



**PURCHASING DIVISION  
ROOM 210 CITY HALL  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450-8022**

**RAWLE DUMMETT  
PURCHASING OFFICER**

**PHONE 203-630-4115**

**ADDENDUM #001**

**TO THE BID FOR: B024-33 –Center Street /Bridge State Project No. 79-212 Center St Bridge No. 04185**

**FOR: City of Meriden**

**BID DUE DATE: January 24, 2024 @ 11 AM**

The purpose of this Addendum is to provide drawings;

Please acknowledge receipt of all addenda in your Bid Submission.

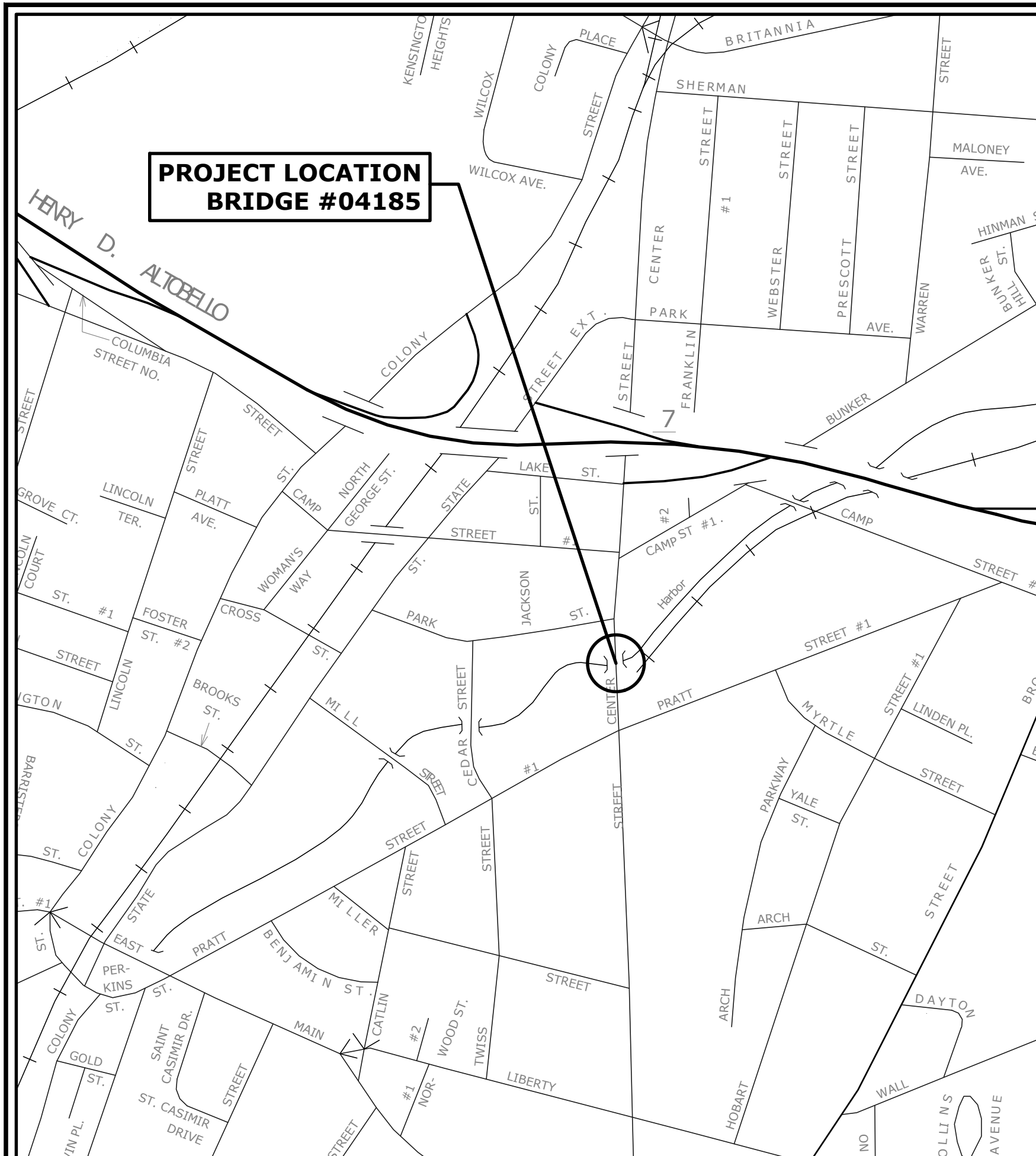
**Bid Delivery** - Proposals may be dropped off prior to January 24, 2024, either in person or by courier service. At this time the City does not have the infrastructure to accept electronic proposals and therefore bids will only be accepted as directed in the Bid documents.

Rawle Dummett  
Purchasing Officer  
Dated: January 3, 2024

# CITY OF MERIDEN, CONNECTICUT

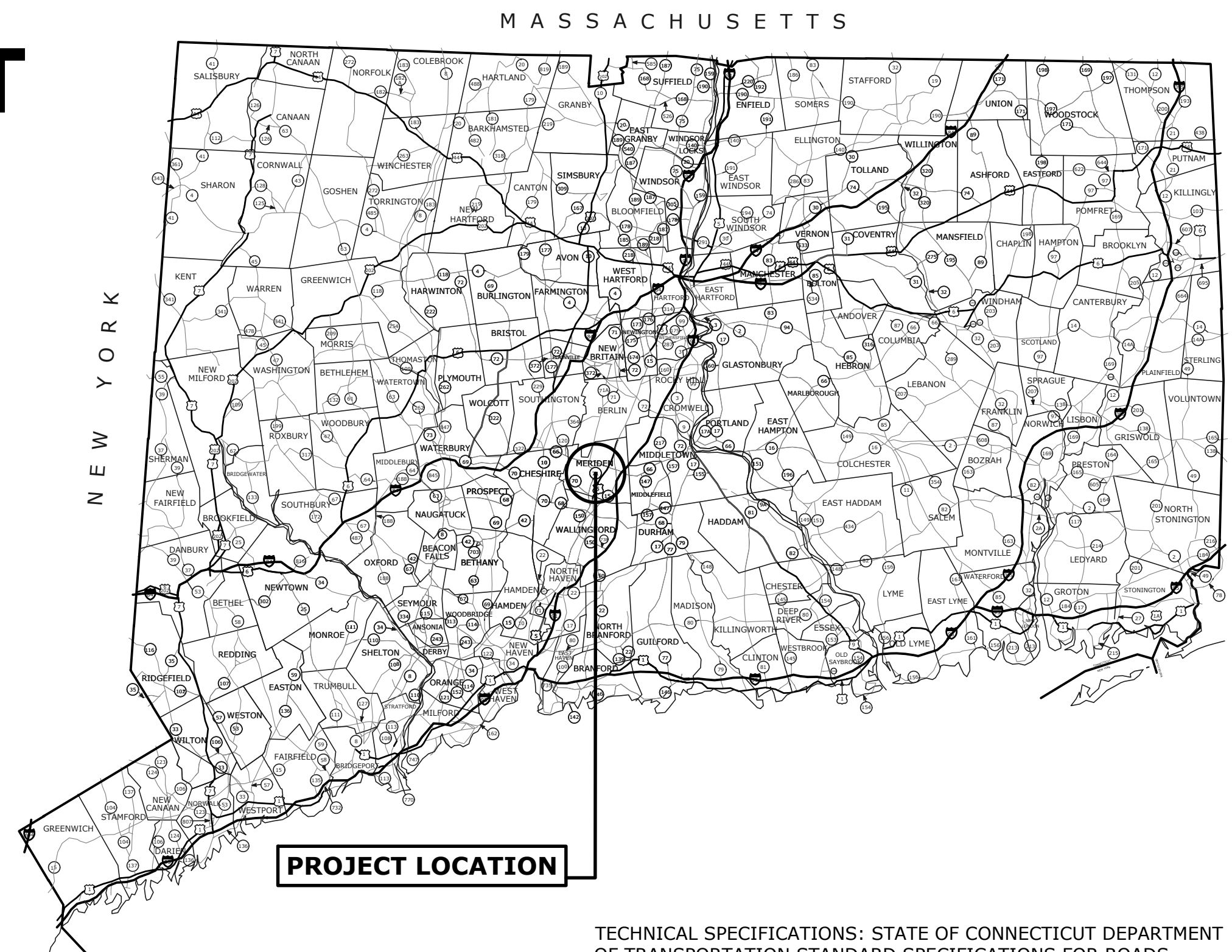
## PLAN FOR REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK

STATE PROJECT #79-212  
 FEDERAL AID PROJECT NO. H020(001)  
 BRIDGES #04185 & #079029  
 ROADWAY RECONSTRUCTION  
 STATION 1+51.54 TO STATION 4+50.00  
 TO BE MAINTAINED BY THE CITY OF MERIDEN



**LOCATION MAP**  
 SCALE: 1" = 500'

ROAD CLASSIFICATION: URBAN COLLECTOR  
 DESIGN SPEED: 30 MPH  
 ADT (ConnDOT): 5770 V.P.D.  
 ROADSIDE CLEAR ZONE: 12' MIN.



TECHNICAL SPECIFICATIONS: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES, AND INCIDENTAL CONSTRUCTION (FORM 818 DATED 2020) AND ALL LATEST SUPPLEMENTAL SPECIFICATIONS DATED JULY 2021 OR LATEST AT THE TIME OF BID THERETO, AS WELL AS ANY SPECIAL PROVISIONS BY THE CITY OF MERIDEN.

DESIGN STANDARDS: AASHTO POLICY ON THE GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, DATED 2004 AND THE CONNECTICUT DEPARTMENT OF TRANSPORTATION HIGHWAY DESIGN MANUAL DATED 2003. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (AASHTO NINTH EDITION), DATED 2020, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL DATED 2003.

SURVEY: ALL COORDINATES ON THE PROJECT ARE BASED ON N.A.D 1927. ALL ELEVATIONS ARE BASED ON N.A.V.D 1929.

CONNECTICUT DEPARTMENT OF TRANSPORTATION OR CITY OF MERIDEN BIDDING AND OTHER INFORMATION AND DOCUMENTS WHICH ARE OBTAINED THROUGH THE INTERNET, WORLD WIDE WEB SITES OR OTHER SOURCES ARE NOT TO BE CONSTRUED TO BE OFFICIAL INFORMATION FOR THE PURPOSES OF BIDDING OR CONDUCTING OTHER BUSINESS WITH THE CITY OF MERIDEN.

IT IS THE RESPONSIBILITY OF EACH BIDDER AND ALL OTHER INTERESTED PARTIES TO OBTAIN ALL BIDDING RELATED INFORMATION AND DOCUMENTS FROM OFFICIAL SOURCES WITHIN THE CITY OF MERIDEN.

PERSONS AND/OR ENTITIES WHICH REPRODUCE AND/OR MAKE SUCH INFORMATION AVAILABLE BY ANY MEANS ARE NOT AUTHORIZED BY THE CITY OF MERIDEN TO DO SO AND MAY BE LIABLE FOR CLAIMS RESULTING FROM THE DISSEMINATION OF UNOFFICIAL, INCOMPLETE AND/OR INACCURATE INFORMATION.

LIST OF DRAWINGS	
SHEET NO.	TITLE
1	TITLE SHEET
2	DETAILED ESTIMATE SHEET
3	DETOUR PLAN
4	EXISTING CONDITIONS PLAN
5	ROADWAY PLAN
6	DRAINAGE AND UTILITY PLAN
7	RIGHT-OF-WAY IMPACT PLAN
8	ROADWAY PROFILE
9	ROADWAY DETAILS
10-12	ROADWAY SECTIONS 1-3
13	SANITARY SEWER SIPHON DETAILS
14-15	SANITARY SEWER DETAILS 1-2
16-17	WATER MAIN DETAILS 1-2
18-20	HANDLING WATER PLAN 1-3
21	HANDLING WATER DETAILS
22	EROSION AND SEDIMENTATION CONTROL DETAILS

LIST OF DRAWINGS	
SHEET NO.	TITLE
23-24	STRUCTURE PLAN, ELEVATION, SECTION, AND NOTES
25-26	BORING LOGS 1-2
27	STRUCTURE LAYOUT
28-29	WINGWALL PLANS AND ELEVATIONS 1-2
30	APPROACH WALL PLANS AND ELEVATIONS
31	WINGWALL REINFORCING DETAILS
32	APPROACH WALL REINFORCING DETAILS
33	24' X 11' PRECAST BOX CULVERT DETAILS
34	12' X 10' PRECAST BOX CULVERT DETAILS
35	PRECAST CONCRETE BOX CULVERT DETAILS
36	CUTOFF AND RETURN WALL PLAN & DETAILS
37	NOSING REINFORCING DETAILS
38-39	MISCELLANEOUS STRUCTURE DETAILS 1-2
40	3-TUBE CURB MOUNTED BRIDGE RAIL DETAILS
EVE 1-EVE 2	EVERSOURCE ELECTRIC UTILITY PLAN
EVG 1-EVG 2	EVERSOURCE GAS UTILITY PLAN

STANDARD DRAWINGS	
DWG. NO.	TITLE
HW-INX-1	HIGHWAY STANDARD INDEX SHEET 1 OF 2
HW-INX-2	HIGHWAY STANDARD INDEX SHEET 2 OF 2
HW-286_01	DRAINAGE TRENCH EXCAVATION
HW-586_03	CATCH BASIN TOPS (TYPES "C" AND "C-L") FOR DOUBLE GRATE TYPE II
HW-586_06	PRECAST CATCH BASIN TYPES FOR DOUBLE GRATE TYPE II
HW-586_08	CATCH BASIN FRAMES AND GRATES
HW-686_01	C.C.M. PIPE INSTALLATION
HW-813-01	GRANITE STONE TRANSITION CURBING
HW-813_02	STONE CURBING
HW-815-01	BITUMINOUS CONCRETE CURBING
HW-822-01	TEMPORARY PRECAST CONCRETE BARRIER CURB
HW-822_02A	TEMPORARY TRAFFIC BARRIER - DETAILS
HW-822_02C	TEMPORARY TRAFFIC BARRIER & TEMPORARY TRAFFIC BARRIER (PINNED)
HW-913_01A	CHAIN LINK FENCE
HW-913_01B	CHAIN LINK FENCE HARDWARE
HW-921-01	DRIVEWAY RAMPS AND SIDEWALKS
TR-INX-1	TRAFFIC STANDARD INDEX SHEET
TR-1205-01	DELINEATION, DELINEATORS AND OBJECT MARKER DETAILS
TR-1208-01	SIGN PLACEMENT AND RETRO REFLECTIVE STRIP DETAILS
TR-1208-02	METAL SIGN POSTS AND SIGN MOUNTING DETAILS
TR-1210-04	PAVEMENT MARKINGS LINES AND SYMBOLS
TR-1210-08	PAVEMENT MARKINGS ON NON FREEWAYS
TR-1220-01	SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS
TR-1220-02	CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES

DESIGNED BY WMC CONSULTING ENGINEERS

SUBMITTED BY *Keegan O. Elder* DATE 08/18/2023

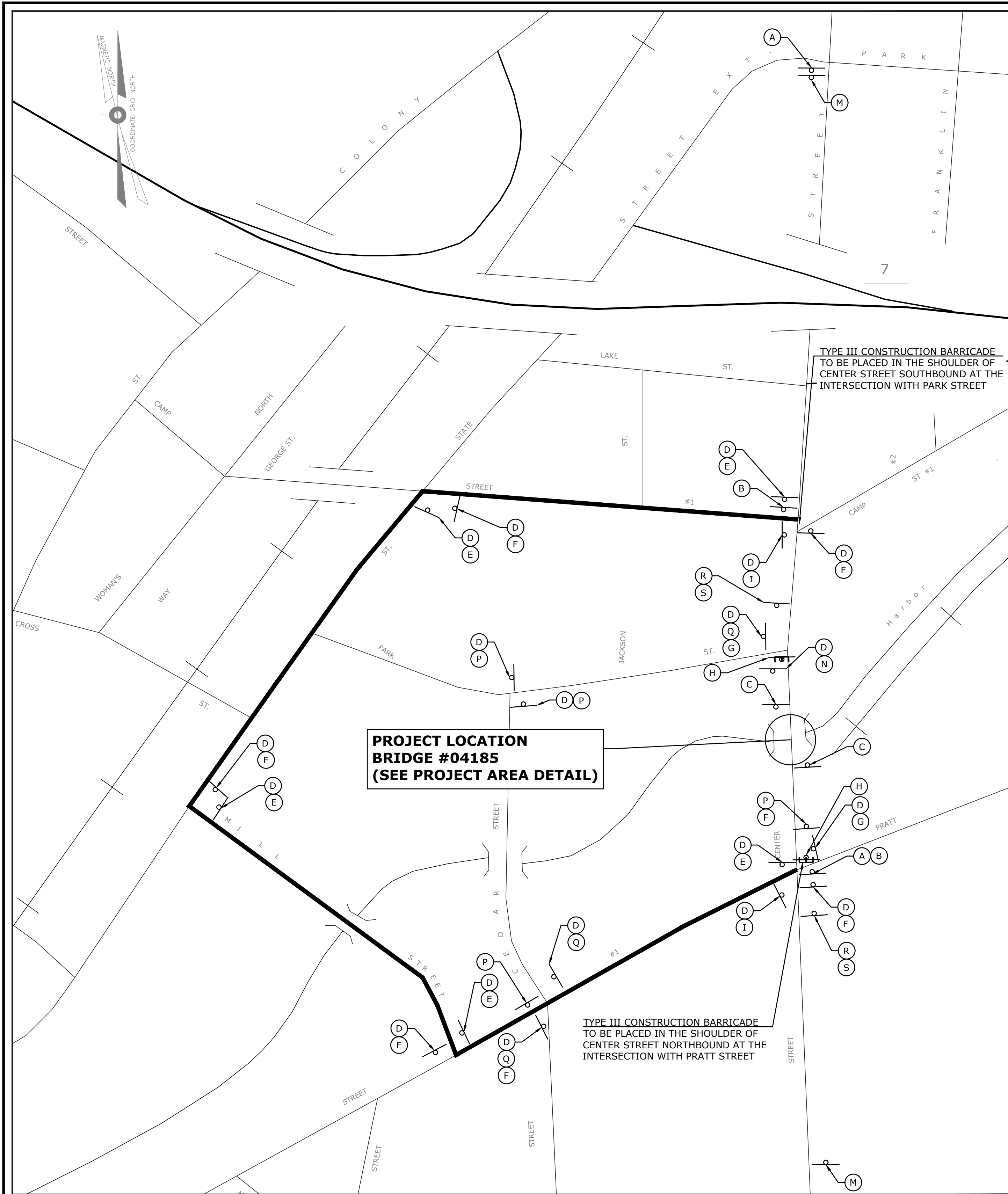
CITY MANAGER - CITY OF MERIDEN

TIMOTHY COON DATE









**PROJECT LOCATION  
BRIDGE #04185  
(SEE PROJECT AREA DETAIL)**

**DETOUR PLAN**

SCALE: 1" = 150'

**NOTES:**

"M" SIGNS SHALL BE PLACED 1,000 FT. SOUTH FROM THE INTERSECTION OF CENTER STREET AND PRATT STREET AND NORTH FROM THE INTERSECTION OF CENTER STREET AND CAMP STREET.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE TOWN AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION
<b>REVISIONS</b>		

SUPV.	J.A.C.
DESIGN	K.O.E.
DRAWN	D.R.B.
CHECKED	K.O.E.
DATE	03/17/2022

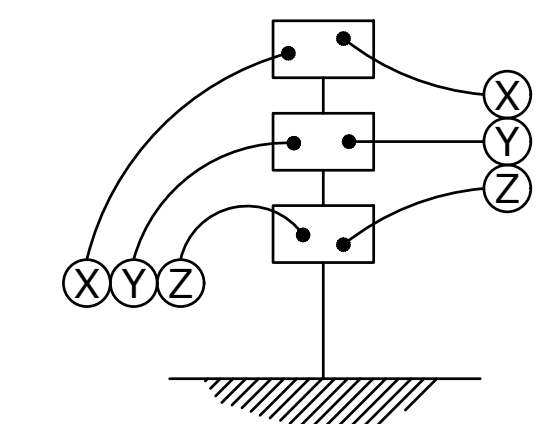
**CENTER STREET BRIDGE REPLACEMENT  
CONSTRUCTION SIGNING**

SIGN	CONNDOT	DIMENSION	DESCRIPTION	NO. REQ.'D
A	80-1608	60" X 42"	CONSTRUCTION AHEAD ROAD USE RESTRICTED STATE LIABILITY LIMITED GENERAL STATUTES SEC 13A-115, 13A-145 COMMISSION OF TRANSPORTATION	2
B	80-1619	48" X 30"	CONSTRUCTION AHEAD SIDEWALK USE RESTRICTED STATE LIABILITY LIMITED GENERAL STATUTES SEC 13A-115, 13A-145 COMMISSION OF TRANSPORTATION	2
* C	80-9929	72" X 48"	CENTER STREET BRIDGE CLOSED TO THRU TRAFFIC FROM 00/00 TO 00/00	2
D	80-9913	60" X 10"	CENTER STREET	19
E	80-9710	30" X 24"	DETOUR (RIGHT ARROW)	5
F	80-9710	30" X 24"	DETOUR (LEFT ARROW)	7
G	80-9710	30" X 24"	DETOUR (STRAIGHT ARROW)	2
H	80-9078	60" X 30"	BRIDGE CLOSED 200 FEET AHEAD. LOCAL TRAFFIC ONLY	2
I	80-9708	24" X 18"	END DETOUR	2
J	80-9076	30" X 18"	SIDEWALK CLOSED	4
K	31-0552	30"	STOP	2
L	80-9080	48" X 30"	ROAD CLOSED	2
M	80-9805	36" X 36"	DETOUR 1000 FT	2
N	80-9713	30" X 30"	PEDESTRIAN & BICYCLE DETOUR (RIGHT ARROW)	1
P	80-9713	30" X 30"	PEDESTRIAN & BICYCLE DETOUR (LEFT ARROW)	4
Q	80-9713	30" X 30"	PEDESTRIAN & BICYCLE DETOUR (STRAIGHT ARROW)	3
** R	80-9603	36" X 36"	ROAD WORK AHEAD	2
** S	80-9810	36" X 36"	ROAD CLOSED 100 FT	2

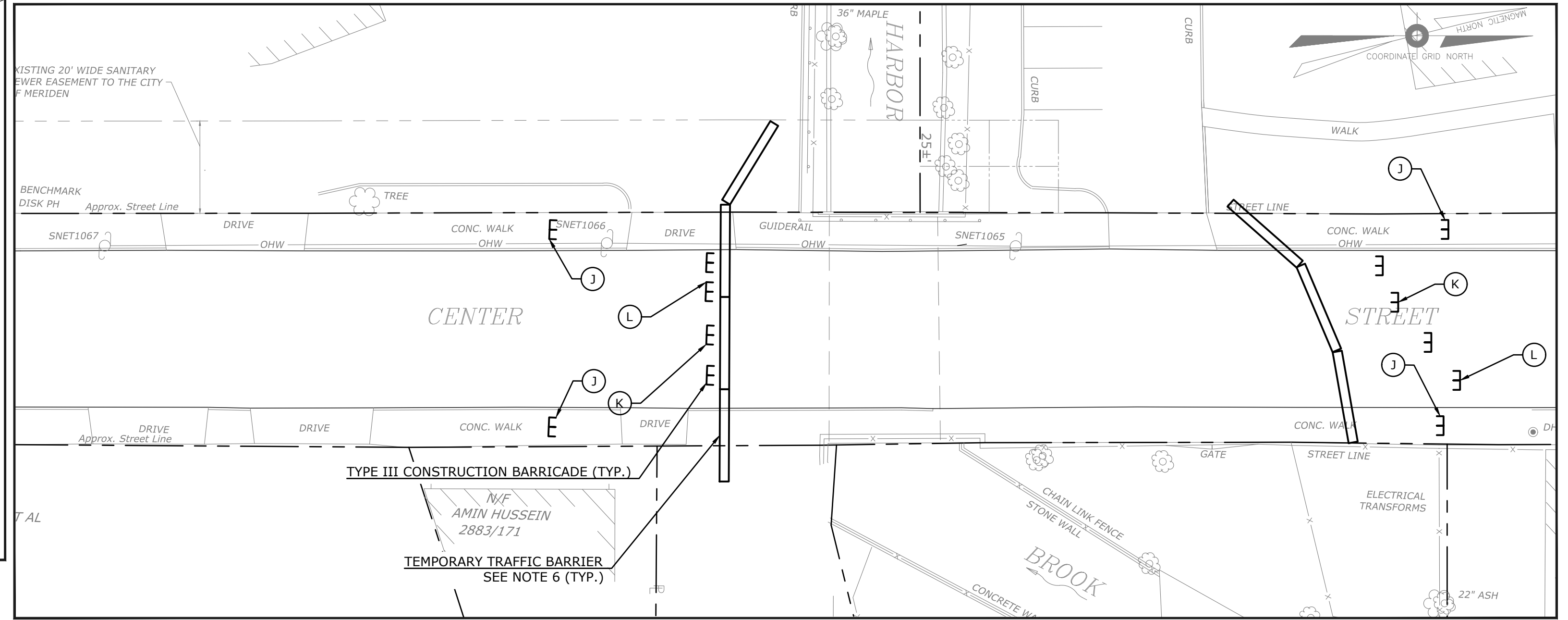
\* INDICATES SIGNS TO BE VISIBLE AT LEAST 2 WEEKS PRIOR TO CONSTRUCTION AND THEN COVERED OR REMOVED DURING CONSTRUCTION (SEE NOTE 7, THIS SHEET).  
\*\* BARRICADE WARNING LIGHTS REQUIRED - HIGH INTENSITY.

**MAINTENANCE AND PROTECTION OF TRAFFIC NOTES**

- SIGNS LOCATIONS ARE APPROXIMATE AND SHALL BE ADJUSTED AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL CLOSE CENTER STREET FOR THE DURATION OF THE BRIDGE REPLACEMENT AND ROADWAY CONSTRUCTION.
- ALL TRAFFIC OVER CENTER STREET SHALL BE DETOURED TO PRATT STREET, MILL STREET, STATE STREET AND CAMP STREET.
- TEMPORARY TRAFFIC BARRIERS SHALL BE PROVIDED AT BOTH ENDS OF THE WORK AREA TO ADEQUATELY WARN AND PROHIBIT MOTORISTS AND PEDESTRIANS FROM USING THE BRIDGE DURING CONSTRUCTION. THE BARRIERS SHALL EXTEND ACROSS THE FULL WIDTH OF THE EXISTING ROADWAY AND BEYOND. THE CONTRACTOR SHALL ALSO PROVIDE MOVEABLE TYPE III CONSTRUCTION BARRICADE IN FRONT OF THE TEMPORARY TRAFFIC BARRIERS, OR AS ORDERED BY THE ENGINEER, TO FURTHER INSURE MOTORIST AND PEDESTRIAN SAFETY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE UPRIGHT STABILITY OF THE TYPE III CONSTRUCTION BARRICADES AT ALL TIMES.
- ALL TRAFFIC CONTROL AND PROTECTION DEVICES, INCLUDING PAVEMENT MARKINGS, SHALL BE IN PLACE BEFORE RESPECTIVE CONSTRUCTION OPERATION COMMENCES.
- ALL TEMPORARY TRAFFIC BARRIERS TO HAVE THREE (3) TYPE DE-7A DELINEATORS MOUNTED ON TOP (10' SPACING) AND REFLECTIVE TAPE ON TRAFFIC SIDE FOR THE ENTIRE LENGTH.
- THE CONTRACTOR SHALL POST THE ADVANCE NOTICE SIGNS AT LEAST 2 WEEKS PRIOR TO CLOSING THE ROAD. NOTICE TO PROCEED WILL BE GIVEN TO INSTALL THE ADVANCED NOTICE SIGNS, BUT THE ROAD MUST REMAIN OPEN UNTIL THE DATE ON THE ADVANCE NOTICE SIGNS.
- ALL EXISTING CONFLICTING SIGNS SHALL BE COVERED OR REMOVED WHILE THE DETOUR IS IN EFFECT. ANY REMOVED SIGN SHALL BE REINSTALLED BEFORE THE BRIDGE IS REOPENED TO TRAFFIC.
- ALL DETOUR SIGNS SHALL BE COVERED WHILE THE DETOUR IS NOT IN EFFECT.



**SIGN MOUNTING ORDER**



**PROJECT AREA DETAIL**

SCALE: 1" = 20'-0"

**WMC**  
CONSULTING ENGINEERS

WENGELL, McDONNELL & COSTELLO  
87 HOLMES ROAD  
NEWINGTON, CT 06111  
(860) 667-9624

**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
DETOUR PLAN**

D - CENTER STREET	D.C.D.	00056.55		SHEET	3
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF
					40

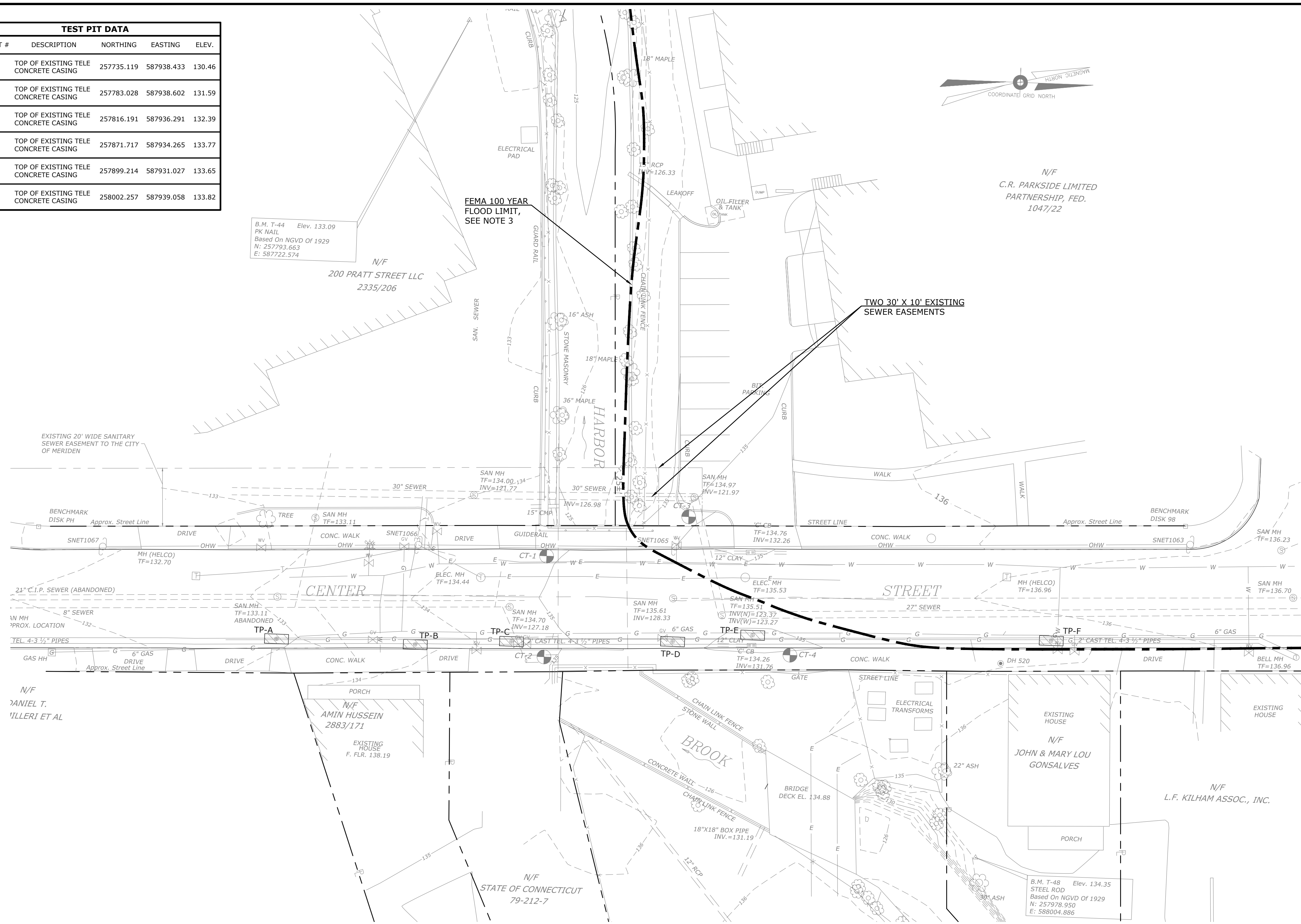
TEST PIT DATA				
TEST PIT #	DESCRIPTION	NORTHING	EASTING	ELEV.
TP-A	TOP OF EXISTING TELECONCRETE CASING	257735.119	587938.433	130.46
TP-B	TOP OF EXISTING TELECONCRETE CASING	257783.028	587938.602	131.59
TP-C	TOP OF EXISTING TELECONCRETE CASING	257816.191	587936.291	132.39
TP-D	TOP OF EXISTING TELECONCRETE CASING	257871.717	587934.265	133.77
TP-E	TOP OF EXISTING TELECONCRETE CASING	257899.214	587931.027	133.65
TP-F	TOP OF EXISTING TELECONCRETE CASING	258002.257	587939.058	133.82

B.M. T-44 Elev. 133.09  
PK NAIL  
Based On NGVD of 1929  
N: 257793.663  
E: 587722.574

N/F  
200 PRATT STREET LLC  
2335/206



N/F  
C.R. PARKSIDE LIMITED  
PARTNERSHIP, FED.  
1047/22



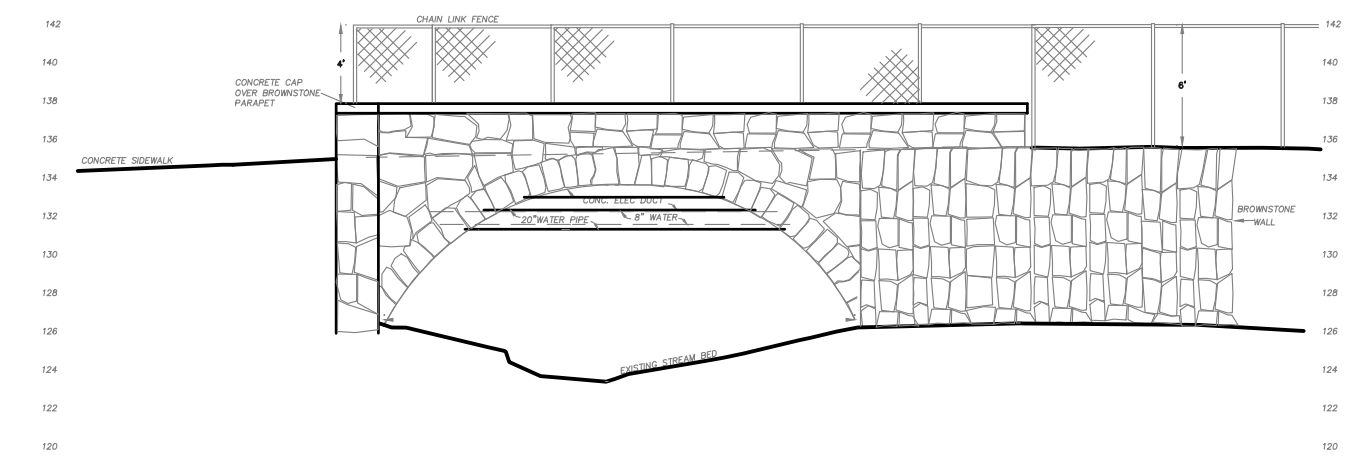
**EXISTING PLAN**  
SCALE: 1" = 20'

**NOTES:**

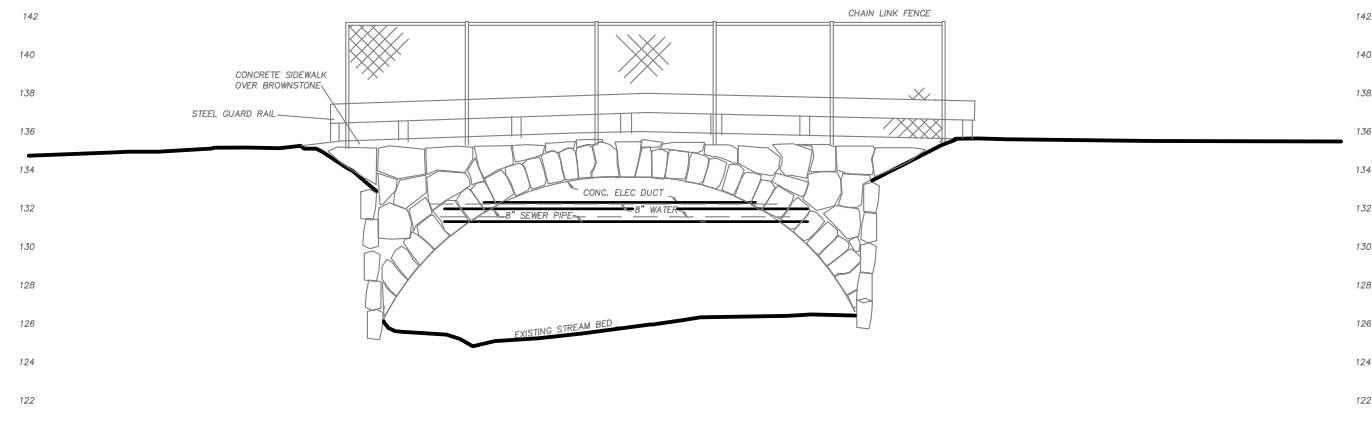
- ORDINARY HIGH WATER FLAGGED BY SOIL SCIENCE ENVIRONMENTAL SERVICES, INC. AND FIELD LOCATED BY WILLIAM HEARN, L.S.
- HORIZONTAL DATUM STATE CONSTRUCTION CONTROL POINTS ON COOK AVENUE BRIDGE PROJECT DRILL HOLES. BULK OF FIELD SURVEY PERFORMED DEC. 2014.
- THERE IS NO FEMA FLOODWAY FOR THIS REACH OF HARBOR BROOK. DEPICTED FLOOD LIMITS EXTEND BEYOND LIMITS OF PLAN.

**MAP REFERENCES:**

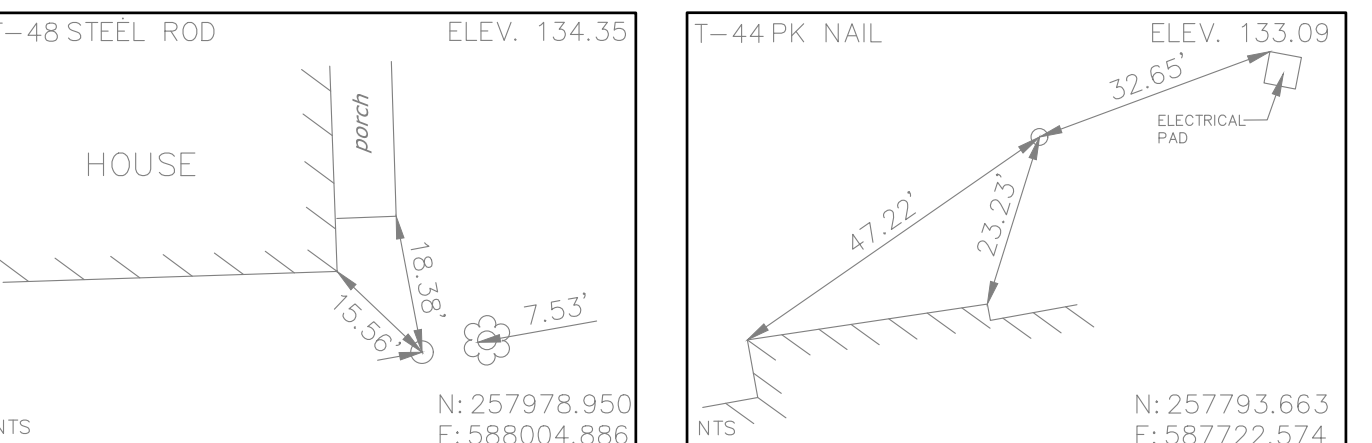
- THE TYPE OF SURVEY PERFORMED AND THE MAPPED FEATURES DEPICTED HEREON ARE IN ACCORDANCE WITH THE REQUIREMENTS OF A PROPERTY/BOUNDARY SURVEY AND A TOPOGRAPHIC SURVEY.
- THE BOUNDARY DETERMINATION/OPINION IS BASED UPON A RESURVEY OF MAP REFERENCES LISTED.
- THE HORIZONTAL BASELINE CONFORMS TO A CLASS A-2 ACCURACY.
- THE TOPOGRAPHIC SURVEY CONFORMS TO A CLASS T-2 ACCURACY.



**EXISTING UPSTREAM STRUCTURE ELEVATION (LOOKING DOWNSTREAM)**  
SCALE: 1" = 10'-0"



**EXISTING DOWNSTREAM STRUCTURE ELEVATION (LOOKING UPSTREAM)**  
SCALE: 1" = 10'-0"



**SURVEY CONTROL TIES**  
SCALE: N.T.S.

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NO.	DATE	DESCRIPTION
<b>REVISIONS</b>		

<p>SUPV. J.A.C.</p> <p>DESIGN K.O.E.</p> <p>DRAWN D.R.B.</p> <p>CHECKED K.O.E.</p> <p>DATE 03/17/2022</p>	<p><b>WMC</b> CONSULTING ENGINEERS</p> <p>• WENGELL, McDONNELL &amp; COSTELLO • 87 HOLMES ROAD NEWINGTON, CT 06111 (860) 667-9624</p>	<p><b>PREPARED FOR</b> CITY OF MERIDEN 142 EAST MAIN STREET MERIDEN, CONNECTICUT 06450</p>	<p><b>REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK EXISTING CONDITIONS PLAN</b></p>
		SHEET 4	
		D - CENTER STREET - D.C.D. - 00056.55 - SHEET 4	
		SIZE PROJECT FILE NAME NUMBER REV. OF 40	





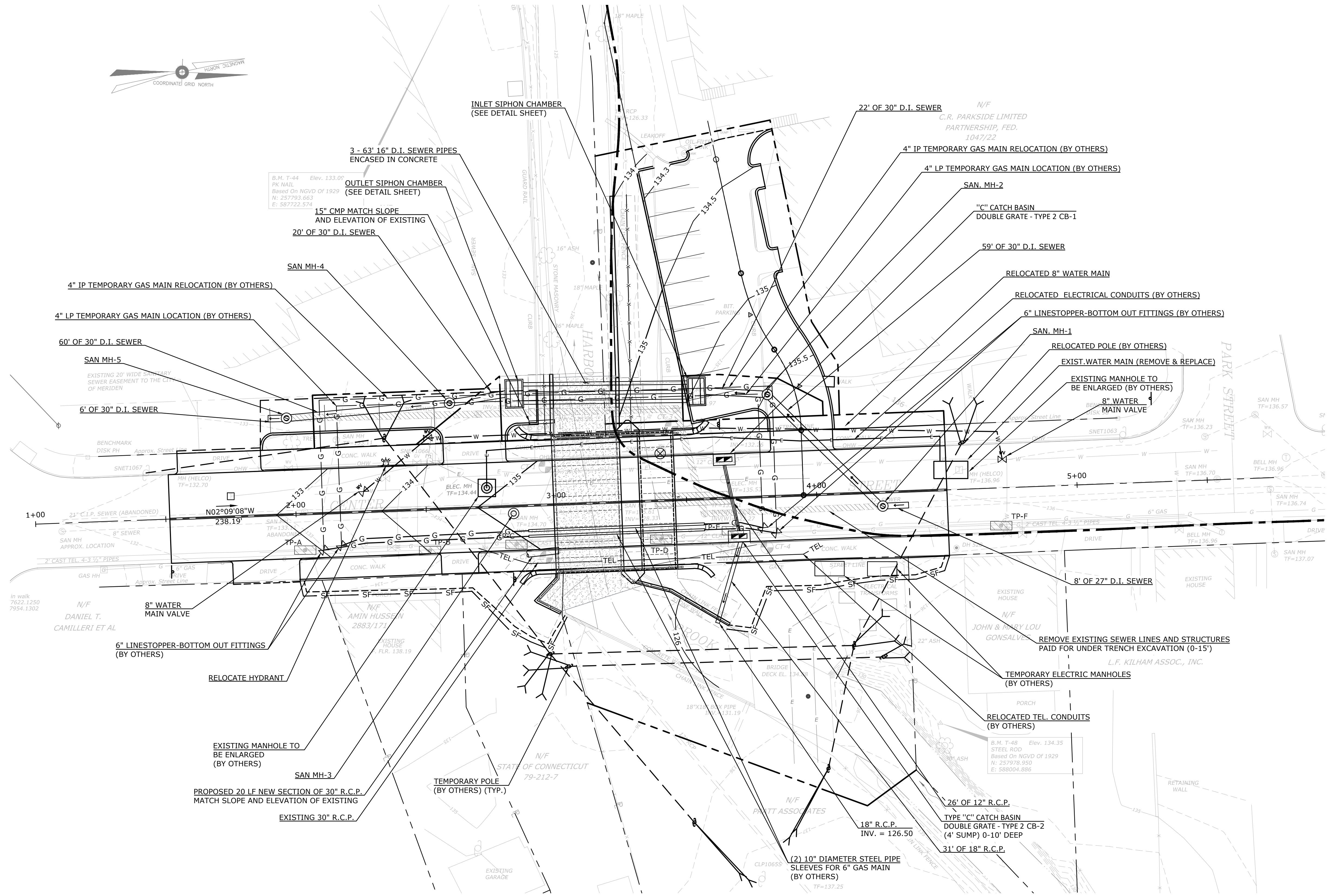


SANITARY MANHOLE DATA				
STRUCTURE #	STATION & OFFSET	TOP FRAME ELEV.	INVERT IN ELEV.	INVERT OUT ELEV.
SAN MH-1	STA. 4+25.17 5.31' R	135.20	MATCH EXISTING	123.50
SAN MH-2	STA. 3+82.46 39.13' L	134.97	121.97	121.50
SAN MH-3	STA. 2+83.47 2.83' R	134.70	-	MATCH EXISTING
SAN MH-4	STA. 2+60.45 40.39' L	134.00	121.00	120.95
SAN MH-5	STA. 1+97.68 36.97' L	133.00	120.5	MATCH EXISTING

CATCH BASIN DATA				
STRUCTURE #	STATION & OFFSET	TOP FRAME ELEV.	INVERT IN ELEV.	INVERT OUT ELEV.
CB-1	STA. 3+65.01 14.89' L	135.31	N/A	130.80
CB-2	STA. 3+69.67 14.70' R	135.24	130.50	127.00

**NOTE:**  
ALL STATIONS ARE TAKEN AT THE CENTER OF DRAINAGE COMPONENTS.



**DRAINAGE AND UTILITY PLAN**  
SCALE: 1" = 20'

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SUPV.	J.A.C.	
DESIGN	K.O.E., M.R.G.	
DRAWN	M.R.G.	
CHECKED	K.O.E.	
NO.	DATE	DESCRIPTION
<b>REVISIONS</b>		
	03/17/2022	

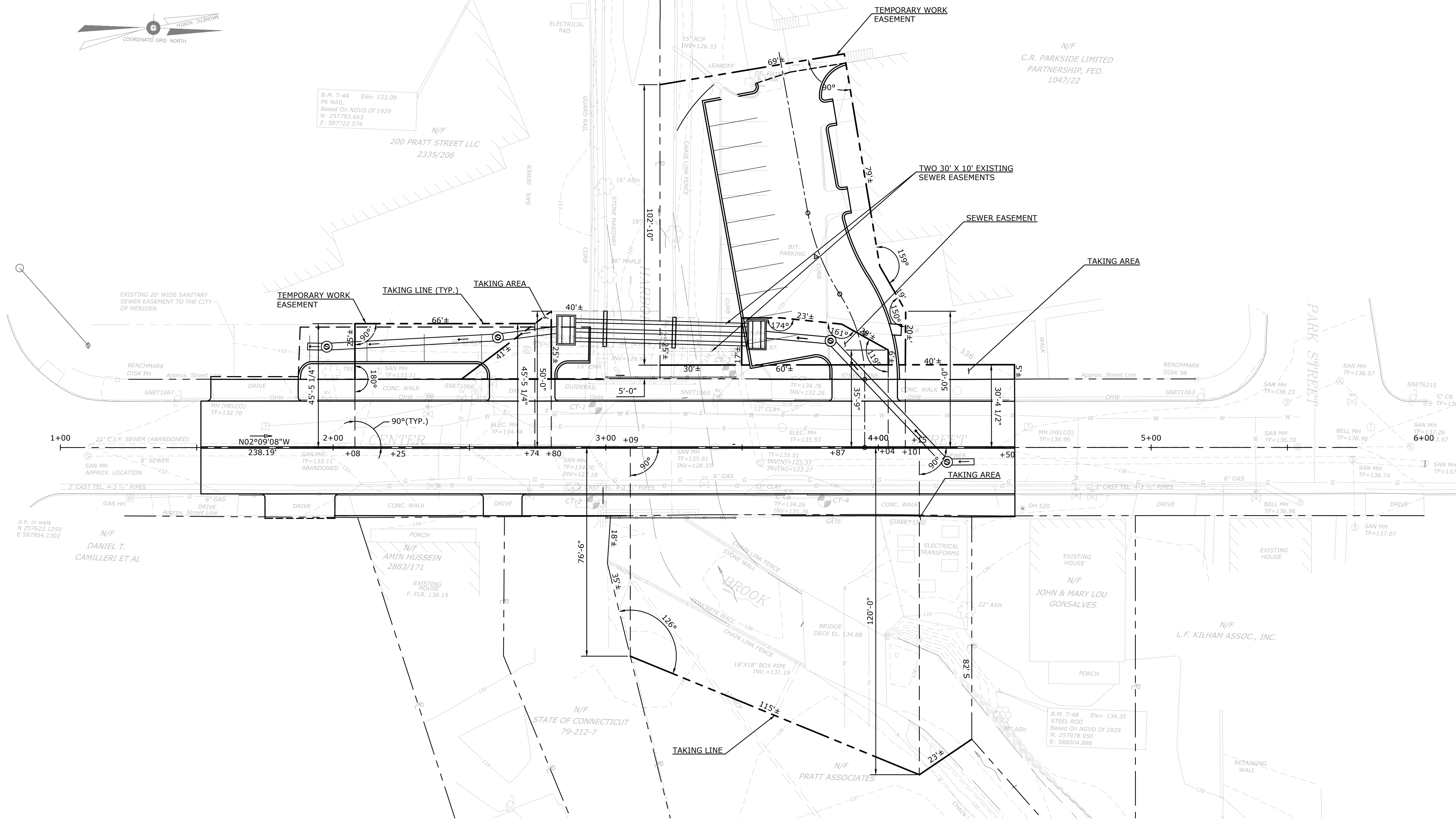

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**REPLACEMENT OF CENTER STREET BRIDGE  
 OVER HARBOR BROOK  
 DRAINAGE AND UTILITY PLAN**

D - CENTER STREET	D.C.D.	00056.55	SHEET	6
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF
				40





**RIGHT-OF-WAY IMPACT PLAN**  
SCALE: 1" = 20'

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		SUPV.	J.A.C.
		DESIGN	K.O.E., M.R.G.
		DRAWN	M.R.G.
		CHECKED	K.O.E.
		DATE	03/17/2022
NO.	DATE	DESCRIPTION	
<b>REVISIONS</b>			



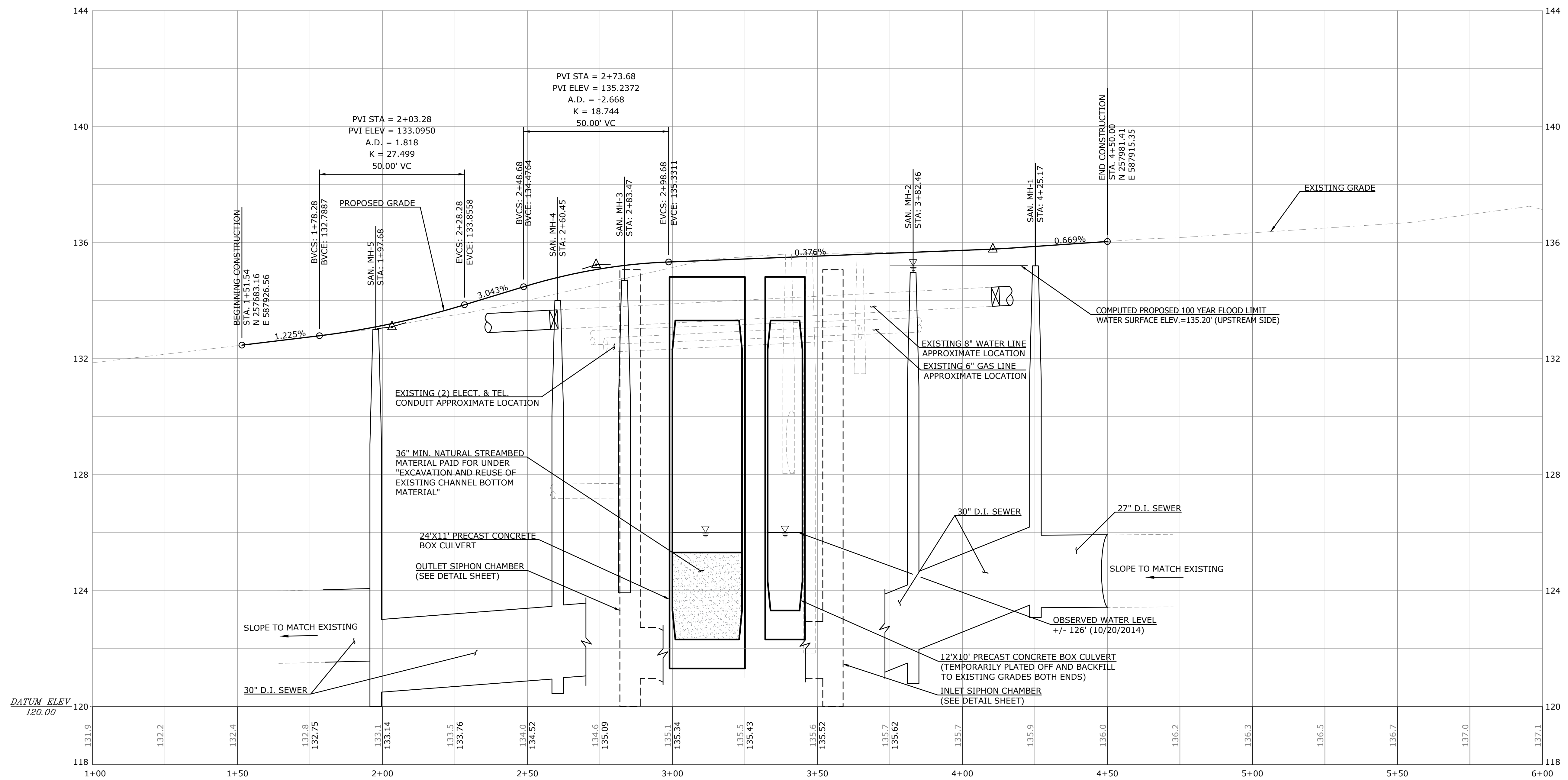
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**PREPARED FOR**

CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
RIGHT-OF-WAY IMPACT PLAN**

D - CENTER STREET	D.C.D. - 00056.55	SHEET	7
SIZE	PROJECT	FILE NAME	NUMBER
		REV.	OF
			40



**ROADWAY PROFILE**

HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 2'

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		DRAWN	M.R.G.
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NO.	DATE	DESCRIPTION	
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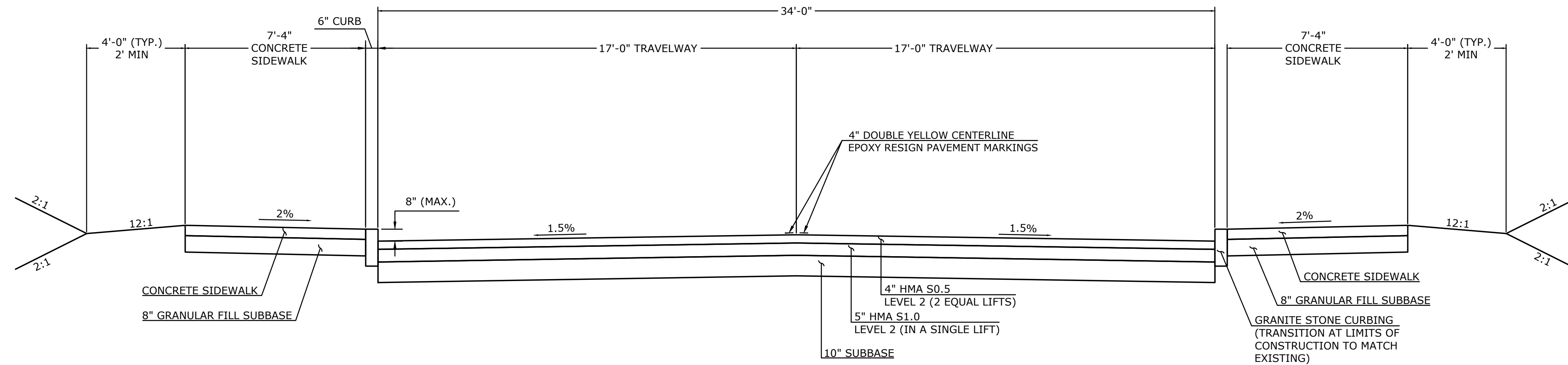
**WMC**  
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 CITY OF MERIDEN  
 142 EAST MAIN STREET  
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**REPLACEMENT OF CENTER STREET BRIDGE  
 OVER HARBOR BROOK  
 ROADWAY PROFILE**

D - CENTER STREET	D.C.D. - 00056.55	SHEET	8
SIZE PROJECT	FILE NAME NUMBER	REV.	OF 40

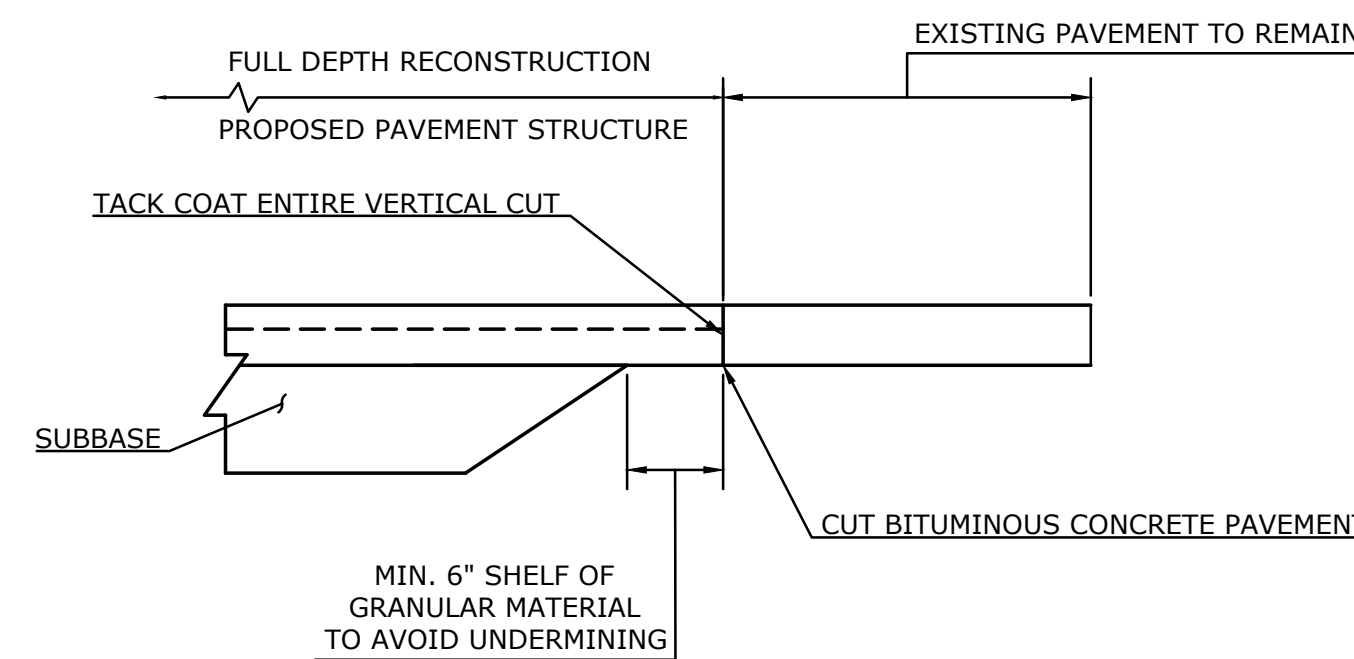


**TYPICAL ROADWAY DETAIL**  
NOT TO SCALE

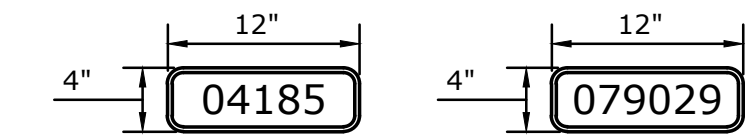
CURBING		
ITEM	STATION	LOCATION
BITUMINOUS CONCRETE LIP CURBING	1+87.23 (L) TO 2+57.38 (L)	200 PRATT STREET DRIVEWAY AROUND LANDSCAPE ISLAND
	N/A	APPROACH WALL 1A
	N/A	C.R PARKSIDE PARKING LOT
6" GRANITE STONE CURBING	1+87.30 (L) TO 2+56.70 (L)	CENTER STREET
	3+69.18 (L) TO 3+83.03 (L)	CENTER STREET
	4+08.40 (L) TO 4+50.00 (L)	CENTER STREET
	1+65.54 (R) TO 1+74.53 (R)	CENTER STREET
	2+01.13 (R) TO 2+54.91 (R)	CENTER STREET
6" X 10" GRANITE STONE CURBING FOR BRIDGES	3+73.85 (R) TO 4+50.00 (R)	CENTER STREET
	2+99.00 (L) TO 3+45.67 (7)	BRIDGE SIDEWALK
	2+99.00 (R) TO 3+45.67 (R)	BRIDGE SIDEWALK

CURBING TRANSITION		
ITEM	STATION	LOCATION
GRANITE STONE TRANSITION CURBING	8" REVEAL AT BRIDGE CORNER TRANSITION TO 6" REVEAL AT STATION 2+69.47 (R)	CENTER STREET
	8" REVEAL AT BRIDGE CORNER TRANSITION TO 6" REVEAL OR EXISTING AT STATION 3+65.52 (R)	CENTER STREET
	8" REVEAL AT BRIDGE CORNER TRANSITION TO 6" REVEAL AT STATION 2+80.88 (L)	CENTER STREET
	8" REVEAL AT BRIDGE CORNER TRANSITION TO 6" REVEAL AT STATION 3+60.85 (L)	CENTER STREET

NOTE: 6" REVEAL ELSEWHERE



**ROADWAY PAVEMENT TRANSITION DETAIL AT CONSTRUCTION LIMITS**  
NOT TO SCALE



**BRIDGE IDENTIFICATION PLACARDS**  
NOT TO SCALE



**CONNDOT SIGN NO. 51-2009** **CONNDOT SIGN NO. 41-4602**  
NOT TO SCALE

SCHEDULE OF SIGNS							
CONNDOT SIGN NO.	SIZE	LEGEND	LOCATION	ALUM. THK.	POSTS	BACKGROUND COLOR	LEGEND COLOR
51-2009	18" X 12"	HARBOR BROOK	STA. 2+80±, 19± R	0.080	1	GREEN	WHITE
51-2009	18" X 12"	HARBOR BROOK	STA. 3+78±, 24± L	0.080	1	GREEN	WHITE
41-4602	36"	ROAD MAY FLOOD	STA. 1+51±, 20± R	0.080	1	YELLOW	BLACK
41-4602	36"	ROAD MAY FLOOD	STA. 4+50±, 28± L	0.080	1	YELLOW	BLACK
N/A	12" X 4"	04185	APPROACH WALL 1B	-	-	GREEN	WHITE
N/A	12" X 4"	079029	APPROACH WALL 2A	-	-	GREEN	WHITE

\* NOTE: ALL COLORS SHALL BE TYPE IX RETROREFLECTIVE WITH THE EXCEPTION OF BLACK WHICH SHALL BE OPAQUE.

- NOTES:**
- FOR SPECIFIC SIGN DESIGN CONTACT CONN. D.O.T., DIVISION OF TRAFFIC ENGINEERING. FOR BOLT HOLE PATTERN REFER TO FHWA PUBLICATION "STANDARD HIGHWAY SIGNS". SIGNS OF DIFFERENT DIMENSIONS TO BE ERRECTED ON THE SAME POSTS, OR SPAN/MAST ARM MOUNTED, MAY REQUIRE SPECIAL BOLT HOLE PATTERNS.
  - POSTS - SEE STANDARD SHEET TR-1208\_02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS."
  - POSTS - SHALL BE 4 LBS./FT.
  - SIGNS SHALL BE FABRICATED OF ONE CONTINUOUS PIECE OF SHEET ALUMINUM. SPLICING OF SHEET ALUMINUM WILL NOT BE ACCEPTED.
  - SIGNS SHALL BE PAID FOR UNDER ITEM "SIGN FACE-SHEET ALUMINIUM (TYPE IX RETROREFLECTIVE SHEETING)".

**BRIDGE IDENTIFICATION PLACARDS:**  
THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW BRIDGE IDENTIFICATION SIGNS AT THE LEADING END OF EACH BRIDGE APPROACH WALL ON THE TRAFFIC SIDE. THE SIGNS SHALL BE FABRICATED WITH 40 GAUGE ALUMINUM SHEET METAL. THE SIGNS SHALL BE 4" X 12" WITH 3" WHITE REFLECTIVE BLOCK LETTERS ON GREEN REFLECTIVE SHEETING. EACH SIGN SHALL READ "04185" & "079029". ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE BRIDGE SIGNS SHALL BE COVERED UNDER THE ITEM "SIGN FACE SHEET ALUMINIUM (TYPE IX RETROREFLECTIVE SHEETING)". THE FINAL LOCATION AND ATTACHMENT METHOD FOR THE SIGNS WILL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE TOWN AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION
<b>REVISIONS</b>		

SUPV.	J.A.C.
DESIGN	K.O.E., M.R.G.
DRAWN	M.R.G.
CHECKED	K.O.E.
DATE	03/17/2022



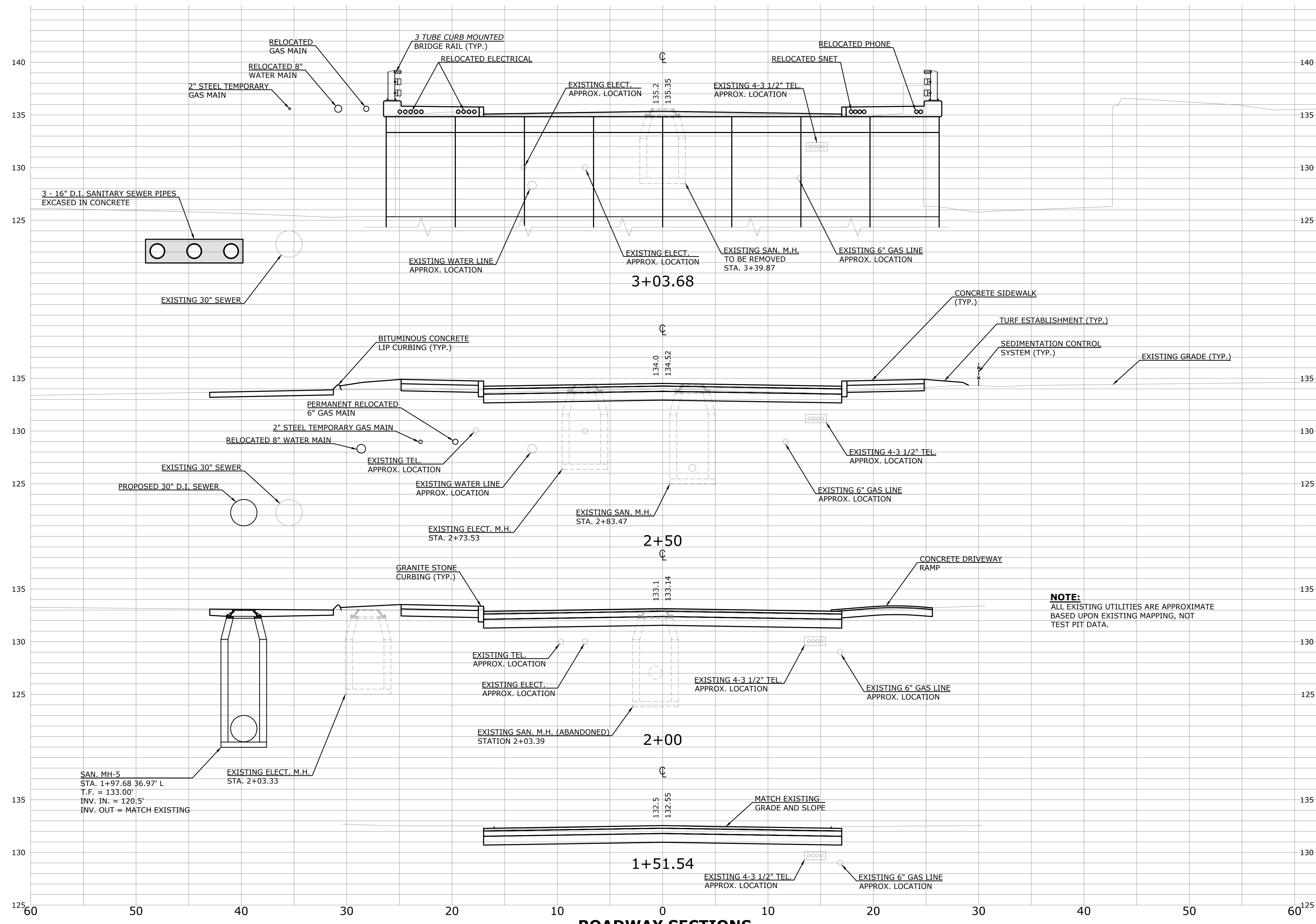
WENGELL, McDONNELL & COSTELLO  
87 HOLMES ROAD  
NEWINGTON, CT 06111  
(860) 667-9624

**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK ROADWAY DETAILS**

D	-	CENTER STREET	-	D.C.D.	-	00056.55	-	SHEET	9
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF				





**NOTE:**  
ALL EXISTING UTILITIES ARE APPROXIMATE  
BASED UPON EXISTING MAPPING, NOT  
TEST PIT DATA.

**ROADWAY SECTIONS**  
SCALE: 1" = 5'-0"

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		CHECKED	K.O.E.
		DATE	03/17/2022
NO.	DATE	DESCRIPTION	
<b>REVISIONS</b>			

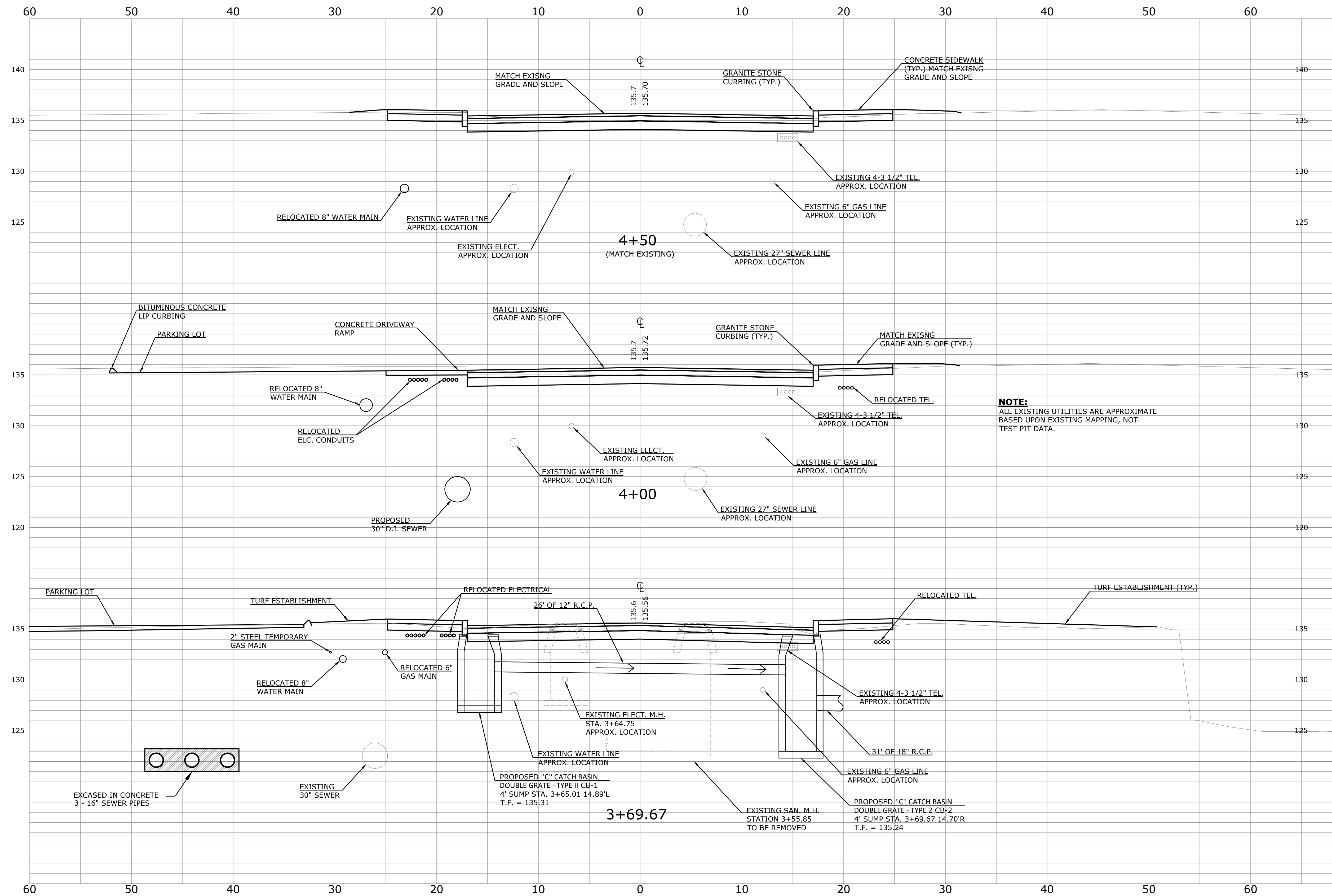

**WMC**  
CONSULTING ENGINEERS

• WENGELL, McDONNELL & COSTELLO •  
87 HOLMES ROAD  
NEWINGTON, CT 06111  
(860) 667-9624

**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
ROADWAY SECTIONS 1**

D - CENTER STREET	D.C.D. - 00056.55	SHEET	10
SIZE	PROJECT	FILE NAME	NUMBER
		REV.	OF
			40



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**ROADWAY SECTIONS**  
SCALE: 1" = 5'-0"

SUPV.	J.A.C.	
DESIGN	K.O.E., M.R.G.	
DRAWN	M.R.G.	
CHECKED	K.O.E.	
DATE	03/17/2022	
REVISIONS		
NO.	DATE	DESCRIPTION


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MERIDEN, CONNECTICUT 06450

<b>REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK ROADWAY SECTIONS 2</b>				
D - CENTER STREET	D.C.D.	00056.55	REV.	SHEET 11
SIZE	PROJECT	FILE NAME	NUMBER	OF 40



**ROADWAY SECTIONS**  
SCALE: 1" = 5'-0"

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		DRAWN	M.R.G.
		CHECKED	K.O.E.
		DATE	03/17/2022
NO.	DATE	DESCRIPTION	
<b>REVISIONS</b>			

