAMATION:
2" HOT MIX ASPHALT - MODIFIED TOP COURSE OVER
4" HOT MIX ASPHALT - BASE COURSE OVER
8" RECLAIMED PAVEMENT W/CRUSHED STONE FOR BLENDING

PROPOSED HOT MIX ASPHALT DRIVEWAY OR HOT MIX ASPHALT WALK:
1 1/2" HOT MIX ASPHALT - MODIFIED TOP COURSE OVER
2" HOT MIX ASPHALT - INTERMEDIATE COURSE - BINDER OVER
8" GRAVEL BORROW, TYPE B

PROPOSED CEMENT CONCRETE DRIVEWAY APRON:
6" CEMENT CONCRETE OVER
8" GRAVEL BORROW, TYPE B

PROPOSED CEMENT CONCRETE WALK:
4" CEMENT CONCRETE OVER
8" GRAVEL BORROW, TYPE B

PROPOSED CEMENT CONCRETE WHEELCHAIR RAMP:
4" CEMENT CONCRETE OVER
8" GRAVEL BORROW, TYPE B

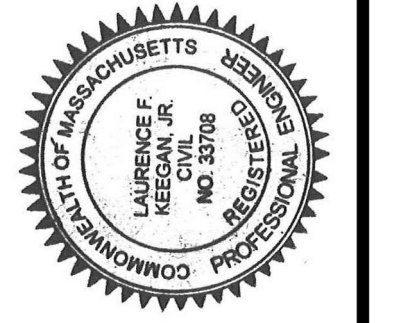
PROPOSED TEMPORARY HOT MIX ASPHALT PATCH:
1" HOT MIX ASPHALT - INTERMEDIATE BINDER COURSE

TACK COAT:
TACK COAT SHALL BE APPLIED AT RATE OF 0.07 GALLON PER SQUARE YARD OVER MILLED SURFACES AND 0.05 GALLON PER SQUARE YARD OVER SMOOTH PAVED SURFACES

No.	Date	Dr. By	Ck. By	App. By	Description

DATE: 12-10-15

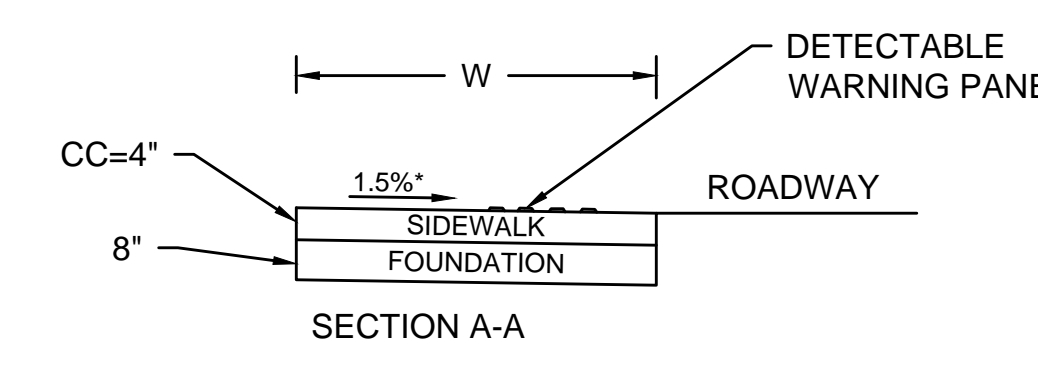
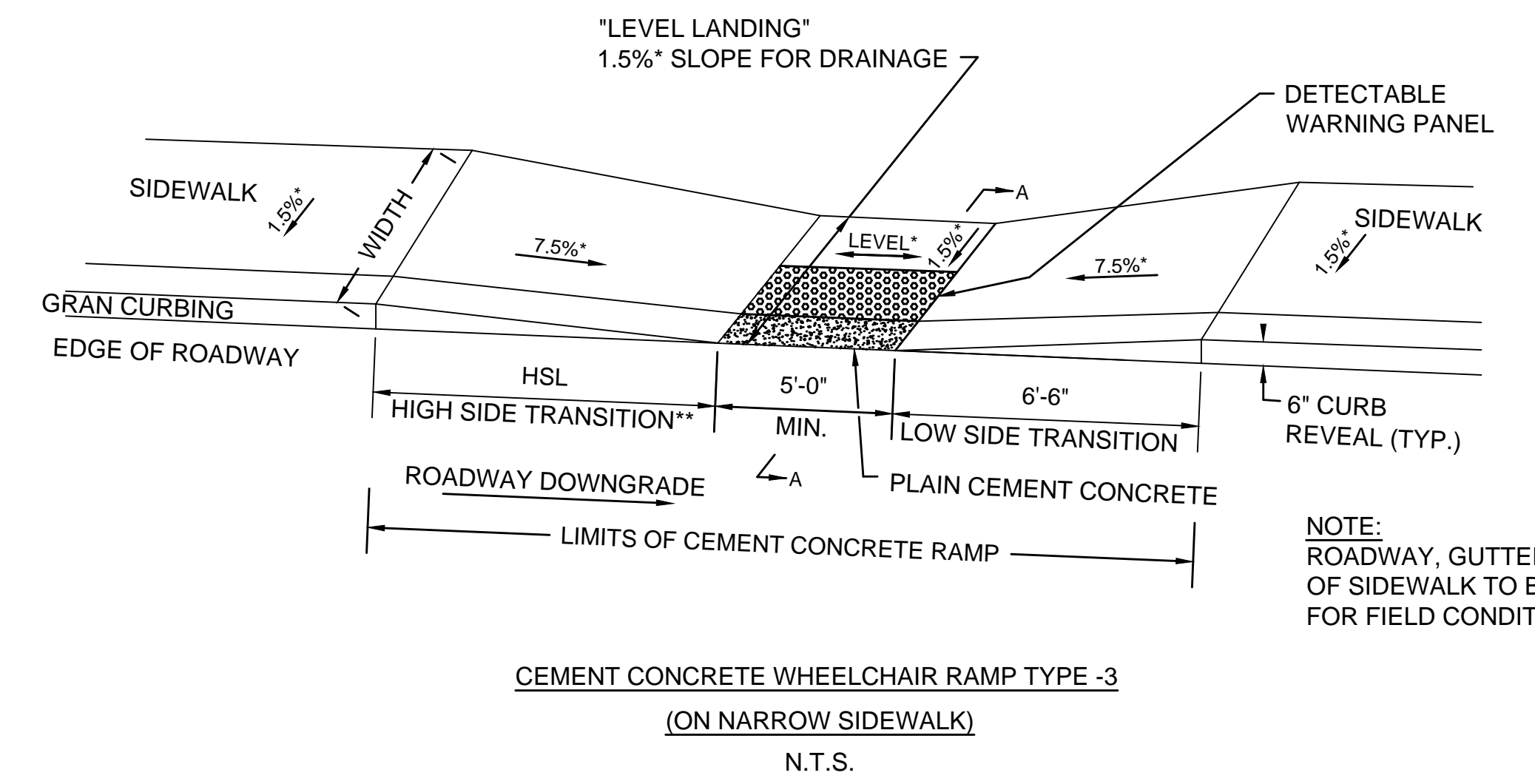
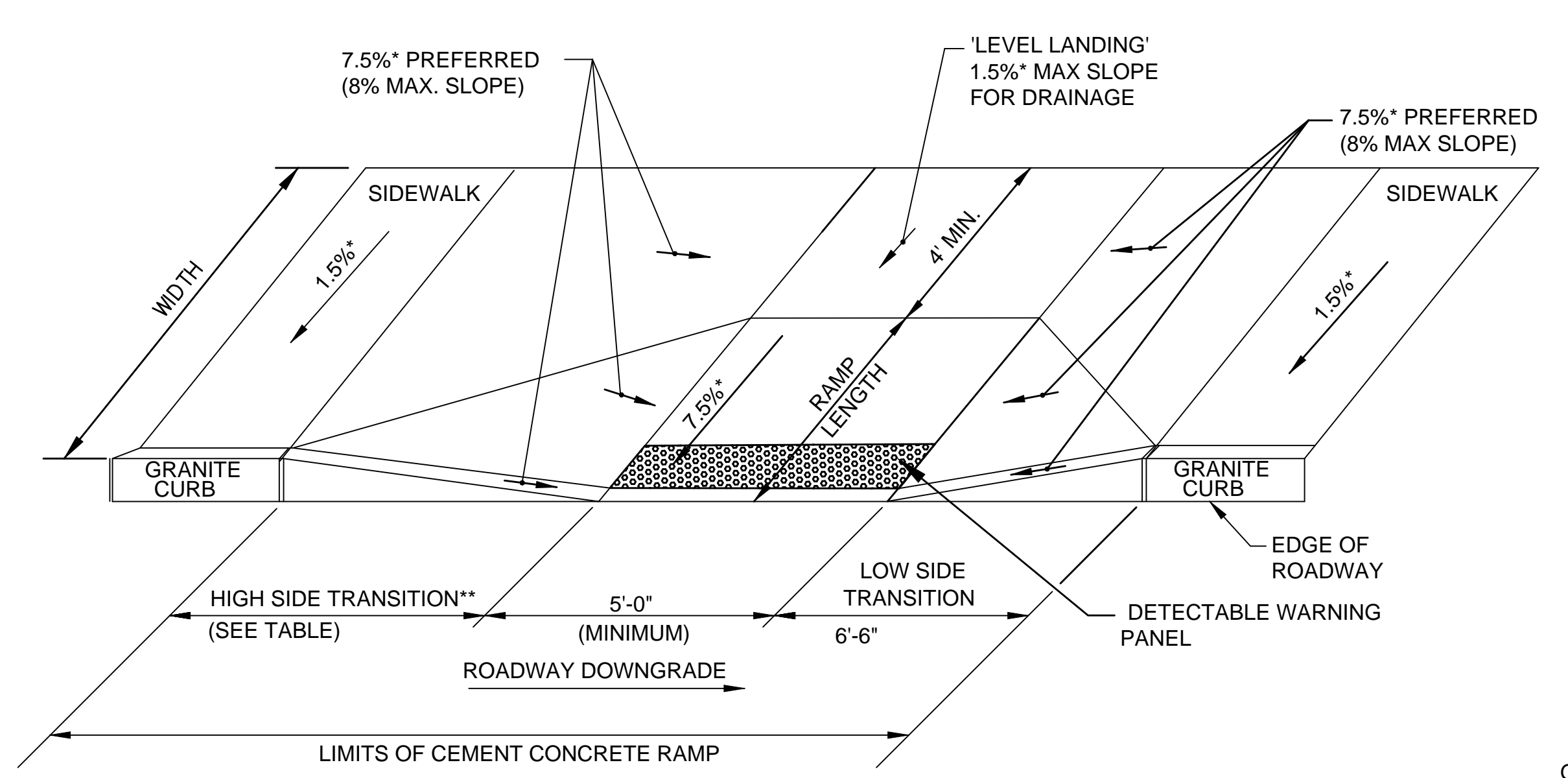
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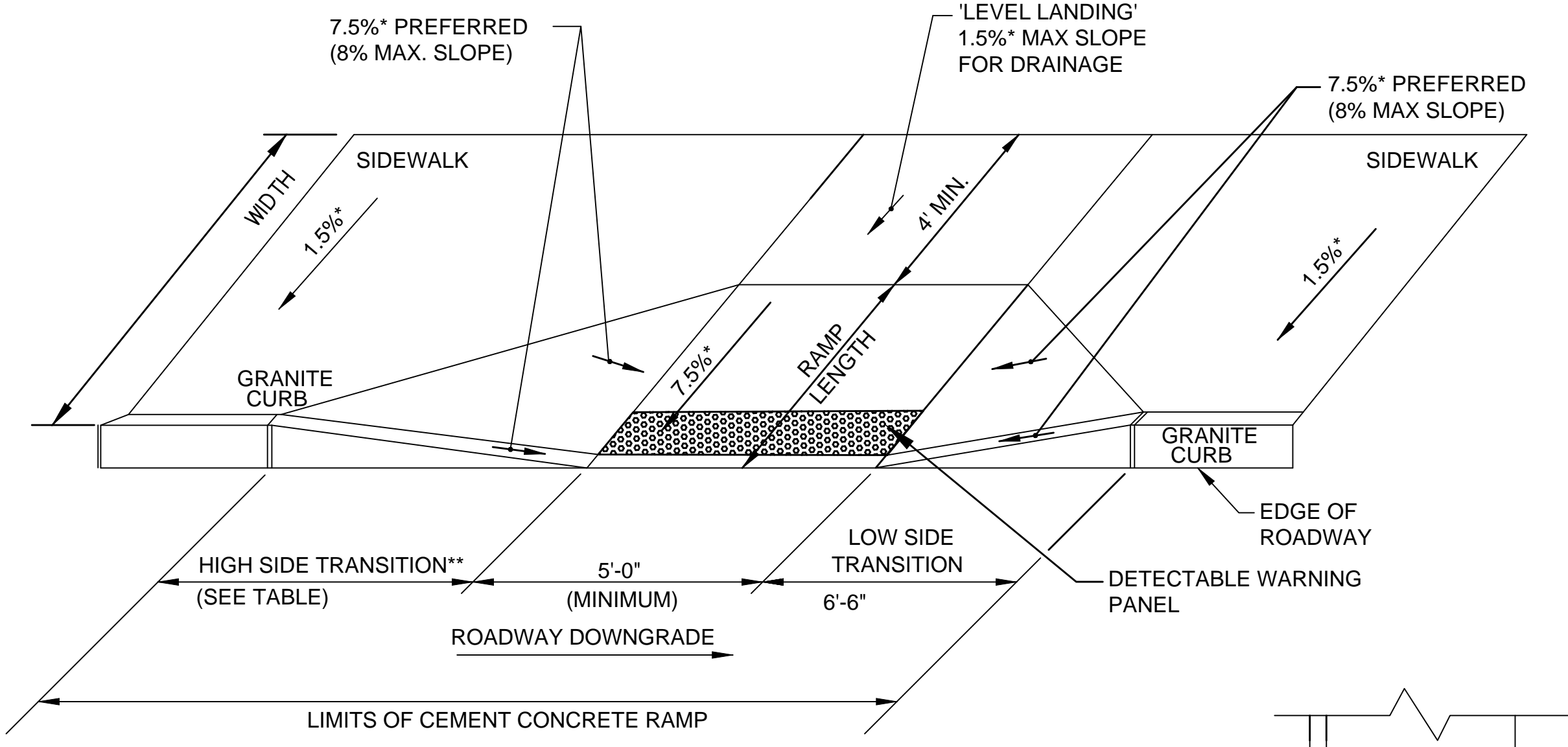
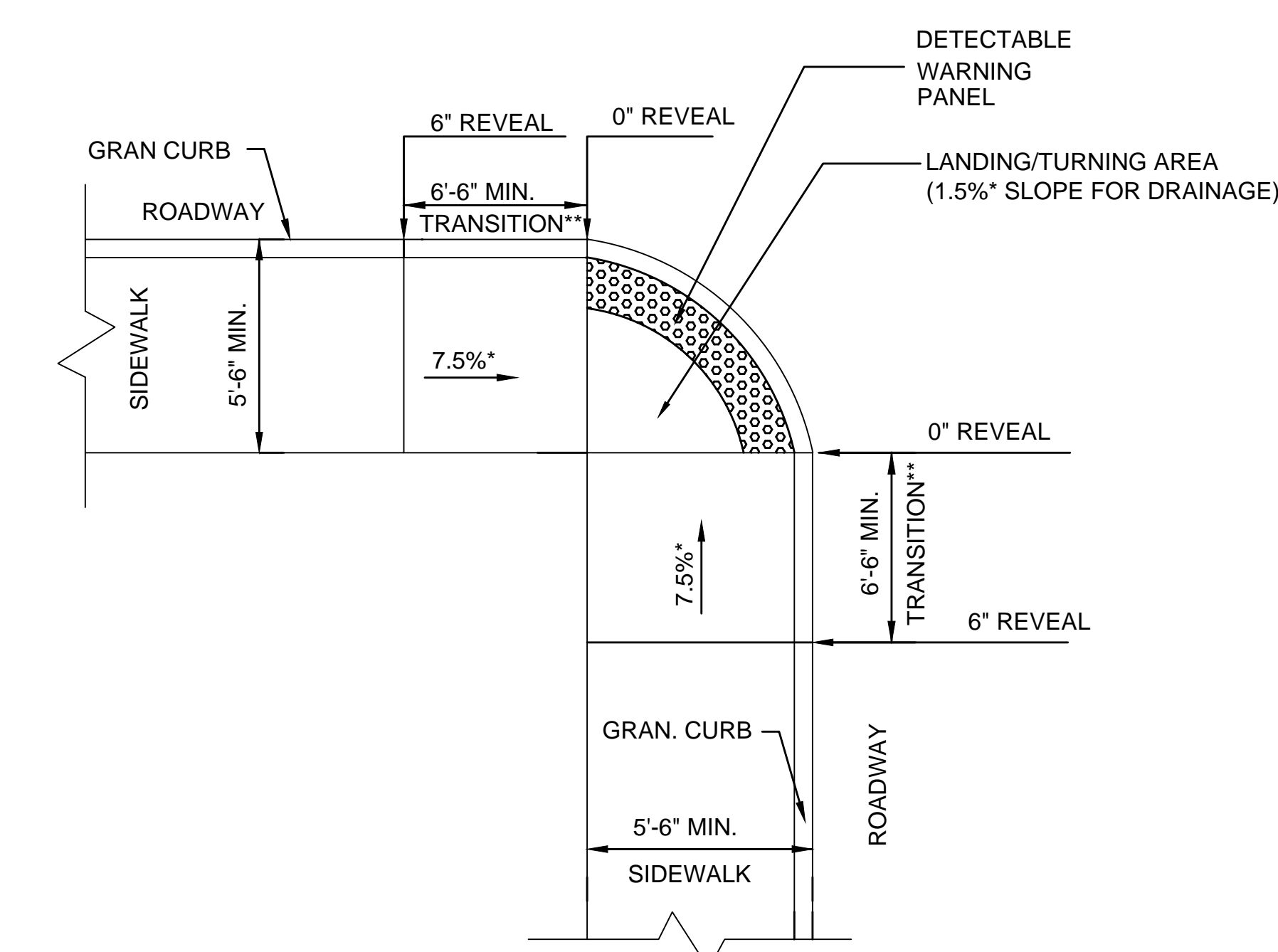
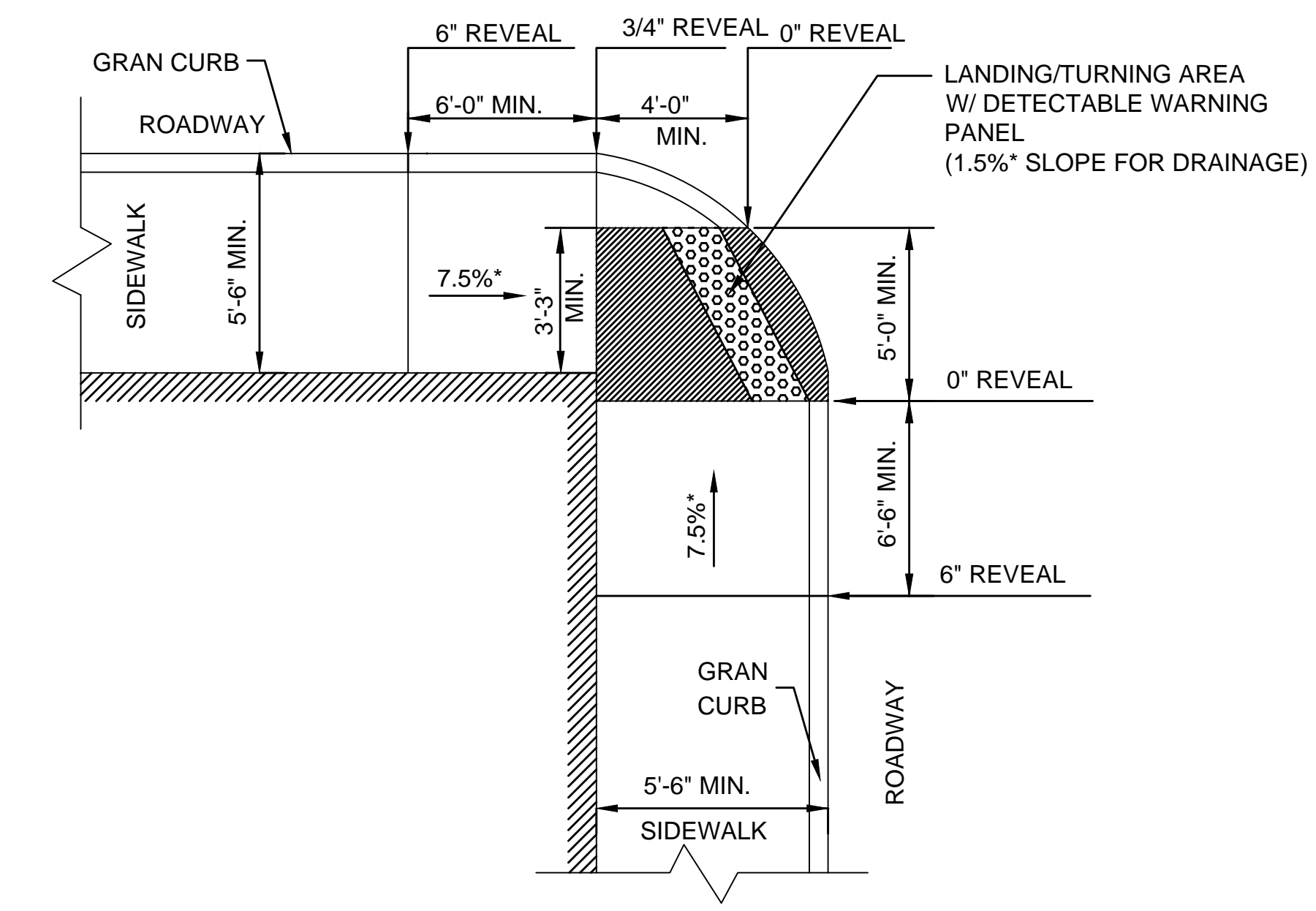
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DEPARTMENT OF PUBLIC WORKS
CEDAR STREET SEWER SEPARATION PROJECT

TYPICAL SECTIONS AND DETAILS

CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR BY	DSN BY	CHK BY	APP BY
	AS NOTED		2130636	RKP	RKP	RKP	LFK



NOTE:
ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS



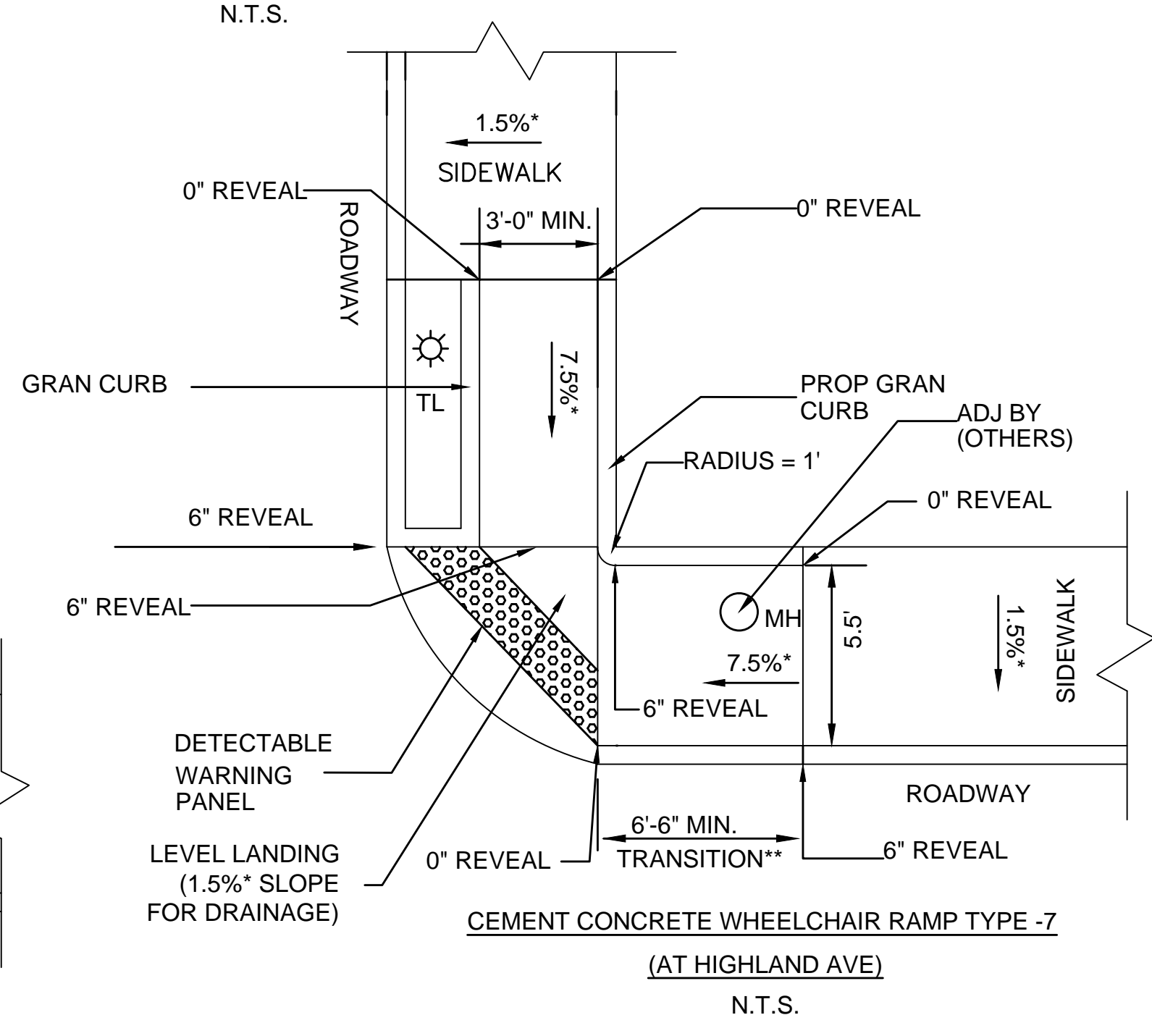
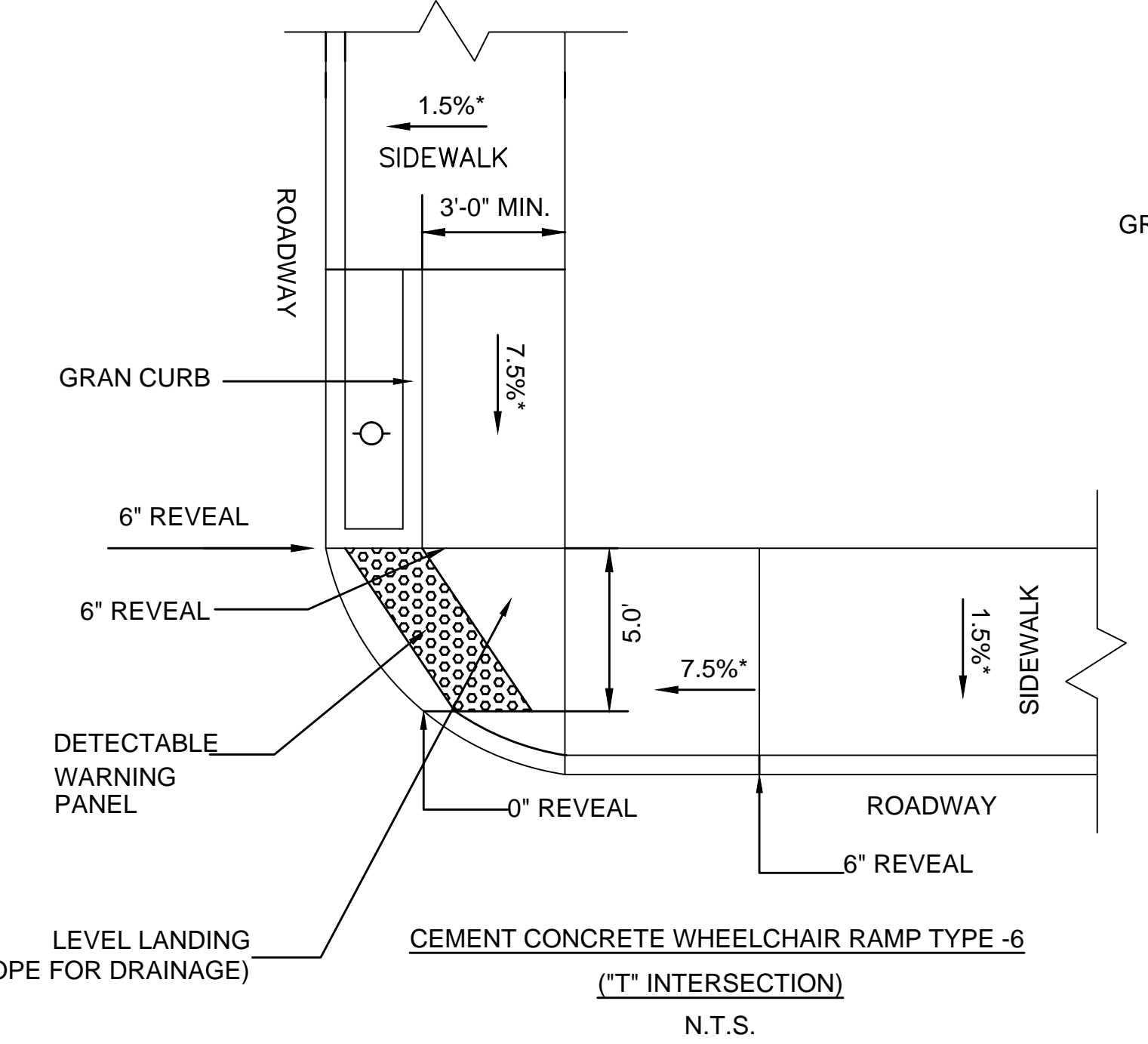
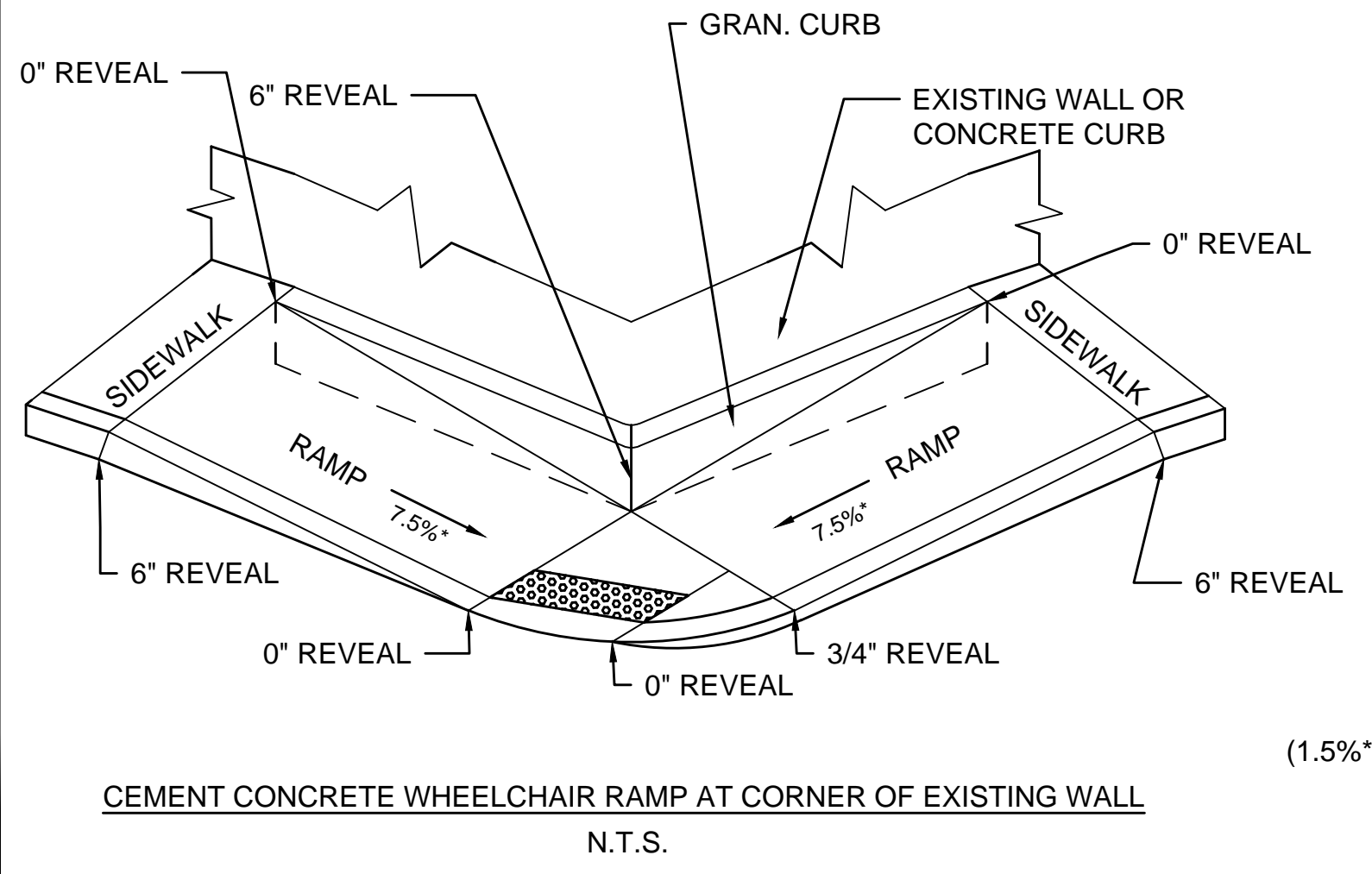
CEMENT CONCRETE WHEELCHAIR RAMP TYPE -4
(T INTERSECTION)
N.T.S.

CEMENT CONCRETE WHEELCHAIR RAMP TYPE -5
(T INTERSECTION)
N.T.S.

WHEELCHAIR RAMP HIGH SIDE TRANSITIONS	
ROADWAY PROFILE GRADE %	TRANSITION LENGTH **
0%	6'-6"
>0% TO 1%	7'-8"
>1% TO 2%	9'-0"
>2% TO 3%	11'-0"
>3% TO 4%	14'-0"
>4% TO 5%	15'-0" Max

NOTE:
** BASED ON A DESIGN SLOPE OF 7.5% AND A REVEAL OF 6".

- WHEELCHAIR RAMP NOTES:
- CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF RAMP WITHIN TOLERANCES GIVEN UNLESS OTHERWISE NOTED. FAILURE TO MEET TOLERANCES, OR PRIOR NOTICE TO ENGINEER THAT TOLERANCES CANNOT BE MET, WILL REQUIRE RECONSTRUCTION TO PROPER TOLERANCES AT NO ADDITIONAL EXPENSE TO THE OWNER.
 - INSTALL DETECTABLE WARNING PANEL ACCORDING TO MASSDOT CONST. STANDARDS DETAILS DWG NO. E 107.6.5

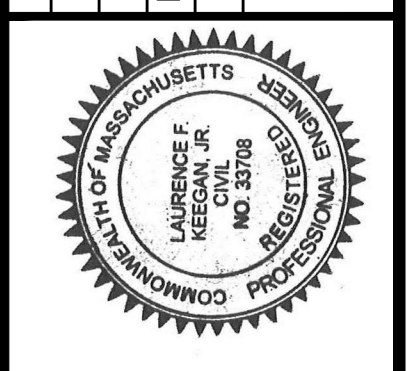


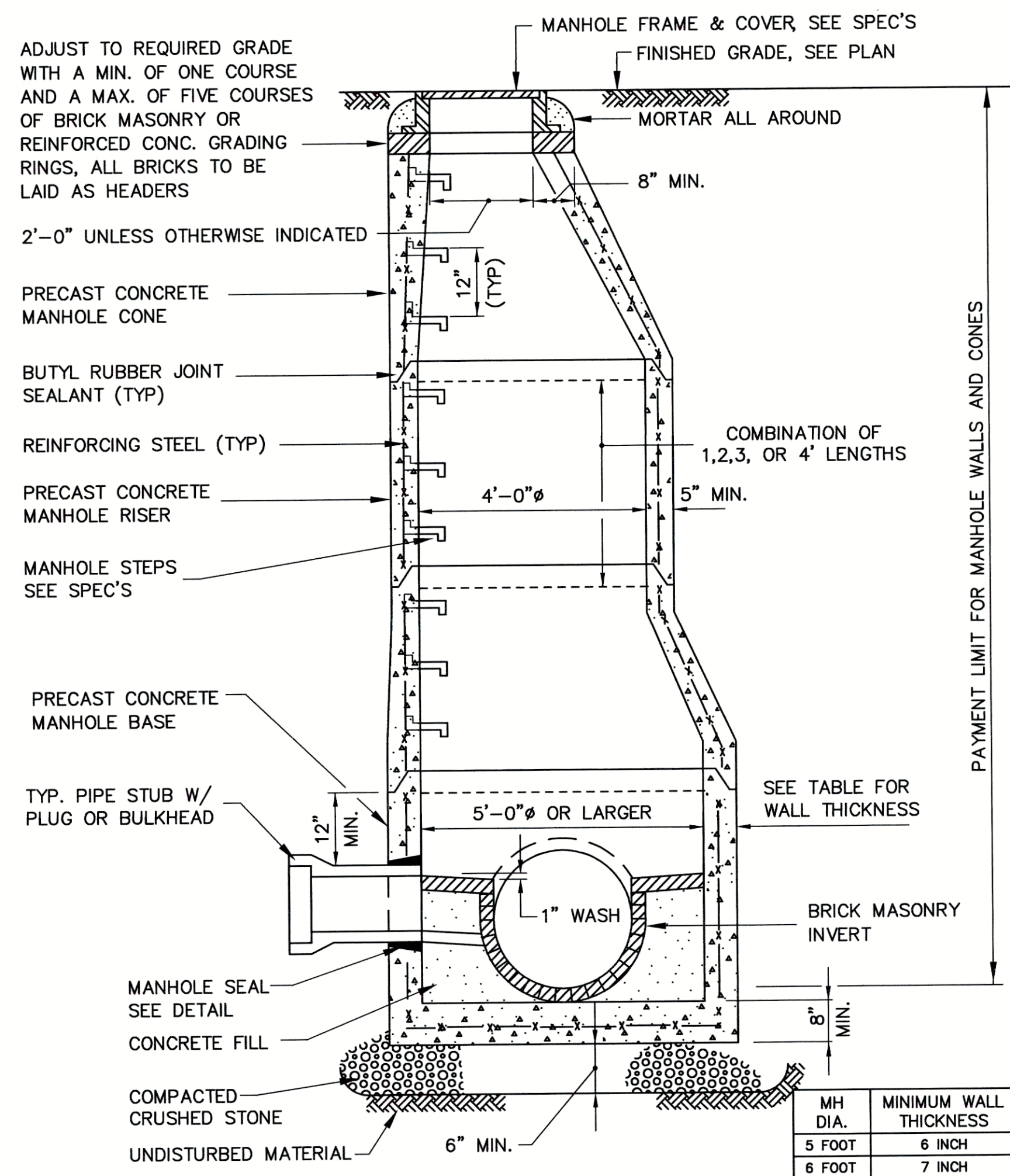
* CONSTRUCTION TOLERANCE ±.5%

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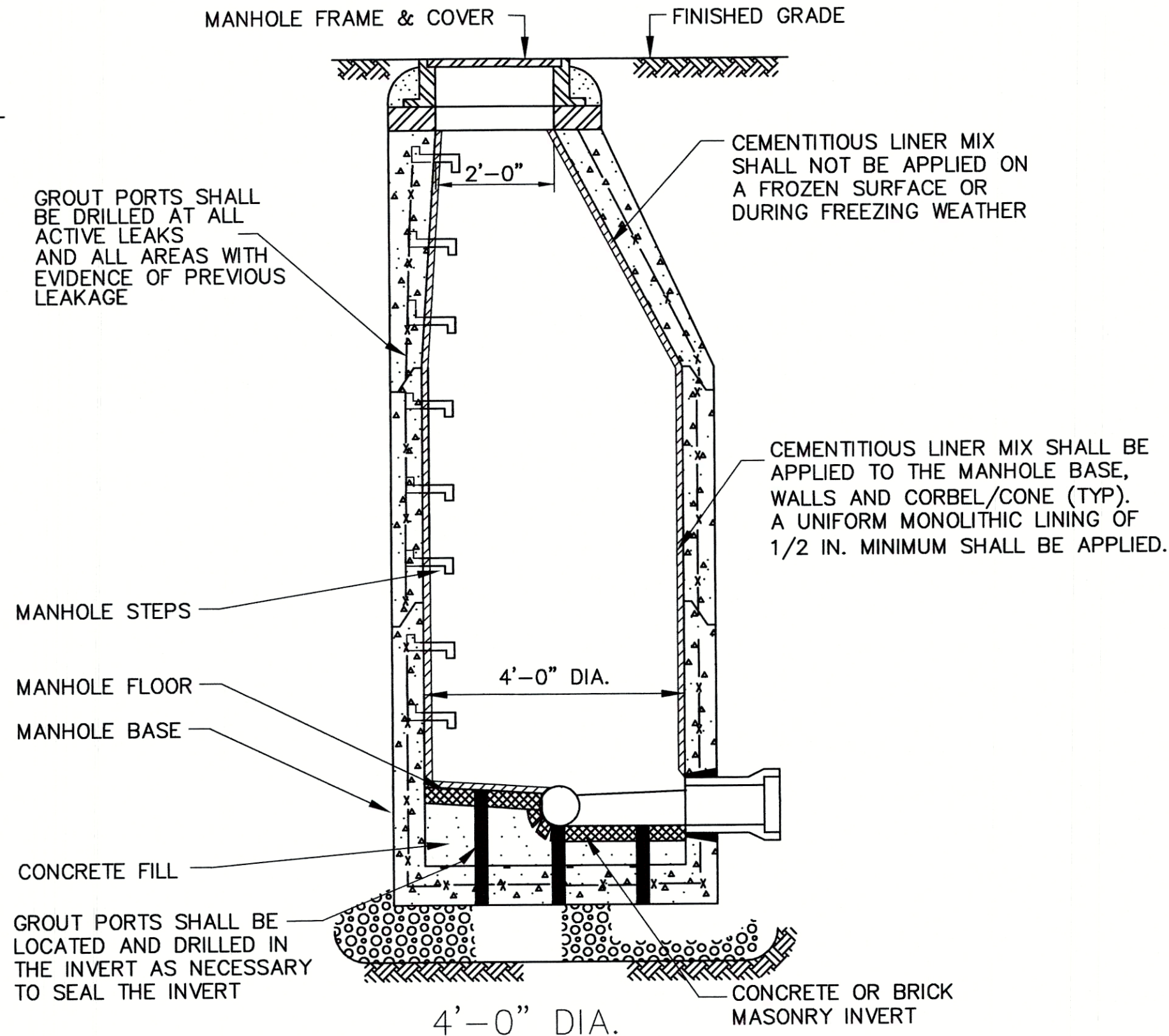
DATE: 12-10-15

REGISTERED PROFESSIONAL ENGINEER
James K. Keane

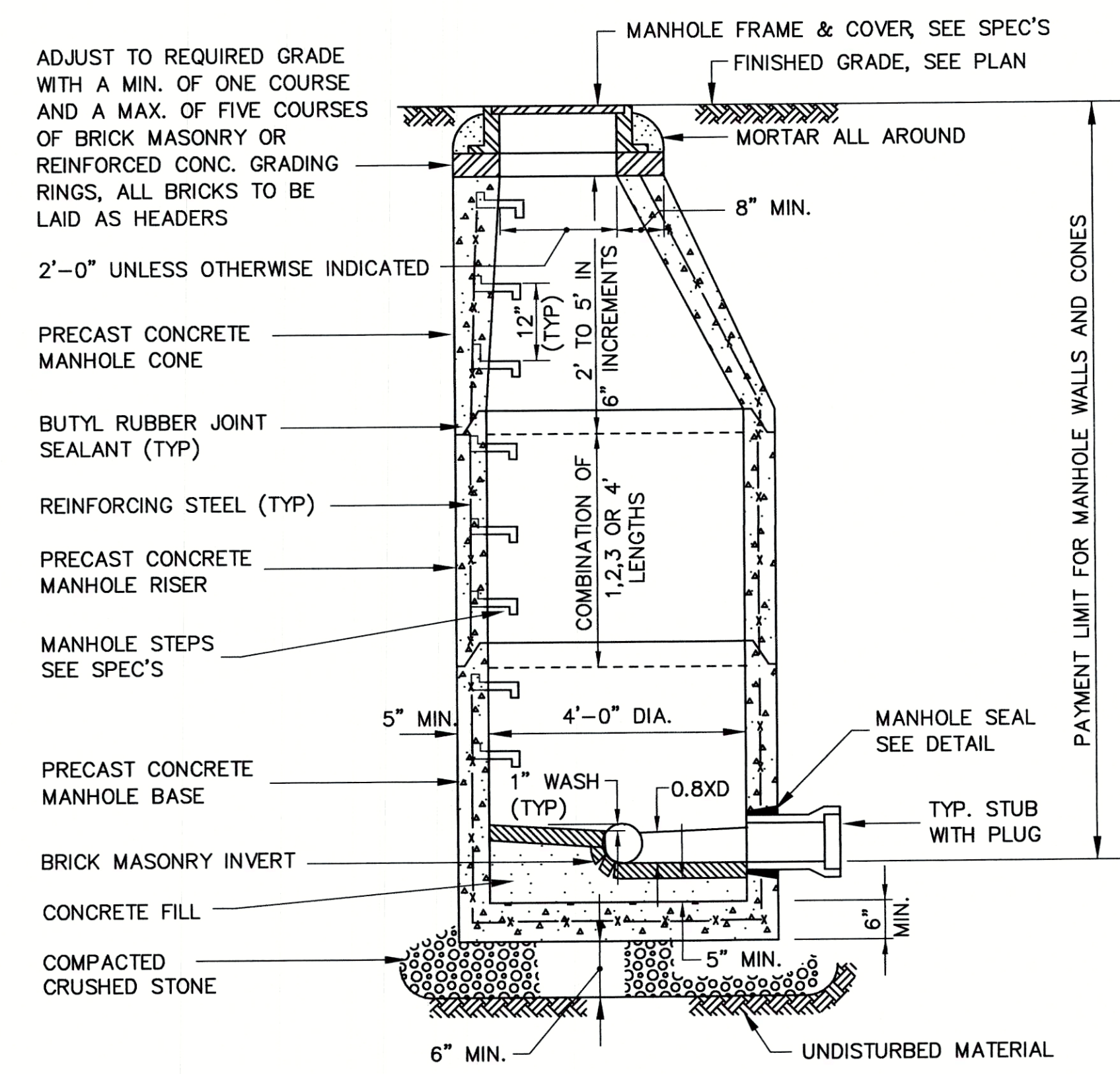




5'-0" DIA. OR LARGER
PRECAST CONCRETE MANHOLE DETAIL
N.T.S.

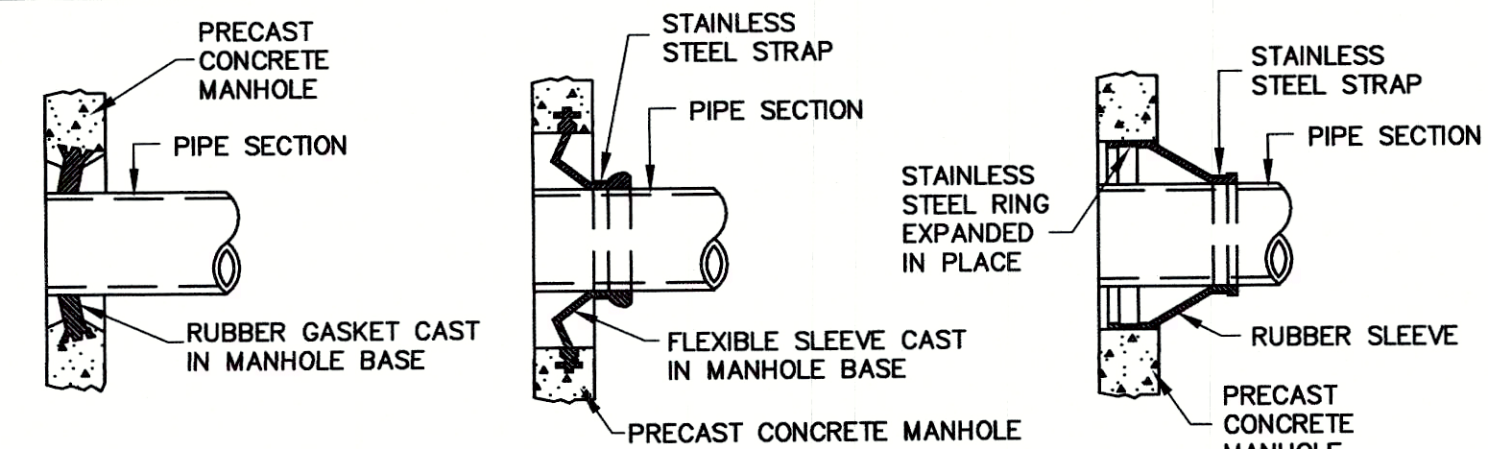


4'-0" DIA.
CEMENTITIOUS LINING DETAIL
N.T.S.

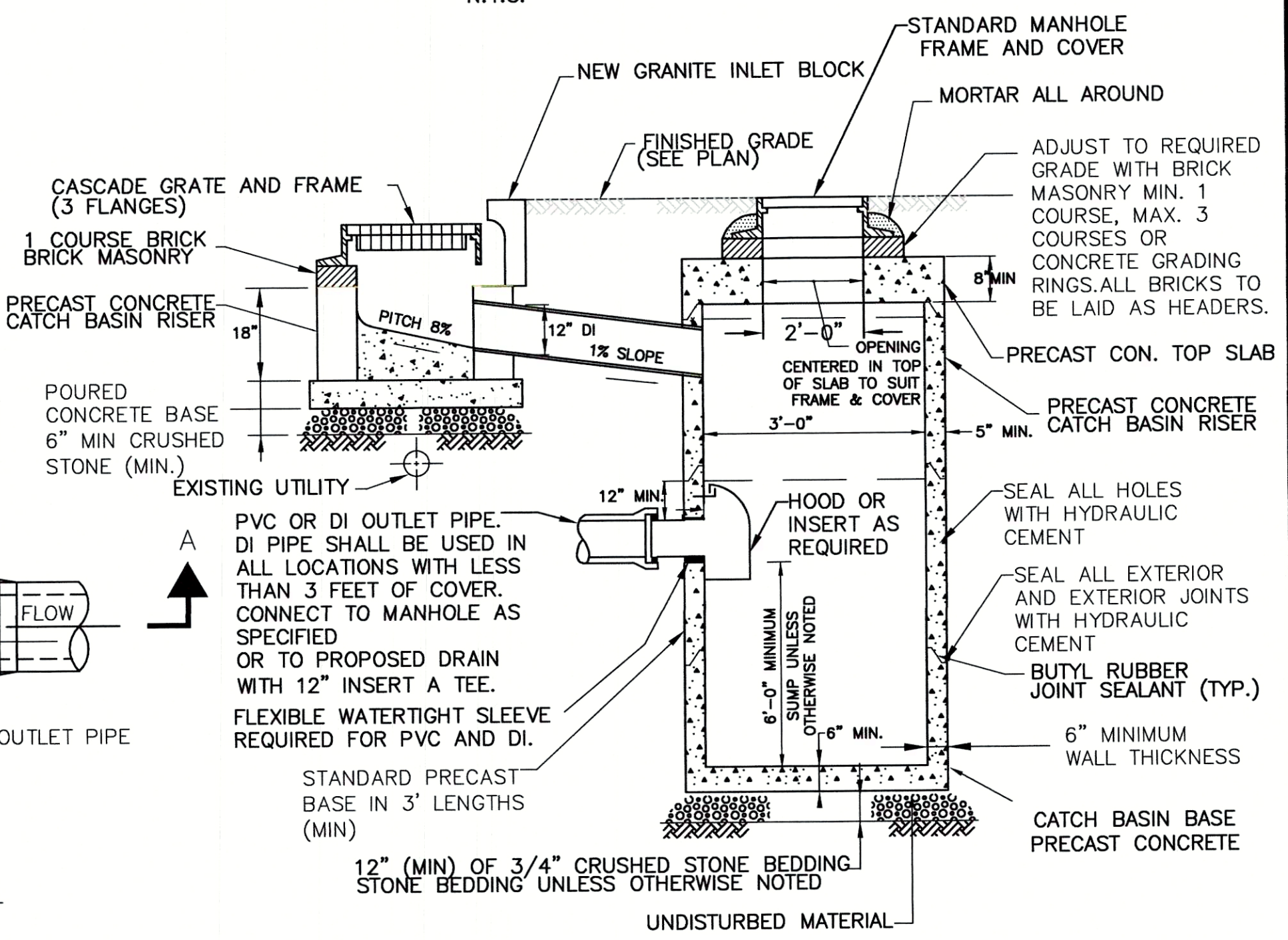


4'-0" DIA. PRECAST
CONCRETE MANHOLE DETAIL
N.T.S.

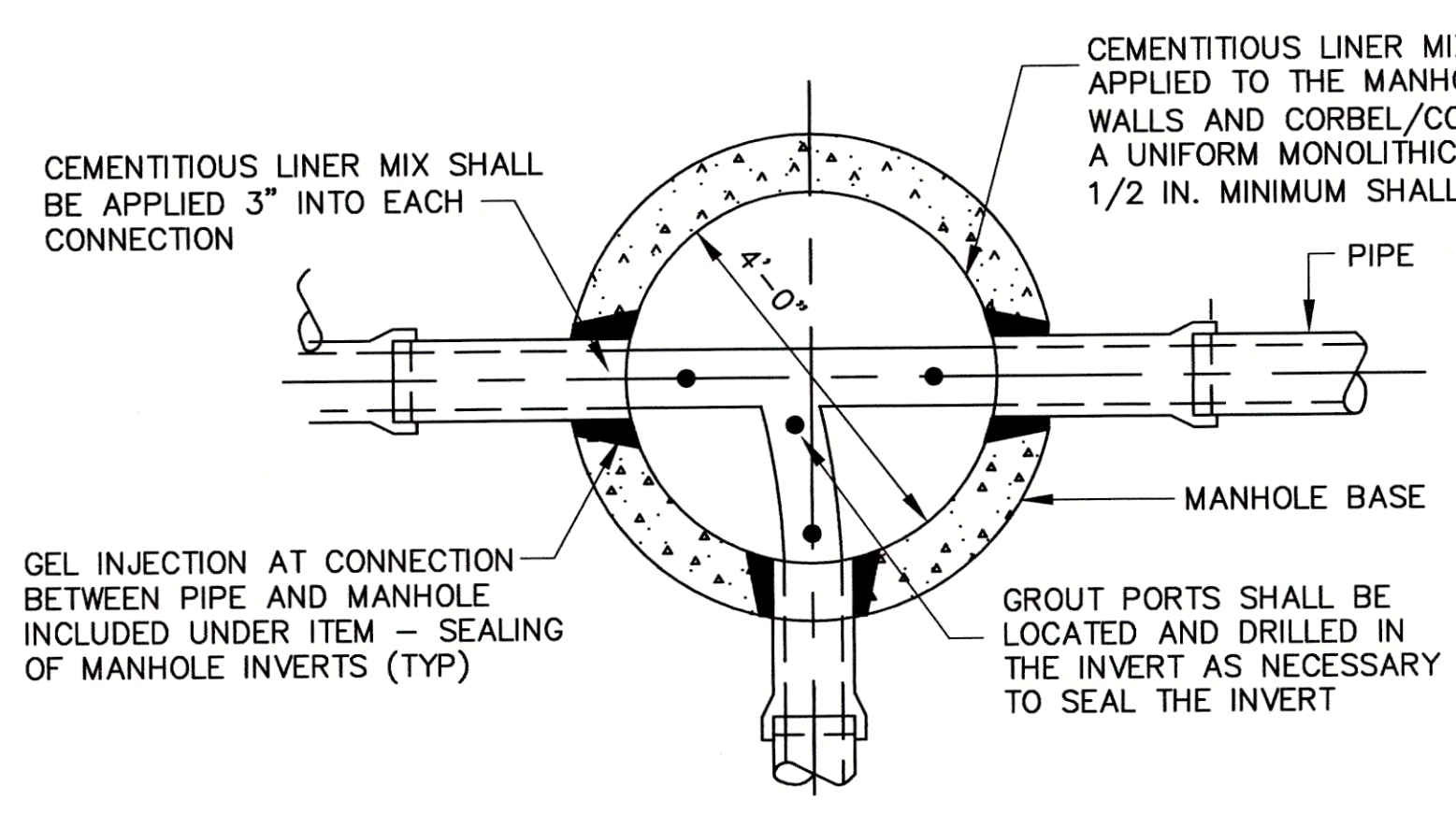
MH DIA.	MINIMUM WALL THICKNESS
5 FOOT	6 INCH
6 FOOT	7 INCH
7 FOOT	8 INCH
8 FOOT	9 INCH
10 FOOT	10 INCH



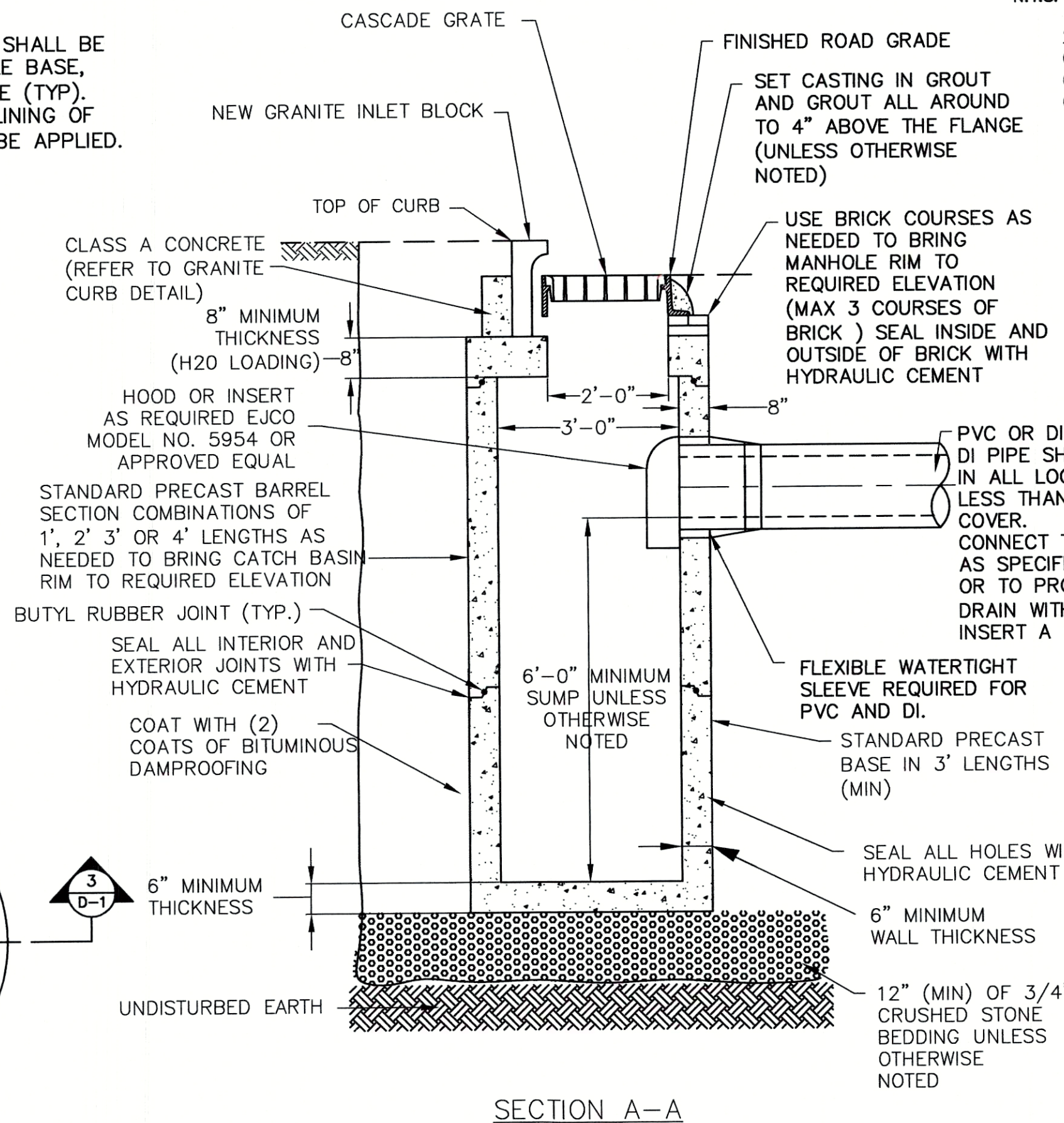
MANHOLE SEAL DETAILS
N.T.S.



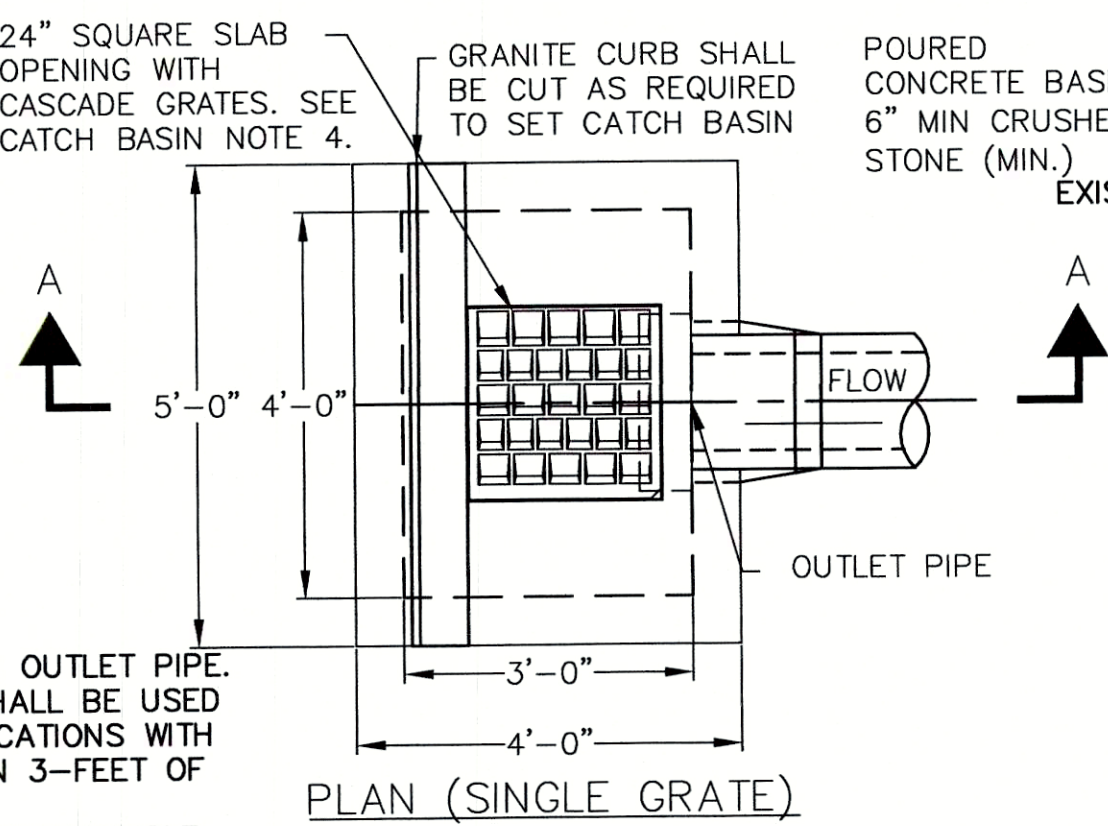
TYPE B CATCH BASIN DETAIL
N.T.S.



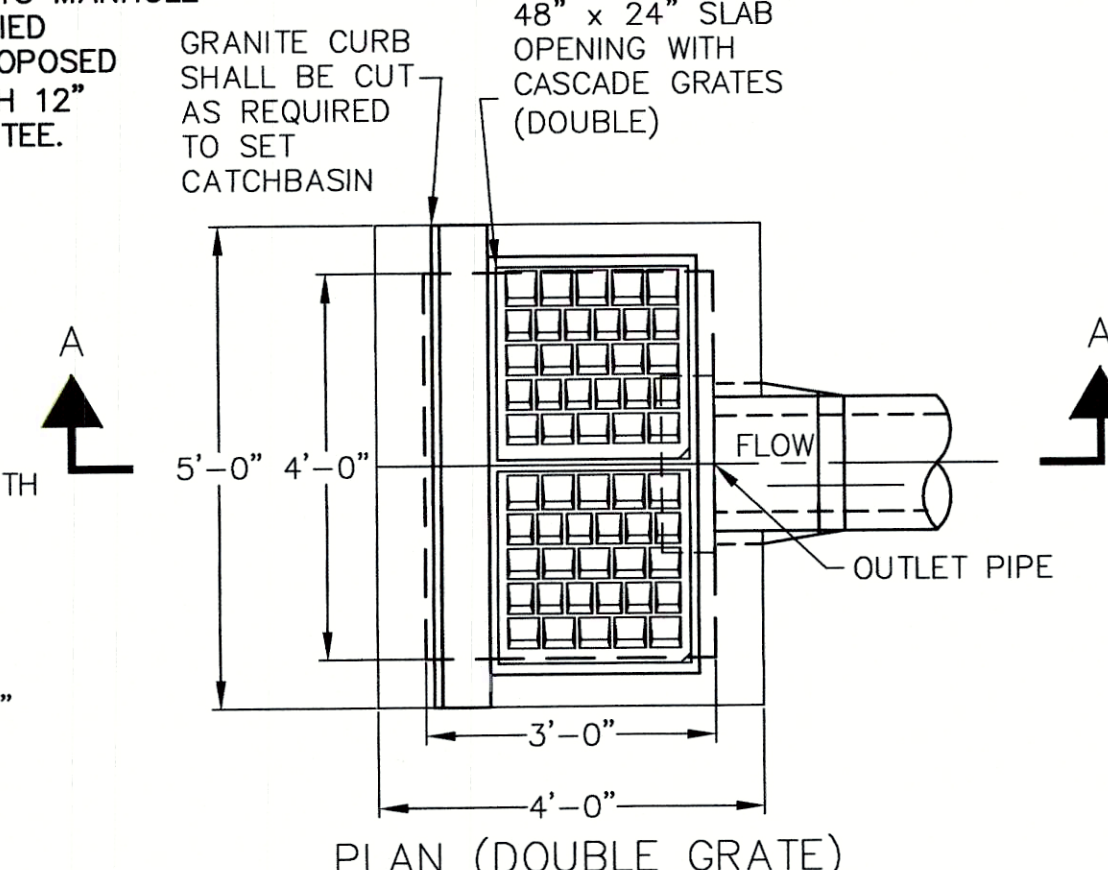
4'-0" DIA. MANHOLE SEALING PLAN
N.T.S.



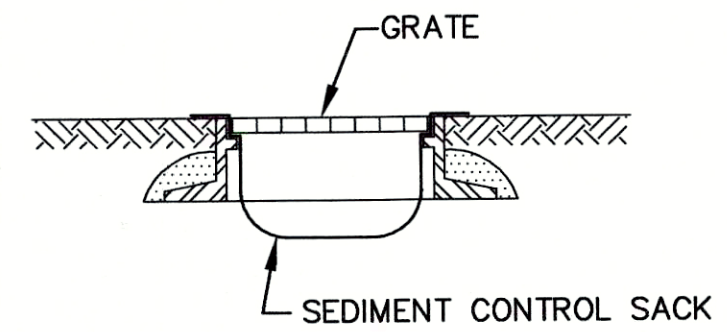
TYPE A CATCH BASIN DETAIL
N.T.S.