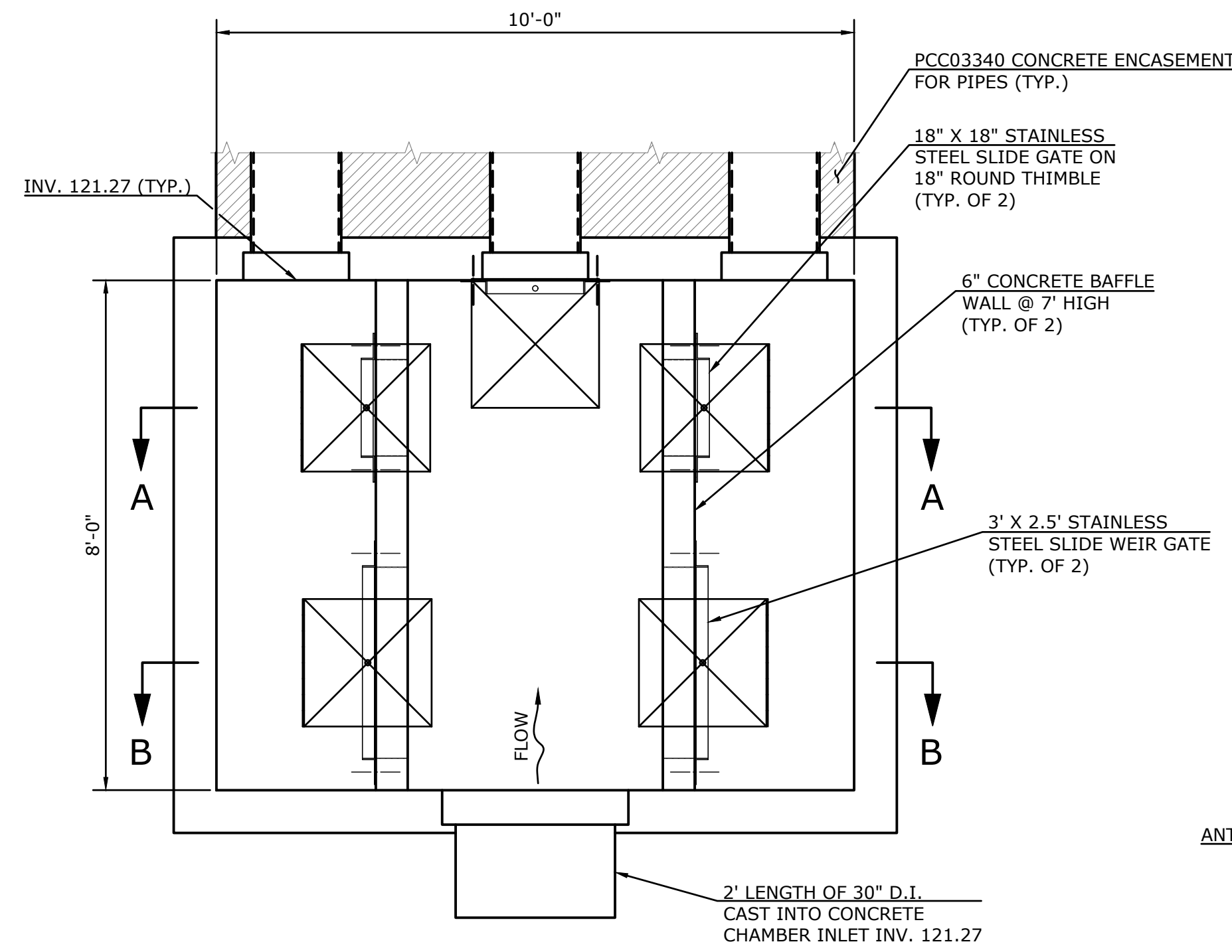


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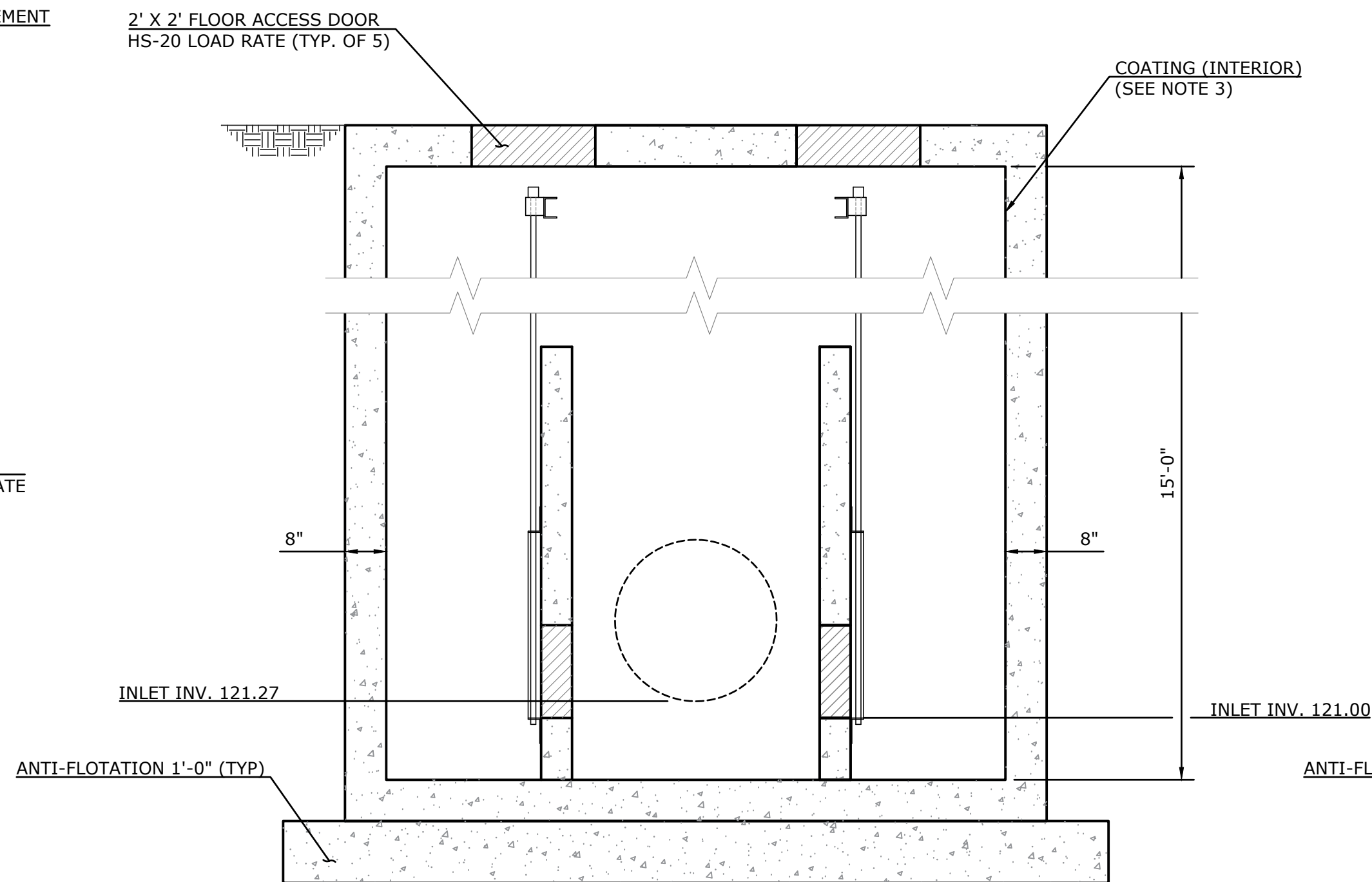
**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
ROADWAY SECTIONS 3**

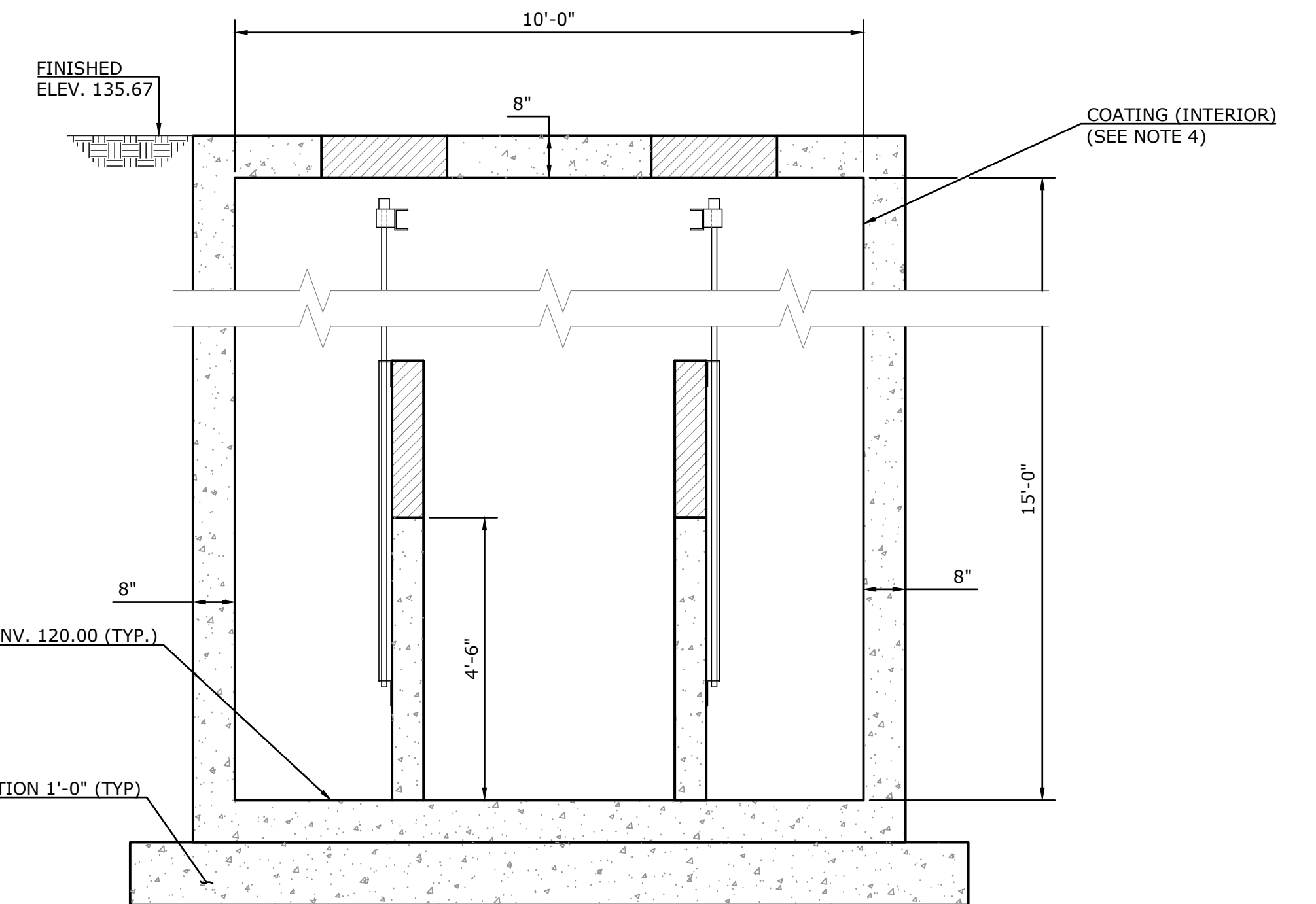
D	CENTER STREET	D.C.D.	00056.55		SHEET	12
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	40



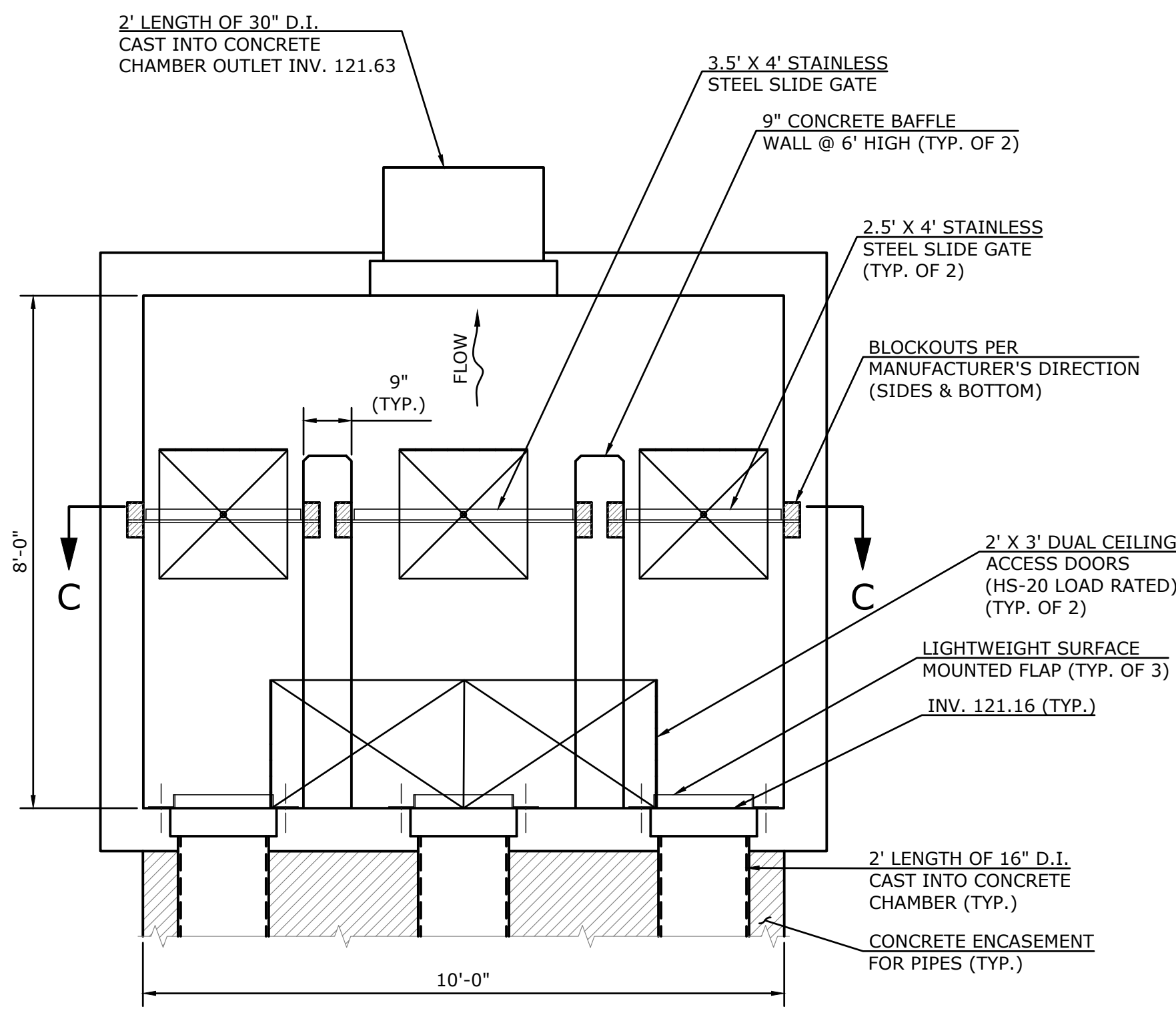
**INLET PLAN**  
SCALE: 1/2" = 1'-0"



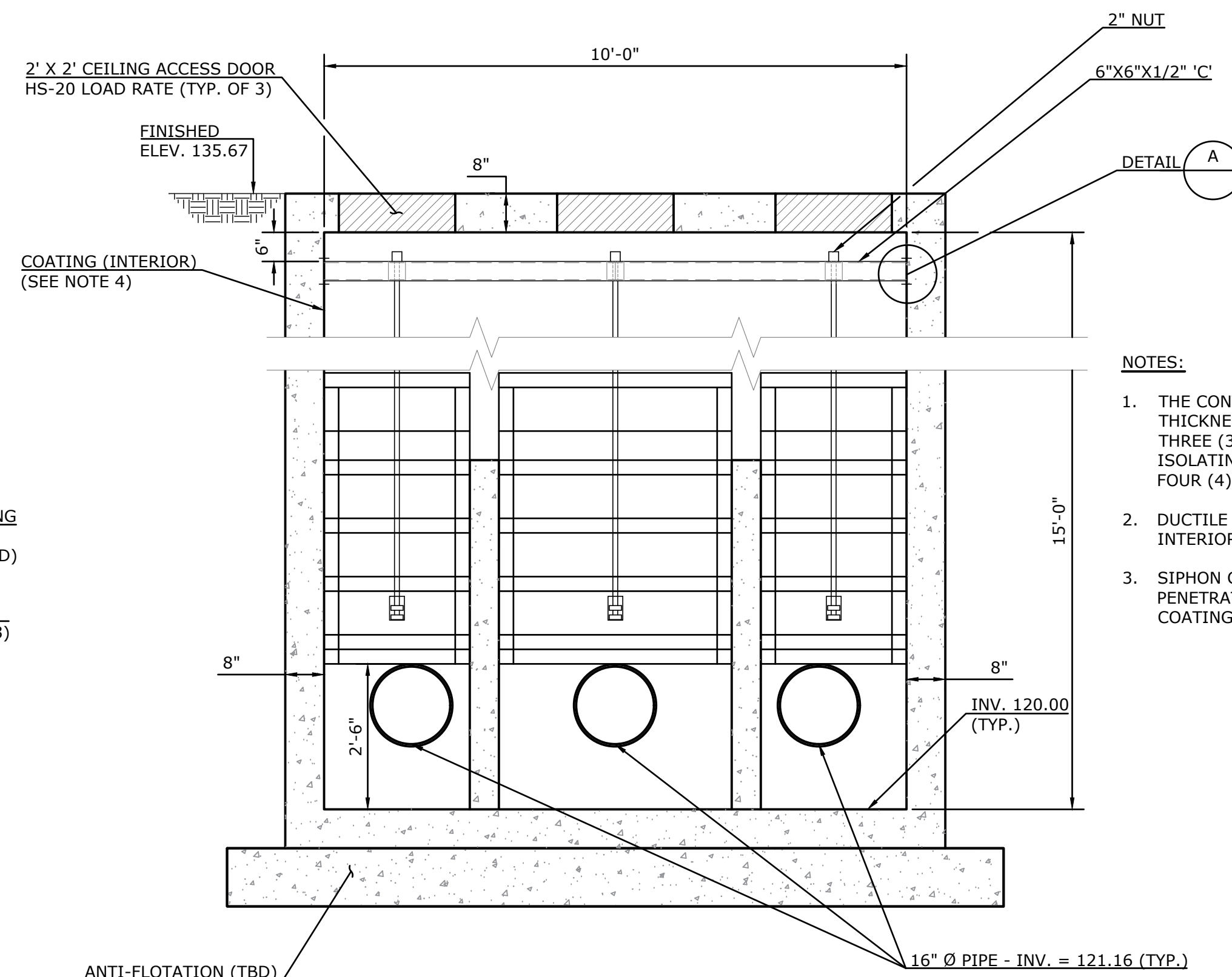
**INLET ELEVATION PLAN SECTION A-A**  
SCALE: 1/2" = 1'-0"



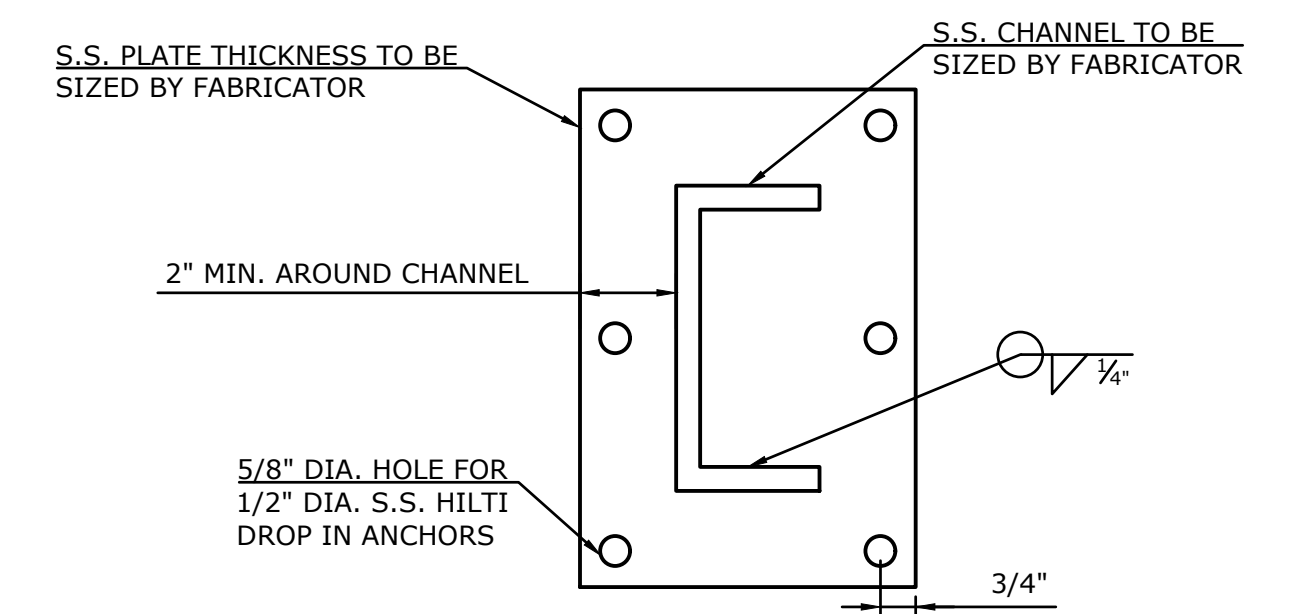
**INLET ELEVATION PLAN SECTION B-B**  
SCALE: 1/2" = 1'-0"



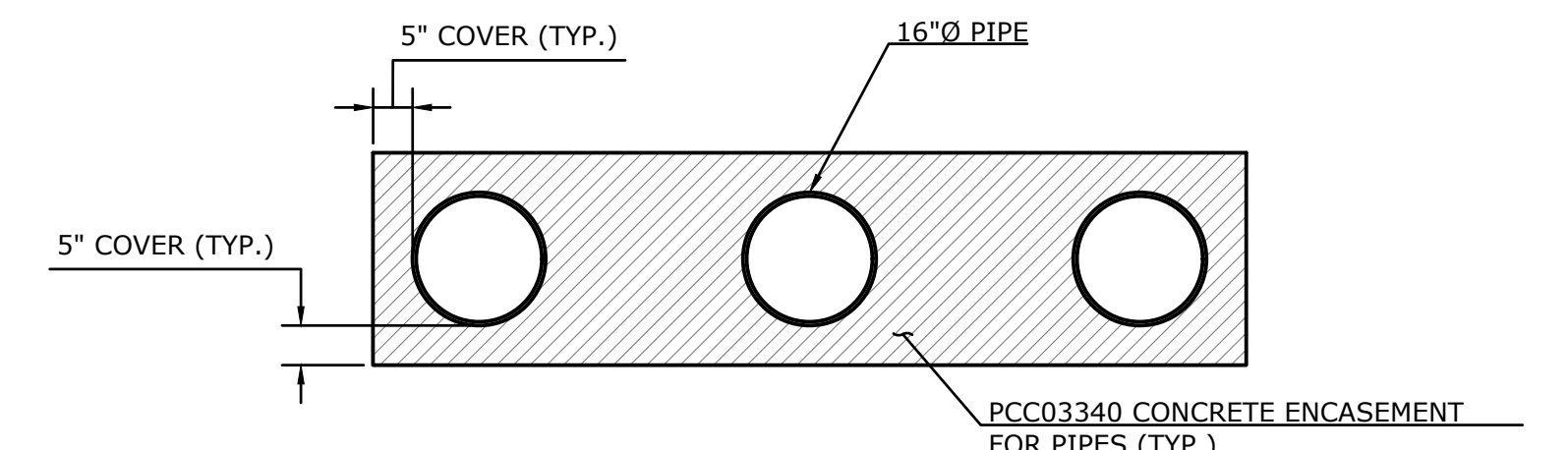
**OUTLET PLAN**  
SCALE: 1/2" = 1'-0"



**OUTLET ELEVATION PLAN SECTION C-C**  
SCALE: 1/2" = 1'-0"



**END PLATE MOUNTING DETAIL "A"**  
SCALE: 3" = 1'-0"



**PIPE ENCASEMENT SECTION**  
SCALE: 1/2" = 1'-0"

**NOTES:**

1. THE CONTRACTOR IS TO ENSURE THAT THE GUIDEWALL THICKNESS IN THE OUTLET SIPHON CHAMBER ALLOW FOR THREE (3) EQUAL WIDTH STOP GATES TO BE USED FOR ISOLATING SIPHON PIPES. THE CONTRACTOR SHALL FURNISH FOUR (4) STOP GATES.
2. DUCTILE IRON GRAVITY SEWER PIPE IS TO BE FURNISHED WITH INTERIOR CERAMIC EPOXY COATING.
3. SIPHON CHAMBERS ARE TO BE PROVIDED WITH INTERIOR AND PENETRATIONS HAVING A CORROSION INHIBITING EPOXY COATING.

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		DRAWN	M.R.G.
		CHECKED	K.O.E.
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NO.	DATE	DESCRIPTION	
<b>REVISIONS</b>			



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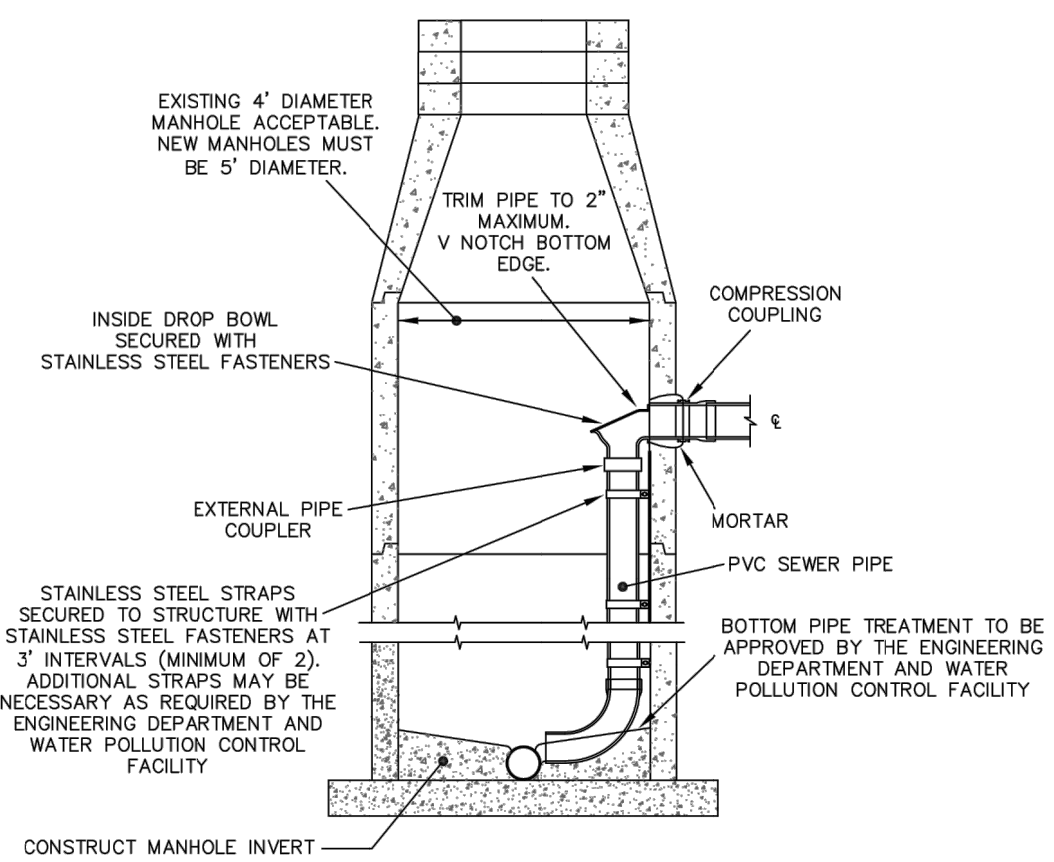
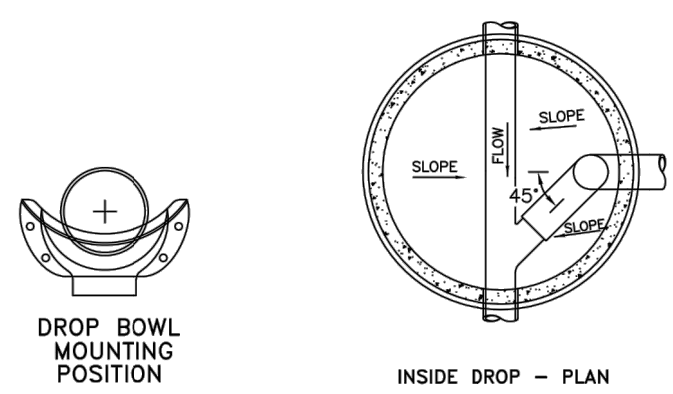
**PREPARED FOR**

CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
SANITARY SEWER SIPHON DETAILS

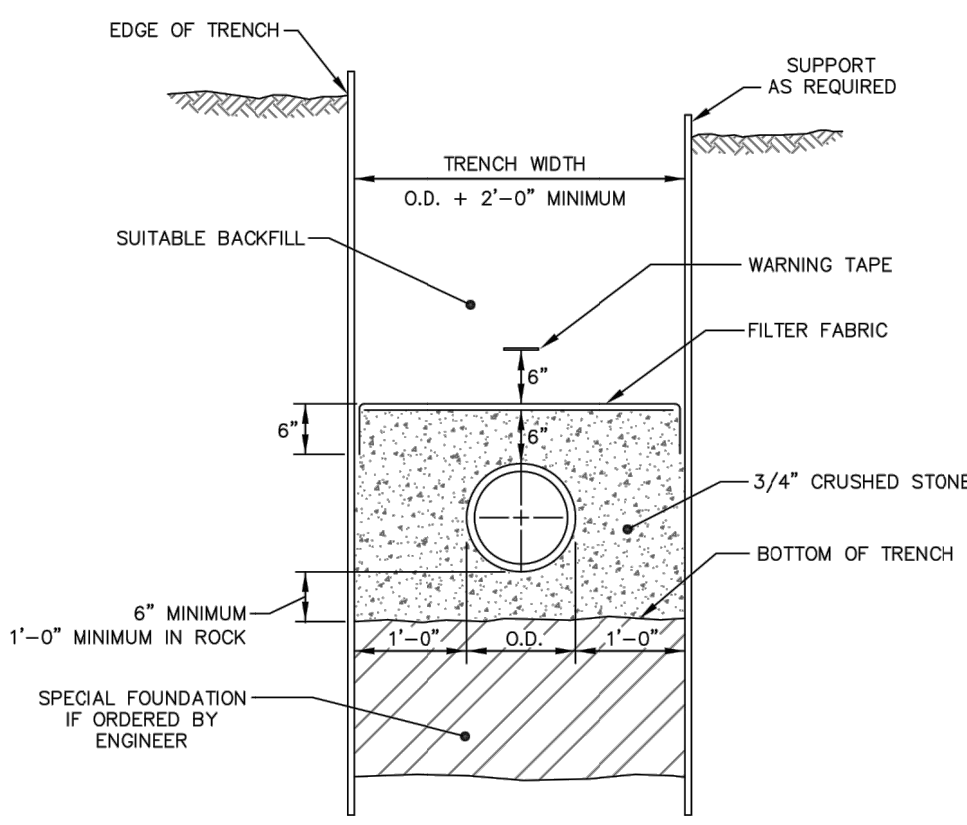
D - CENTER STREET	D.C.D.	00056.55	SHEET	13
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF
				40



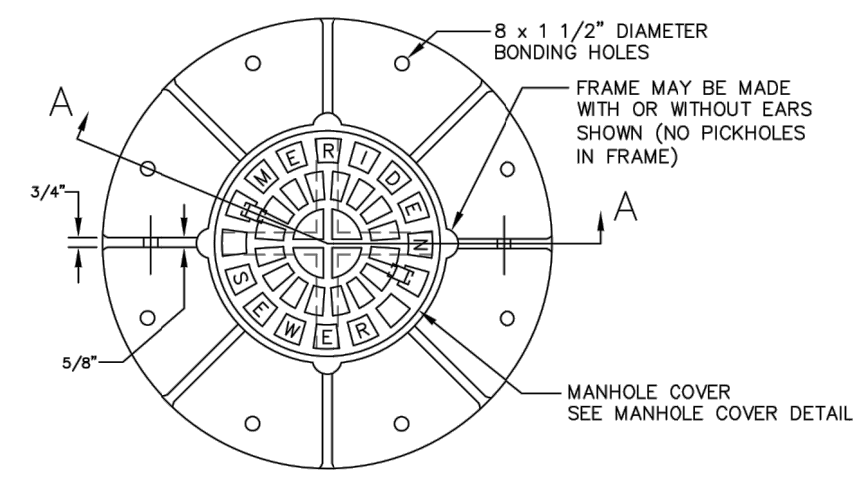


INSIDE DROP MANHOLE  
SANITARY SEWER

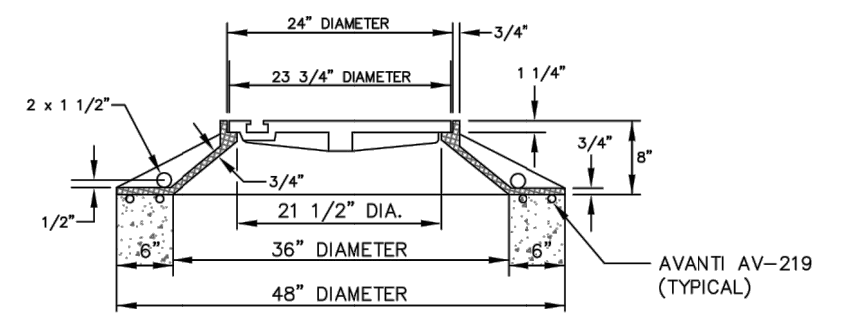
- GENERAL NOTES FOR MANHOLES:**
- Backfill all manholes with bank-run gravel.
  - All pipe, chimney, and drop encasements to be Class PCC03340 concrete.
  - Manholes which are located in rights-of-way off City streets shall have bolt down manhole covers.



TYPICAL TRENCH SECTION  
SANITARY SEWER



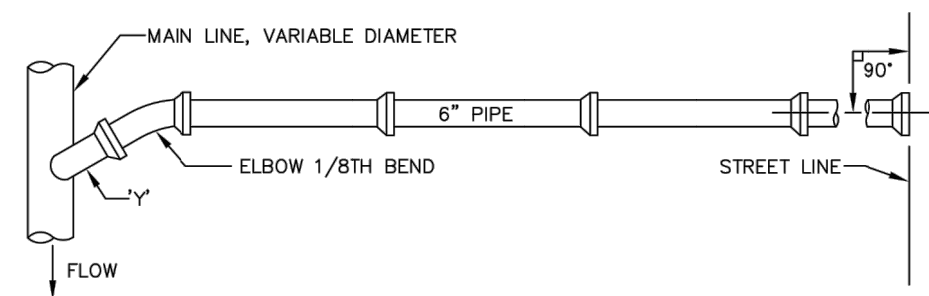
PLAN



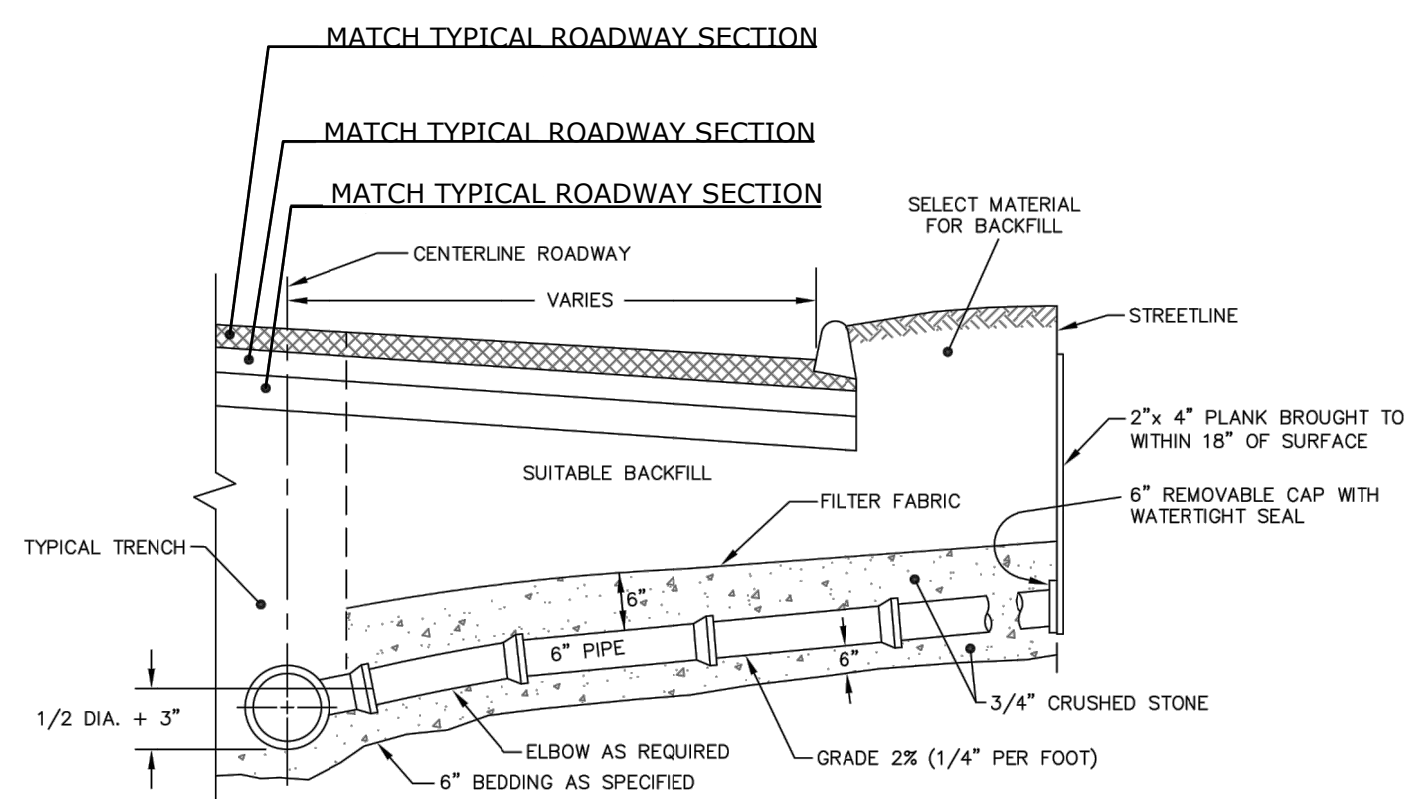
SECTION A-A

- NOTES:**
- MANHOLE FRAME AND COVER TO BE LUBARON FOUNDRY INC. CATALOG NUMBER LJ 116 OR APPROVED EQUAL WITH A MINIMUM WEIGHT OF 602 LBS ±3%.
  - MACHINE BEARING SURFACE REQUIRED ON THE FRAME SEAT AND COVER.

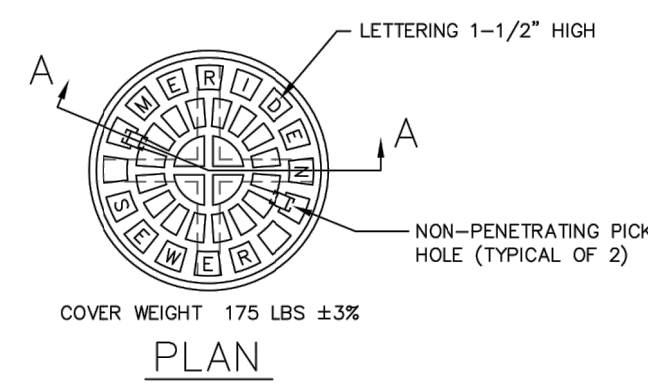
SANITARY SEWER MANHOLE FRAME



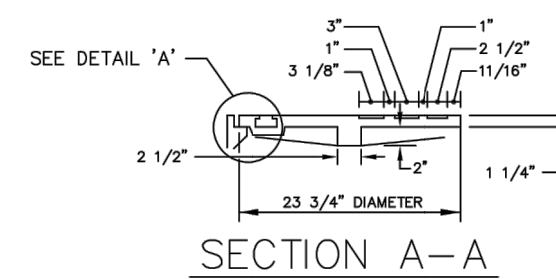
TYPICAL HOUSE CONNECTION LATERAL  
PLAN VIEW



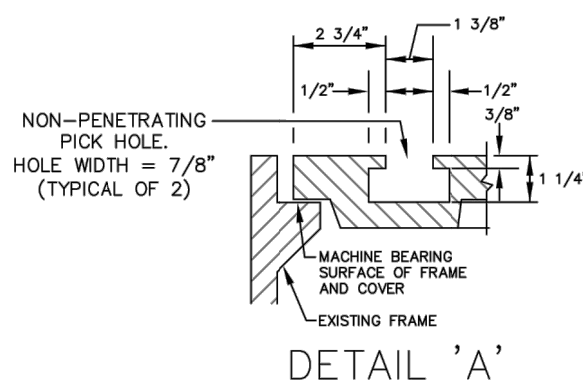
TYPICAL HOUSE CONNECTION LATERAL  
PROFILE VIEW



PLAN

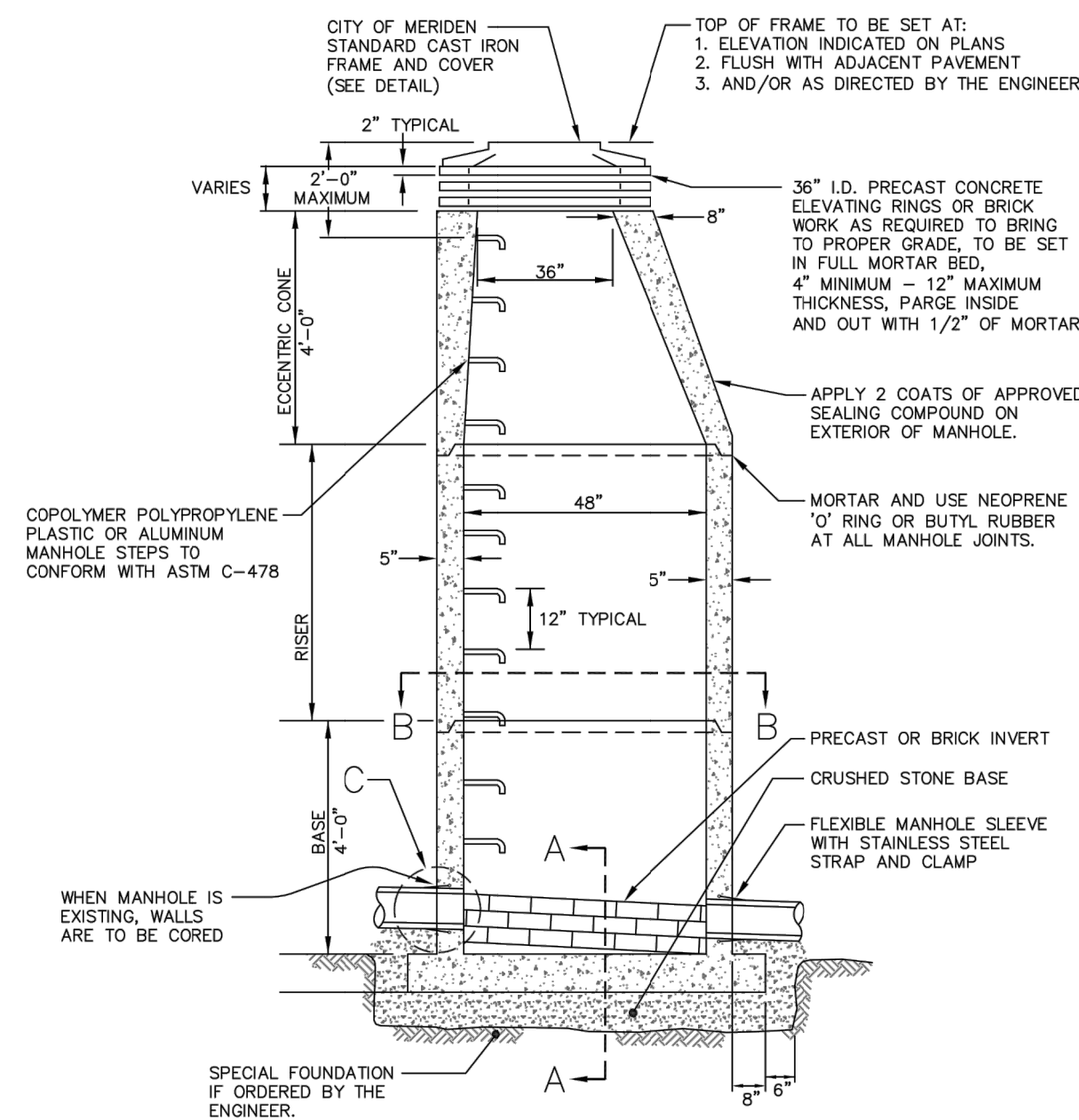


SECTION A-A

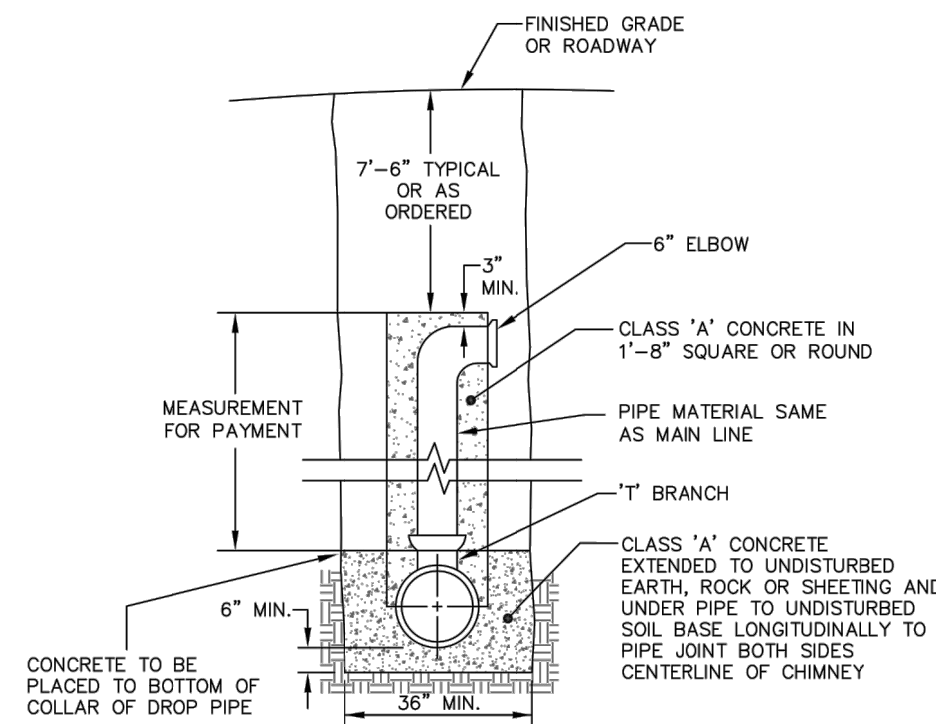


DETAIL 'A'

SANITARY SEWER MANHOLE COVER



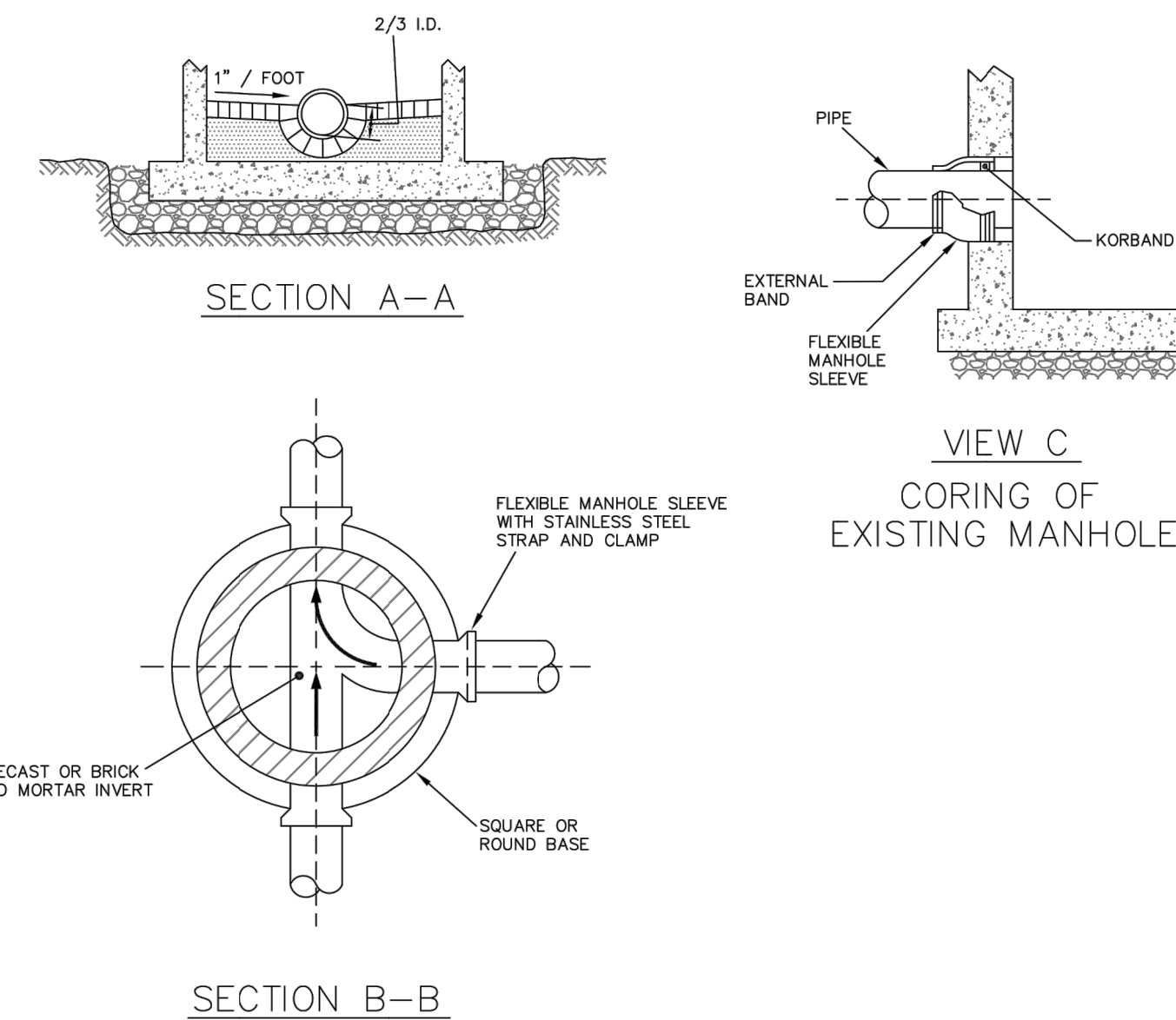
SANITARY SEWER MANHOLE



TYPICAL CHIMNEY

**SANITARY SEWER MAIN EXTENSION STANDARD NOTES:**

- The sanitary sewer main and service connection must be constructed in accordance with the City of Meriden Department of Public Works Standards and Specifications.
- The Contractor must contact "Call Before You Dig" at 1-800-322-4455 for location and marking of all existing utilities prior to any excavation.
- Upon completion of the sanitary sewer main installation, as-built plans must be submitted to the City of Meriden Engineering Division and certified by a licensed Land Surveyor or Civil Engineer. These plans must be in accordance with the Engineering Division standards.
- Sanitary sewer lines shall be a minimum of ten feet apart horizontally and 18" apart vertically from any water line.
- A pre-construction meeting must be held one week prior to beginning construction to include the Contractor, Design Engineering, and City Engineering staff. The Contractor shall be responsible for organizing this meeting.
- The City Public Works Facility Inspector must be notified by the Contractor a minimum of 48 hours prior to beginning construction.
- Final wye locations must be coordinated with the individual property owners prior to beginning construction.
- A public hearing must be held for any sanitary sewer main extension and Public Utilities Commission approval will be required.
- Sanitary sewer main lines must pass a low pressure air test per City of Meriden Specifications. TV/Videotape inspection of the main line will be required per City of Meriden Requirements.
- Sanitary sewer manholes must pass a vacuum test per City of Meriden Specifications.



**NOTE:**

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NO.	DATE	DESCRIPTION	
<b>REVISIONS</b>			

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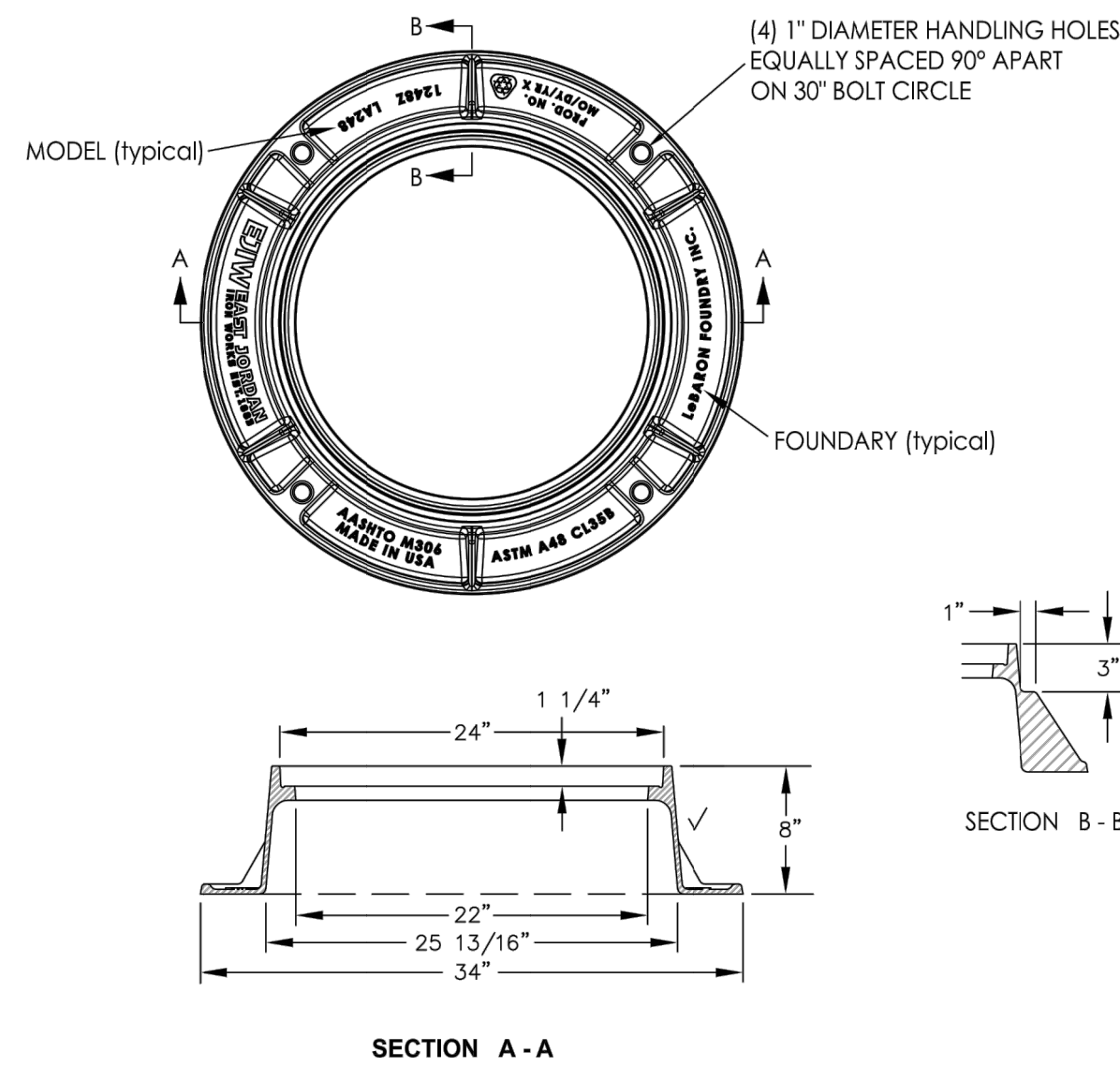
**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
SANITARY SEWER DETAILS 1**

D	CENTER STREET	D.C.D.	00056.55	REV.	OF	SHEET	14
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF		40

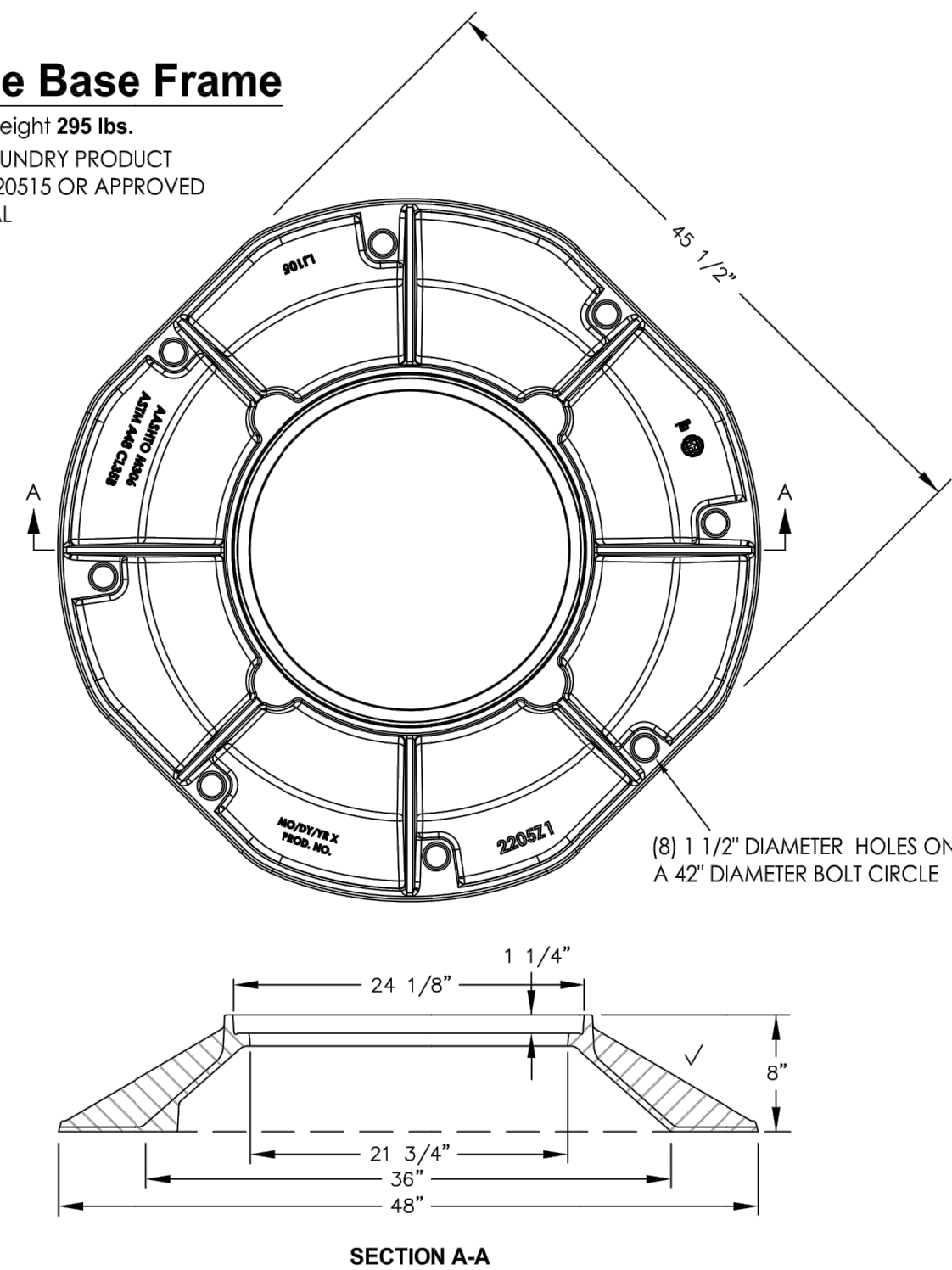
**Top Hat Frame**

Weight 120 lbs.  
EJ FOUNDRY PRODUCT  
#00124811 OR APPROVED  
EQUAL



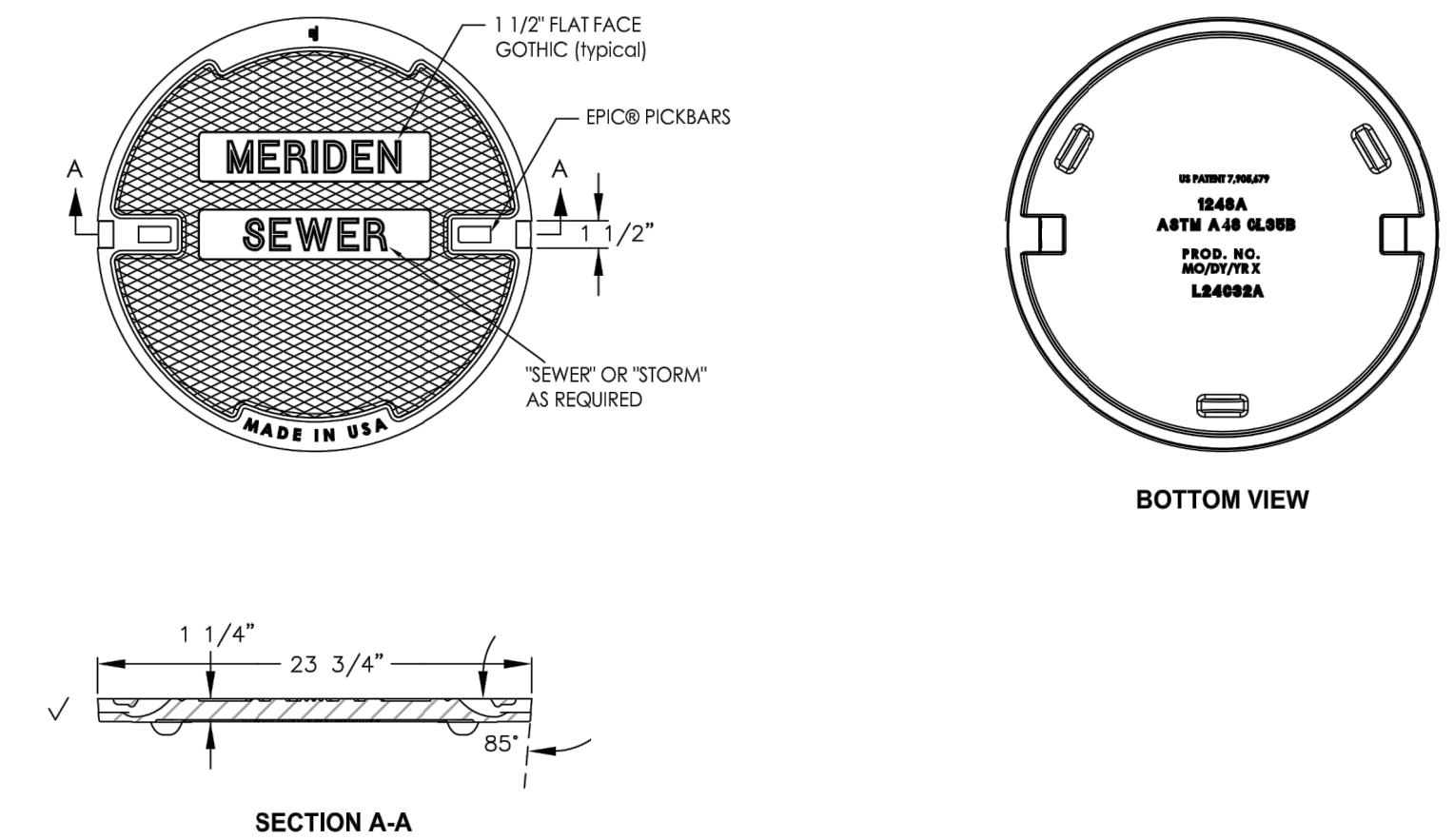
**Wide Base Frame**

Weight 295 lbs.  
EJ FOUNDRY PRODUCT  
#00220515 OR APPROVED  
EQUAL



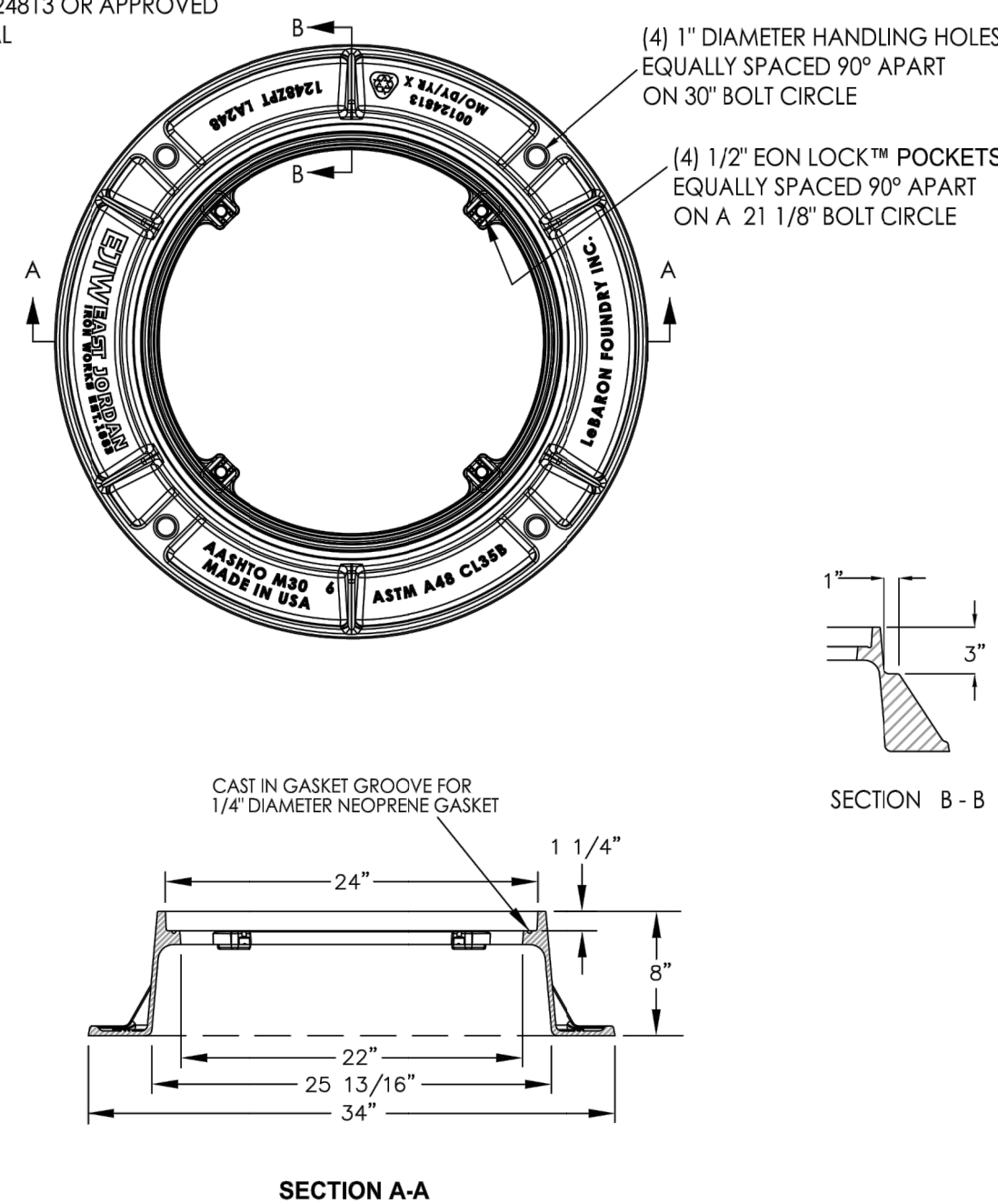
**Cover**

Weight 123  
EJ FOUNDRY PRODUCT  
#00124878 OR APPROVED  
EQUAL



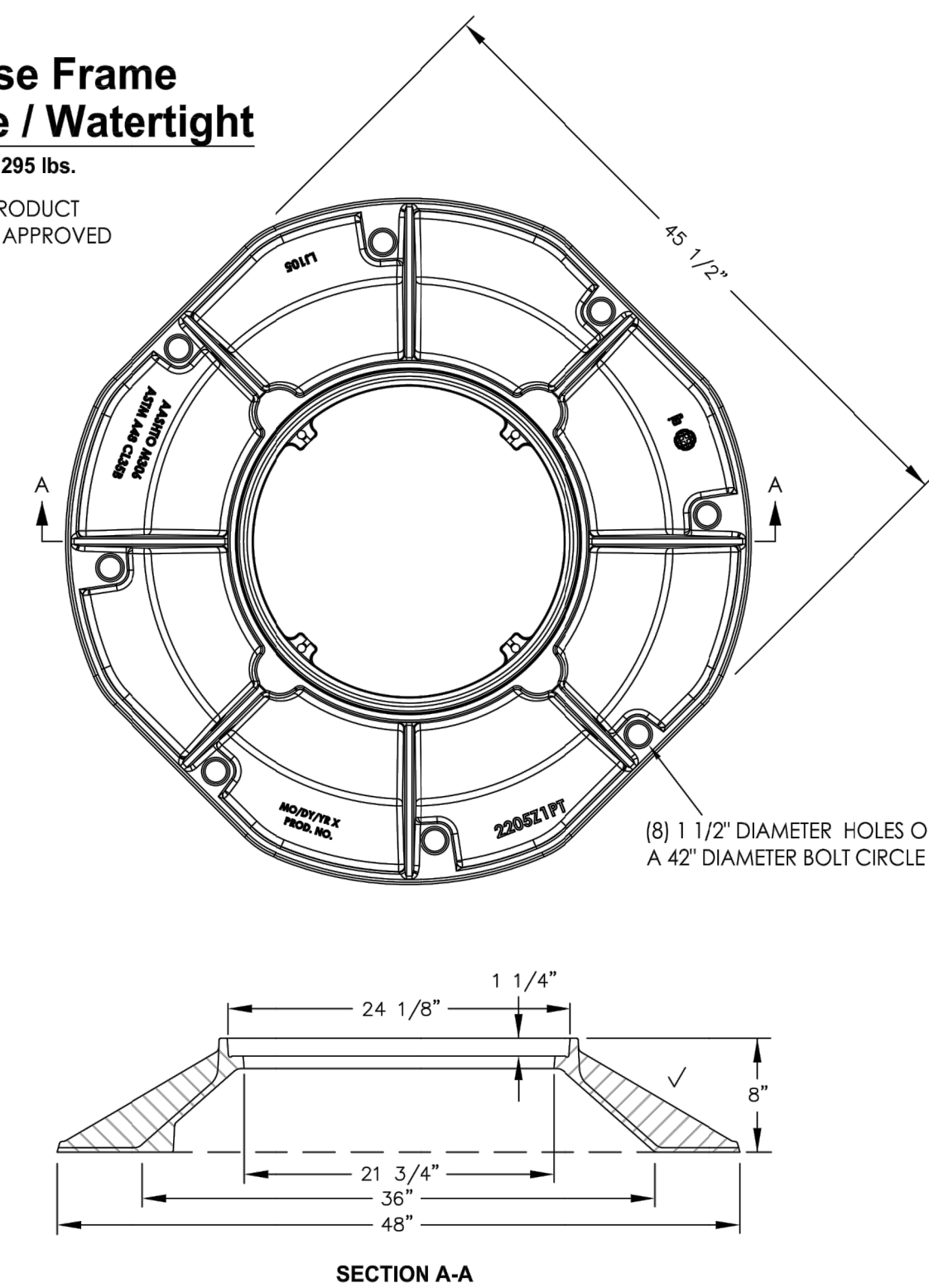
**Top Hat Frame Lockable / Watertight**

Weight 120 lbs.  
EJ FOUNDRY PRODUCT  
#00124813 OR APPROVED  
EQUAL



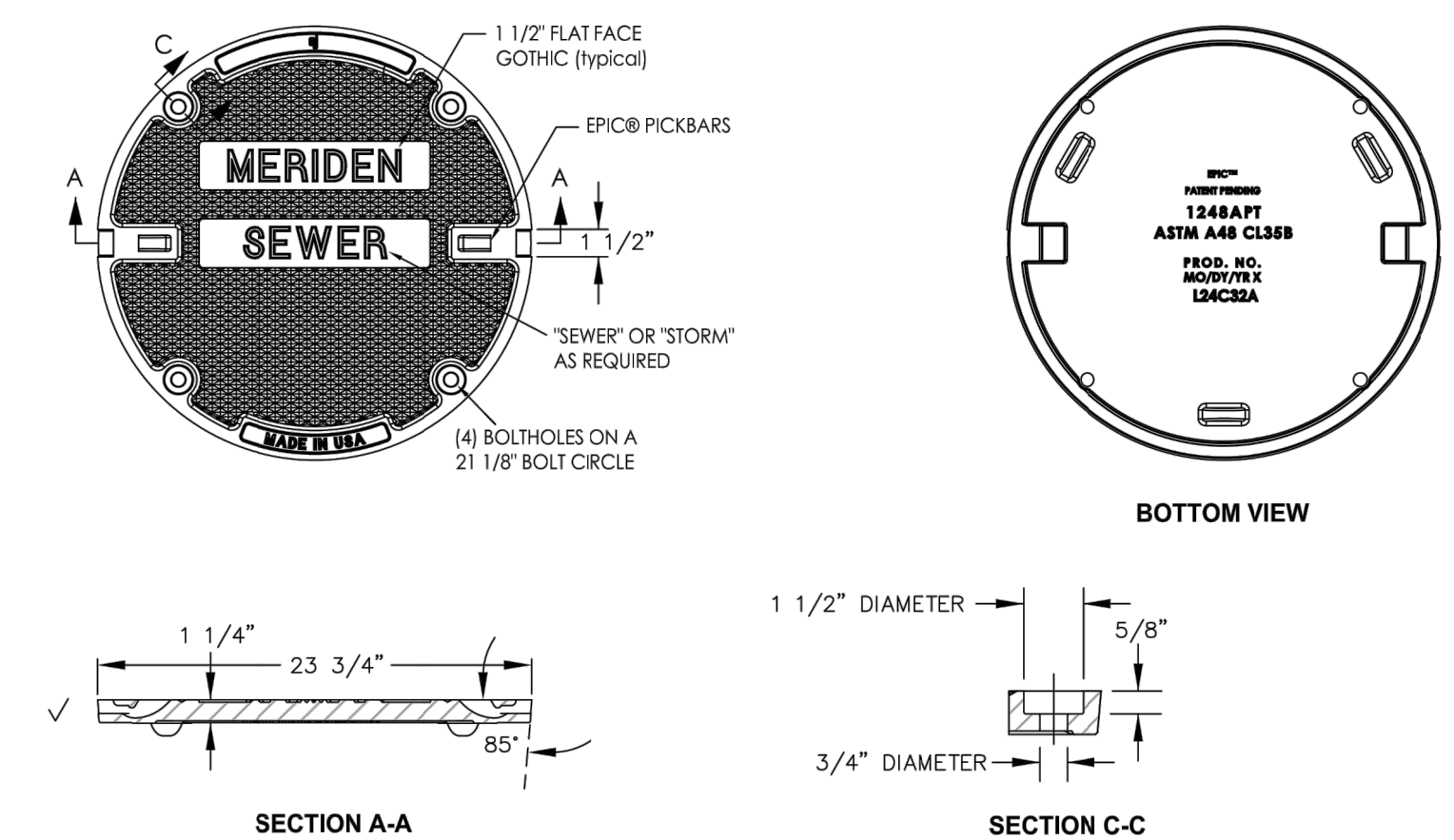
**Wide Base Frame Lockable / Watertight**

Weight 295 lbs.  
EJ FOUNDRY PRODUCT  
#00220517 OR APPROVED  
EQUAL



**Cover Lockable / Watertight**

Weight 116  
EJ FOUNDRY PRODUCT  
#00124876 OR APPROVED  
EQUAL



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DRAWN	M.R.G.	
CHECKED	K.O.E.	
DATE	03/17/2022	
REVISIONS		
NO.	DATE	DESCRIPTION



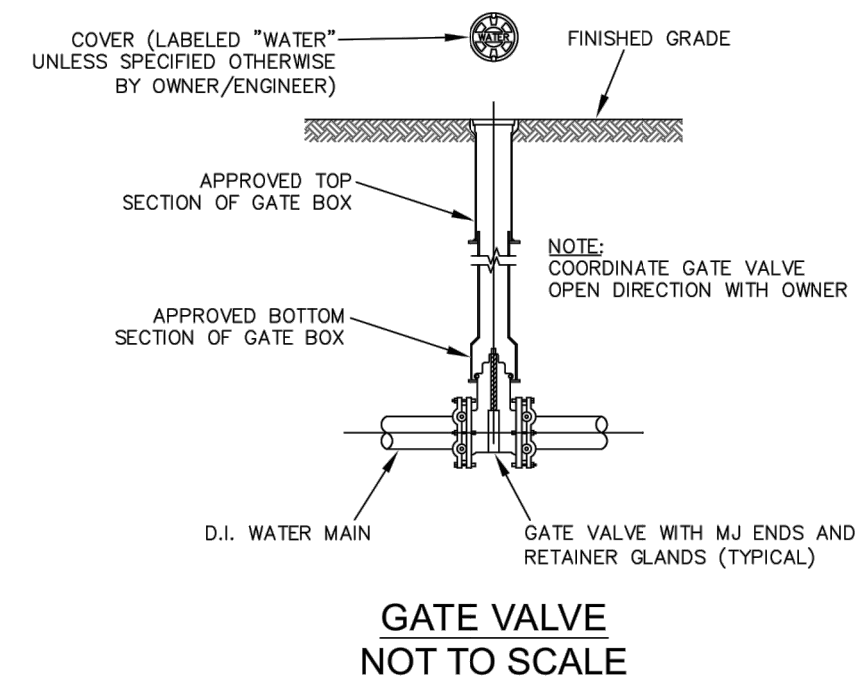
WENGELL, McDONNELL & COSTELLO  
87 HOLMES ROAD  
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**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

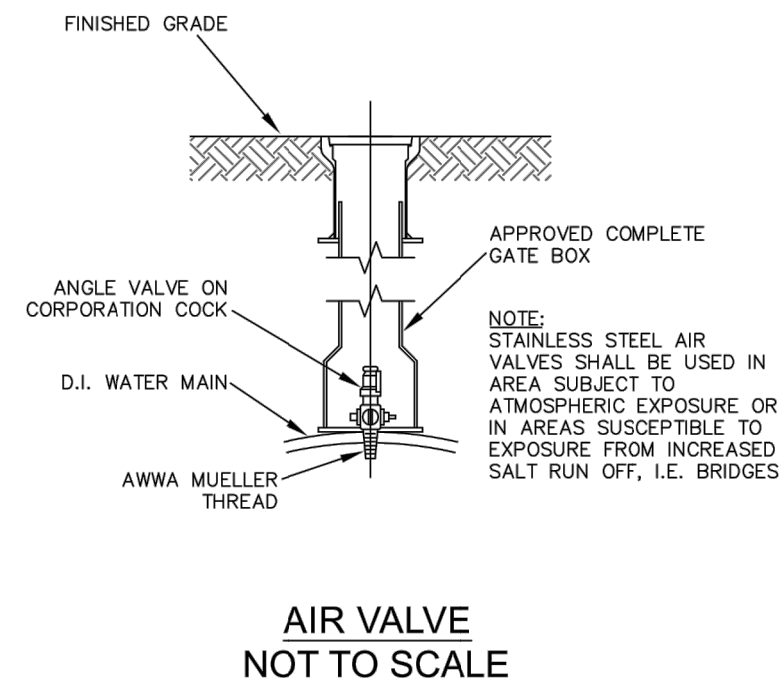
REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
SANITARY SEWER DETAILS 2

D - CENTER STREET	D.C.D.	00056.55	SHEET	15
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF
				40

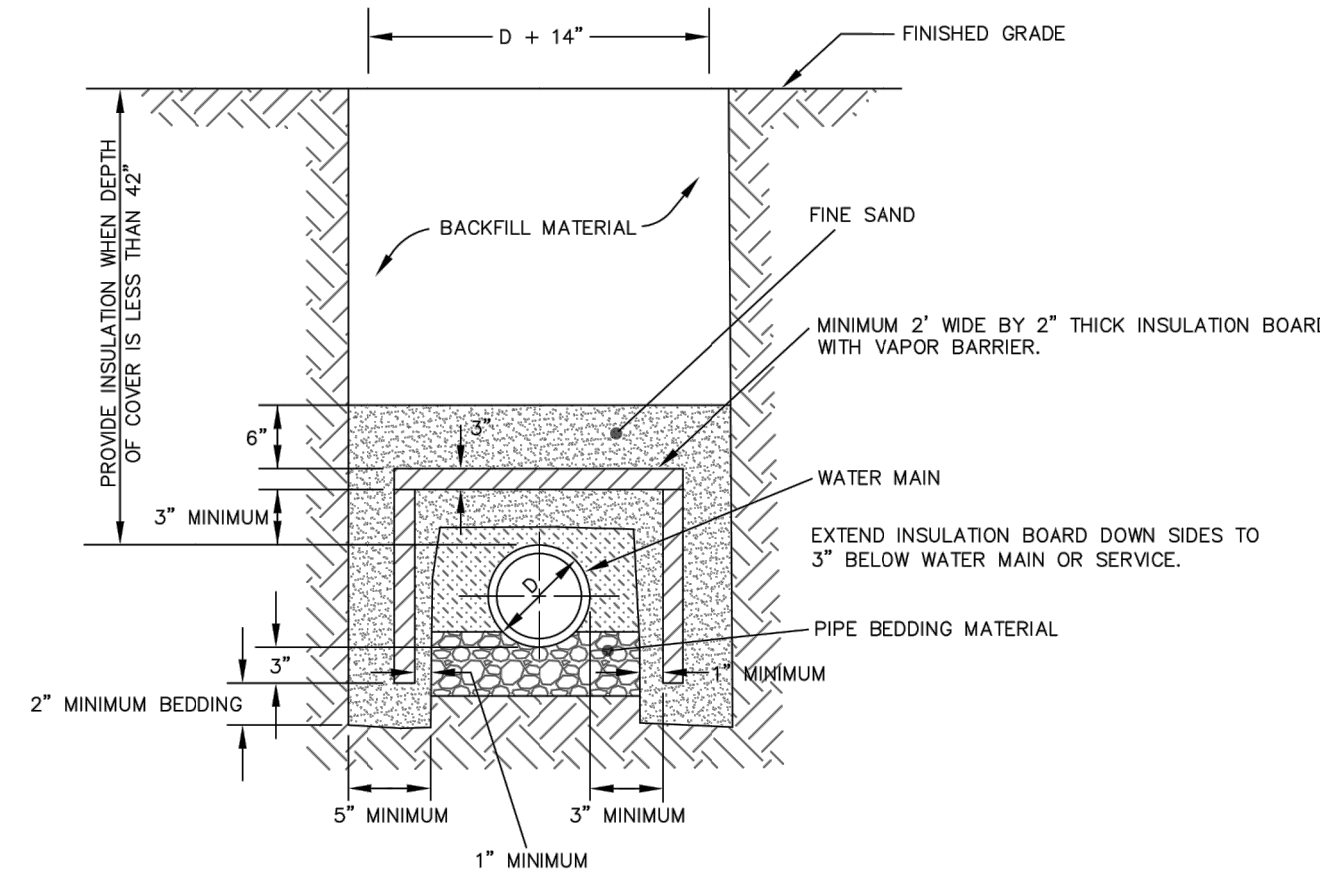




**GATE VALVE**  
NOT TO SCALE

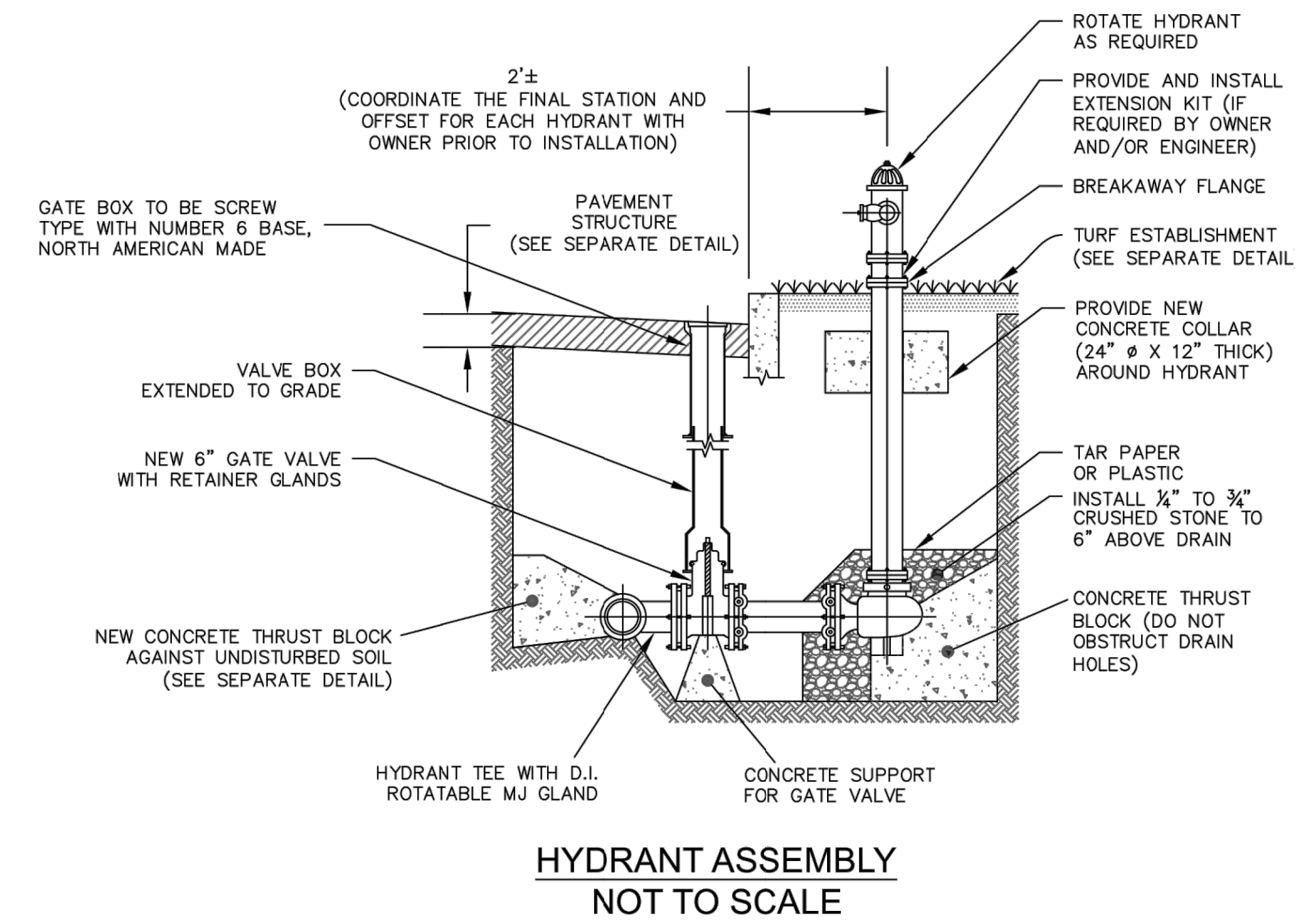


**AIR VALVE**  
NOT TO SCALE

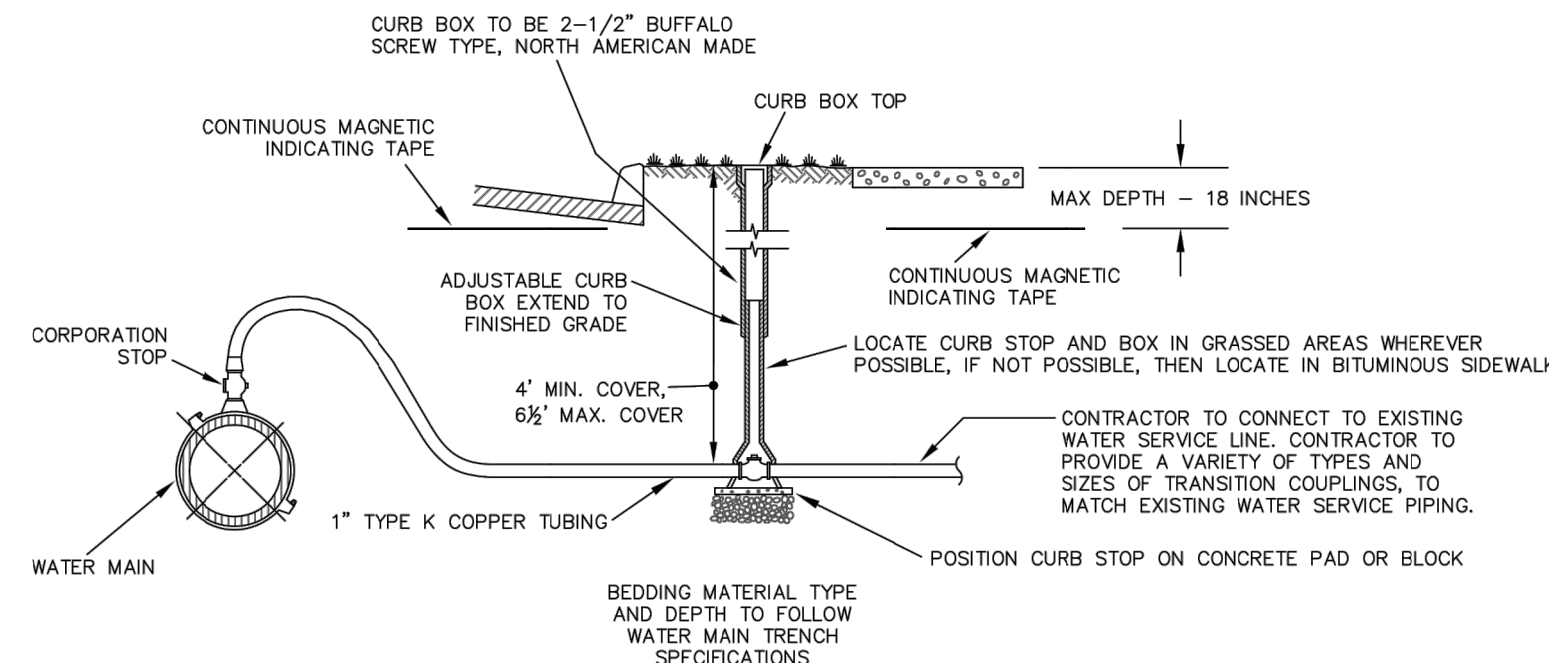


- NOTES:**
1. INSULATION BOARD TO BE FOAMGLAS OR APPROVED EQUAL MEETING ASTM C-552 WITH A COMPRESSIVE STRENGTH OF 90 PSI.
  2. VAPOR BARRIER TO BE PITTCOE 300 OR APPROVED EQUAL.
  3. BACKFILL MATERIAL AROUND INSULATION MUST BE FINE SAND FREE FROM ROOTS, ORGANIC MATTER, OR OTHER INJURIOUS MATERIALS.
  4. MAINTAIN 3" MINIMUM CLEARANCE FROM WATER MAIN ON ALL SIDES.
  5. FOR REDUCTION IN COVER ONLY WHERE RESULTANT COVER IS LESS THAN 42".

**WATER MAIN TRENCH INSULATION DETAIL**  
NOT TO SCALE

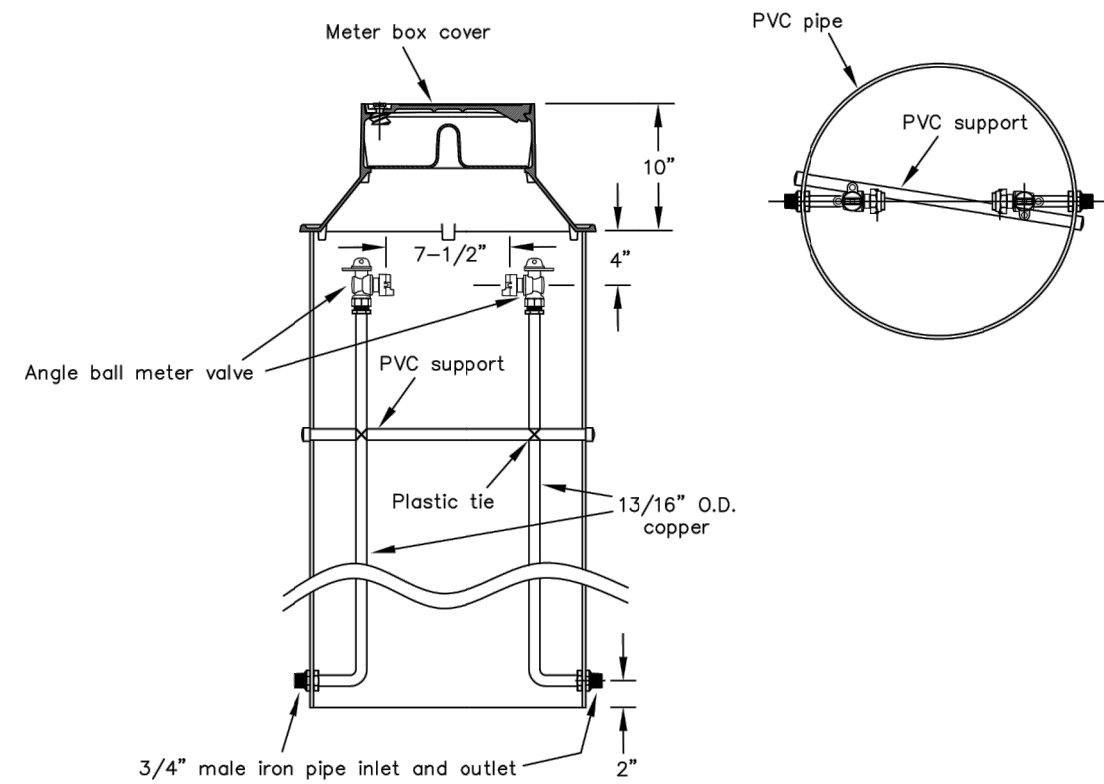


**HYDRANT ASSEMBLY**  
NOT TO SCALE

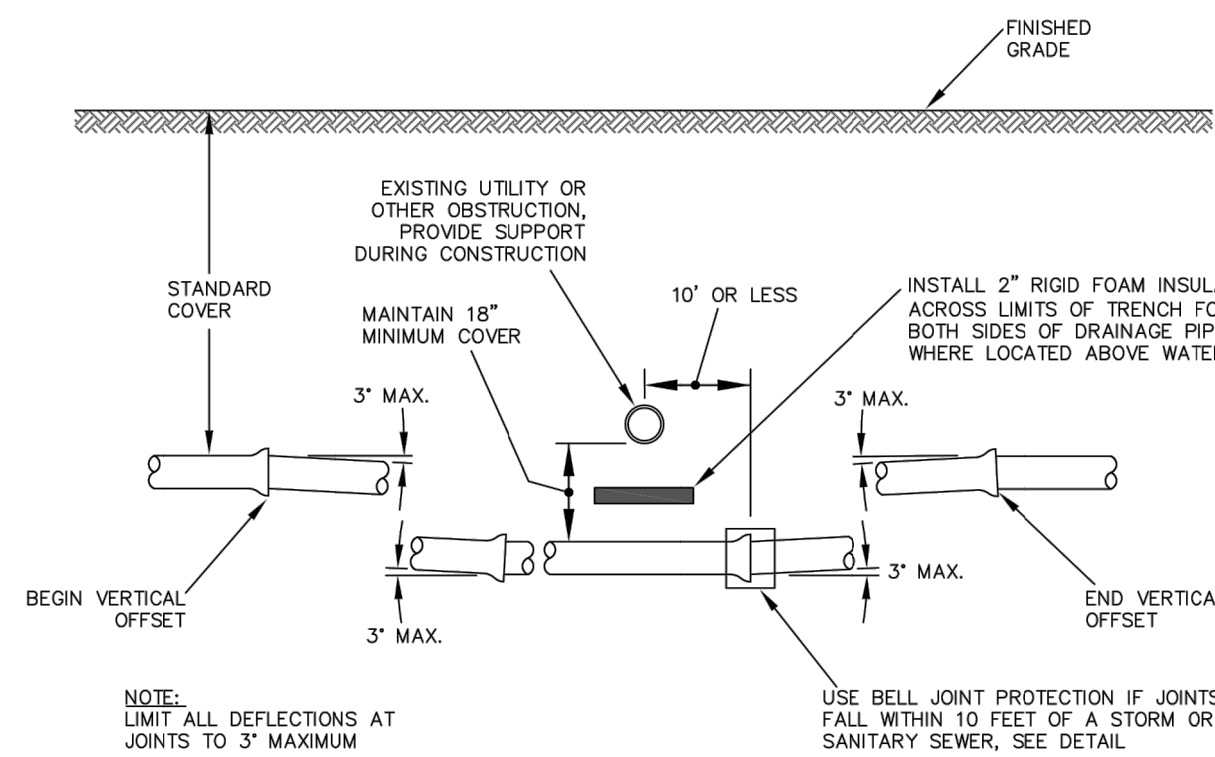


**TYPICAL 1" WATER SERVICE CONNECTION**  
NOT TO SCALE

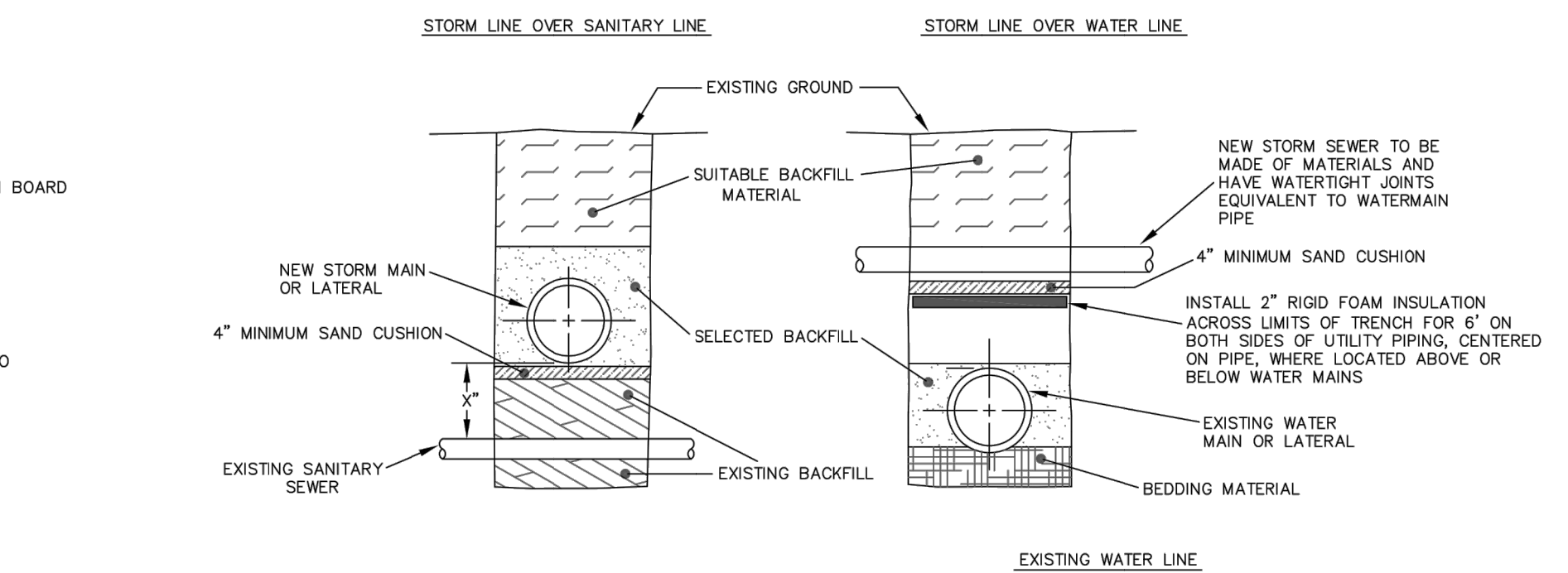
NOTE:  
CITY OF MERIDEN TO CONNECT ALL SERVICE TAPS, AND PROVIDE CORPORATION STOP AND SWING.



**METER PIT DETAIL**  
NOT TO SCALE



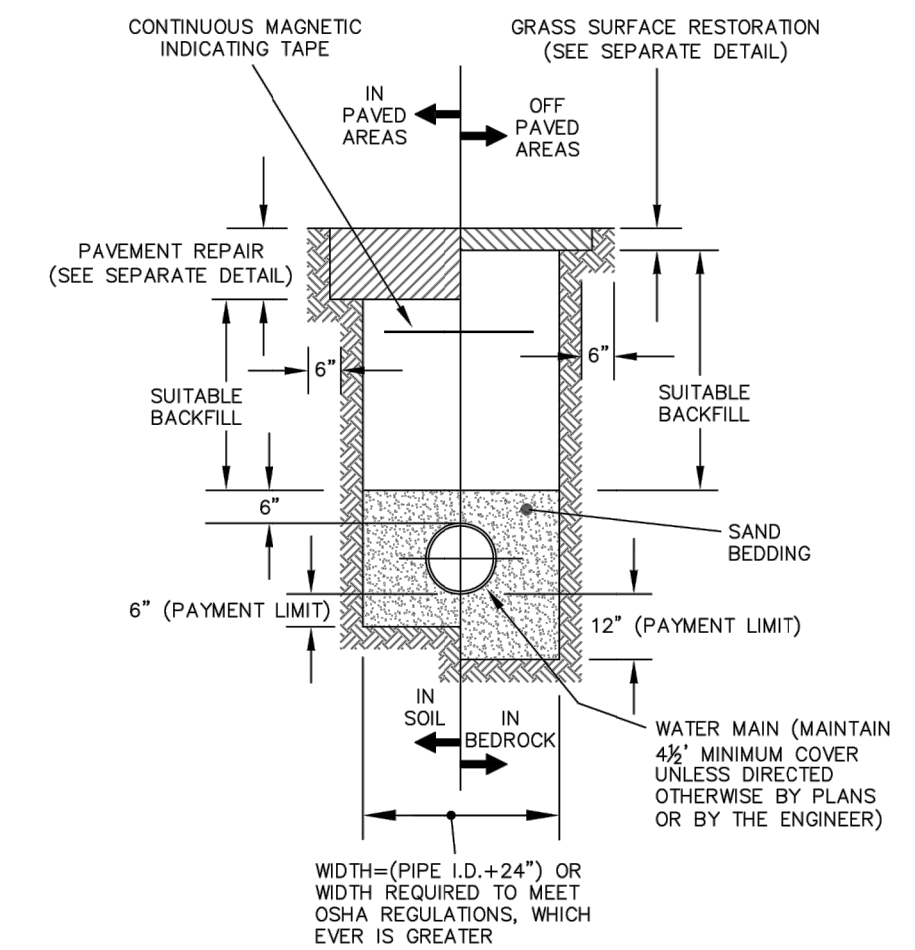
**GRADUAL VERTICAL OFFSET**  
NOT TO SCALE



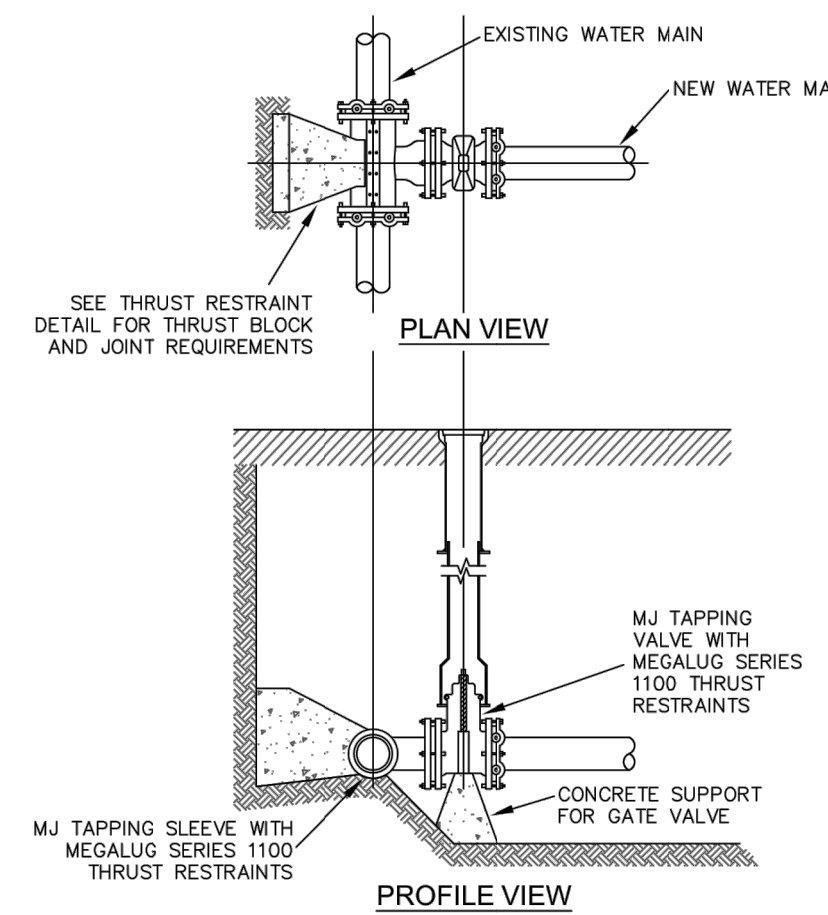
- EXISTING SANITARY LINE**
1. IF "X" IS 4" TO 18", REPLACE SANITARY SEWER WITH 18" LONG D.I.P.
  2. IF "X" IS 18" TO 36", LINE SANITARY SEWER FROM MANHOLE TO MANHOLE
- EXISTING WATER LINE**
1. FOR SEPARATION OF WATER AND STORM SEWER BETWEEN 4" AND 18"
  2. 2" INSULATION LAYER TO BE INSTALLED BETWEEN WATER MAIN AND ALL PROPOSED SANITARY AND STORM SEWERS WHERE VERTICAL SEPARATION IS LESS THAN 18"
  3. INSULATION DIMENSIONS EQUAL TO NEW TRENCH WIDTH BY EXISTING WATER MAIN O.D. PLUS 4"

- NEW JOINTS TO BE CENTERED EQUIDISTANT FROM WATER MAIN
- PIPE JOINT REPAIR CLAMPS OR EQUIVALENT TO BE USED ON ALL NEW MAINS AND LATERALS

**STORM LINE CONFLICTS**  
NOT TO SCALE



**WATER MAIN TRENCH**  
NOT TO SCALE



**TAPPING SLEEVE & VALVE**  
NOT TO SCALE

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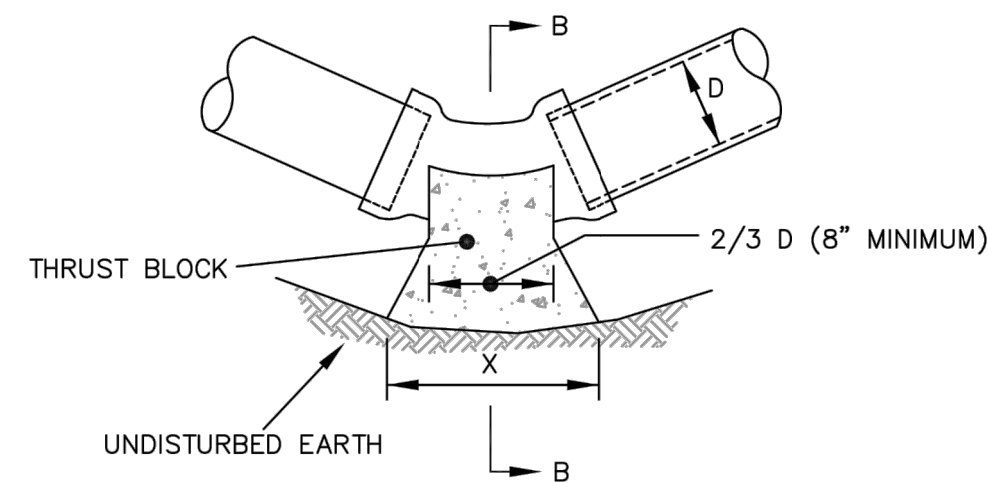
		SUPV.	J.A.C.
		DESIGN	K.O.E., M.R.G.
		DRAWN	M.R.G.
		CHECKED	K.O.E.
		DATE	03/17/2022
NO.	DATE	DESCRIPTION	
<b>REVISIONS</b>			

**WMC**  
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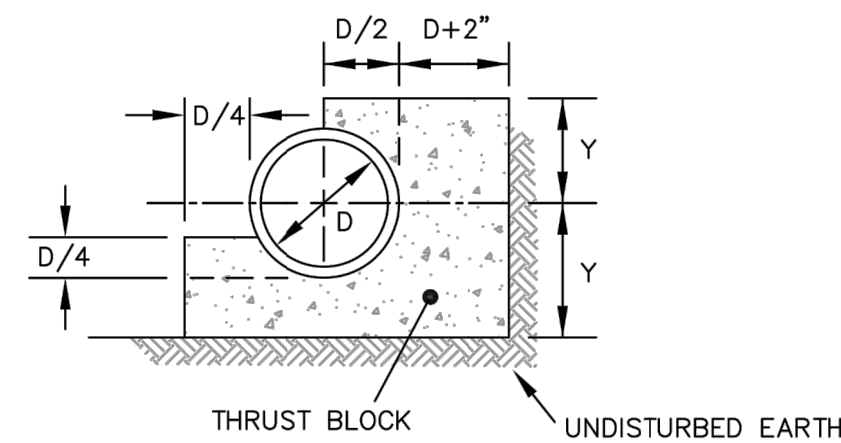
**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
WATER MAIN DETAILS 1**

D	CENTER STREET	D.C.D.	00056.55	REV.	OF	SHEET	16
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF		40



PLAN

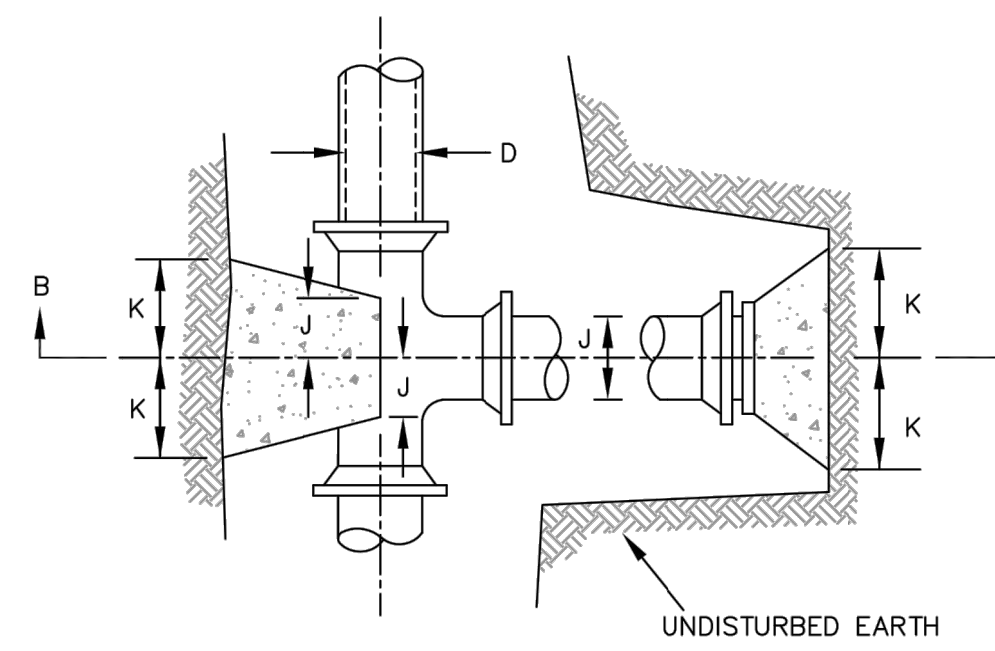


SECTION A-A

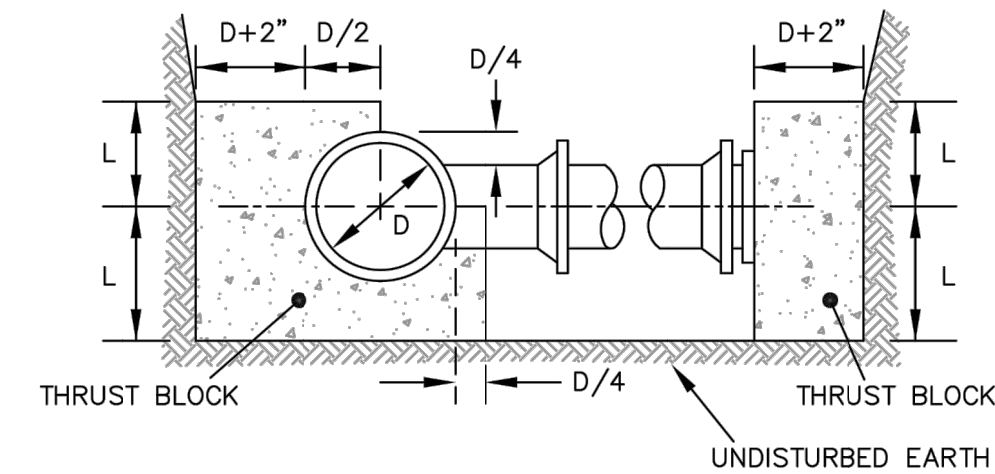
1. ALL CONCRETE SHALL BE 3000 psi @ 28 DAYS.
2. DIMENSIONS SHOWN ARE MINIMUM AND ARE BASED UPON SOIL PRESSURE OF 2000 psf AND STATIC WATER PRESSURE OF 200 psi.
3. THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.

TABLE OF DIMENSIONS																
DIMENSION	90° BEND				45° BEND				22½° BEND				11¼° BEND			
D (in)	6	8	10	12	6	8	10	12	6	8	10	12	6	8	10	12
X (in)	26	37	42	54	70	18	26	34	38	51	21	19	24	28	38	9
Y (in)	15	18	24	26	35	12	14	16	20	26	10	10	12	14	18	6

WATER MAIN BEND CONCRETE THRUST BLOCK DETAIL  
NOT TO SCALE



PLAN

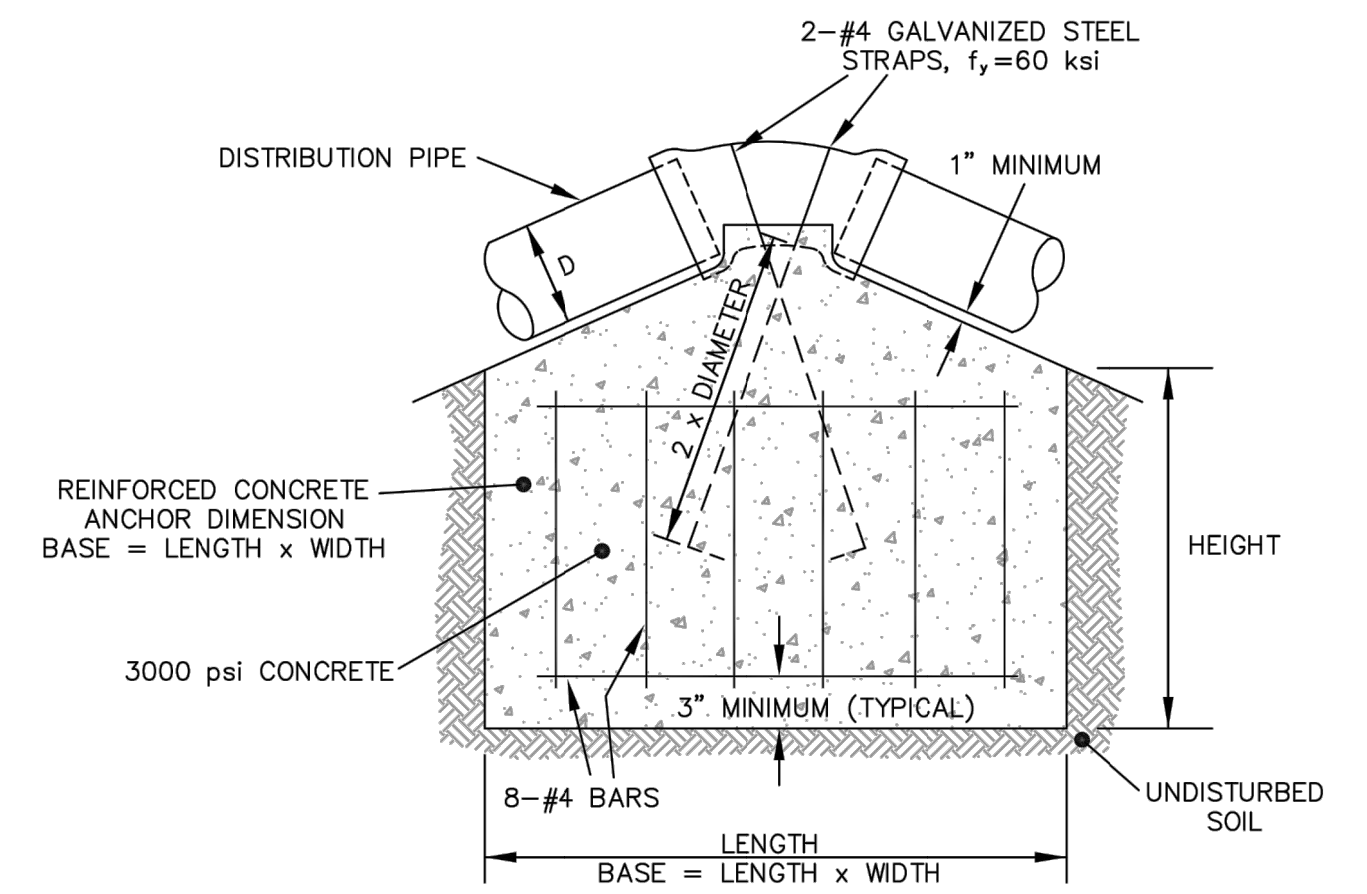


SECTION B-B

1. ALL CONCRETE SHALL BE 3000 psi @ 28 DAYS.
2. DIMENSIONS SHOWN ARE MINIMUM AND ARE BASED UPON SOIL PRESSURE OF 2000 psf AND STATIC WATER PRESSURE OF 200 psi.
3. THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.

TABLE OF DIMENSIONS						
B (in)	6	8	10	12	16	
J (in)	6	7	9	10	12	
K (in)	12	15	20	24	30	
L (in)	12	16	18	22	30	

WATER MAIN TEE / PLUG CONCRETE THRUST BLOCK  
NOT TO SCALE



TYPICAL CONCRETE ANCHOR  
NOT TO SCALE

BEND	45°				22½°
	12	8	6	12	
PIPE DIAMETER (D) IN INCHES	12	8	6	12	
VOLUME OF CONCRETE REQUIRED (CF)	157	74	43	81	
TYPICAL DIMENSIONS IN FEET	LENGTH	6.33	5	4	5.25
	WIDTH	6.33	5	4	5.25
	HEIGHT	4	3	3	3

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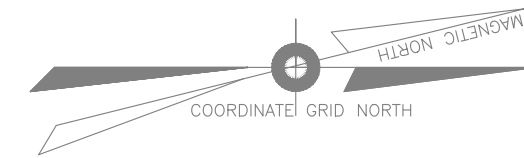
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**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
WATER MAIN DETAILS 2

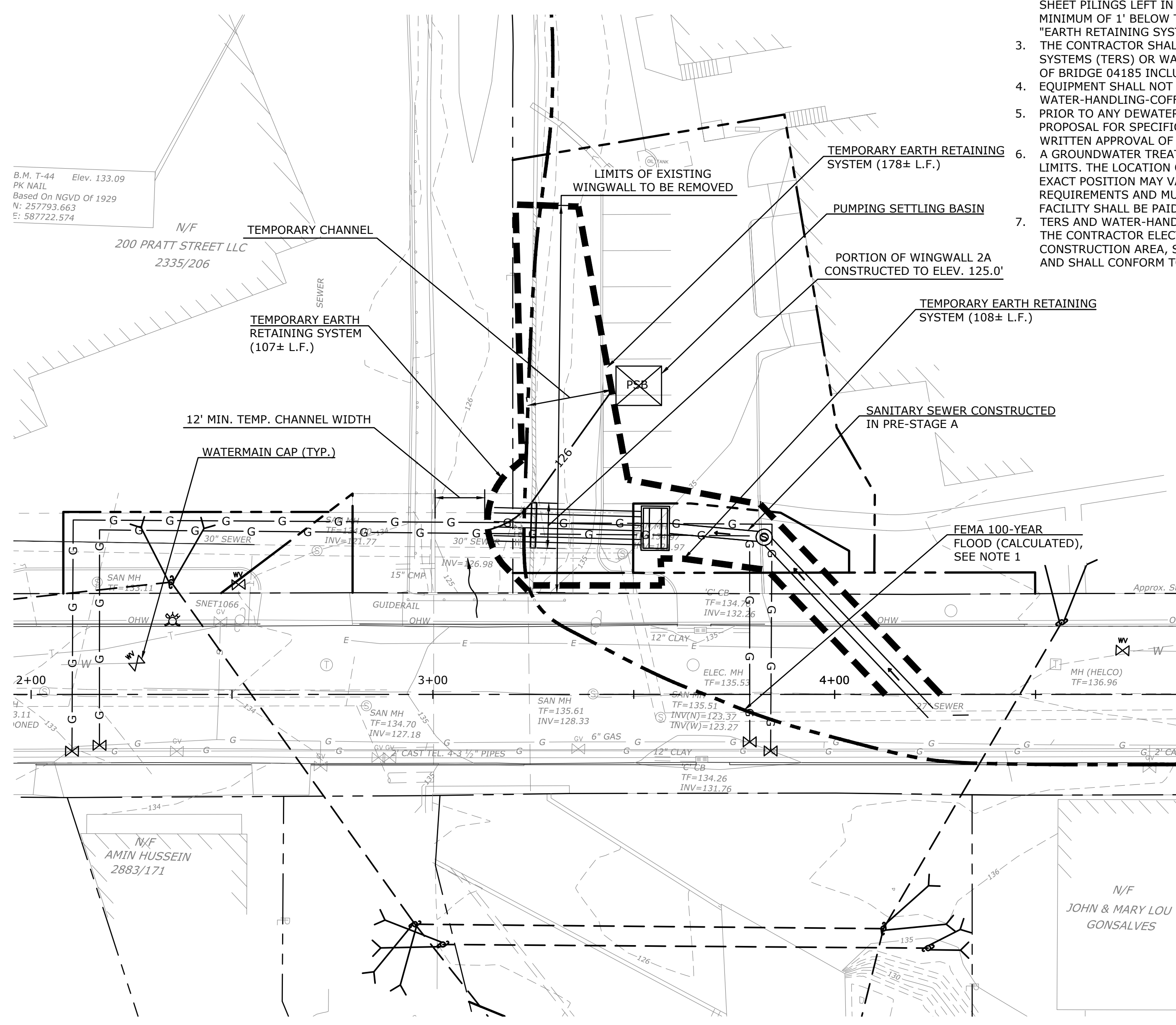
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF
D	CENTER STREET	D.C.D.	00056.55		17
					40



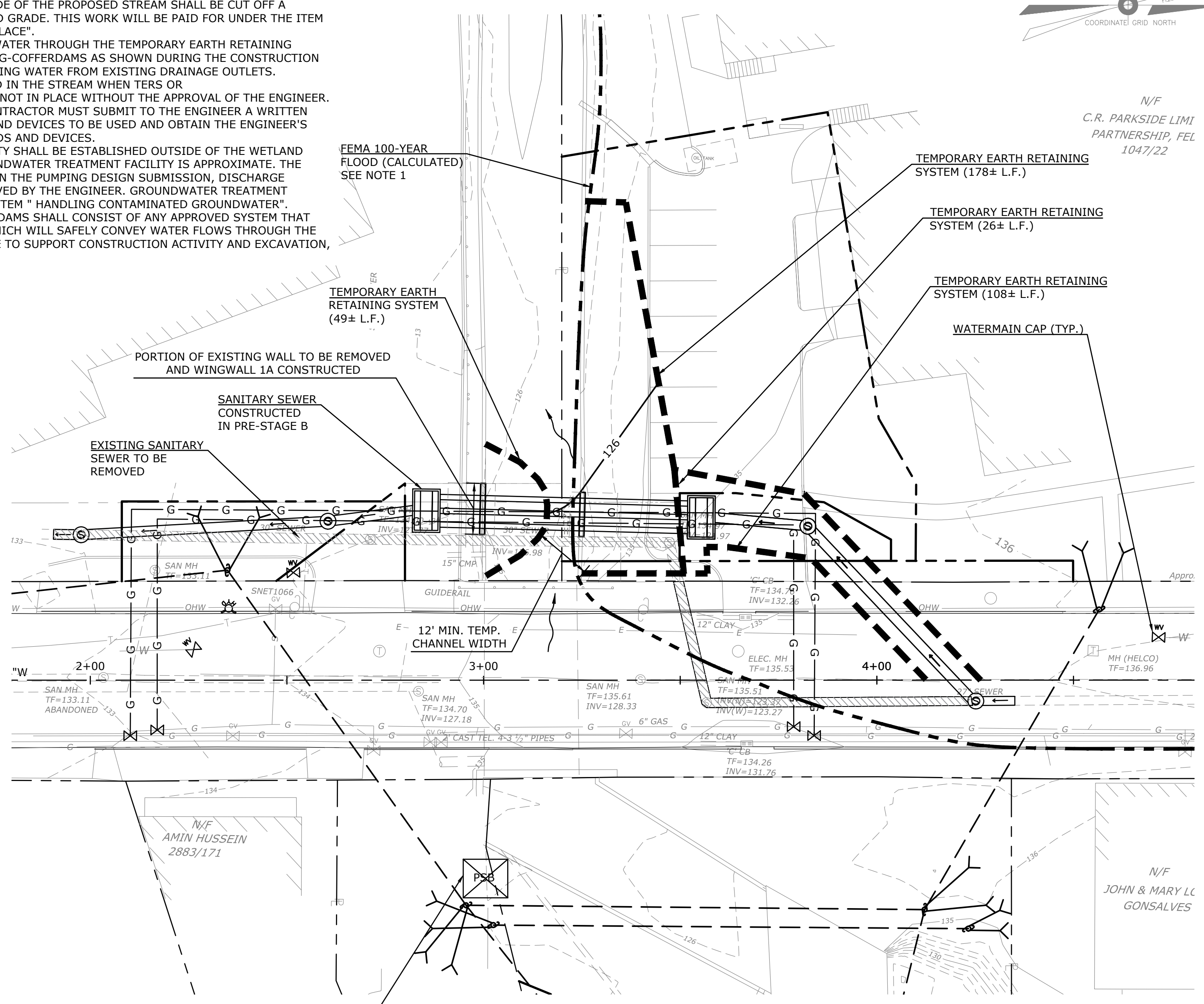


B.M. T-44 Elev. 133.09  
PK NAIL  
Based On NGVD Of 1929  
N: 257793.663  
E: 587722.574

N/F  
C.R. PARKSIDE LIMI  
PARTNERSHIP, FEL  
1047/22



**SUGGESTED HANDLING WATER PLAN  
PRE-STAGE A**  
SCALE: 1" = 20'



**SUGGESTED HANDLING WATER PLAN  
PRE-STAGE B**  
SCALE: 1" = 20'

- WATER HANDLING NOTES:**
1. THERE IS NO FEMA FLOODWAY FOR THIS REACH OF HARBOR BROOK. DEPICTED FLOOD LIMITS EXTEND BEYOND LIMITS OF PLAN.
  2. BASED ON THE POTENTIAL FOR SOILS BECOMING "QUICK" AT THE NEW STRUCTURES DURING VIBRATORY EXTRACTION, IT IS RECOMMENDED TO LEAVE SHEET PILING IN PLACE. ANY SHEET PILING LEFT IN PLACE WITHIN THE PROPOSED STREAM SHALL BE CUT OFF AT ELEVATION 122.0'. SHEET PILING LEFT IN PLACE OUTSIDE OF THE PROPOSED STREAM SHALL BE CUT OFF A MINIMUM OF 1' BELOW THE PROPOSED GRADE. THIS WORK WILL BE PAID FOR UNDER THE ITEM "EARTH RETAINING SYSTEM LEFT IN PLACE".
  3. THE CONTRACTOR SHALL MAINTAIN WATER THROUGH THE TEMPORARY EARTH RETAINING SYSTEMS (TERS) OR WATER-HANDLING-COFFERDAMS AS SHOWN DURING THE CONSTRUCTION OF BRIDGE 04185 INCLUDING DIVERTING WATER FROM EXISTING DRAINAGE OUTLETS.
  4. EQUIPMENT SHALL NOT BE PERMITTED IN THE STREAM WHEN TERS OR WATER-HANDLING-COFFERDAMS ARE NOT IN PLACE WITHOUT THE APPROVAL OF THE ENGINEER.
  5. PRIOR TO ANY DEWATERING, THE CONTRACTOR MUST SUBMIT TO THE ENGINEER A WRITTEN PROPOSAL FOR SPECIFIC METHODS AND DEVICES TO BE USED AND OBTAIN THE ENGINEER'S WRITTEN APPROVAL OF SUCH METHODS AND DEVICES.
  6. A GROUNDWATER TREATMENT FACILITY SHALL BE ESTABLISHED OUTSIDE OF THE WETLAND LIMITS. THE LOCATION OF THE GROUNDWATER TREATMENT FACILITY IS APPROXIMATE. THE EXACT POSITION MAY VARY BASED ION THE PUMPING DESIGN SUBMISSION, DISCHARGE REQUIREMENTS AND MUST BE APPROVED BY THE ENGINEER. GROUNDWATER TREATMENT FACILITY SHALL BE PAID FOR UNDER ITEM " HANDLING CONTAMINATED GROUNDWATER".
  7. TERS AND WATER-HANDLING COFFERDAMS SHALL CONSIST OF ANY APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA, SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND EXCAVATION, AND SHALL CONFORM TO PERMITS.

**PRE-STAGE A:**

1. CLOSE CENTER STREET TO ALL THROUGH TRAFFIC
2. RELOCATE ALL OVERHEAD AND UNDERGROUND ELECTRICAL, COMMUNICATION, CABLE & GAS SERVICES WITHIN THE LIMITS OF THE PROJECT.
3. CAP EXISTING WATERMAIN AT BOTH SIDES OF THE BRIDGE.
4. INSTALL TEMPORARY EARTH RETAINING SYSTEMS (TERS) AS SHOWN ON THE PLAN. TOP OF STREAMSIDE TERS ELEVATION SHALL BE 130.0' WHICH SHOULD PROVIDE PROTECTION FOR 10 TIMES THE AVERAGE SPRING FLOW WITH NO FREEBOARD.
5. REMOVE EXISTING WINGWALL 2A WITHIN LIMITS SHOWN.
6. CONSTRUCT PORTION OF WW2A FOOTING WITHIN LIMITS SHOWN.
7. INSTALL NEW SEWER MAIN AS SHOWN STA. 3+30.12 (41.97' LT.) TO STA. 3+51.86 (41.40' LT.) AND ENCASE SIPHON PIPES.
8. CONSTRUCT PORTION OF WINGWALL 2A STEM WITHIN LIMITS SHOWN TO ELEV. 125.0.
9. GRADE TEMPORARY CHANNEL TO ELEV. 126 ± FOR PRE-STAGE B FLOWS.

**TEMPORARY FACILITIES HYDRAULICS**

AVERAGE DAILY FLOW	16 CFS
AVERAGE SPRING FLOW	32 CFS
2 - YEAR FREQUENCY DISCHARGE	716 CFS
TEMPORARY DESIGN DISCHARGE	1197 CFS
TEMPORARY DESIGN FREQUENCY	5-YR
TEMPORARY WATER SURFACE ELEVATION UPSTREAM	134.4 FEET (STAGES I & II, 5 YEAR DISCHARGE) 129.5 FEET (PRE-STAGES & STAGE III, 10 TIMES AVERAGE SPRING FLOW)
TEMPORARY WATER SURFACE ELEVATION DOWNSTREAM	132.1 FEET (STAGES I & II, 5 YEAR DISCHARGE) 129.3 FEET (PRE-STAGES & STAGE III, 10 TIMES AVERAGE SPRING FLOW)

**LEGEND**

--- TEMPORARY EARTH RETAINING SYSTEMS

**PRE-STAGE B:**

1. CONSTRUCT TEMPORARY EARTH RETAINING SYSTEM (TERS) AS SHOWN. TOP OF TERS ELEVATIONS SHALL BE 130.0' WHICH SHOULD PROVIDE PROTECTION FOR 10 TIMES THE ESTIMATED AVERAGE SPRING FLOW WITH NO FREEBOARD.
2. REMOVE PORTION OF EXISTING WINGWALL 1A WITHIN LIMITS SHOWN.
3. CONSTRUCT PORTION OF WW1A FOOTING WITHIN LIMITS SHOWN.
4. CONSTRUCT REMAINING PORTIONS OF SANITARY SEWER. STA. 2+88.94 (43.05' LT.) TO STA. 3+30.12 (41.97' LT.) AND ENCASE SIPHON PIPES. INSTALL BYPASS AS NEEDED TO CONNECT TO EXISTING.
5. CONSTRUCT PORTION OF WINGWALL 1A STEM WITHIN LIMITS SHOWN TO FULL HEIGHT.
6. REMOVE EXISTING SEWER SYSTEMS AS SHOWN.

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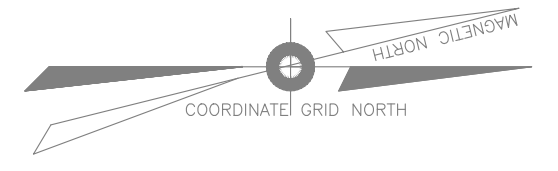
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**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
HANDLING WATER PLAN 1**

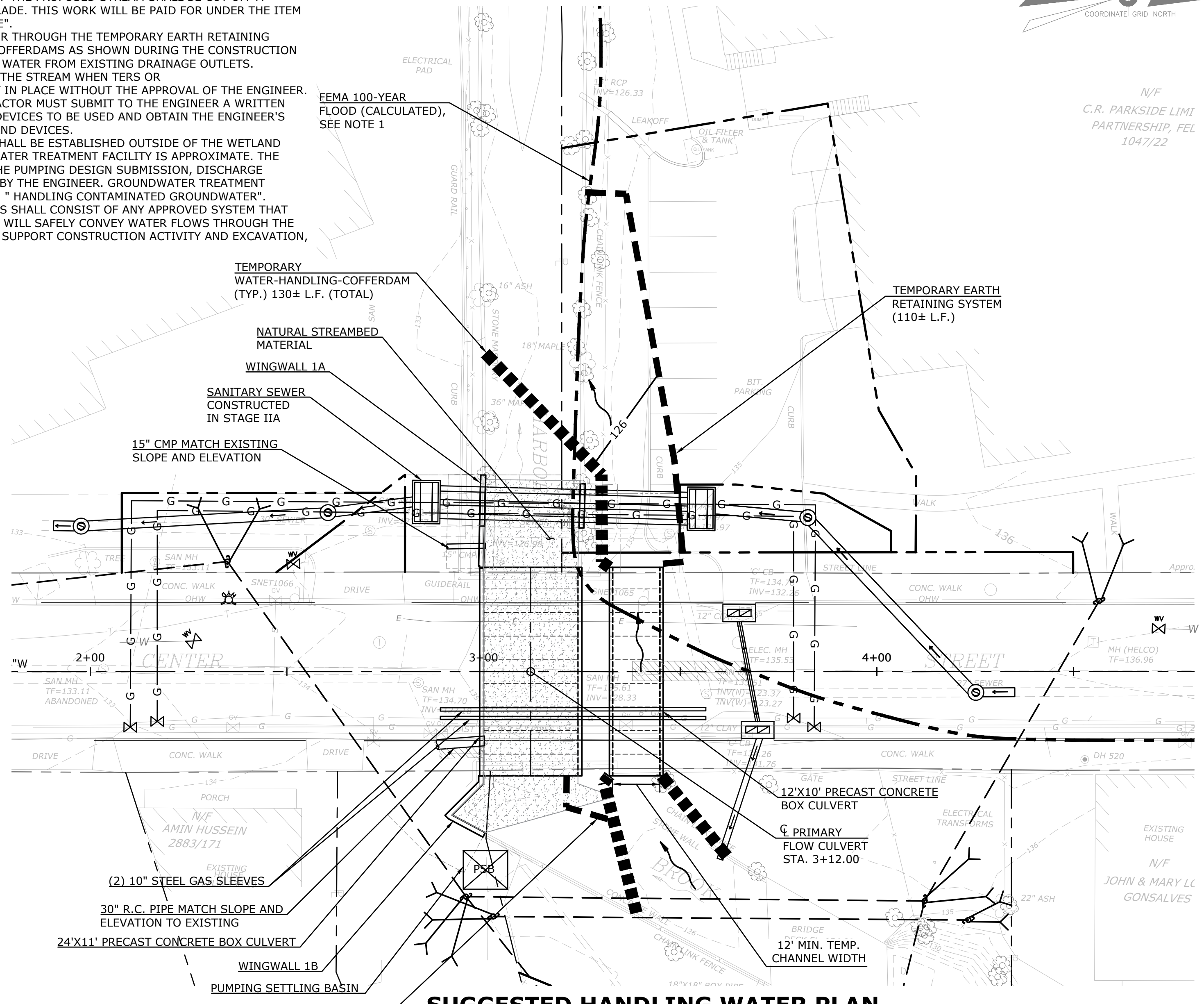
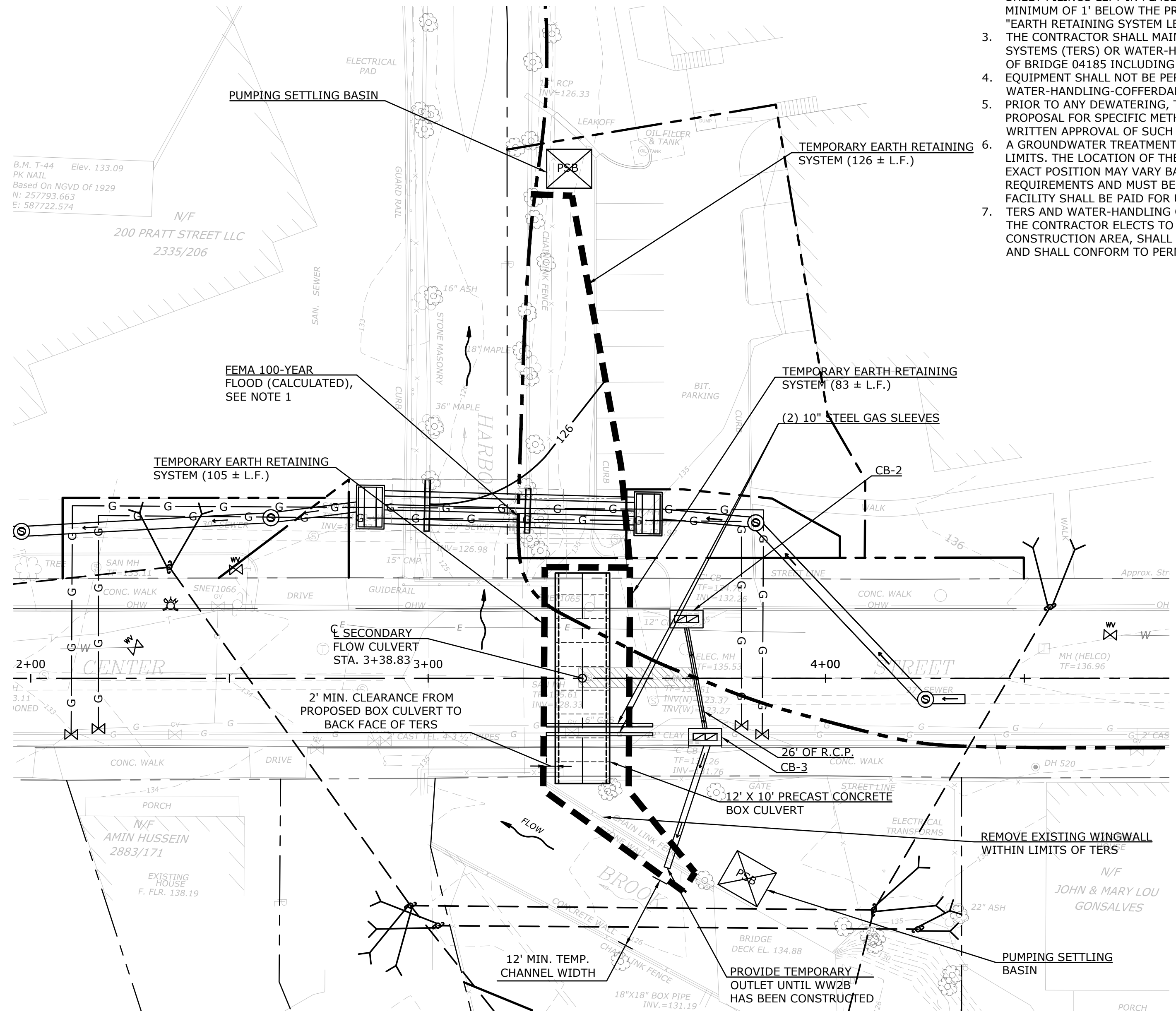
D - CENTER STREET	D.C.D.	00056.55	SHEET	18
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF
				40





**WATER HANDLING NOTES:**

1. THERE IS NO FEMA FLOODWAY FOR THIS REACH OF HARBOR BROOK. DEPICTED FLOOD LIMITS EXTEND BEYOND LIMITS OF PLAN.
2. BASED ON THE POTENTIAL FOR SOILS BECOMING "QUICK" AT THE NEW STRUCTURES DURING VIBRATORY EXTRACTION, IT IS RECOMMENDED TO LEAVE SHEET PILING IN PLACE. ANY SHEET PILING LEFT IN PLACE WITHIN THE PROPOSED STREAM SHALL BE CUT OFF AT ELEVATION 122.0'. SHEET PILING LEFT IN PLACE OUTSIDE OF THE PROPOSED STREAM SHALL BE CUT OFF A MINIMUM OF 1' BELOW THE PROPOSED GRADE. THIS WORK WILL BE PAID FOR UNDER THE ITEM "EARTH RETAINING SYSTEM LEFT IN PLACE".
3. THE CONTRACTOR SHALL MAINTAIN WATER THROUGH THE TEMPORARY EARTH RETAINING SYSTEMS (TERS) OR WATER-HANDLING-COFFERDAMS AS SHOWN DURING THE CONSTRUCTION OF BRIDGE 04185 INCLUDING DIVERTING WATER FROM EXISTING DRAINAGE OUTLETS.
4. EQUIPMENT SHALL NOT BE PERMITTED IN THE STREAM WHEN TERS OR WATER-HANDLING-COFFERDAMS ARE NOT IN PLACE WITHOUT THE APPROVAL OF THE ENGINEER. PRIOR TO ANY DEWATERING, THE CONTRACTOR MUST SUBMIT TO THE ENGINEER A WRITTEN PROPOSAL FOR SPECIFIC METHODS AND DEVICES TO BE USED AND OBTAIN THE ENGINEER'S WRITTEN APPROVAL OF SUCH METHODS AND DEVICES.
5. A GROUNDWATER TREATMENT FACILITY SHALL BE ESTABLISHED OUTSIDE OF THE WETLAND LIMITS. THE LOCATION OF THE GROUNDWATER TREATMENT FACILITY IS APPROXIMATE. THE EXACT POSITION MAY VARY BASED ION THE PUMPING DESIGN SUBMISSION, DISCHARGE REQUIREMENTS AND MUST BE APPROVED BY THE ENGINEER. GROUNDWATER TREATMENT FACILITY SHALL BE PAID FOR UNDER ITEM " HANDLING CONTAMINATED GROUNDWATER".
6. TERS AND WATER-HANDLING COFFERDAMS SHALL CONSIST OF ANY APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA, SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND EXCAVATION, AND SHALL CONFORM TO PERMITS.



**SUGGESTED HANDLING WATER PLAN**  
**STAGE I**  
SCALE: 1" = 20'

**SUGGESTED HANDLING WATER PLAN**  
**STAGE II**  
SCALE: 1" = 20'

**STAGE I:**

1. REMOVE PORTIONS OF EXISTING ARCH NECESSARY FOR STAGE I CONSTRUCTION.
2. INSTALL TEMPORARY EARTH RETAINING SYSTEM (TERS) AS SHOWN. TOP OF TERS ELEVATIONS SHALL BE 134.5' UPSTREAM OF CENTER STREET AND 132.5' DOWNSTREAM OF CENTER STREET WHICH SHOULD PROVIDE PROTECTION FOR THE COMPUTED 5 YEAR DESIGN DISCHARGE WITH NO FREEBOARD.
3. KEEP STREAM IN EXISTING CHANNEL.
4. INSTALL DRAINAGE.
5. REMOVE EXISTING NORTHEAST WINGWALL.
6. INSTALL CUTOFF AND RETURN WALLS FOR SECONDARY CULVERT.
7. INSTALL SECONDARY FLOW CULVERT UNITS FROM UPSTREAM TO DOWNSTREAM AND GRADE FOR STAGE II FLOWS.

**STAGE II:**

1. INSTALL TEMPORARY WATER-HANDLING-COFFERDAMS DIVERTING FLOW THROUGH THE NEWLY INSTALLED SECONDARY FLOW CULVERT. TOP OF COFFERDAM ELEVATIONS SHALL BE 134.5' UPSTREAM OF CENTER STREET AND 132.5' DOWNSTREAM OF CENTER STREET WHICH SHOULD PROVIDE PROTECTION FOR THE COMPUTED 5 YEAR DESIGN DISCHARGE WITH NO FREEBOARD.
2. REMOVE REMAINING PORTIONS OF THE EXISTING BRIDGE AND WINGWALLS WITHIN LIMITS SHOWN.
3. REMOVE AND STOCKPILE EXISTING STREAMBED MATERIAL.
4. INSTALL NEW PRIMARY FLOW BOX CULVERT UNITS FROM UPSTREAM TO DOWNSTREAM.
5. CONSTRUCT WINGWALL 1A AND 1B
6. INSTALL TEMPORARY EARTH RETAINING SYSTEM AS SHOWN AND PLACE NATURAL STREAMBED MATERIAL.

TEMPORARY FACILITIES HYDRAULICS	
AVERAGE DAILY FLOW	16 CFS
AVERAGE SPRING FLOW	32 CFS
2 - YEAR FREQUENCY DISCHARGE	716 CFS
TEMPORARY DESIGN DISCHARGE	1197 CFS
TEMPORARY DESIGN FREQUENCY	5-YR
TEMPORARY WATER SURFACE ELEVATION UPSTREAM	134.4 FEET (STAGES I & II, 5 YEAR DISCHARGE) 129.5 FEET (PRE-STAGES & STAGE III, 10 TIMES AVERAGE SPRING FLOW)
TEMPORARY WATER SURFACE ELEVATION DOWNSTREAM	132.1 FEET (STAGES I & II, 5 YEAR DISCHARGE) 129.3 FEET (PRE-STAGES & STAGE III, 10 TIMES AVERAGE SPRING FLOW)

**LEGEND**

- TEMPORARY EARTH RETAINING SYSTEMS
- TEMPORARY WATER-HANDLING-COFFERDAM

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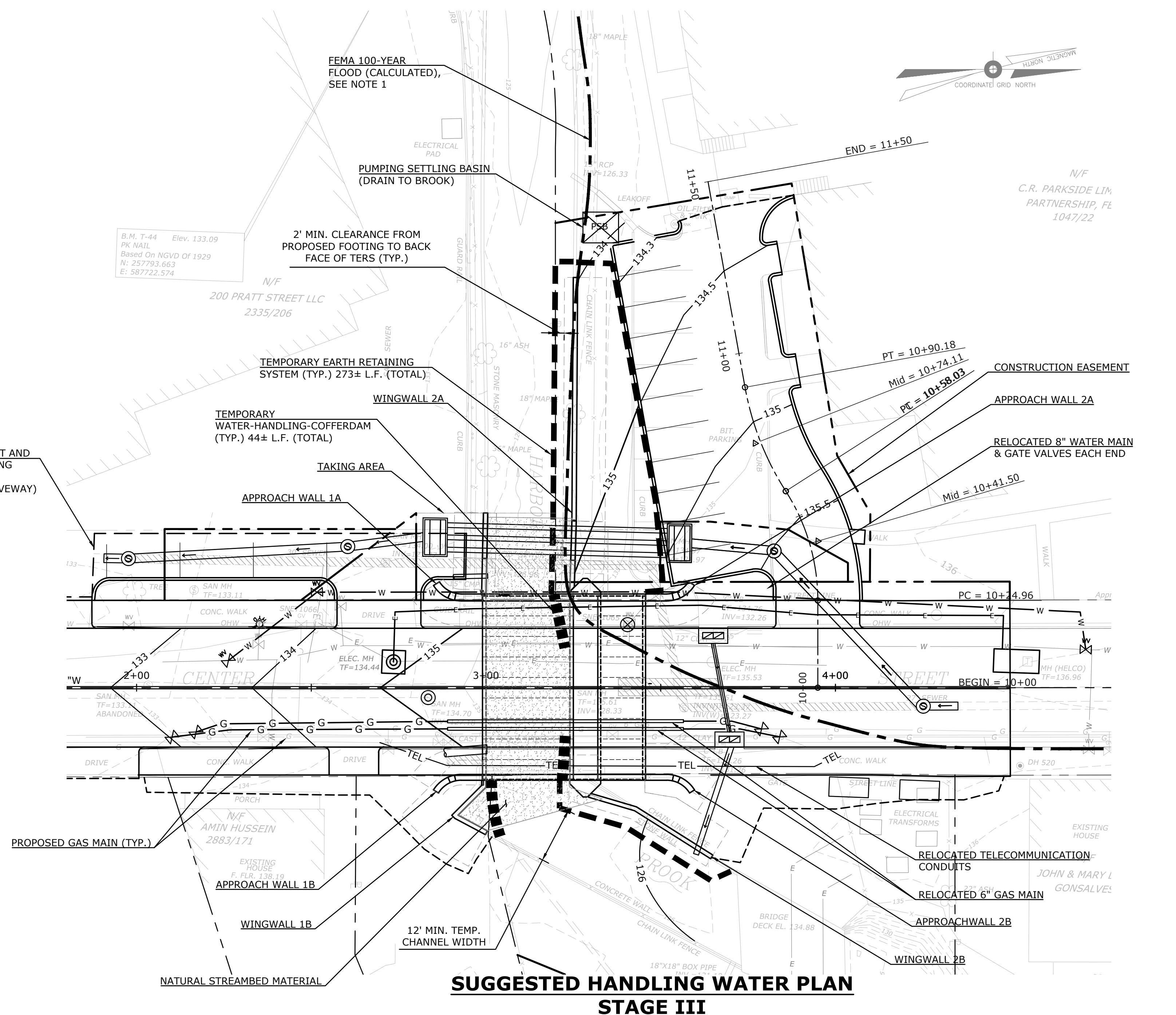
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**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK HANDLING WATER PLAN 2**

D - CENTER STREET - D.C.D. - 00056.55 - SHEET 19  
SIZE PROJECT FILE NAME NUMBER REV. OF 40





- WATER HANDLING NOTES:**
1. THERE IS NO FEMA FLOODWAY FOR THIS REACH OF HARBOR BROOK. DEPICTED FLOOD LIMITS EXTEND BEYOND LIMITS OF PLAN.
  2. BASED ON THE POTENTIAL FOR SOILS BECOMING "QUICK" AT THE NEW STRUCTURES DURING VIBRATORY EXTRACTION, IT IS RECOMMENDED TO LEAVE SHEET PILING IN PLACE. ANY SHEET PILING LEFT IN PLACE WITHIN THE PROPOSED STREAM SHALL BE CUT OFF AT ELEVATION 122.0'. SHEET PILING LEFT IN PLACE OUTSIDE OF THE PROPOSED STREAM SHALL BE CUT OFF A MINIMUM OF 1' BELOW THE PROPOSED GRADE. THIS WORK WILL BE PAID FOR UNDER THE ITEM "EARTH RETAINING SYSTEM LEFT IN PLACE".
  3. THE CONTRACTOR SHALL MAINTAIN WATER THROUGH THE TEMPORARY EARTH RETAINING SYSTEMS (TERS) OR WATER-HANDLING-COFFERDAMS AS SHOWN DURING THE CONSTRUCTION OF BRIDGE 04185 INCLUDING DIVERTING WATER FROM EXISTING DRAINAGE OUTLETS.
  4. EQUIPMENT SHALL NOT BE PERMITTED IN THE STREAM WHEN TERS OR WATER-HANDLING-COFFERDAMS ARE NOT IN PLACE WITHOUT THE APPROVAL OF THE ENGINEER.
  5. PRIOR TO ANY DEWATERING, THE CONTRACTOR MUST SUBMIT TO THE ENGINEER A WRITTEN PROPOSAL FOR SPECIFIC METHODS AND DEVICES TO BE USED AND OBTAIN THE ENGINEER'S WRITTEN APPROVAL OF SUCH METHODS AND DEVICES.
  6. A GROUNDWATER TREATMENT FACILITY SHALL BE ESTABLISHED OUTSIDE OF THE WETLAND LIMITS. THE LOCATION OF THE GROUNDWATER TREATMENT FACILITY IS APPROXIMATE. THE EXACT POSITION MAY VARY BASED ION THE PUMPING DESIGN SUBMISSION, DISCHARGE REQUIREMENTS AND MUST BE APPROVED BY THE ENGINEER. GROUNDWATER TREATMENT FACILITY SHALL BE PAID FOR UNDER ITEM " HANDLING CONTAMINATED GROUNDWATER".
  7. TERS AND WATER-HANDLING COFFERDAMS SHALL CONSIST OF ANY APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA, SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND EXCAVATION, AND SHALL CONFORM TO PERMITS.

**SUGGESTED HANDLING WATER PLAN**  
**STAGE III**  
SCALE: 1" = 20'

**STAGE III:**

1. INSTALL TEMPORARY EARTH RETAINING SYSTEMS (TERS) AND WATER-HANDLING-COFFERDAMS AS SHOWN FOR STAGE III CONSTRUCTION. TOP OF TERS AND COFFERDAM ELEVATIONS SHALL BE 130.0' WHICH SHOULD PROVIDE PROTECTION FOR 10 TIMES THE ESTIMATED AVERAGE SPRING FLOW WITH NO FREEBOARD.
2. CONSTRUCT NOSING A AND B AND WINGWALL 2A AND 2B AND PLATE OFF SECONDARY FLOW CULVERT WITH STEEL PLATE.
3. CONSTRUCT PARAPETS AND APPROACH WALLS, BACKFILL AND REGRADE UPSTREAM AND DOWNSTREAM ENDS OF SECONDARY FLOW CULVERT TO MATCH PRE-PROJECT CONDITION/GRADING.
4. CONSTRUCT SIDEWALKS, PAVE ROADWAY AND INSTALL BRIDGE RAIL.
5. PERFORM FINAL GRADING, TURF ESTABLISHMENT AND SITE CLEANUP.
6. OPEN ROAD TO TRAFFIC AND PEDESTRIANS.

**LEGEND**

- ▬▬▬▬▬▬ TEMPORARY EARTH RETAINING SYSTEMS
- ▣▣▣▣▣▣ TEMPORARY WATER-HANDLING-COFFERDAM

TEMPORARY FACILITIES HYDRAULICS	
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AVERAGE SPRING FLOW	32 CFS
2 - YEAR FREQUENCY DISCHARGE	716 CFS
TEMPORARY DESIGN DISCHARGE	1197 CFS
TEMPORARY DESIGN FREQUENCY	5-YR
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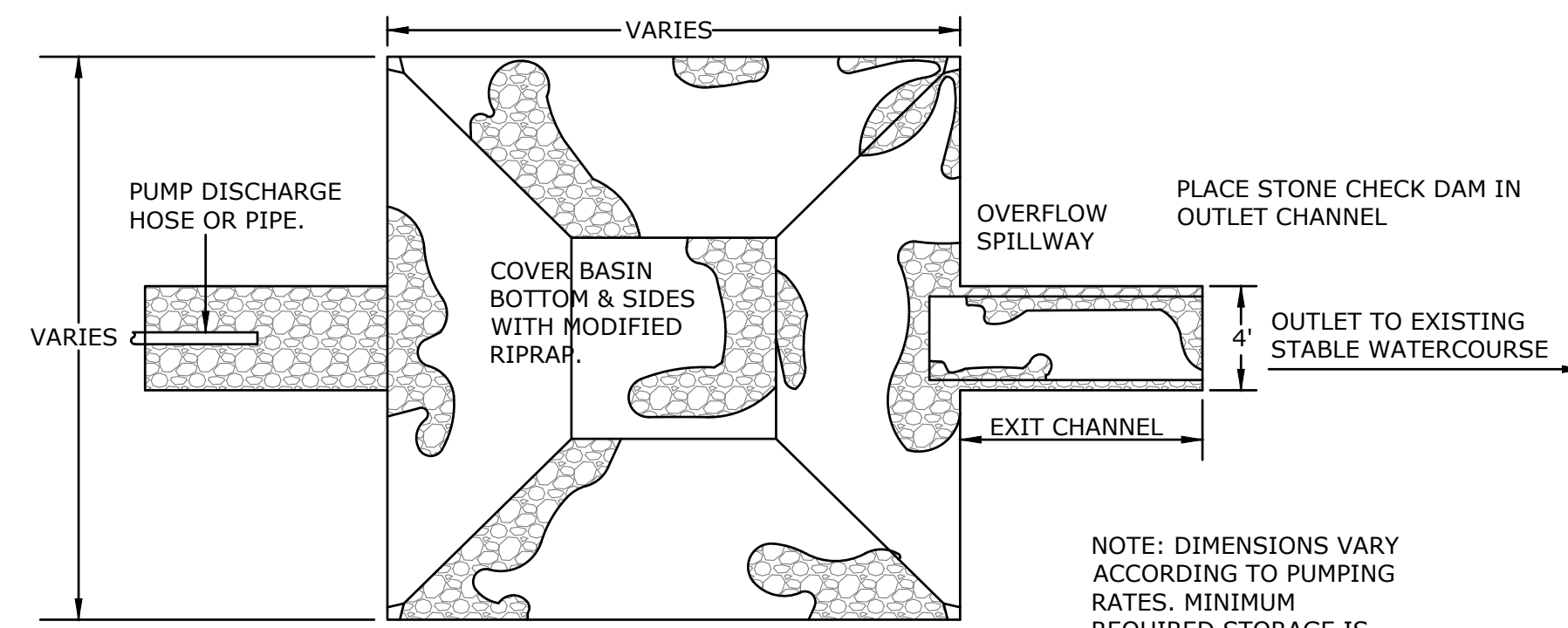
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 87 HOLMES ROAD  
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 (860) 667-9624

**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
HANDLING WATER PLAN 3**

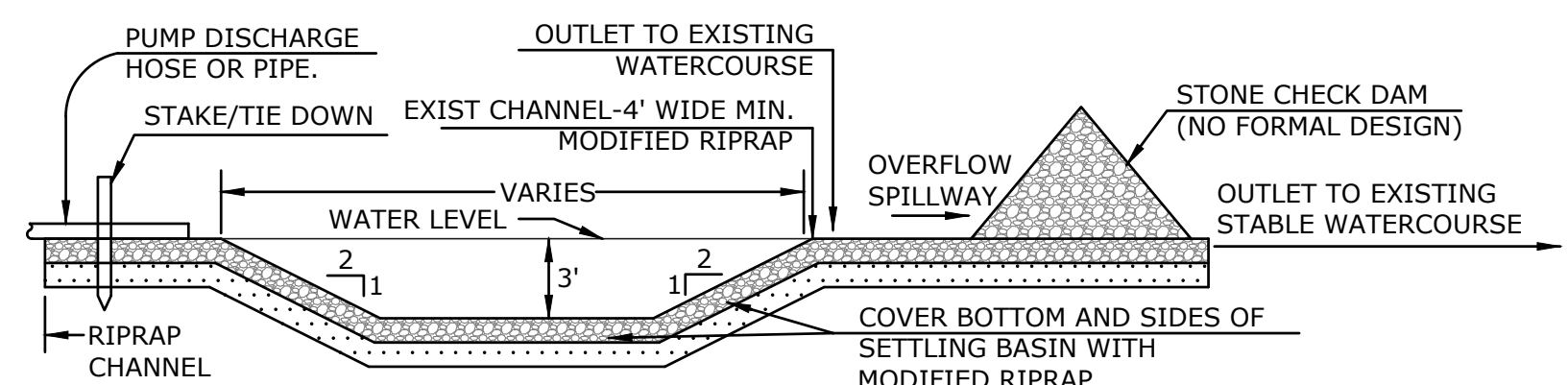
D - CENTER STREET	D.C.D.	00056.55		SHEET	20
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF
					40





PLAN VIEW

NOTE: DIMENSIONS VARY ACCORDING TO PUMPING RATES. MINIMUM REQUIRED STORAGE IS CALCULATED FROM SPILLWAY WEIR.