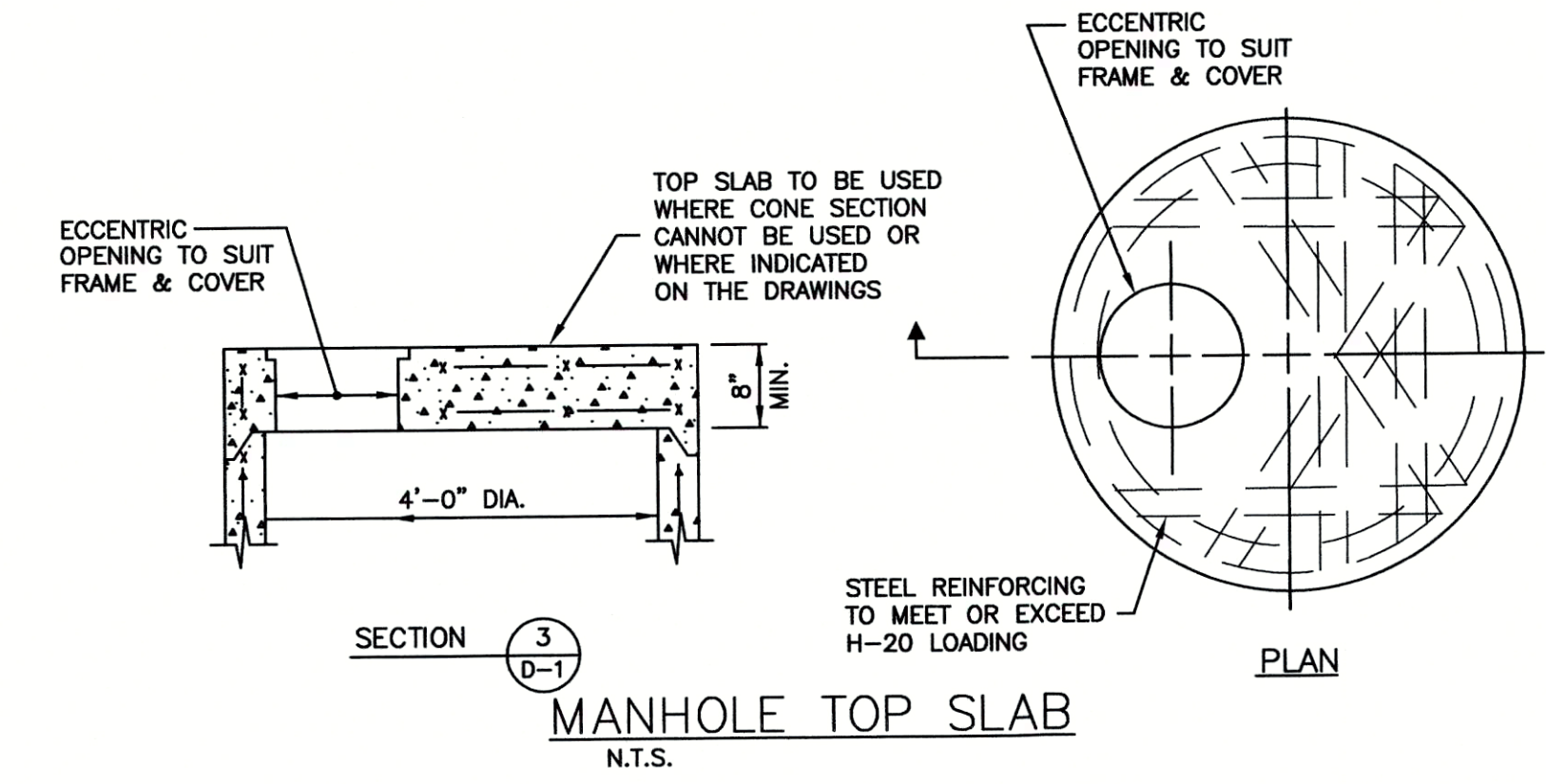
PLAN (SINGLE GRATE)



PLAN (DOUBLE GRATE)



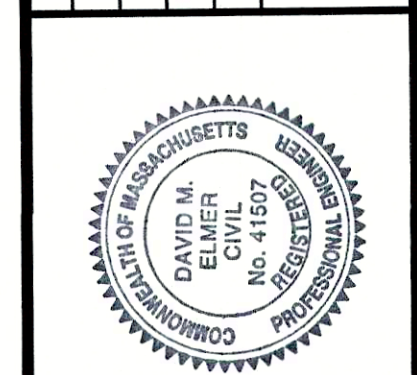
CATCH BASIN PROTECTION DETAIL
N.T.S.



MANHOLE TOP SLAB
N.T.S.

No.	Date	Dr. By	Ck. By	App. By	Description	E	D

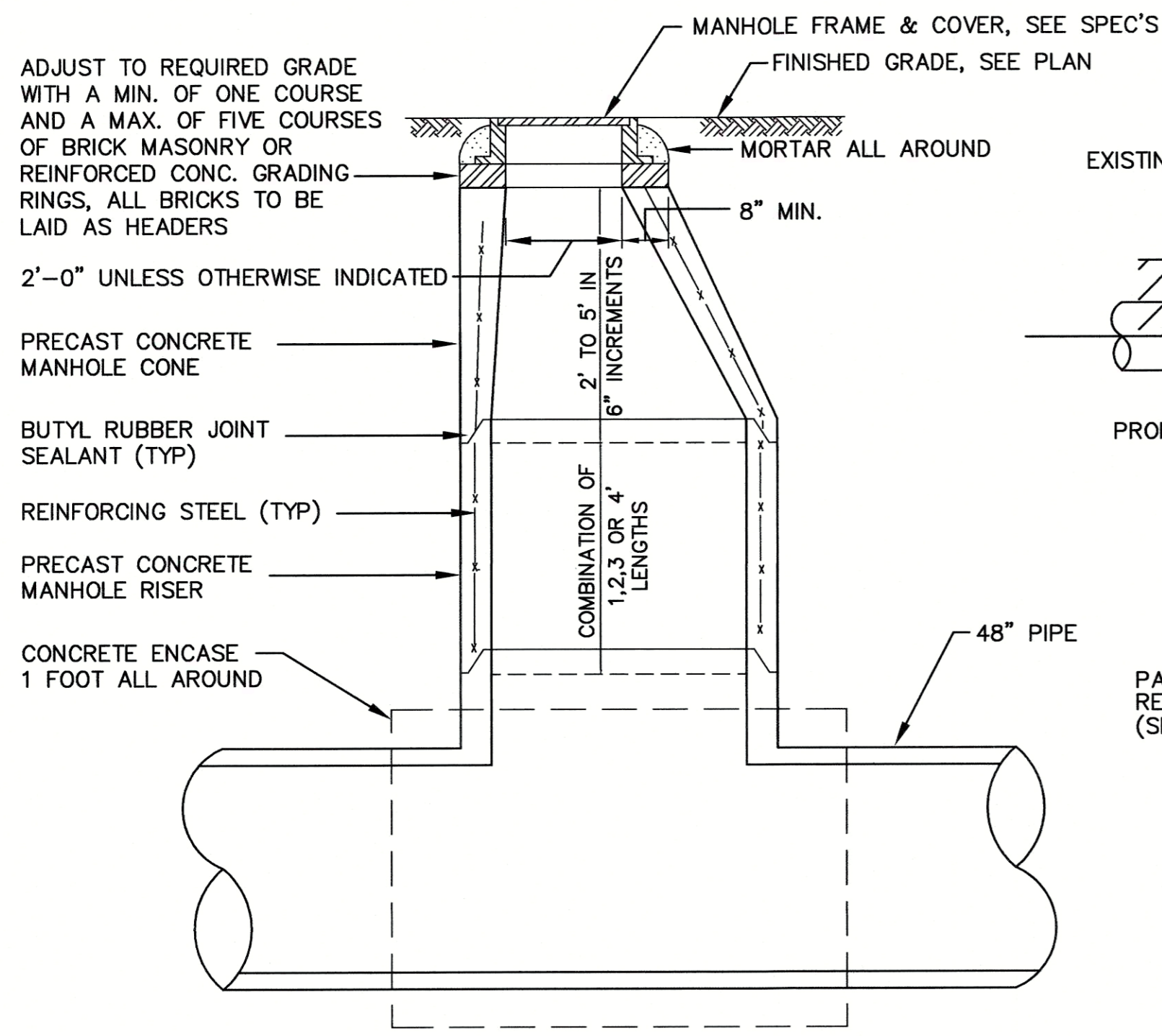
REGISTERED PROFESSIONAL ENGINEER
DATE: 12/1/15



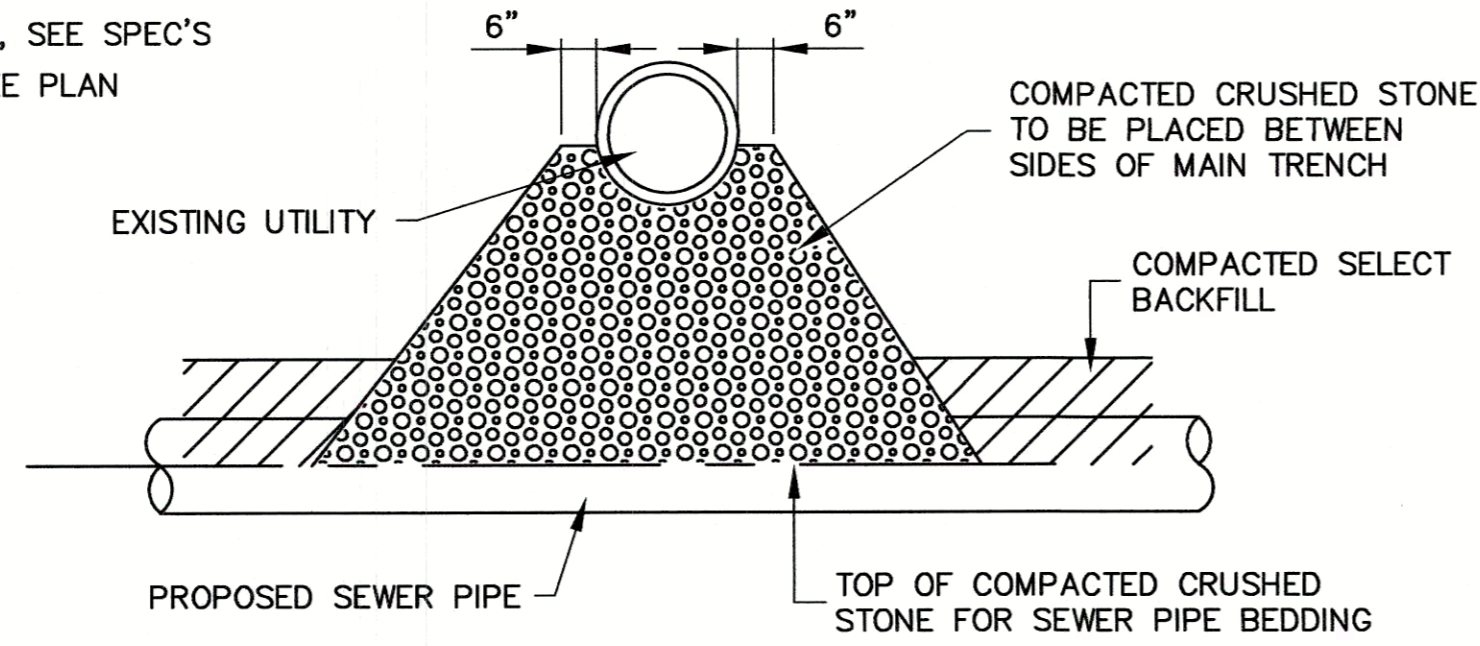
CADD NO.	SCALE	CONTRACT	JOB NO.	DR. BY	CHK. BY	APP. BY
	AS NOTED		2130636	RKP	DME	DME

CITY OF SOMERVILLE, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
CEDAR STREET SEWER SEPARATION PROJECT
DETAILS

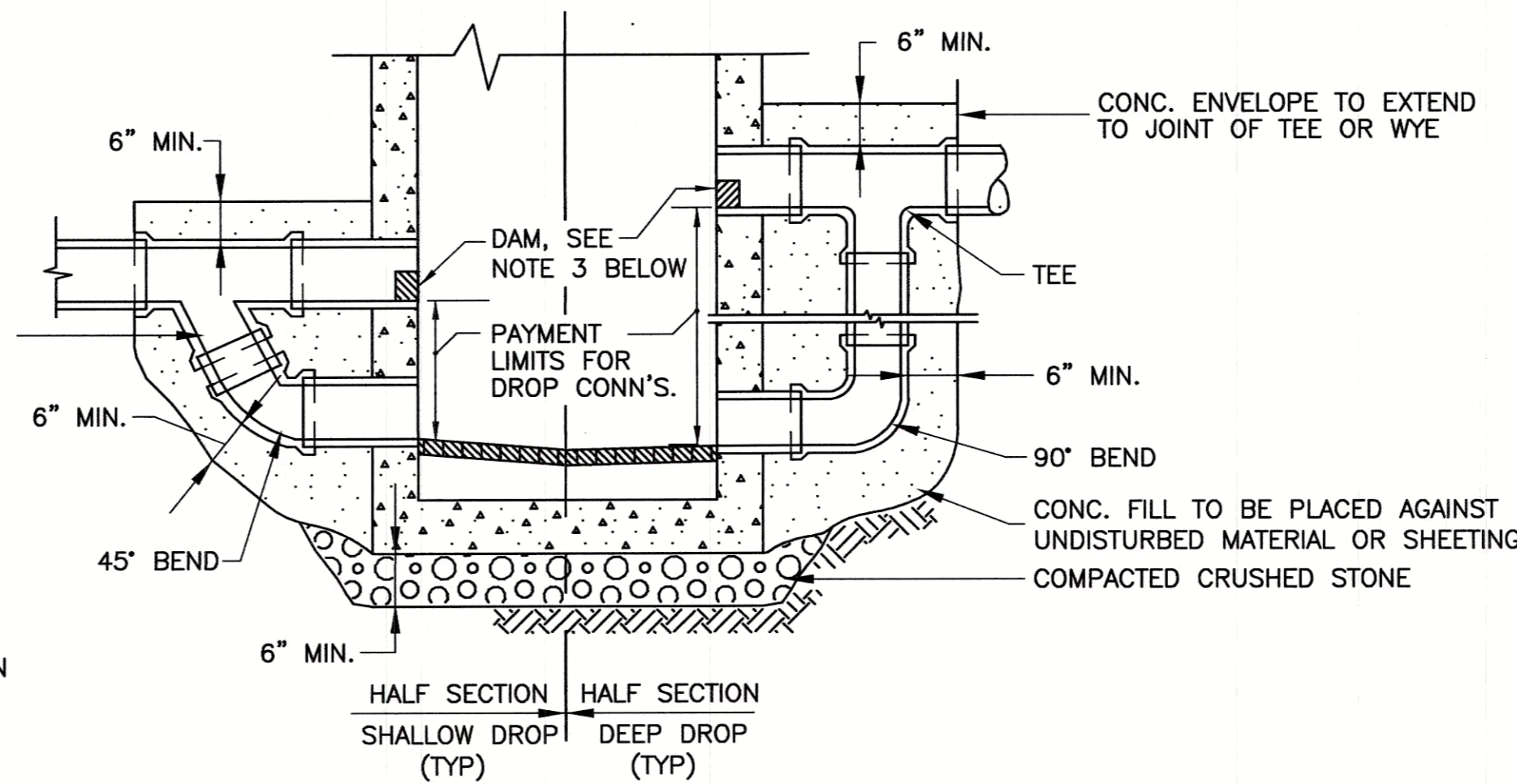
FILE NO. 21-4-64
SHEET 20 OF 33



TEE MANHOLE DETAIL
N.T.S.

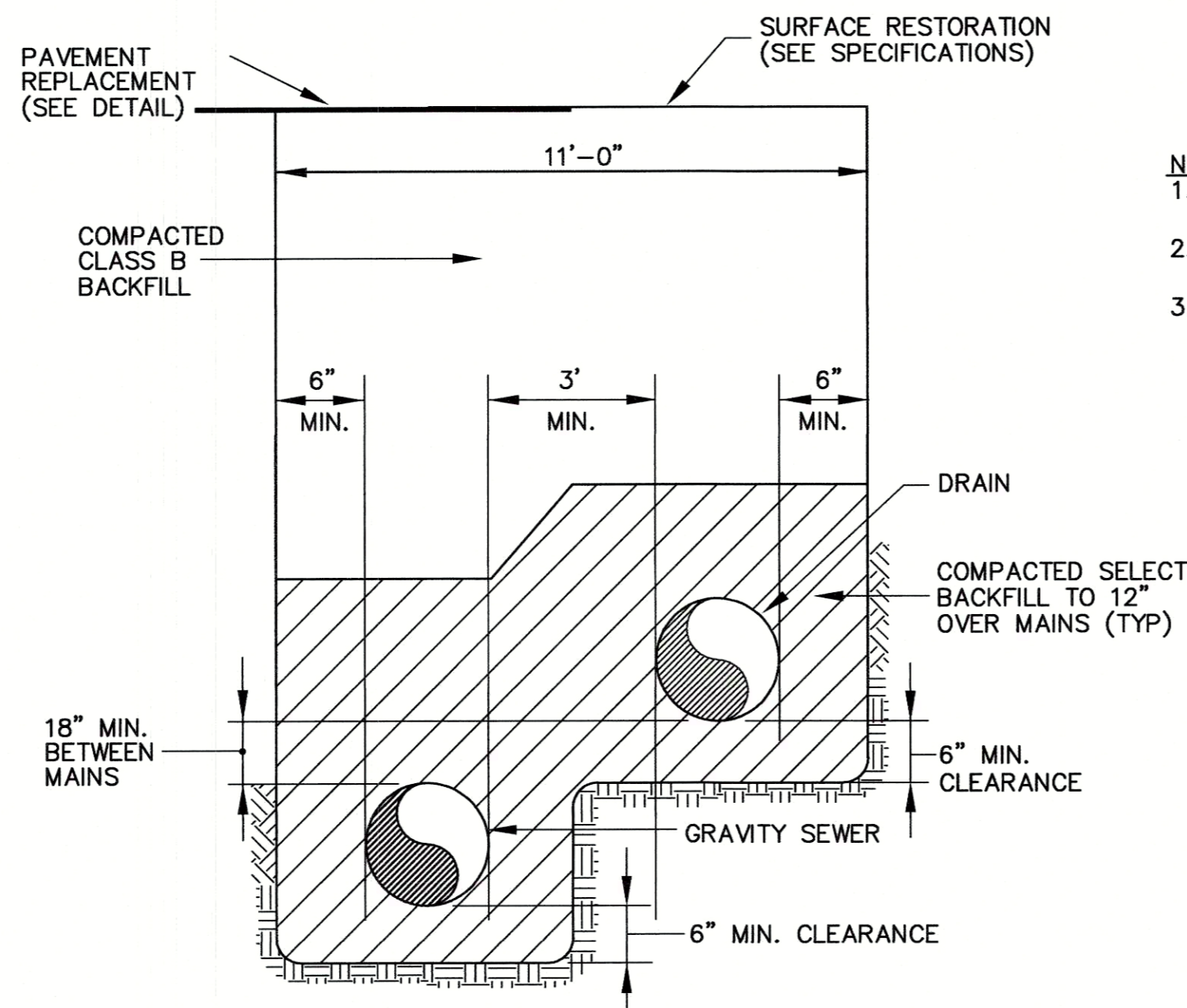


UTILITY CROSSING DETAIL
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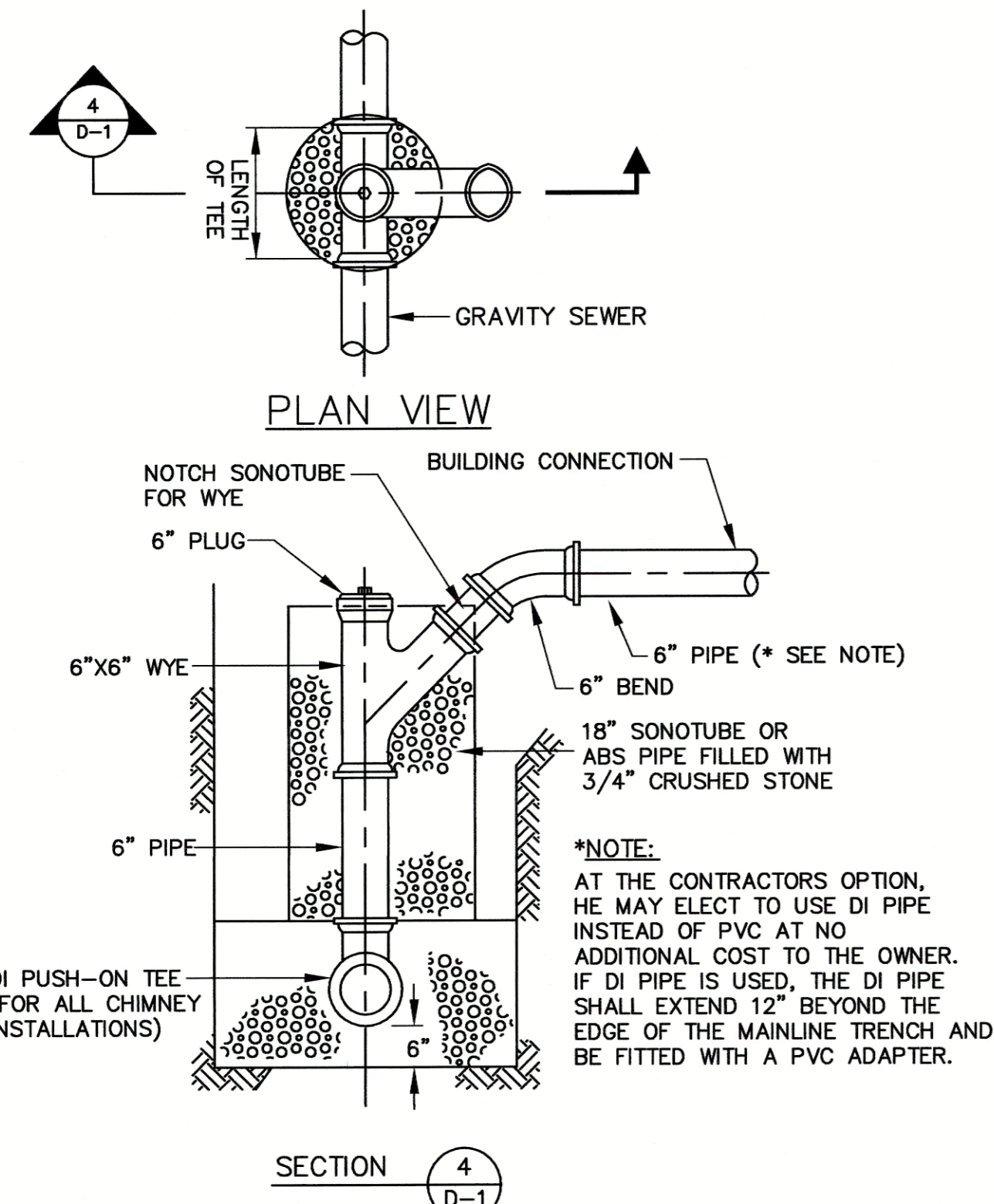


DROP CONNECTION DETAIL
N.T.S.

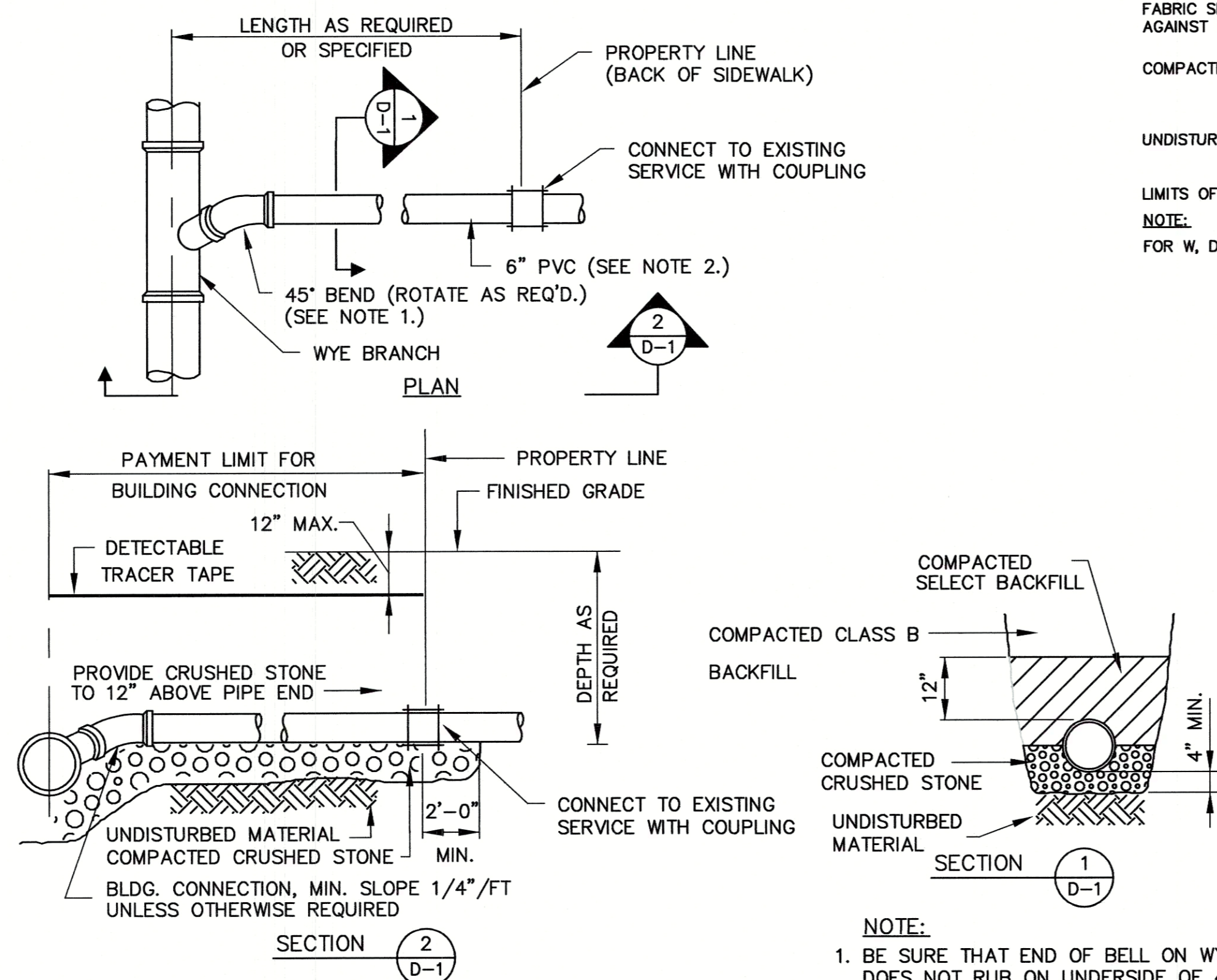
- NOTES:
 1. DROP PIPE TO BE SAME DIAMETER AS SEWER DISCHARGE INTO MANHOLE UNLESS OTHERWISE SHOWN ON DRAWINGS.
 2. DIMENSIONS & CONSTRUCTION OF DROP MANHOLE TO BE SIMILAR TO TYPICAL MANHOLE EXCEPT AS SHOWN.
 3. FOR PVC PIPE, EPOXY HALF PLUG TO PIPE. FOR DI, VC AND RC PIPE, MORTAR AND BRICK IN PIPE.



GRAVITY SEWER & DRAIN IN SAME TRENCH DETAIL
EXCAVATION AND PAYMENT LIMITS
N.T.S.

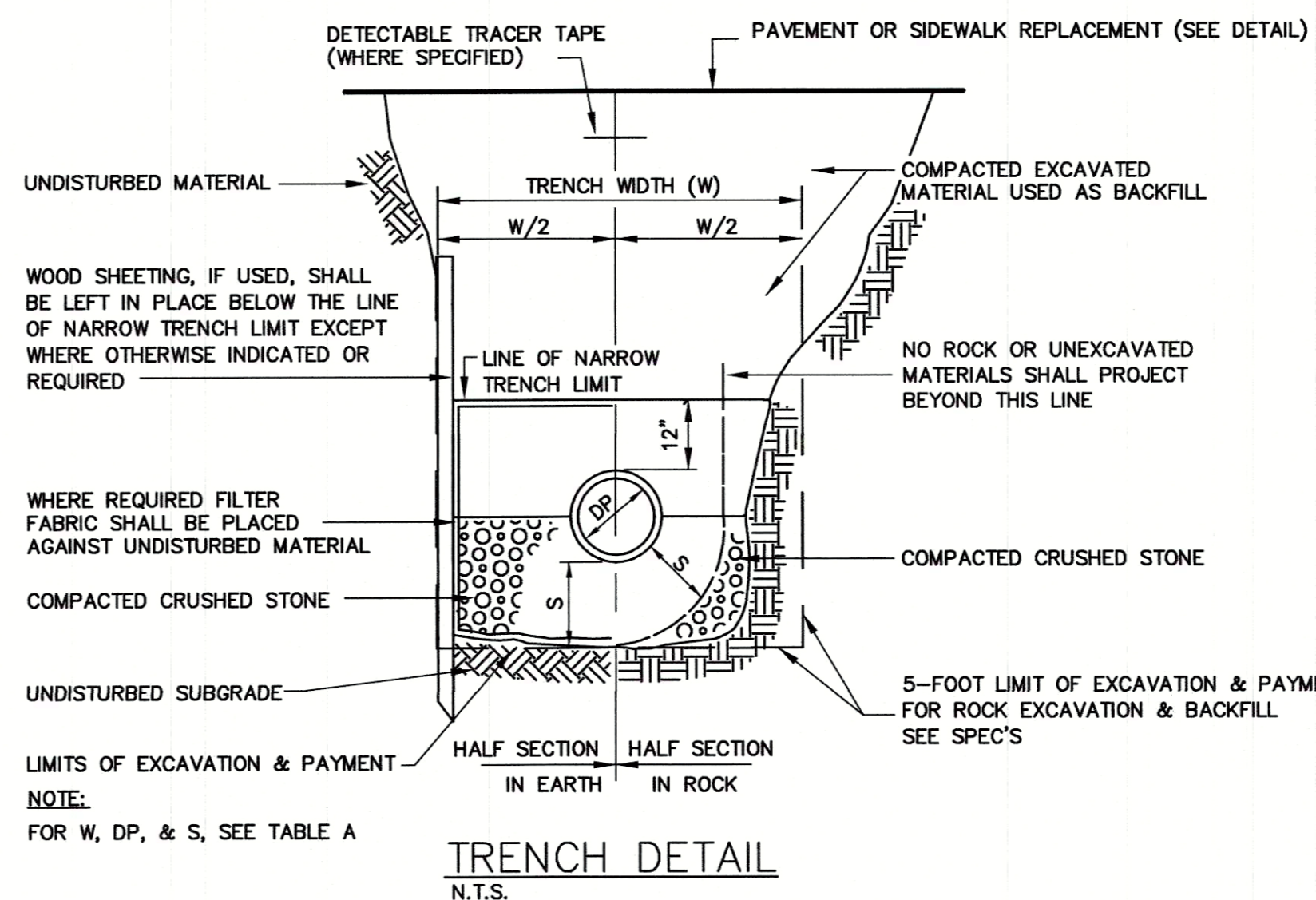


CHIMNEY DETAIL FOR SEWER
N.T.S.



TYPICAL BUILDING CONNECTION DETAIL
N.T.S.

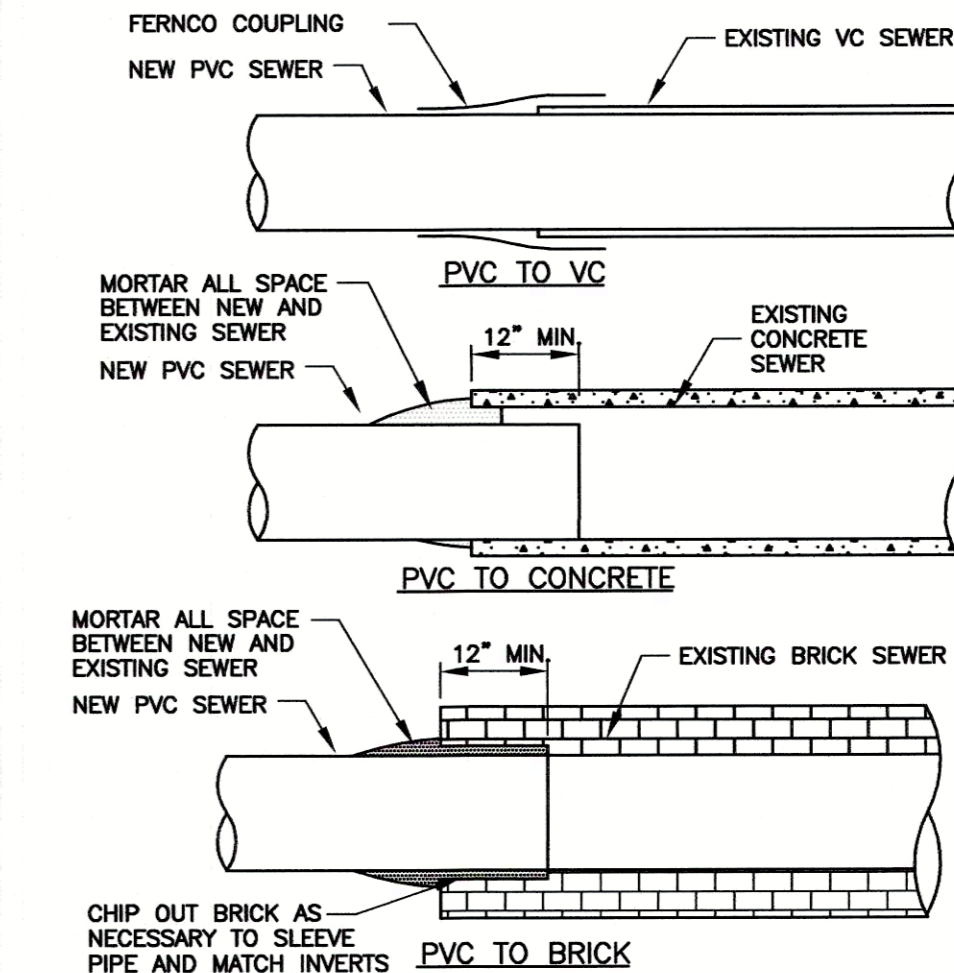
- NOTE:
 1. BE SURE THAT END OF BELL ON WYE BRANCH DOES NOT RUB ON UNDERSIDE OF 45° BEND.
 2. 6" DI SHALL BE INSTALLED BELOW PROPOSED 48" DRAIN.