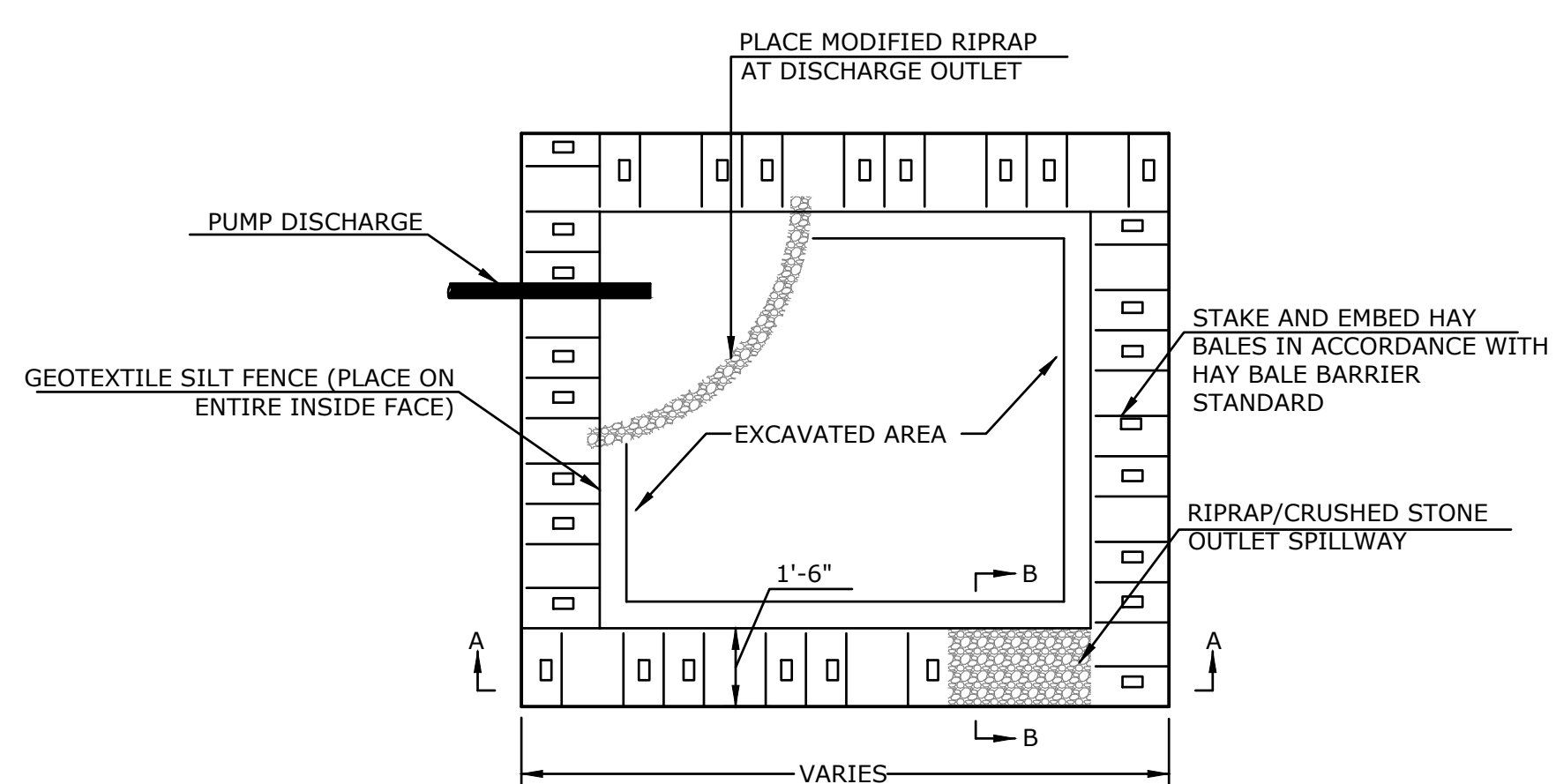
PROFILE

REFER TO PAGE 5-13-7 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL".

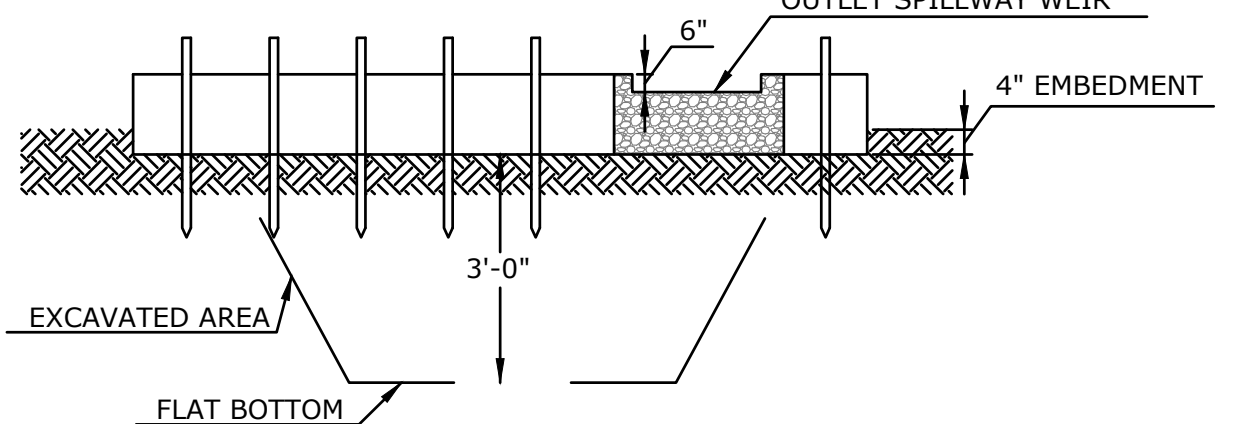
**TYPE III PUMPING SETTLING BASIN**  
N.T.S.

**PUMPING SETTLING BASIN NOTES:**

1. LOCATION AS DIRECTED BY ENGINEER. REMOVE WHEN PUMPING IS COMPLETED.
2. PUMP DISCHARGE PAD SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE GENERAL WORK.
3. STORAGE VOLUME BASED UPON PUMP DISCHARGE, LARGER PAD DIMENSIONS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER. (MINIMUM REQUIRED STORAGE, CUBIC FEET) = 16 x (PUMP DISCHARGE RATE, GPM)
4. TYPE II PUMPING SETTLING BASIN TO BE USED WHEN THE EXPECTED DURATION OF USE IS LESS THAN 3 MONTHS. TYPE III PUMPING SETTLING BASIN TO BE USED WHEN THE EXPECTED DURATION OF USE IS LONGER THAN 3 MONTHS.
5. SETTLING BASIN AND EXIT CHANNEL TO BE BACKFILLED AT COMPLETION OF WORK. AREA SHALL BE GRADED AND STABILIZED ACCORDING TO PLANS OR AS DIRECTED BY THE ENGINEER.

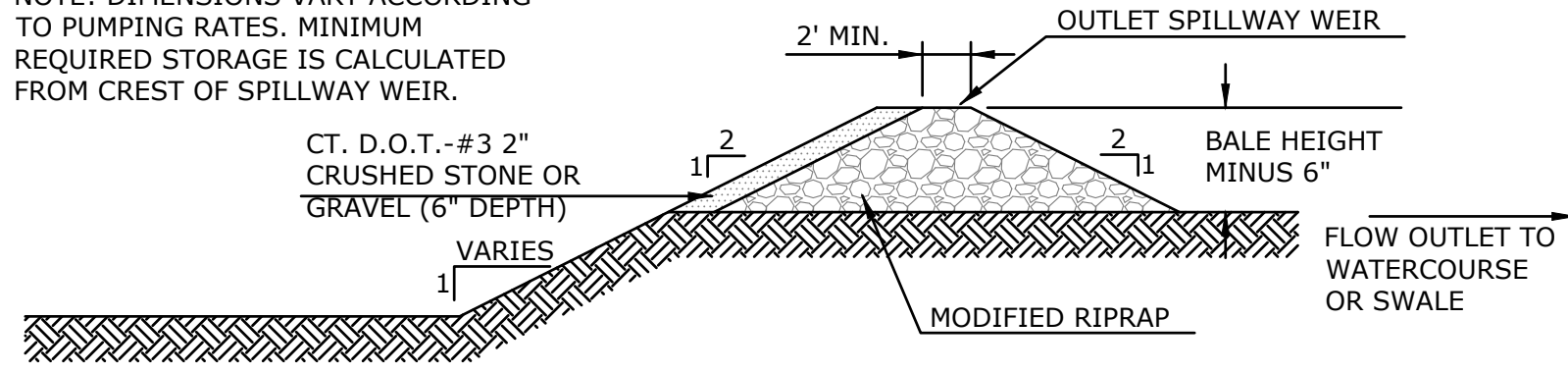


PLAN



SECTION A-A

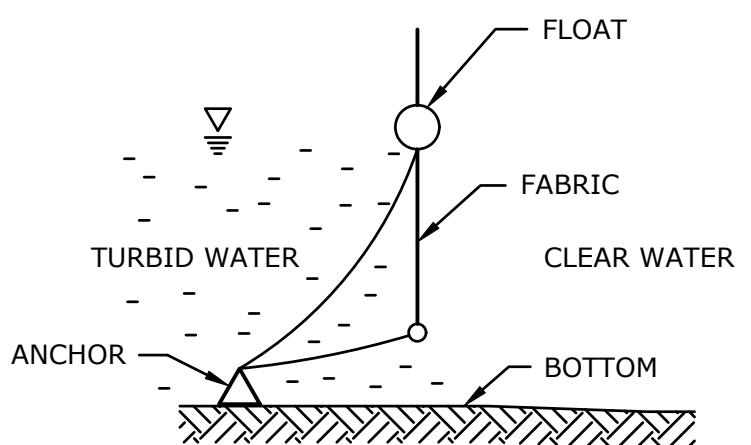
NOTE: DIMENSIONS VARY ACCORDING TO PUMPING RATES. MINIMUM REQUIRED STORAGE IS CALCULATED FROM CREST OF SPILLWAY WEIR.



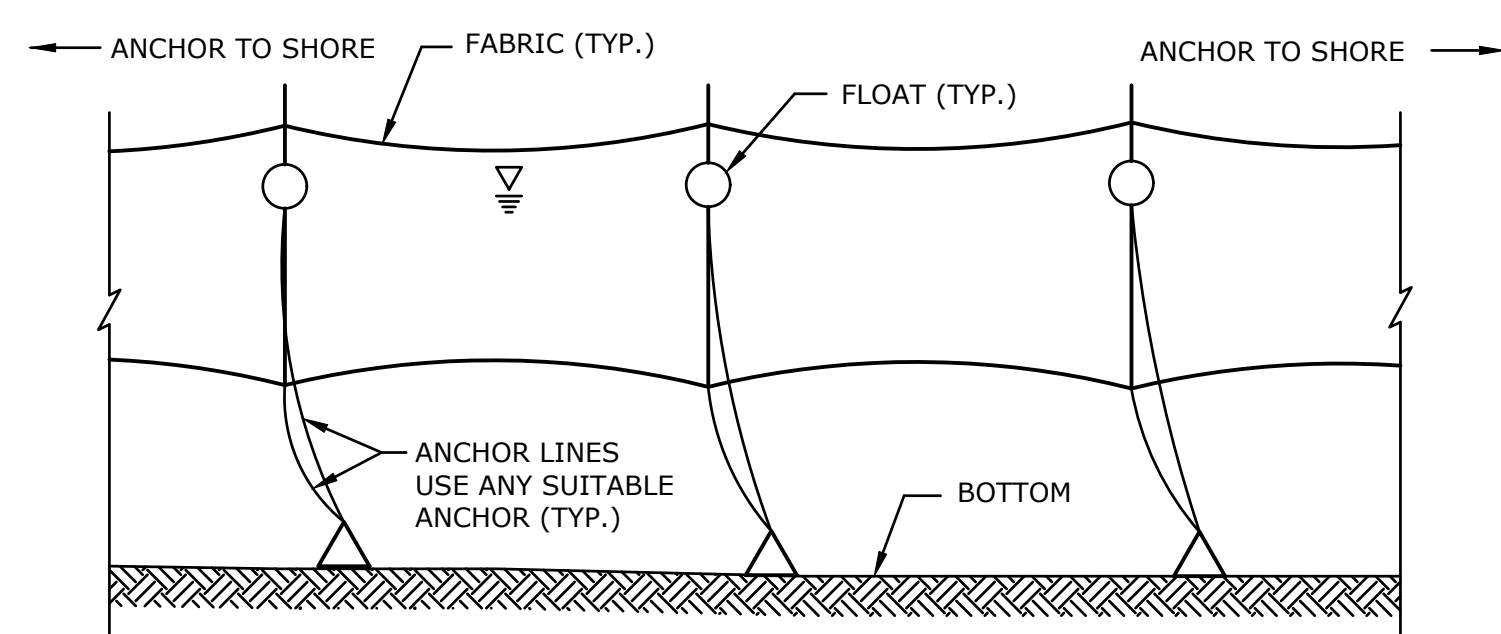
SECTION B-B

REFER TO PAGE 5-13-7 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL".

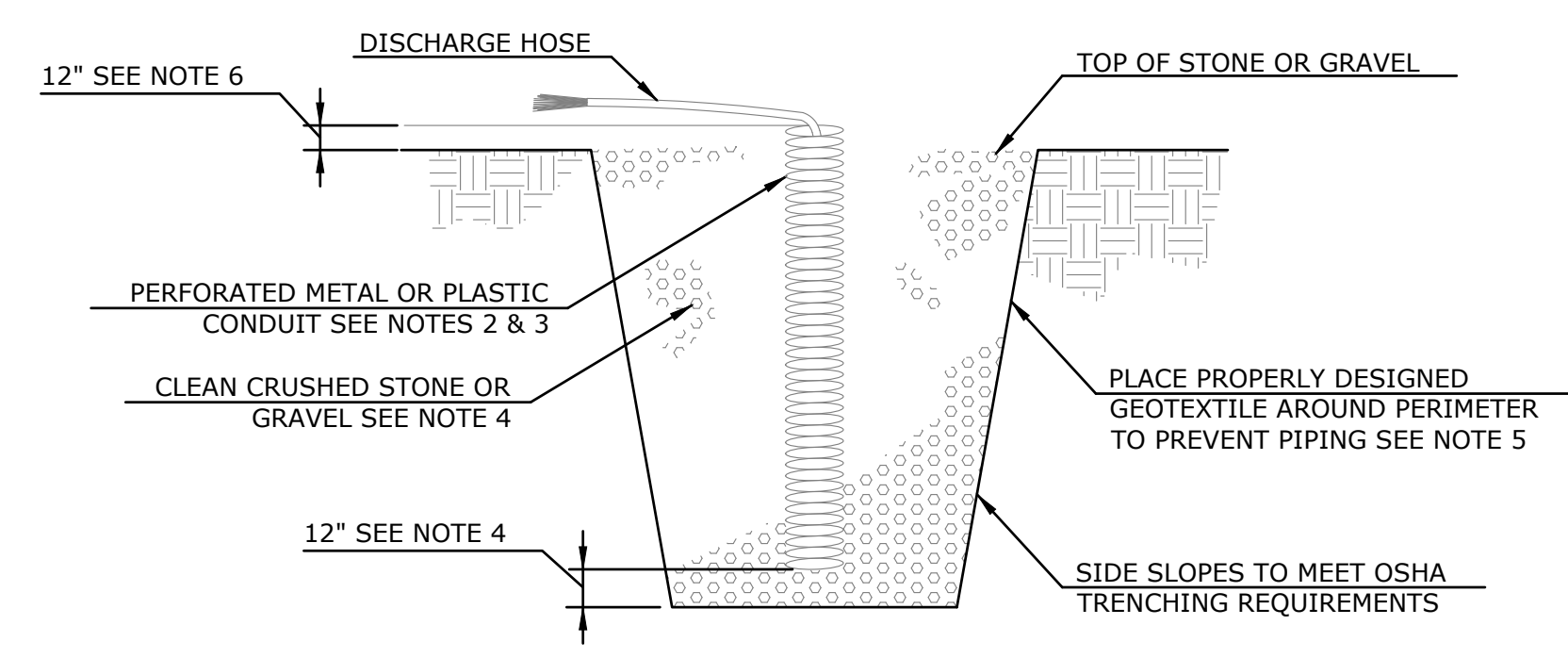
**TYPE II PUMPING SETTLING BASIN**  
N.T.S.



FLOATING SECTION



**TURBIDITY CONTROL CURTAINS**  
NOT TO SCALE



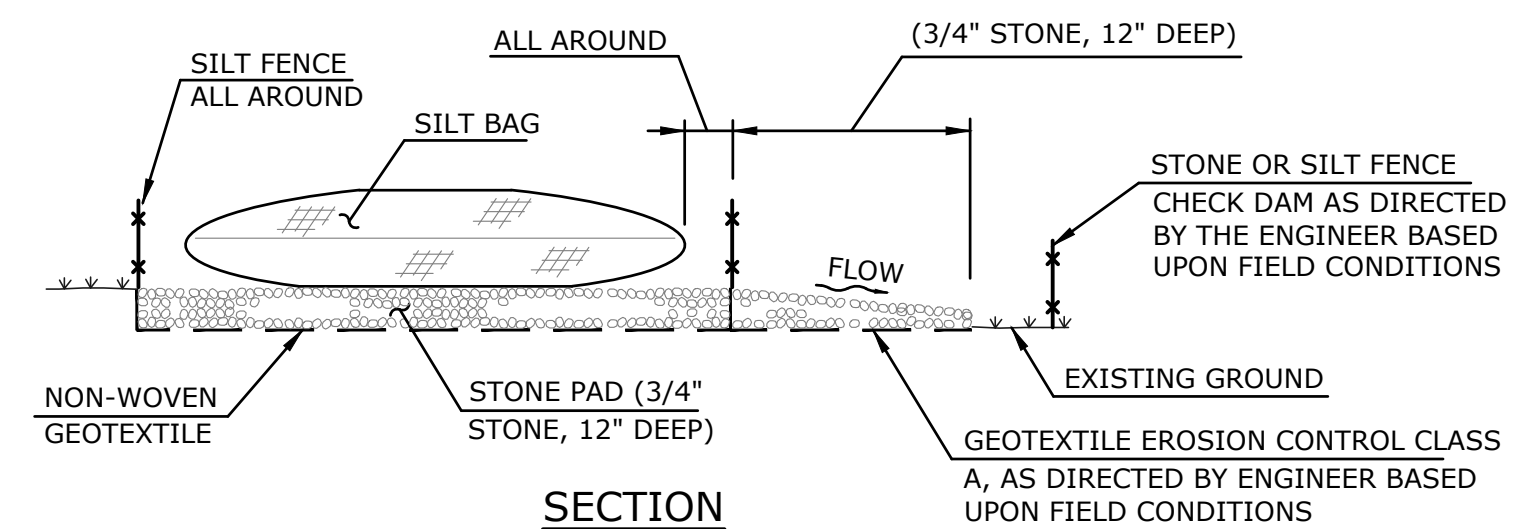
REFER TO PAGE 5-13-3 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL".

**NOTE:**

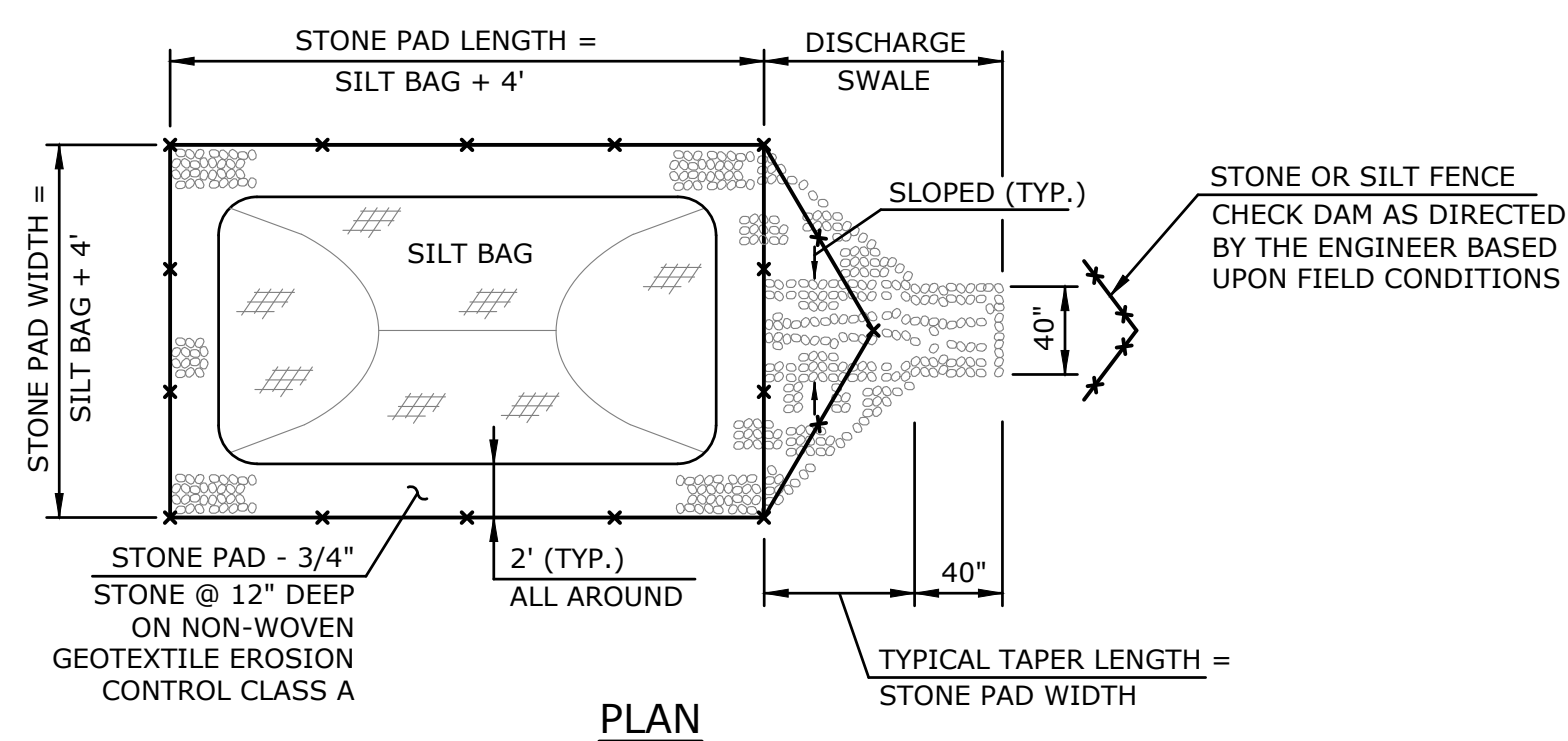
1. OVERALL SUMP PIT DIMENSIONS SHALL BE COMPATIBLE WITH ANTICIPATED SEEPAGE RATES AND PUMP SIZE TO BE USED.
2. THE STANDPIPE DIAMETER AND NUMBER OF PERFORATIONS SHALL BE COMPATIBLE WITH THE PUMP SIZE BEING USED.
3. PERFORATIONS IN THE STANDPIPE SHALL BE EITHER CIRCULAR OR SLOTS. PERFORATION SIZE SHALL NOT EXCEED 1/2" IN DIAMETER.
4. CRUSHED STONE OR GRAVEL SHALL BE NO SMALLER THAN CT DOT #8 SIZE NOR LARGER THAN CT DOT #3 SIZE. CRUSHED STONE SHALL EXTEND A MINIMUM OF 12" BELOW THE BOTTOM OF THE STANDPIPE.
5. IF EXCESSIVE MOVEMENT OF FINE SOIL PARTICLES FROM THE SURROUNDING EXISTING SOILS IS ANTICIPATED, A PROPERLY DESIGNED GEOTEXTILE SHALL BE PLACED BETWEEN THE EXISTING SOILS AND THE CRUSHED STONE OR GRAVEL BACKFILL.
6. THE STANDPIPE SHALL EXTEND A MINIMUM OF 12" ABOVE THE SURROUNDING GROUND.

**PUMP INTAKE**

**TYPICAL SECTION OF SUMP PIT**  
N.T.S.



SECTION



PLAN

**SILT BAG INSTALLATION**

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		SUPV.	J.A.C.
		DESIGN	K.O.E., M.R.G.
		DRAWN	M.R.G.
		CHECKED	K.O.E.
		DATE	03/17/2022
NO.	DATE	DESCRIPTION	
<b>REVISIONS</b>			

**WMC**  
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**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
HANDLING WATER DETAILS**

D - CENTER STREET	D.C.D.	00056.55	REV.	OF	SHEET	21
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	40





1. SET POSTS AND EXCAVATE A 6"x6" TRENCH. SET POSTS DOWN SLOPE. ANGLE 10° UPSLOPE FOR STABILITY AND SELF CLEANING.

2. ATTACH THE WIRE MESH FENCING TO POST.

3. ATTACH GEOTEXTILE TO THE WIRE FENCING AND EXTEND IT TO THE TRENCH.

4. BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.

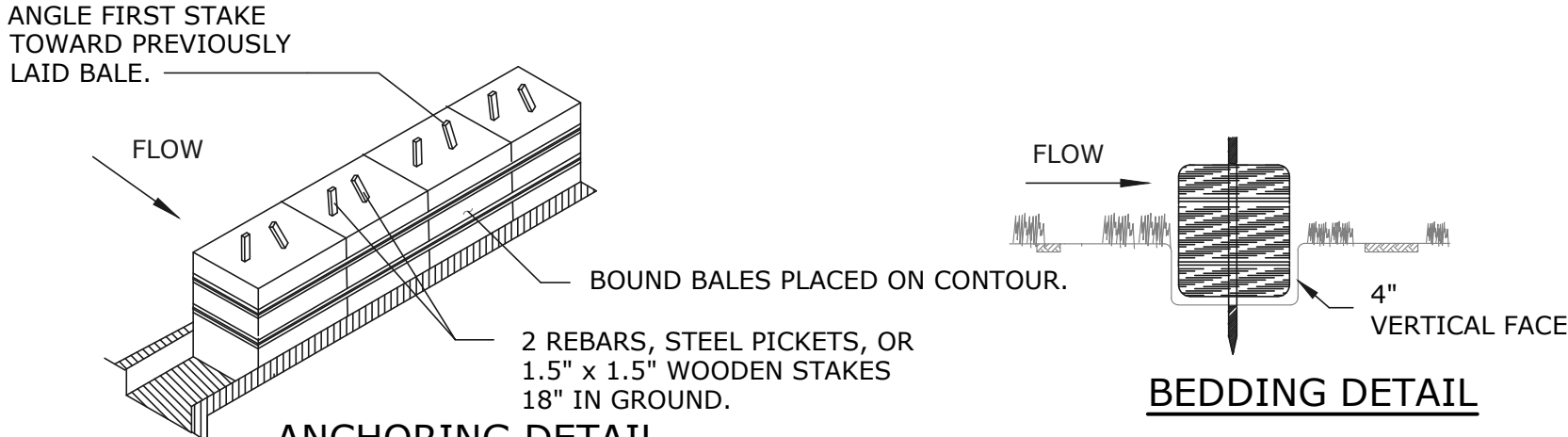
\* WHEN INSTALLATION OF TRENCH IS IMPRACTICAL, ALTERNATE INSTALLATION SHALL BE TO LAY 6" FLAP HORIZONTALLY ON GROUND AND BURY FLAP BY RAMP SOIL OR STONE UP TO CONTROL FENCE. DEPTH OF RAMP SHALL BE AS REQUIRED TO HOLD DOWN FLAP WITHOUT LEAKAGE UNDER CONTROL FENCE WHILE MAINTAINING MINIMUM HEIGHT.

**GEOTEXTILE FENCE SYSTEM**

REFER TO PAGE 5-11-35 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 55 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

**SEDIMENTATION CONTROL SYSTEM INSTALLATION**

N.T.S.

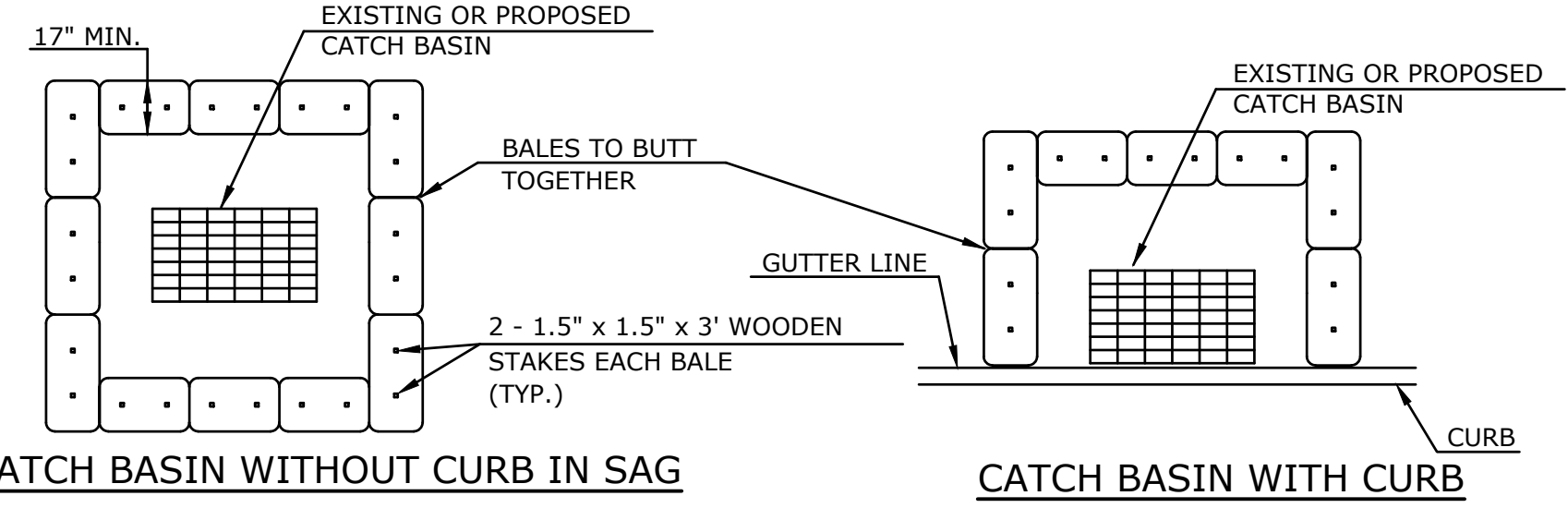


- HAY BALE CONSTRUCTION SPECIFICATIONS:**
- HAY BALES SHALL BE PLACED AROUND NEWLY INSTALLED CATCH BASINS IN SAGS AND DROP INLETS TO PREVENT SEDIMENTATION AND OTHER DEBRIS FROM ACCUMULATING ON THE GRATE OR IN THE SUMP. HAY BALES SHOULD BE KEPT CLEAN AND FREE OF DEBRIS TO FACILITATE FLOW.
  - EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4", AND PLACED SO THE BINDINGS ARE HORIZONTAL.
  - BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
  - INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
  - BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

REFER TO PAGE 5-11-30 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 53 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

**HAY BALE DETAIL**

N.T.S.



REFER TO PAGE 5-11-33 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 40 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

**SEDIMENTATION CONTROL DETAILS**

N.T.S.

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**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK EROSION AND SEDIMENTATION CONTROL DETAILS**

D - CENTER STREET	D.C.D.	00056.55		SHEET	22
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF
					40

**GENERAL**  
THIS PLAN PROPOSES EROSION CONTROL MEASURES TO HELP CONTROL ACCELERATED EROSION AND SEDIMENTATION AND REDUCE THE DANGER FROM STORM WATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION, AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE. EXISTING VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING ABSOLUTELY NECESSARY FOR THE PROPOSED CONSTRUCTION SHALL BE PERFORMED. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWING GUIDELINES. REFERENCE IS MADE TO THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" (2002), AS AMENDED. THE GUIDELINES ARE OBTAINABLE FROM THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION, 79 ELM STREET, HARTFORD, CONNECTICUT 06106, AND SHOULD BE USED AS A REFERENCE IN CONSTRUCTING THE EROSION AND SEDIMENTATION CONTROLS INDICATED ON THESE PLANS. AN ADDITIONAL REFERENCE IS THE 1994 CONNDOT PUBLICATION "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

**EROSION CONTROL**  
ALL AREAS SHALL BE PROTECTED FROM EROSION DURING AND AFTER CONSTRUCTION, PARTICULARLY THE STORAGE OF EXCAVATED OR STOCKPILED MATERIAL. THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM, OR ORGANIC MATTER PRIOR TO TRENCHING OR OTHER OPERATIONS AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. EACH STOCKPILE MUST BE ADEQUATELY RINGED WITH SEDIMENTATION CONTROL SYSTEM (I.E. HAY BALES AND/OR GEOTEXTILE FENCE). DEBRIS AND OTHER WASTE RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION WILL NOT BE DISCARDED ON SITE. STABILIZING OF SLOPES SHALL BE DONE IMMEDIATELY AFTER CONSTRUCTION OF SLOPES. SLOPES STEEPER THAN 4:1 SHALL BE PROTECTED WITH EROSION CONTROL MATTING. THIS MATTING IS MANUFACTURED COMBINATIONS OF MULCH AND NETTING AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL OTHER AREAS SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 2 TO 3 TONS PER ACRE. STRAW OR HAY MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT WINDBLOWING. THE METHODS RECOMMENDED BY THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" SHALL BE USED FOR THE ANCHORING OF MULCH OR NETTING.

**EROSION AND SEDIMENTATION CONTROL PLAN**  
AN EROSION AND SEDIMENTATION CONTROL PLAN MUST BE SUBMITTED IN WRITING TO THE ENGINEER AND APPROVED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. SEDIMENTATION CONTROL SYSTEM - THE SEDIMENTATION CONTROL SYSTEM SHALL CONSIST OF A GEOTEXTILE BARRIER FENCE. THE SEDIMENTATION CONTROL SYSTEM SHALL BE INSTALLED IMMEDIATELY AFTER A CUT SLOPE HAS BEEN GRADED, BEFORE A FILL SLOPE HAS BEEN CREATED AND AS INDICATED ON THE PLANS. THE SYSTEM IS DESIGNED TO INTERCEPT SILT AND SEDIMENT BEFORE IT REACHES THE WETLANDS OR WATERCOURSES. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. THE SEDIMENTATION CONTROL SYSTEM IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE FENCE ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

**STACKED HAY BALES - HAY OR STRAW BALES USED FOR EROSION CONTROL SHALL BE STACKED AT CATCH BASINS WHERE SEDIMENT MAY ENTER THE CATCH BASIN OR AS DIRECTED BY THE RESIDENT ENGINEER. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE EROSION CHECKS. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. HAY OR STRAW BALES ARE TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.**

IN ALL AREAS, REMOVAL OF TREES, BUSHES, AND OTHER VEGETATION, AND DISTURBANCE OF THE SOIL, IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE.

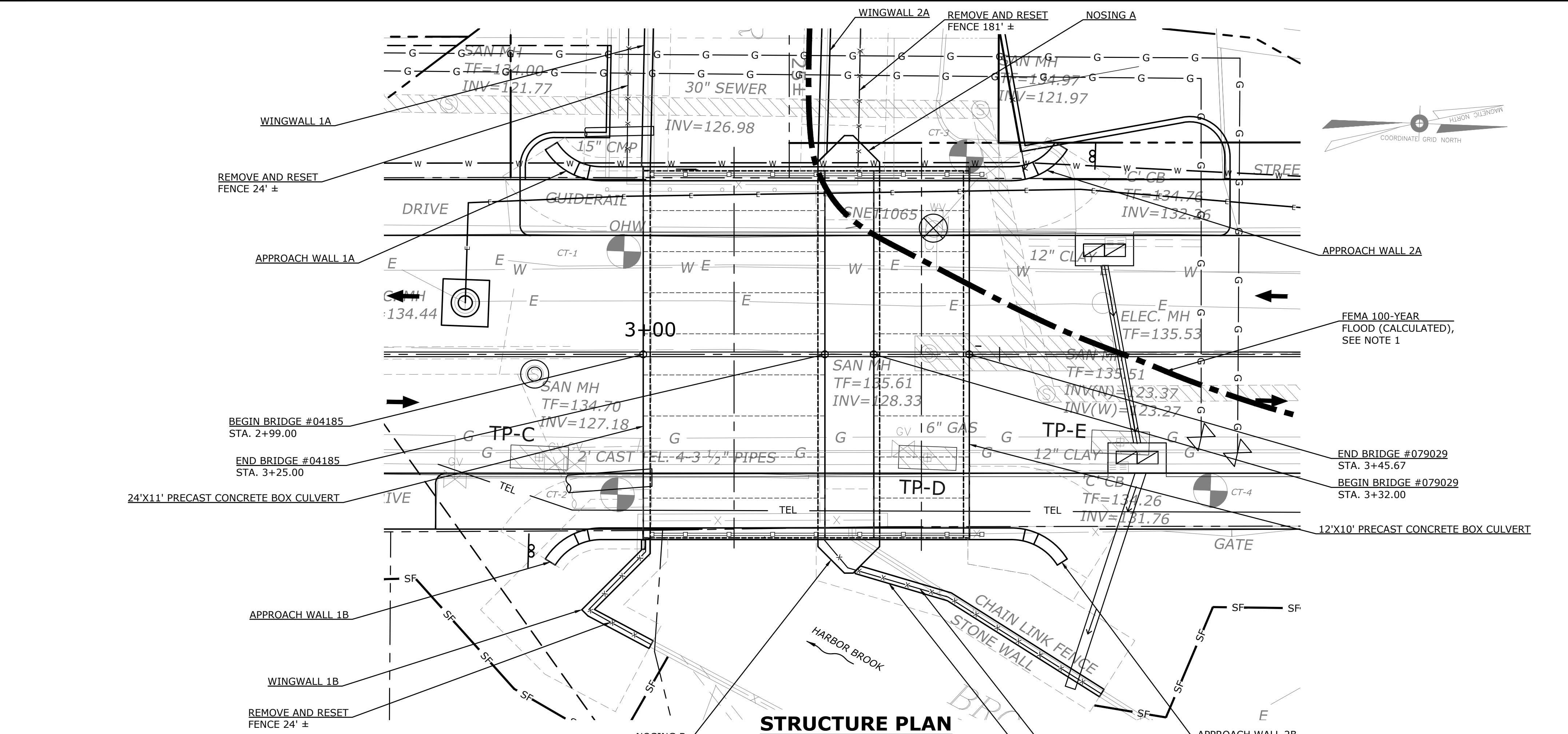
DURING CONSTRUCTION, AS SMALL AN AREA OF SOIL AS POSSIBLE SHOULD BE EXPOSED FOR AS SHORT A TIME AS POSSIBLE. AFTER CONSTRUCTION, GRADE, RESPREAD TOPSOIL, AND STABILIZE SOIL BY SEEDING AND MULCHING AS TO PREVENT EROSION.

**EROSION AND SEDIMENTATION CONTROL MAINTENANCE PROCEDURES**  
ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION ON A DAILY BASIS AND FOLLOWING ALL STORMS BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE RESIDENT ENGINEER. THIS WORK SHALL BE PERFORMED WITHIN 24 HOURS OF THE REQUEST AND THERE SHALL BE NO SEPARATE PAYMENT FOR THIS WORK.

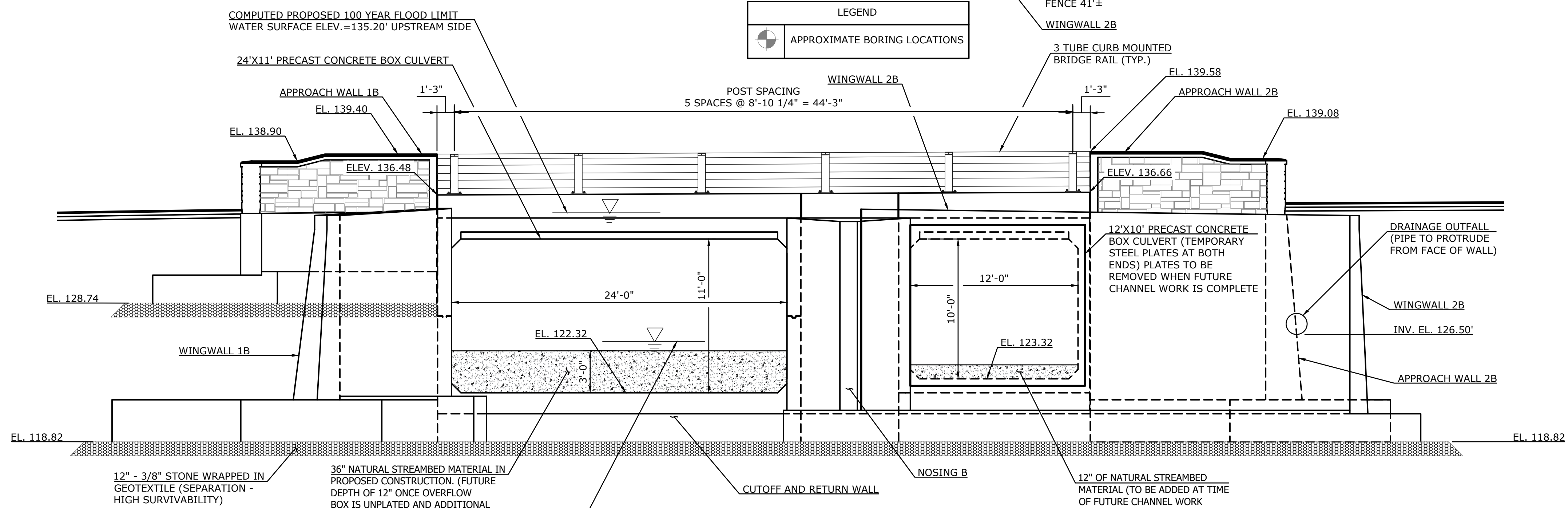
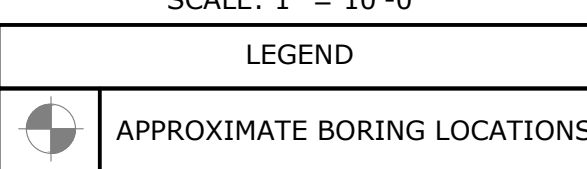
THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, AND PIPES AT THE COMPLETION OF CONSTRUCTION, AND AS REQUESTED BY THE RESIDENT INSPECTOR TO KEEP THE SYSTEM FUNCTIONING PROPERLY DURING CONSTRUCTION.

FOLLOWING COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AND ENSURE A GOOD STAND OF TURF IS ESTABLISHED THROUGHOUT. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP, AND CLEAN SEDIMENT COVERED STONES.

ALL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE ESTABLISHED PRIOR TO AND BE MAINTAINED THROUGH ALL CONSTRUCTION PHASES.



**STRUCTURE PLAN**  
SCALE: 1" = 10'-0"



**UPSTREAM STRUCTURE ELEVATION  
(LOOKING DOWNSTREAM)**  
SCALE: 1" = 5'-0"

- NOTES:**
- THERE IS NO FEMA FLOODWAY FOR THIS REACH OF HARBOR BROOK. DEPICTED FLOOD LIMITS EXTEND BEYOND LIMITS OF PLAN. LIMITS OF COMPUTED PROPOSED 100 YEAR FLOODING BEYOND EXTENT OF STRUCTURE PLAN VIEW.
  - CHAIN LINK FENCE NOT SHOWN ON ELEVATION VIEW FOR CLARITY.

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DESIGN		S.A. & K.K.
DRAWN		D.R.B.
CHECKED		K.O.E.
DATE		03/17/2022
<b>REVISIONS</b>		
NO.	DATE	DESCRIPTION

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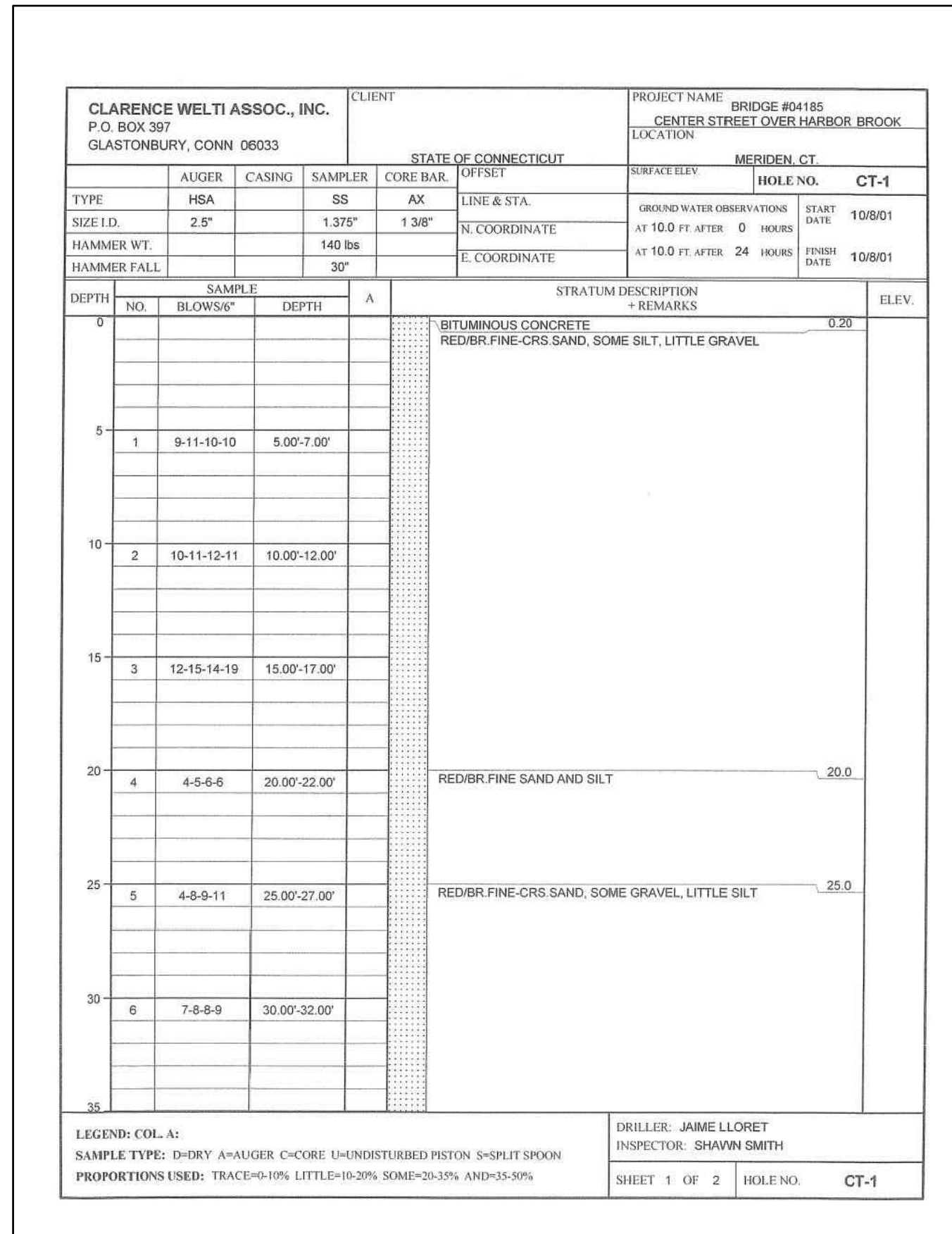
**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
STRUCTURE PLAN AND ELEVATION**

D - CENTER STREET	D.C.D.	00056.55	SHEET	23
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF
				40

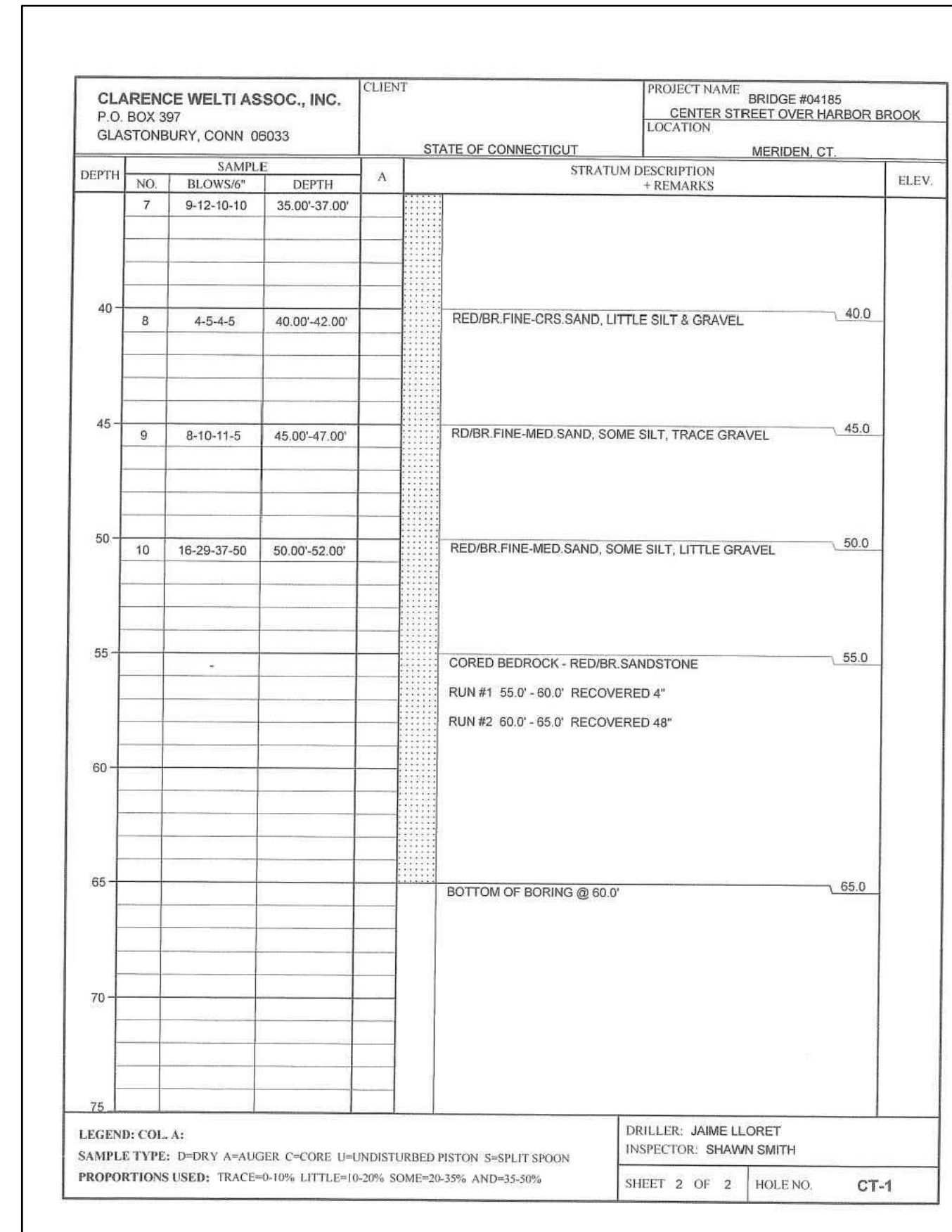




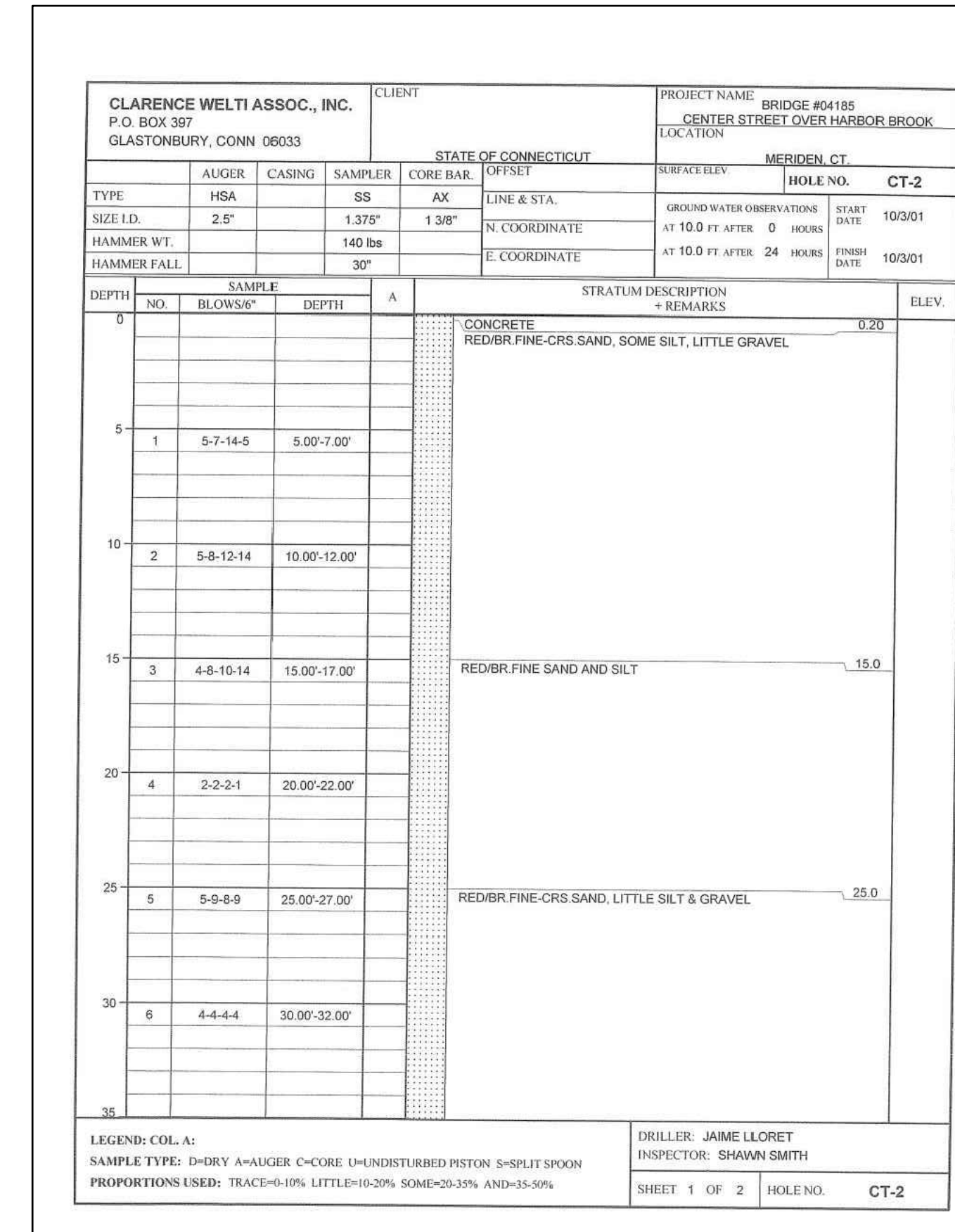




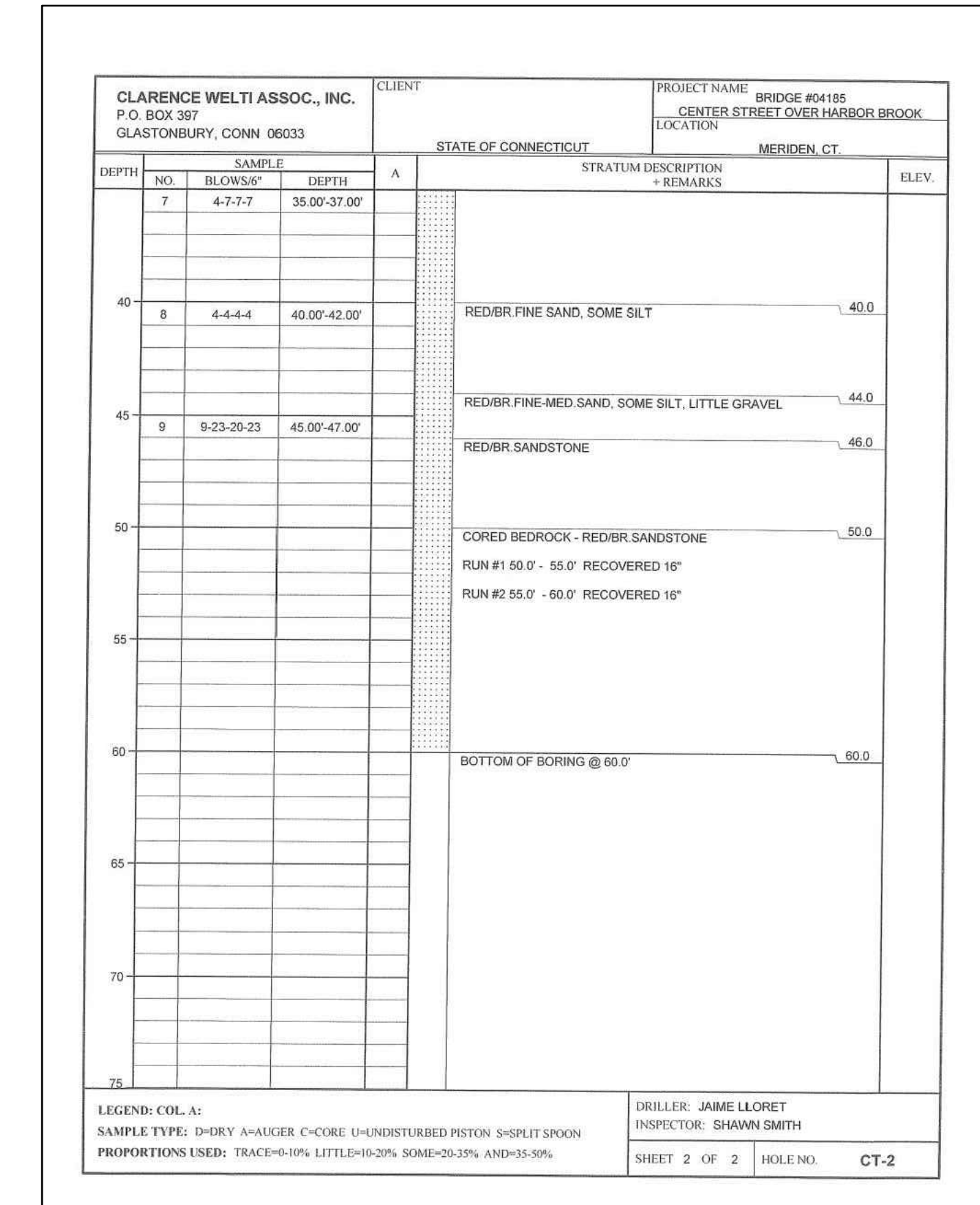
**CT-1**  
STATION=2+96.23  
OFFSET=14.74'L  
ELEV. 135.00±  
NORTHING=257827.20  
EASTING=587906.40



**CT-1**  
STATION=2+96.23  
OFFSET=14.74'L  
ELEV. 135.00±  
NORTHING=257827.20  
EASTING=587906.40



**CT-2**  
STATION=2+95.31  
OFFSET=20.08'R  
ELEV. 134.66±  
NORTHING=257827.59  
EASTING=587941.23



**CT-2**  
STATION=2+95.31  
OFFSET=20.08'R  
ELEV. 134.66±  
NORTHING=257827.59  
EASTING=587941.23

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DRAWN	M.R.G.
CHECKED	K.O.E.
DATE	03/17/2022
<b>REVISIONS</b>	
NO.	DATE
	DESCRIPTION



**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
BORING LOGS 1**

D - CENTER STREET	D.C.D. - 00056.55	SHEET	25
SIZE PROJECT	FILE NAME NUMBER REV.	OF	40



CLARENCE WELTI ASSOC., INC. P.O. BOX 387 GLASTONBURY, CONN 06033		CLIENT STATE OF CONNECTICUT		PROJECT NAME BRIDGE #04185 CENTER STREET OVER HARBOR BROOK LOCATION MERIDEN, CT		HOLE NO. CT-3	
TYPE HSA	CASING SS	SAMPLER AX	CORE BAR 1 3/8"	OFFSET LINE & STA.	SURFACE ELEV.	GROUND WATER OBSERVATIONS AT 10.0 FT. AFTER 0 HOURS	START DATE 10/4/01
SIZE I.D. 2.5"				N. COORDINATE		AT 10.0 FT. AFTER 24 HOURS	FINISH DATE 10/4/01
HAMMER WT. 140 lbs				E. COORDINATE			
HAMMER FALL 30"							
DEPTH	NO.	BLOWS/S'	DEPTH	A	STRATUM DESCRIPTION REMARKS		ELEV.
0					RED BR FINE-CRS SAND, LITTLE SILT & GRAVEL		
5	1	5-6-7-8	5.00'-7.00'				
10	2	12-13-14-10	10.00'-12.00'				
15	3	2-5-8-12	15.00'-17.00'				
20	4	1-7-11-12	20.00'-22.00'		RED BR FINE SAND AND SILT		20.0
25	5	7-7-10-13	25.00'-27.00'		RED BR FINE-CRS SAND, LITTLE SILT & GRAVEL		25.0
30	6	2-4-5-5	30.00'-32.00'				
35							
LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%				DRILLER: JAME LLORET INSPECTOR: SHAWN SMITH			
SHEET 1 OF 2				HOLE NO. CT-3			

**CT-3**  
STATION=3+45.25  
OFFSET=28.28'L  
ELEV. 135.03±  
NORTHING=257875.67  
EASTING=587891.03

CLARENCE WELTI ASSOC., INC. P.O. BOX 387 GLASTONBURY, CONN 06033		CLIENT STATE OF CONNECTICUT		PROJECT NAME BRIDGE #04185 CENTER STREET OVER HARBOR BROOK LOCATION MERIDEN, CT		HOLE NO. CT-3	
TYPE HSA	CASING SS	SAMPLER AX	CORE BAR 1 3/8"	OFFSET LINE & STA.	SURFACE ELEV.	GROUND WATER OBSERVATIONS AT 10.0 FT. AFTER 0 HOURS	START DATE 10/4/01
SIZE I.D. 2.5"				N. COORDINATE		AT 10.0 FT. AFTER 24 HOURS	FINISH DATE 10/4/01
HAMMER WT. 140 lbs				E. COORDINATE			
HAMMER FALL 30"							
DEPTH	NO.	BLOWS/S'	DEPTH	A	STRATUM DESCRIPTION REMARKS		ELEV.
40	8	11-12-12-6	40.00'-42.00'		RED BR FINE-MED SAND, SOME SILT, TRACE GRAVEL		40.0
45	9	3-4-5-6	45.00'-47.00'		RED BR FINE-MED SAND, LITTLE SILT, TRACE GRAVEL		45.0
50	10	2-2-9-13	50.00'-52.00'				
55	11	17-26-50	55.00'-56.50'		RED BR FINE-CRS SAND, SOME SILT, LITTLE GRAVEL		55.0
					RED BR SANDSTONE		57.0
60					CORED BEDROCK - RED BR SANDSTONE		60.0
					RUN #1 60.0' - 65.0' RECOVERED 28"		
					RUN #2 65.0' - 70.0' RECOVERED 60"		
70					BOTTOM OF BORING @ 70.0'		70.0
75							
LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%				DRILLER: JAME LLORET INSPECTOR: SHAWN SMITH			
SHEET 2 OF 2				HOLE NO. CT-3			

**CT-3**  
STATION=3+45.25  
OFFSET=28.28'L  
ELEV. 135.03±  
NORTHING=257875.67  
EASTING=587891.03

CLARENCE WELTI ASSOC., INC. P.O. BOX 387 GLASTONBURY, CONN 06033		CLIENT STATE OF CONNECTICUT		PROJECT NAME BRIDGE #04185 CENTER STREET OVER HARBOR BROOK LOCATION MERIDEN, CT		HOLE NO. CT-4	
TYPE HSA	CASING SS	SAMPLER AX	CORE BAR 1 3/8"	OFFSET LINE & STA.	SURFACE ELEV.	GROUND WATER OBSERVATIONS AT 10.0 FT. AFTER 0 HOURS	START DATE 10/3/01
SIZE I.D. 2.5"				N. COORDINATE		AT 10.0 FT. AFTER 24 HOURS	FINISH DATE 10/3/01
HAMMER WT. 140 lbs				E. COORDINATE			
HAMMER FALL 30"							
DEPTH	NO.	BLOWS/S'	DEPTH	A	STRATUM DESCRIPTION REMARKS		ELEV.
0					CONCRETE		0.5
					RED BR FINE-CRS SAND, SOME SILT, LITTLE GRAVEL		
5	1	6-5-9-5	5.00'-7.00'				
10	2	6-11-11-11	10.00'-12.00'				
15	3	2-8-9-13	15.00'-17.00'				
20	4	5-11-15-14	20.00'-22.00'				
25	5	3-5-5-10	25.00'-27.00'		RED BR FINE-CRS SAND, LITTLE SILT & GRAVEL		25.0
30	6	3-12-12-17	30.00'-32.00'				
35							
LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%				DRILLER: JAME LLORET INSPECTOR: SHAWN SMITH			
SHEET 1 OF 2				HOLE NO. CT-4			

**CT-4**  
STATION=3+80.17  
OFFSET=19.49'R  
ELEV. 135.32±  
NORTHING=257912.36  
EASTING=587937.45

CLARENCE WELTI ASSOC., INC. P.O. BOX 387 GLASTONBURY, CONN 06033		CLIENT STATE OF CONNECTICUT		PROJECT NAME BRIDGE #04185 CENTER STREET OVER HARBOR BROOK LOCATION MERIDEN, CT		HOLE NO. CT-4	
TYPE HSA	CASING SS	SAMPLER AX	CORE BAR 1 3/8"	OFFSET LINE & STA.	SURFACE ELEV.	GROUND WATER OBSERVATIONS AT 10.0 FT. AFTER 0 HOURS	START DATE 10/3/01
SIZE I.D. 2.5"				N. COORDINATE		AT 10.0 FT. AFTER 24 HOURS	FINISH DATE 10/3/01
HAMMER WT. 140 lbs				E. COORDINATE			
HAMMER FALL 30"							
DEPTH	NO.	BLOWS/S'	DEPTH	A	STRATUM DESCRIPTION REMARKS		ELEV.
40	8	9-9-8-11	40.00'-42.00'		RED BR FINE-MED SAND, LITTLE SILT, TRACE GRAVEL		40.0
45	9	2-2-4-7	45.00'-47.00'				
50	10	19-26-31-21	50.00'-52.00'		RED BR FINE-MED SAND, SOME SILT, LITTLE GRAVEL		50.0
					RED BR SANDSTONE		54.0
					CORED BEDROCK - RED BR SANDSTONE		55.0
					RUN #1 55.0' - 60.0' RECOVERED 40"		
60					BOTTOM OF BORING @ 60.0'		60.0
65							
70							
75							
LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%				DRILLER: JAME LLORET INSPECTOR: SHAWN SMITH			
SHEET 2 OF 2				HOLE NO. CT-4			

**CT-4**  
STATION=3+80.17  
OFFSET=19.49'R  
ELEV. 135.32±  
NORTHING=257912.36  
EASTING=587937.45

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SUPV.	J.A.C.	
DESIGN	S.A. & K.K.	
DRAWN	M.R.G.	
CHECKED	K.O.E.	
DATE	03/17/2022	
NO.	DATE	DESCRIPTION
<b>REVISIONS</b>		



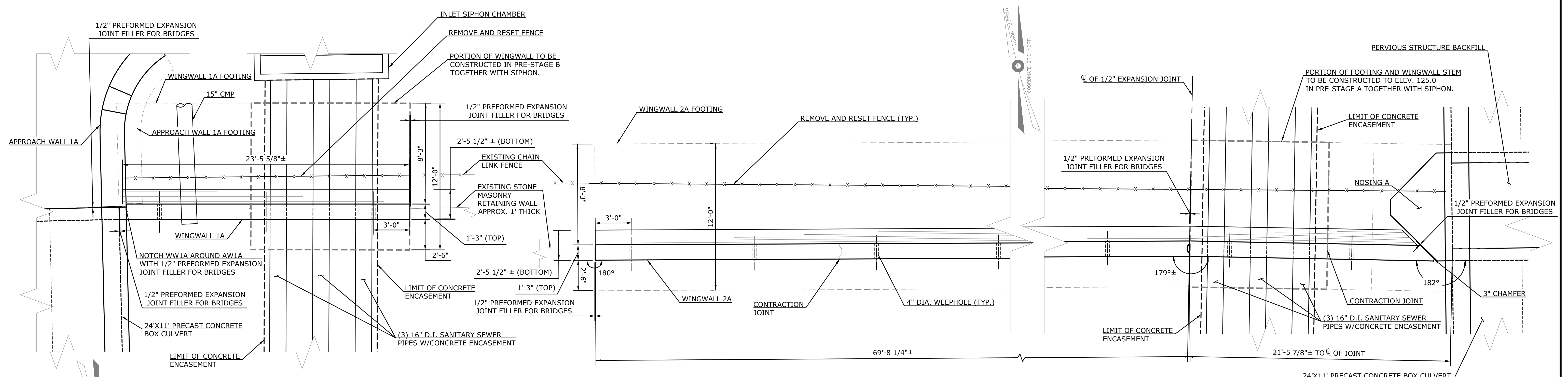
**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
BORING LOGS 2**

D - CENTER STREET	D.C.D. - 00056.55	SHEET	26
SIZE PROJECT	FILE NAME NUMBER REV.	OF	40





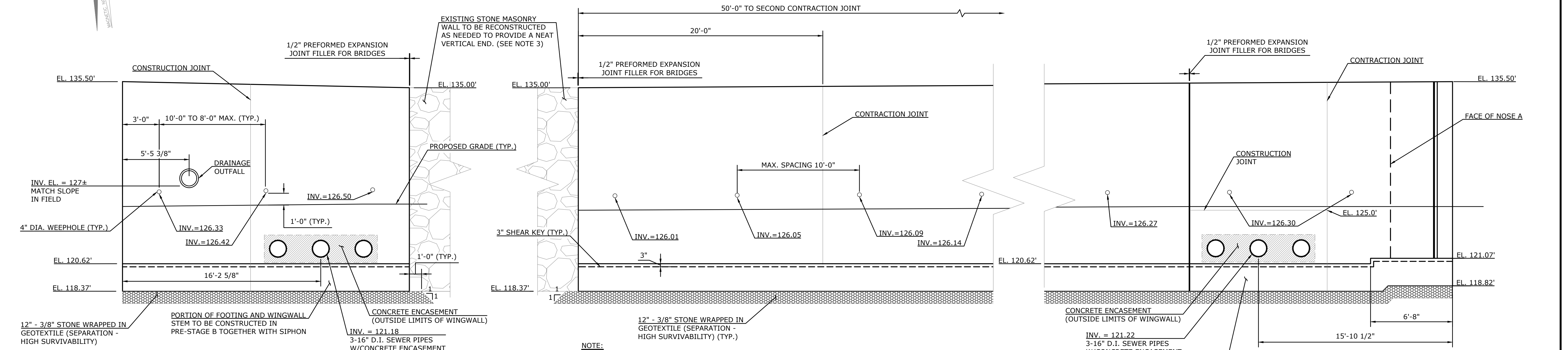


**WINGWALL 1A PLAN**

SCALE: 1/4" = 1'-0"

**WINGWALL 2A PLAN**

SCALE: 1/4" = 1'-0"



**WINGWALL 1A ELEVATION**

SCALE: 1/4" = 1'-0"

**WINGWALL 2A ELEVATION**

SCALE: 1/4" = 1'-0"

- NOTE:**
1. WINGWALL 2A SHALL HAVE 2 CONTRACTION JOINTS SPACED @ 30'-0" AND 1 EXPANSION JOINT AS SHOWN ON THE ELEVATION VIEW.
  2. TWO WEEPHOLES NOT SHOWN DUE TO CUT LINES HAVE INVERT ELEVATIONS OF 126.18' AND 126.22', FROM DOWNSTREAM TO UPSTREAM, RESPECTIVELY.
  3. THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF EXISTING STONE WALL TO BE REBUILT AS MUCH AS POSSIBLE. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THE EXISTING STONE MASONRY WALL. THIS WORK SHALL BE PAID FOR UNDER THE ITEM "REBUILD MASONRY WALL".

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DESIGN		S.A. & K.K.
DRAWN		D.R.B.
CHECKED		K.O.E.
DATE		03/17/2022
NO.	DATE	DESCRIPTION
<b>REVISIONS</b>		

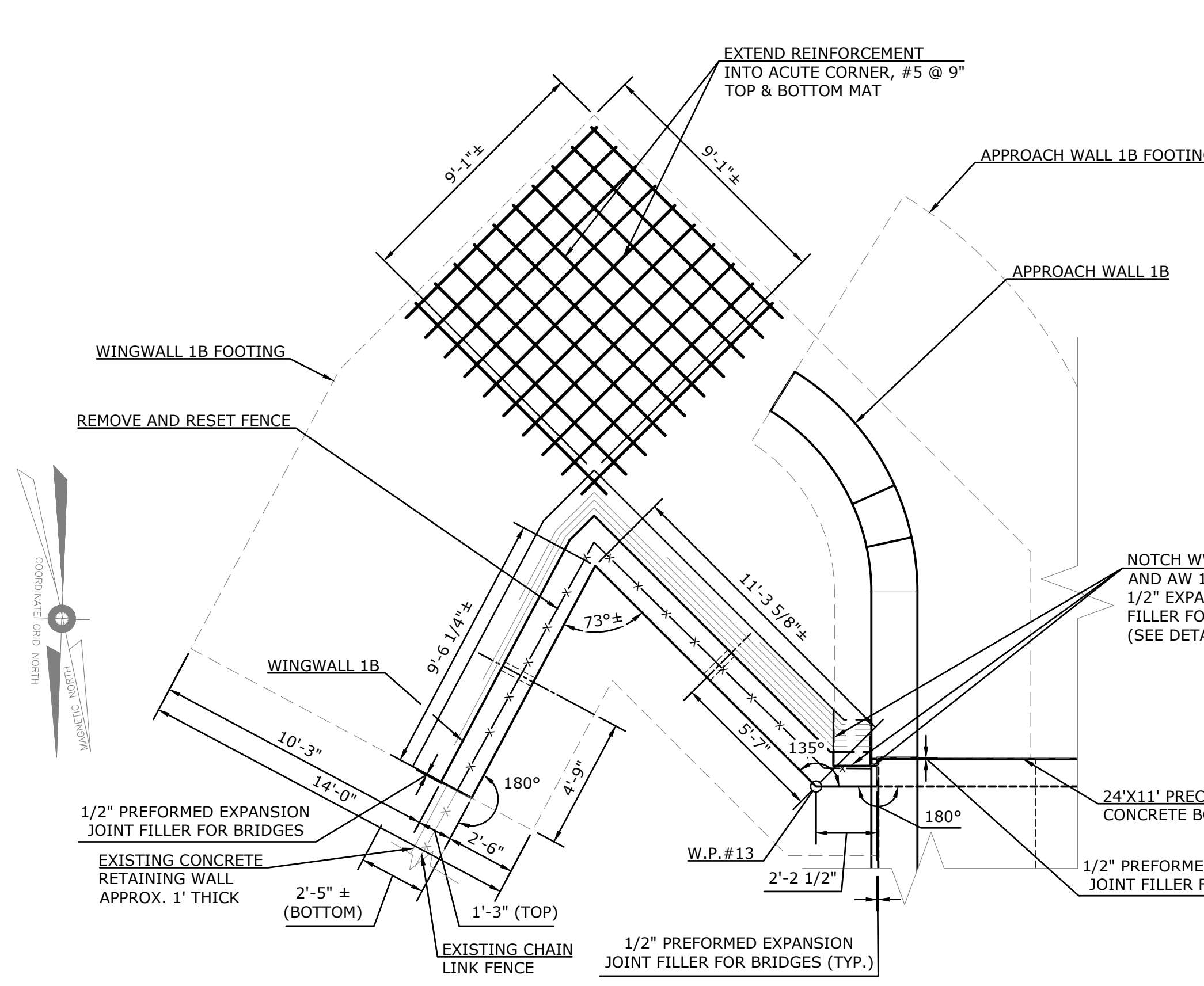


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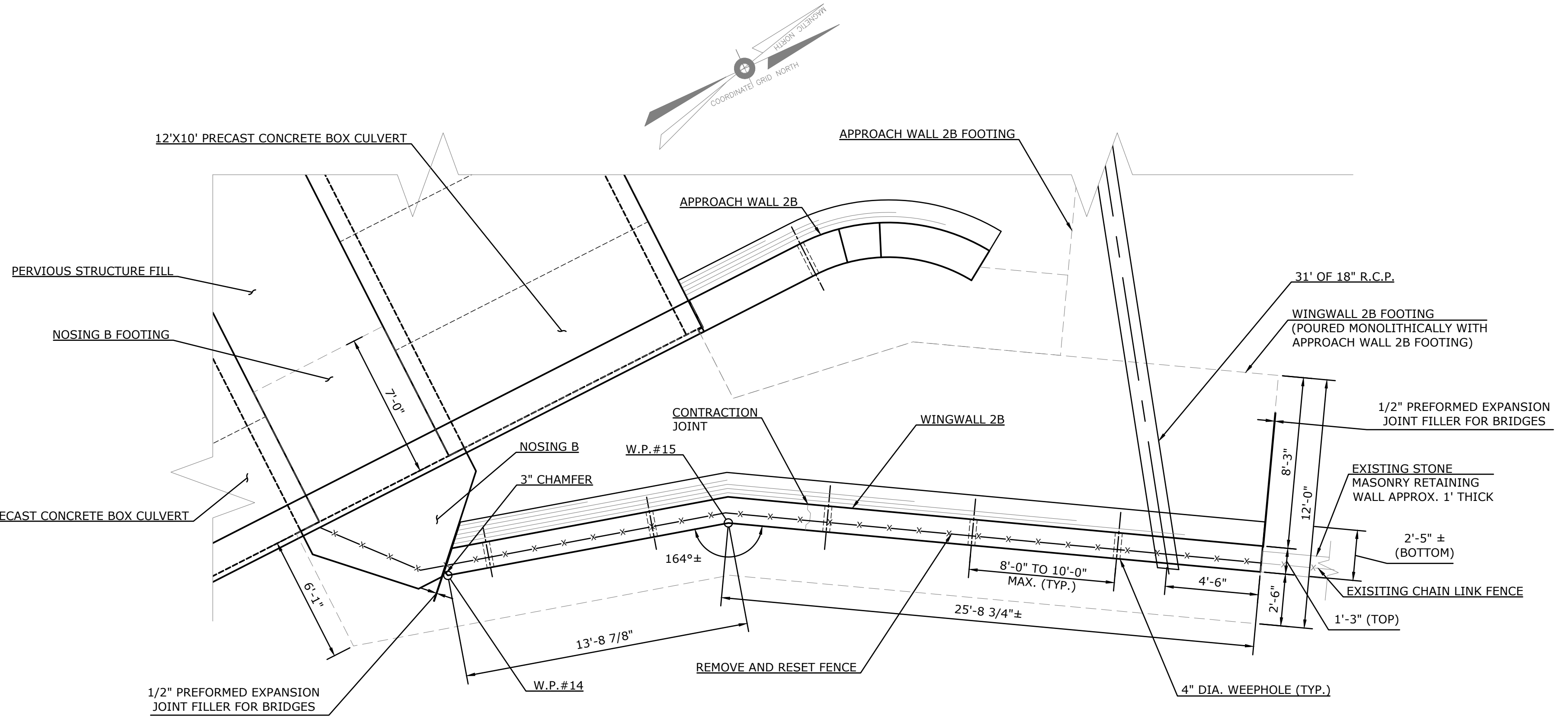
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142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
WINGWALL PLANS AND ELEVATIONS 1**

D - CENTER STREET	D.C.D.	00056.55	REV.	OF	SHEET 28
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF 40



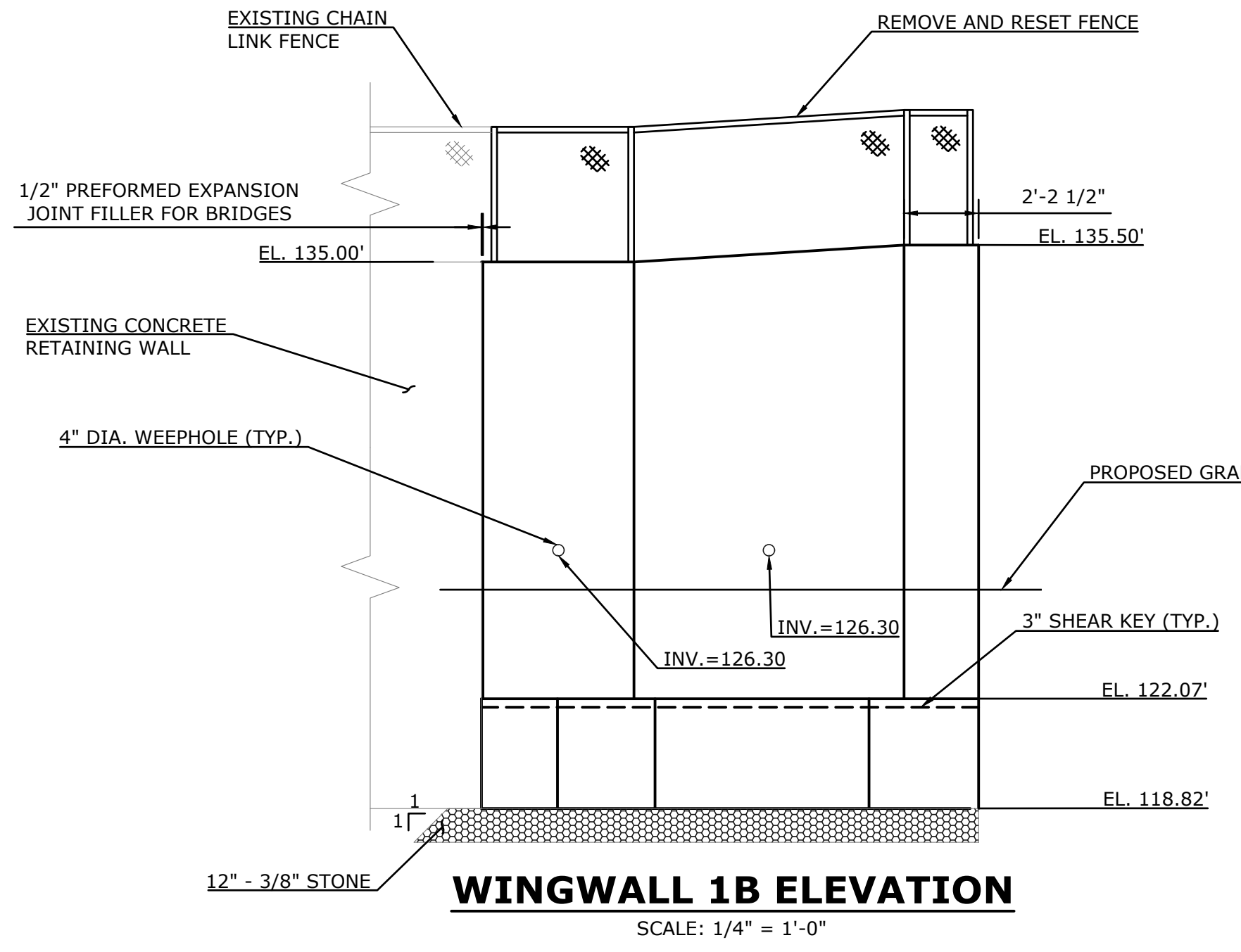
**WINGWALL 1B PLAN**  
SCALE: 1/4" = 1'-0"



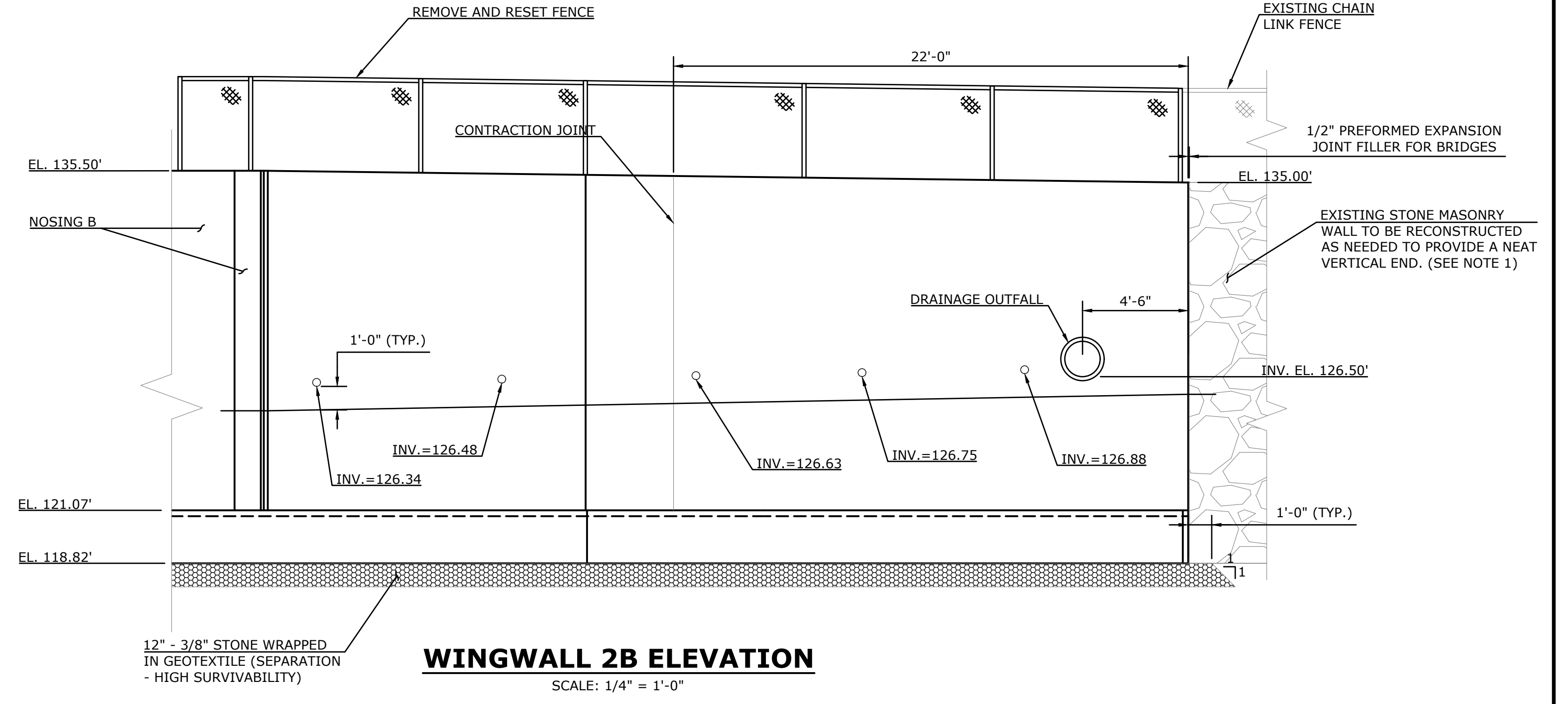
**WINGWALL 2B PLAN**  
SCALE: 1/4" = 1'-0"

WORKING POINTS		
W.P. #	NORTHING	EASTING
13	257832.58	587949.47
14	257862.01	587951.22
15	257875.33	587954.61

NOTE:  
1. THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF EXISTING STONE WALL TO BE REBUILT AS MUCH AS POSSIBLE. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THE EXISTING STONE MASONRY WALL. THIS WORK SHALL BE PAID FOR UNDER THE ITEM "REBUILD MASONRY WALL".



**WINGWALL 1B ELEVATION**  
SCALE: 1/4" = 1'-0"



**WINGWALL 2B ELEVATION**  
SCALE: 1/4" = 1'-0"

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NO.	DATE	DESCRIPTION
<b>REVISIONS</b>		

SUPV.	J.A.C.
DESIGN	S.A. & K.K.
DRAWN	D.R.B.
CHECKED	K.O.E.
DATE	03/17/2022

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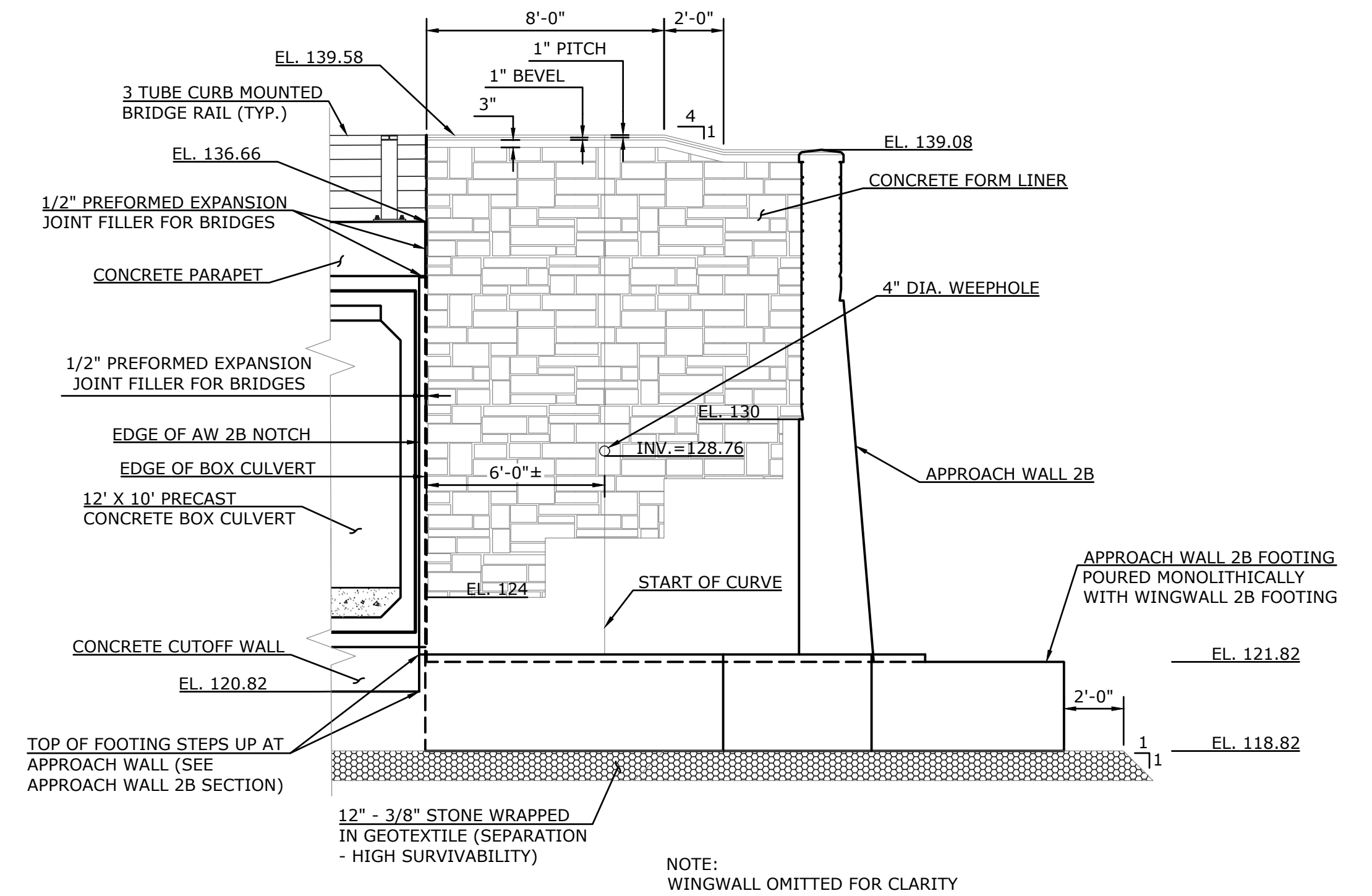
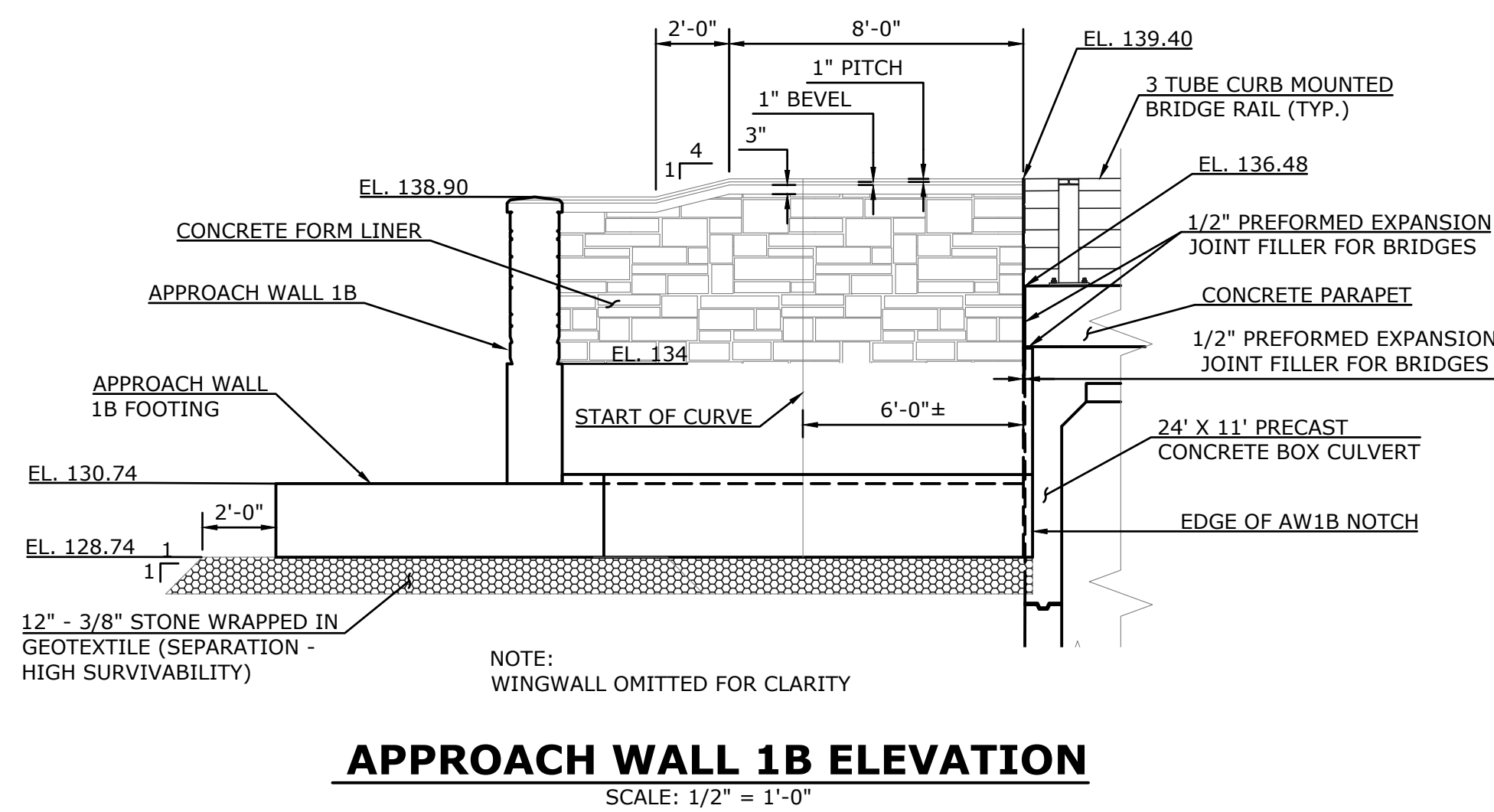
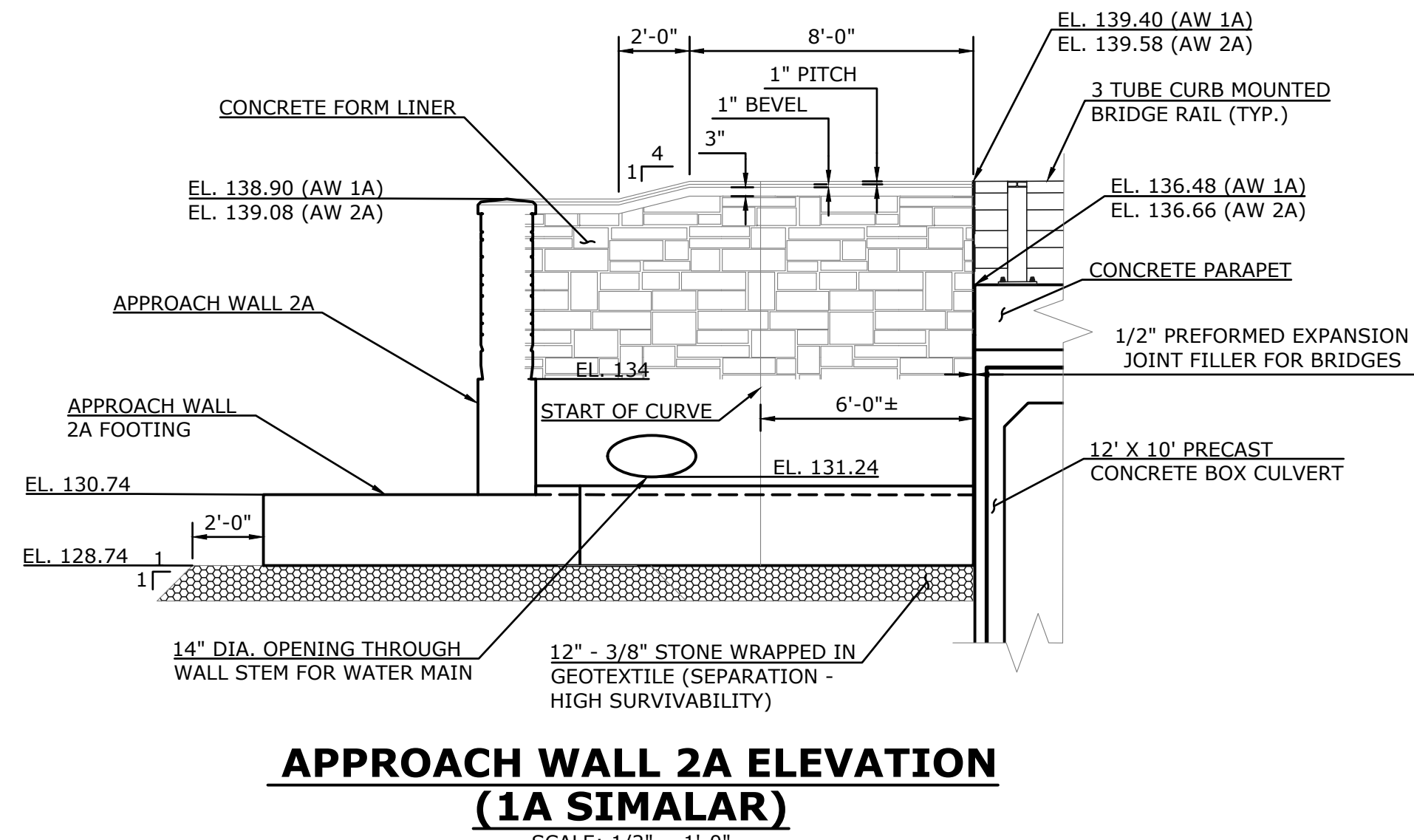
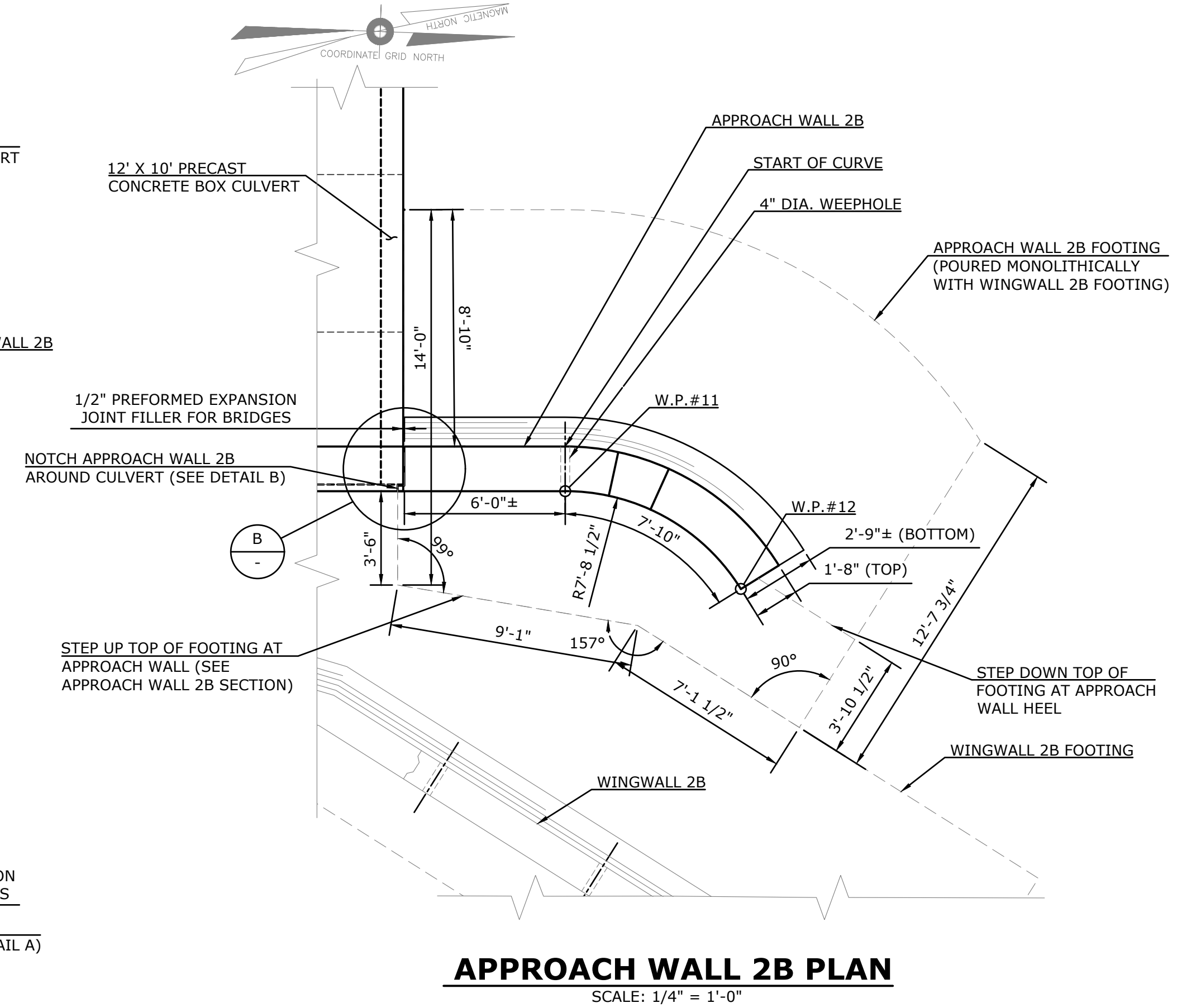
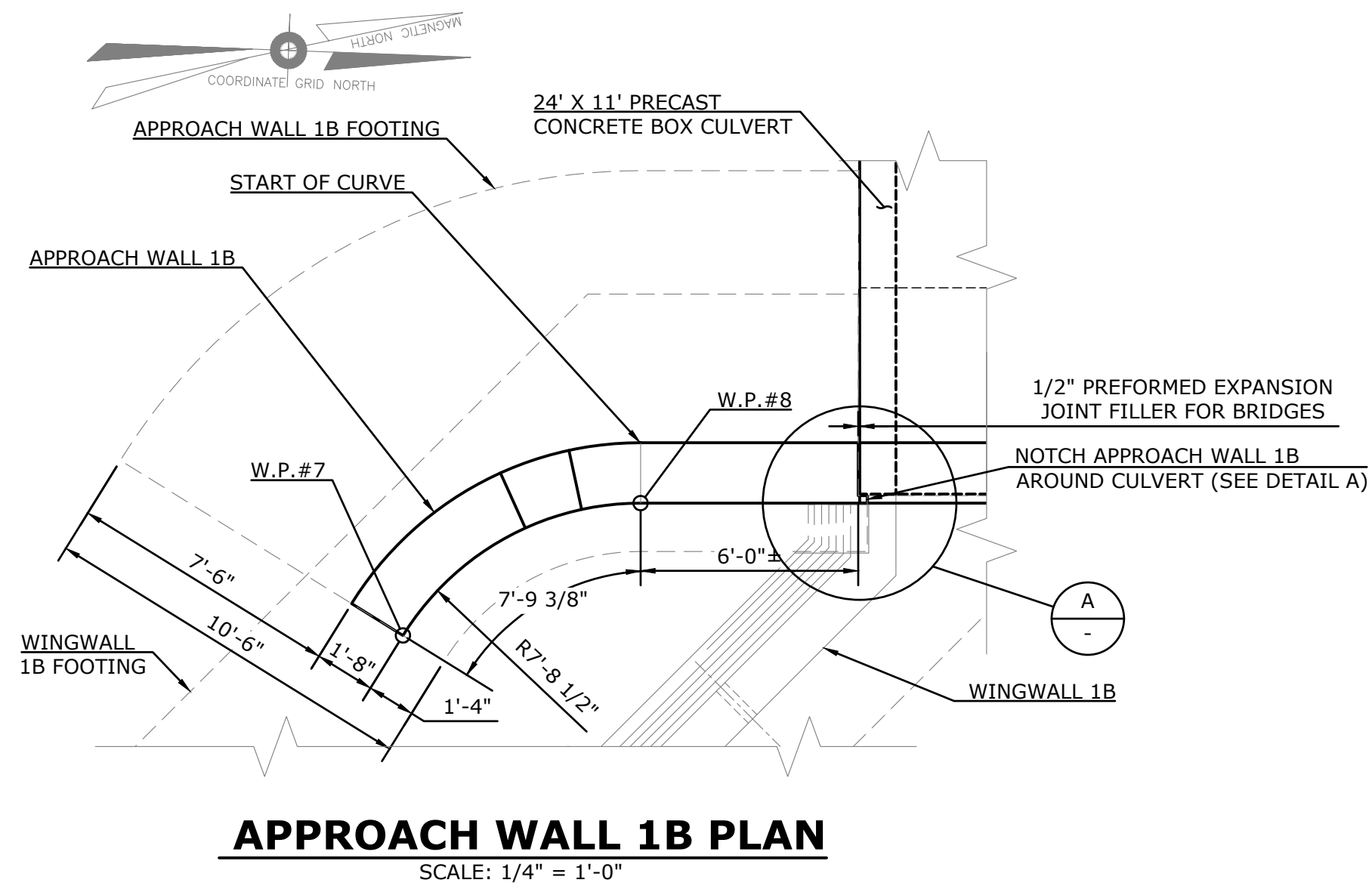
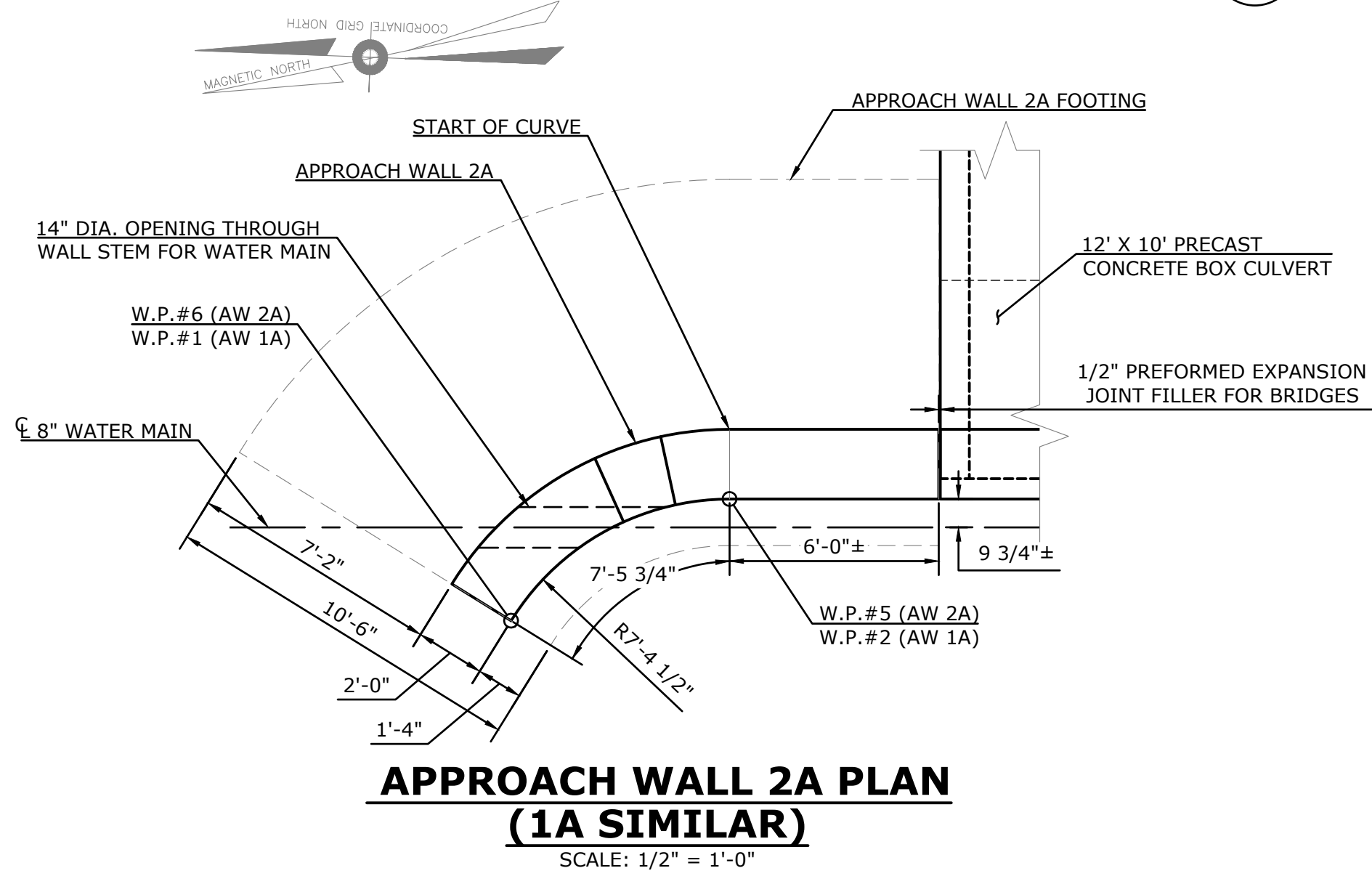
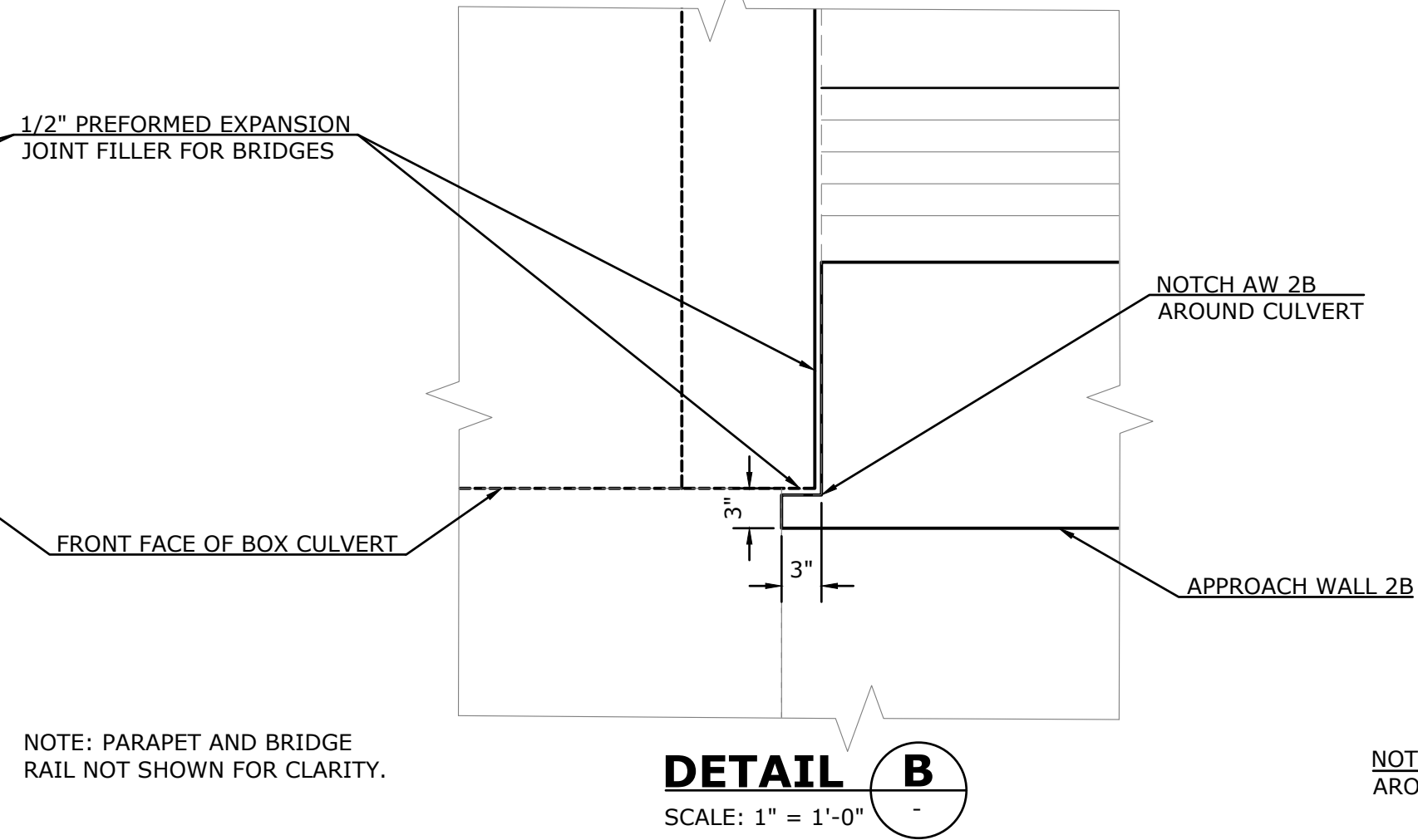
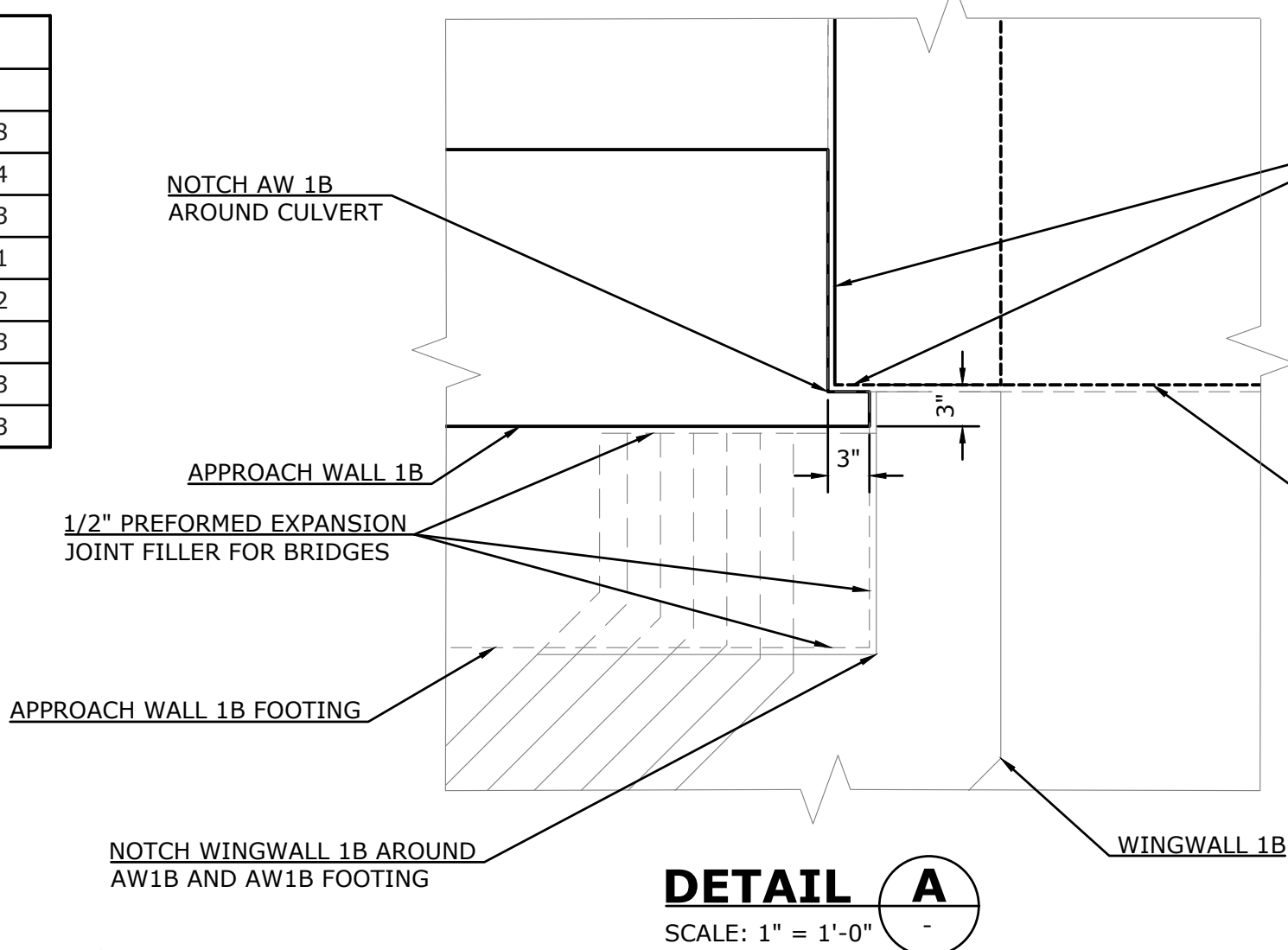
**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK  
WINGWALL PLANS AND ELEVATIONS 2**

D - CENTER STREET	D.C.D. - 00056.55	SHEET	29
SIZE	PROJECT	FILE NAME	NUMBER
		REV.	OF
			40



WORKING POINTS		
W.P. #	NORTHING	EASTING
1	257817.08	587891.18
2	257823.47	587894.44
5	257882.18	587892.23
6	257888.31	587888.51
7	257819.06	587951.62
8	257825.47	587947.73
11	257884.18	587945.53
12	257890.87	587948.93



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NO.	DATE	DESCRIPTION	DATE

**REVISIONS**

SUPV.	J.A.C.
DESIGN	S.A. & K.K.
DRAWN	D.R.B.
CHECKED	K.O.E.
DATE	03/17/2022

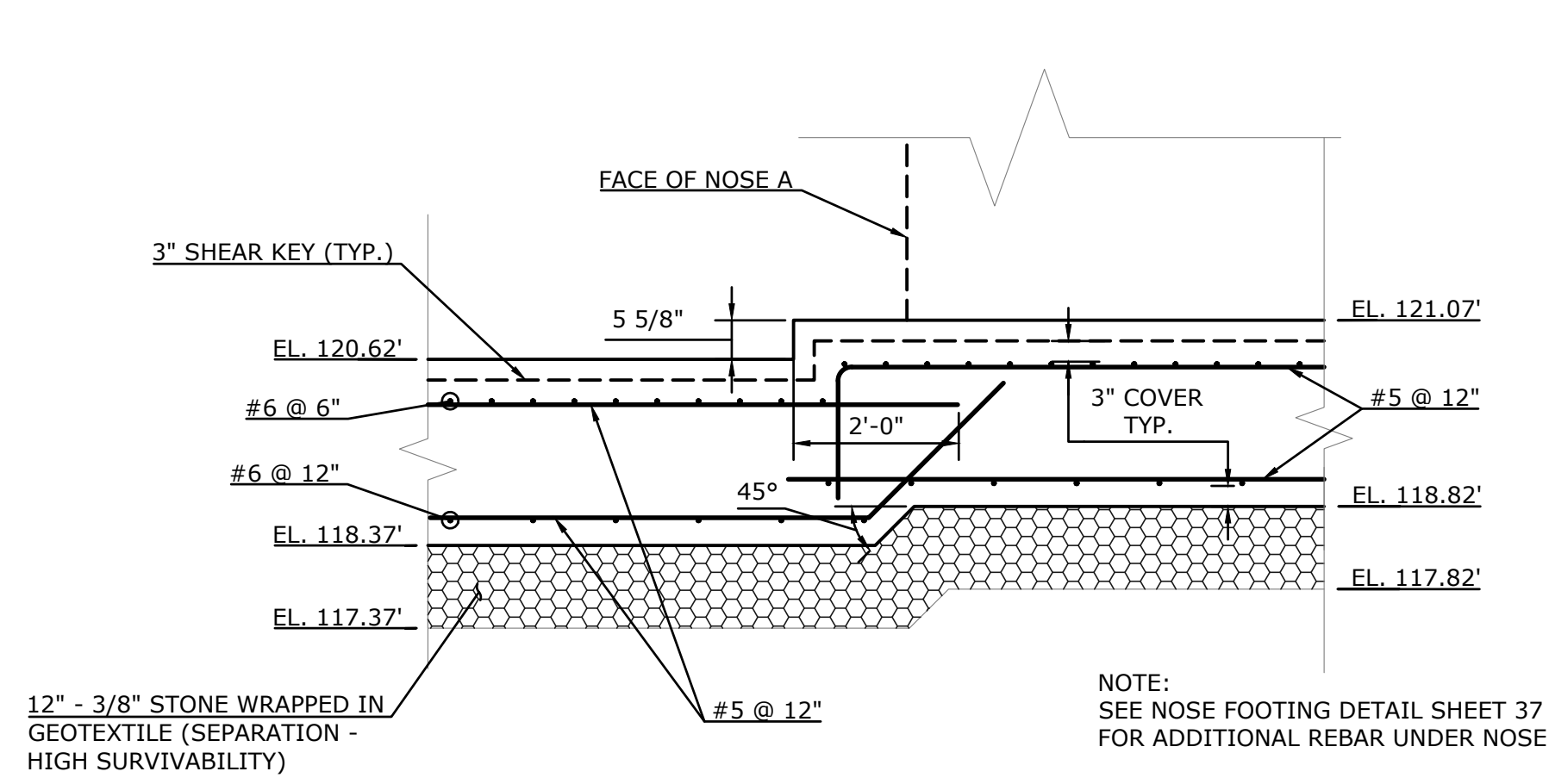


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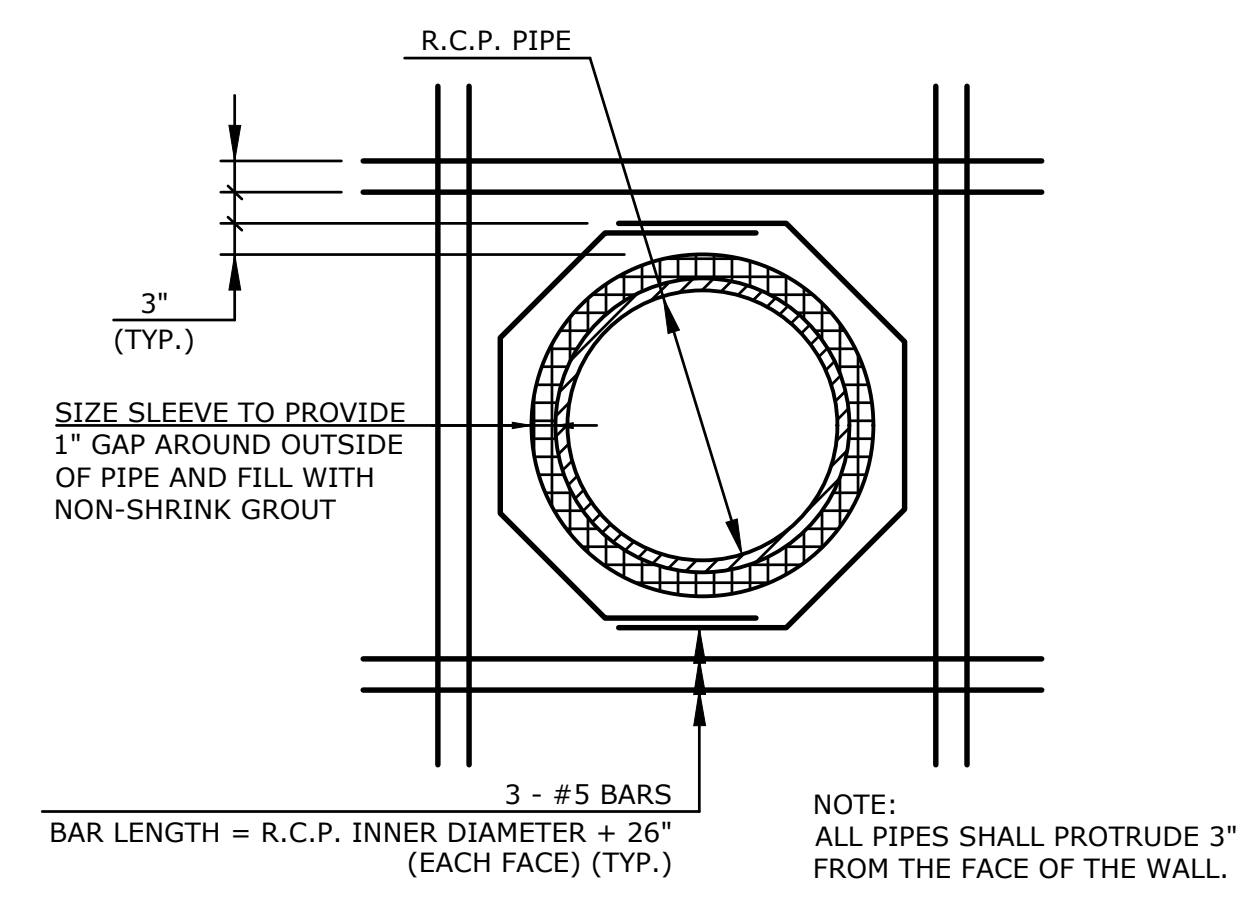
**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
APPROACH WALL PLANS AND ELEVATIONS**

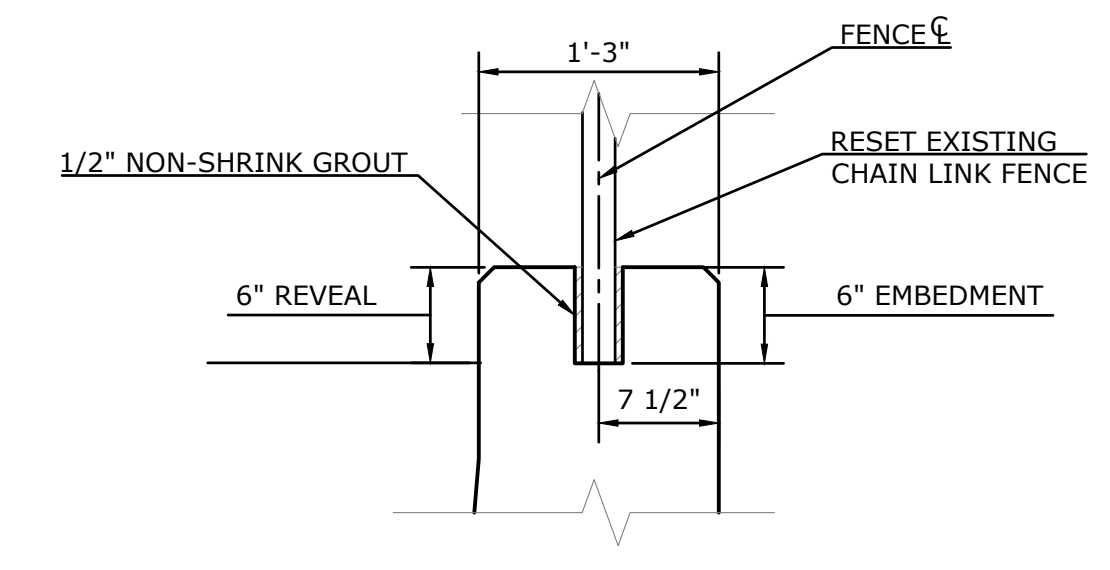
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF
D	CENTER STREET	D.C.D.	00056.55		30



**WINGWALL 2A FOOTING STEP DETAIL**  
SCALE: 1/2" = 1'-0"

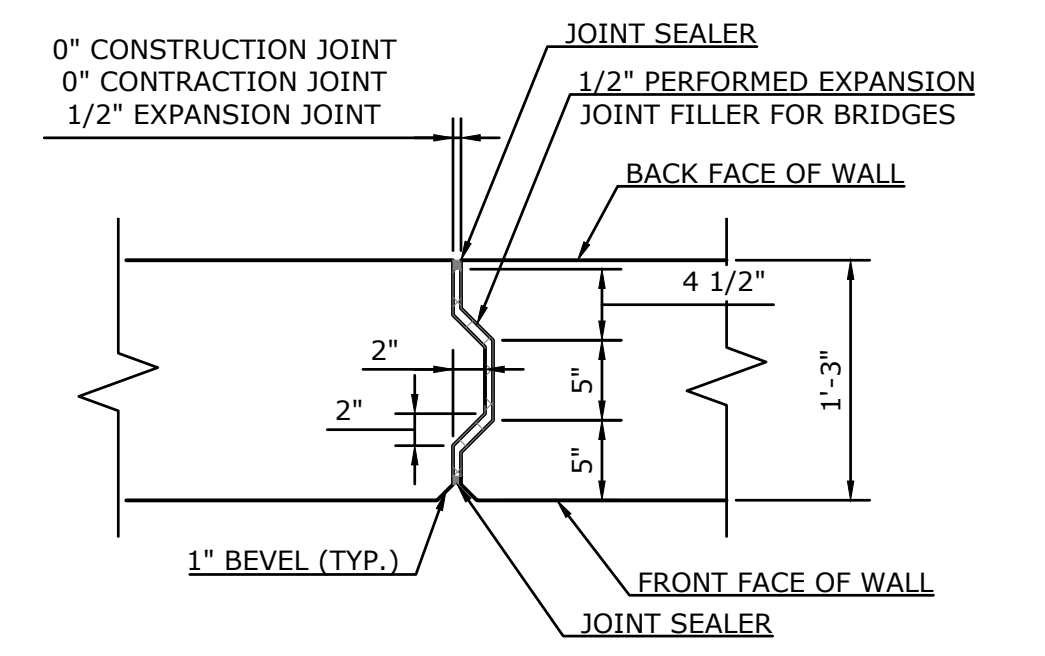


**WINGWALL REINFORCEMENT AT RCP AND CMP PIPES**  
N.T.S.

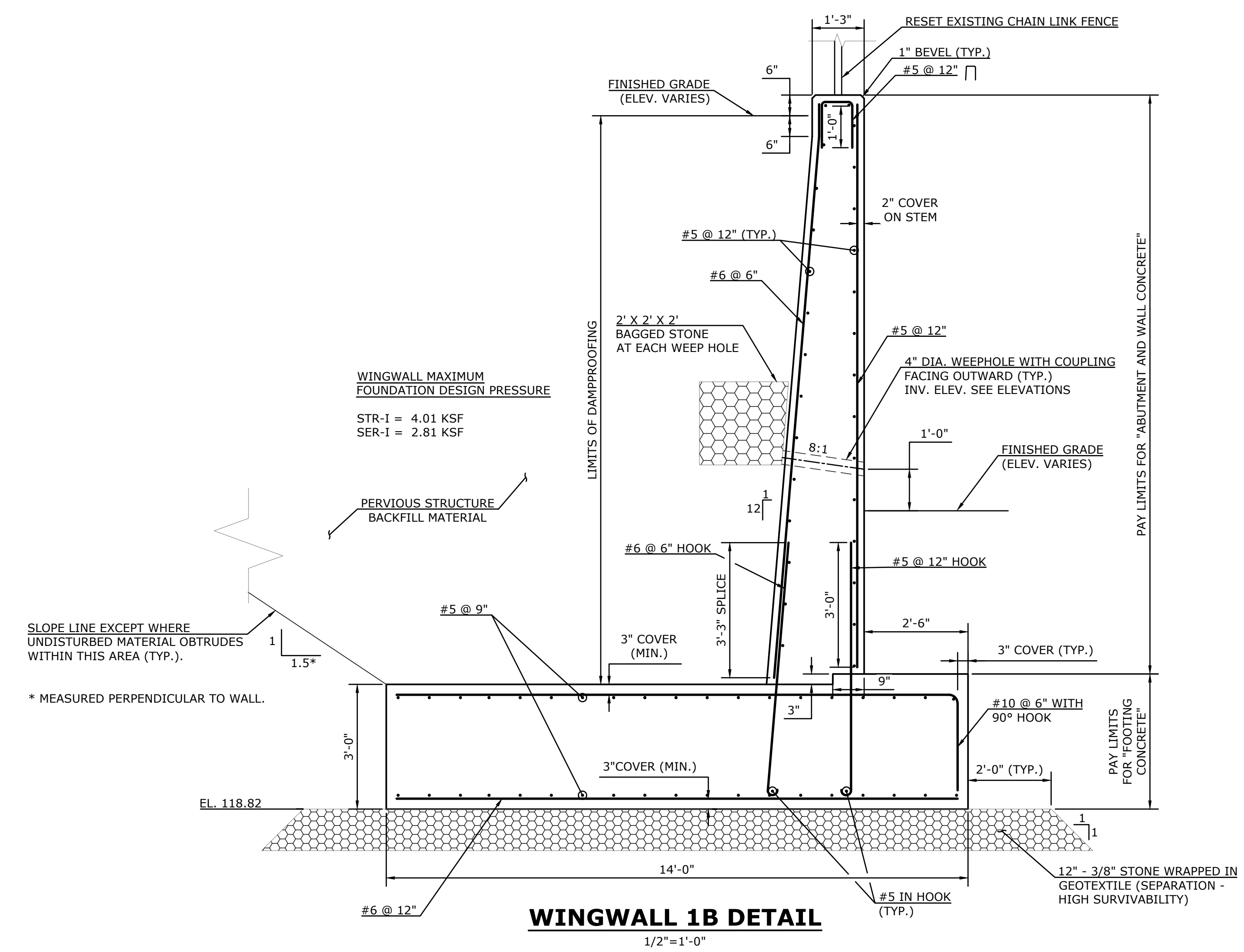


**WINGWALL FENCE POST EMBEDMENT DETAIL**  
SCALE: 1" = 1'-0"

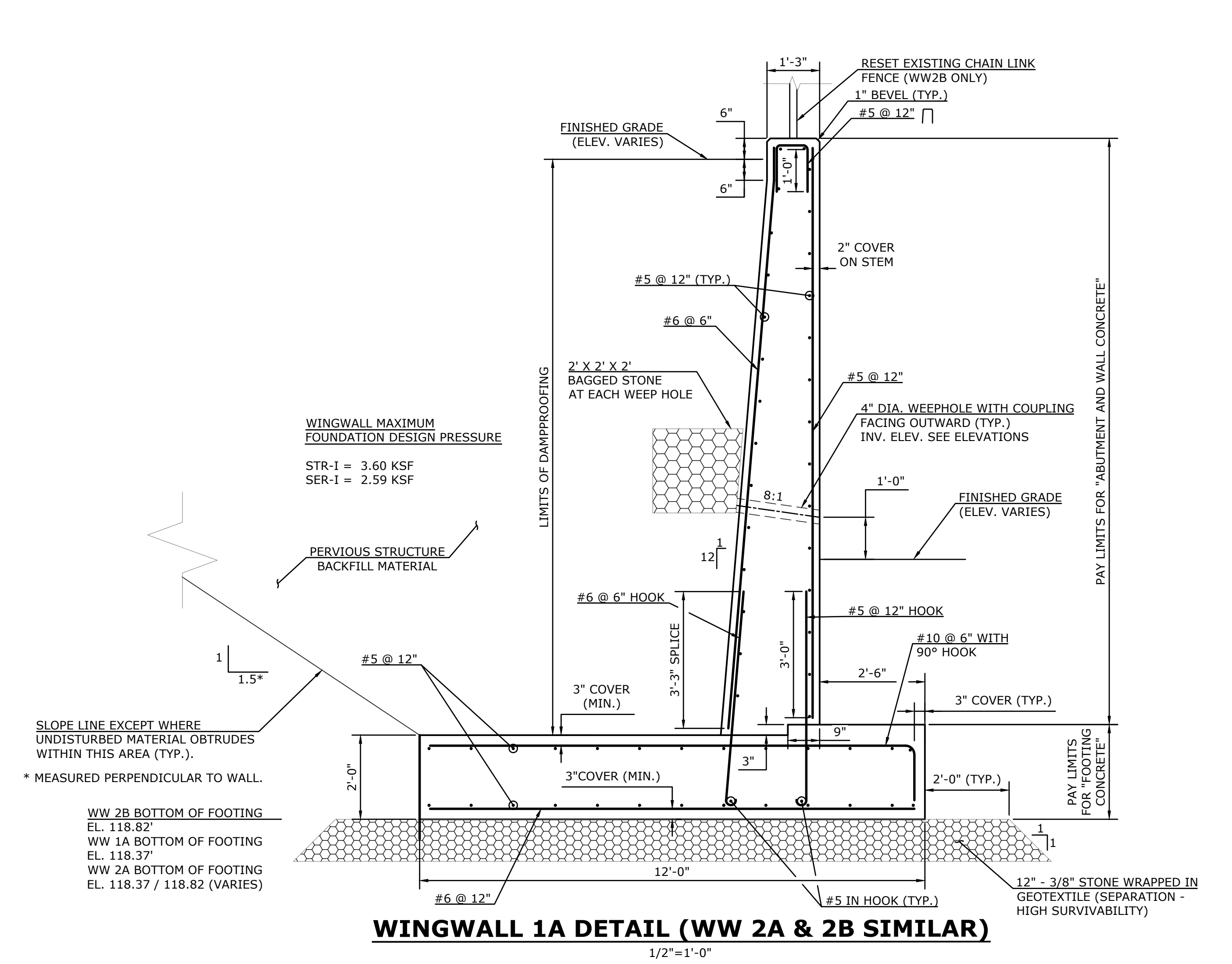
NOTE:  
1. NO REINFORCEMENT SHALL PASS THROUGH EXPANSION OR CONTRACTION JOINTS. REINFORCEMENT SHALL PASS THROUGH CONSTRUCTION JOINTS.  
2. JOINT SEALER SHALL BE INSTALLED ACROSS TOP OF JOINT.



**WINGWALL STEM JOINT DETAIL**  
SCALE: 1" = 1'-0"



**WINGWALL 1B DETAIL**  
1/2"=1'-0"



**WINGWALL 1A DETAIL (WW 2A & 2B SIMILAR)**  
1/2"=1'-0"

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CHECKED		K.O.E.
DATE		03/17/2022
NO.	DATE	DESCRIPTION
<b>REVISIONS</b>		

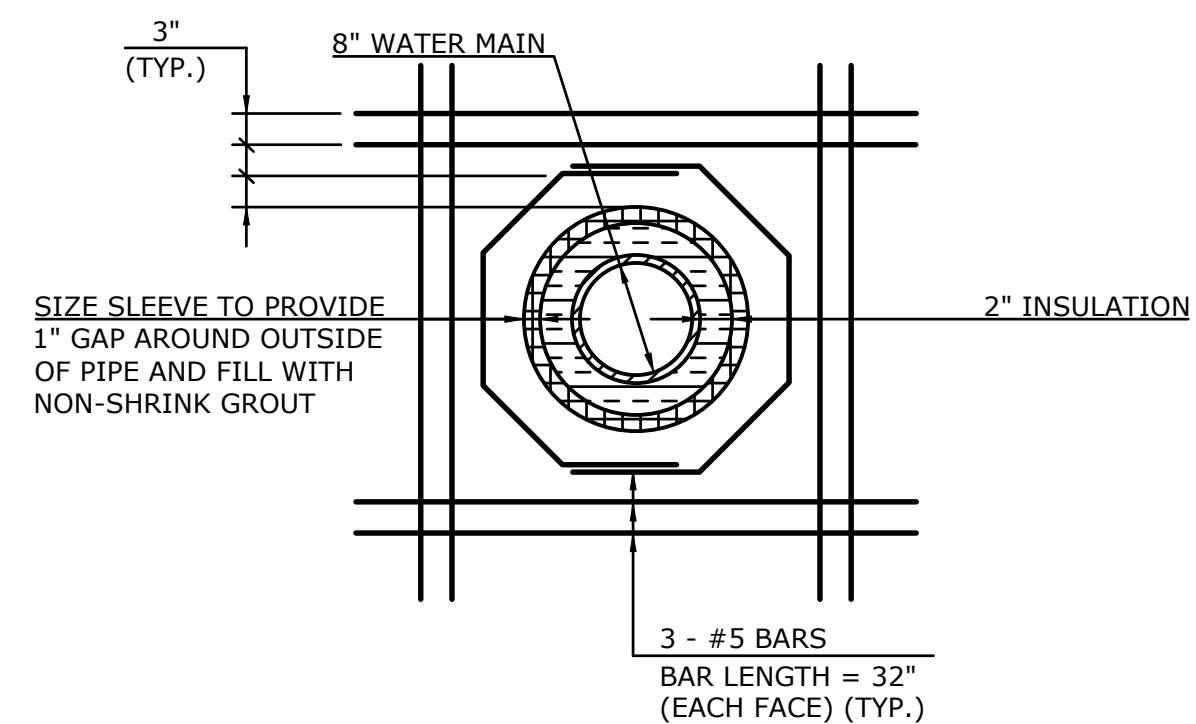
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CONSULTING ENGINEERS  
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NEWINGTON, CT 06111  
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**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK WINGWALL REINFORCING DETAILS**

D - CENTER STREET	D.C.D.	00056.55	SHEET	31
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF
				40

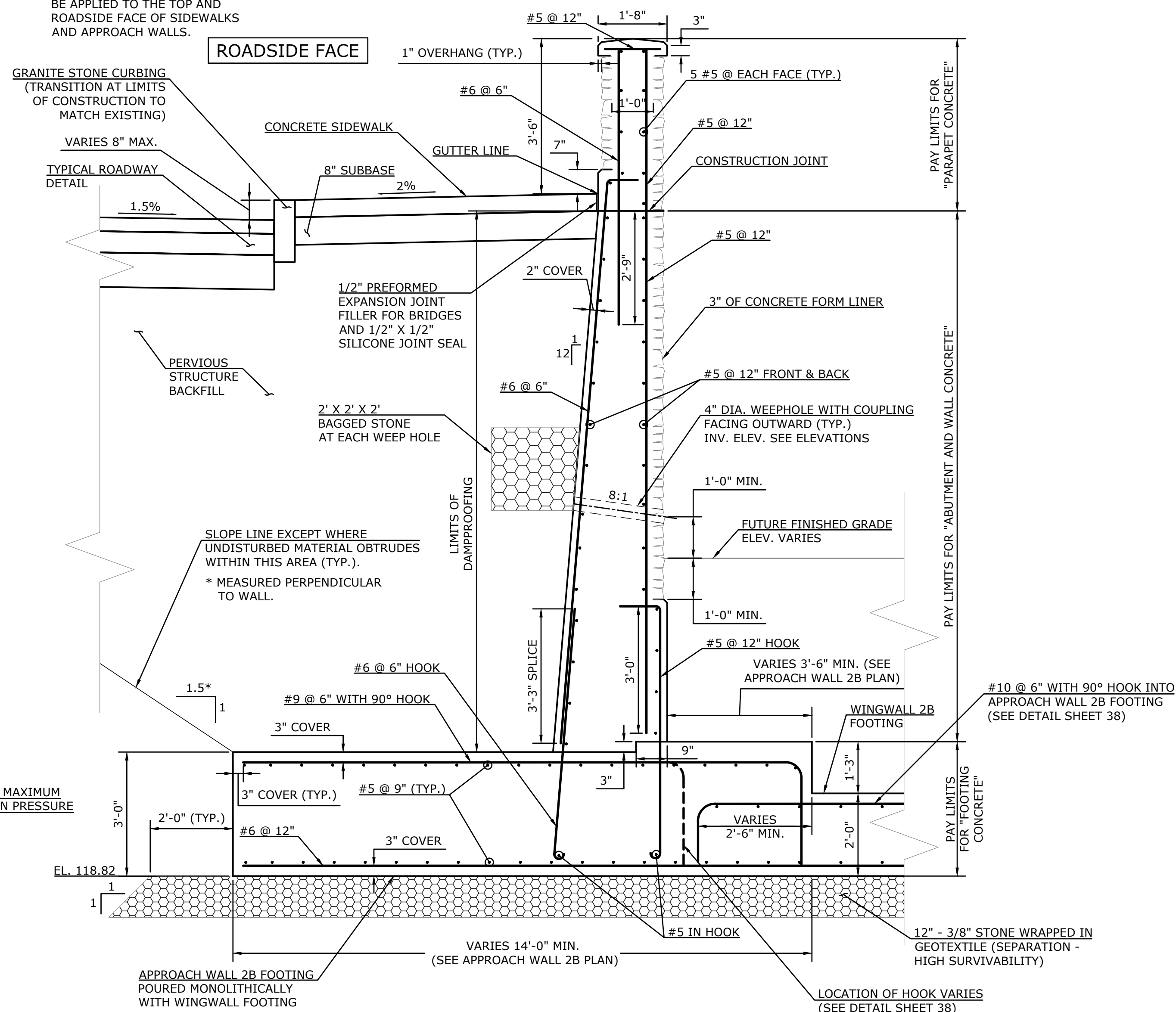




**APPROACH WALL REINFORCEMENT AT WATER MAIN**

N.T.S.

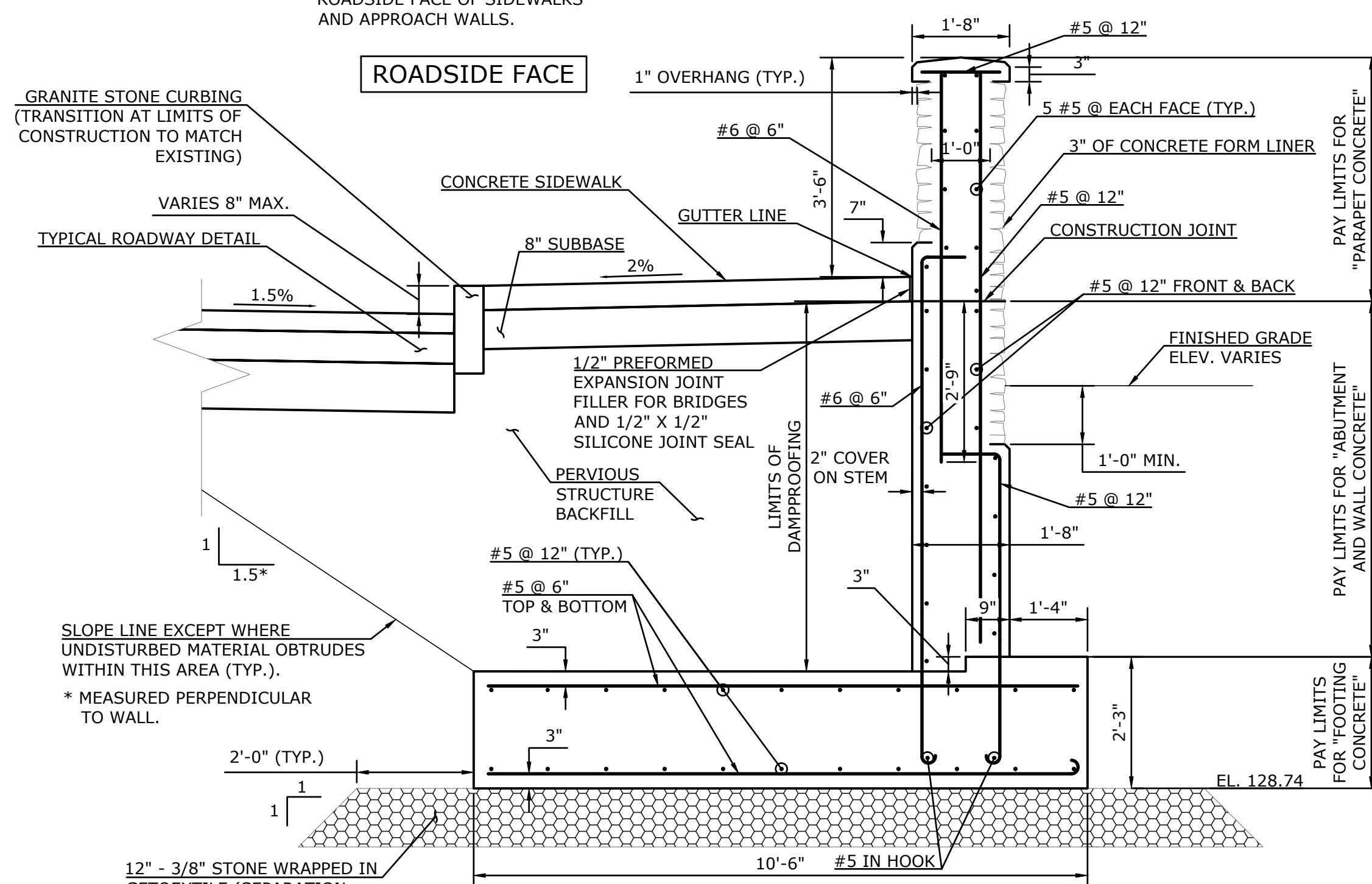
NOTE: PENETRATING SEALER PROTECTIVE COMPOUND SHALL BE APPLIED TO THE TOP AND ROADSIDE FACE OF SIDEWALKS AND APPROACH WALLS.



**APPROACH WALL 2B SECTION**

SCALE: 1/2" = 1'-0"

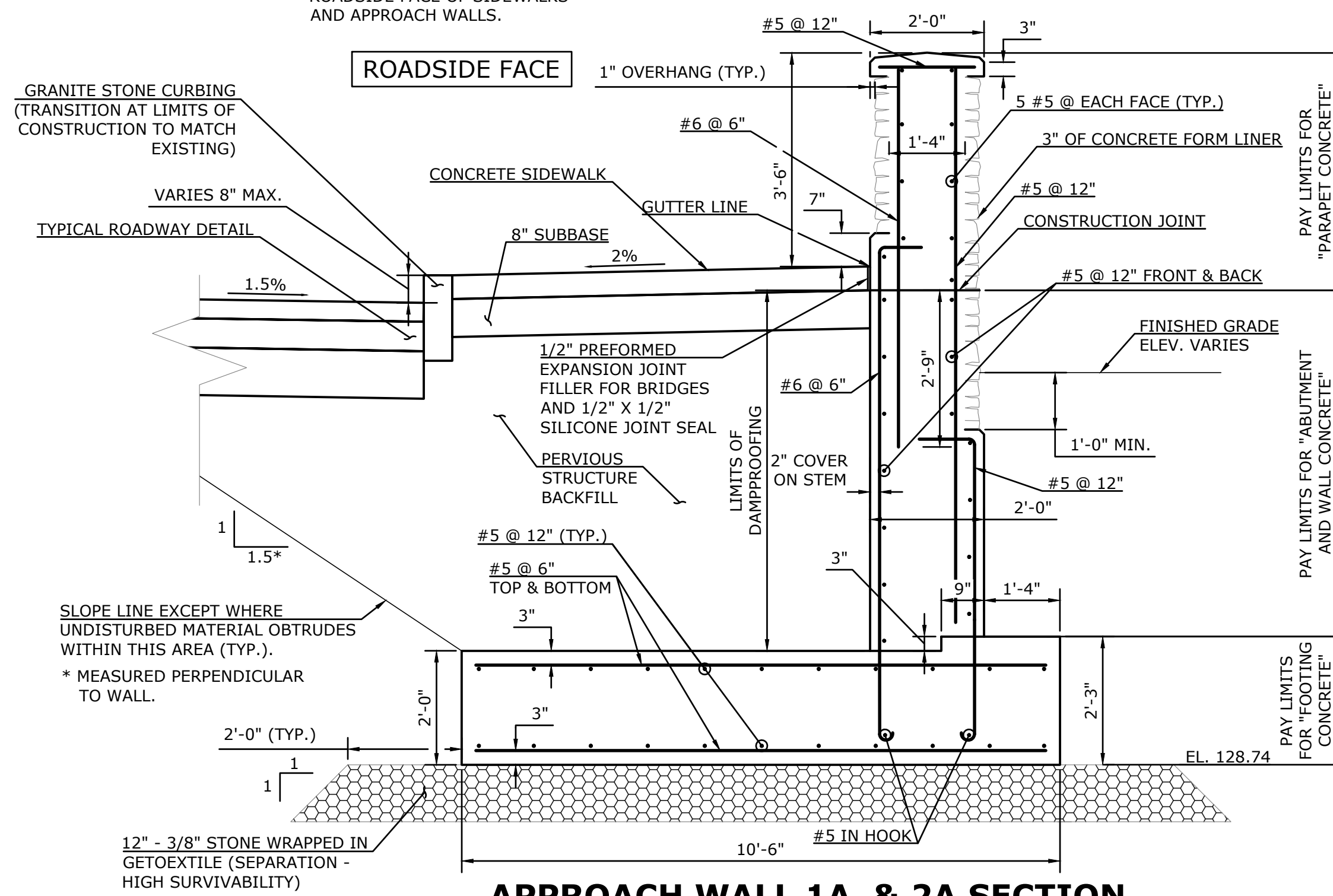
NOTE: PENETRATING SEALER PROTECTIVE COMPOUND SHALL BE APPLIED TO THE TOP AND ROADSIDE FACE OF SIDEWALKS AND APPROACH WALLS.



**APPROACH WALL 1B SECTION**

SCALE: 1/2" = 1'-0"

NOTE: PENETRATING SEALER PROTECTIVE COMPOUND SHALL BE APPLIED TO THE TOP AND ROADSIDE FACE OF SIDEWALKS AND APPROACH WALLS.