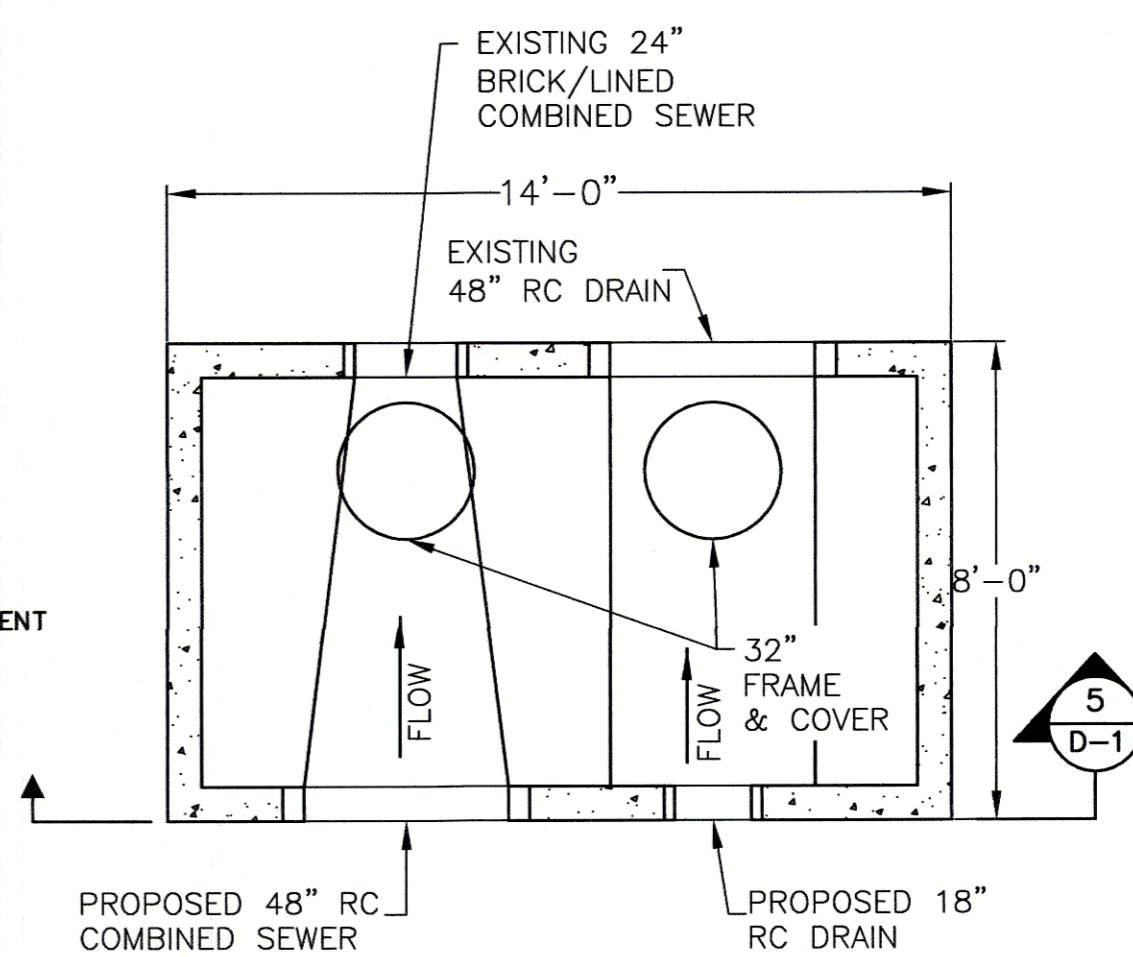
TRENCH DETAIL
N.T.S.

DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAXIMUM TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)	MINIMUM CLEARANCE (S)
0-12'	TO 18"	5'	6"
0-12'	21"-24"	5'	7-1/2"
0-12'	27"-36"	6'	9"
0-12'	42"-48"	7'	9"
OVER 12'	TO 18"	7'	6"
OVER 12'	21"-24"	7'	7-1/2"
OVER 12'	27"-36"	8'	9"
OVER 12'	42"-48"	9'	9"

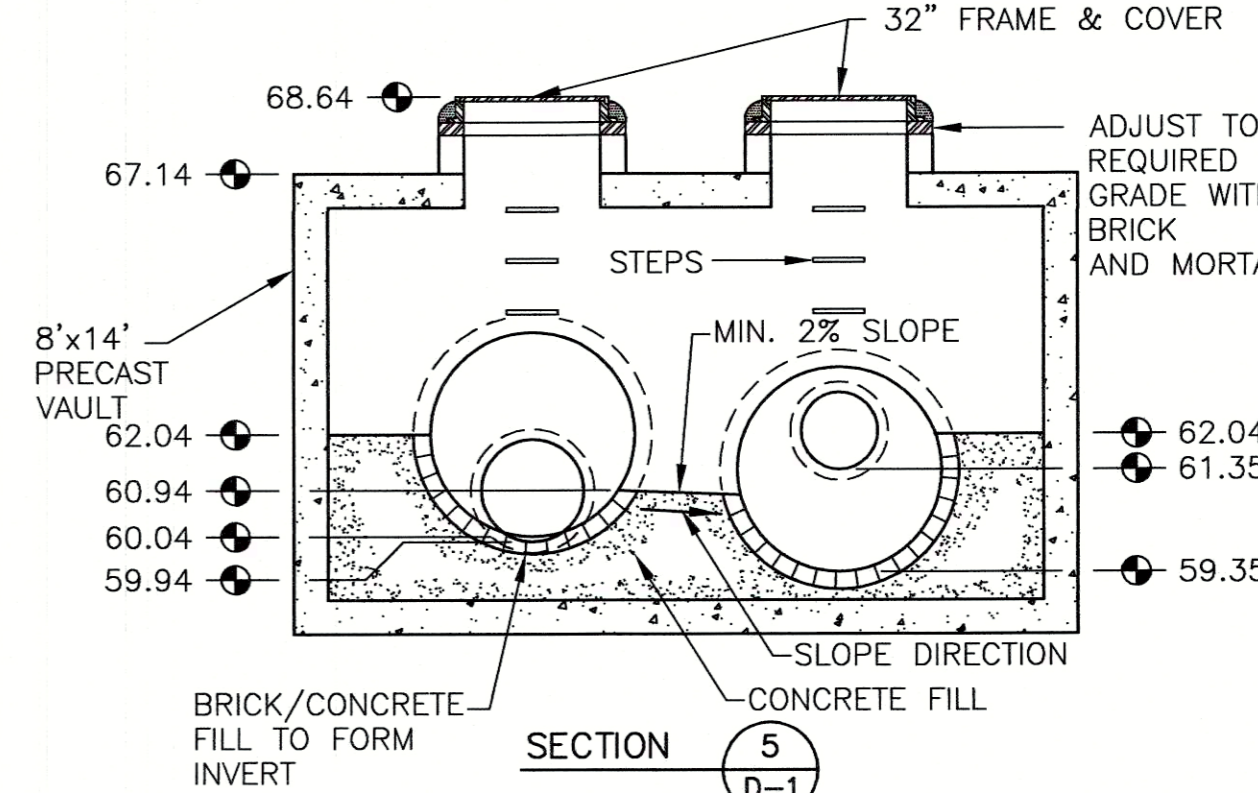
TABLE A



MANHOLE LATERAL CONNECTION DETAILS
N.T.S.



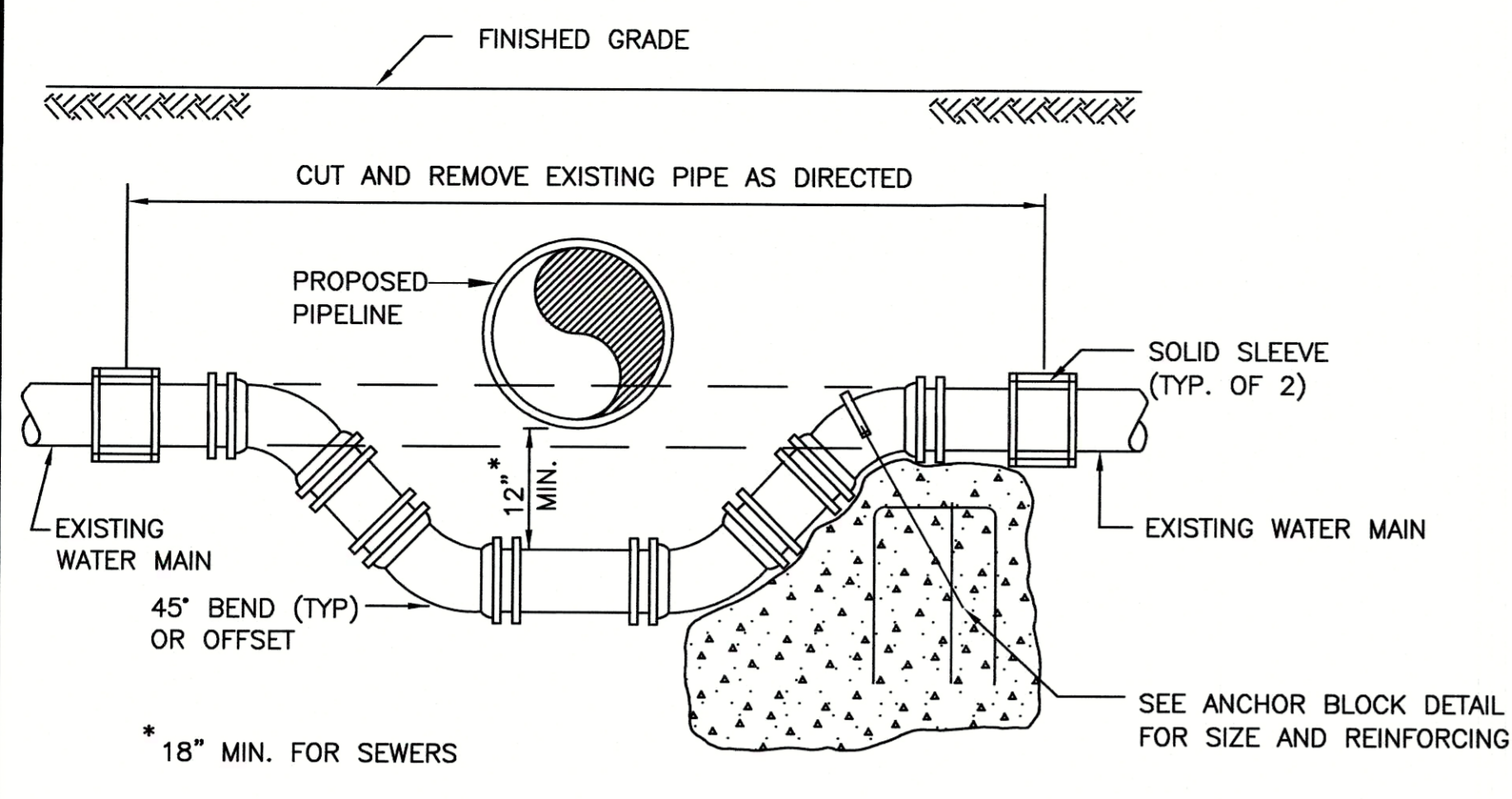
PRECAST VAULT DETAIL
N.T.S.



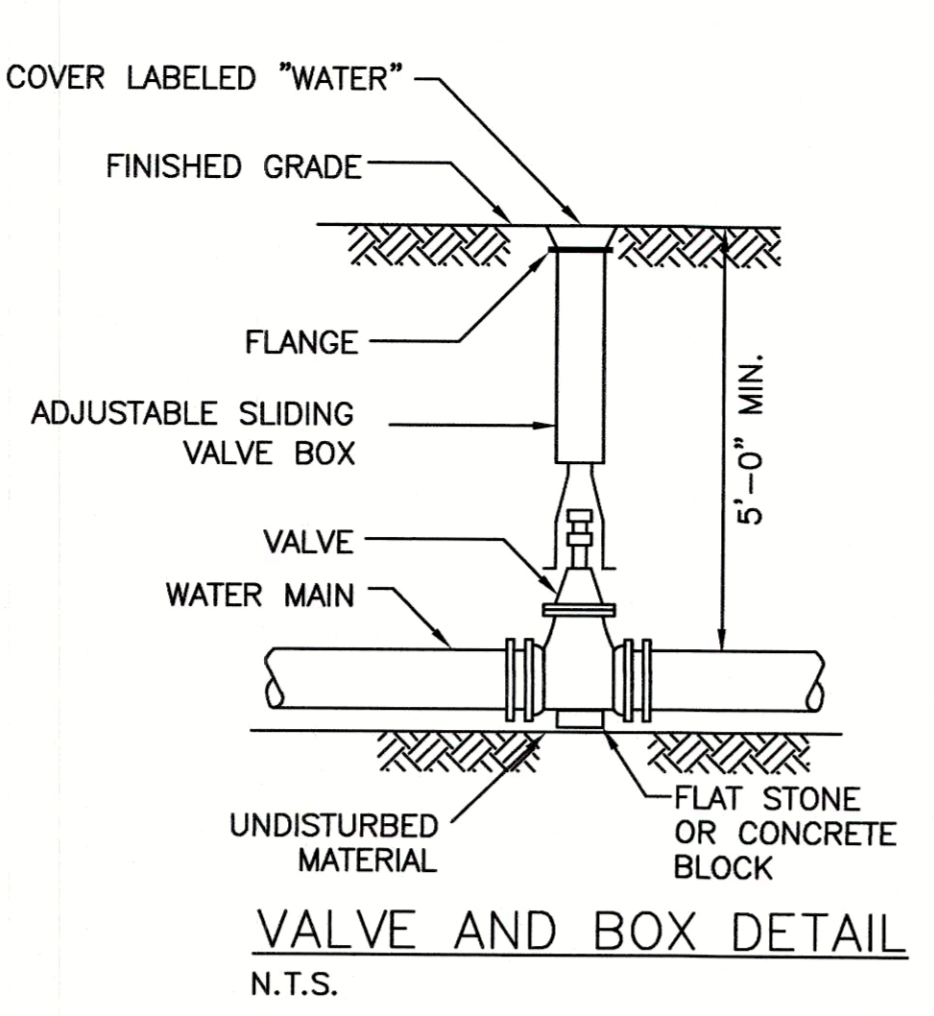
No.	Date	Dr. By	Ck. By	App. By	Description
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					P
					E
					D

REGISTERED PROFESSIONAL ENGINEER
 DATE: 12/16/15

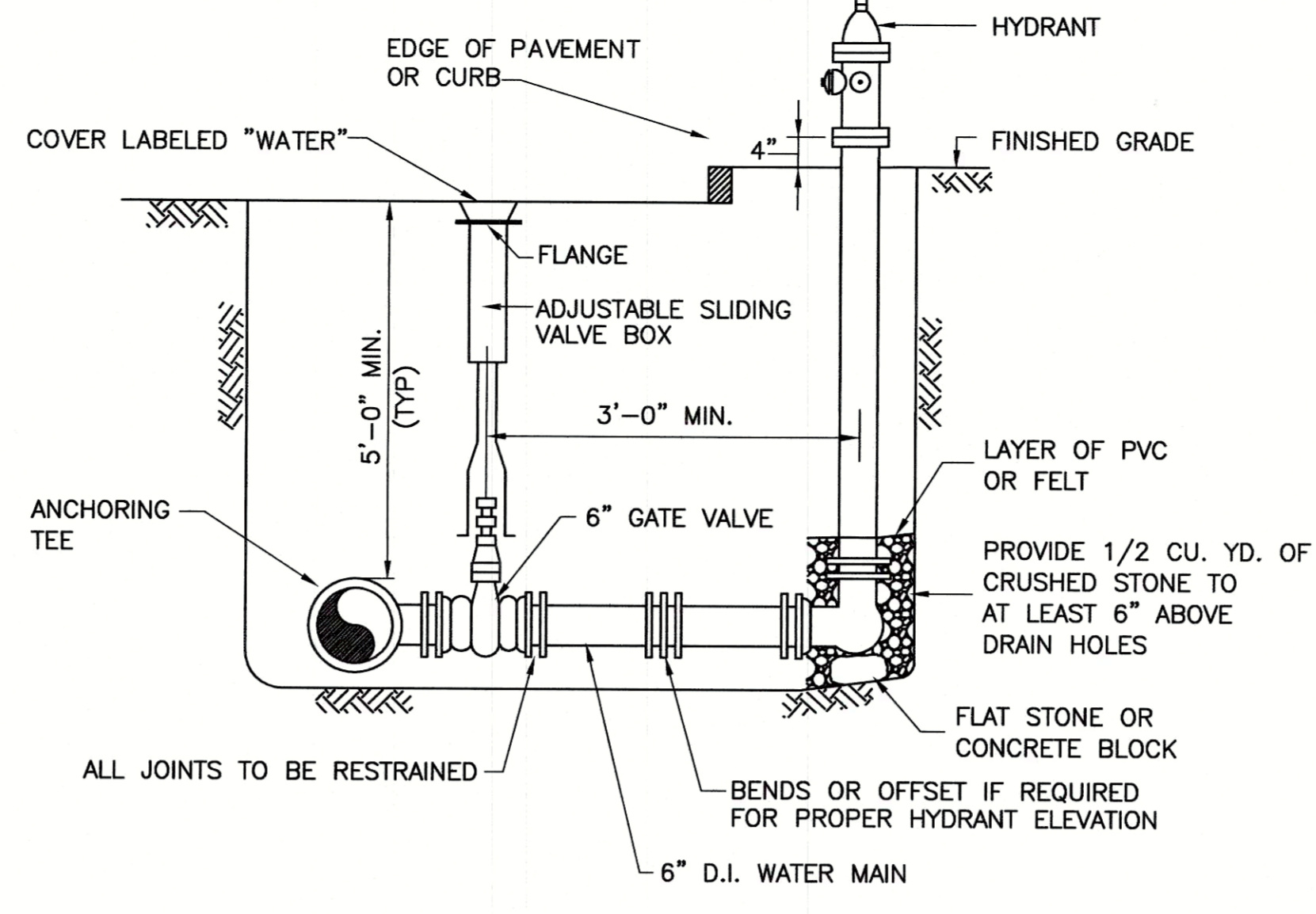




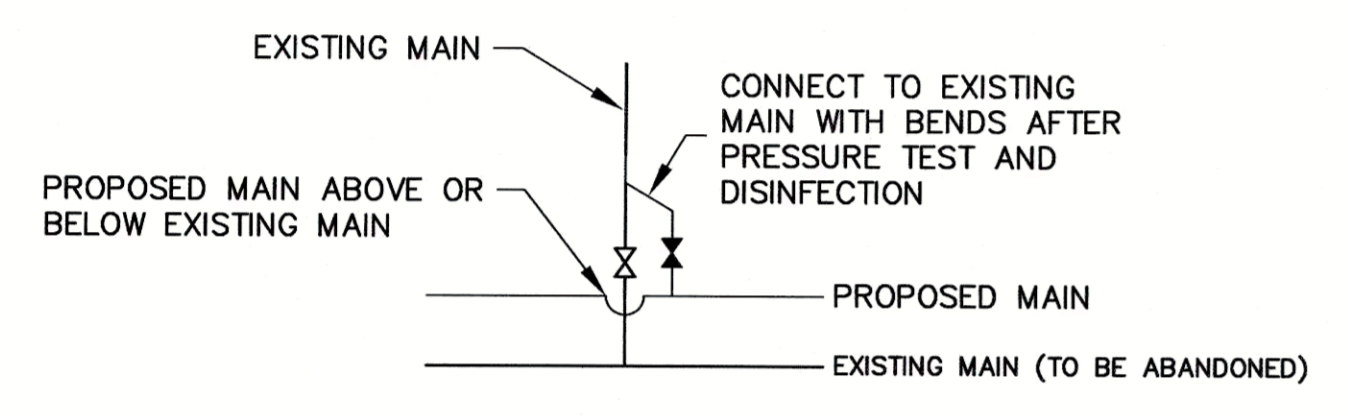
EXISTING WATER MAIN RELOCATION DETAIL
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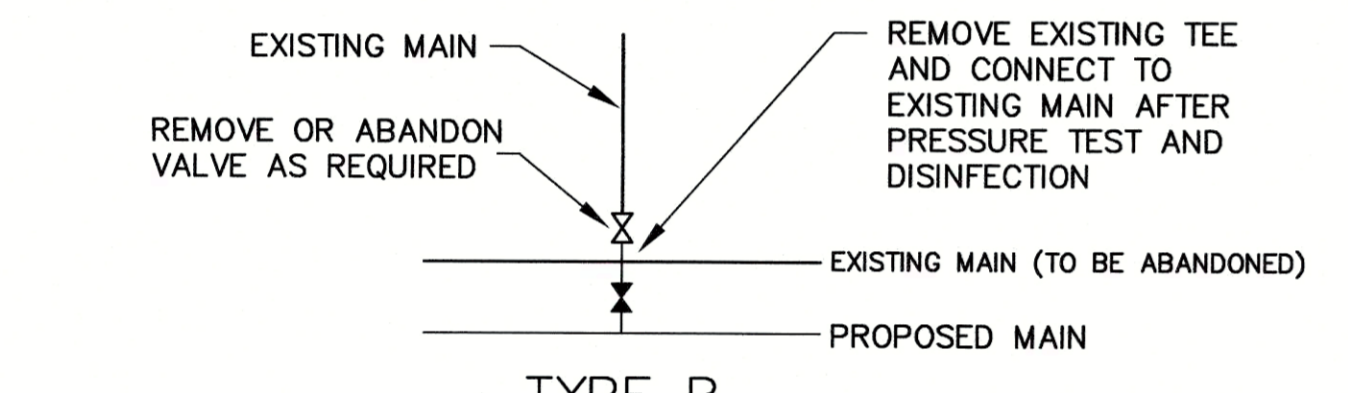
VALVE AND BOX DETAIL
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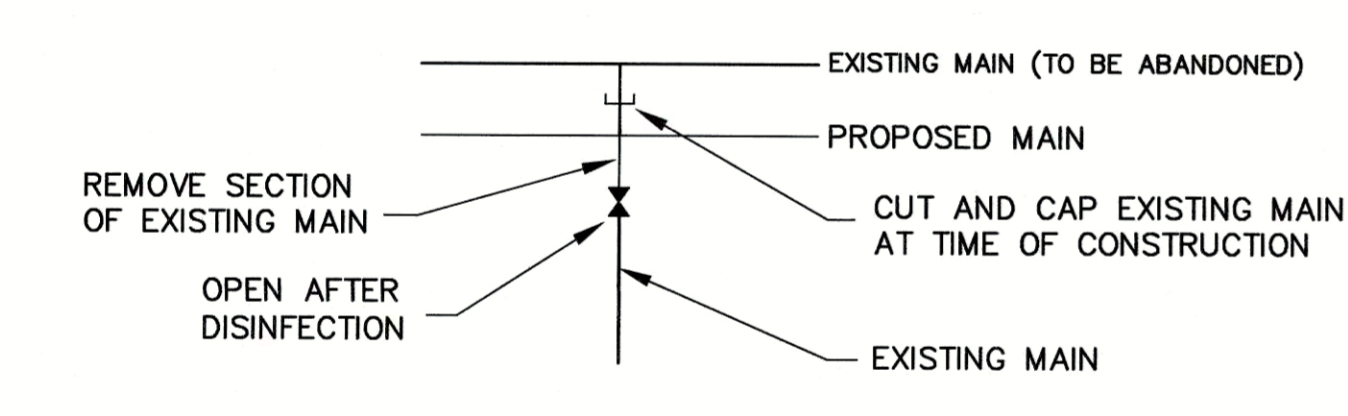
HYDRANT AND VALVE DETAIL
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TYPE A

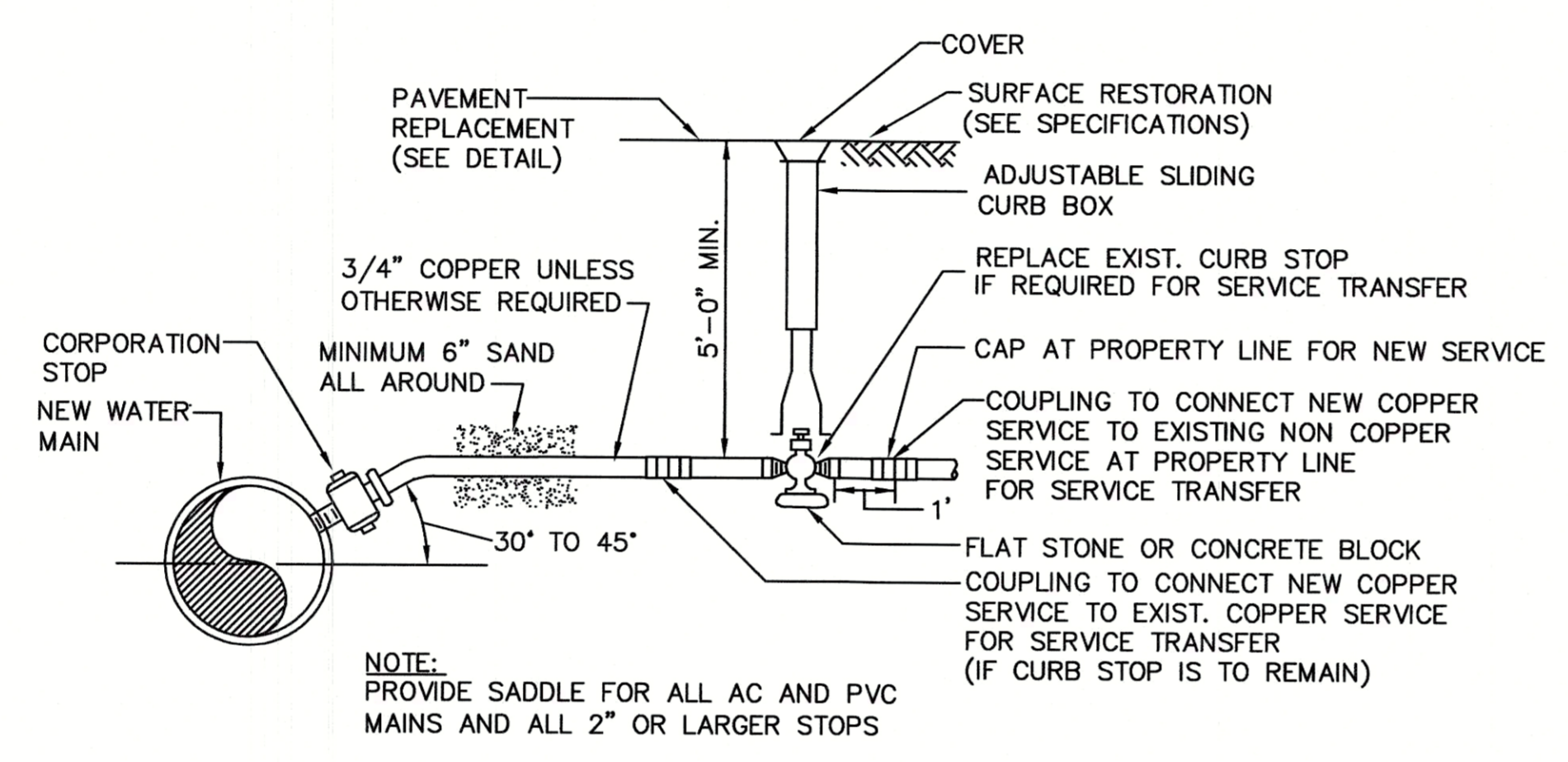


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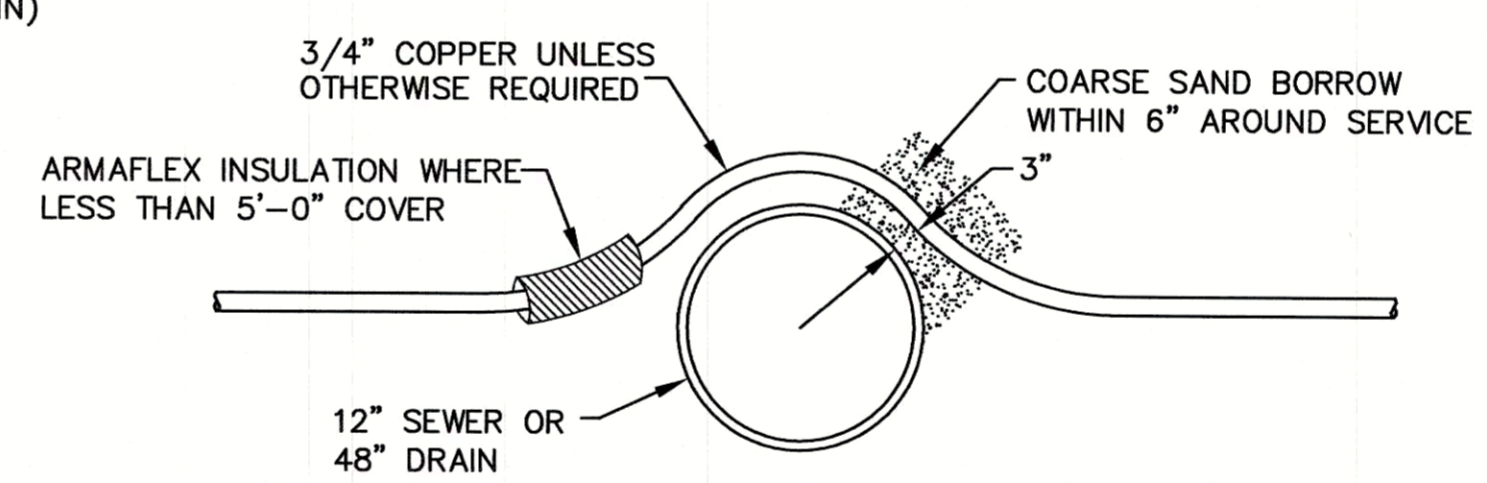


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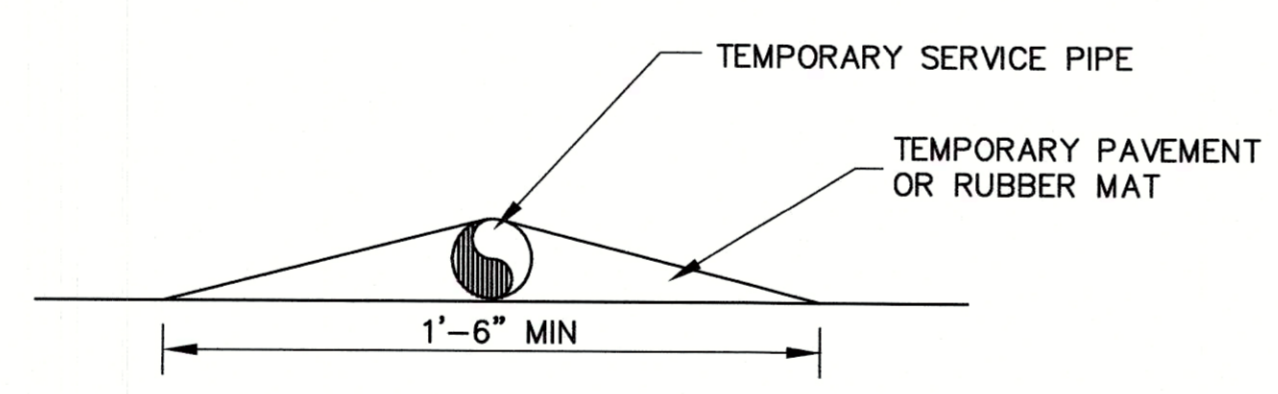
WATER MAIN CONNECTION DETAILS
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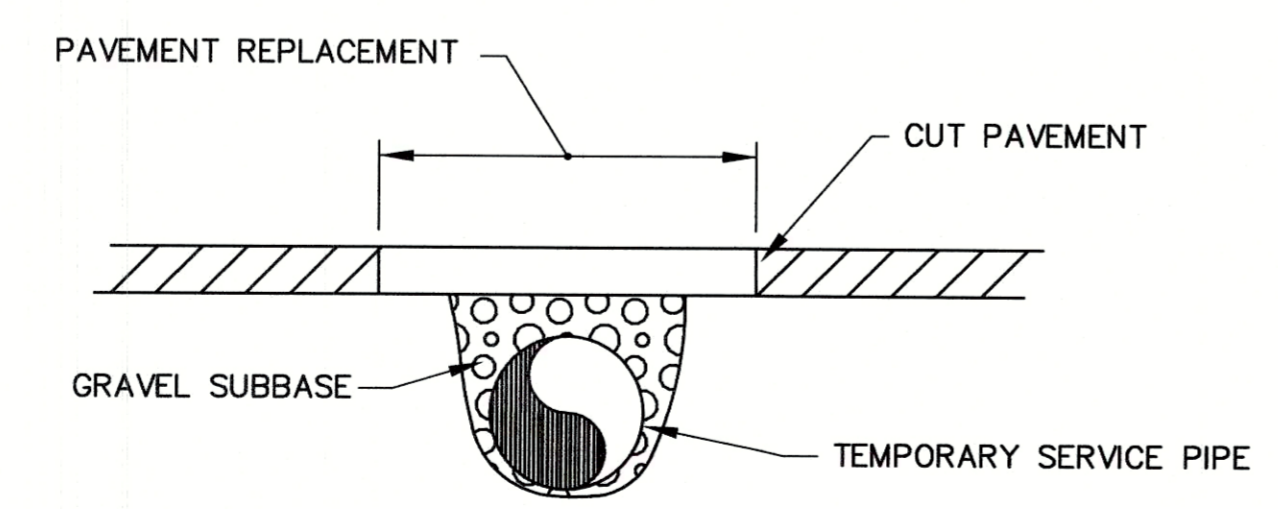
WATER SERVICE DETAIL
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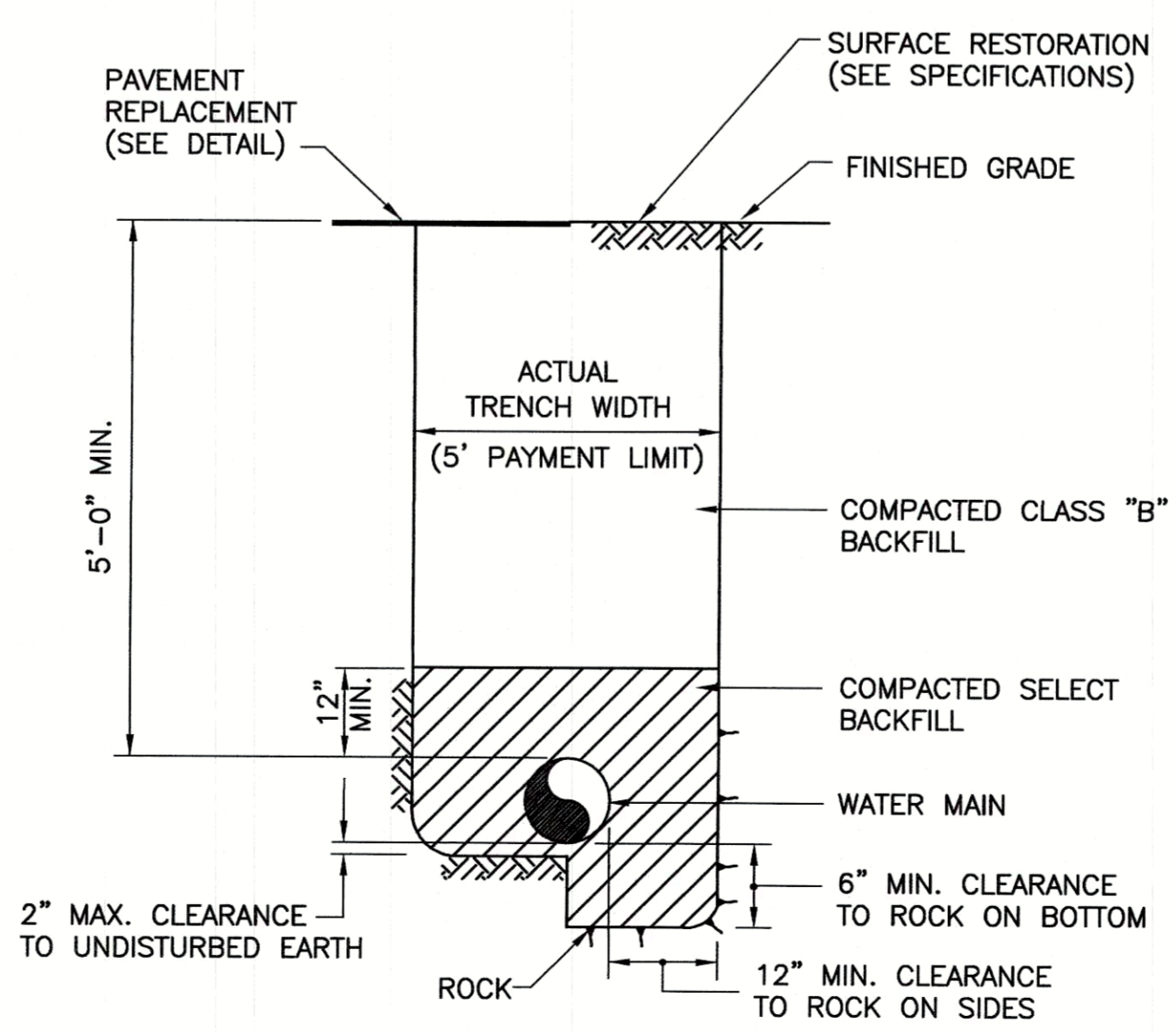
WATER SERVICE OVER SEWER/DRAIN DETAIL
N.T.S.