**APPROACH WALL 1A & 2A SECTION**

SCALE: 1/2" = 1'-0"

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DESIGN		S.A. & K.K.
DRAWN		D.R.B.
CHECKED		K.O.E.
DATE		03/17/2022
REVISIONS		
NO.	DATE	DESCRIPTION

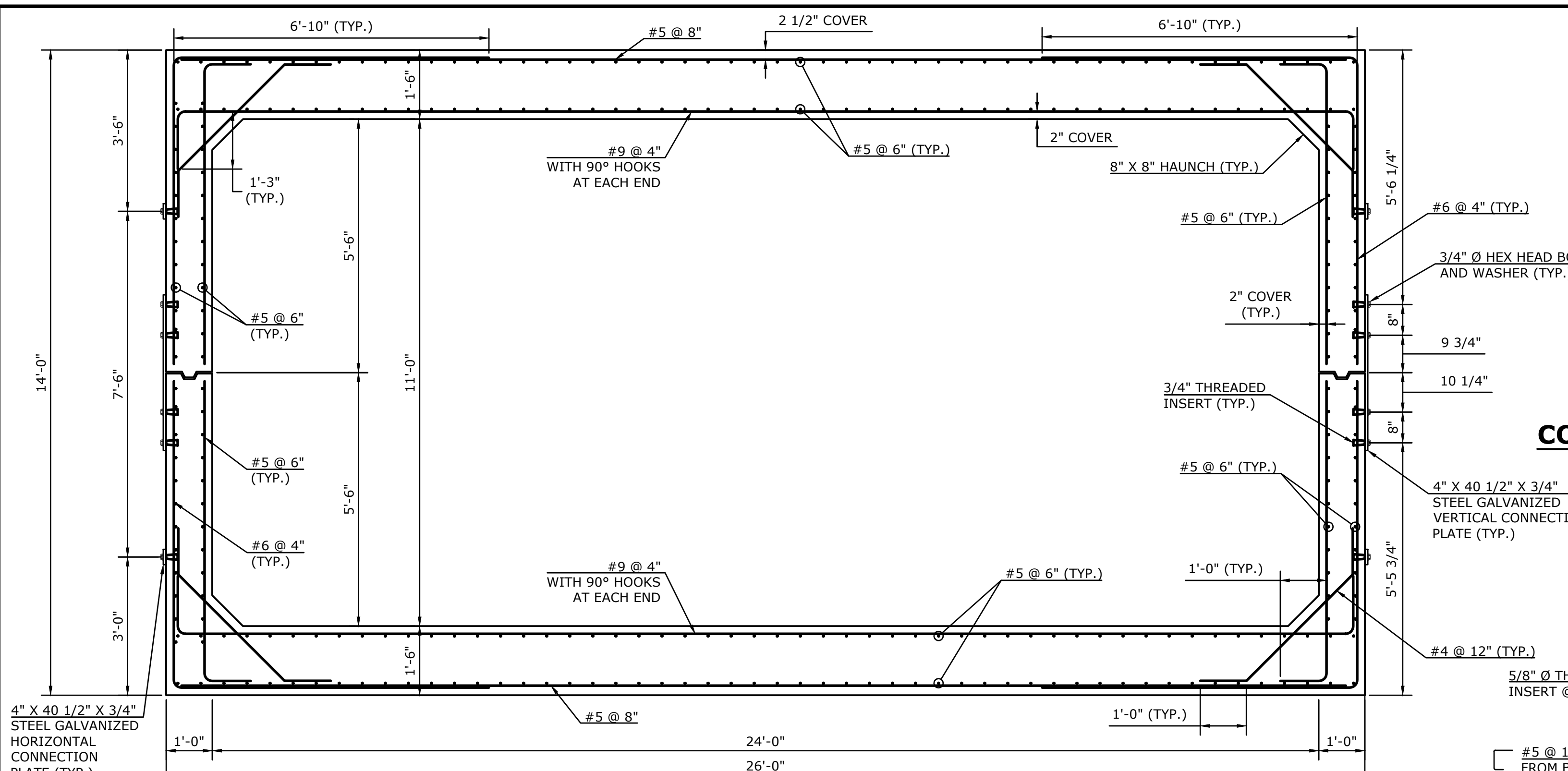
**WMC**  
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**PREPARED FOR**  
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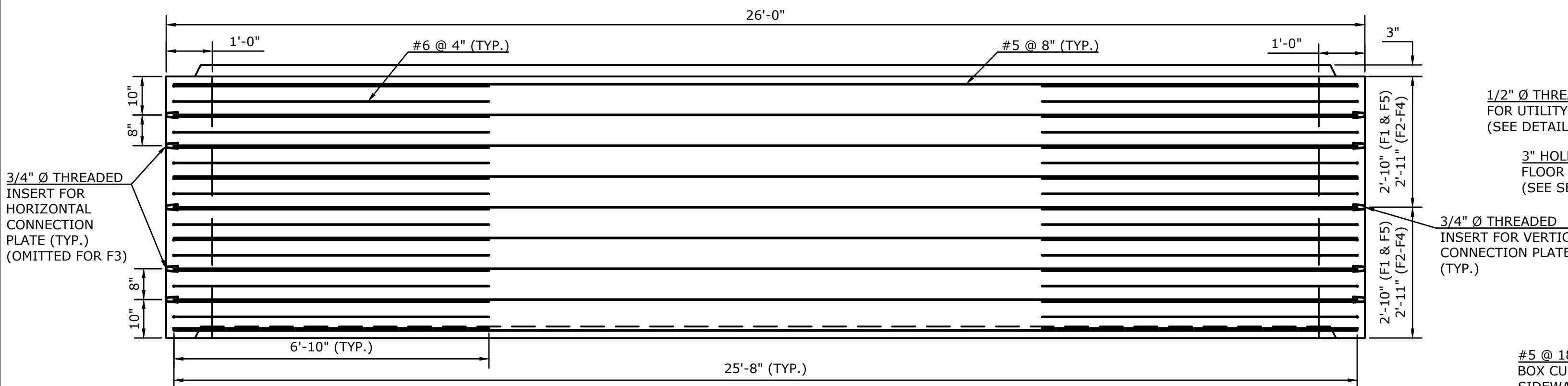
**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
APPROACH WALL REINFORCING DETAILS**

D - CENTER STREET	D.C.D.	00056.55	REV.	OF	32
SIZE	PROJECT	FILE NAME	NUMBER	REV.	40



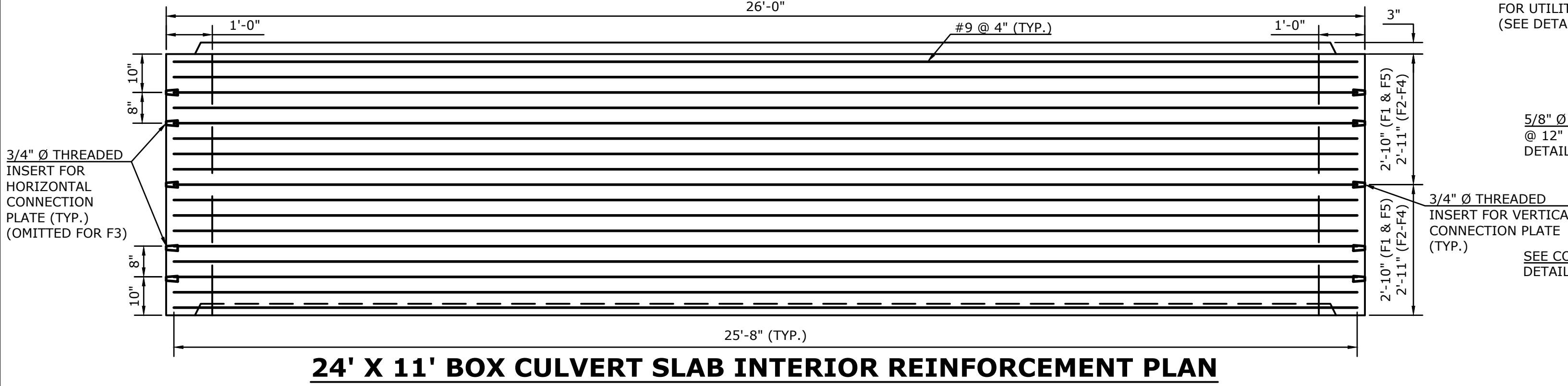
**24' X 11' BOX CULVERT REINFORCEMENT DETAIL**

SCALE: 1/2" = 1'-0"



**24' X 11' BOX CULVERT SLAB EXTERIOR REINFORCEMENT PLAN**

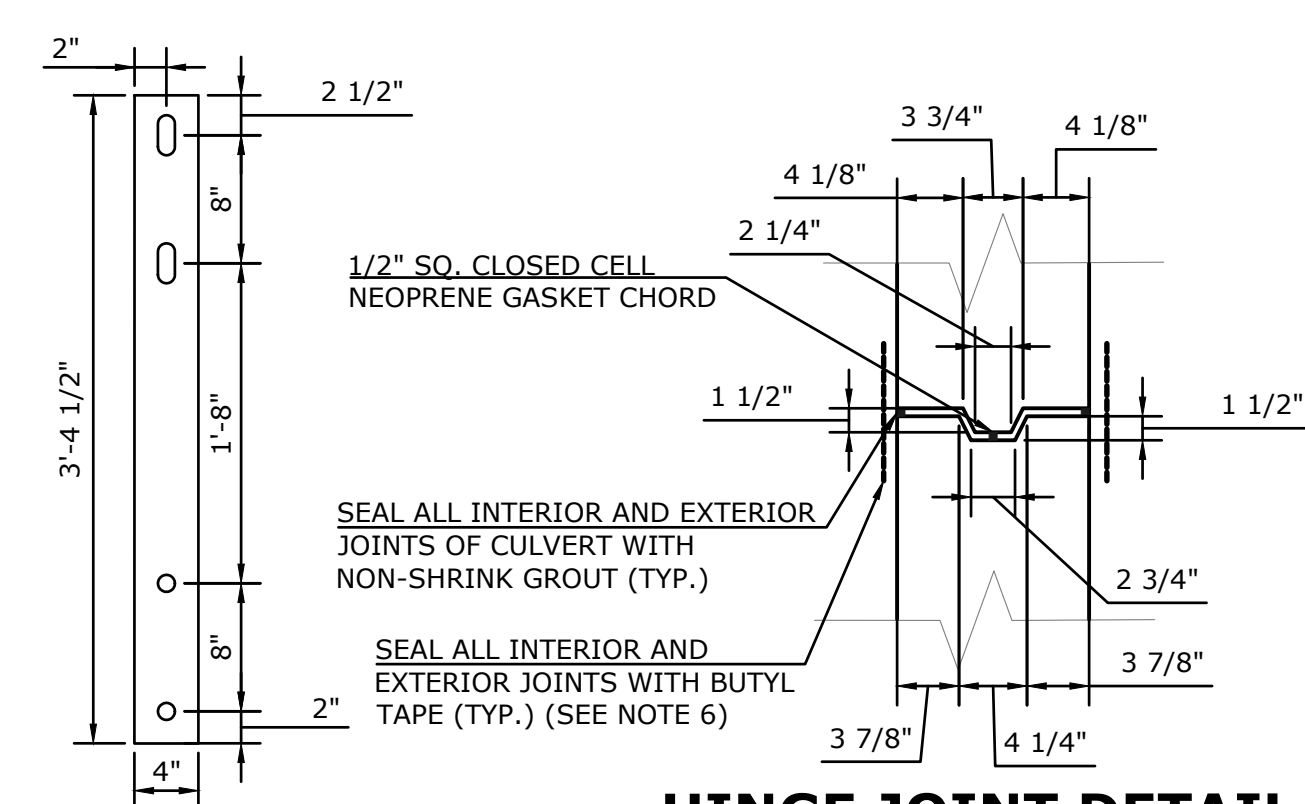
SCALE: 1/2" = 1'-0"



**24' X 11' BOX CULVERT SLAB INTERIOR REINFORCEMENT PLAN**

SCALE: 1/2" = 1'-0"

NOTE: TRANSVERSE REINFORCEMENT NOT SHOWN FOR CLARITY ON PLAN VIEWS.

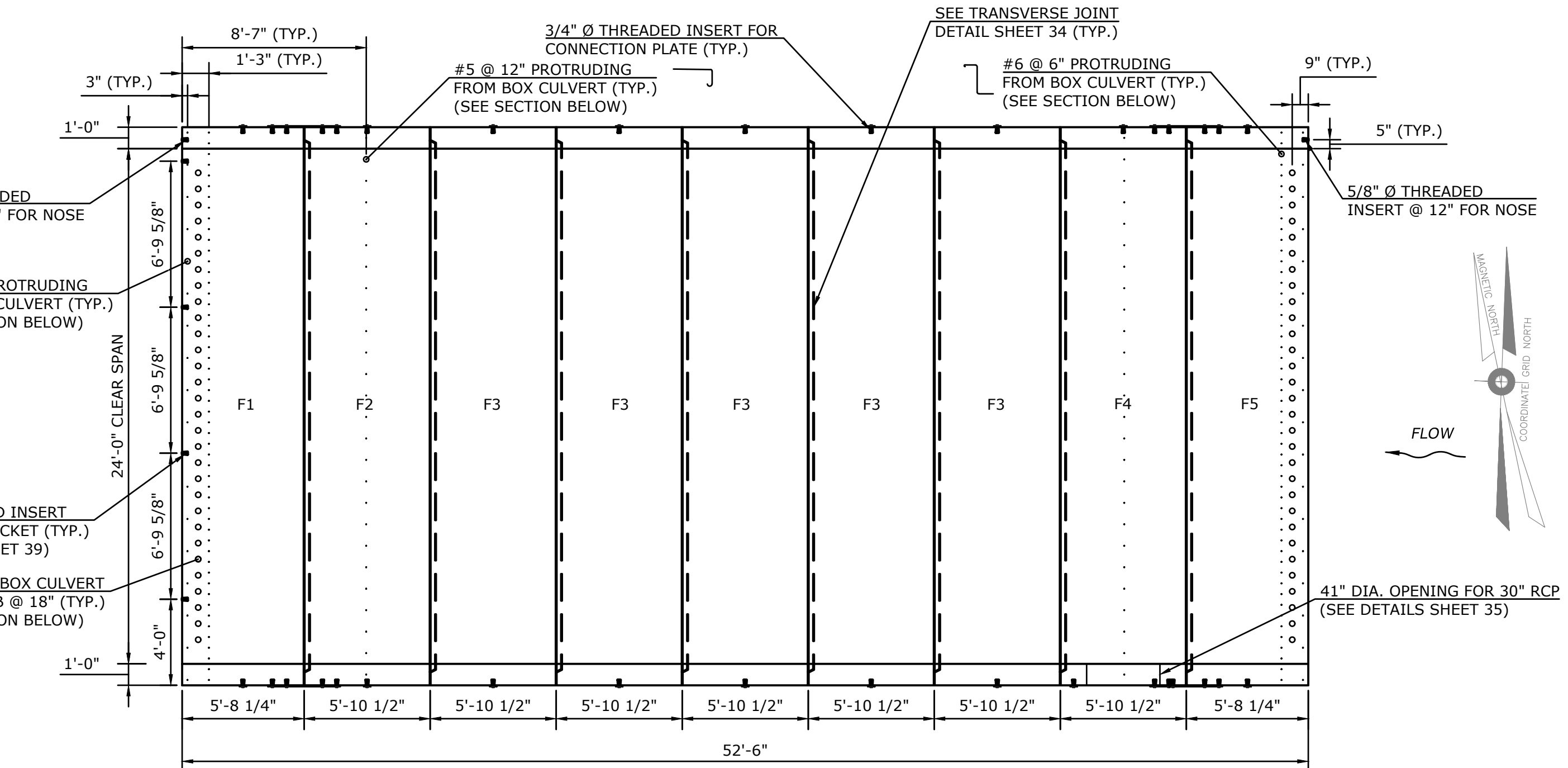


**HINGE JOINT DETAIL**

SCALE: 1" = 1'-0"

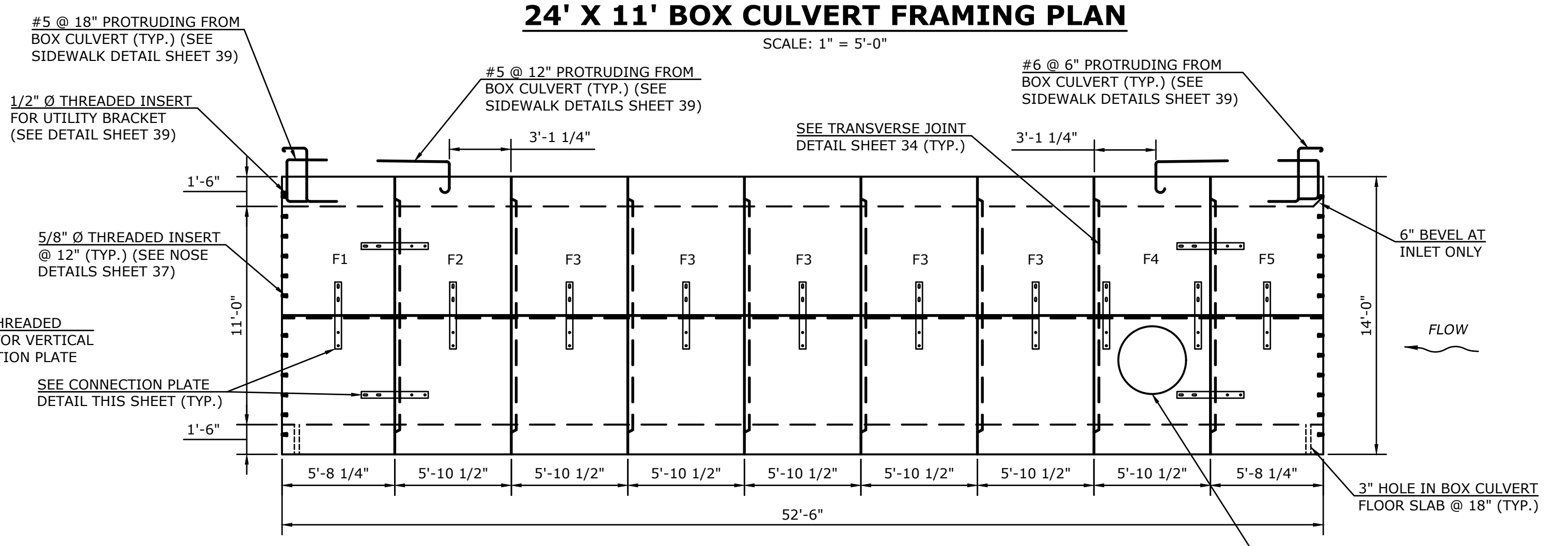
**CONNECTION PLATE DETAIL**

SCALE: 1" = 1'-0"



**24' X 11' BOX CULVERT FRAMING PLAN**

SCALE: 1" = 5'-0"



**24' X 11' BOX CULVERT SECTION**

SCALE: 1" = 5'-0"

- PRECAST BOX CULVERT NOTES:**
- DIMENSIONS FOR SEGMENT WIDTHS ARE FROM CENTER TO CENTER OF JOINTS.
  - CONCRETE COMPRESSIVE STRENGTH = 5000 PSI AND MINIMUM ELECTRICAL RESISTIVITY OF 29 kΩ-cm IN ACCORDANCE WITH AASHTO T 358 AT 28 DAYS.
  - ALL REINFORCEMENT SHALL BE GALVANIZED AFTER FABRICATION UNLESS NOTED OTHERWISE. ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A767, CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS. ALL REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AT THE TOP OF THE TOP SLAB WHICH SHALL BE 2 1/2".
  - ALL INSERTS OR HOLES CAST INTO THE CULVERT SECTIONS FOR THE SOLE PURPOSE OF HANDLING AND SETTING THE UNITS SHALL BE GROUTED OVER TO A SMOOTH FINISH UPON COMPLETION OF THE WORK. COST TO BE INCLUDED IN THE ITEMS "24'-0" X 11'-0" PRECAST CONCRETE BOX CULVERT" AND "12'-0" X 10'-0" PRECAST BOX CULVERT".
  - NON-SHRINK GROUT SHALL BE USED TO GROUT THE REINFORCEMENT.
  - LOCATIONS WHERE BUTYL TAPE WILL BE USED SHALL NOT BE BLAST CLEANED TO ENSURE THE BUTYL TAPE WILL ADHERE TO THE CONCRETE. BUTYL TAPE AND CONNECTION PLATES SHALL BE PAID FOR UNDER ITEMS "24'-0" X 11'-0" PRECAST CONCRETE BOX CULVERT" AND "12'-0" X 10'-0" PRECAST BOX CULVERT".
  - DUE TO HIGH WATER PRESSURES, THE CONNECTION PLATES SHALL BE LEFT IN PLACE.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING STABILITY OF BOX CULVERT SEGMENTS DURING ALL TEMPORARY CONSTRUCTION STAGES AND FLOW CONDITIONS.

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DRAWN	D.R.B.	
CHECKED	K.O.E.	
DATE	03/17/2022	
REVISIONS		
NO.	DATE	DESCRIPTION


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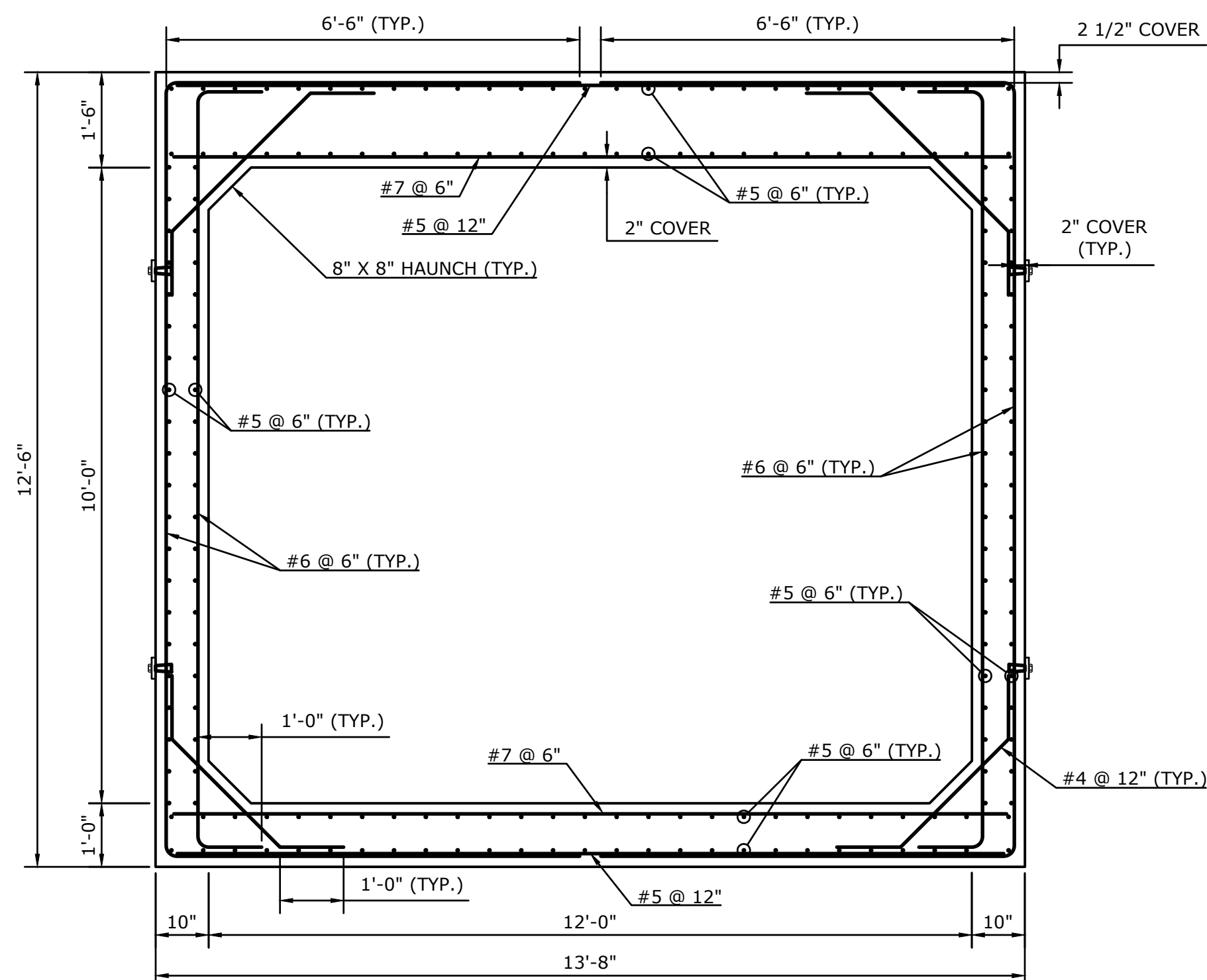
• WENGELL, McDONNELL & COSTELLO •  
87 HOLMES ROAD  
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**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK**  
**24'X11' PRECAST BOX CULVERT DETAILS**

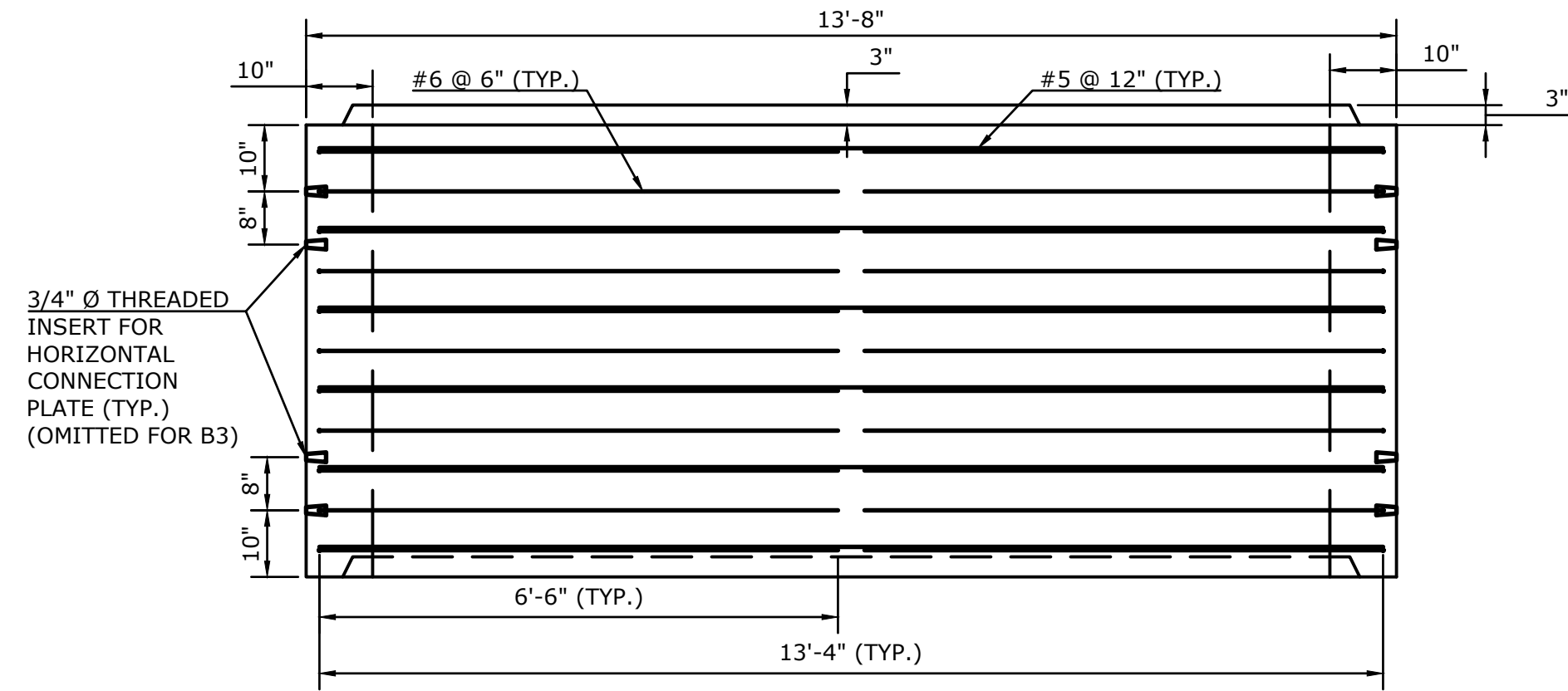
D - CENTER STREET	D.C.D.	00056.55	REV.	OF	33
SIZE	PROJECT	FILE NAME	NUMBER	REV.	40





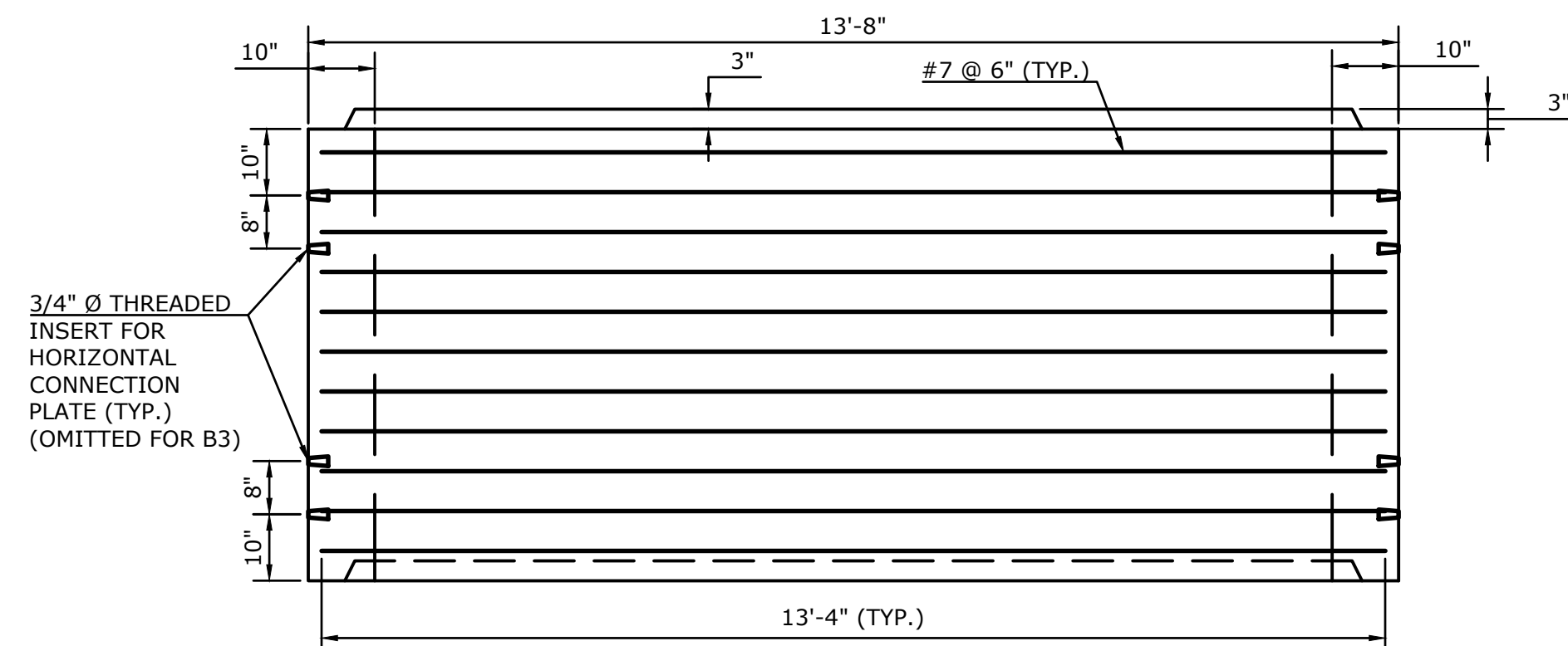
**12' X 10' BOX CULVERT REINFORCEMENT SECTION**

SCALE: 1/2" = 1'-0"



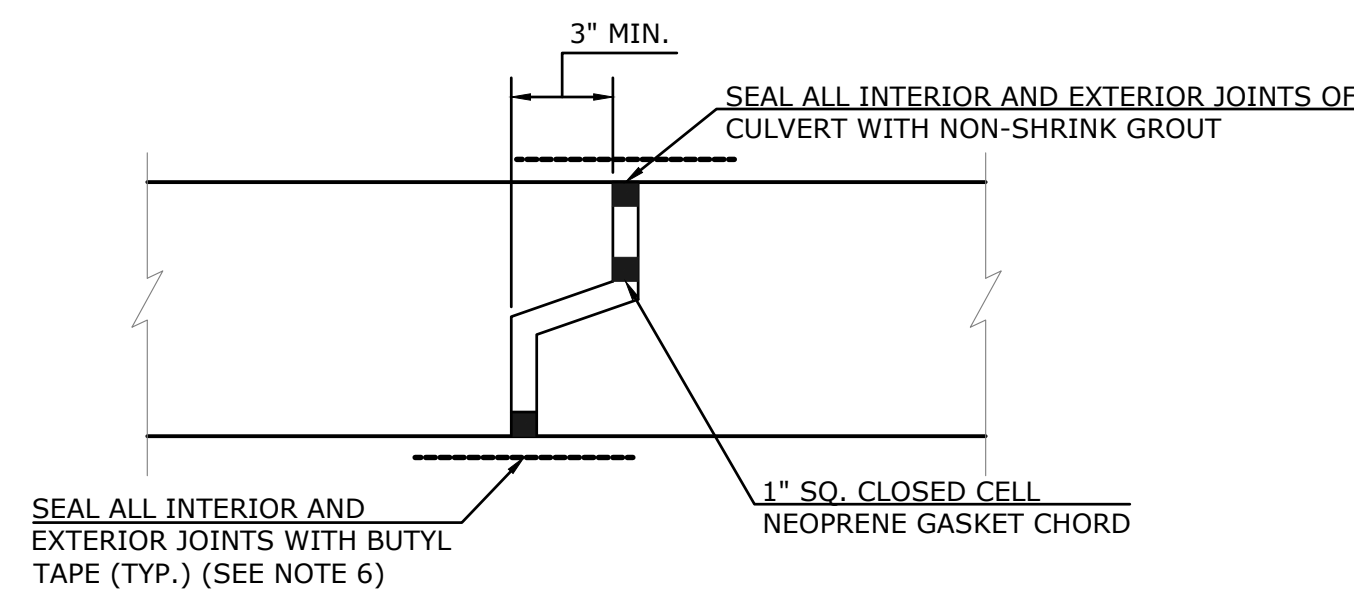
**12' X 10' BOX CULVERT SLAB EXTERIOR REINFORCEMENT PLAN**

SCALE: 1/2" = 1'-0"



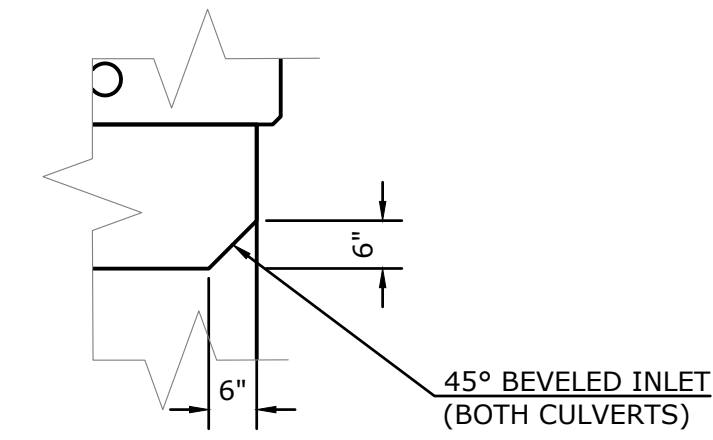
**12' X 10' BOX CULVERT SLAB INTERIOR REINFORCEMENT PLAN**

SCALE: 1/2" = 1'-0"



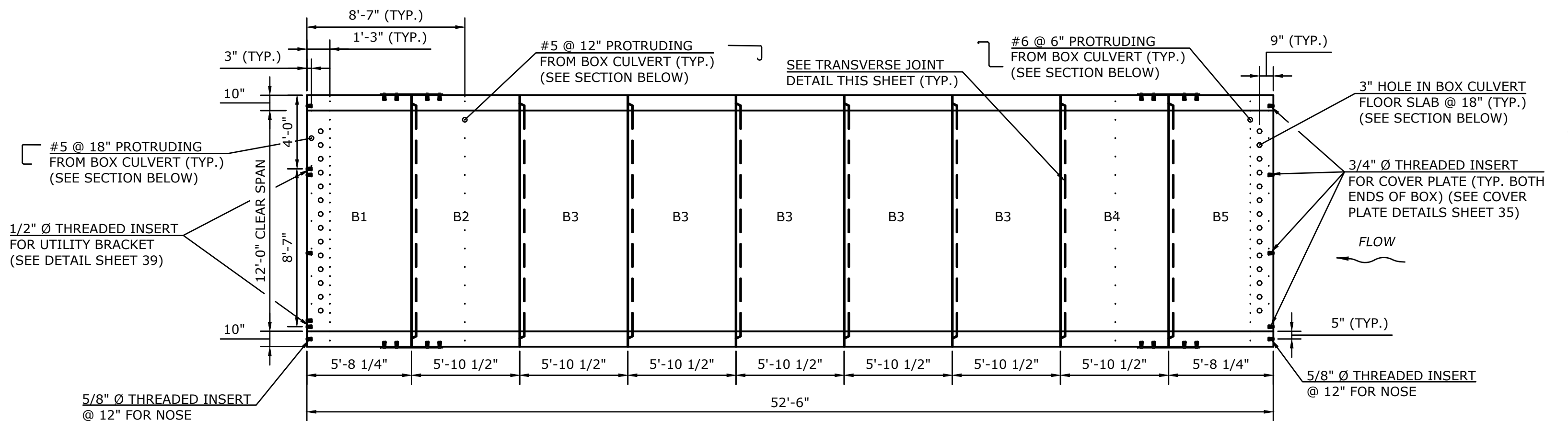
**TRANSVERSE JOINT DETAIL  
PRECAST CULVERT SECTIONS**

N.T.S.



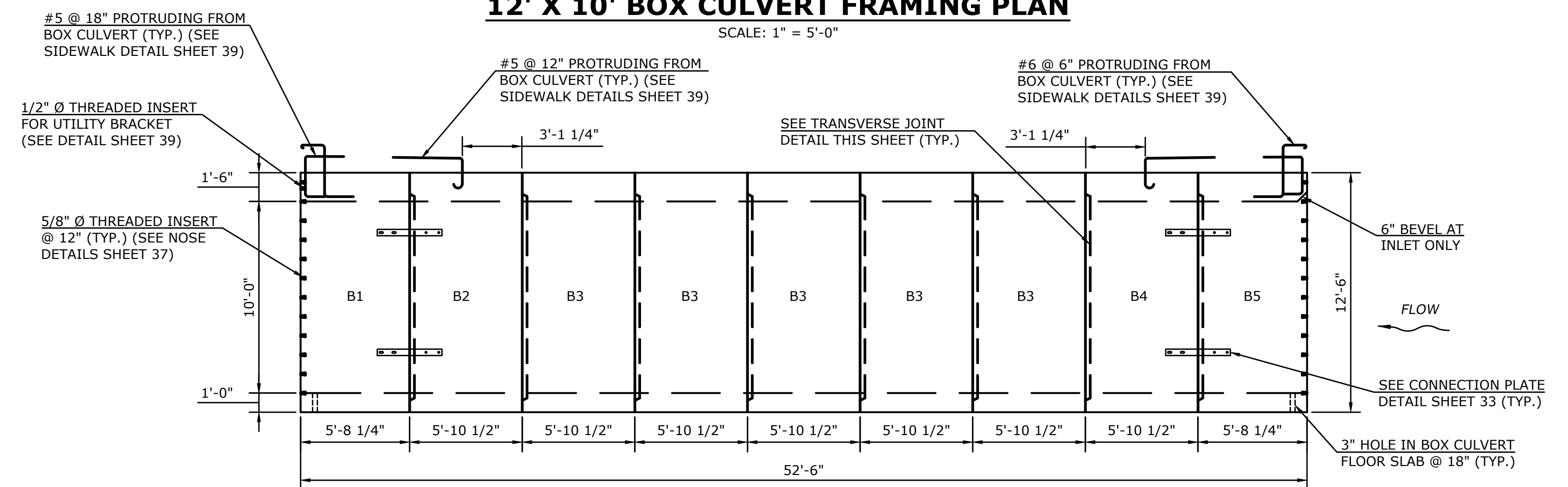
**BEVELED INLET DETAIL  
PRECAST CULVERT SECTIONS**

N.T.S.



**12' X 10' BOX CULVERT FRAMING PLAN**

SCALE: 1" = 5'-0"



**12' X 10' BOX CULVERT SECTION**

SCALE: 1" = 5'-0"

**PRECAST BOX CULVERT NOTES:**

- DIMENSIONS FOR SEGMENT WIDTHS ARE FROM CENTER TO CENTER OF JOINTS.
- CONCRETE COMPRESSIVE STRENGTH = 5000 PSI AND MINIMUM ELECTRICAL RESISTIVITY OF 29 kΩ-cm IN ACCORDANCE WITH AASHTO T 358 AT 28 DAYS.
- ALL REINFORCEMENT SHALL BE GALVANIZED AFTER FABRICATION UNLESS NOTED OTHERWISE. ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A767, CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS. ALL REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AT THE TOP OF THE TOP SLAB WHICH SHALL BE 2 1/2".
- ALL INSERTS OR HOLES CAST INTO THE CULVERT SECTIONS FOR THE SOLE PURPOSE OF HANDLING AND SETTING THE UNITS SHALL BE GROUTED OVER TO A SMOOTH FINISH UPON COMPLETION OF THE WORK. COST TO BE INCLUDED IN THE ITEM "24'-0" X 11'-0" PRECAST CONCRETE BOX CULVERT AND 12'-0" X 10'-0" PRECAST BOX CULVERT".
- NON-SHRINK GROUT SHALL BE USED TO GROUT THE REINFORCEMENT.
- LOCATIONS WHERE BUTYL TAPE WILL BE USED SHALL NOT BE BLAST CLEANED TO ENSURE THE BUTYL TAPE WILL ADHERE TO THE CONCRETE. BUTYL TAPE AND CONNECTION PLATES SHALL BE PAID FOR UNDER ITEMS "24'-0" X 11'-0" PRECAST CONCRETE BOX CULVERT" AND "12'0" X 10'-0" PRECAST CONCRETE BOX CULVERT".
- DUE TO HIGH WATER PRESSURES, THE CONNECTION PLATES SHALL BE LEFT IN PLACE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING STABILITY OF BOX CULVERT SEGMENTS DURING ALL TEMPORARY CONSTRUCTION STAGES AND FLOW CONDITIONS.

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NOTE:  
TRANSVERSE REINFORCEMENT NOT SHOWN FOR CLARITY ON PLAN VIEWS.

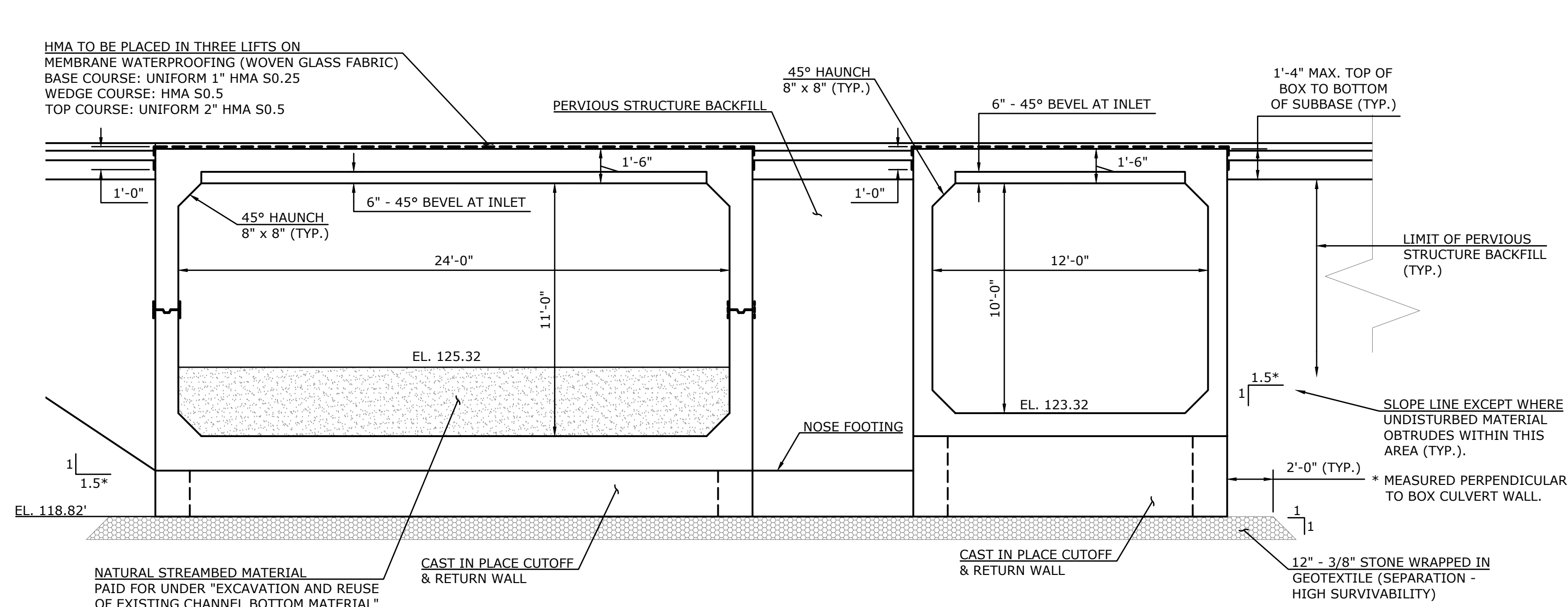
SUPV.	J.A.C.	
DESIGN	S.A. & K.K.	
DRAWN	D.R.B.	
CHECKED	K.O.E.	
DATE	03/17/2022	
REVISIONS		
NO.	DATE	DESCRIPTION

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**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
12'X10' PRECAST BOX CULVERT DETAILS**

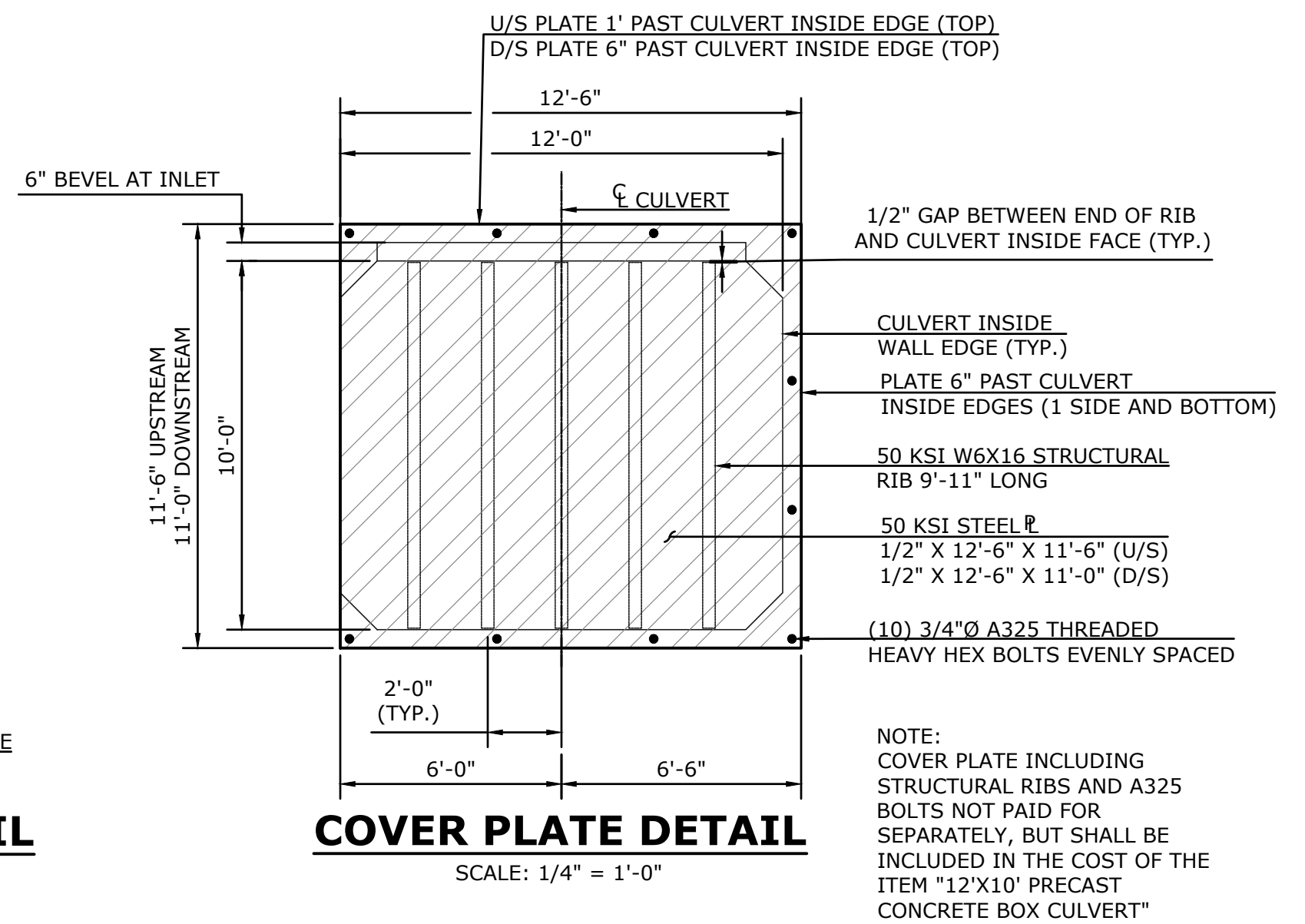
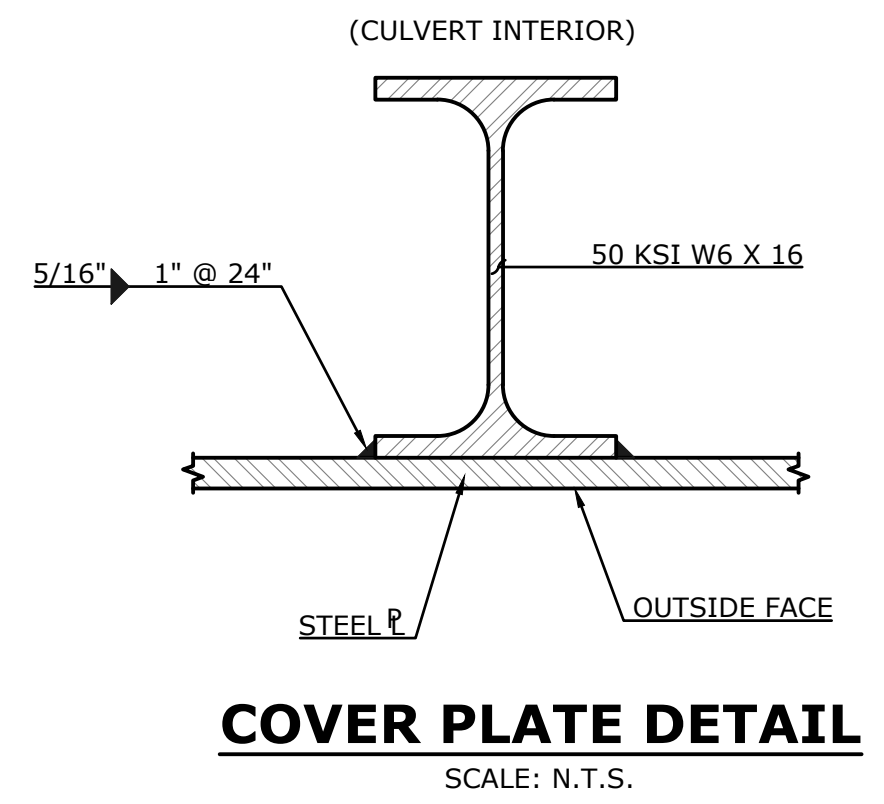
D - CENTER STREET	D.C.D.	00056.55	SHEET	34
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF
				40



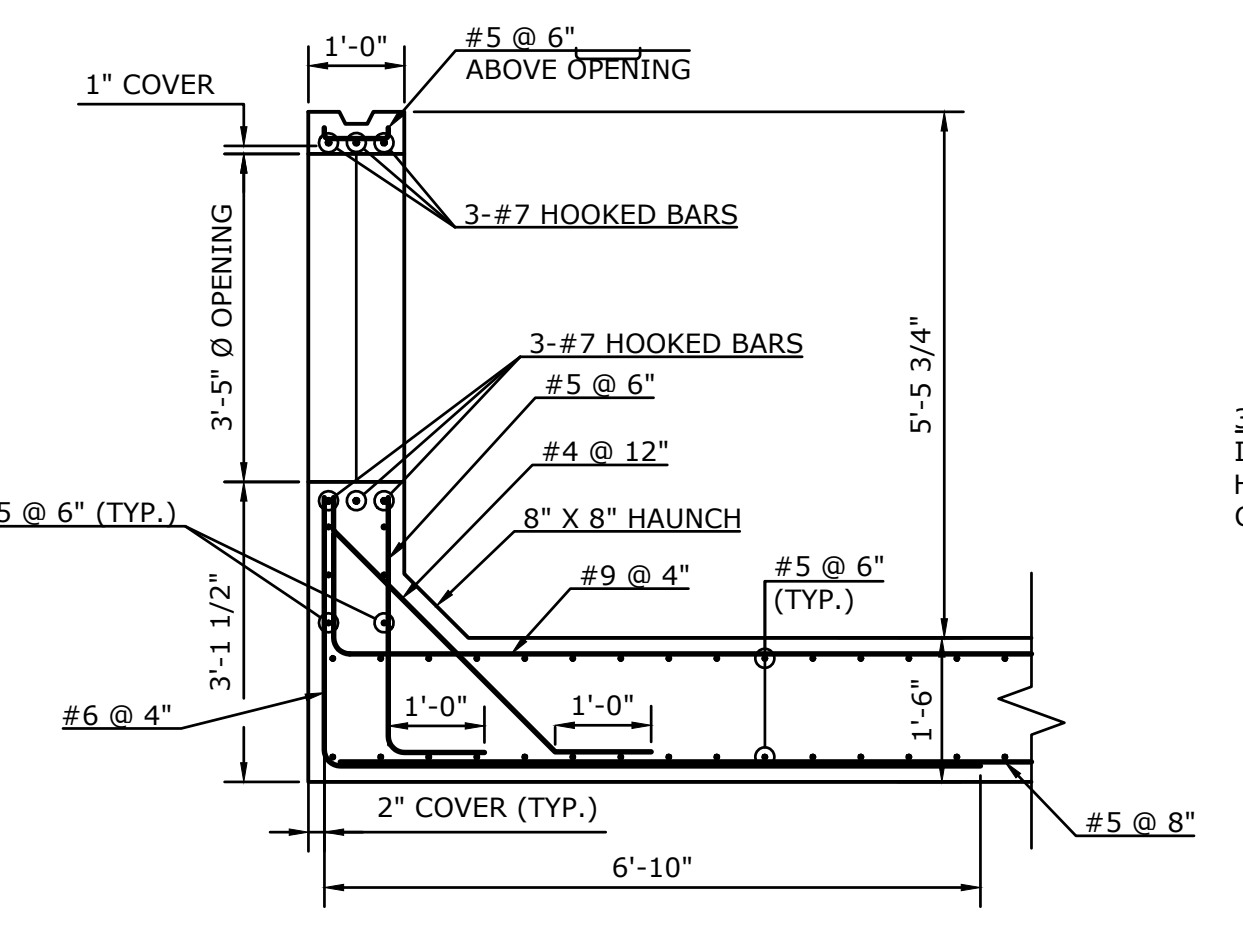
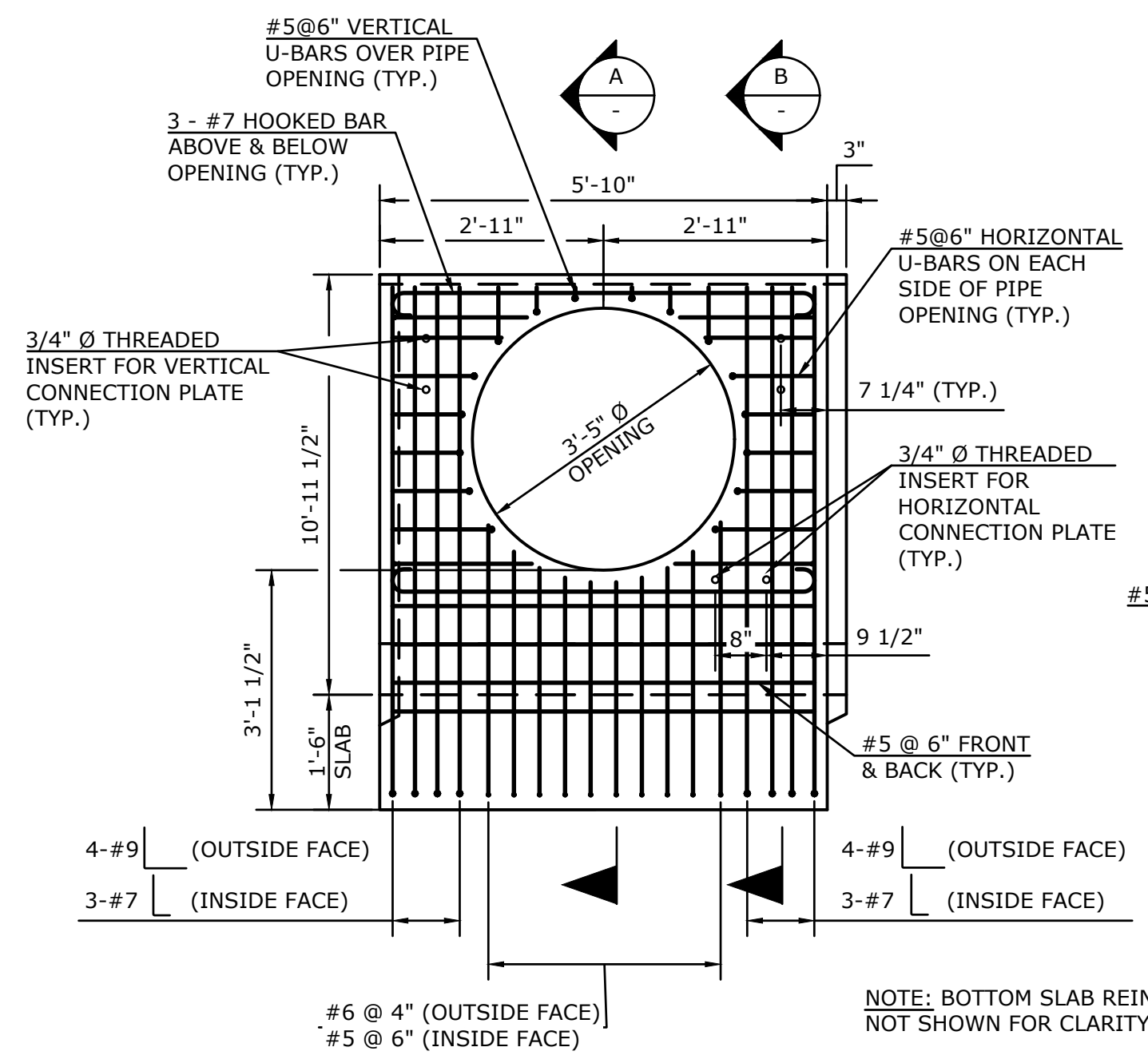
**PRECAST CONCRETE BOX CULVERTS  
(NORMAL TO BOX)**

SCALE: 1/4" = 1'-0"

NOTE:  
NOSE AND WINGWALL OMITTED FOR CLARITY  
MAXIMUM ALLOWABLE DESIGN FOUNDATION PRESSURE = 4 KSF (SERVICE I)



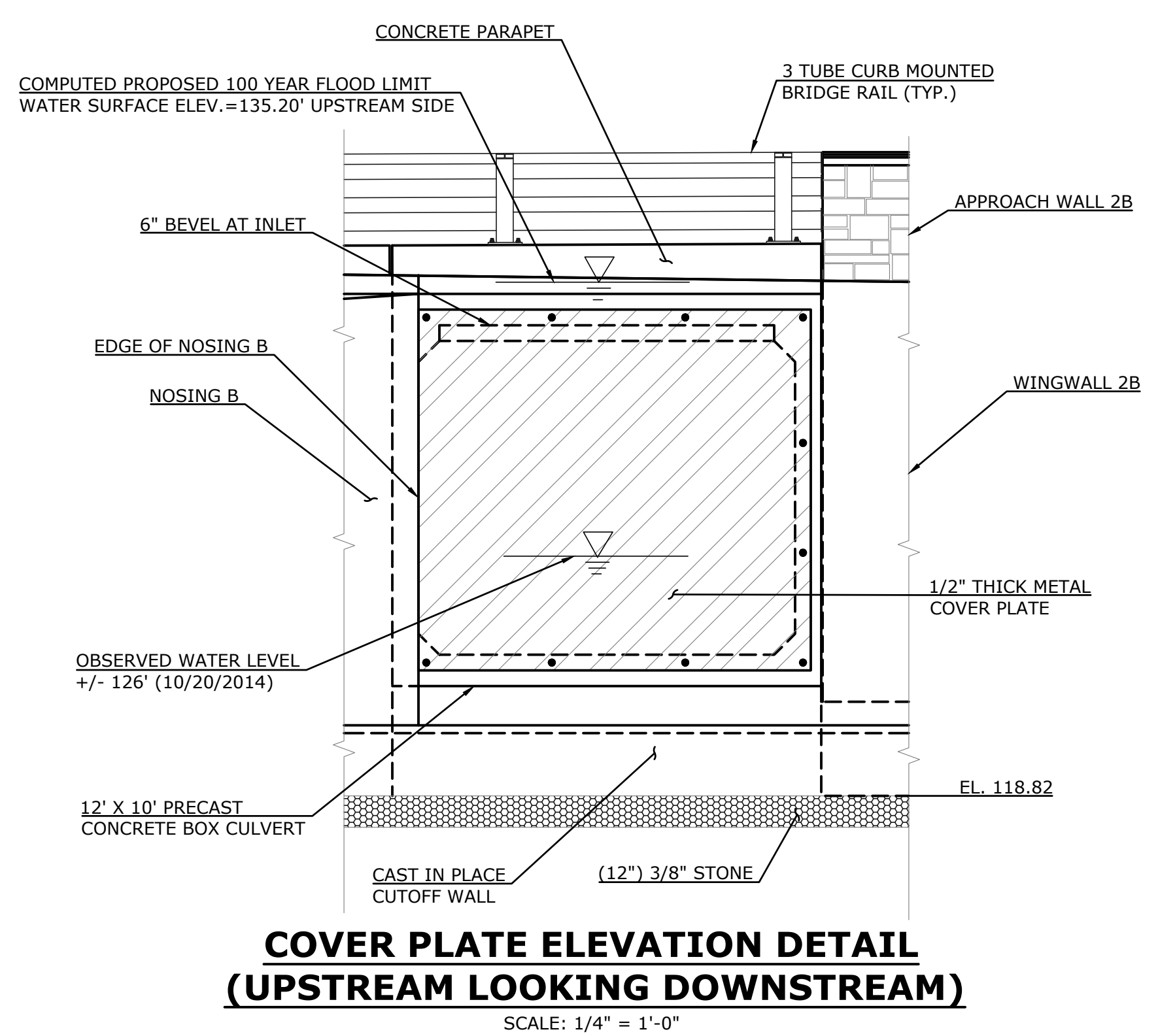
NOTE:  
COVER PLATE INCLUDING  
STRUCTURAL RIBS AND A325  
BOLTS NOT PAID FOR  
SEPARATELY, BUT SHALL BE  
INCLUDED IN THE COST OF THE  
ITEM "12'X10' PRECAST  
CONCRETE BOX CULVERT"



**24' X 11' BOX CULVERT DETAIL  
AT RCP OPENING**

SCALE: 1/2" = 1'-0"

NOTE: BOTTOM SLAB REINFORCING  
NOT SHOWN FOR CLARITY.



SCALE: 1/4" = 1'-0"

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		DRAWN	D.R.B.
		CHECKED	K.O.E.
		DATE	03/17/2022
NO.	DATE	DESCRIPTION	
<b>REVISIONS</b>			

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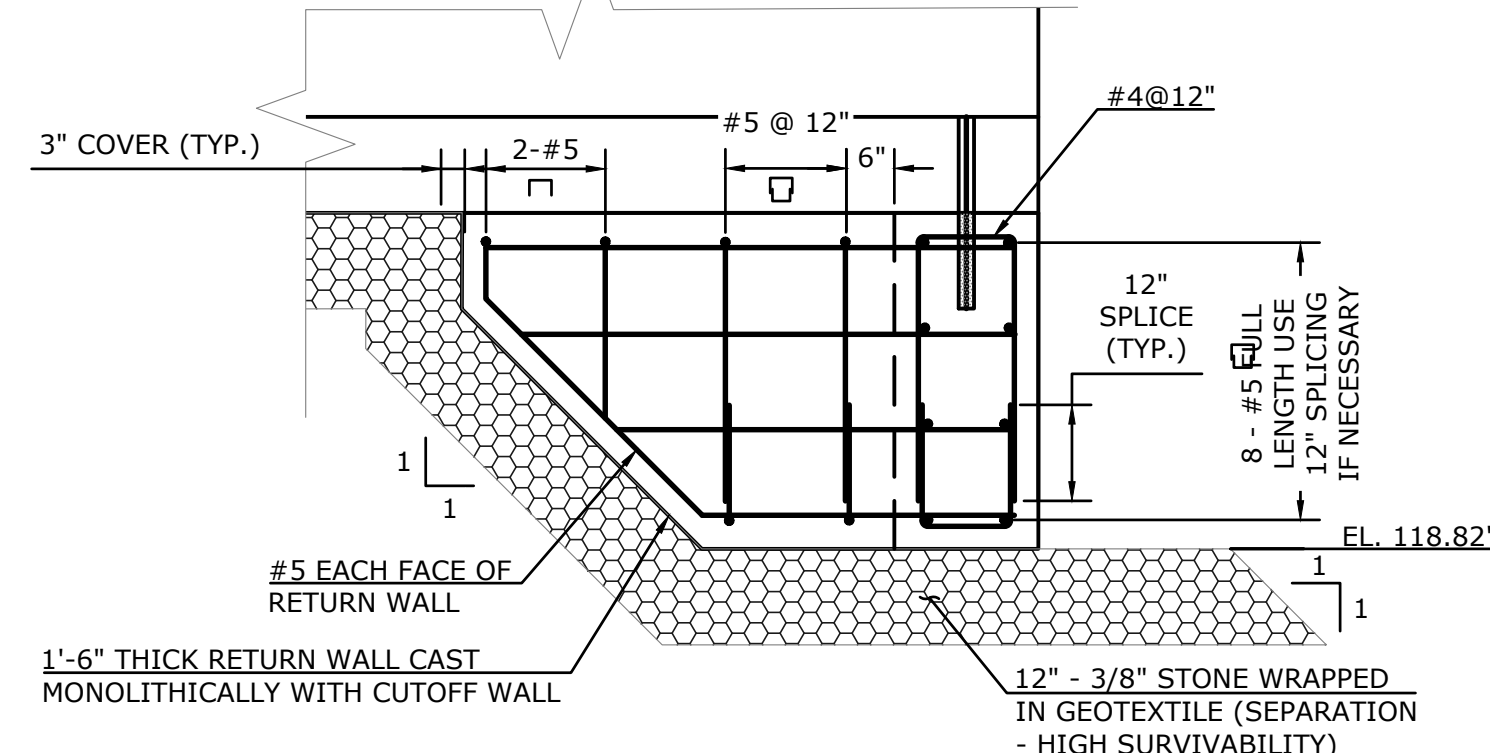
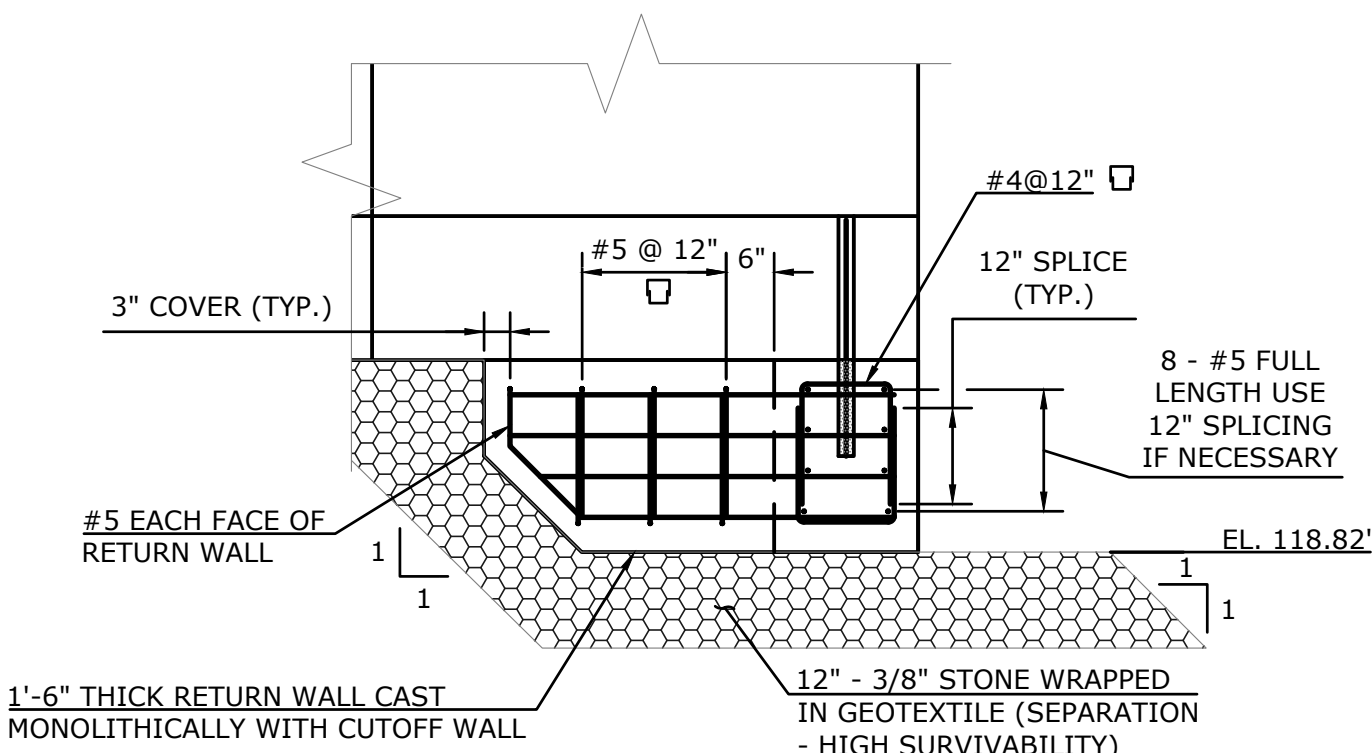
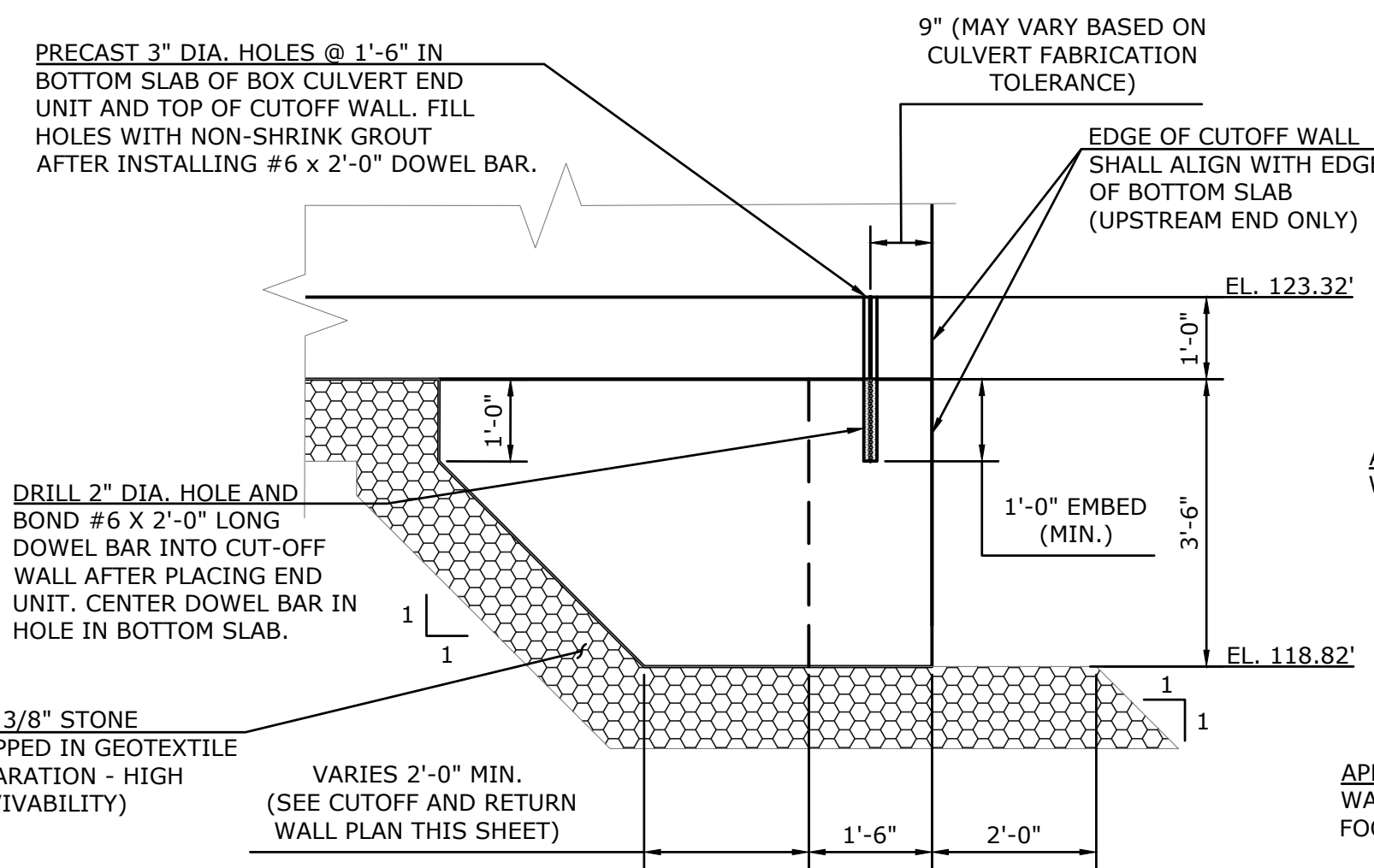
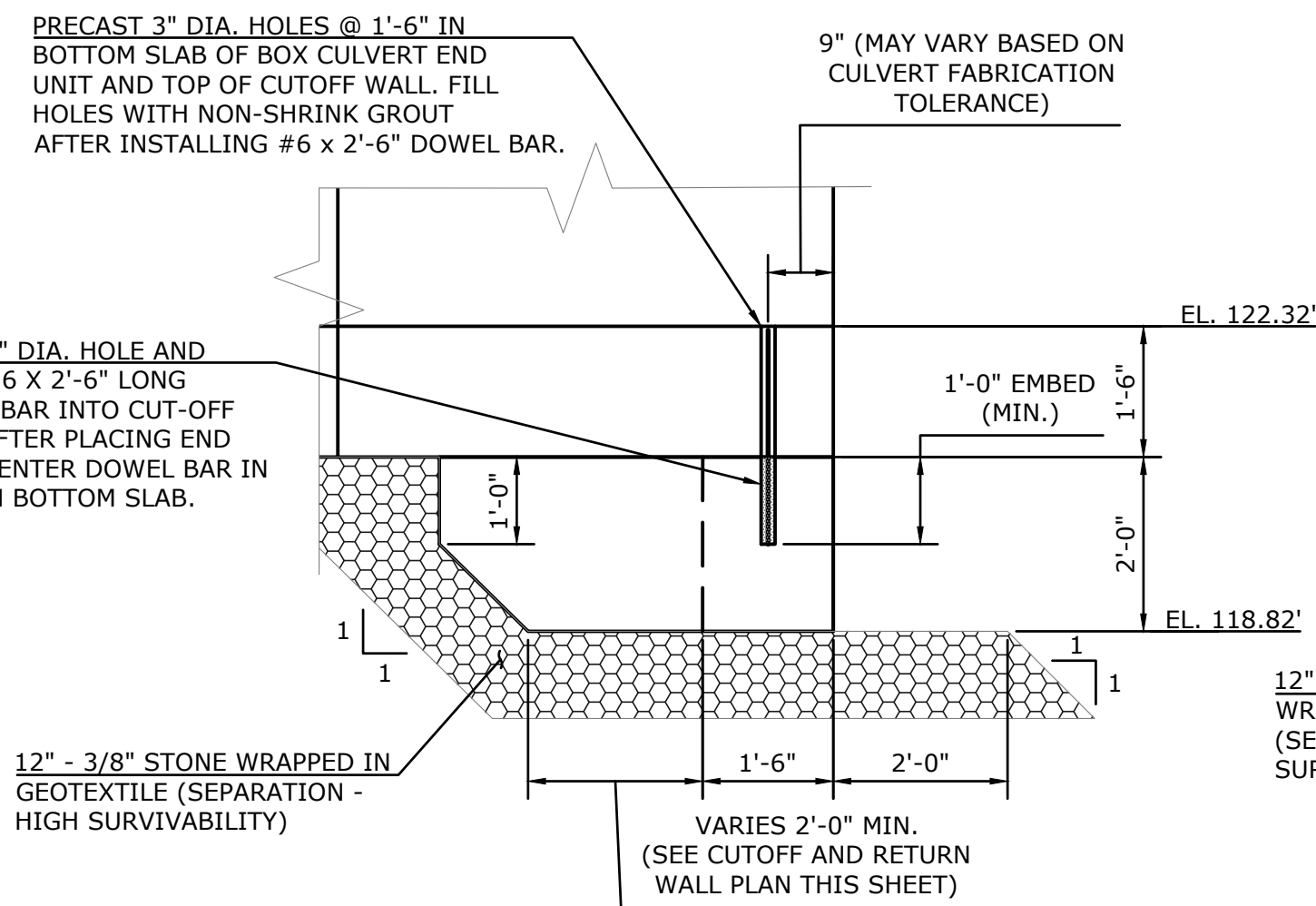
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**PREPARED FOR**  
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**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
PRECAST CONCRETE BOX CULVERT DETAILS**

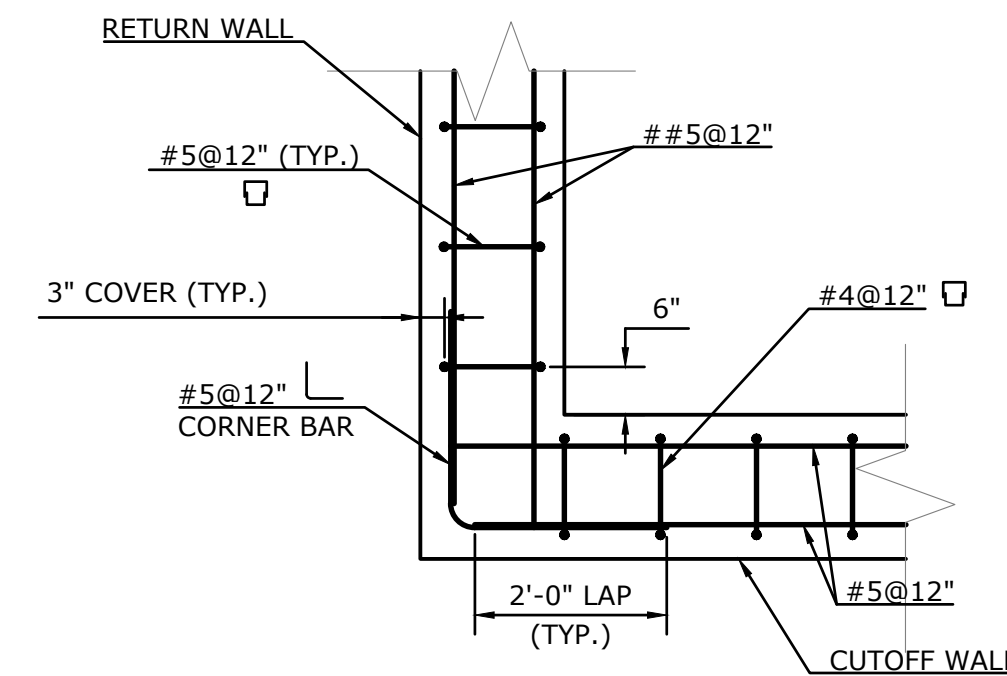
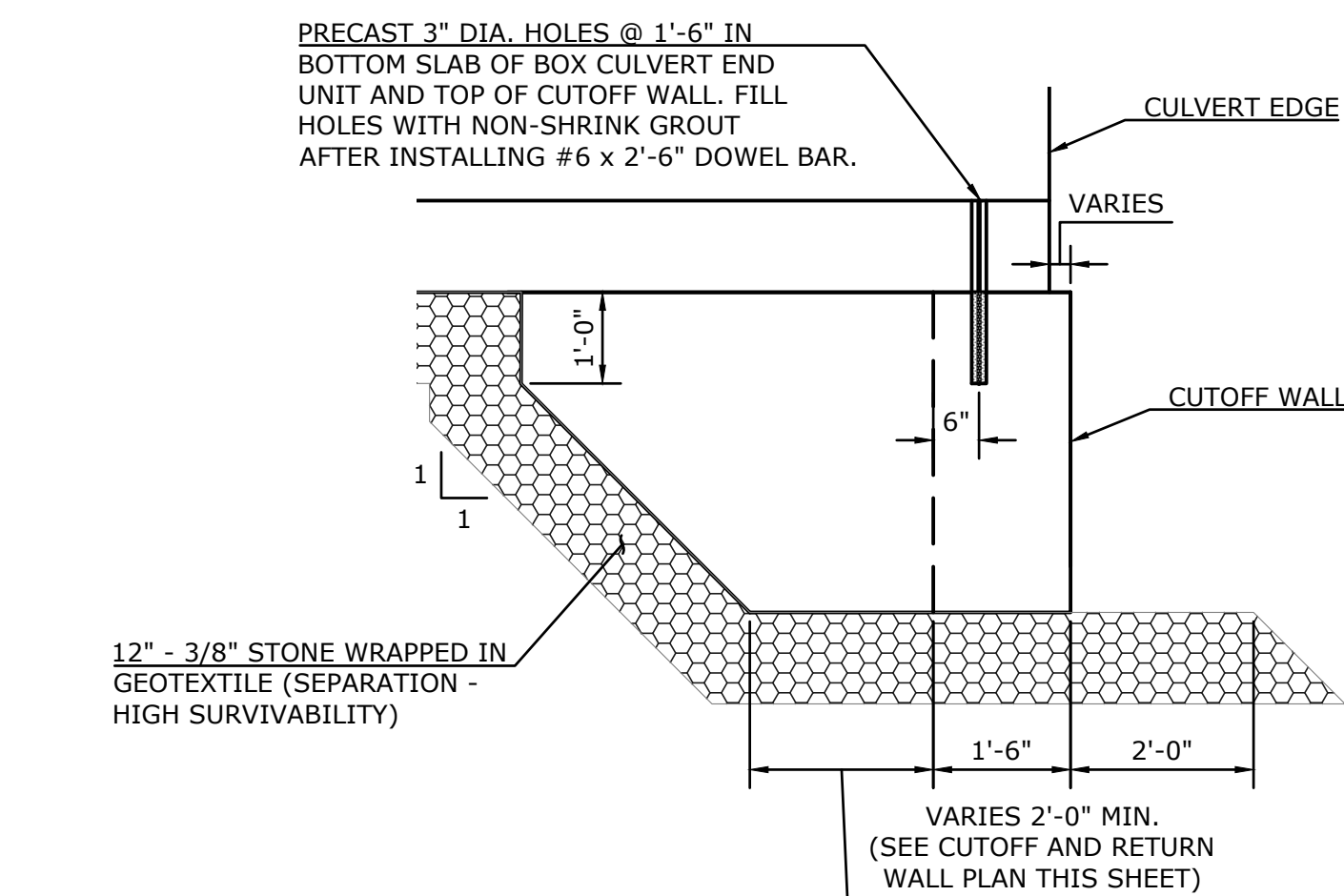
D - CENTER STREET	D.C.D.	00056.55	SHEET	35
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF
				40





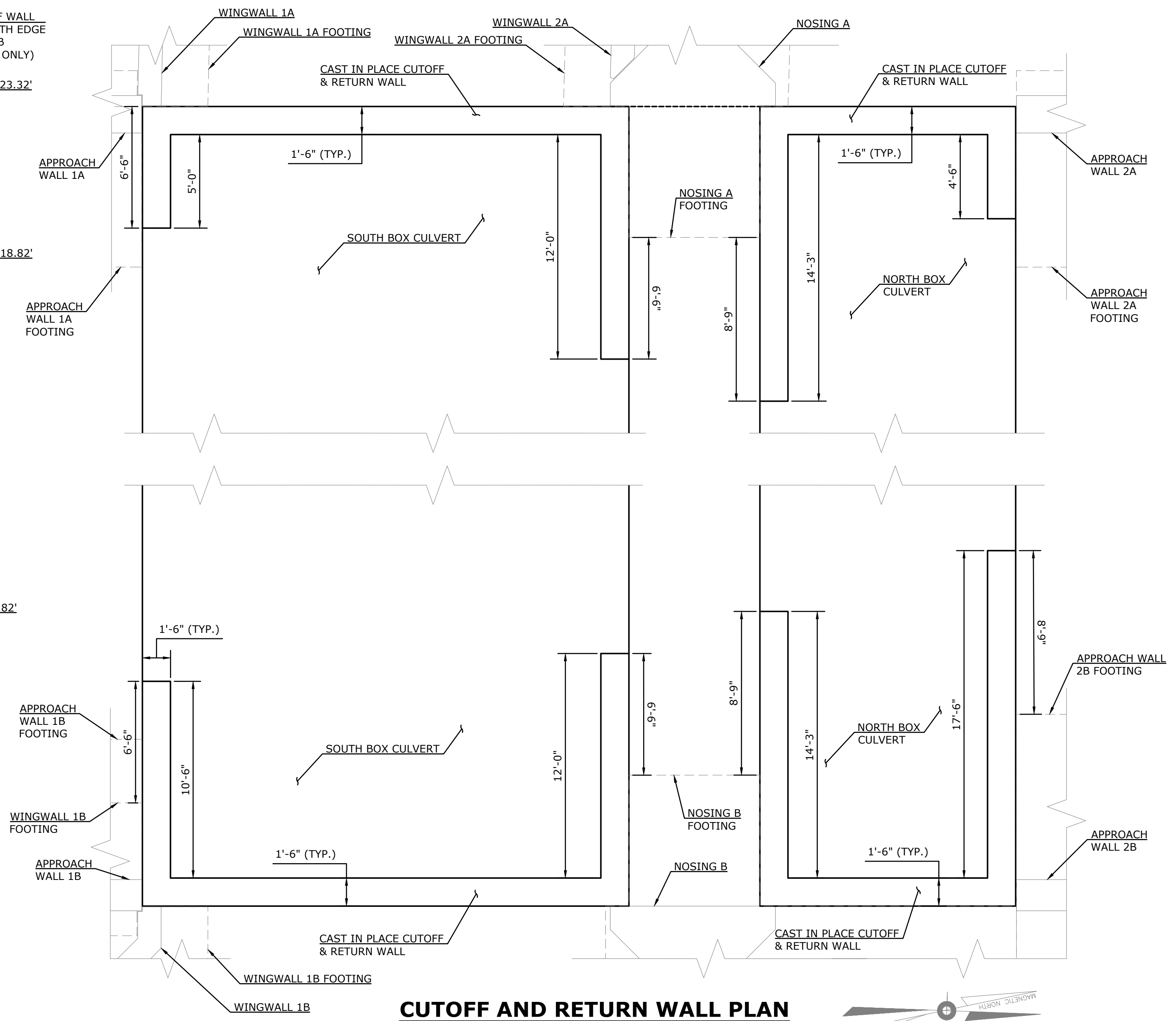
**SOUTH CULVERT CAST IN PLACE CUTOFF AND RETURN WALL DETAILS**  
SCALE 1/2" = 1'-0"

**NORTH CULVERT CAST IN PLACE CUTOFF AND RETURN WALL DETAILS**  
SCALE 1/2" = 1'-0"



**CULVERT CAST IN PLACE CUTOFF AND RETURN WALL DETAILS (DOWNSTREAM END)**  
SCALE 1/2" = 1'-0"

**CULVERT CAST IN PLACE CUTOFF AND RETURN WALL CORNER DETAIL**  
SCALE 1/2" = 1'-0"



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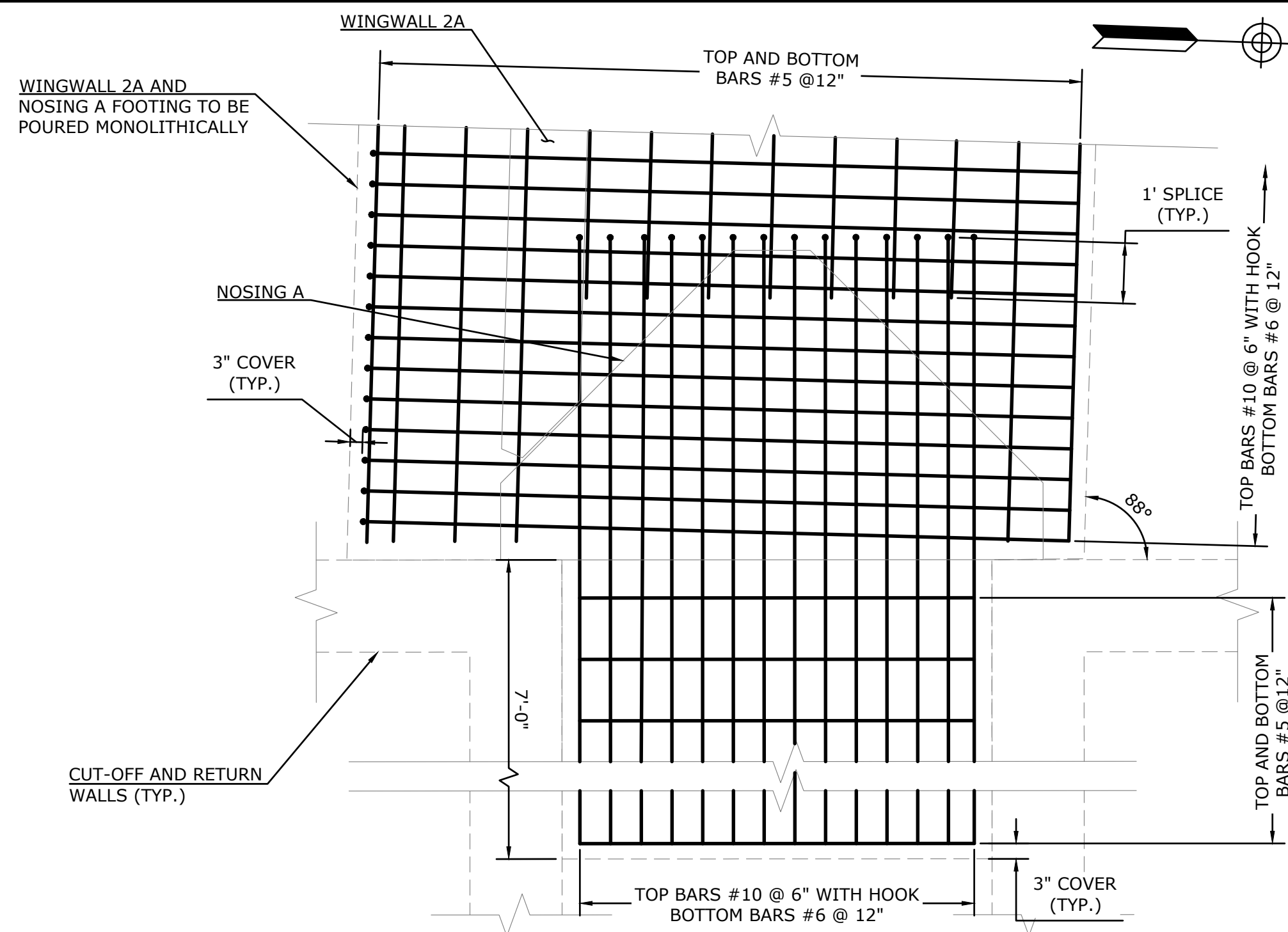
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**PREPARED FOR**  
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MERIDEN, CONNECTICUT 06450

REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
CUTOFF AND RETURN WALL PLAN & DETAILS

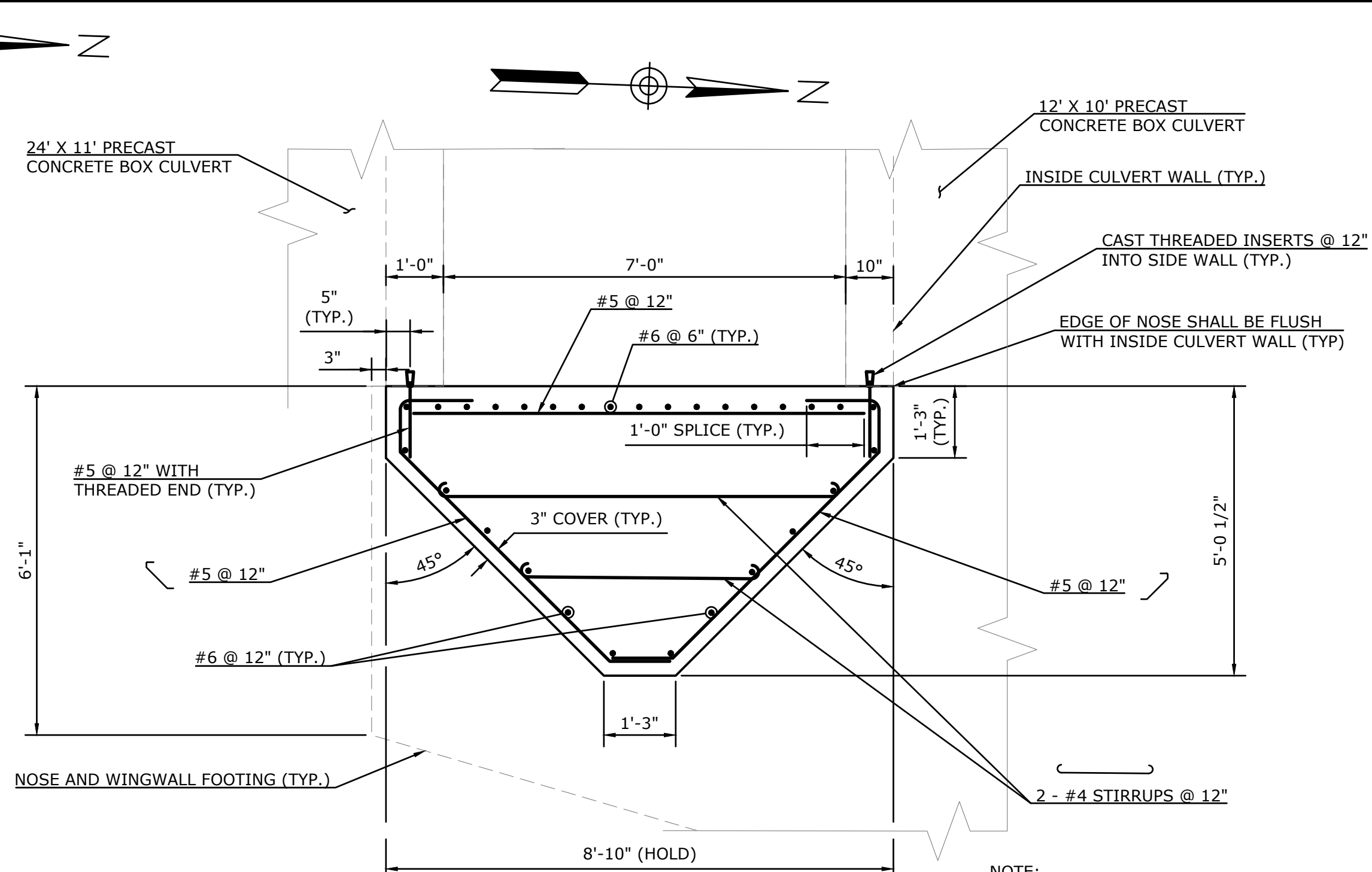
D	-	CENTER STREET	D.C.D.	-	00056.55	-
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	

SHEET 36  
OF 40



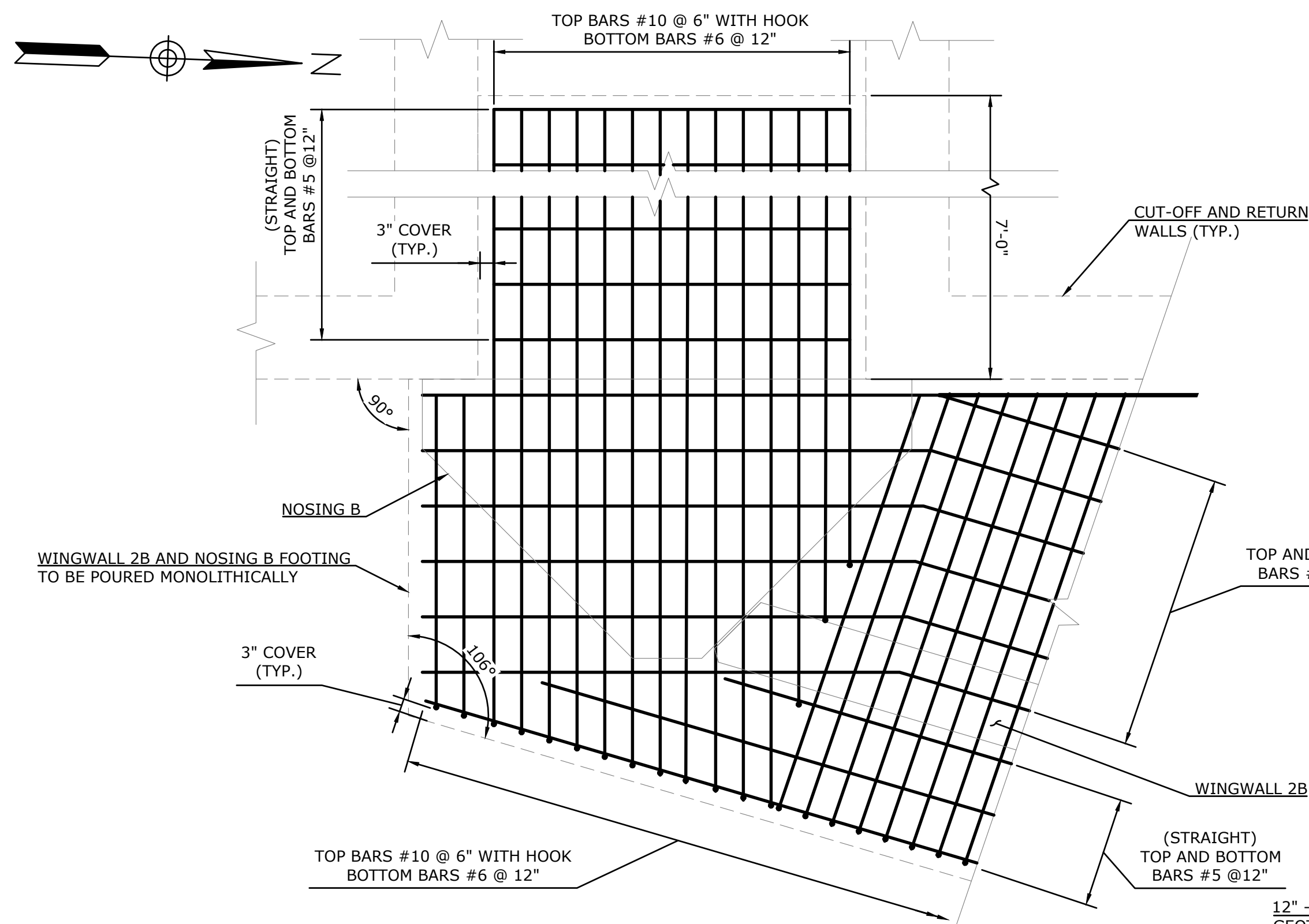
**NOSING A FOOTING DETAIL**

SCALE: 1/2" = 1'-0"



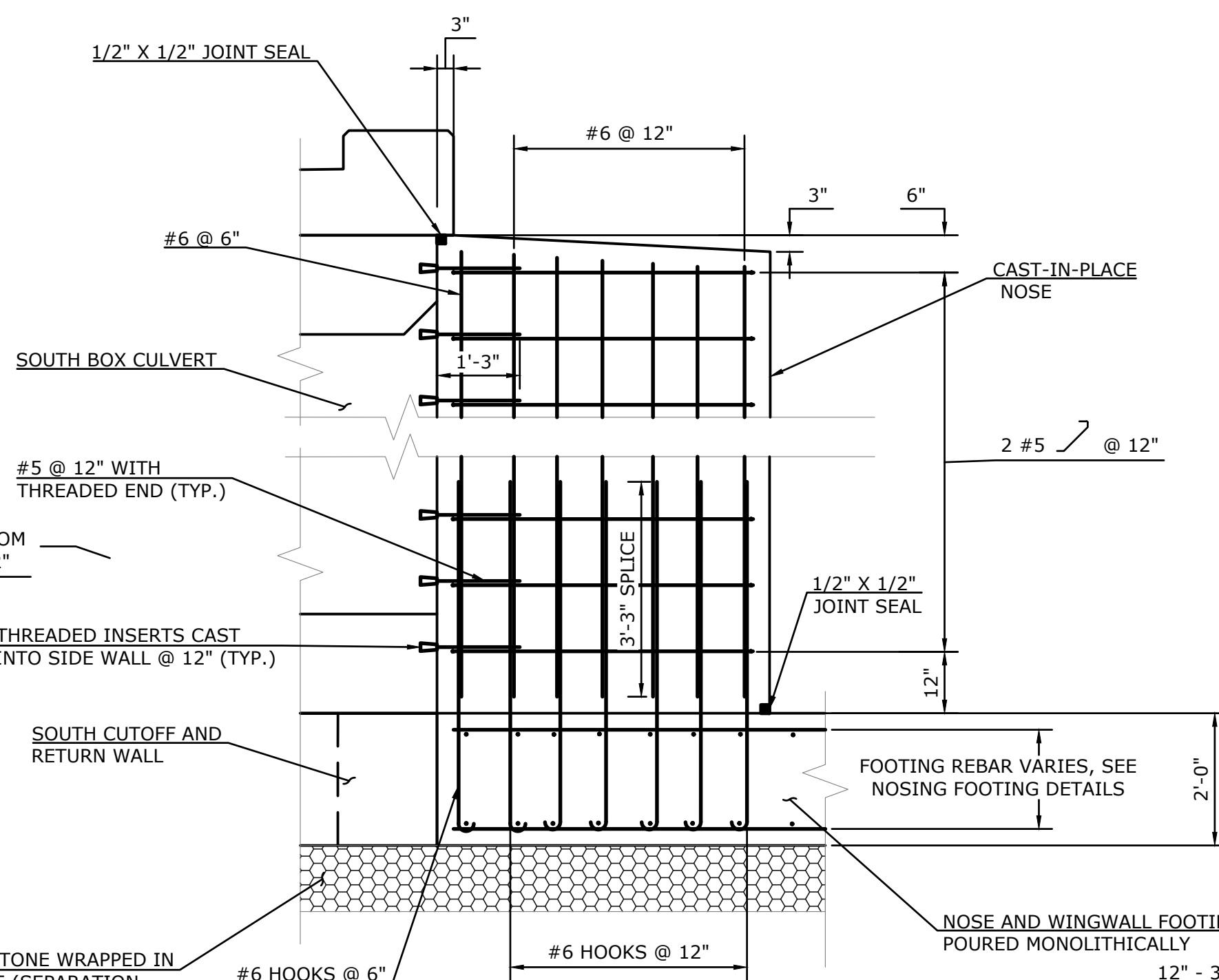
**NOSING B PLAN DETAIL  
(NOSING A SIMILAR)**

SCALE: 1/2" = 1'-0"



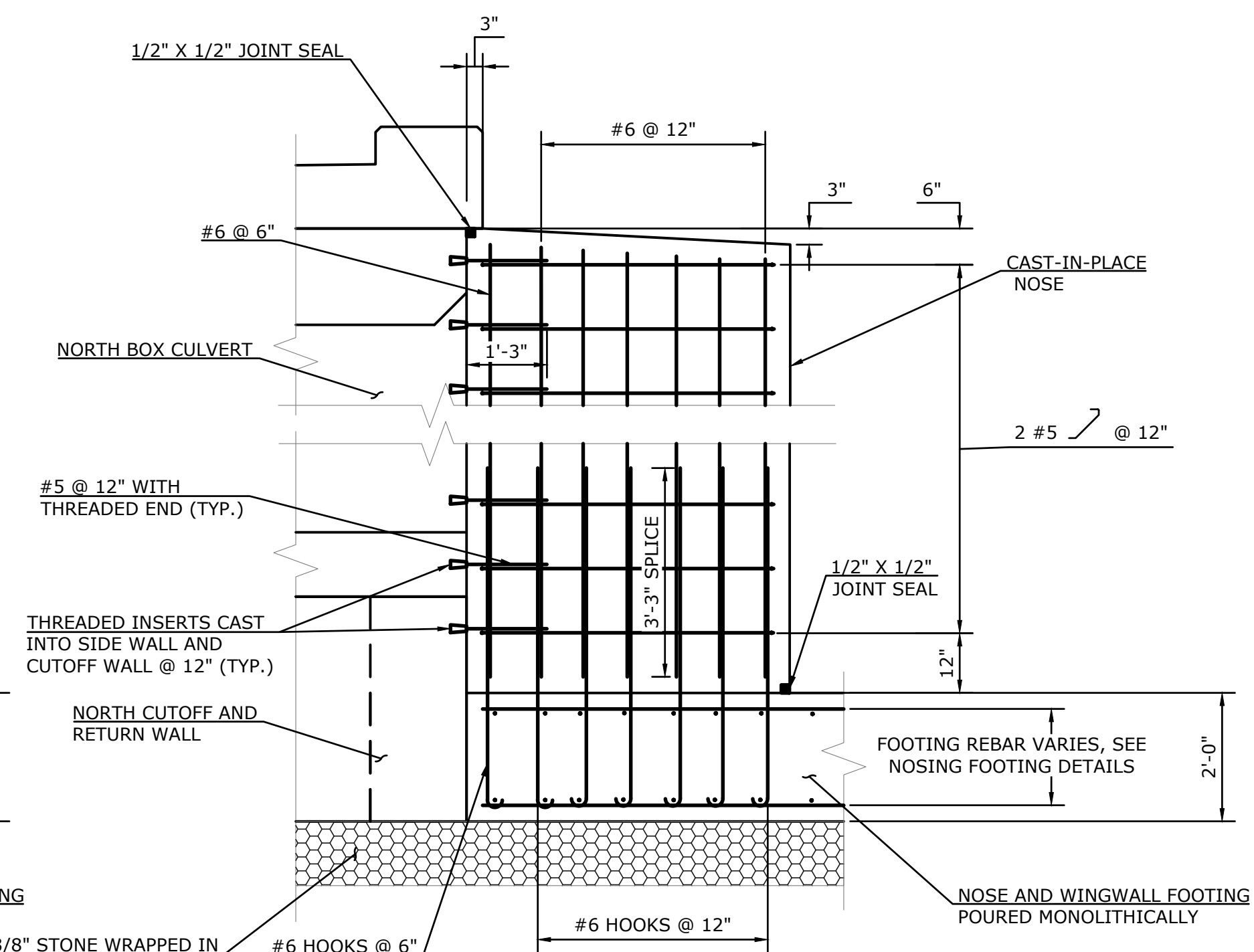
**NOSING B FOOTING DETAIL**

SCALE: 1/2" = 1'-0"



**NOSE AND FOOTING DETAIL  
AT SOUTH BOX CULVERT**

SCALE: 1/2" = 1'-0"



**NOSE AND FOOTING DETAIL  
AT NORTH BOX CULVERT**

SCALE: 1/2" = 1'-0"

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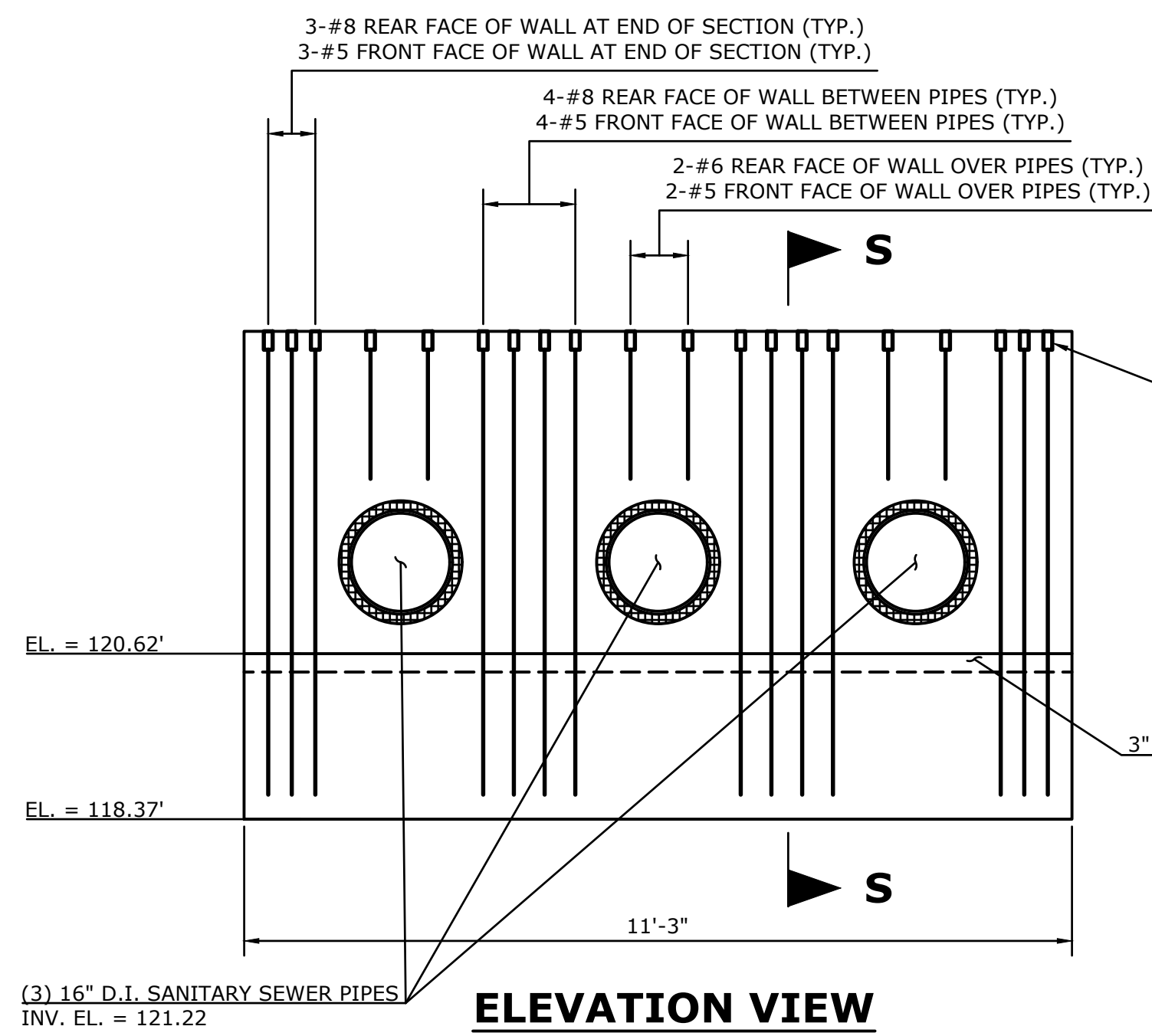
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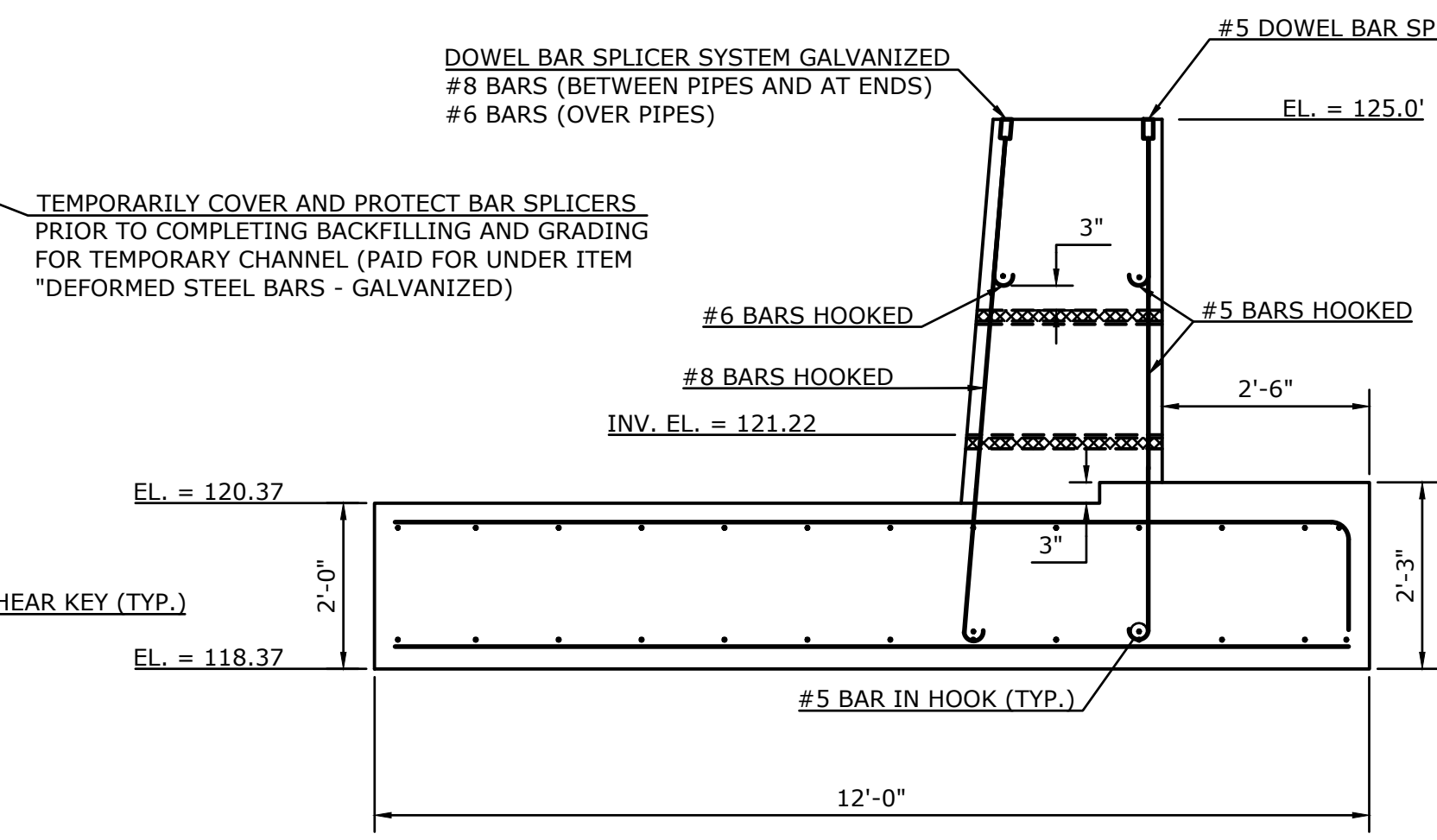
**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
NOSING REINFORCING DETAILS**

D - CENTER STREET	D.C.D.	00056.55	SHEET	37
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF
				40





**ELEVATION VIEW**



**SECTION S-S**

**WINGWALL 2A PARTIAL FOOTING AND WALL DETAIL AT SEWER PIPES**

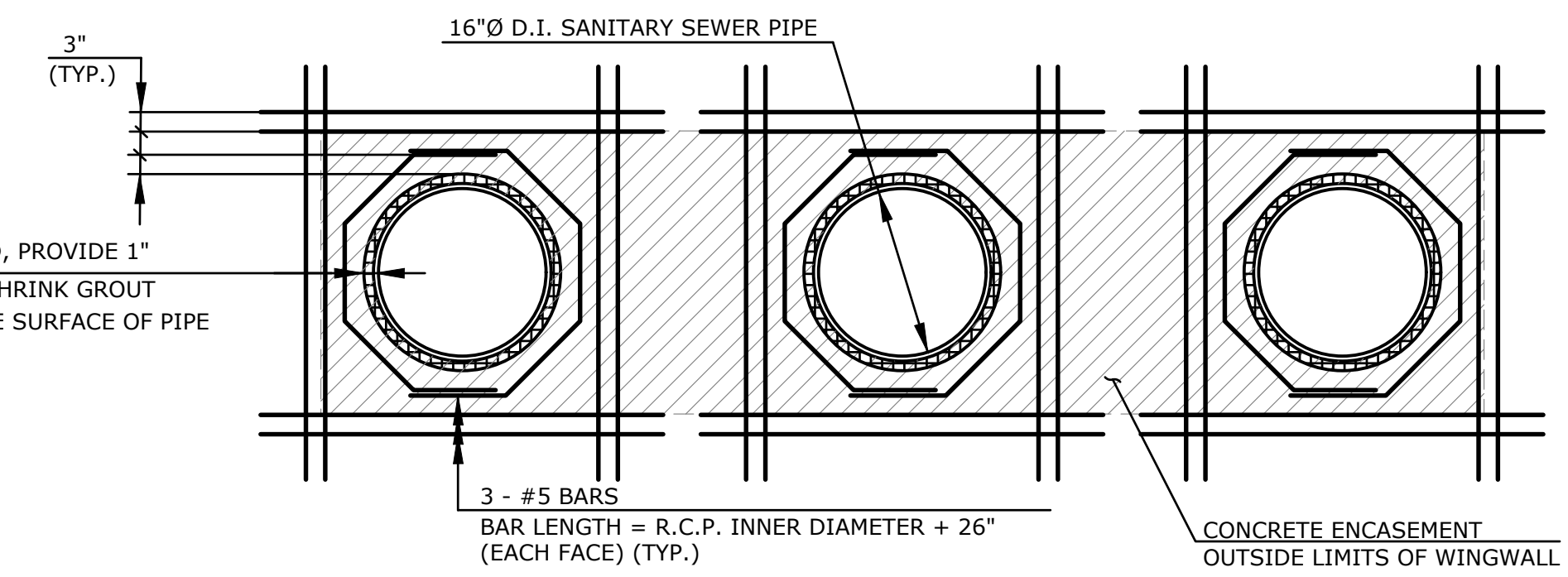
SCALE: 1/2" = 1'-0"

NOTE: FOOTING DETAIL OMITTED FOR CLARITY.

TEMPORARILY COVER AND PROTECT BAR SPlicERS PRIOR TO COMPLETING BACKFILLING AND GRADING FOR TEMPORARY CHANNEL (PAID FOR UNDER ITEM "DEFORMED STEEL BARS - GALVANIZED")

DOWEL BAR SPlicER SYSTEM GALVANIZED #8 BARS (BETWEEN PIPES AND AT ENDS) #6 BARS (OVER PIPES)

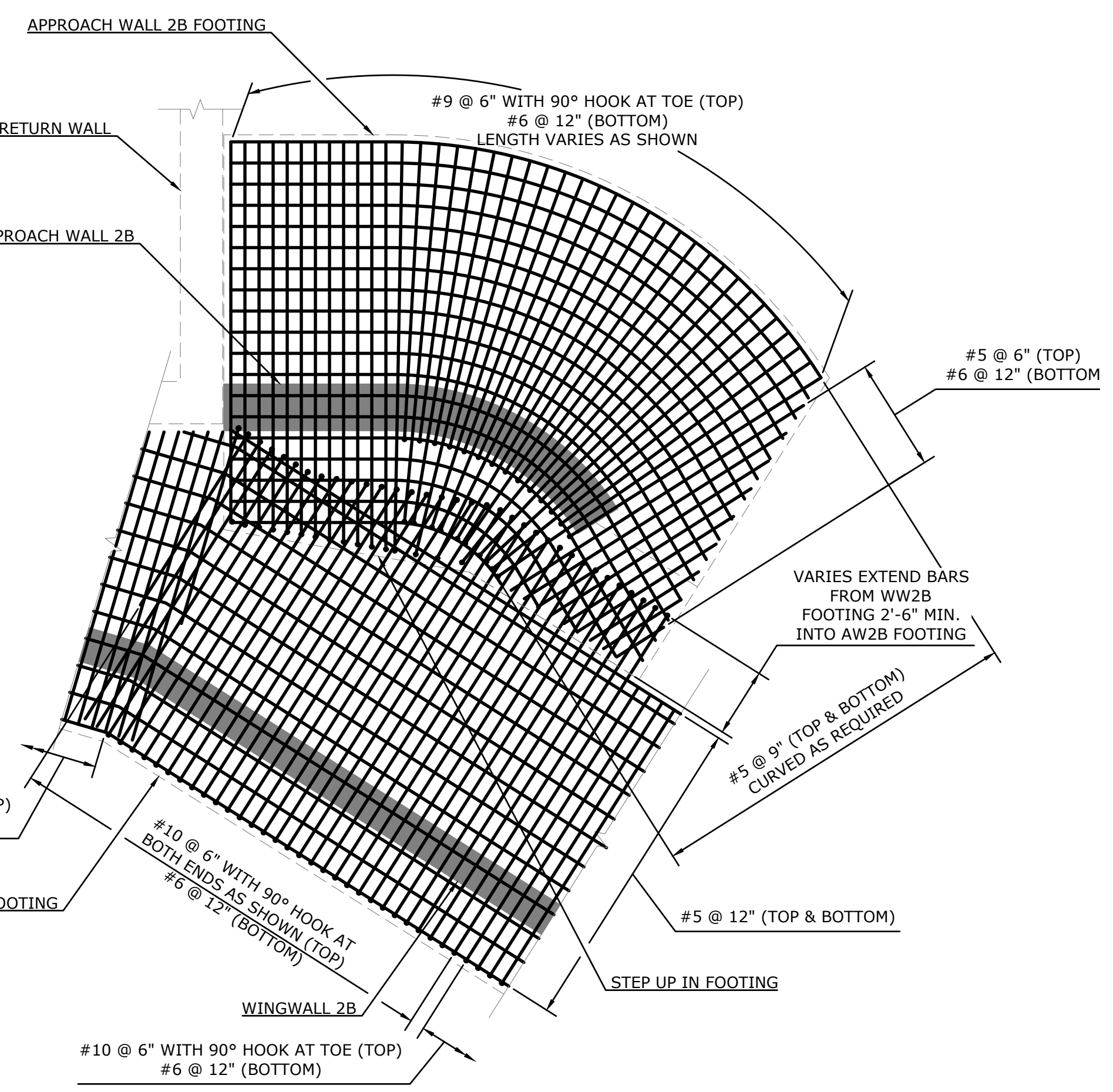
(3) 16" D.I. SANITARY SEWER PIPES INV. EL. = 121.22



**WINGWALL REINFORCEMENT @ SANITARY SEWER SIPHON PIPES**

N.T.S.

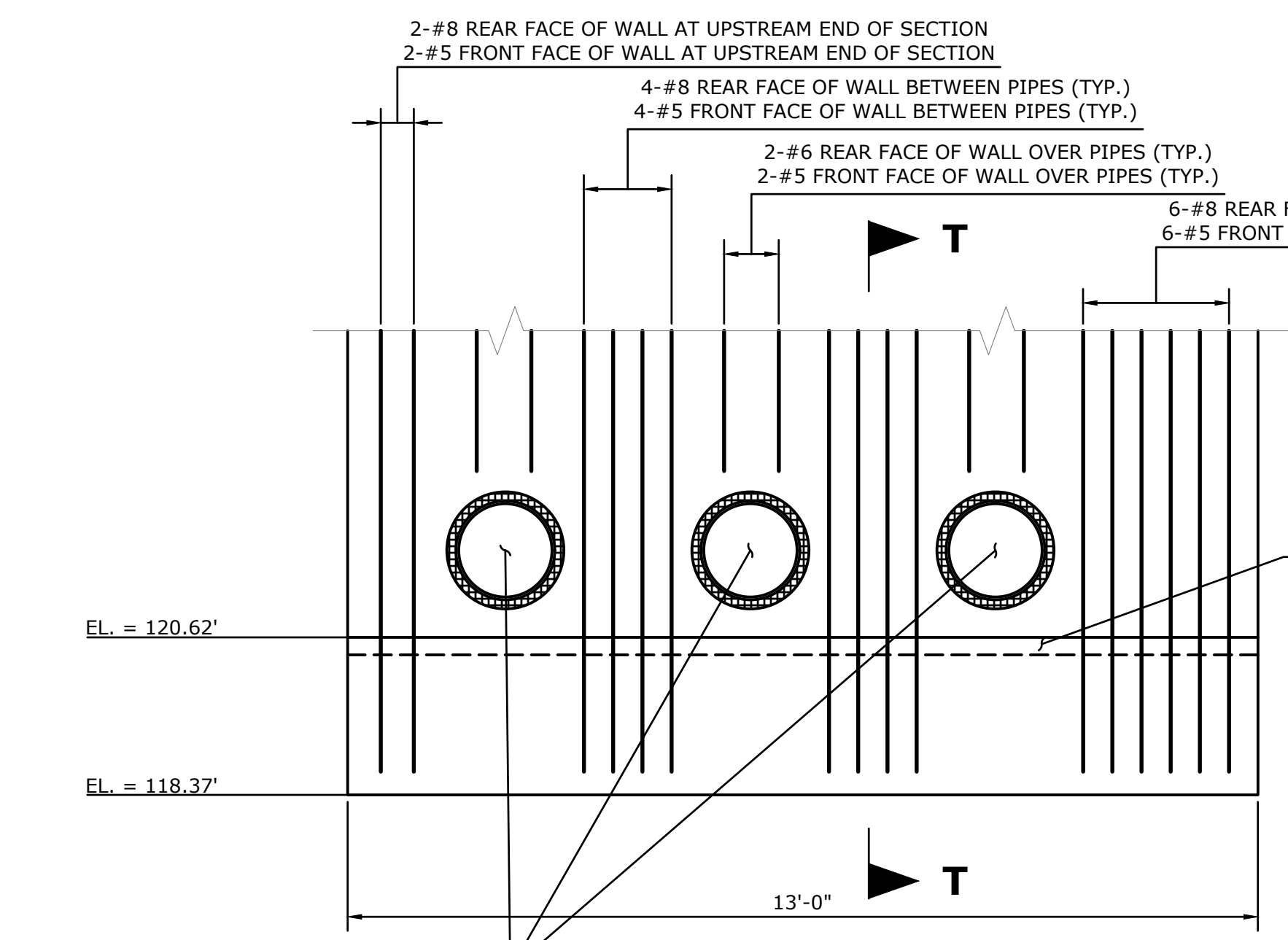
IF CORED OR SLEEVED, PROVIDE 1" GAP AROUND OUTSIDE SURFACE OF PIPE



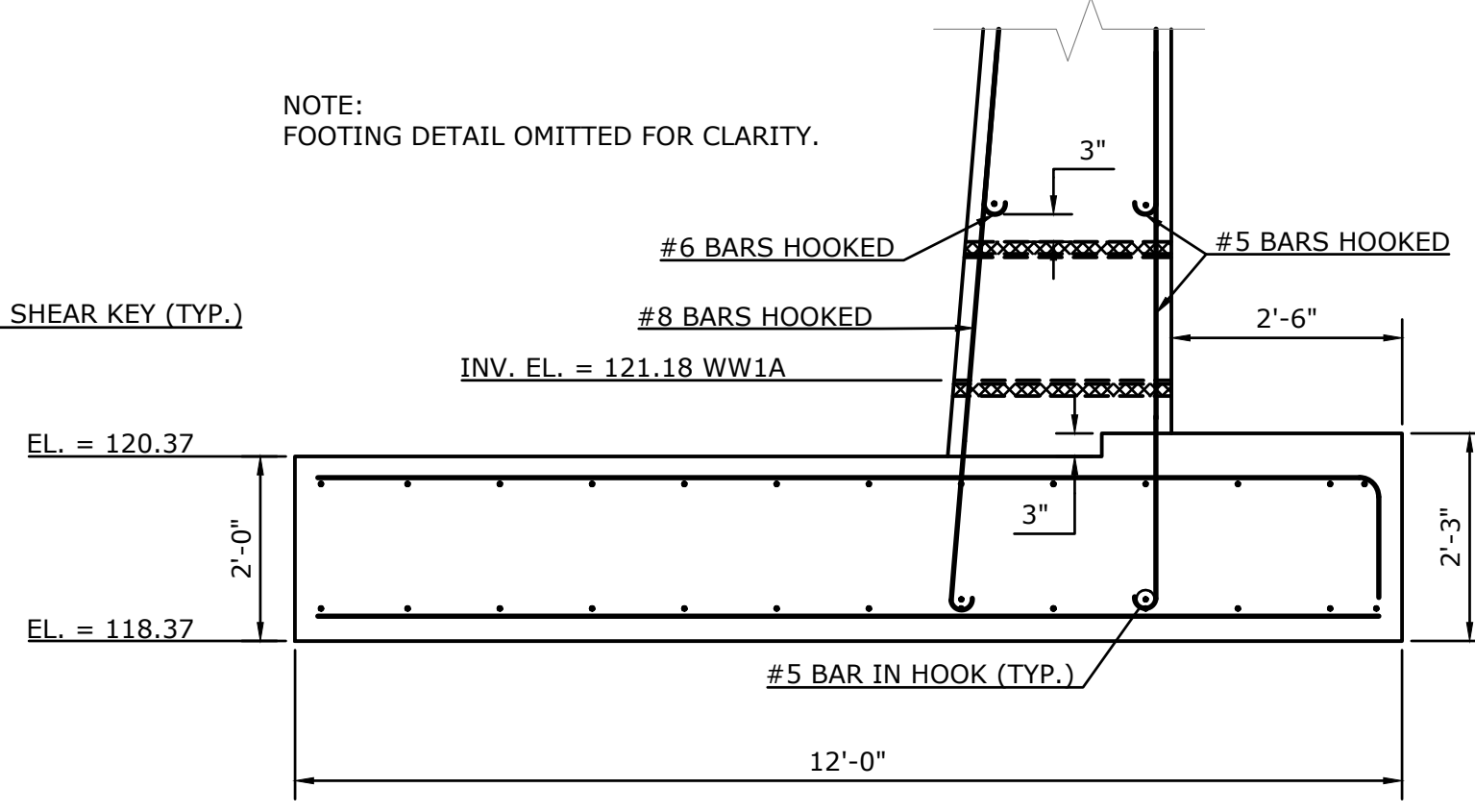
**WINGWALL/APPROACH WALL 2B FOOTING REINFORCING DETAIL**

SCALE: 1/4" = 1'-0"

NOTES:  
1. TOP MAT SHOWN, BOTTOM MAT SIMILAR.  
2. SEE WINGWALL 2B DETAILS SHEETS 29 & 31.  
3. SEE APPROACH WALL 2B DETAILS SHEETS 30 & 32.



**ELEVATION VIEW (LOOKING SOUTH)**



**SECTION T-T**

**WINGWALL 1A FOOTING AND WALL DETAIL AT SEWER PIPES**

SCALE: 1/2" = 1'-0"

NOTE: FOOTING DETAIL OMITTED FOR CLARITY.

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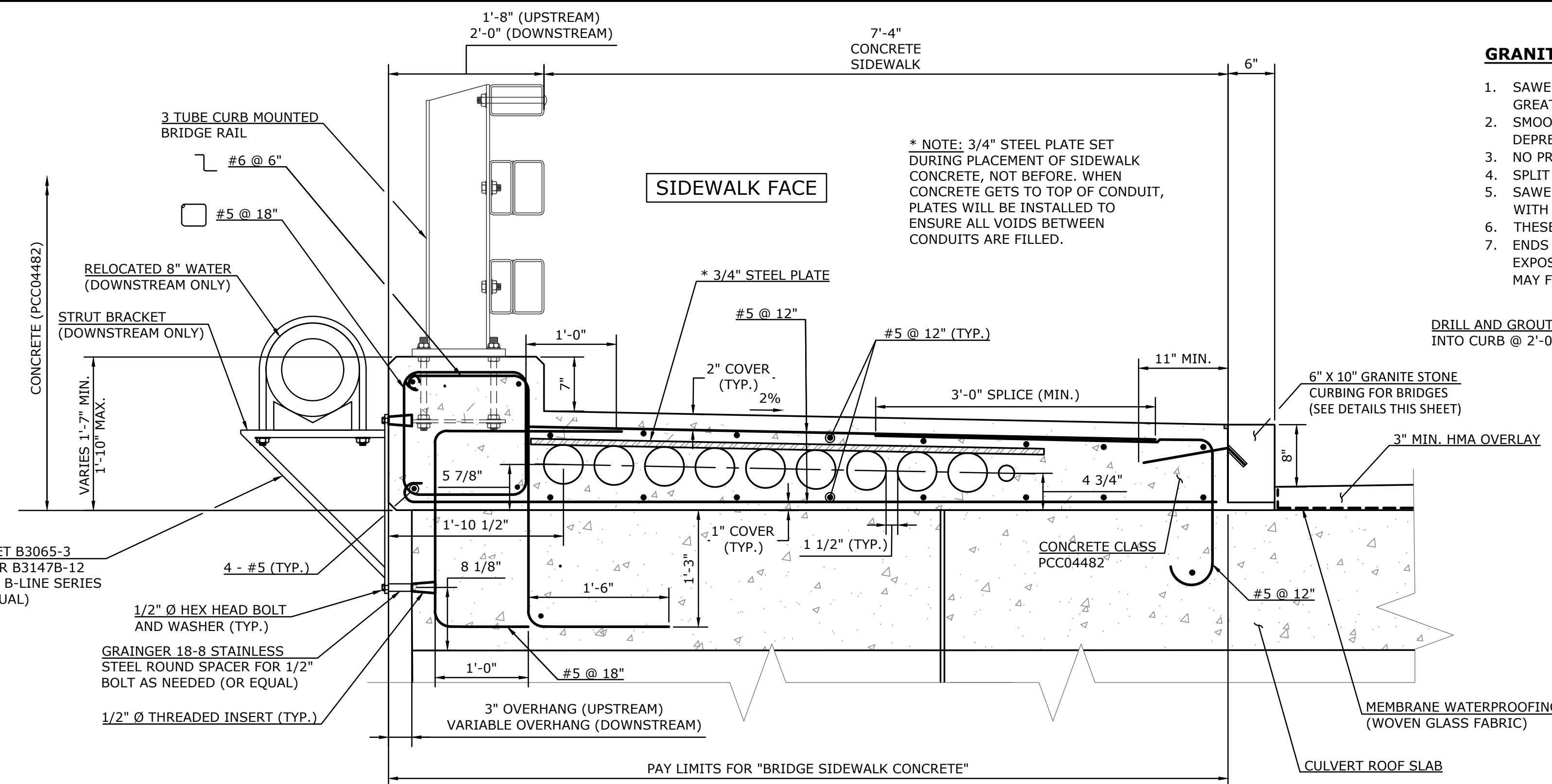
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**PREPARED FOR**  
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MERIDEN, CONNECTICUT 06450

REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
MISCELLANEOUS STRUCTURE DETAILS 1

D - CENTER STREET	D.C.D. - 00056.55	SHEET 38
SIZE PROJECT	FILE NAME NUMBER REV.	OF 40



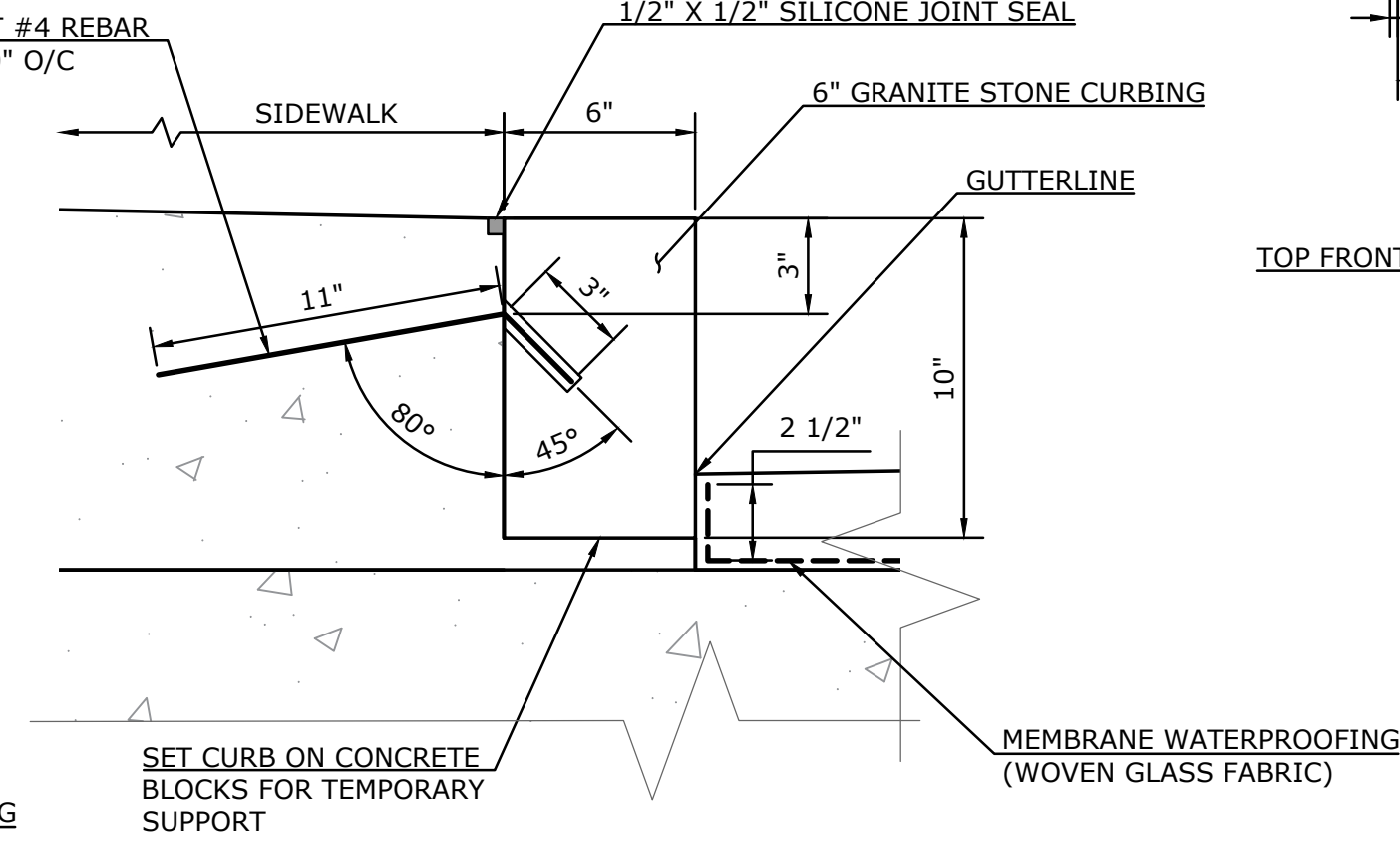
**SIDEWALK WITH GRANITE CURBING DETAIL (OVER CULVERTS)**

SCALE: 1" = 1'-0"

- NOTES:
- LONGITUDINAL REINFORCEMENT IN THE SIDEWALKS SHALL BE PLACED BETWEEN THE CONDUITS SO AS NOT TO INTERFERE WITH CONDUIT SPACING OR CONCRETE COVER.
  - PENETRATING SEALER PROTECTIVE COMPOUND SHALL BE APPLIED TO TOPS AND ROADSIDE FACES OF CONCRETE SIDEWALKS AND CURBS.

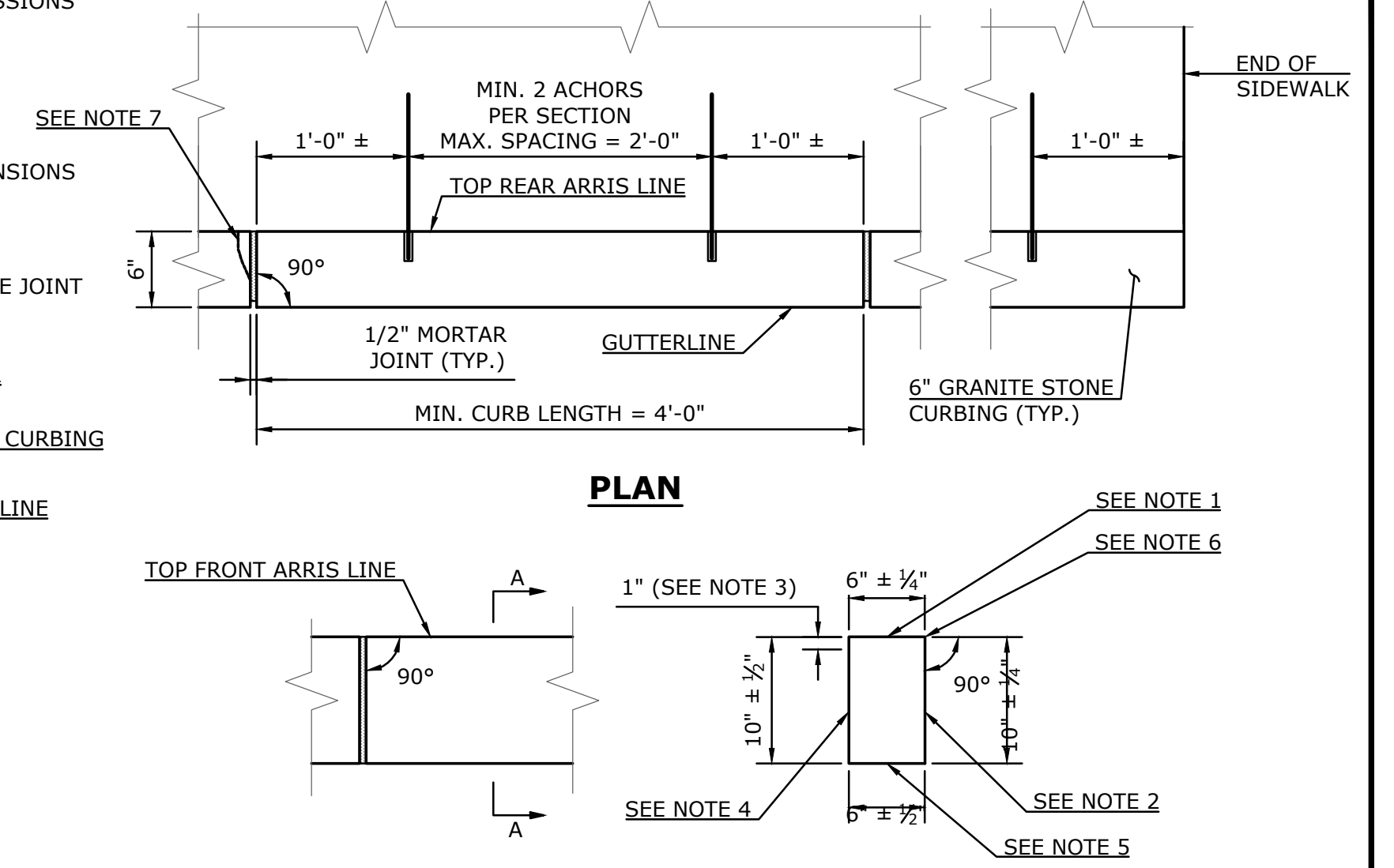
**GRANITE STONE CURBING TOLERANCE NOTES:**

- SAWED SURFACE APPROXIMATING A TRUE PLANE WITH NO PROJECTIONS OR DEPRESSIONS GREATER THAN 1/4".
- SMOOTH, QUARRY SPLIT SURFACE, FREE OF DRILL HOLES, WITH PROJECTIONS OR DEPRESSIONS NOT GREATER THAN 1/2".
- NO PROJECTIONS OR DEPRESSIONS GREATER THAN 1/4" IN THIS AREA.
- SPLIT SURFACE SHALL BE FREE OF ANY PROJECTIONS OVER 1".
- SAWED OR SPLIT SURFACE APPROXIMATING A TRUE PLANE TO THE SPECIFIED DIMENSIONS WITH PROJECTIONS NOT GREATER THAN 1/4".
- THESE ARRIS LINES SHALL BE STRAIGHT AND TRUE WITHIN A TOLERANCE OF 1/4".
- ENDS OF STONES AT INTERMEDIATE JOINTS SHALL BE HELD FULL FOR 2" FROM ALL EXPOSED SURFACES WITH A PERMITTED VARIATION OF 1/4". BEYOND THIS AREA THE JOINT MAY FALL AWAY A MAX. OF 3".



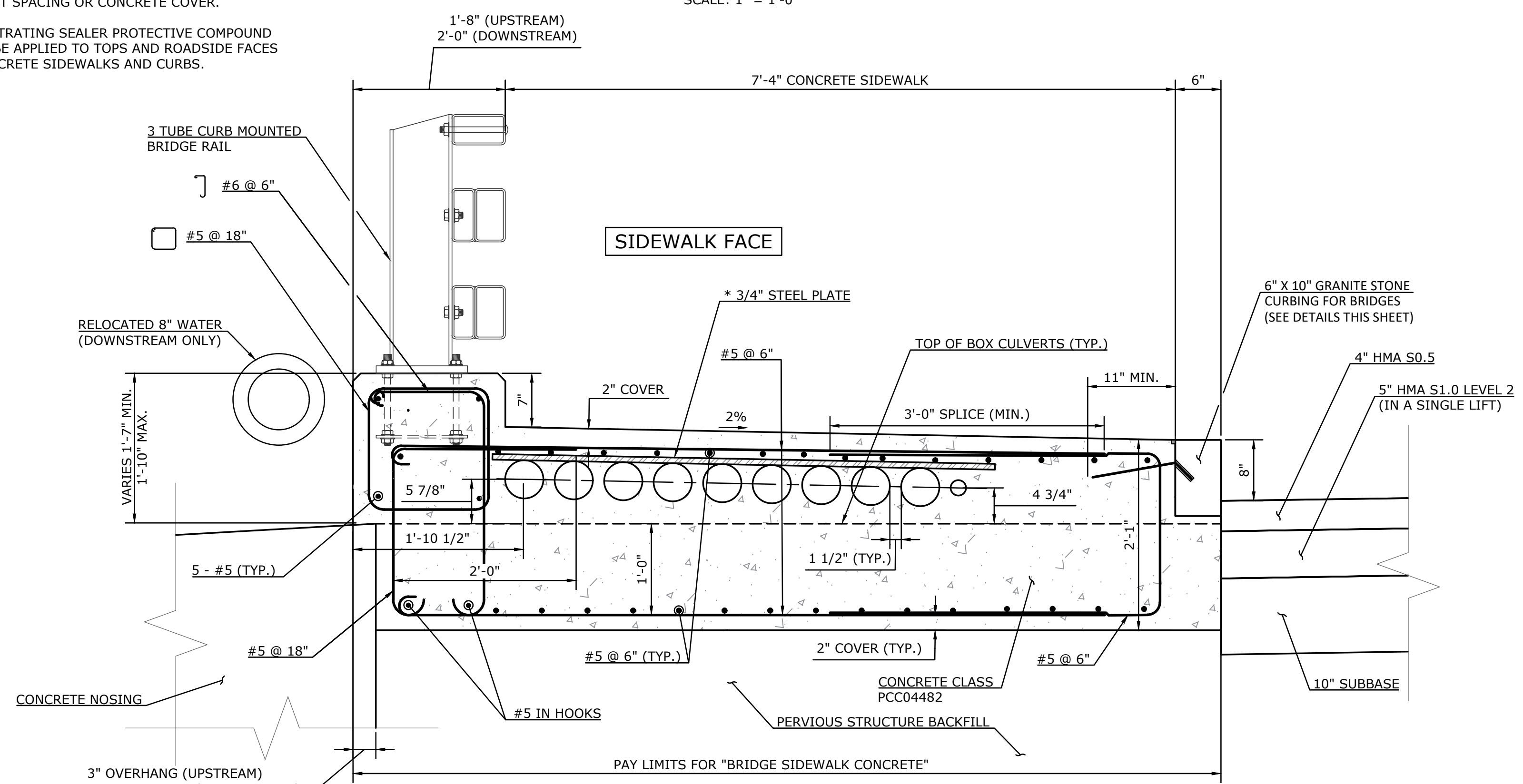
**CURBING DETAIL**

SCALE: 2" = 1'



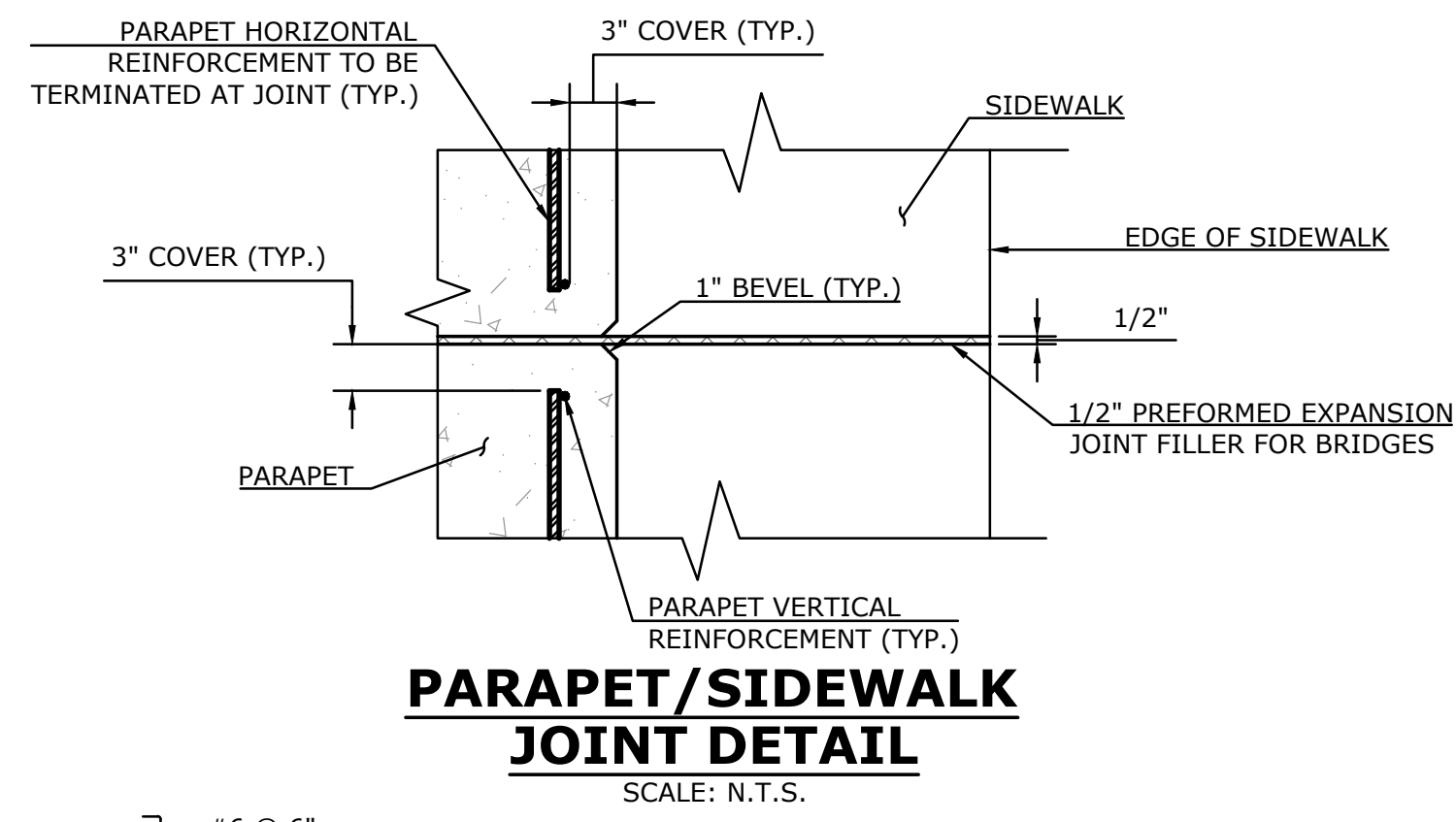
**6" GRANITE STONE CURBING DETAILS**

SCALE: 1" = 1'



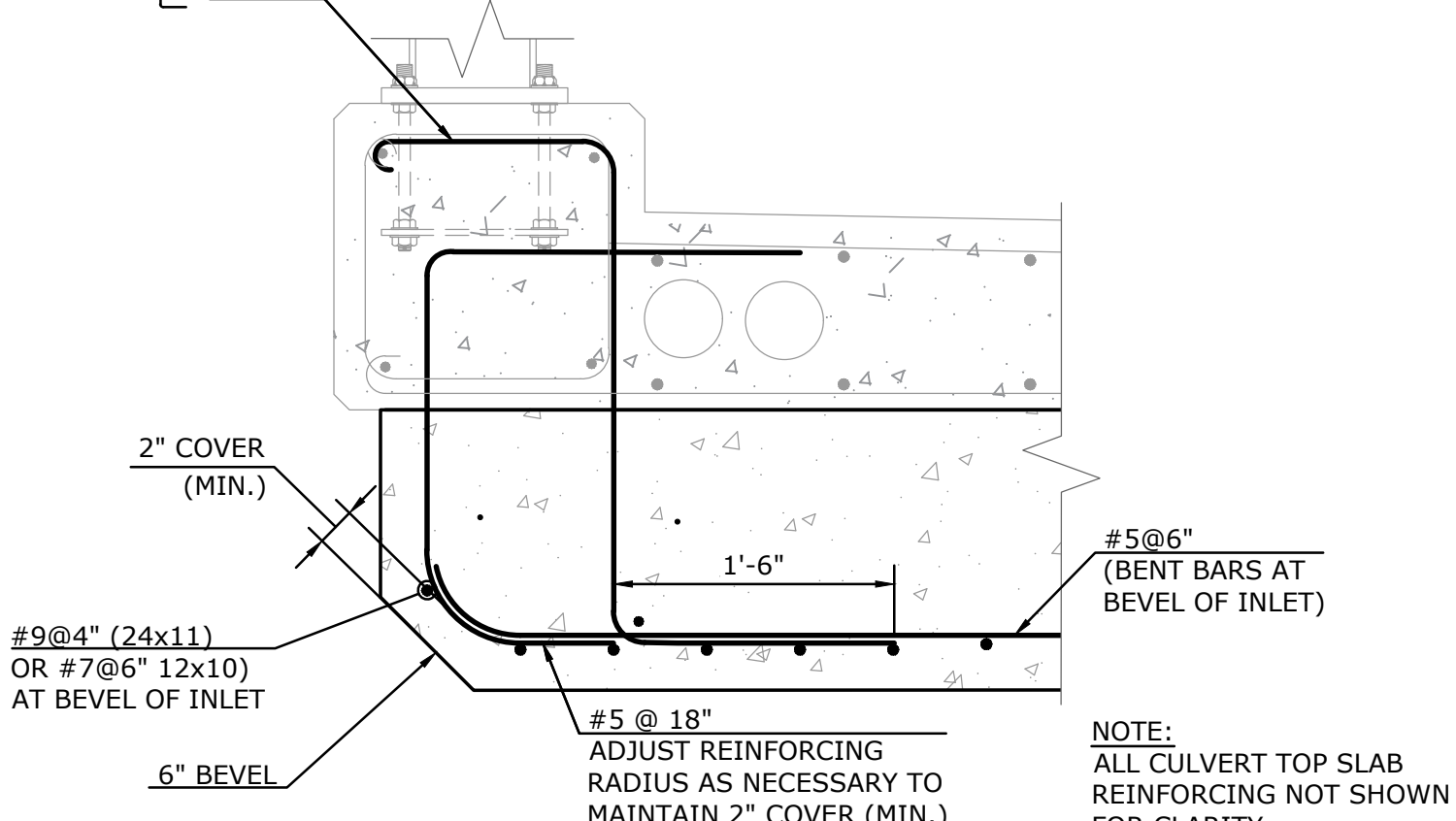
**SIDEWALK WITH GRANITE CURBING DETAIL (BETWEEN CULVERTS)**

SCALE: 1" = 1'-0"



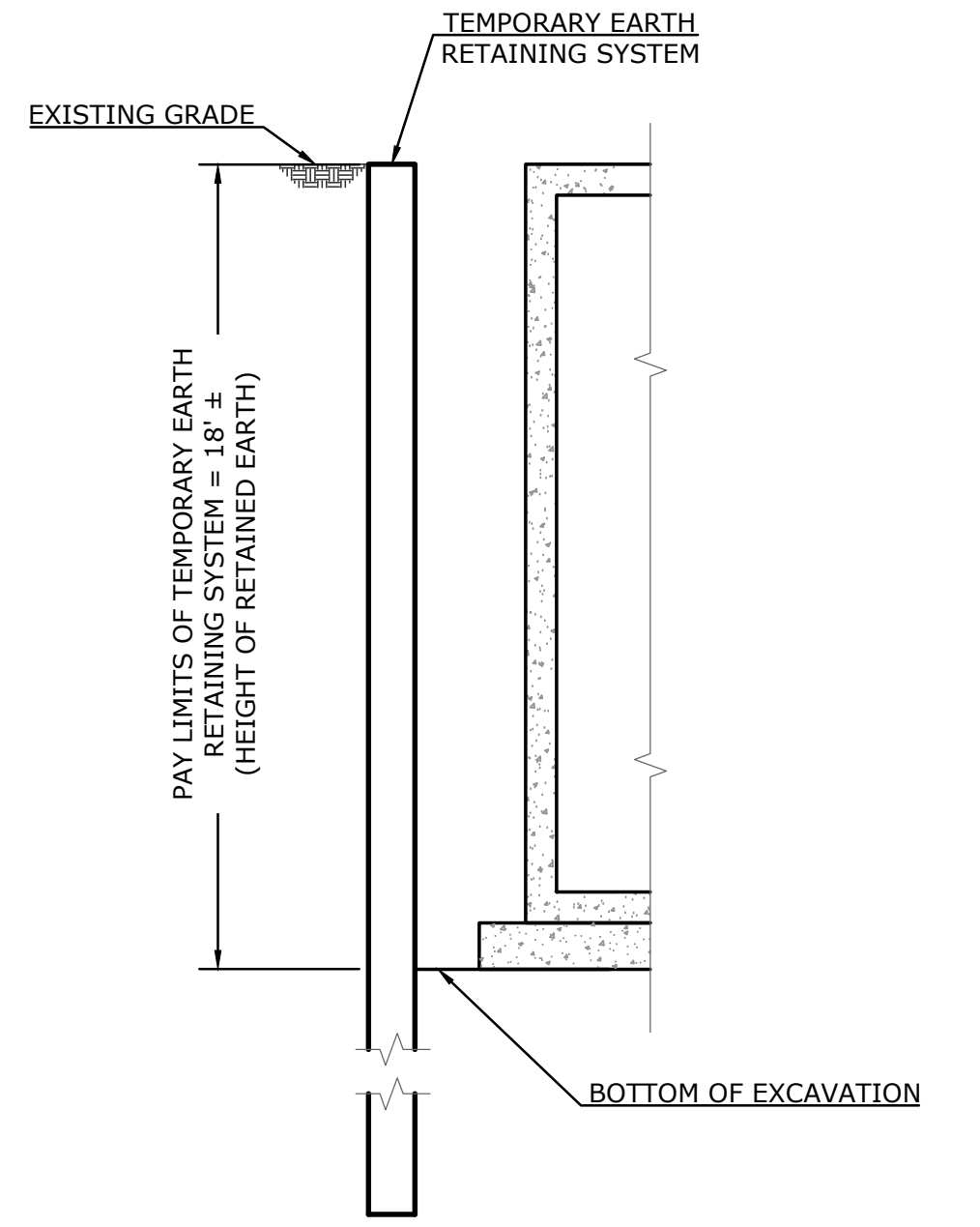
**PARAPET/SIDEWALK JOINT DETAIL**

SCALE: N.T.S.



**REINFORCING DETAIL (CULVERT UPSTREAM END)**

SCALE: 1" = 1'-0"



**TEMPORARY EARTH RETAINING SYSTEM DETAIL**

N.T.S.