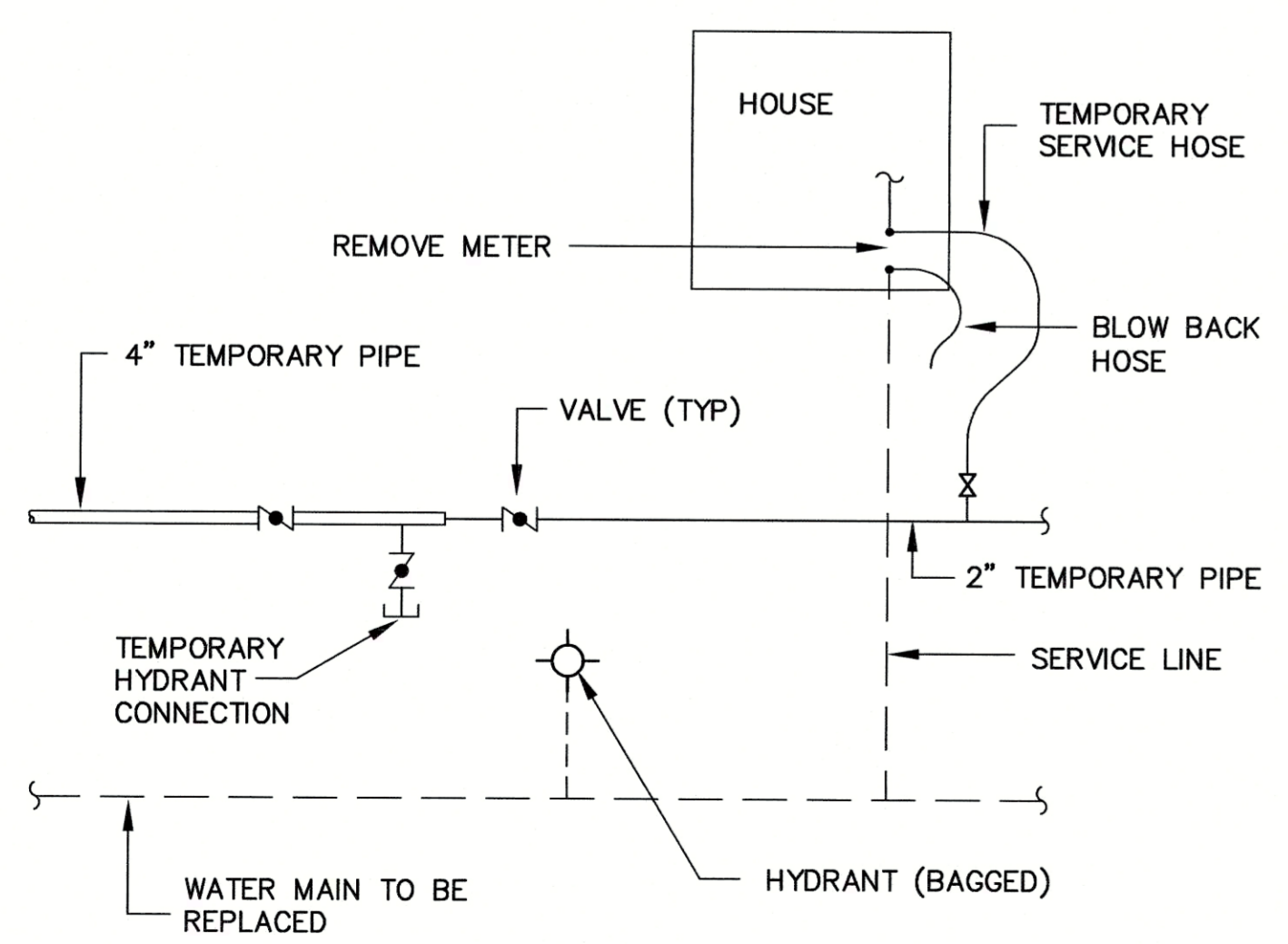
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TEMPORARY SERVICE PIPE ROADWAY CROSSING DETAIL
N.T.S.



WATER MAIN TRENCH DETAIL
N.T.S.

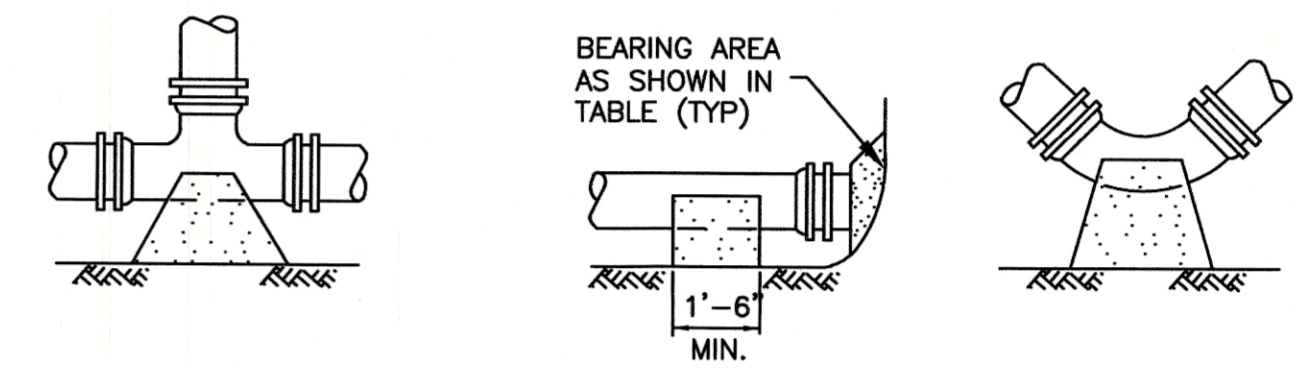


TEMPORARY SERVICE PIPE DETAIL
N.T.S.

TABLE 1 - DUCTILE IRON PIPE
REQUIRED LENGTH OF RESTRAINED JOINTS FROM FITTINGS (FEET)

PIPE SIZE	90° BEND	45° BEND OR WYE BRANCH	22 1/2° BEND	11 1/4° BEND	PLUG, CAP OR IN-LINE VALVE	TEE (BRANCH)
6"	25 (30.5)	10.5 (12.5)	5 (6)	2.5 (3)	43 (64)	34 (51)
8"	33 (40)	13.5 (16.5)	6.5 (8)	3 (4)	55 (82)	47 (70)
10"	40 (48.5)	16.5 (20)	8 (9.5)	4 (5)	67 (100)	58 (87)
12"	47 (56.5)	19.5 (23.5)	9.5 (11.5)	4.5 (5.5)	79 (118)	70 (105)
16"	59.5 (72)	24.5 (30)	12 (14.5)	6 (7)	101 (152)	92 (139)
20"	72 (86.5)	30 (36)	14.5 (17)	7 (8.5)	123 (184)	114 (171)
24"	84 (100)	35 (41)	16.5 (20)	8 (10)	144 (216)	134 (202)
30"	100 (120)	41 (50)	20 (24)	10 (12)	174 (261)	165 (247)

- NOTES:
- RESTRAINED LENGTHS LISTED IN PARENTHESES ARE FOR PIPE WRAPPED IN POLYETHYLENE. THE OTHER ASSOCIATED LENGTHS ARE FOR PLAIN UNWRAPPED DUCTILE IRON PIPE.
 - THE CONTRACTOR SHALL USE THIS TABLE IN CONJUNCTION WITH THE APPROPRIATE PIPE SPECIFICATION SECTION.



TEE DETAIL
(PLAN VIEW)

CAP DETAIL
(SECTION VIEW)

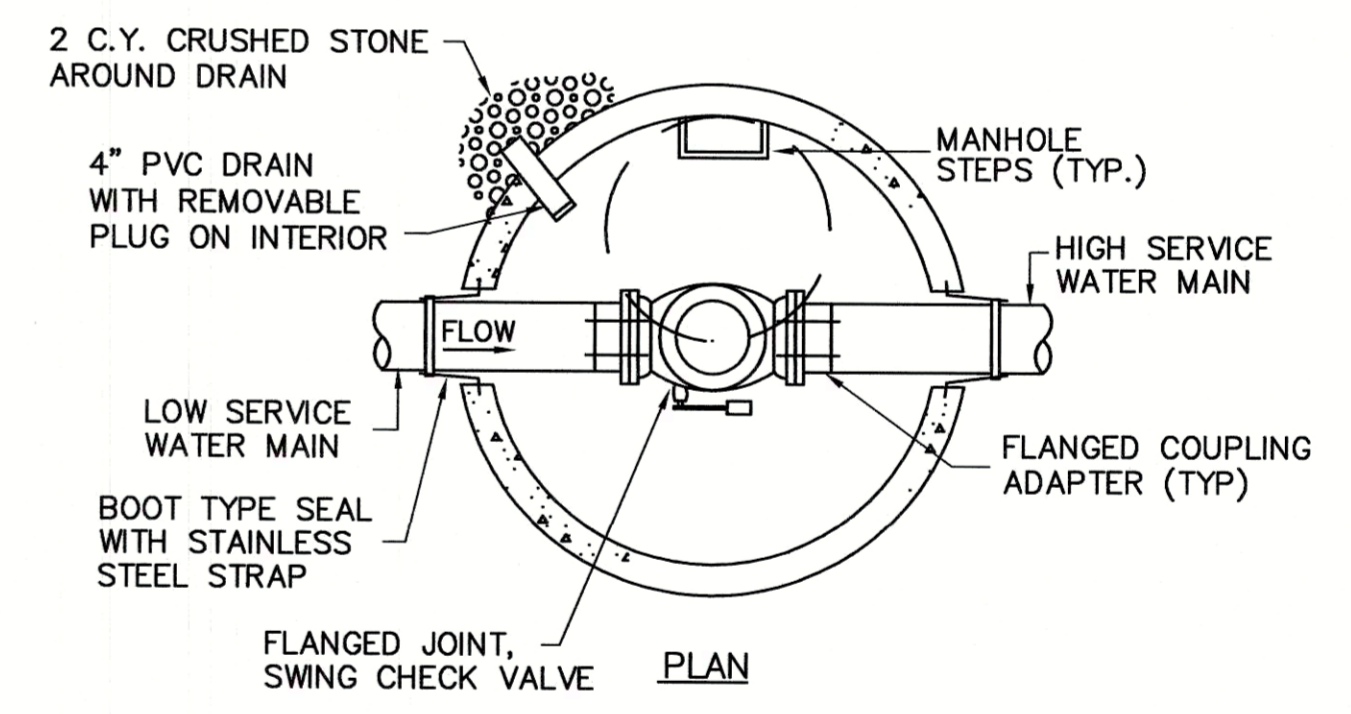
BEND DETAIL
(PLAN VIEW)

TABLE OF CONCRETE THRUST RESTRAINT MINIMUM BEARING AREAS IN SQUARE FEET AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS

SIZE OF MAIN	90° BENDS, TEES, CAPS AND PLUGS	45° BENDS AND WYES	22-1/2° BENDS	11-1/4° BENDS
6", 8"	5	4	2	2
10", 12"	12	9	5	2

- NOTES:
- CONCRETE THRUST RESTRAINT SHALL ONLY BE USED WHERE OTHER MEANS OF RESTRAINT ARE NOT FEASIBLE.
 - CONTRACTOR SHALL USE CARE TO AVOID PLACEMENT OF CONCRETE ON THE FITTING JOINTS

CONCRETE THRUST RESTRAINT FOR FITTINGS
N.T.S.

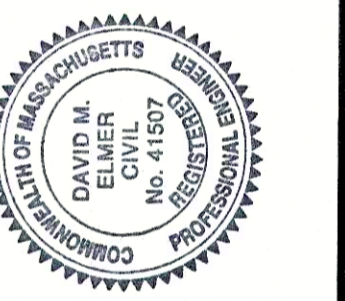


CHECK VALVE MANHOLE DETAIL
N.T.S.

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No.	Date	Dr. By	Ck. By	App. By	Description
1					P
2					O
3					V
4					E
5					D

REGISTERED PROFESSIONAL ENGINEER
DATE: 12/11/15



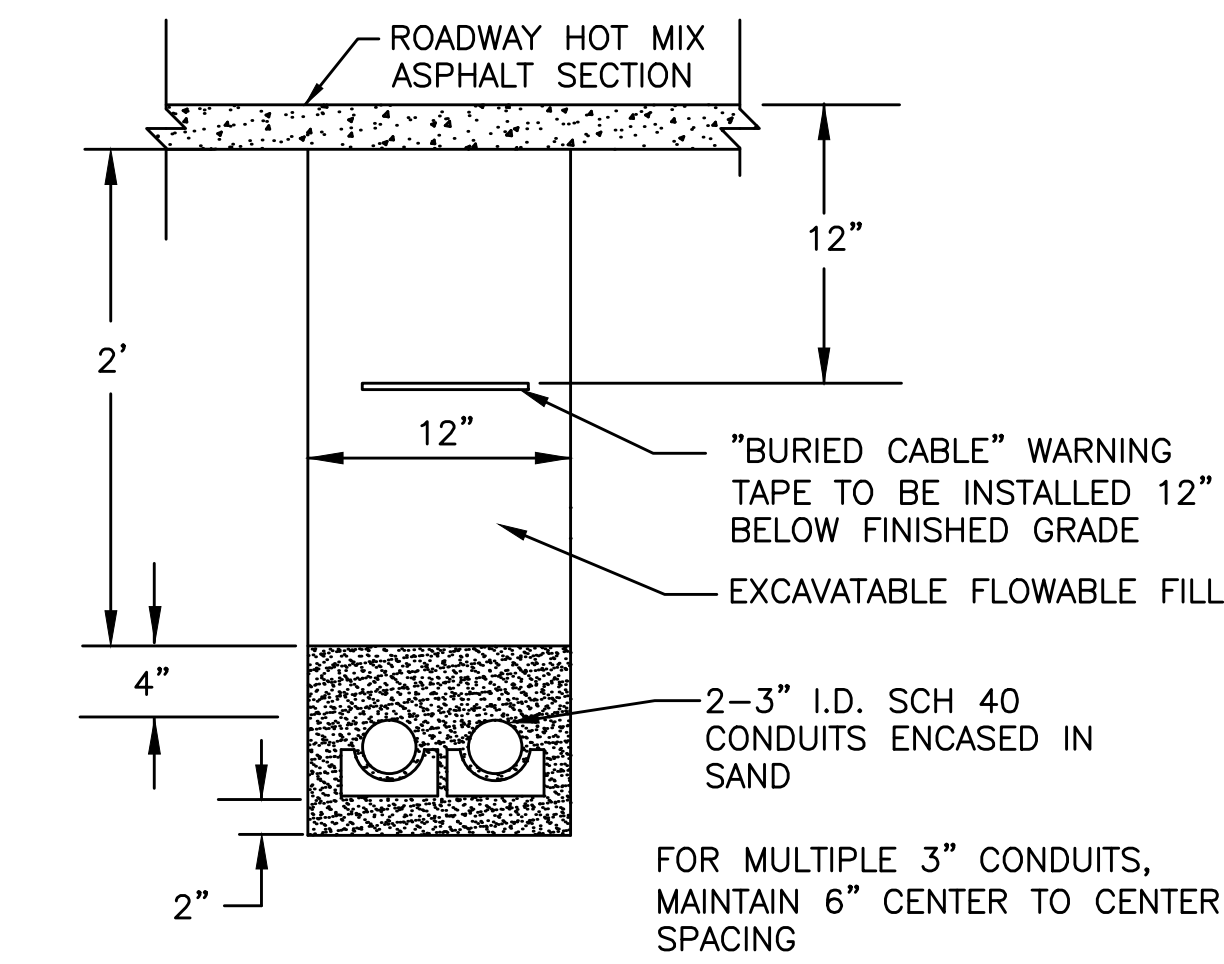
CITY OF SOMERVILLE, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
CEDAR STREET SEWER SEPARATION PROJECT

DETAILS

DR. BY: DS/BJY
CHK. BY: APP. BY: DME
PRG: DME
CONTRACT: 21-306.36
JOB NO.: 21-306.36
SCALE: AS NOTED
CADD NO.: 214-62

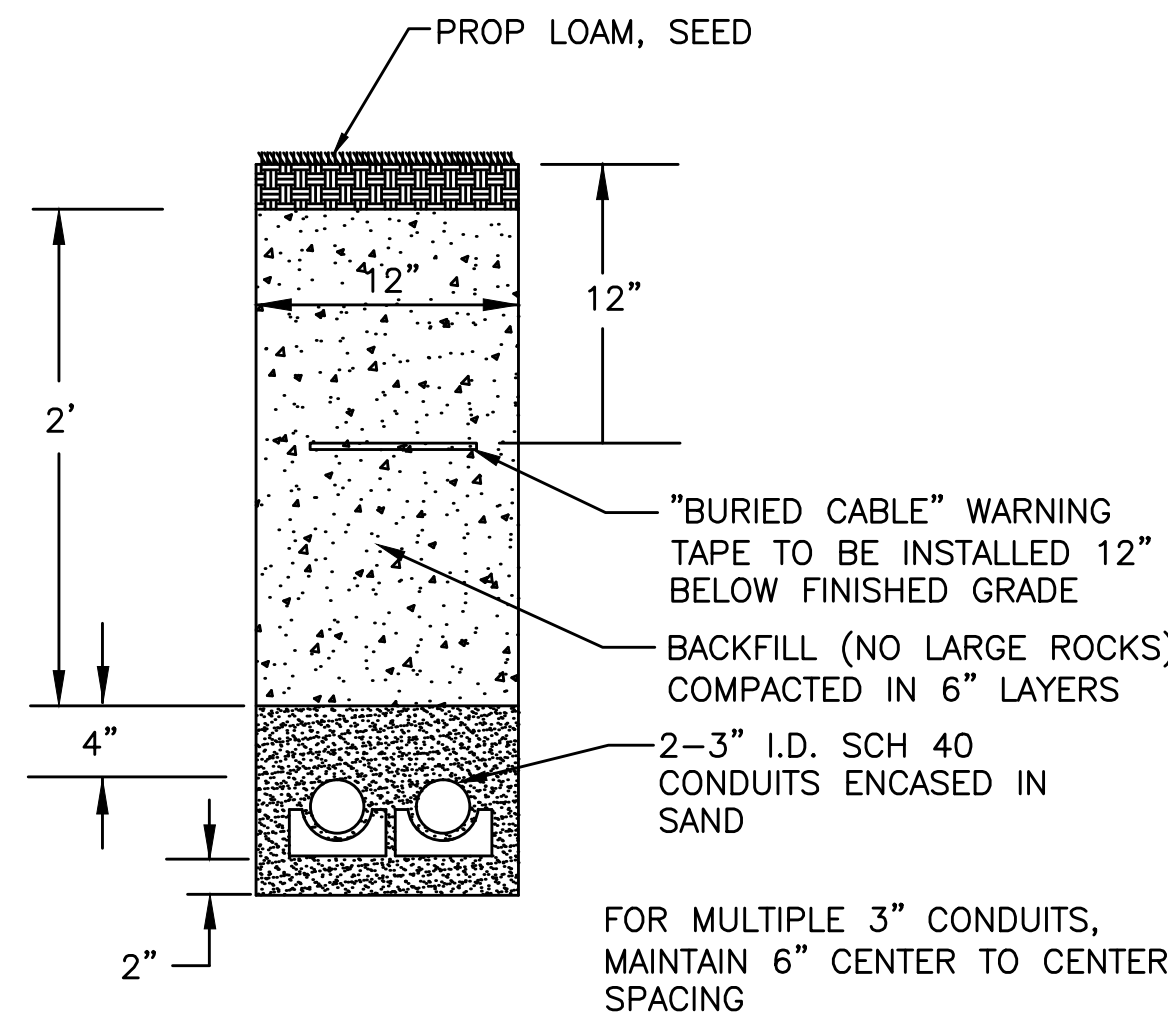
SHEET 22 OF 33

D-5



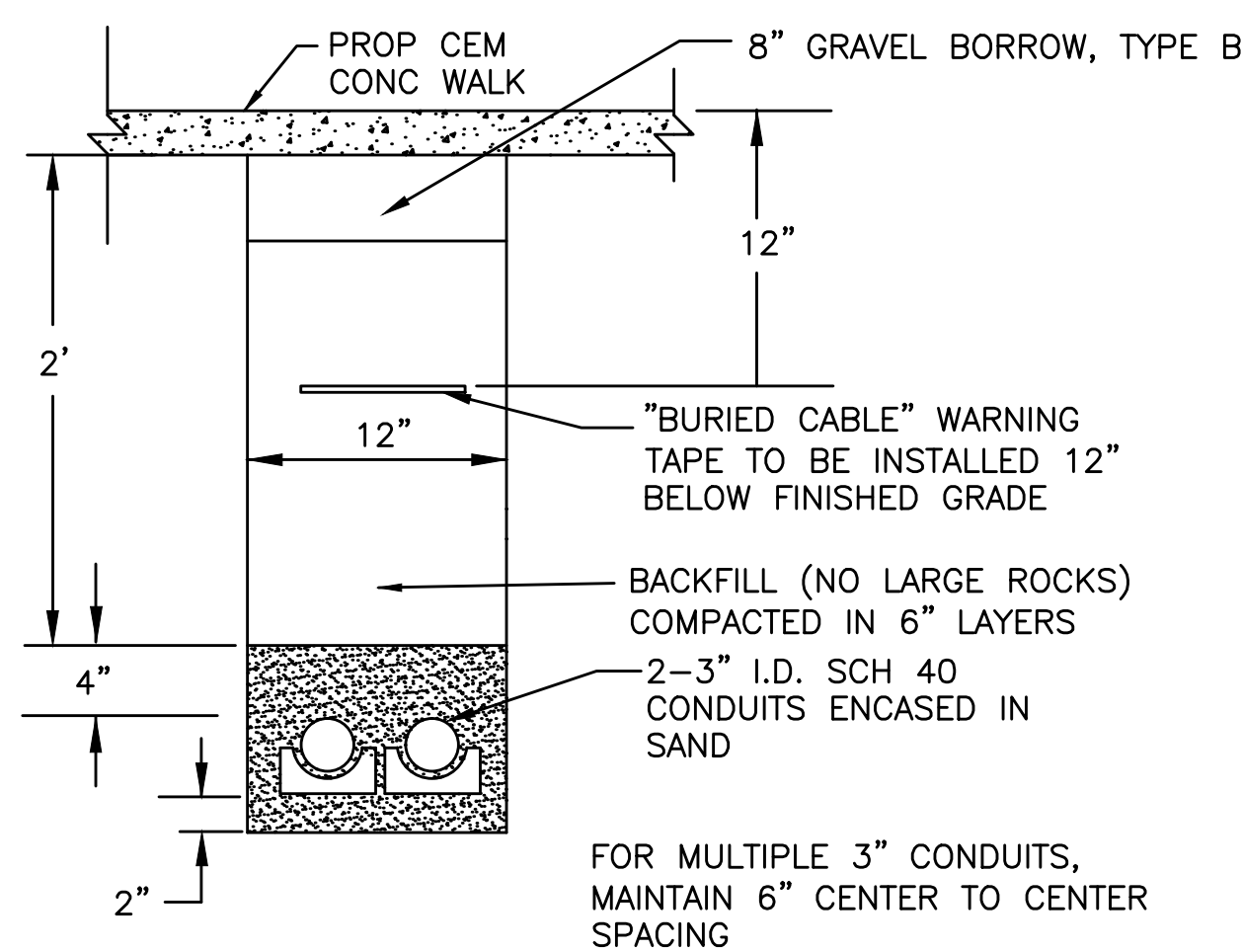
UTILITY TRENCH IN ROADWAY DETAIL

N.T.S.



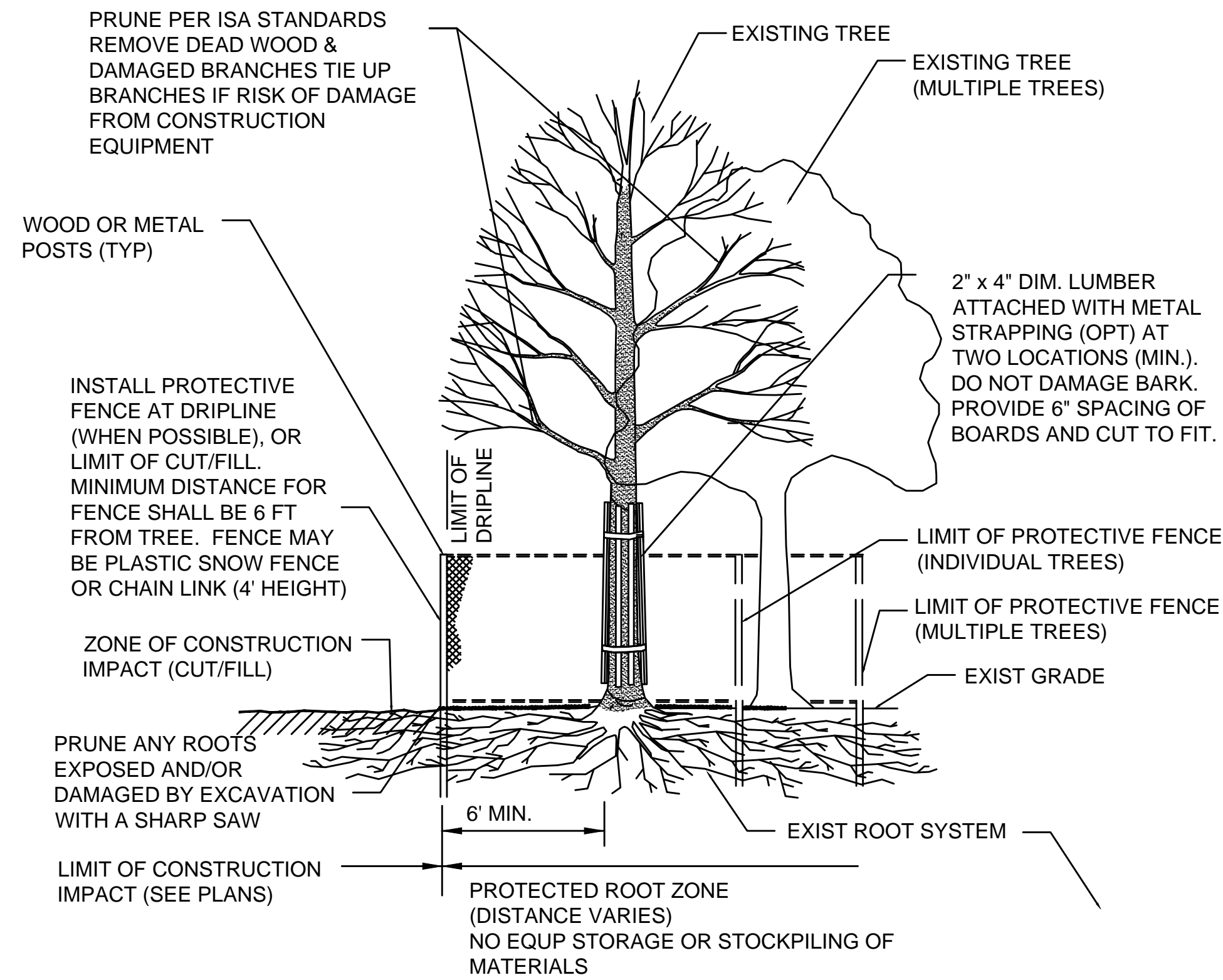
UTILITY TRENCH IN GRASS DETAIL

N.T.S.



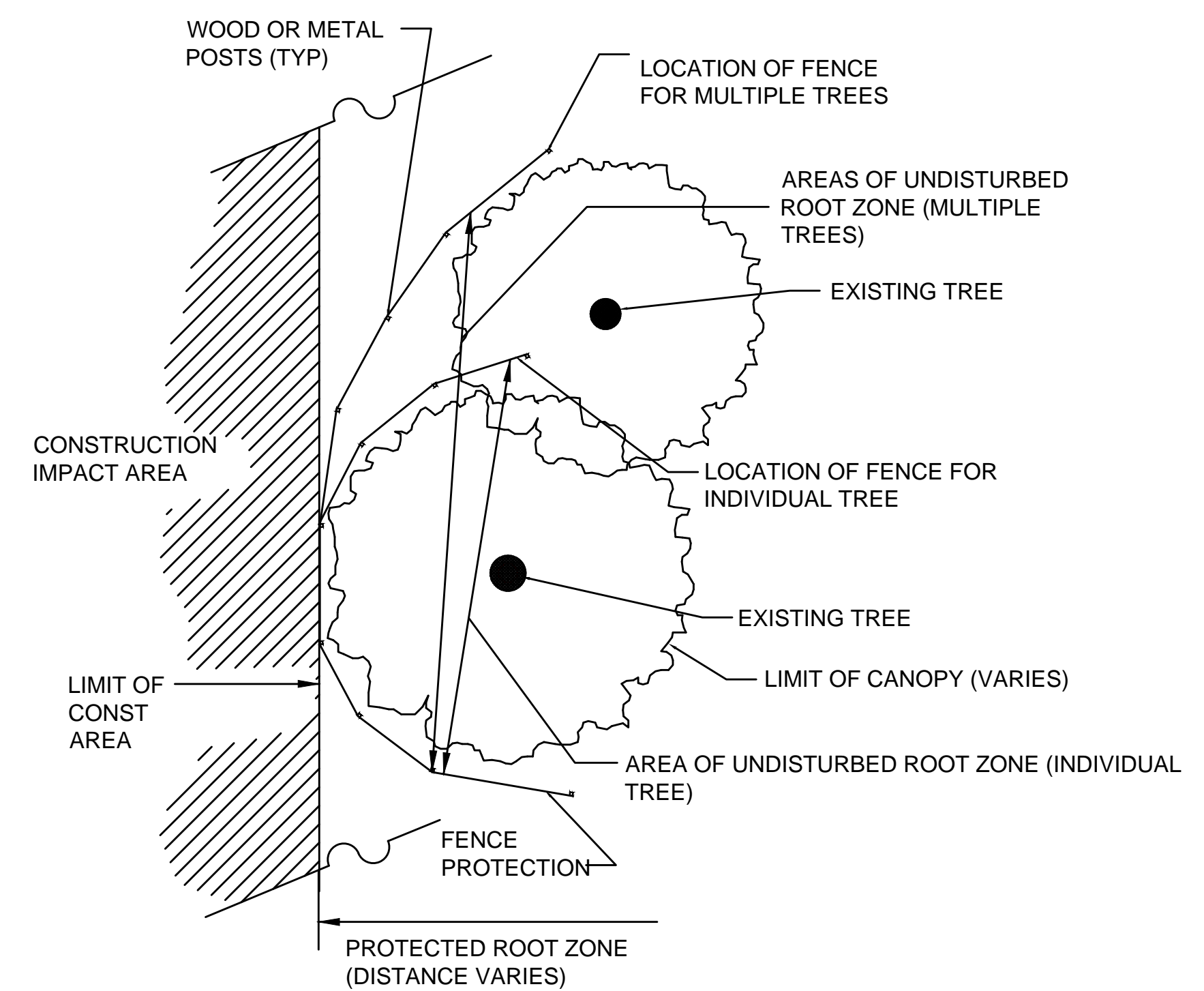
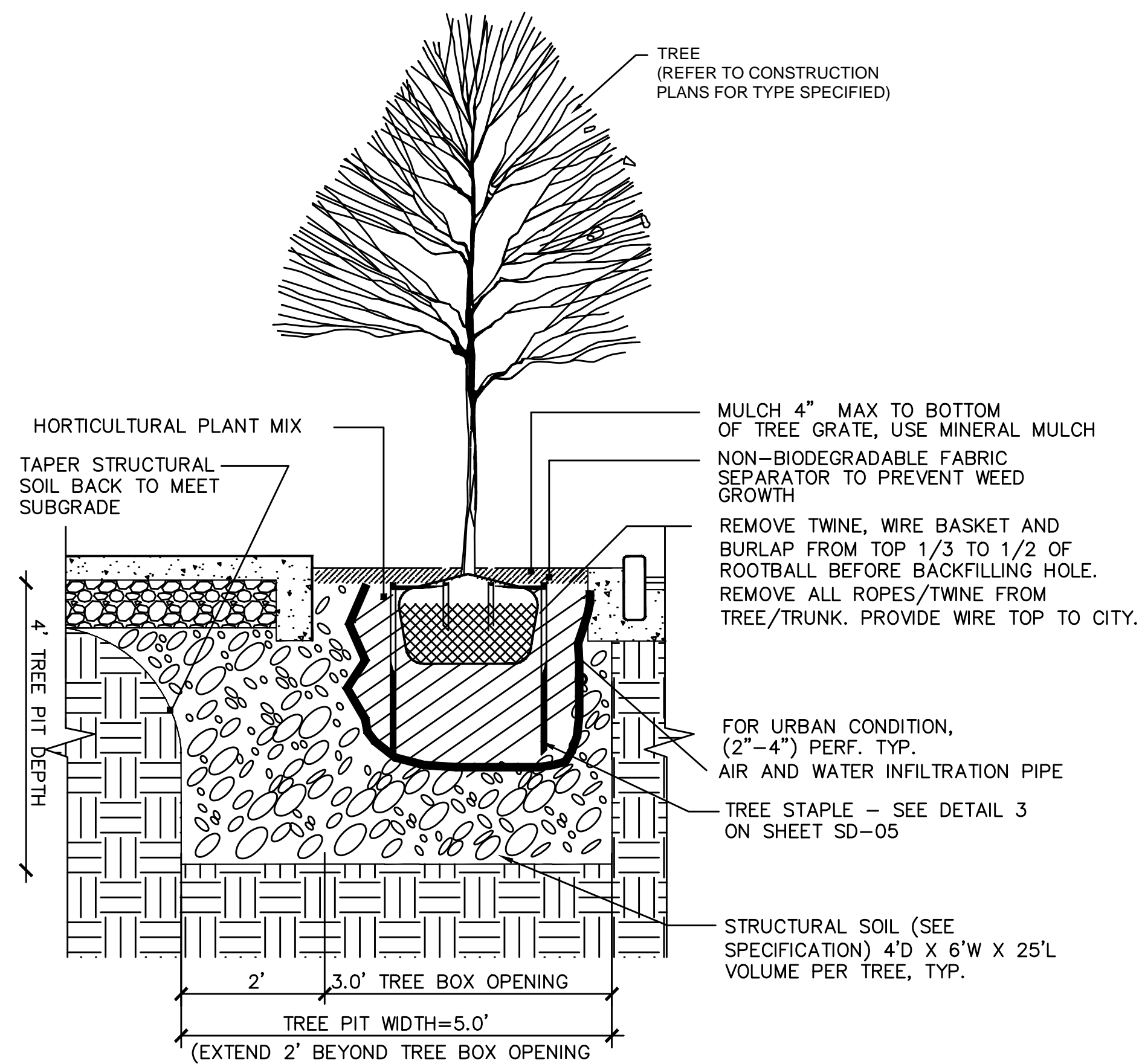
UTILITY TRENCH IN WALK DETAIL

N.T.S.

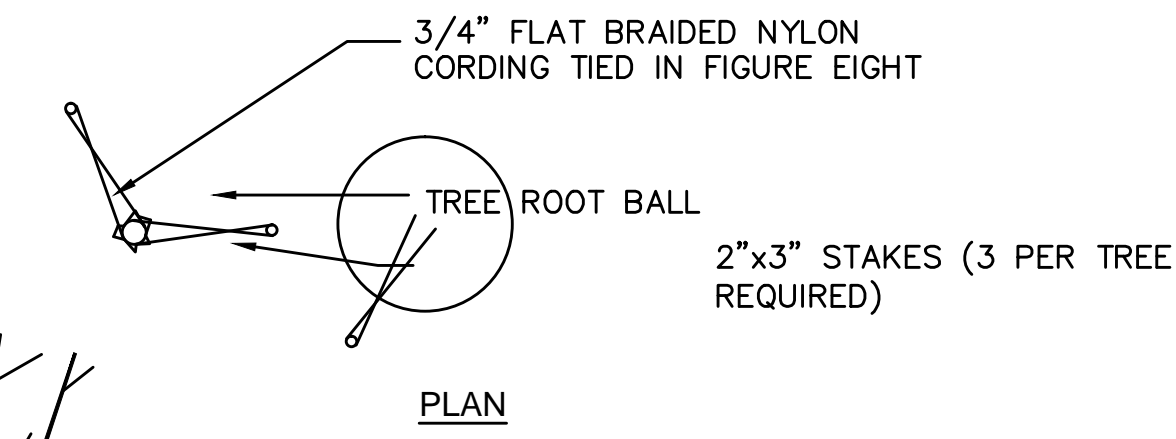


EXISTING TREE PROTECTION

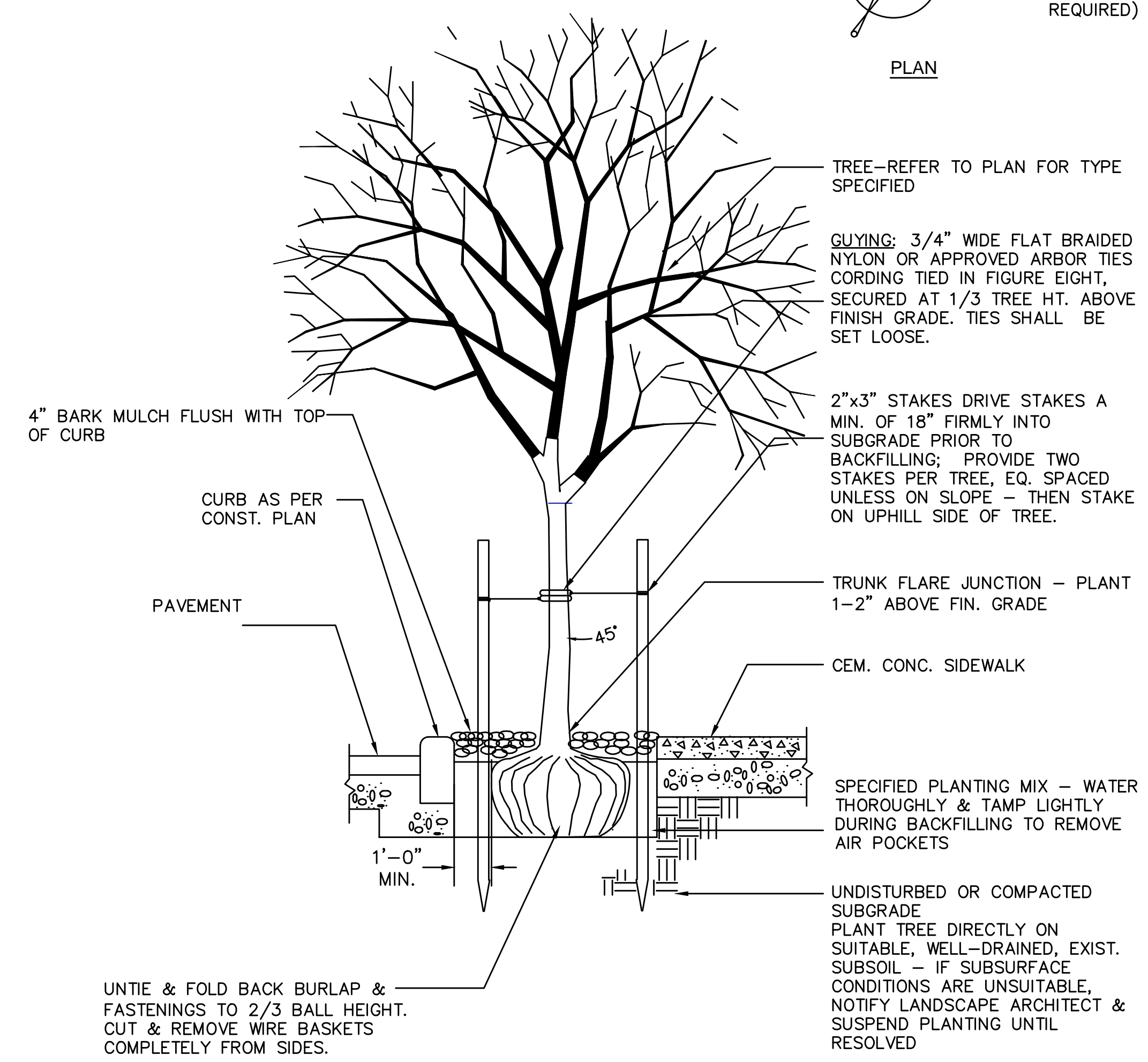
N.T.S.



PLAN VIEW



PLAN



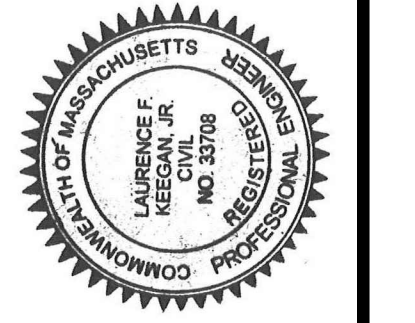
TREE STAKING & PLANTING - 2 CONDITIONS

N.T.S.

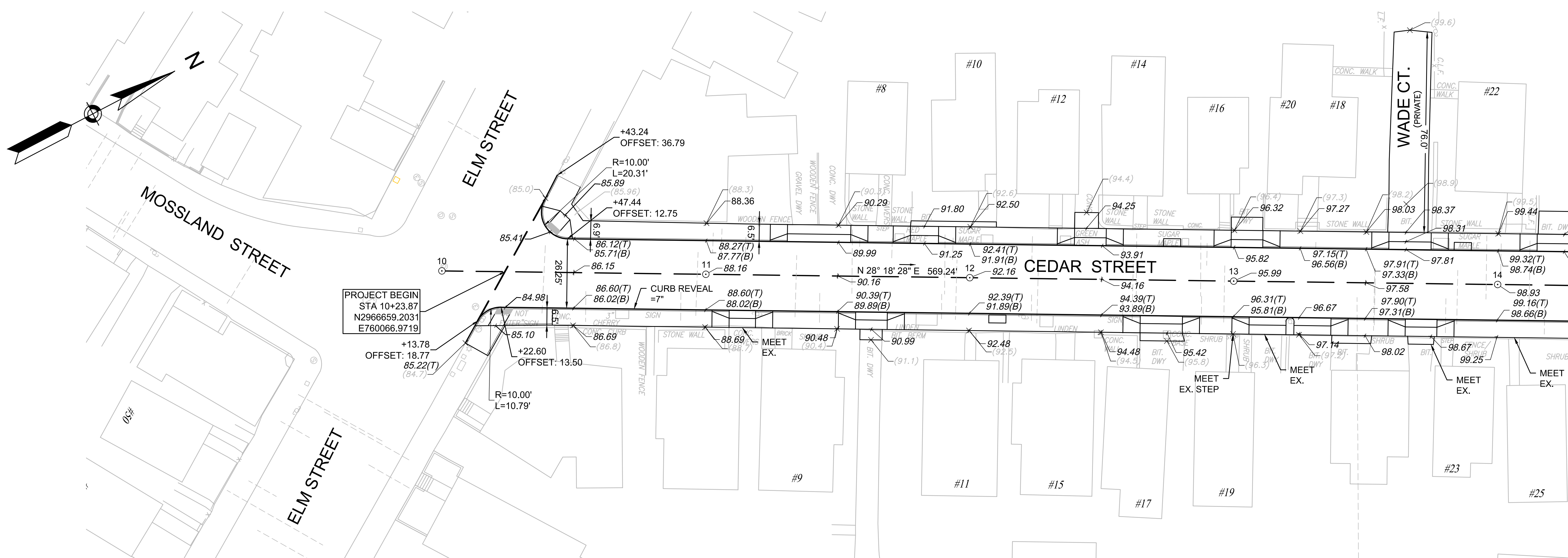
PLANTING SCHEDULE								
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	BLOOM TIME	EXPOSURE	COMMENTS
TREES								
ARK	5	Acer Rubrum 'Karpick'	Karpick Red Maple	3.5" Caliper	B&B, dense growth	March	Full Sun/ Part Shade	

No.	Date	Dr. By	Ck. By	App. By	Description

REGISTERED PROFESSIONAL ENGINEER
Laurel Kegan

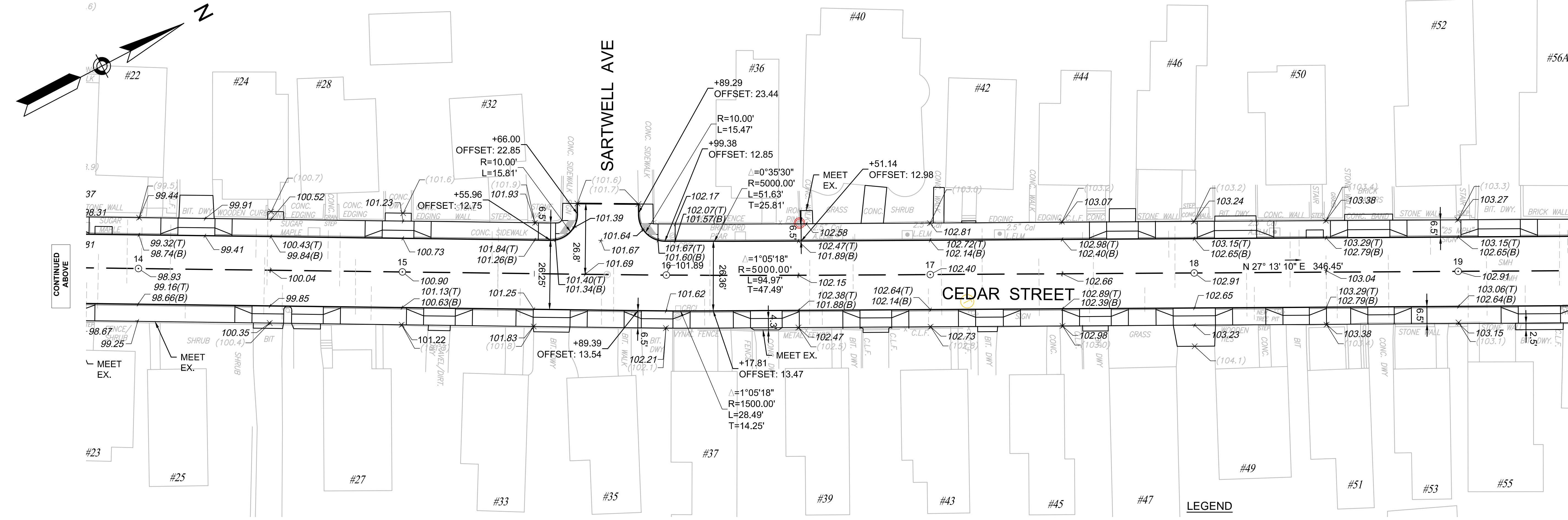


CITY OF SOMERVILLE, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS	CDAR STREET SEWER SEPARATION PROJECT		
CADD NO.	SCALE:	AS NOTED	
CONTRACT:	2130636		
DR BY:	DSN BY:	CHK BY:	APP BY:
RKP	RKP	RKP	LFK



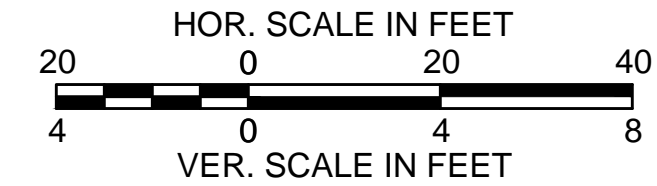
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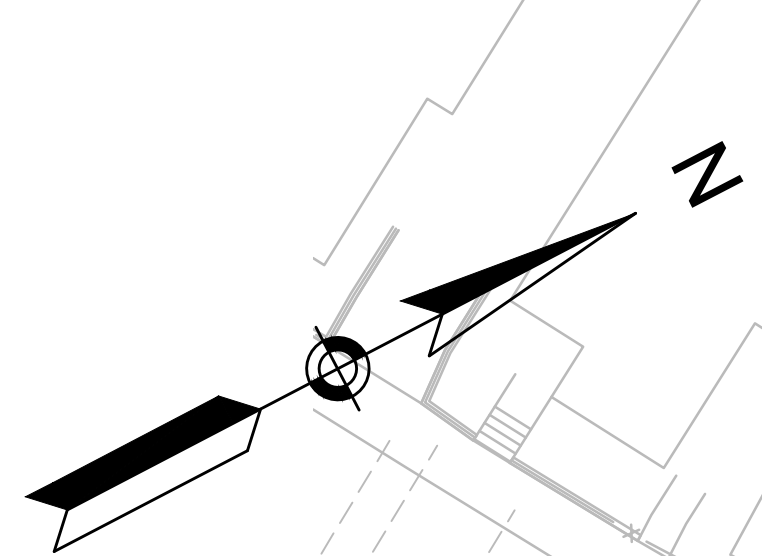
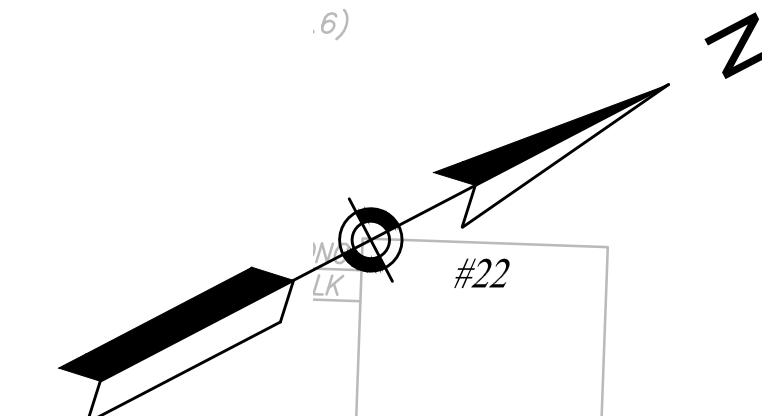


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CONTINUED ON SHEET NO. 25



- LEGEND**
- (00.0) EXISTING GRADE
 - 00.00(T) TOP OF CURB GRADE
 - 00.00(B) BOTTOM OF CURB GRADE
 - (LP) LOW POINT



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No.	Date	Dr. By	Ck. By	App. By	Description

DATE: 12-10-15

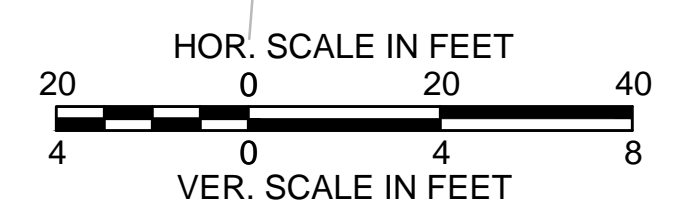
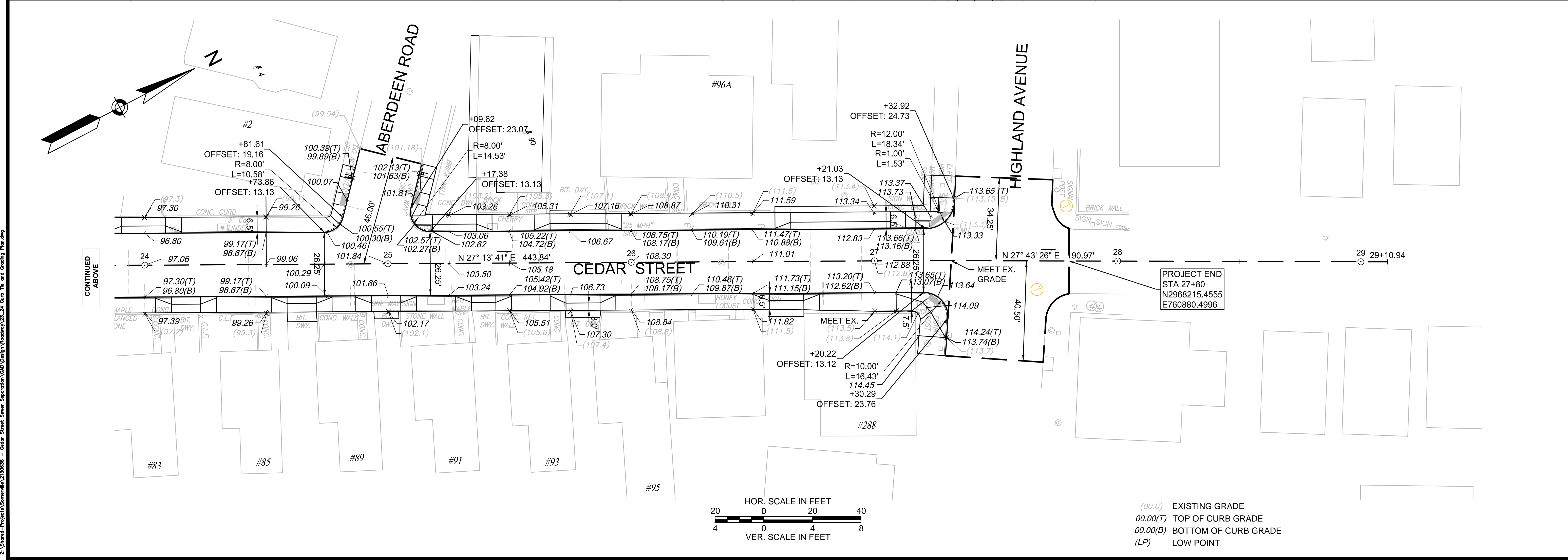
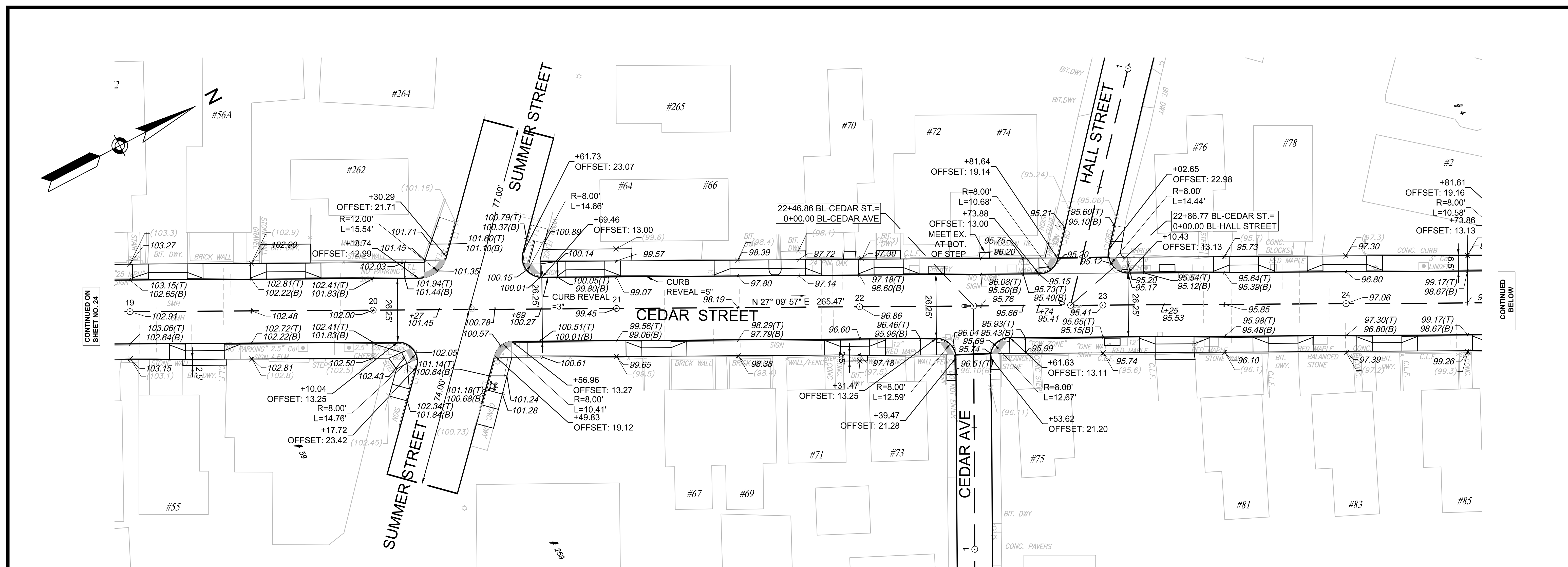
REGISTERED PROFESSIONAL ENGINEER
Laurence J. Keenan



CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS

CEDAR STREET SEWER SEPARATION PROJECT
CURB TIE AND GRADING PLAN

CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR BY	DSN BY	CHK BY	APP BY
	AS NOTED		2130636	RKP	RKP	LFK	LFK



(00.0) EXISTING GRADE
 00.00(T) TOP OF CURB GRADE
 00.00(B) BOTTOM OF CURB GRADE
 (LP) LOW POINT

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No.	Date	Dr. By	Ck. By	App. By	Description

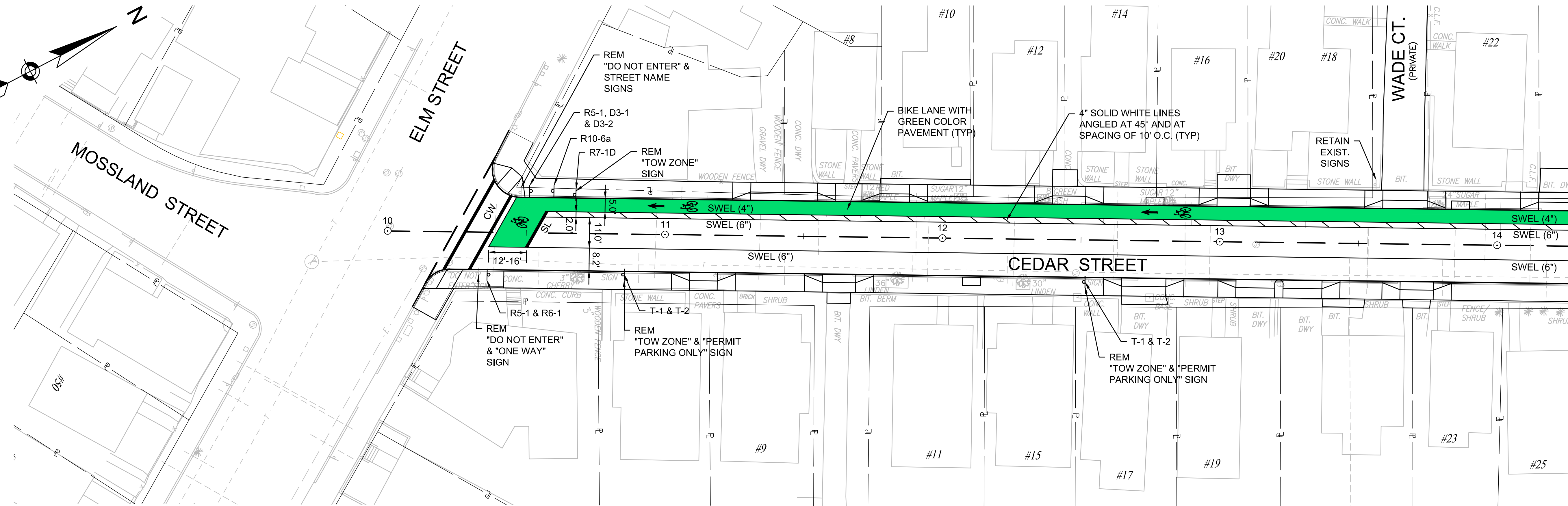
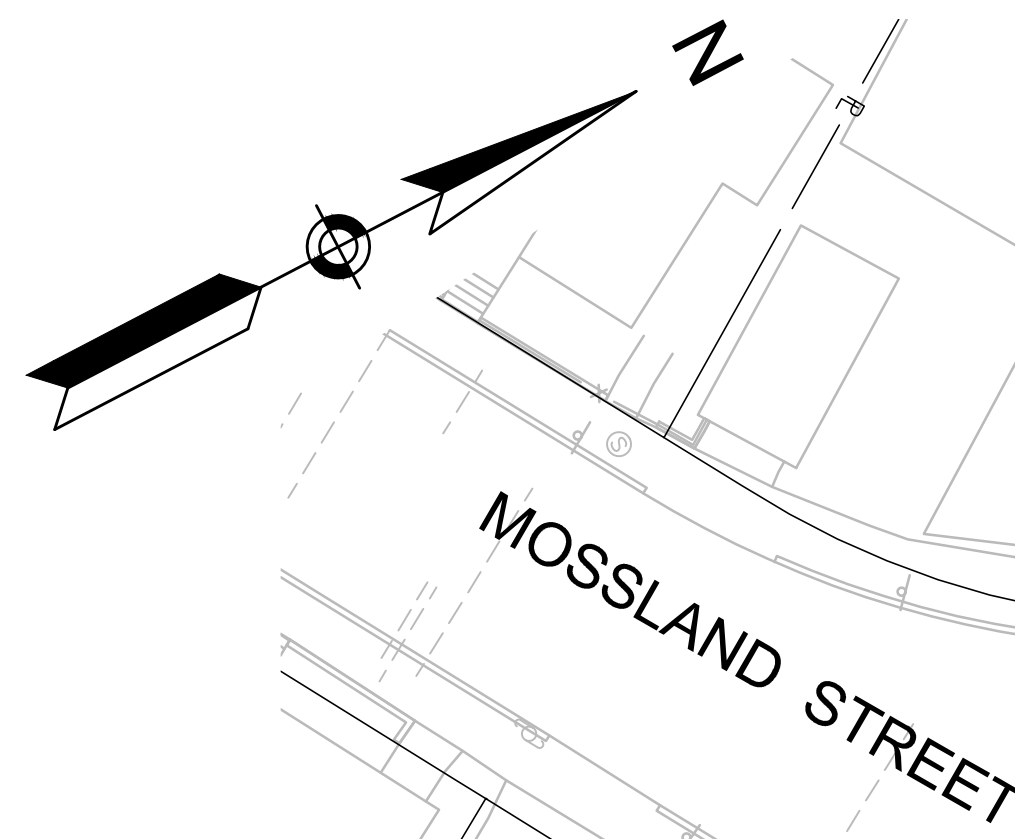
DATE: 12-10-15

REGISTERED PROFESSIONAL ENGINEER
Lawrence J. Keenan

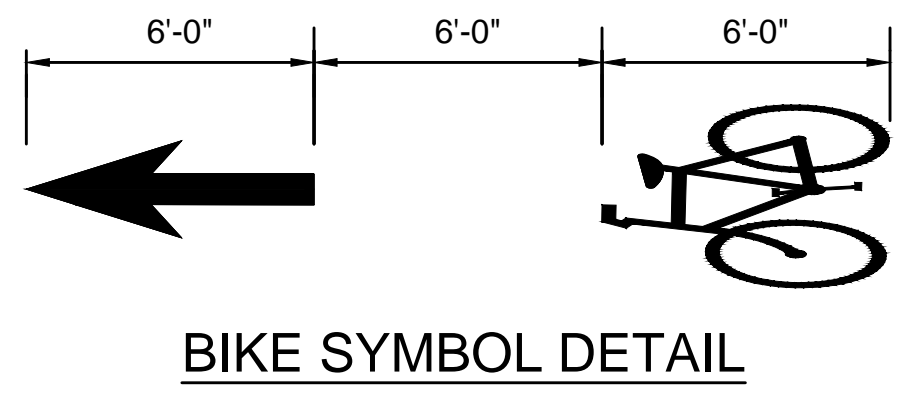


CADD NO.	SCALE:	AS NOTED	CONTRACT:		JOB NO.	DR BY	DSNBY	CHKBY	APPBY
					2130636	RKP	RKP	LFK	LFK

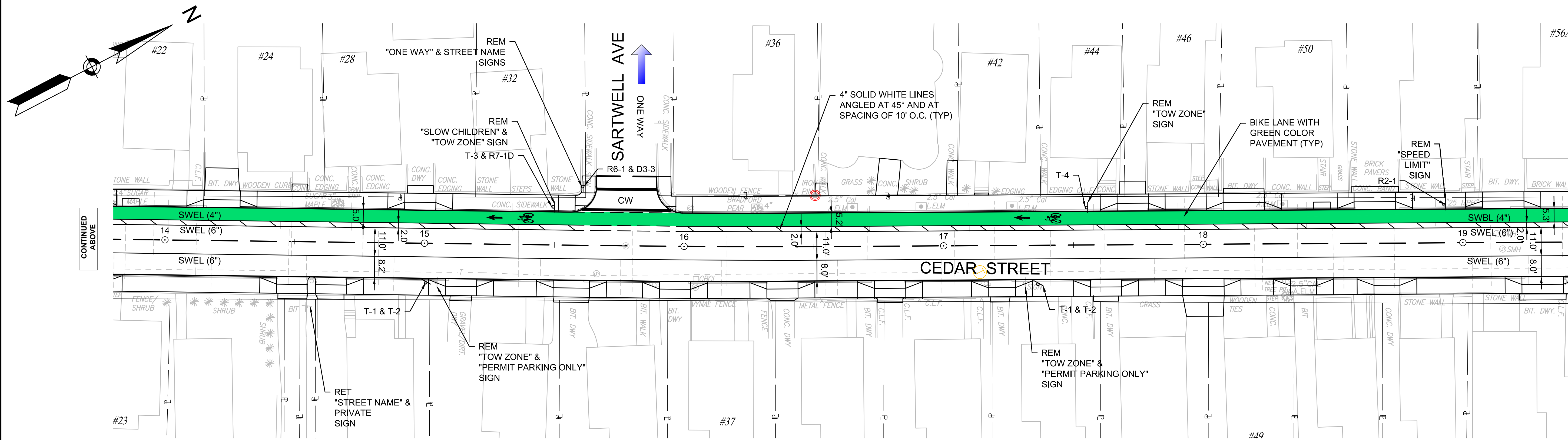
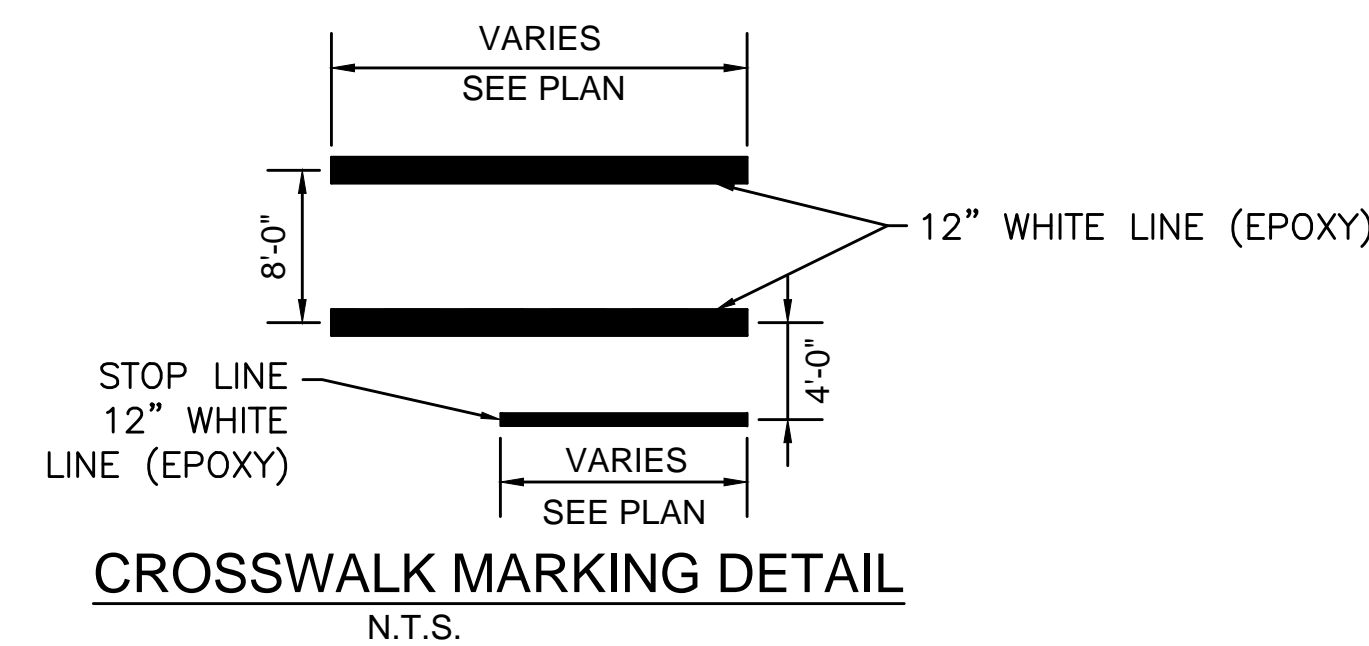
CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT
CURB TIE AND GRADING PLAN



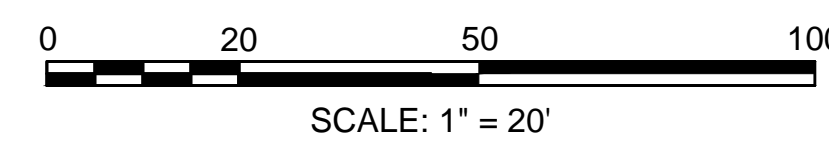
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- NOTE:**
- HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS
 - ERECT ALL SIGNS IN ACCORDANCE WITH THE LATEST "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", AND "MASSDOT'S STANDARD DRAWINGS FOR SIGNS AND SUPPORTS", DATED 1990



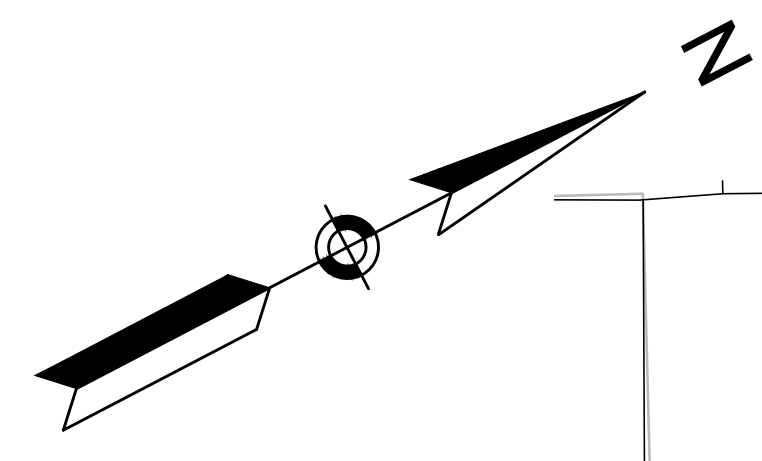
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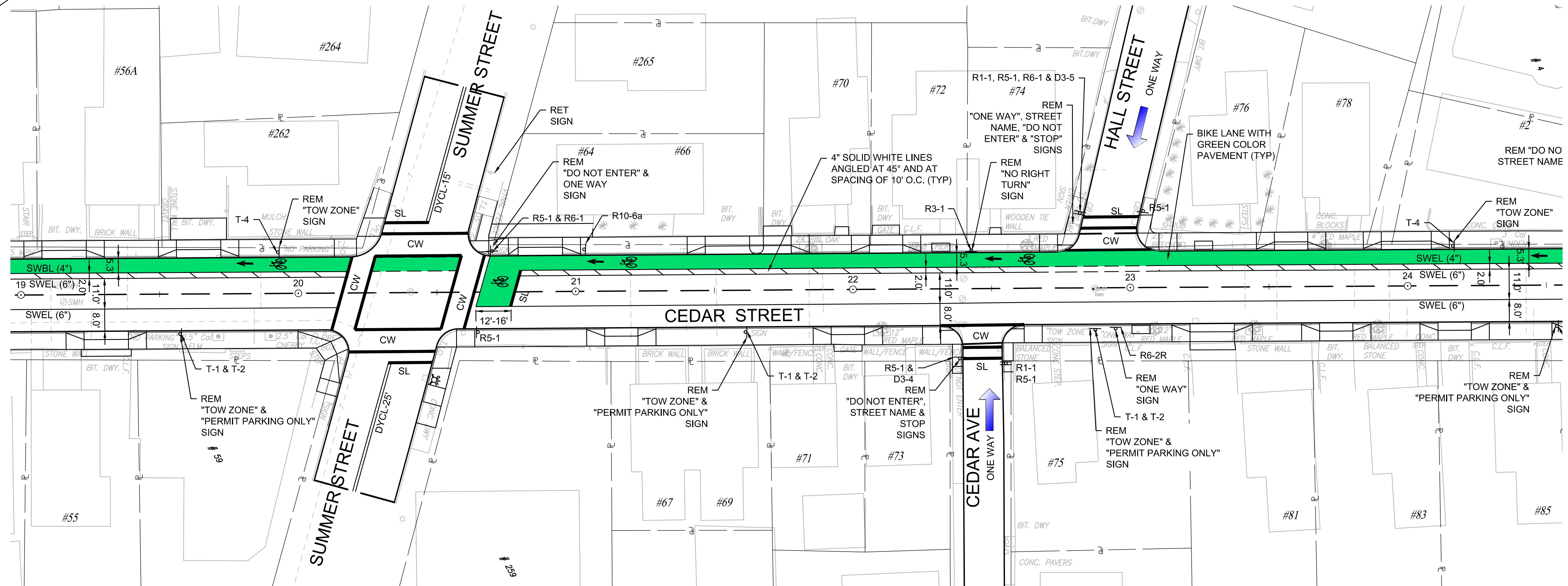
No.	Date	Dr. By	Ck. By	App. By	Description			
		A	P	P	O	V	E	D

REGISTERED PROFESSIONAL ENGINEER
Lawrence J. Keenan

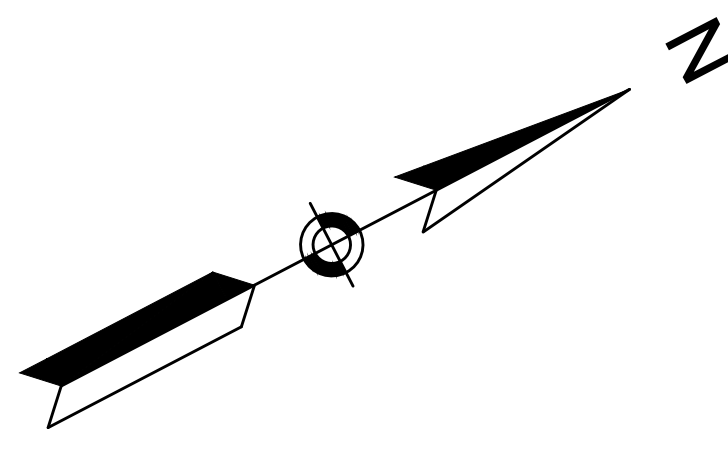




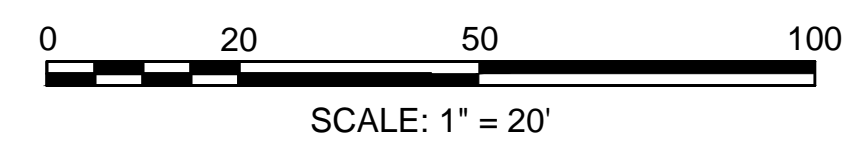
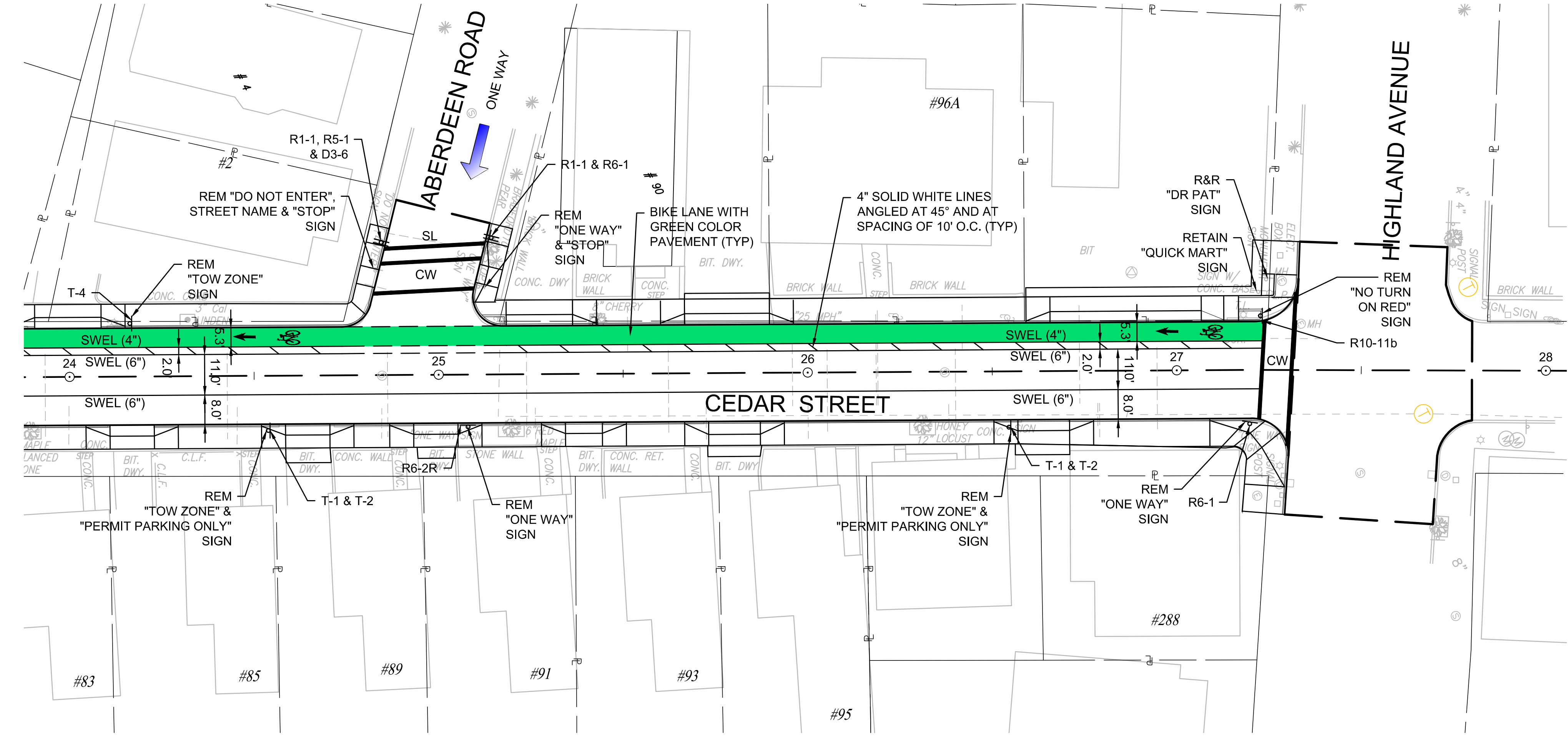
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No.	Date	Dr. By	Ck. By	App. By	Description			
		A	P	P	O	V	E	D

REGISTERED PROFESSIONAL ENGINEER
James F. Keenan



CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT

SIGNS AND PAVEMENT MARKING PLAN

CADD NO. 214-57
 SCALE: AS NOTED
 CONTRACT: -
 JOB NO. 2130636
 DR. BY: RKP
 DS. BY: RKP
 CHK. BY: LFK
 APP. BY: LFK

IDENTIFICATION NUMBER	TEXT	PANEL SIZE				NUMERALS & LETTERS				COLOR COMB.	NUMBER OF SIGNS REQUIRED	TOTAL AREA SQ. FT.	POST SIZE AND NUMBER REQUIRED	
		WIDTH	HEIGHT	CORNER RADII	BORDER WIDTH	MARGIN WIDTH	NUM. IN.	UPPER CASE	LOWER CASE					SERIES
R1-1		30"	30"								WHITE ON RED	4	25.0	POST (4)
R2-1		24"	30"								BLACK ON WHITE	1	5.0	POST (1)
R6-2R		24"	30"								BLACK ON WHITE	2	10.0	POST (2)
R10-11b		36"	36"								BLACK ON WHITE	1	4.0	POST (1)
R3-1		24"	24"								BLACK & RED ON WHITE	1	4.0	POST (1)
R10-6a		24"	30"								BLACK ON WHITE	2	10.0	POST (2)
R7-1D		12"	18"								RED ON WHITE	2	3.0	POST (2)
R5-1		30"	30"								RED ON WHITE	8	50.0	POST (5) 3 MOUNT W/ R1-1
R6-1		36"	12"								BLACK ON WHITE	6	18.0	POST 4 MOUNT/ R1-1 & R5-1
R7-200		12"	18"								RED ON WHITE	8	12.0	POST (8)
R7-201		12"	12"								BLACK ON WHITE	8	8.0	8 MOUNT W/ T-1
R7-202		24"	30"								BLACK ON YELLOW	1	5.0	MOUNT W/ P7-1D
R7-203		12"	18"								RED ON WHITE	3	4.5	POST (3)

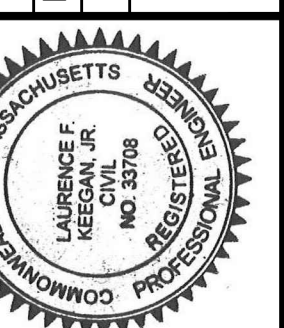
SEE MUTCD 2009 EDITION AND 2012 MASSACHUSETTS AMENDMENTS TO 2009 MUTCD

IDENTIFICATION NUMBER	TEXT	PANEL SIZE				NUMERALS & LETTERS				COLOR COMB.	NUMBER OF SIGNS REQUIRED	TOTAL AREA SQ. FT.	POST SIZE AND NUMBER REQUIRED	
		WIDTH	HEIGHT	CORNER RADII	BORDER WIDTH	MARGIN WIDTH	NUM. IN.	UPPER CASE	LOWER CASE					SERIES
D3-1 (PBS)	ELM ST 000	VAR	12"	-	-	-	-	6 3/4"	-	-	WHITE ON BLUE	1	EACH	MOUNT W/ CEDAR ST & R5-1 POST
D3-2 (PBS)	CEDAR ST	VAR	12"	-	-	-	-	6 3/4"	-	-	WHITE ON BLUE	1	EACH	MOUNT W/ ELM ST & R5-1 POST
D3-3 (PBS)	SARTWELL AVE	VAR	12"	-	-	-	-	6 3/4"	-	-	WHITE ON BLUE	1	EACH	MOUNT W/ R6-1
D3-4 (PBS)	CEDAR AVE	VAR	12"	-	-	-	-	6 3/4"	-	-	WHITE ON BLUE	1	EACH	MOUNT W/ R1-1 & R5-1 POST
D3-5 (PBS)	HALL ST	VAR	12"	-	-	-	-	6 3/4"	-	-	WHITE ON BLUE	1	EACH	MOUNT W/ R5-1 & R6-1
D3-6 (PBS)	ABERDEEN RD	VAR	12"	-	-	-	-	6 3/4"	-	-	WHITE ON BLUE	1	EACH	MOUNT W/ R1-1 & R5-1

* SPEED LIMIT SHALL BE THE CURRENT POSTED SPEED AS PER LEGAL SPEED ZONE ESTABLISHED ALONG THE ROADWAY

- SEE PAVEMENT MARKING AND SIGN PLAN FOR SIGN LOCATIONS
- HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS
- ERECT ALL SIGNS IN ACCORDANCE WITH THE LATEST "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", AND "MASSHIGHWAY'S STANDARD DRAWINGS FOR SIGNS AND SUPPORTS", DATED 1990

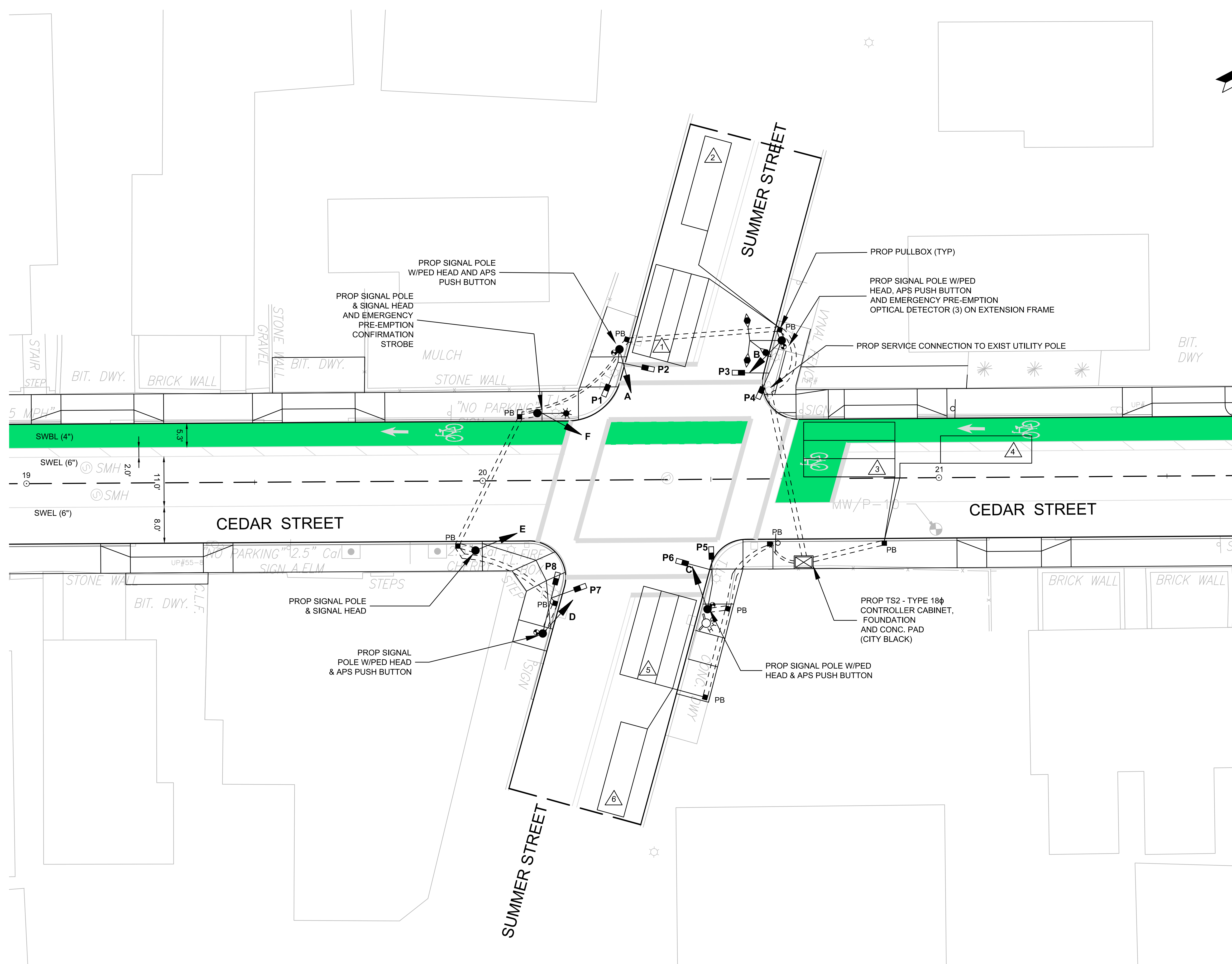
No.	Date	Dr. By	Ck. By	App. By	Description
					A P P R O V E D
					12-10-15 DATE



CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT
SIGN SUMMARY PLAN

CADD NO. - SCALE: - AS NOTED - CONTRACT: - JOB NO. 21-306.36 - DR. BY: RKP - DSN. BY: RKP - CHK. BY: LFK - APP. BY: LFK

FILE NO. 214-66



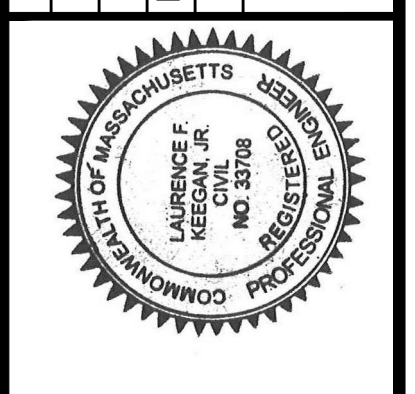
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No.	Date	Dr. By	Ck. By	App. By	Description

DATE: 12-10-15

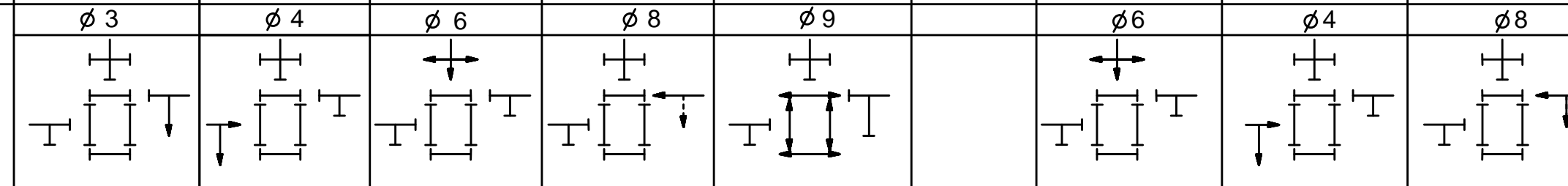
REGISTERED PROFESSIONAL ENGINEER
Laurent Kegan



CITY OF SOMERVILLE, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS	CEDAR STREET SEWER SEPARATION PROJECT						
SIGNAL PLAN							
CADD NO.:	SCALE: AS NOTED	CONTRACT: -	JOB NO. 2130636	DR BY: RKP	DSN BY: RKP	CHK BY: LFK	APP BY: LFK

APPROACH	DIRECTION	HOUSING	SEQUENCE AND TIMING															FLASHING OPERATION											
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	FIRE PRE-EMPTION	FIRE PRE-EMPTION	FIRE PRE-EMPTION	HOURS TO EMERGENCY								
MINIMUM INTERVAL			4			15			15			15						HOLD	CLEAR	ALL RED	HOLD	CLEAR	ALL RED	HOLD	CLEAR	ALL RED			
VEHICLE EXTENSION			3			3			3			3																	
MAXIMUM			4			17			30			26																	
YELLOW CLEARANCE				4			4			4				4															
RED CLEARANCE					1			1			1				1														
PEDESTRIAN																5	9	3											
PRE-EMPTION																													
CEEDAR ST	SB THRU		R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R		FY	
SUMMER ST	EB THRU		R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R		FR	
	WB THRU		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		FR	
	WB LT		G	Y	R	R	R	R	R	R	R	FY	Y	R	R	R	R	R	R	R	R	R	R	G	Y	R		FR	
PEDESTRIAN	E/W	P1-P2	DW																										
DETECTOR MEMORY			NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK	LOCK											PRE-EMPT											
RECALL			SOFT	SOFT	OFF	SOFT	OFF											A											

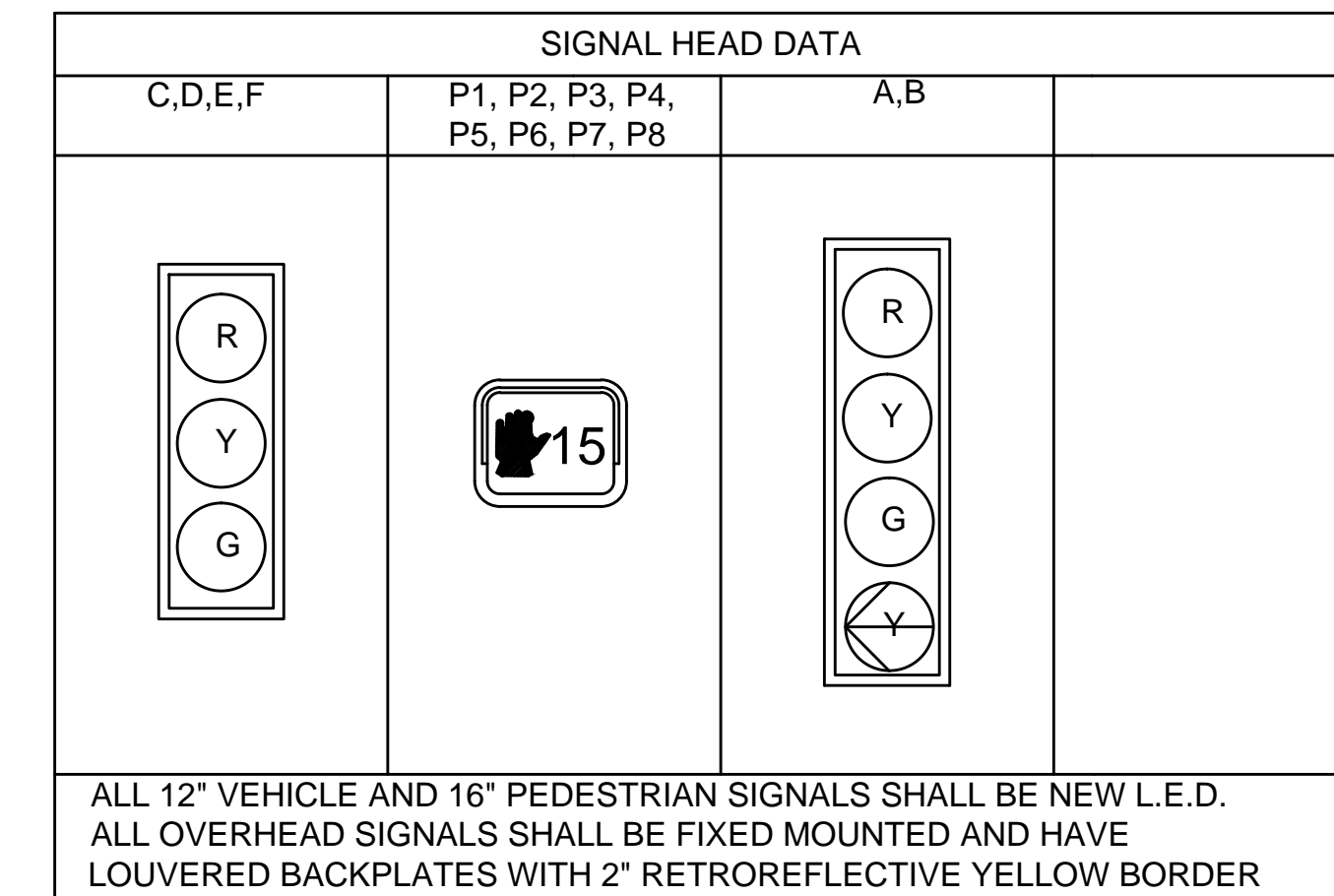
PERMISSIVE TURN
PROTECTED TURN



TRAFFIC SIGNAL NOTES:

- ALL SIGNAL HEADS SHALL BE LED TYPE.
- THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS A DAY. FLASHING OPERATION SHALL BE FOR EMERGENCY ONLY.
- DETECTOR DELAY SETTINGS ARE TO BE IMPLEMENTED AT THE CONTROLLER ONLY.
- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVAL.
- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
- IF CALL EXISTS ON ALL PHASES, THE ASSIGNMENT OF THE RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
- THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A VEHICULAR SIGNAL FACE LOCATED OVER A ROADWAY SHALL BE 16.5 FEET ABOVE THE PAVEMENT.
- ALL SIGNAL HEADS SHALL HAVE A HORIZONTAL CLEARANCE OF 2 FEET FROM THE EDGE OF SHOULDER OR OF A VERTICAL CURB FACE.
- IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL(S).

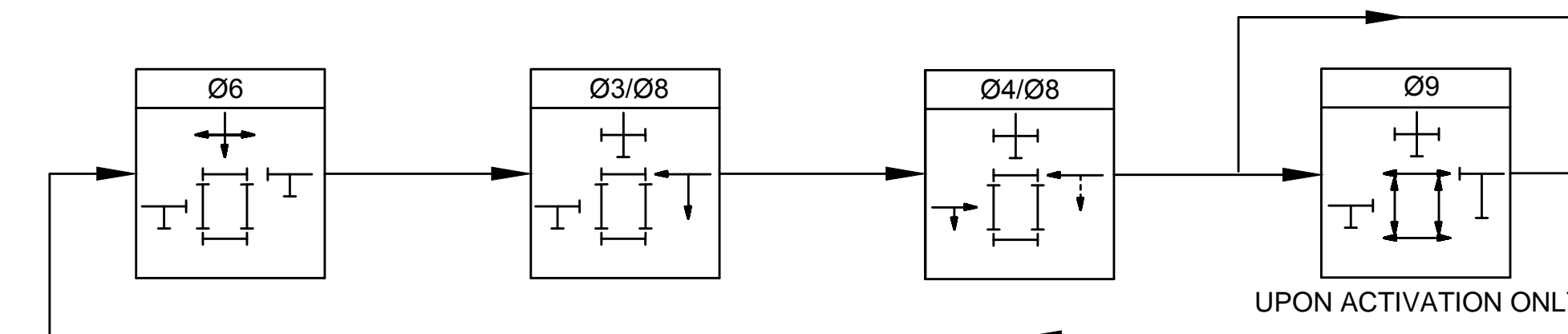
TRAFFIC SIGNALS CONSTRUCTION LIST OF MAJOR ITEMS	
QUAN.	DESCRIPTION
1	T.S. CONTROLLER TYPE 8DW ON BASE MOUNTED 8-PHASE CABINET & FOUNDATION
2	SIGNAL HEAD, 1-WAY - 4 SECTION - 12" LENS
4	SIGNAL HEAD, 1-WAY-3 SECTION-12" LENS
9	12"x12" PULL BOX
1	SERVICE CONNECTION - UNDERGROUND
1	PREEMPTION CONFIRMATION STROBE (CLEAR)
1	4-CHANNEL PHASE SELECTOR
1	SYSTEM CHASSIS (CARD RACK)
3	OPTICAL PREEMPTION RECEIVER
6	8' PEDESTAL POLES, BASE & FOUNDATION
8	PEDESTRIAN SIGNAL HEADS
8	APS PED PUSH BUTTONS-PLACED PARALLEL TO DIRECTION OF FLOW
IN ADDITION, ALL MISC. EQUIPMENT, CABLE AND INCIDENTALS NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL	



NOTES:

- ALL SIGNAL HEADS SHALL HAVE TUNNEL SIGNAL VISORS
- ALL SIGNAL LENSES SHALL BE 12" DIAMETER
- ALL SIGNALS SHALL BE LED TYPE
- ALL SIGNAL HEADS SHALL BE FIXED MOUNTED
- EXISTING EQUIPMENT AND SIGNS NO LONGER NEEDED SHALL BE REMOVED.
- THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A VEHICULAR SIGNAL FACE LOCATED OVER A ROADWAY SHALL BE 16.5 FEET ABOVE THE PAVEMENT.
- ALL SIGNAL HEADS SHALL HAVE A HORIZONTAL CLEARANCE OF 2 FEET FROM THE EDGE OF A VERTICAL CURB FACE.
- CABINET, MAST ARMS AND PEDESTAL POLES SHALL BE "TOWN BLACK"
- VEHICLE AND PEDESTRIAN HEADS SHALL BE "TOWN BLACK"

NORMAL OPERATION PHASE SEQUENCE



LOOP DETECTOR DATA						
DETECTOR NO.	DETECTOR ZONE DIMENSION	PHASE CALLED	PHASE EXT	MODE A=PULSE B=PRES.	DELAY TIME	EXT. TIME
1	12' X 20'	4	4	B	-	-
2	6' X 20'	4	4	B	-	-
3	12' X 20'	6	6	B	-	-
4	6' X 20'	6	6	B	-	-
5	12' X 20'	8	8	B	-	-
6	6' X 20'	8	8	B	-	-

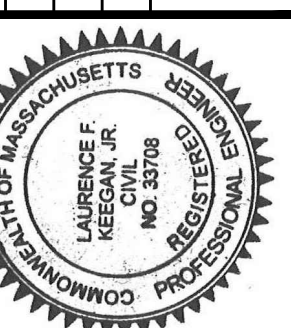
EMERGENCY VEHICLE PREEMPTION

EB - REC#1	4
WB - REC#2	8
SB - REC#3	6

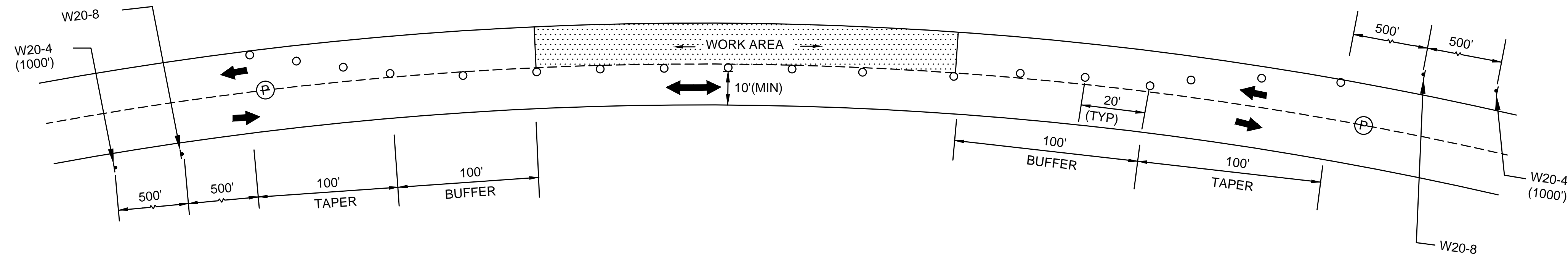
EMERGENCY VEHICLE PREEMPTION NOTES:

- MINIMUM CLEARANCE TIME SHALL BE 3 SECONDS OR AS DIRECTED BY MASSDOT AND THE LOCAL FIRE DEPARTMENT.
- WHERE IDENTIFIED ON THE PLANS, THE PROPOSED LOCATIONS OF THE OPTICAL DETECTOR UNITS AND CONFIRMATION BEACONS ARE PERCEIVED BEST BUT NOT FINAL. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE OPTIMUM PLACEMENT IN COOPERATION WITH THE LOCAL FIRE DEPARTMENT. THE OPTICAL DETECTOR UNITS SHALL HAVE AN UNOBSTRUCTED LINE-OF-SIGHT VIEW ALONG THE ROUTE OF APPROACHING PRIORITY VEHICLE.

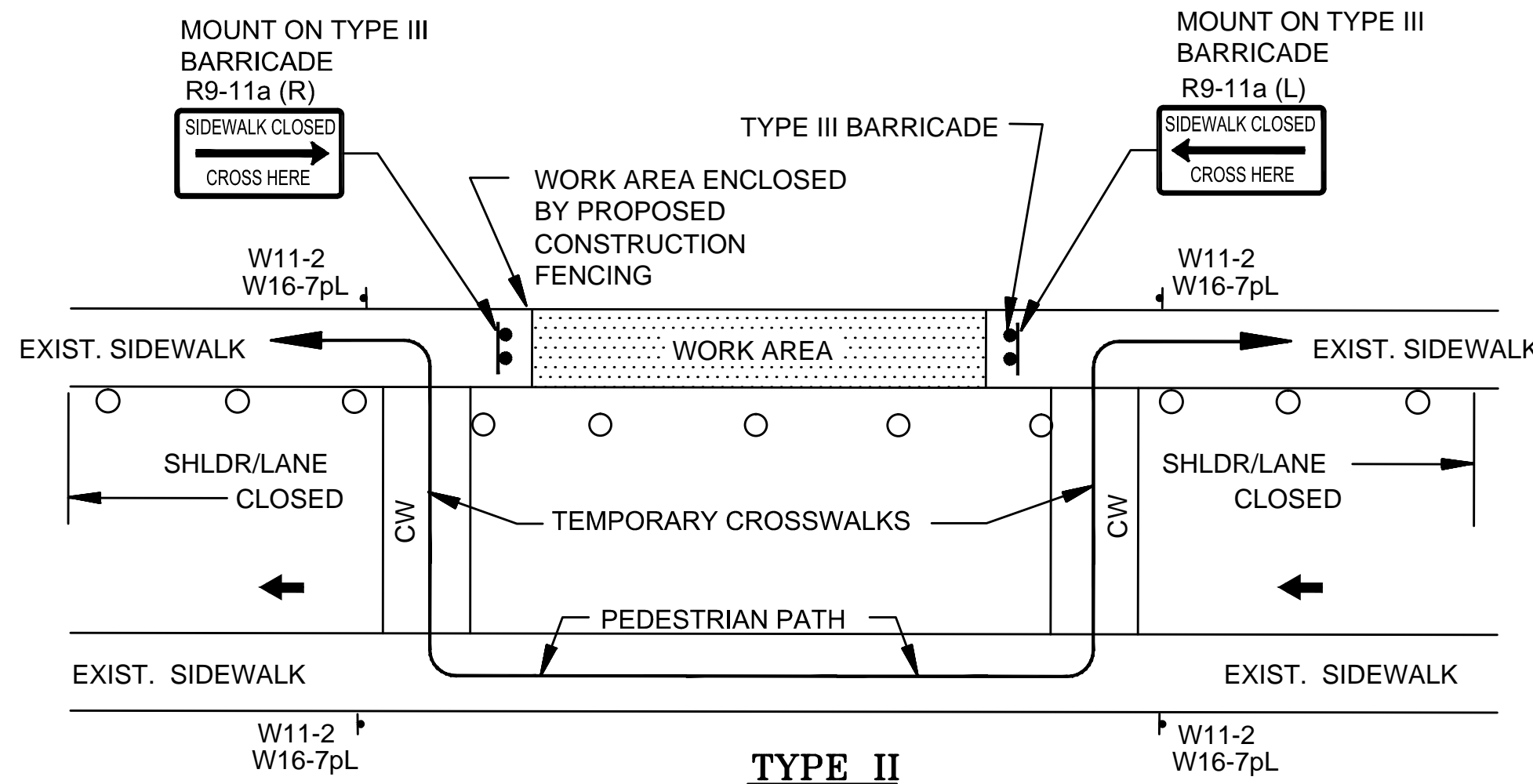
No.	Date	Dr. By	Ck. By	App. By	Description
					O V E R
					D
					DATE
					12-10-15



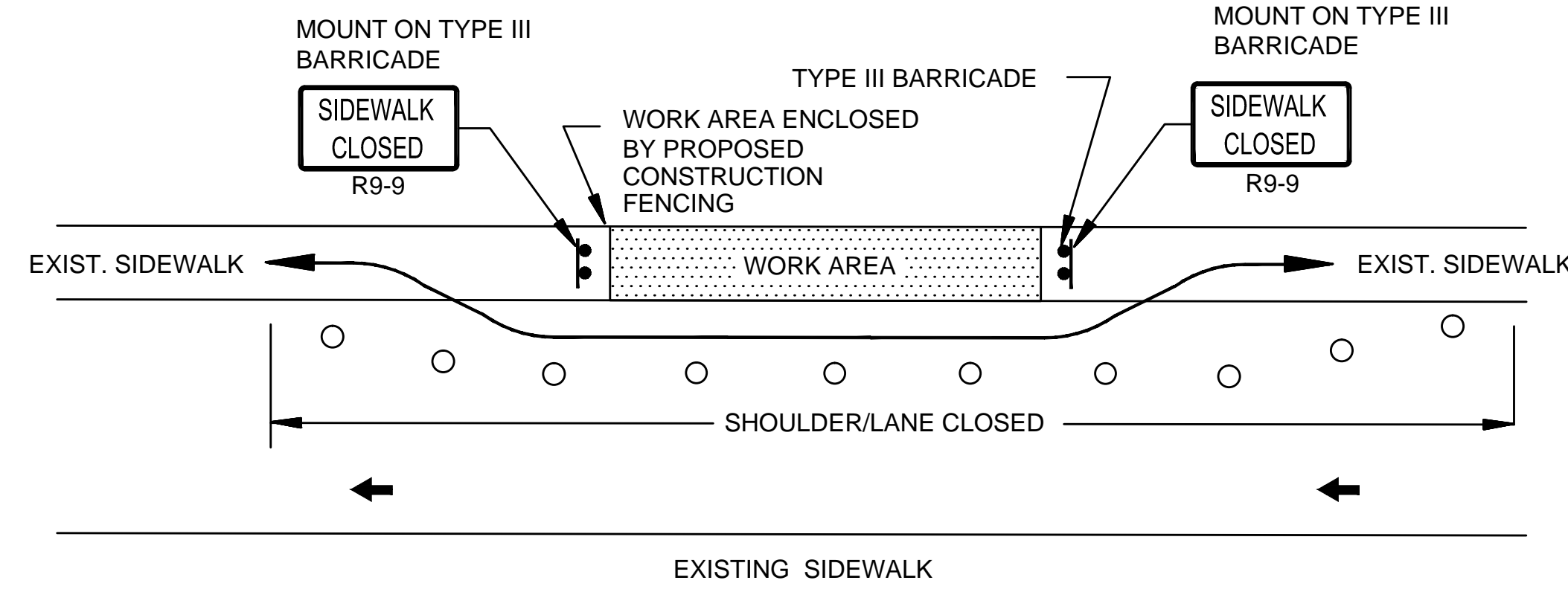
CITY OF SOMERVILLE, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS	CDR. BY	DSN. BY	CHK. BY	APP. BY
CEEDAR STREET SEWER SEPARATION PROJECT	RKP	RKP	RKP	LFK
TRAFFIC SIGNAL SEQUENCE AND TIMING				
SCALE: AS NOTED	CONTRACT: -	JOB NO. 21,306,36		
CADD NO. -				



TYPICAL TEMPORARY DAYTIME LANE CLOSURE - THROUGH ROADWAY
(ONE LANE- BI-DIRECTIONAL)
 N.T.S.



TYPE II



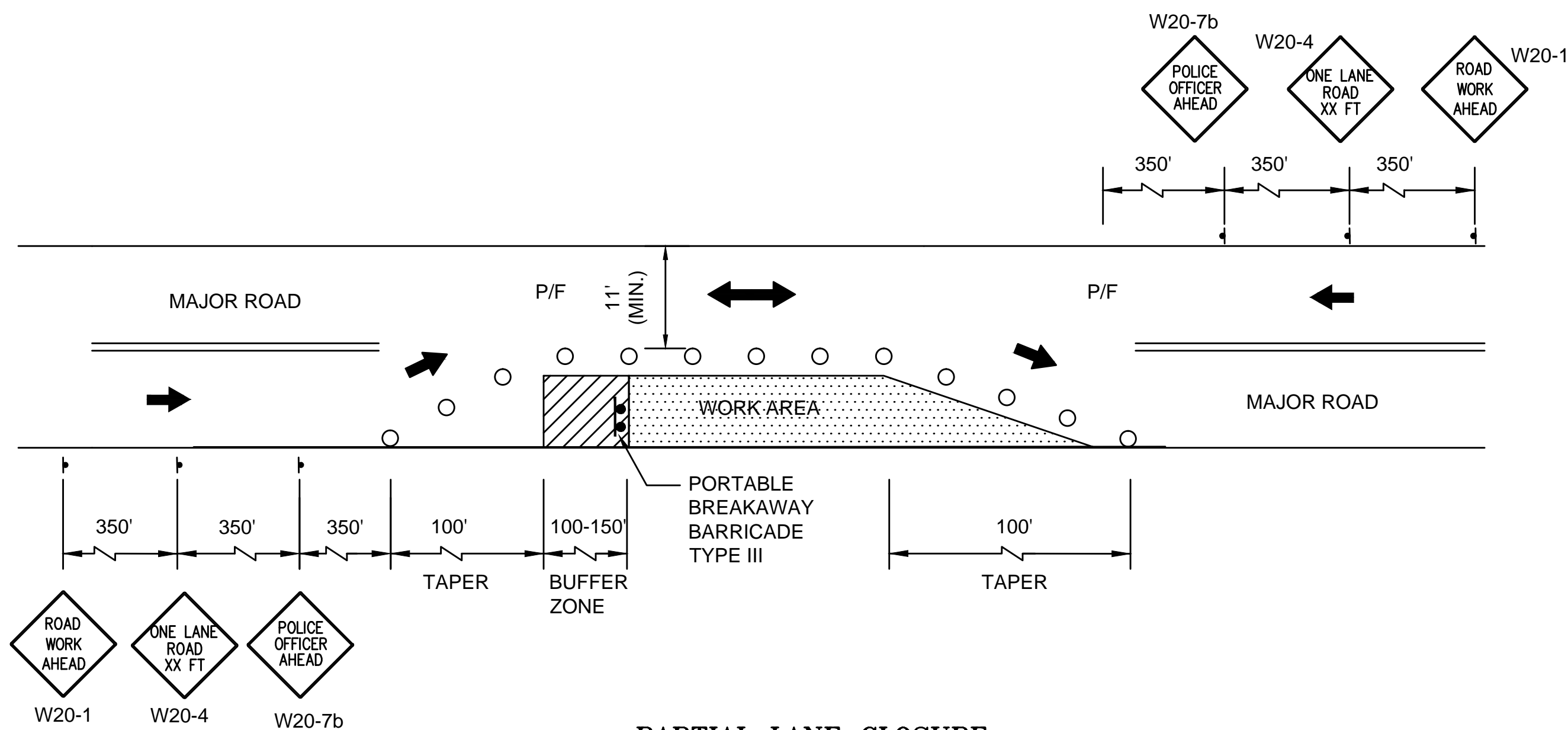
TYPE I

NOTES:

- ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
- CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
- STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
- IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHOULD BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DIRECTED BY THE ENGINEER. TEMPORARY CURB RAMPS WILL BE REQUIRED AT ALL TEMPORARY CROSSWALK LOCATIONS.
- BYPASS IS TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.
- TEMPORARY PEDESTRIAN RAMPS REQUIRED AS NECESSARY.

PEDESTRIAN BYPASS

N.T.S.



PARTIAL LANE CLOSURE

N.T.S.

NOTES:

- PLACEMENT OF ALL CONSTRUCTION SIGNS, DRUMS, BARRICADES, TRAFFIC DEVICES AND THE SHAPE, SIZE & COLOR OF ALL TEMPORARY TRAFFIC SIGNS SHALL CONFORM WITH THE 2003 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND REVISIONS.
- ADVANCE WARNING SIGN PLACEMENT AND TAPER LENGTH SHALL BE ADJUSTED ACCORDING TO STREET CONDITIONS AND DRIVEWAY OPENINGS.
- ALL DRUMS SHALL BE APPROXIMATELY PLACED AND RELOCATED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES.
- THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 48 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
- NONESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
- PEDESTRIANS SHALL BE PROVIDED WITH ACCESS AND SAFE PASSAGE THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE AT ALL TIMES.
- ADVISORY SPEED PLATES (W13-1) SHALL BE USED IF APPLICABLE AND AS DIRECTED BY THE ENGINEER.
- R2-10 SIGN TO BE ERECTED BETWEEN W20-1 AND W20-4 SIGN.
- MAINTAIN ONE LANE (MIN. 10' WIDTH) AT ALL TIMES DURING CONSTRUCTION.

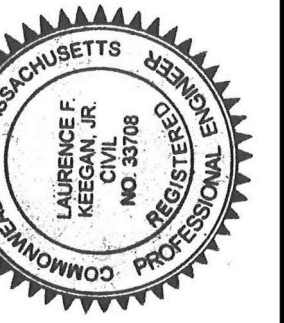
LEGEND

- REFLECTORIZED CHANNELIZING DEVICE
- REFLECTORIZED DRUM WITH LIGHT
- TRAFFIC FLOW DURING CONSTRUCTION
- ↔ NORMAL TRAFFIC FLOW
- P/F POLICE/FLAGGER DETAIL
- ▬ PORTABLE BREAKAWAY BARRICADE TYPE III
- ○ TEMPORARY IMPACT ATTENUATOR
- ↑ CONSTRUCTION SIGN
- ▨ WORK AREA
- N.T.S. NOT TO SCALE
- ARROW BOARD
- ▬ TEMPORARY PRECAST PORTABLE CONCRETE BARRIER W/WARNING LIGHTS

TEMPORARY TRAFFIC SIGN SUMMARY

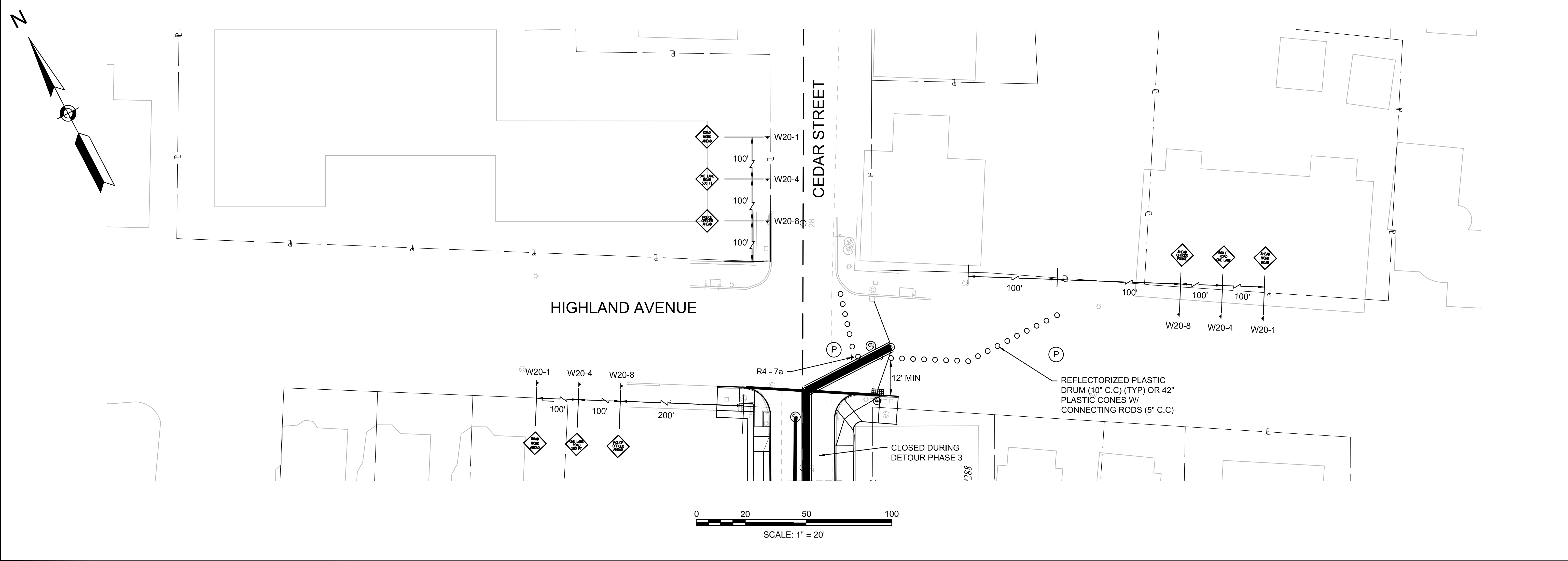
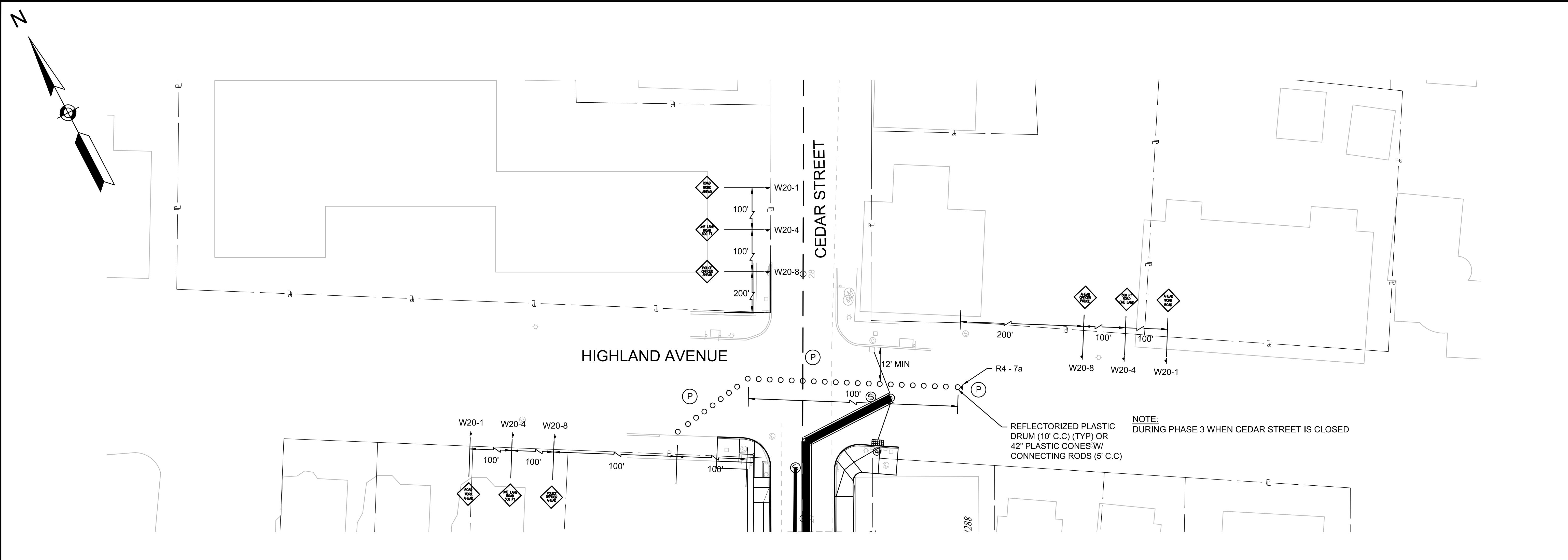
IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	NOTES
	WIDTH	HEIGHT		
W5-1	48"	48"	ROAD NARROWS	
W13-1	24"	30"	M.P.H.	ADVISORY SPEED LIMIT AS DETERMINED BY THE ENGINEER
W20-1	48"	48"	ROAD WORK AHEAD	
W20-4	48"	48"	ONE LANE ROAD XX FT	
R4-7a	24"	30"	KEEP RIGHT	
W20-7b	48"	48"	POLICE OFFICER AHEAD	
W11-2	30"	30"	PEDESTRIAN	
W16-7pL	12"	24"	ARROW	
R9-11a	48"	24"	SIDEWALK CLOSED CROSS HERE	
R9-9	30"	18"	SIDEWALK CLOSED	

No.	Date	Dr. By	Ck. By	App. By	Description
					DATE
					12-10-15
					REGISTERED PROFESSIONAL ENGINEER



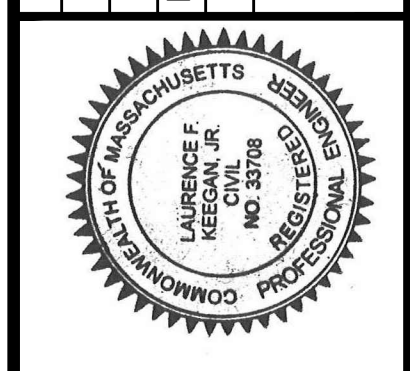
CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT
TRAFFIC MANAGEMENT PLAN
 JOB NO. 21-306.36
 DR. BY: RKP
 CHK. BY: LFK
 APP. BY: LFK
 CONTRACT: -
 SCALE: AS NOTED
 CADD NO. -

FILE NO. 214-53



No.	Date	Dr. By	Ck. By	App. By	Description				
		A	P	P	R	O	V	E	D

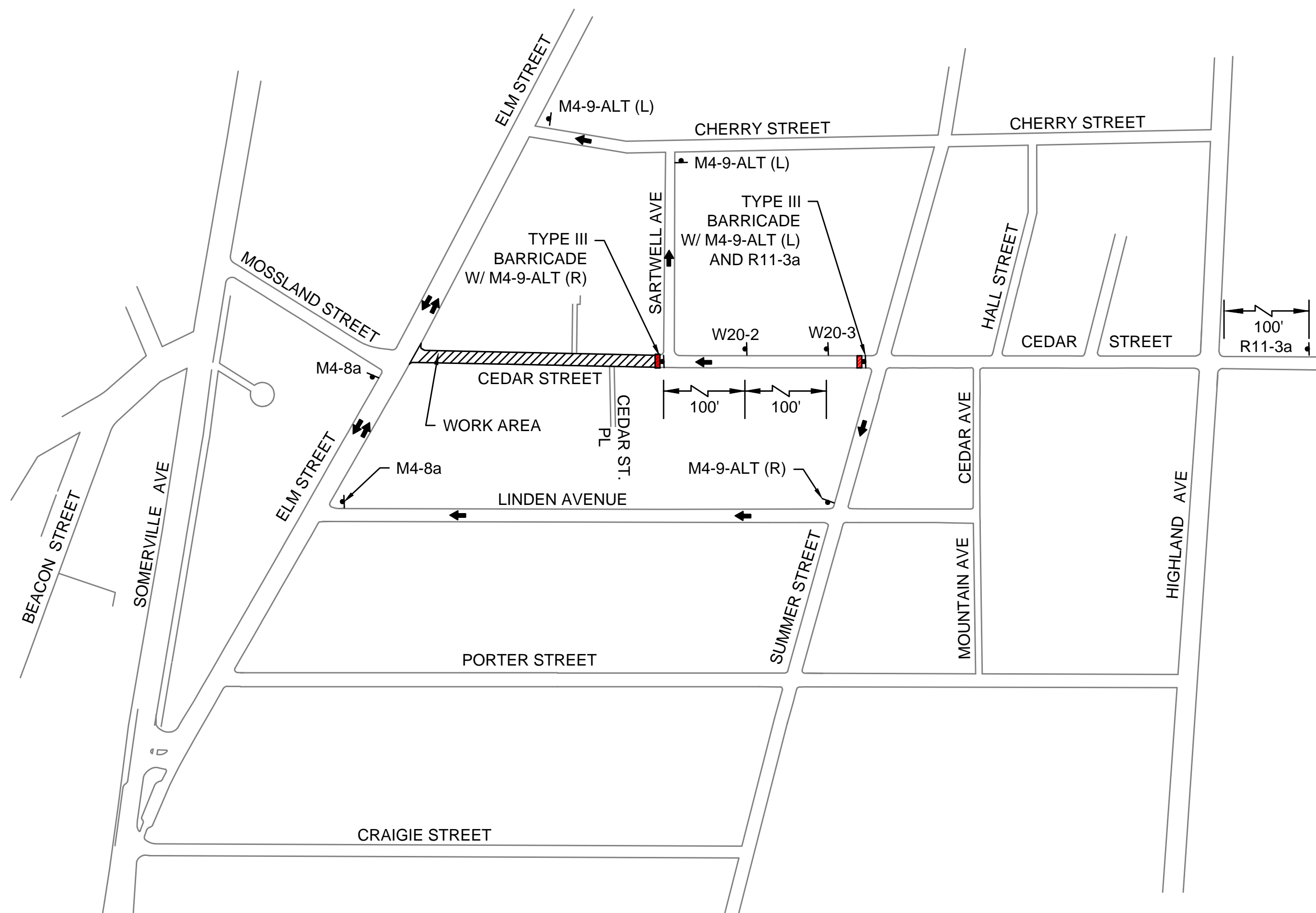
REGISTERED PROFESSIONAL ENGINEER
James F. Keenan
 DATE: 12-10-15



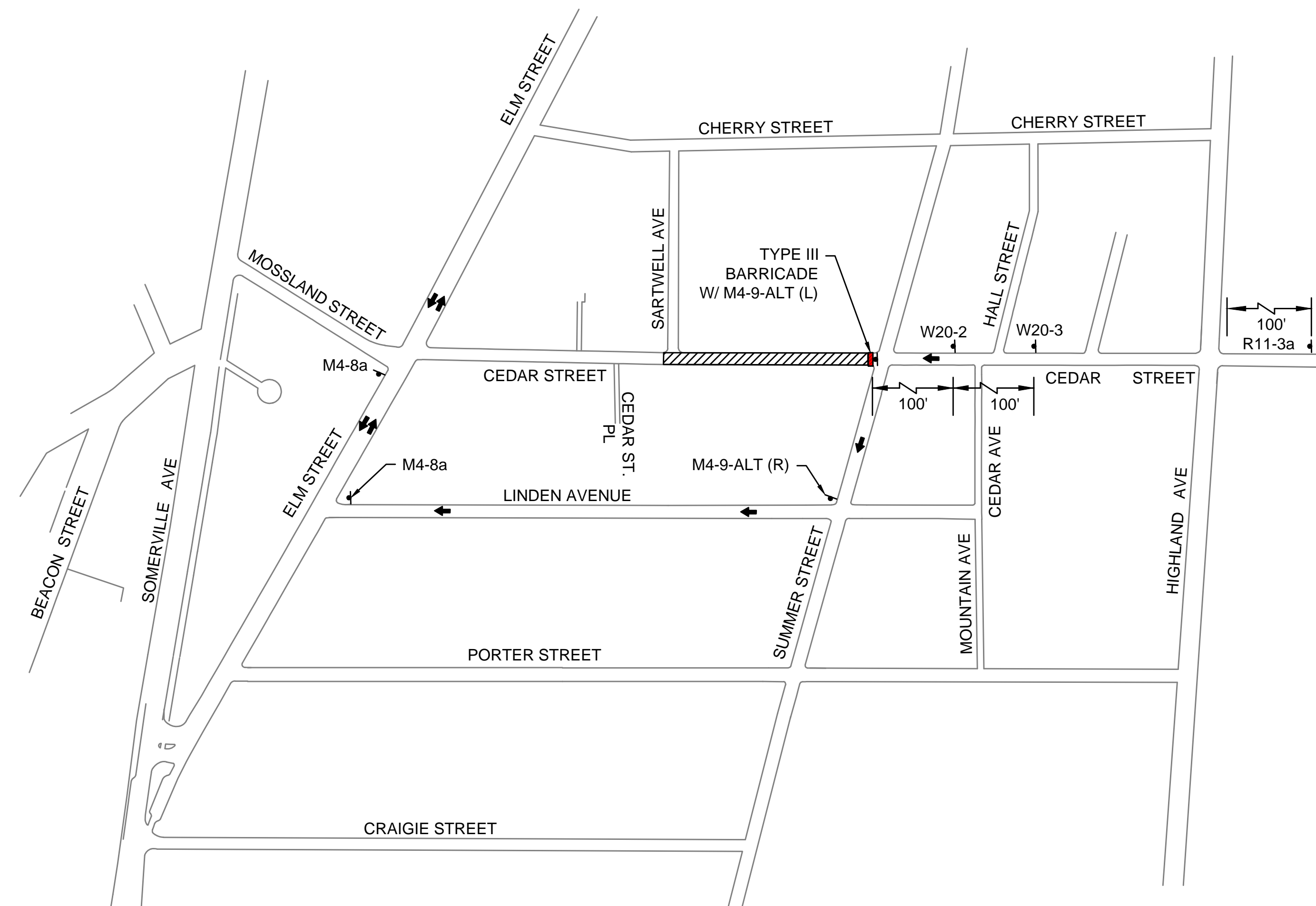
CITY OF SOMERVILLE, MASSACHUSETTS
 DEPARTMENT OF PUBLIC WORKS
 CEDAR STREET SEWER SEPARATION PROJECT

TRAFFIC MANAGEMENT PLAN - HIGHLAND

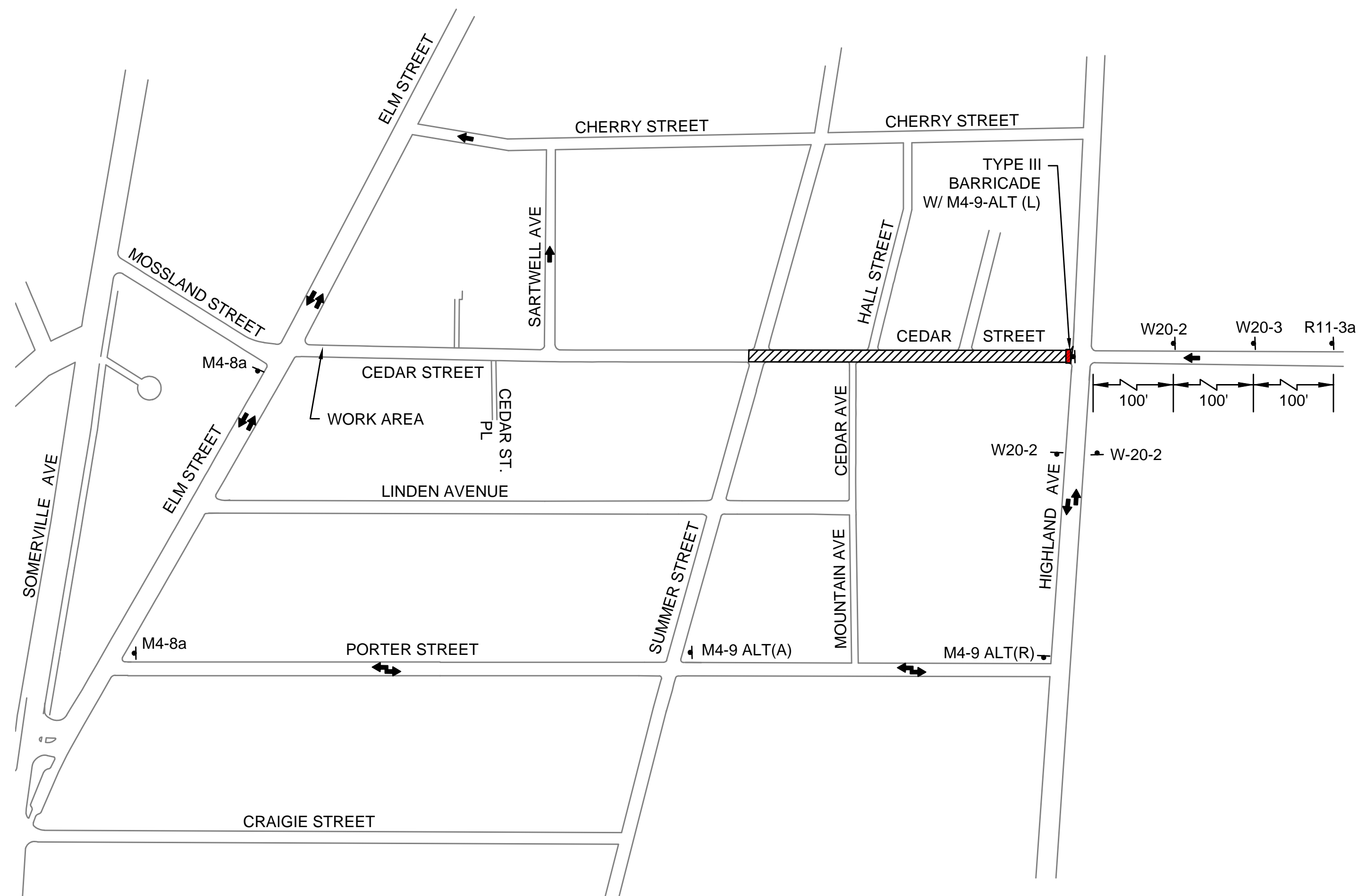
CADD NO. -
 SCALE - AS NOTED
 CONTRACT -
 JOB NO. 21306.36
 DR. BY RKP
 DSN BY RKP
 CHK BY LFK
 APP BY LFK



**PHASE 1 - CEDAR STREET CLOSED
BETWEEN ELM ST AND SARTWELL AVE**
N.T.S.



**PHASE 2 - CEDAR STREET CLOSED
BETWEEN SARTWELL AVE AND SUMMER STREET**
N.T.S.



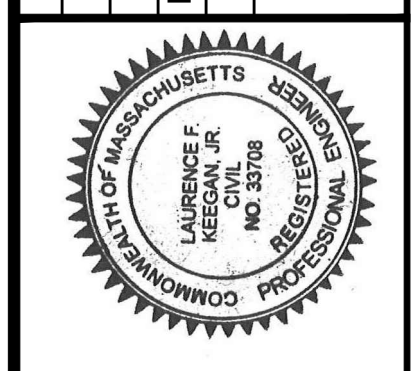
**PHASE 3 - CEDAR STREET CLOSED
BETWEEN SUMMER ST AND HIGHLAND AVE**
N.T.S.

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	NOTES
	WIDTH	HEIGHT		
M4-8a	24"	18"	END DETOUR	
M4-9-ALT (L)	30"	48"	CEDAR ST DETOUR ←	
M4-9-ALT (R)	30"	48"	CEDAR ST DETOUR →	
M4-9-ALT (A)	30"	48"	CEDAR ST DETOUR ↑	
W20-1	48"	48"	ROAD WORK AHEAD	
W20-2	36"	36"	DETOUR AHEAD	
W20-3	48"	48"	ROAD CLOSED AHEAD	
R11-3a	60"	30"	CEDAR STREET CLOSED LOCAL TRAFFIC ONLY	

LEGEND:

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE/FLAGGER DETAIL
- ▨ TYPE III BARRICADE
- ⇄ ARROW BOARD
- ▨ WORK ZONE
- DIRECTION OF TRAFFIC
- ▭ MEDIAN BARRIER
- ▨ MEDIAN BARRIER WITH WARNING LIGHTS
- SIGN

No.	Date	Dr. By	Ck. By	App. By	Description
					DATE
					12-10-15
					REGISTERED PROFESSIONAL ENGINEER
					<i>Lawrence F. Keenan</i>



CITY OF SOMERVILLE, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
CEDAR STREET SEWER SEPARATION PROJECT
TRAFFIC MANAGEMENT PLAN - DETOUR PLAN

CADD NO. 214-51
SCALE: AS NOTED
CONTRACT: -
JOB NO. 2130636
DR. BY: RKP
DSN. BY: RKP
CHK. BY: LFK
APP. BY: LFK