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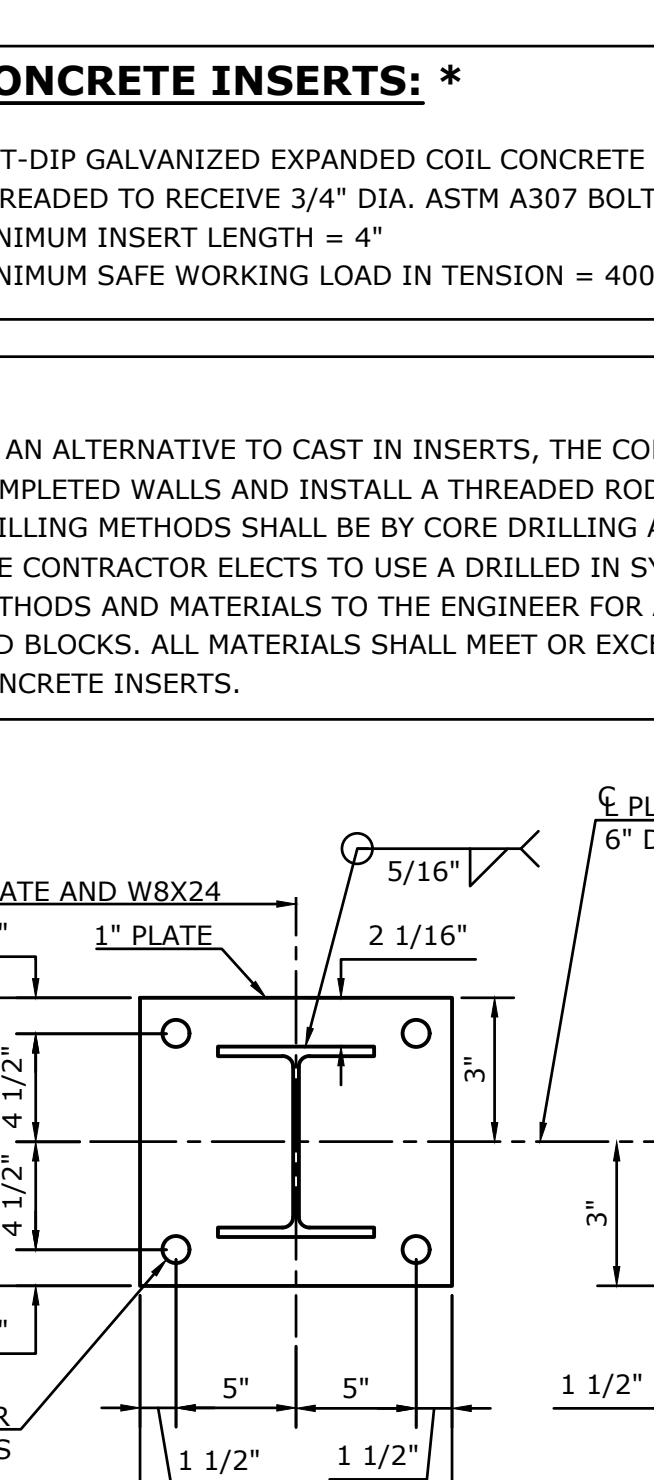
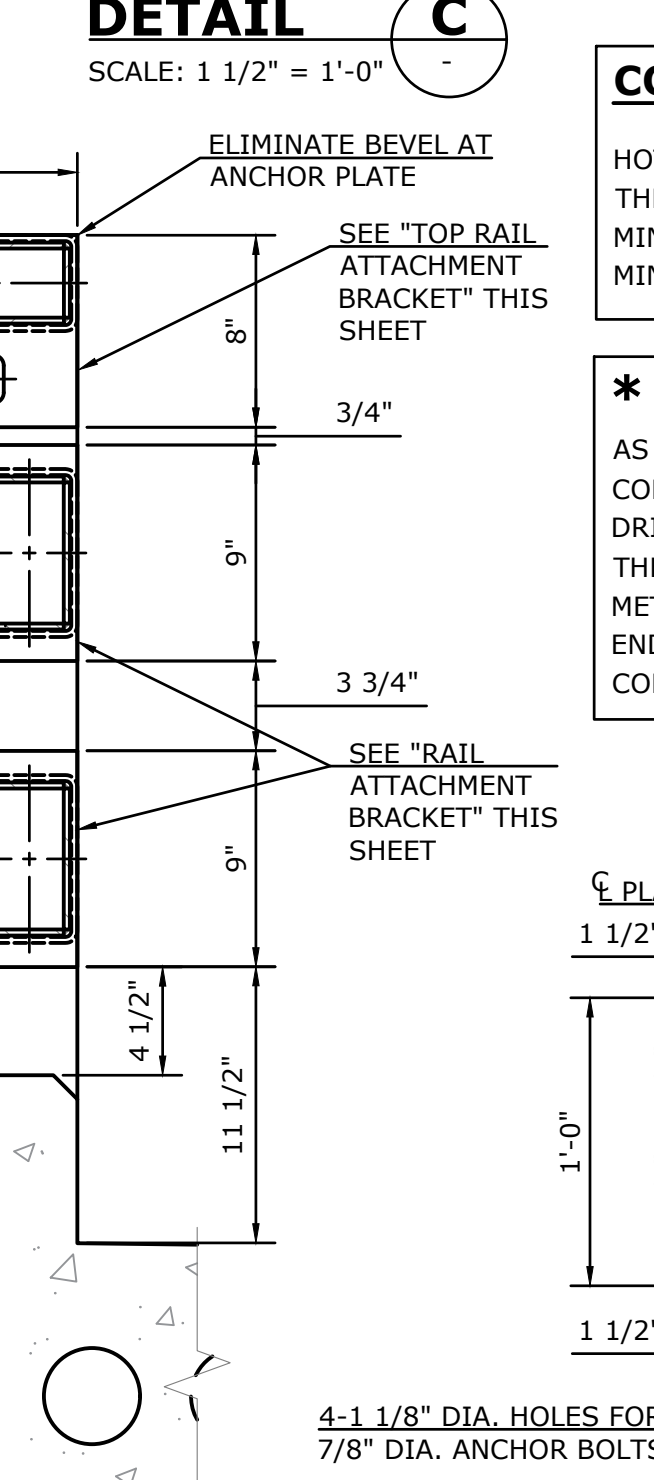
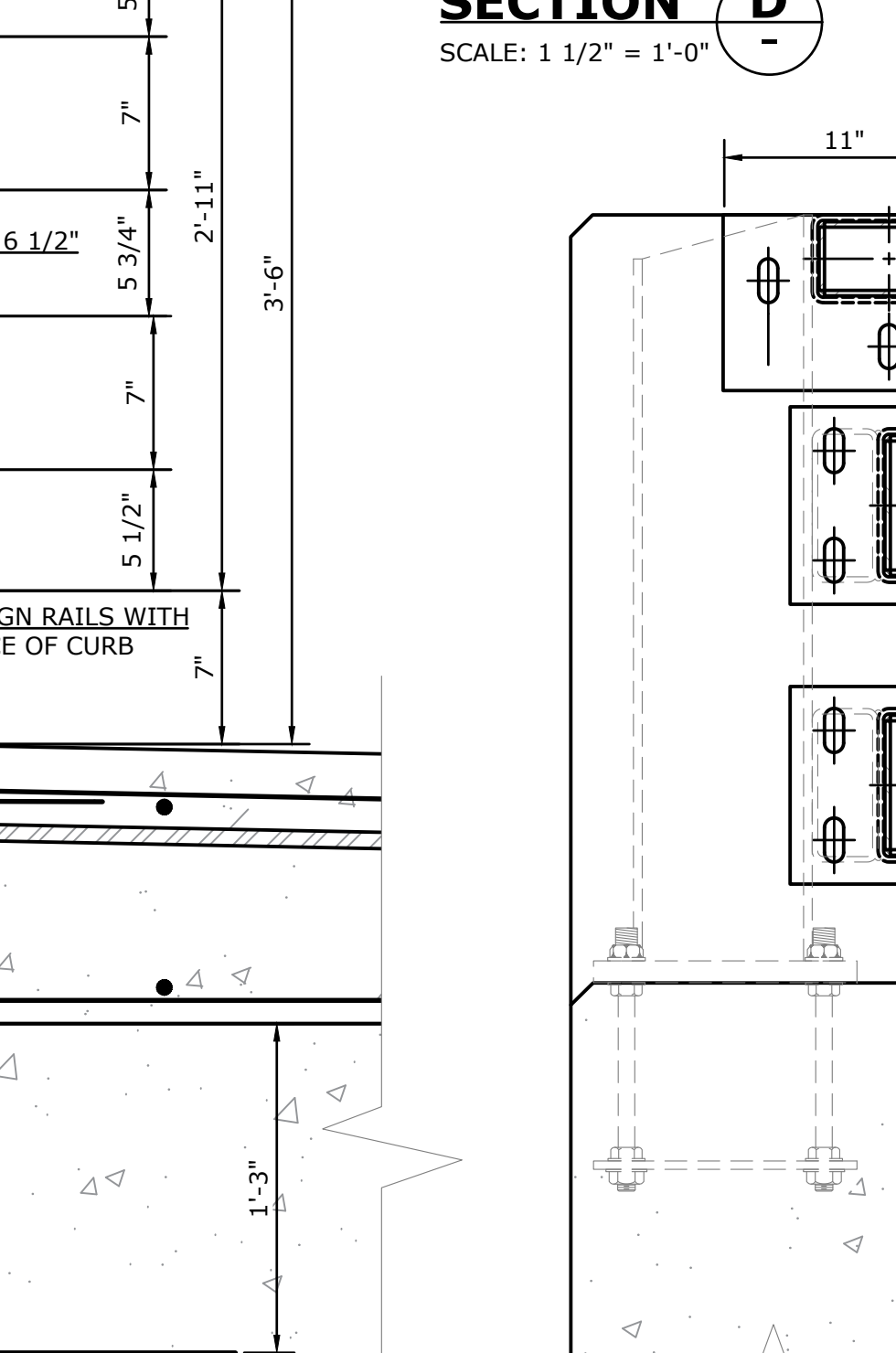
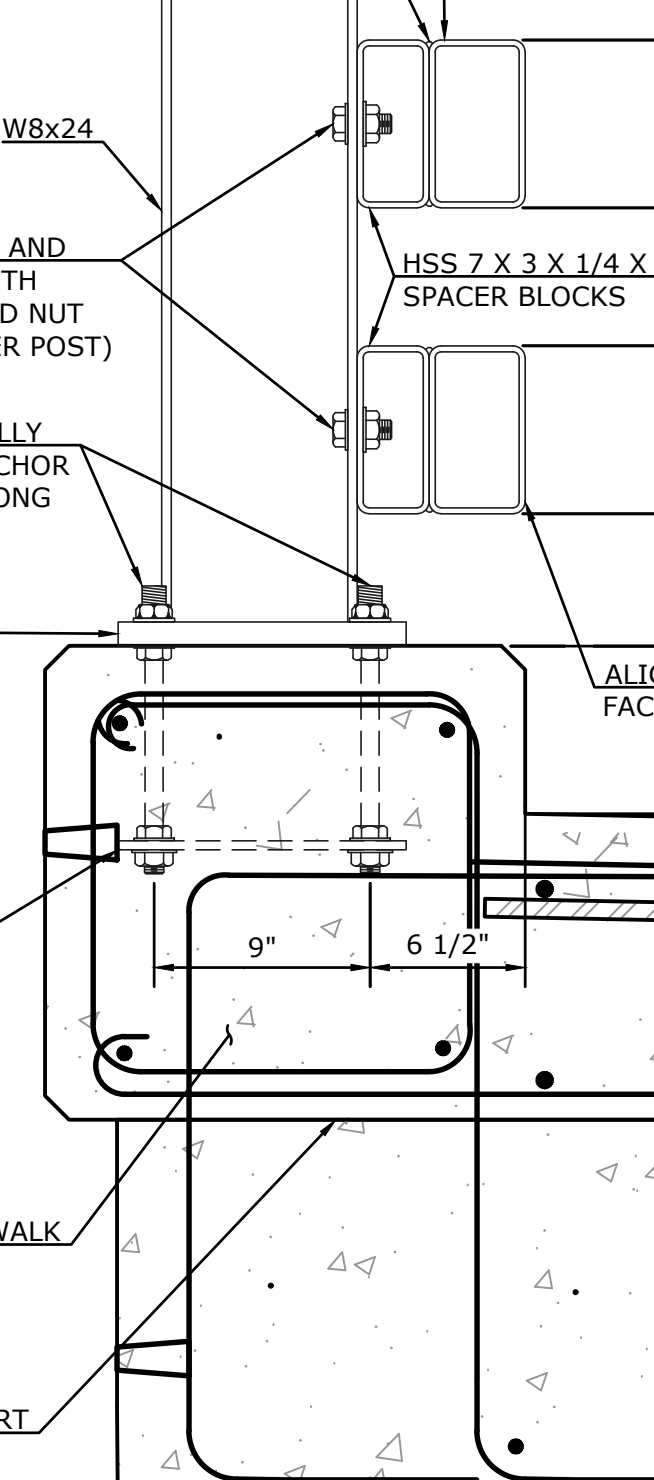
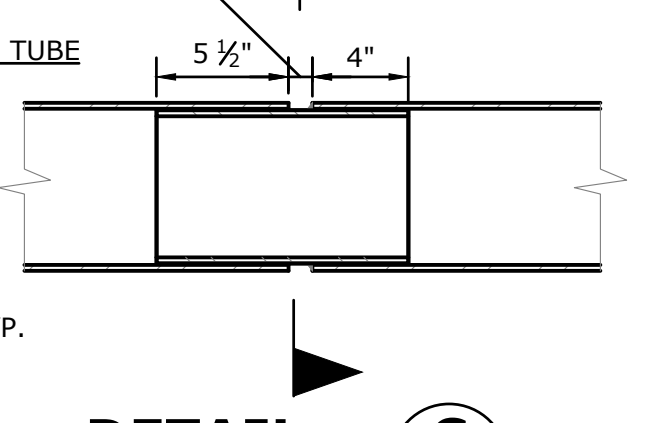
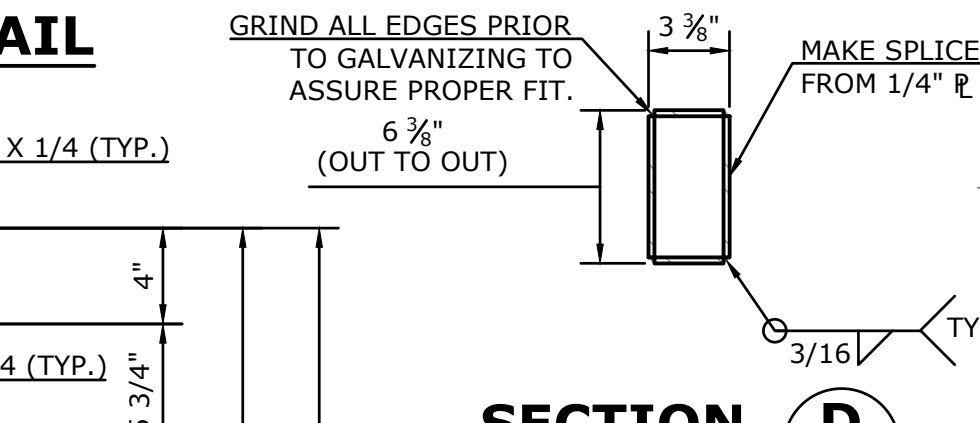
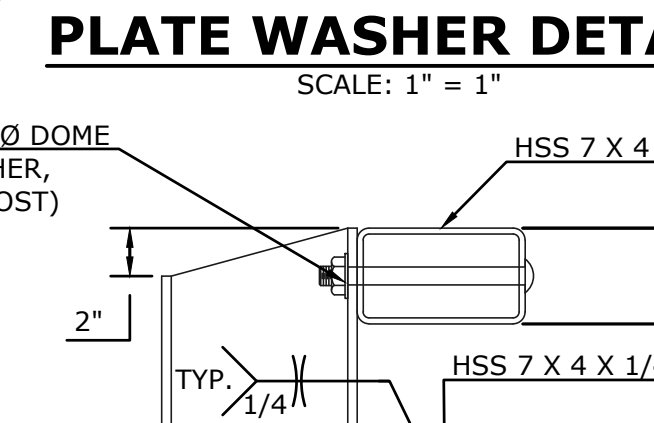
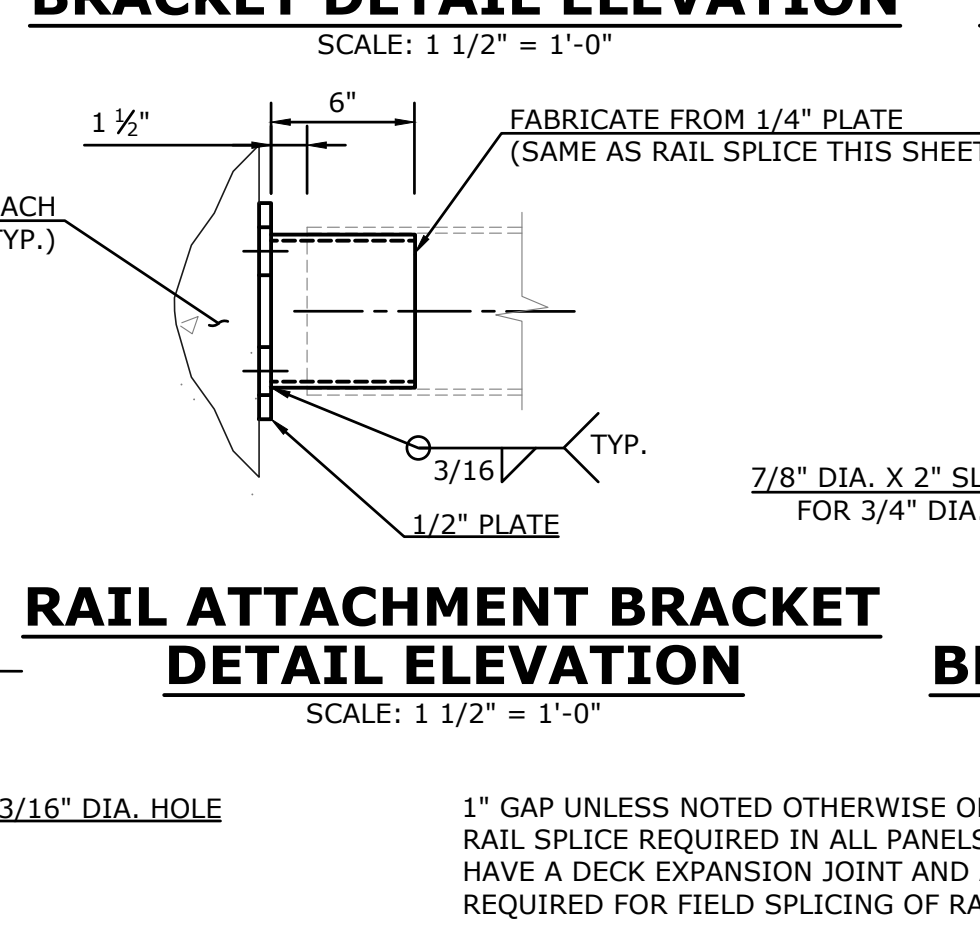
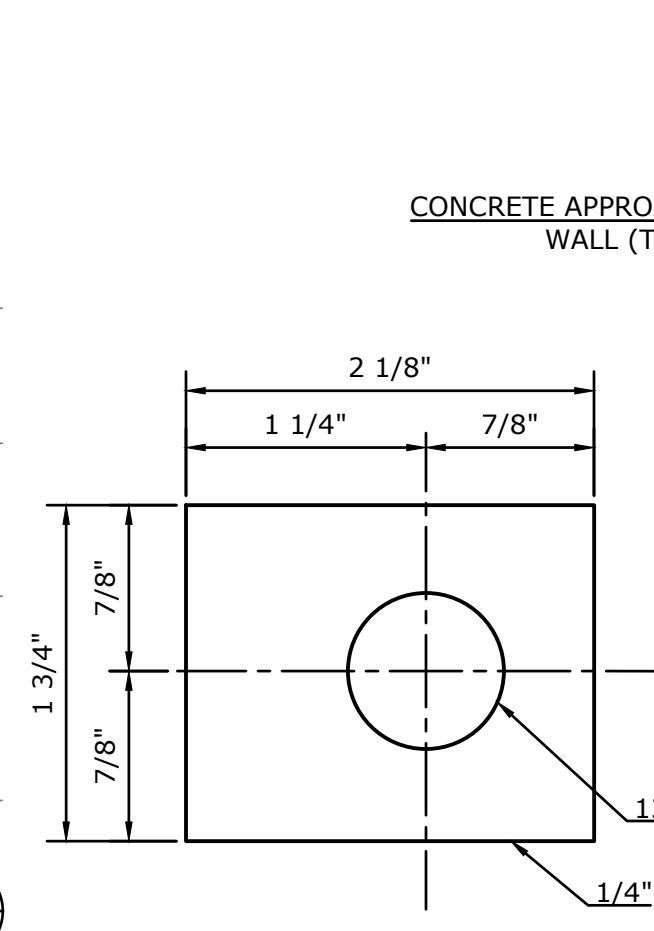
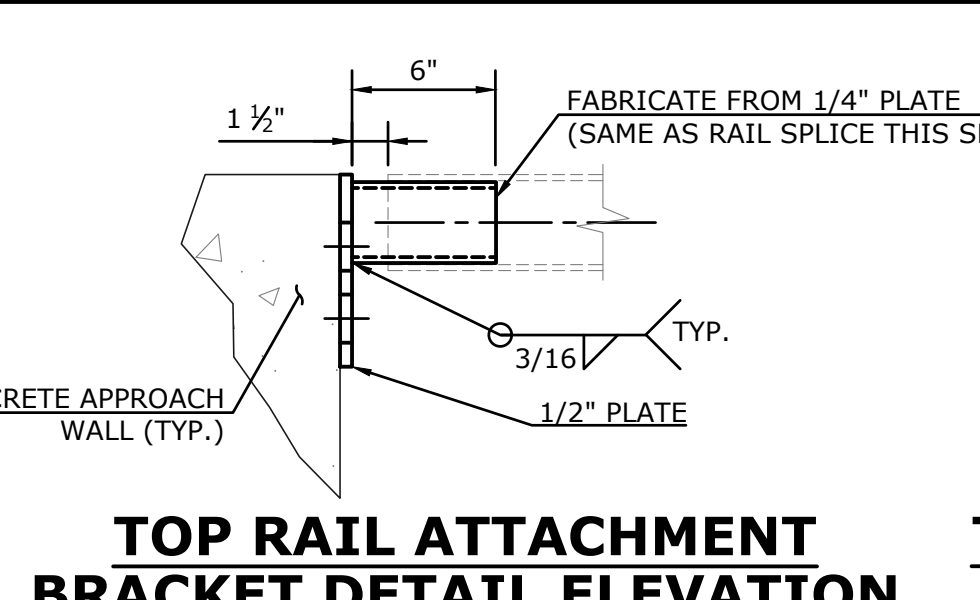
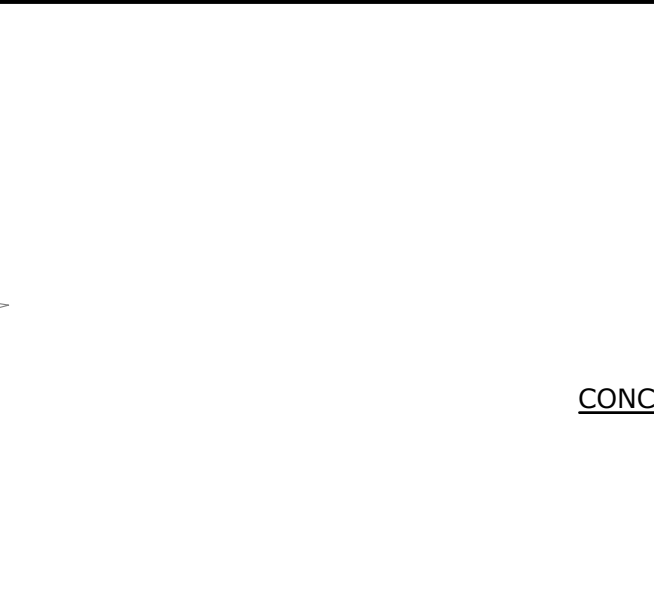
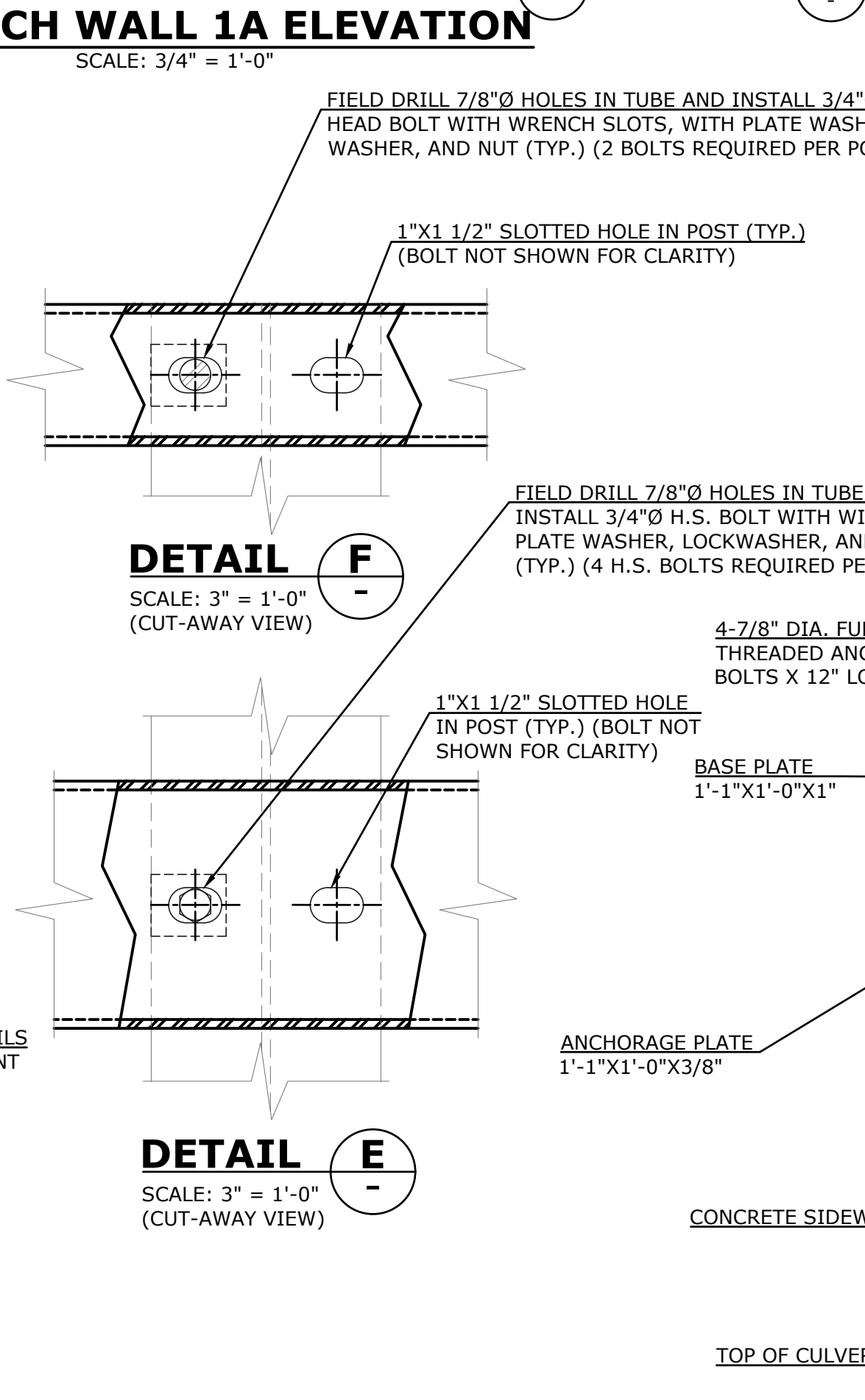
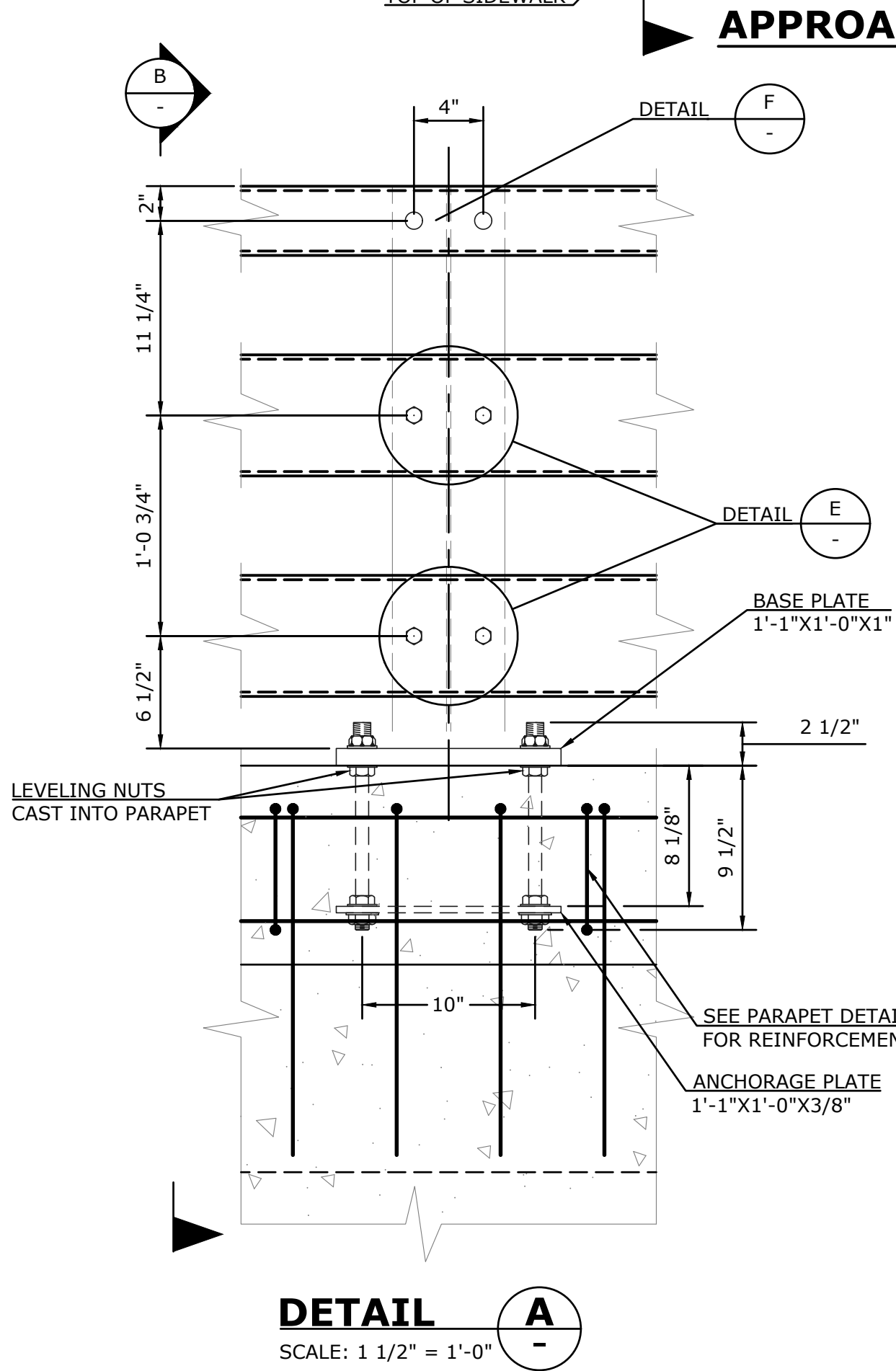
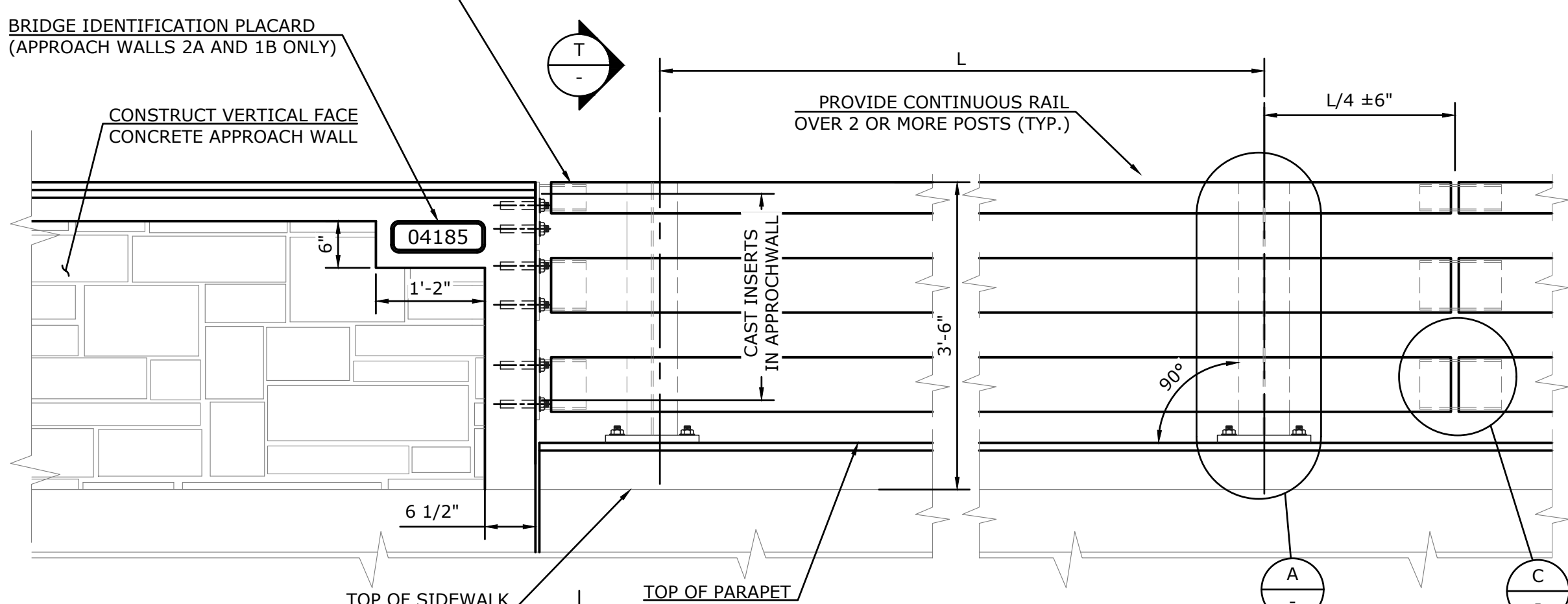
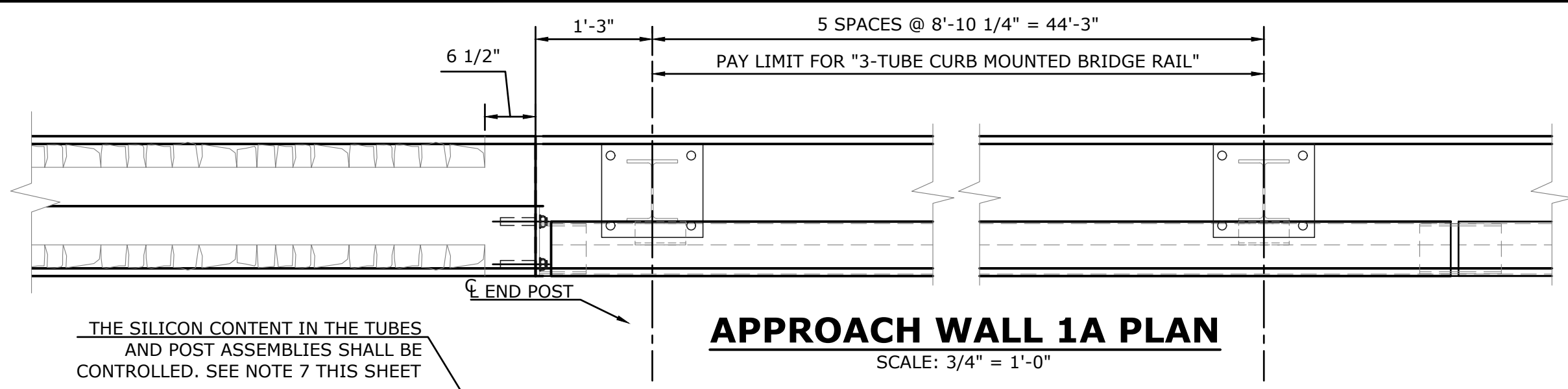
WENGELL, McDONNELL & COSTELLO  
87 HOLMES ROAD  
NEWINGTON, CT 06111  
(860) 667-9624

**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE  
OVER HARBOR BROOK  
MISCELLANEOUS STRUCTURE DETAILS 2**

D	CENTER STREET	D.C.D.	00056.55	REV.	OF	SHEET	39
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	SHEET	40





- BRIDGE RAIL NOTES:**
1. THE 3-TUBE CURB MOUNTED BRIDGE RAIL HAS BEEN EVALUATED AT TEST LEVEL 4 (TL-4) AND COMPLIES WITH MASH 2016.
  2. CONCRETE FOR THE SIDEWALK SHALL BE CLASS PCC04482. THE COMPRESSIVE STRENGTH OF THE CONCRETE, BASED ON TEST CYLINDERS, SHALL BE NO LESS THAN 4,000 PSI PRIOR TO ALLOWING THE CURB AND APPROACH WALL TO BE PLACED INTO SERVICE FOR THE PROTECTION OF VEHICULAR TRAFFIC.
  3. THE REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60 AND BE HOT DIP GALVANIZED.
  4. THE 1 IN. DIAMETER PIPE SHALL CONFORM TO ASTM A53, GRADE B OR ASTM A501 AND SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123.
  5. HOLLOW STRUCTURAL SHAPES SHALL CONFORM TO ASTM A500 GRADE C OR ASTM A501, GRADE B.
  6. ALL OTHER STEEL SHALL CONFORM TO ASTM A572, GRADE 50 UNLESS NOTED OTHERWISE.
  7. THE SILICON CONTENT OF THE STEEL USED FOR THE EXPOSED MEMBERS AND PLATE COMPONENTS SHALL FALL WITHIN THE RANGE OF 0 TO 0.04% OR 0.15% TO 0.25%.
  8. ALL STEEL SHAPES, PLATES AND HOLLOW STRUCTURAL SECTIONS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
  9. THE ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 105. THE NUTS SHALL CONFORM TO ASTM A563, GRADE DH. THE WASHERS SHALL CONFORM TO ASTM F436. THE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.
  10. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM F3125 GRADE A325, TYPE 1. NUTS SHALL CONFORM TO ASTM A563, GRADE DH. CIRCULAR FLAT, HARDENED STEEL WASHERS SHALL CONFORM TO ASTM F436. THE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR ASTM B695, CLASS 55.
  11. DOME HEAD BOLTS WITH WRENCH SLOTS USED FOR THE TOP RAIL SHALL CONFORM TO ASTM F3125 GRADE A325, TYPE 1 OR ASTM A449, GRADE 1. NUTS SHALL CONFORM TO ASTM A563, GRADE DH. CIRCULAR, FLAT, HARDENED STEEL WASHERS SHALL CONFORM TO ASTM F436. THE BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR ASTM B695, CLASS 55.
  12. RAIL ELEMENTS SHALL BE FABRICATED TO THE HORIZONTAL AND VERTICAL ALIGNMENT OF THE STRUCTURE. POSTS SHALL BE INSTALLED NORMAL TO GRADE IN THE LONGITUDINAL DIRECTION AND VERTICAL IN THE TRANSVERSE DIRECTION.
  13. ALL BRIDGE RAIL MATERIALS, INCLUDING ANCHOR PLATES, ANCHOR BOLTS, CONCRETE INSERTS AND HARDWARE, SHALL BE PAID FOR UNDER THE ITEM "3-TUBE CURB MOUNTED BRIDGE RAIL".

**CONCRETE INSERTS: \***

HOT-DIP GALVANIZED EXPANDED COIL CONCRETE INSERTS WITH CLOSED-BACK INSERTS THREADED TO RECEIVE 3/4" DIA. ASTM A307 BOLTS. MINIMUM INSERT LENGTH = 4" MINIMUM SAFE WORKING LOAD IN TENSION = 4000 LBS.

**\***

AS AN ALTERNATIVE TO CAST IN INSERTS, THE CONTRACTOR MAY FIELD DRILL HOLES IN THE COMPLETED WALLS AND INSTALL A THREADED ROD/NUT SYSTEM TO SECURE THE BRACKETS. DRILLING METHODS SHALL BE BY CORE DRILLING AND SHALL NOT DAMAGE THE CONCRETE. IF THE CONTRACTOR ELECTS TO USE A DRILLED IN SYSTEM HE/SHE SHALL SUBMIT HIS/HER METHODS AND MATERIALS TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION OF THE END BLOCKS. ALL MATERIALS SHALL MEET OR EXCEED THE REQUIREMENTS INDICATED FOR THE CONCRETE INSERTS.

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SUPV.	J.A.C.
DESIGN	S.A. & K.K.
DRAWN	D.R.B.
CHECKED	K.O.E.
NO.	DATE
REVISIONS	
DATE	DESCRIPTION
03/17/2022	

DATE	DESCRIPTION
03/17/2022	

**WMC**  
CONSULTING ENGINEERS

WENGELL, McDONNELL & COSTELLO  
87 HOLMES ROAD  
NEWINGTON, CT 06111  
(860) 667-9624

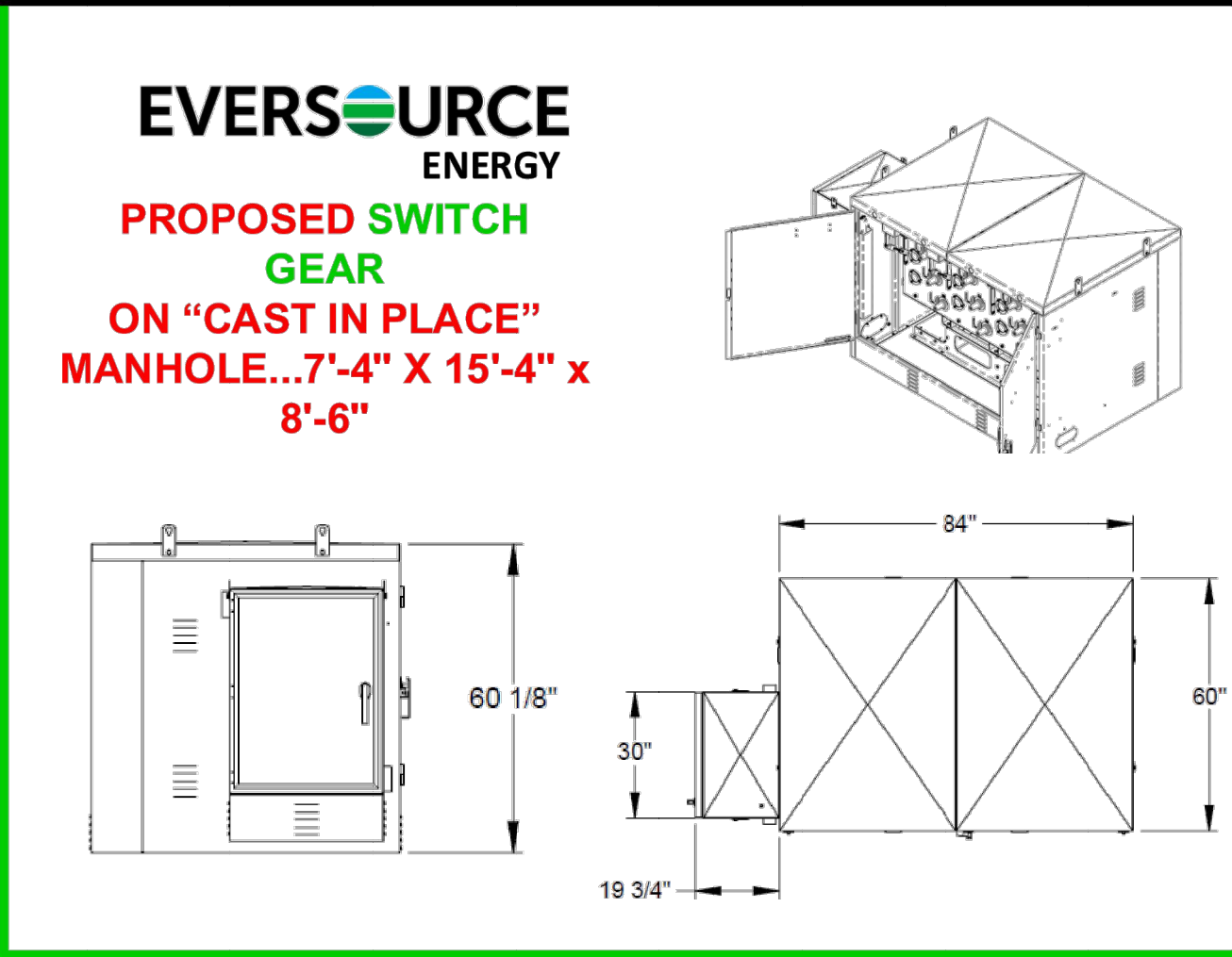
**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK 3-TUBE CURB MOUNTED BRIDGE RAIL DETAILS**

D - CENTER STREET - D.C.D. - 00056.55 - SHEET 40

SIZE PROJECT FILE NAME NUMBER REV. OF 40





All electric & communication overhead facilities between new poles 1066 & 1064 to be temporarily relocated east of Center St. until culvert work is completed.



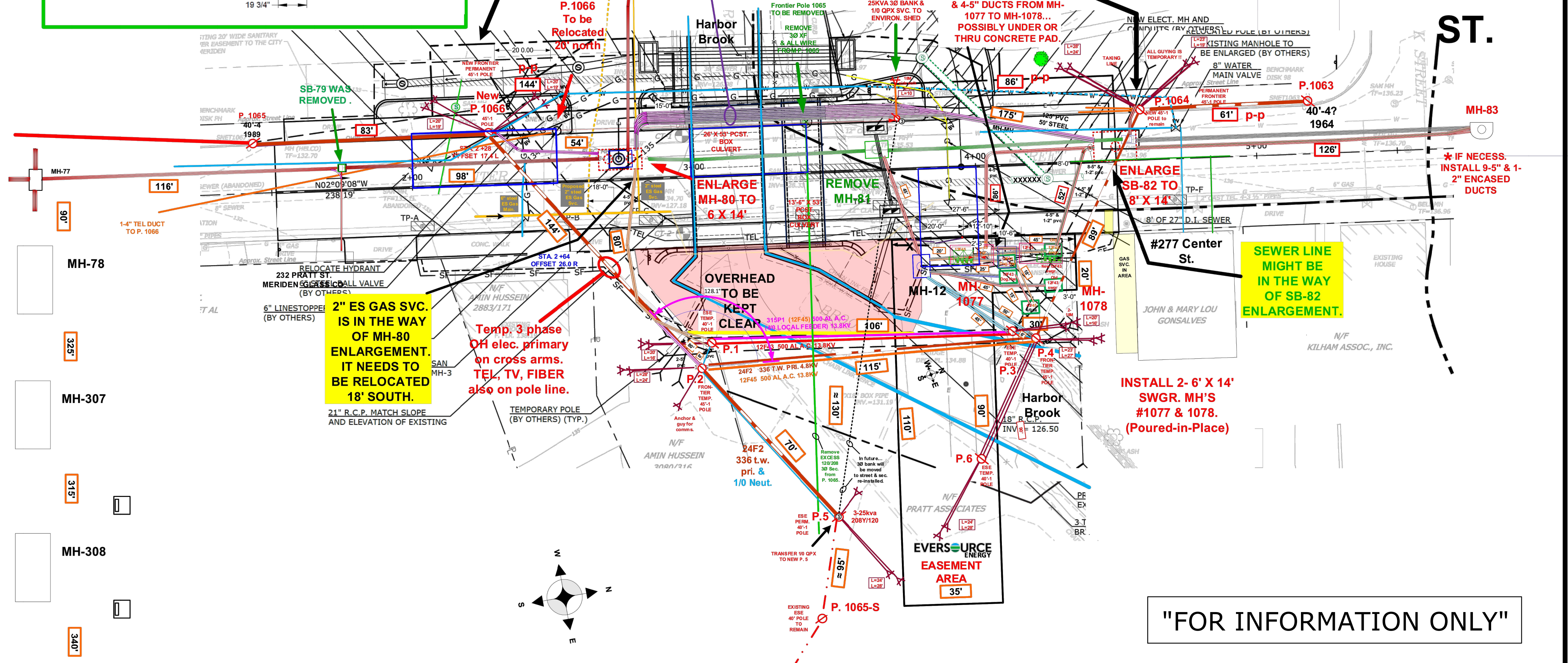
INSTALL 9-5" & 1-2" GALV. STEEL CONDUITS FOR 50' IN 11" THICK SIDE WALK. TRANSITION TO PVC TO MANHOLES

2" steel ES Gas Svc. TO BE RELOCATED

Exist. P.1066 To be Relocated 20' north

CH. OAK TO INSTALL 1-2" & 4-5" DUCTS FROM MH-1077 TO MH-1078... POSSIBLY UNDER OR THRU CONCRETE PAD.

**CENTER ST.**



**PRATT ST**

**MERIDEN**

"FOR INFORMATION ONLY"

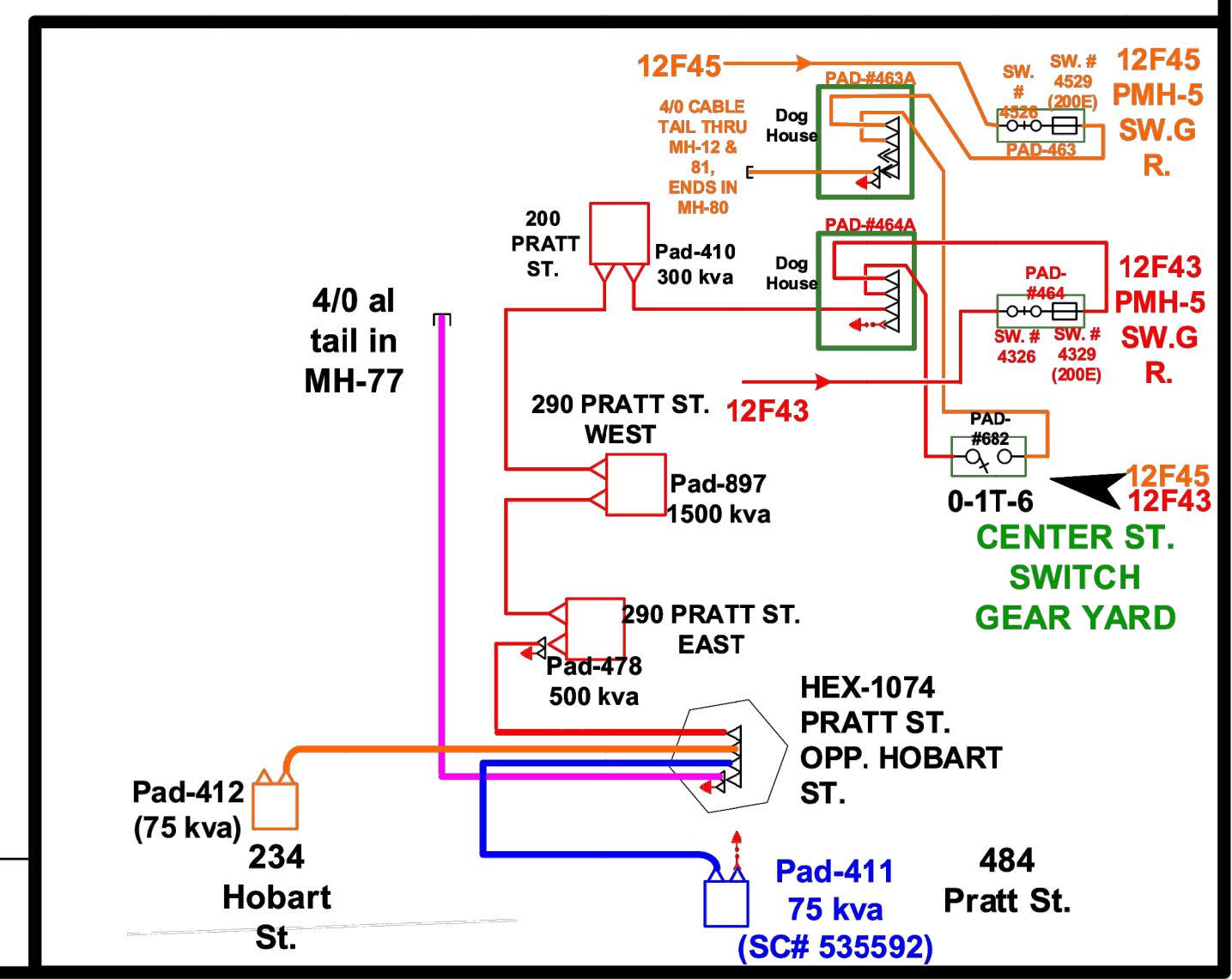
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300 kva  
234  
Hobart  
St.

Pad-411  
150 kva  
484  
Pratt St.

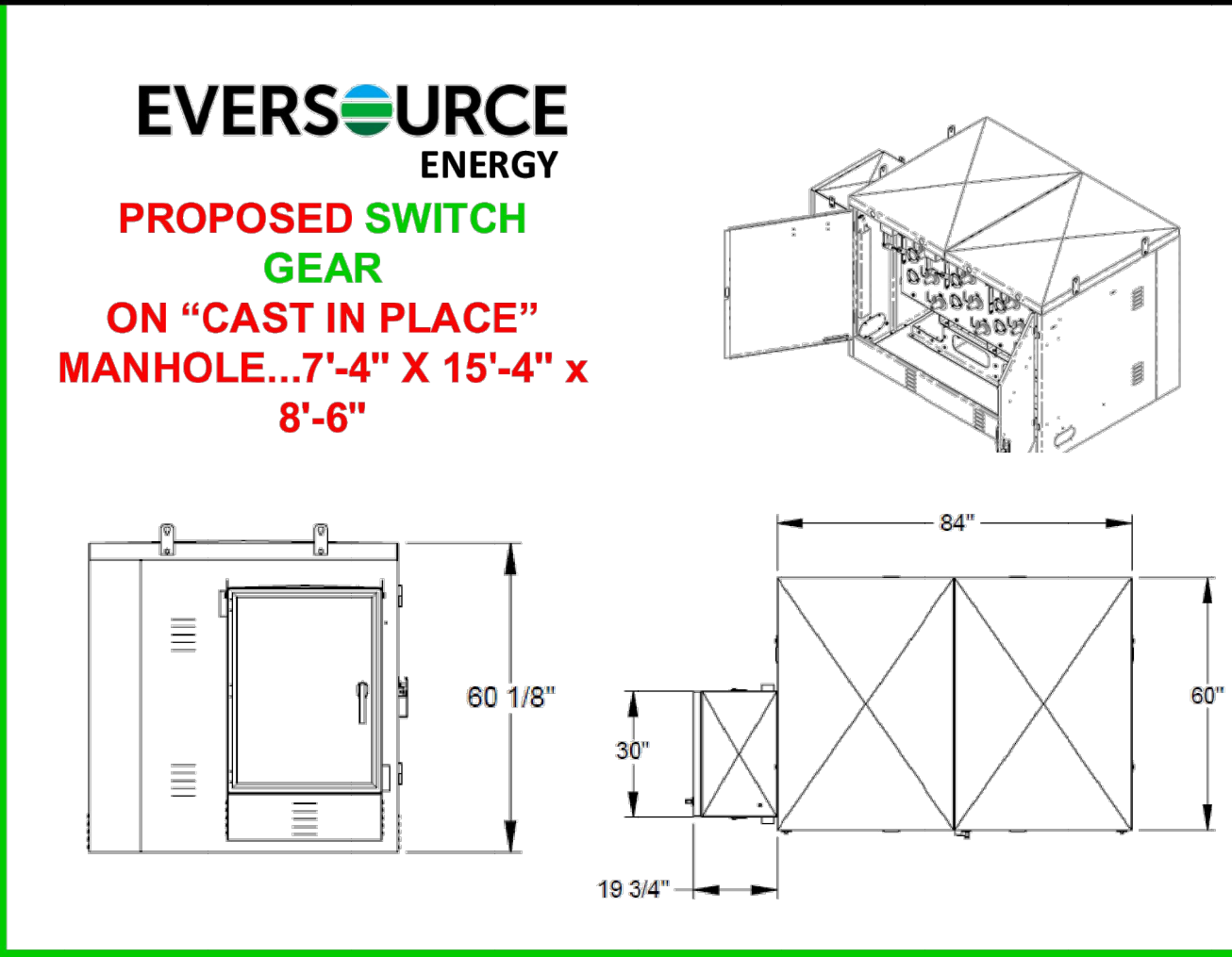
**SW REV. 05/22/19**

**EVERSOURCE ENERGY**

SHEET EVE 1  
OF EVE 2



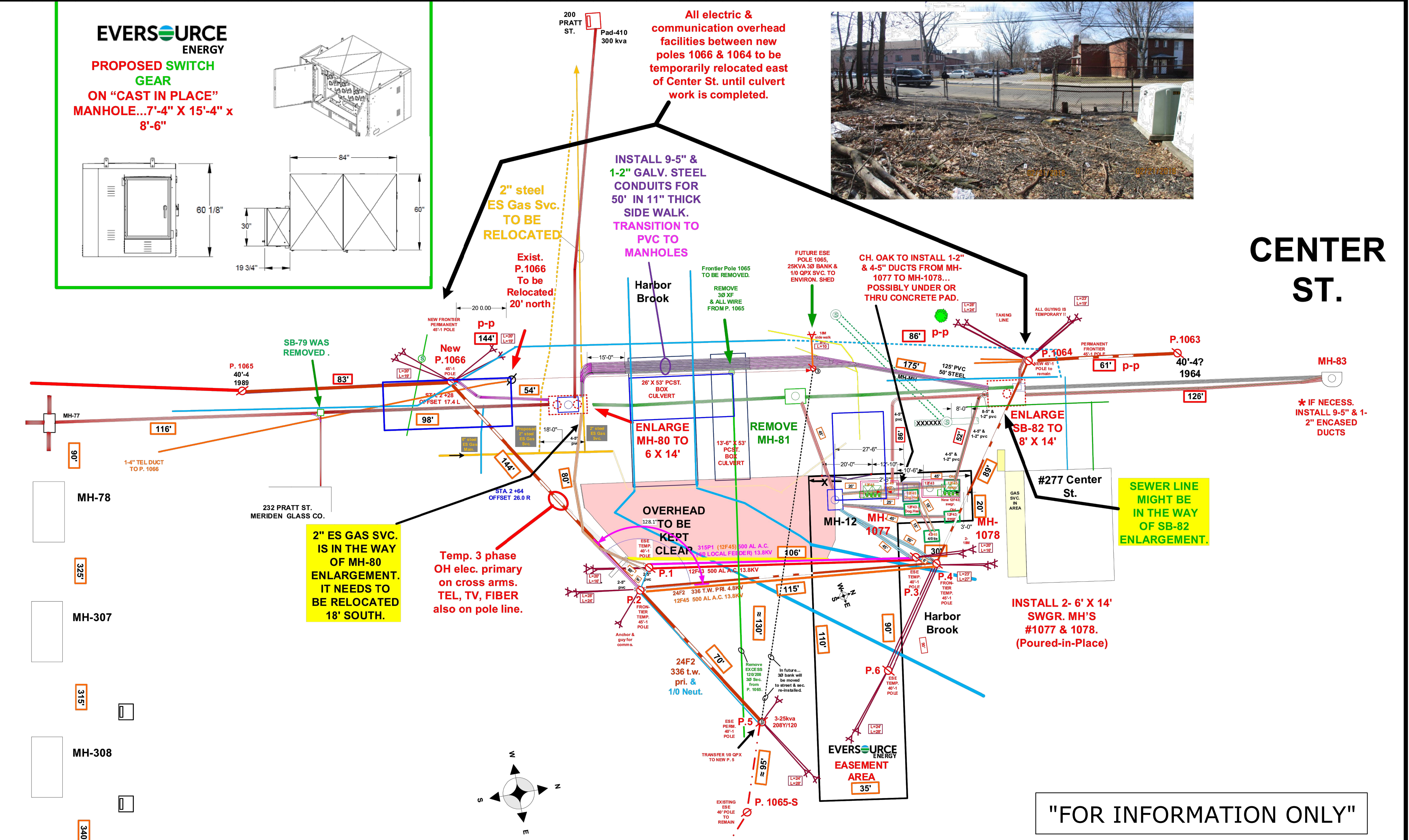




# CENTER ST.

# PRATT ST

# MERIDEN



"FOR INFORMATION ONLY"

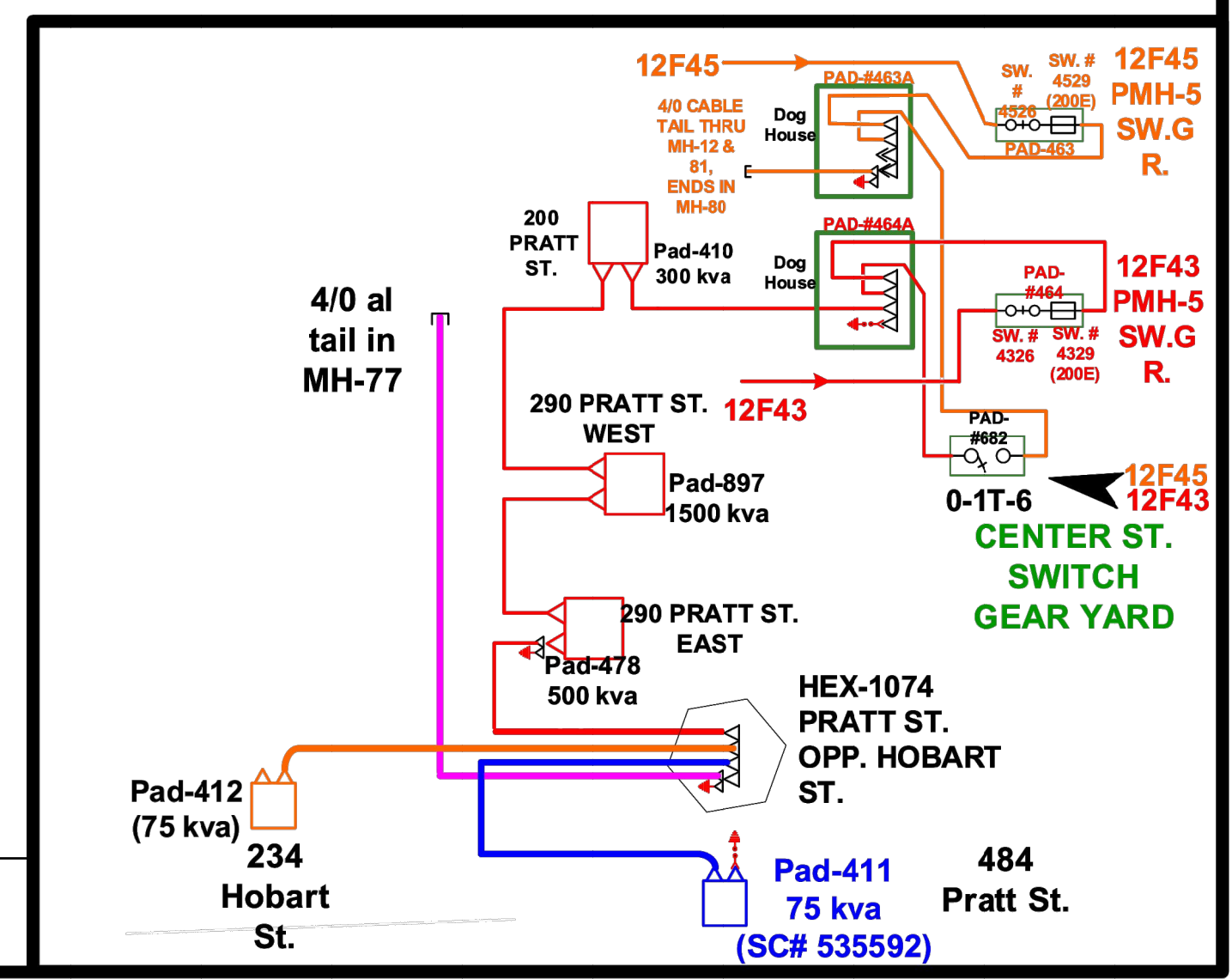
Pad-412  
300 kva  
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Hobart  
St.

Pad-411  
150 kva  
484  
Pratt St.

**SW REV.**  
**05/22/19**

**EVERSOURCE ENERGY**

SHEET EVE 2  
OF EVE 2



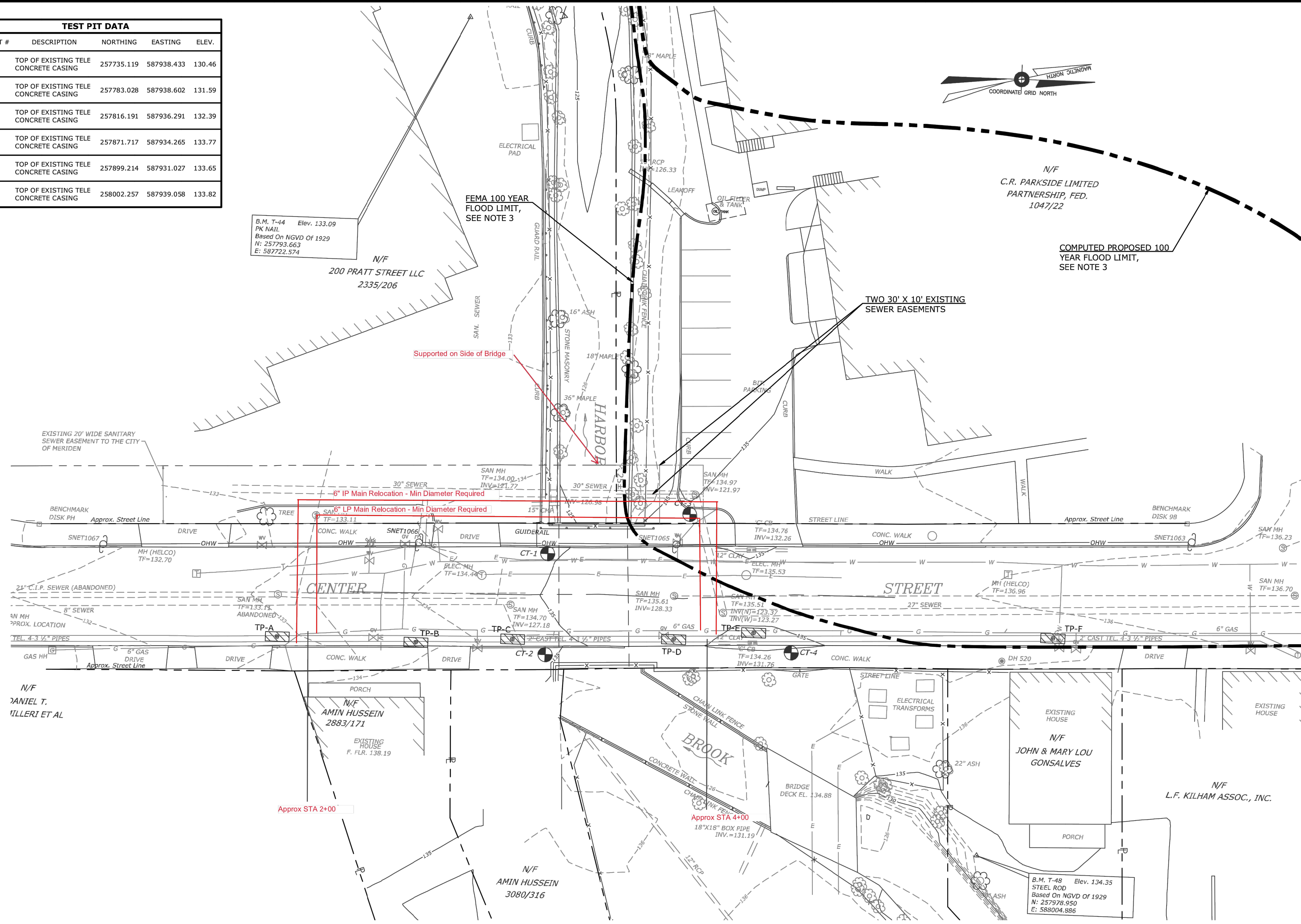


F.H.W.A REGION NO.	STATE	CITY	FEDERAL AID PROJECT NO.	PROJECT NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CT	MERIDEN	H020(002)	79-212	2019	TR		

TEST PIT DATA				
TEST PIT #	DESCRIPTION	NORTHING	EASTING	ELEV.
TP-A	TOP OF EXISTING TELE CONCRETE CASING	257735.119	587938.433	130.46
TP-B	TOP OF EXISTING TELE CONCRETE CASING	257783.028	587938.602	131.59
TP-C	TOP OF EXISTING TELE CONCRETE CASING	257816.191	587936.291	132.39
TP-D	TOP OF EXISTING TELE CONCRETE CASING	257871.717	587934.265	133.77
TP-E	TOP OF EXISTING TELE CONCRETE CASING	257899.214	587931.027	133.65
TP-F	TOP OF EXISTING TELE CONCRETE CASING	258002.257	587939.058	133.82

B.M. T-44 Elev. 133.09  
PK NAIL  
Based On NGVD of 1929  
N: 257793.663  
E: 587722.574

N/F  
200 PRATT STREET LLC  
2335/206



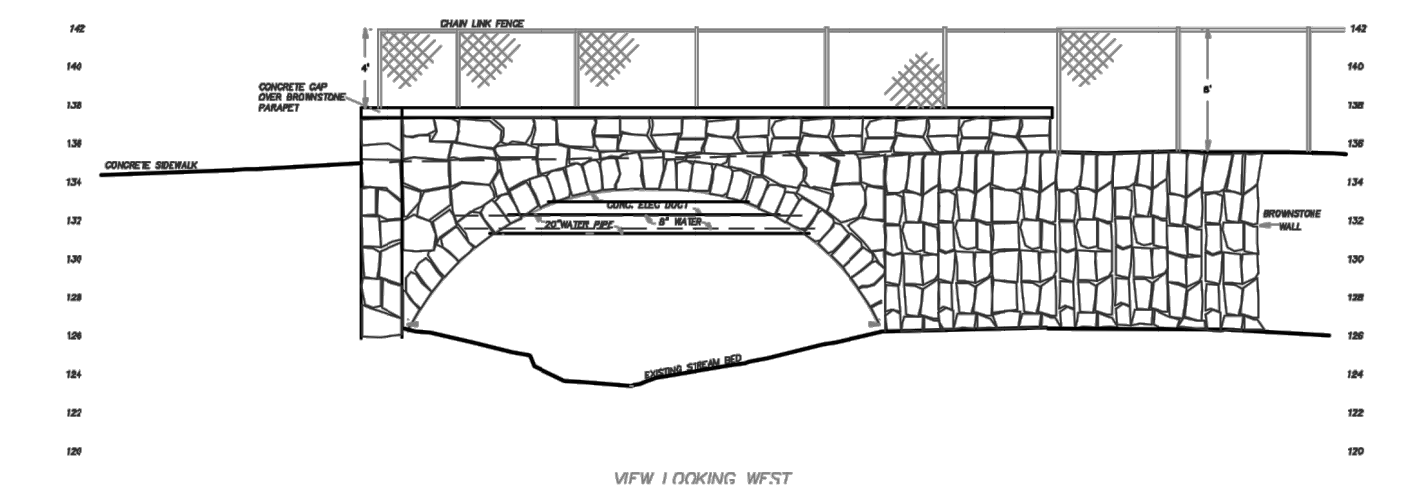
**EXISTING PLAN**  
SCALE: 1" = 20'

**NOTES:**

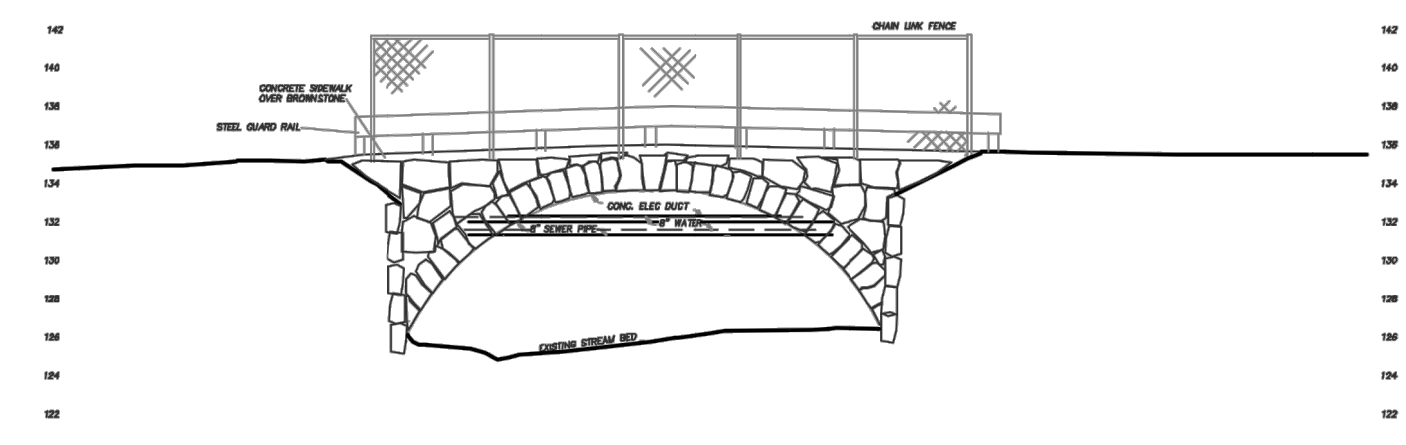
- ORDINARY HIGH WATER FLAGGED BY SOIL SCIENCE ENVIRONMENTAL SERVICES, INC. AND FIELD LOCATED BY WILLIAM HEARN, L.S.
- HORIZONTAL DATUM STATE CONSTRUCTION CONTROL POINTS ON COOK AVENUE BRIDGE PROJECT DRILL HOLES. BULK OF FIELD SURVEY PERFORMED DEC. 2014.
- THERE IS NO FEMA FLOODWAY FOR THIS REACH OF HARBOR BROOK. DEPICTED FLOOD LIMITS EXTEND BEYOND LIMITS OF PLAN.

**MAP REFERENCES:**

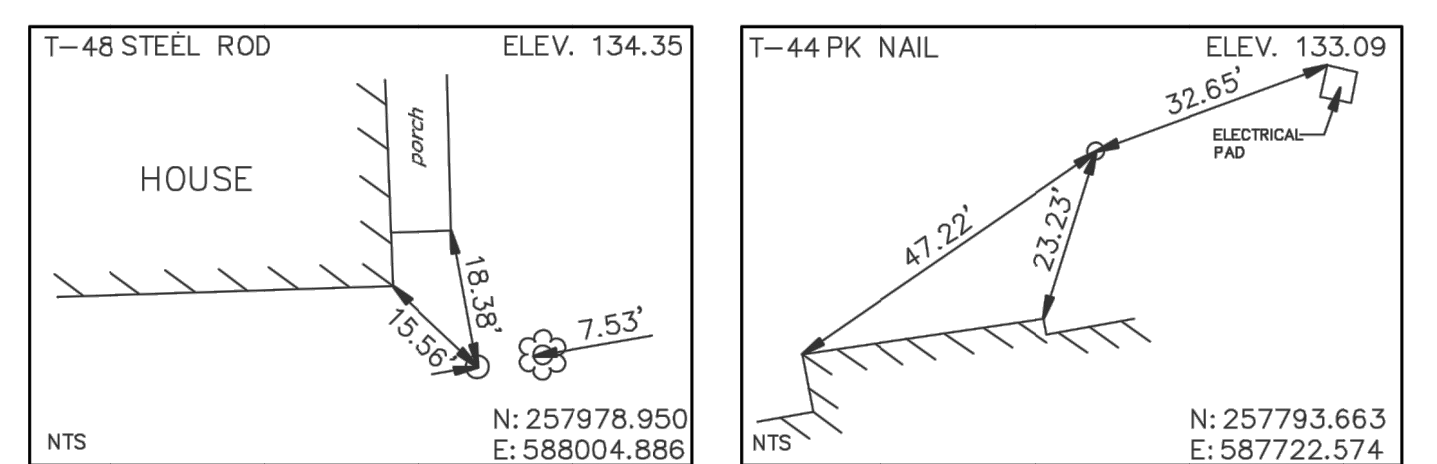
- THE TYPE OF SURVEY PERFORMED AND THE MAPPED FEATURES DEPICTED HEREON ARE IN ACCORDANCE WITH THE REQUIREMENTS OF A PROPERTY/BOUNDARY SURVEY AND A TOPOGRAPHIC SURVEY.
- THE BOUNDARY DETERMINATION/OPINION IS BASED UPON A RESURVEY OF MAP REFERENCES LISTED.
- THE HORIZONTAL BASELINE CONFORMS TO A CLASS A-2 ACCURACY.
- THE TOPOGRAPHIC SURVEY CONFORMS TO A CLASS T-2 ACCURACY.



**EXISTING UPSTREAM STRUCTURE ELEVATION (LOOKING DOWNSTREAM)**  
SCALE: 1" = 10'-0"



**EXISTING DOWNSTREAM STRUCTURE ELEVATION (LOOKING UPSTREAM)**  
SCALE: 1" = 10'-0"



**SURVEY CONTROL TIES**  
SCALE: N.T.S.

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NO.	DATE	DESCRIPTION
<b>REVISIONS</b>		
		SUPV.
		DESIGN
		DRAWN
		CHECKED
		DATE

**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK  
EVERSOURCE GAS  
TEMPORARY RELOCATION PLAN**

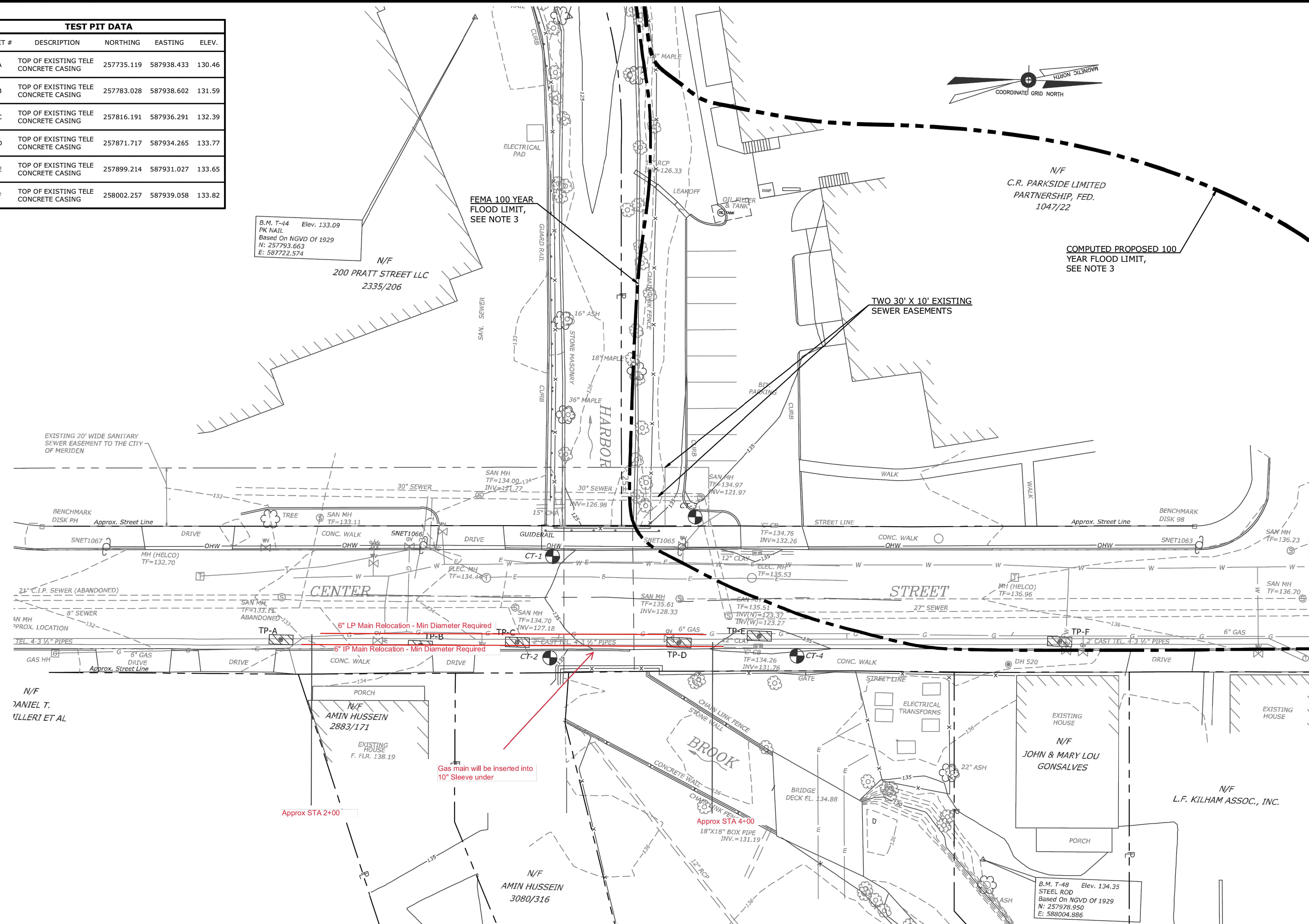
D - CENTER STREET	-	-	-	-	SHEET	EVG 1
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	EVG 2



F.H.W.A REGION NO.	STATE	CITY	FEDERAL AID PROJECT NO.	PROJECT NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CT	MERIDEN	H020(002)	79-212	2019	TR		

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TP-F	TOP OF EXISTING TELE CONCRETE CASING	258002.257	587939.058	133.82

B.M. T-44 Elev. 133.09  
PK NAIL  
Based On NGVD Of 1929  
N: 257793.663  
E: 587722.574



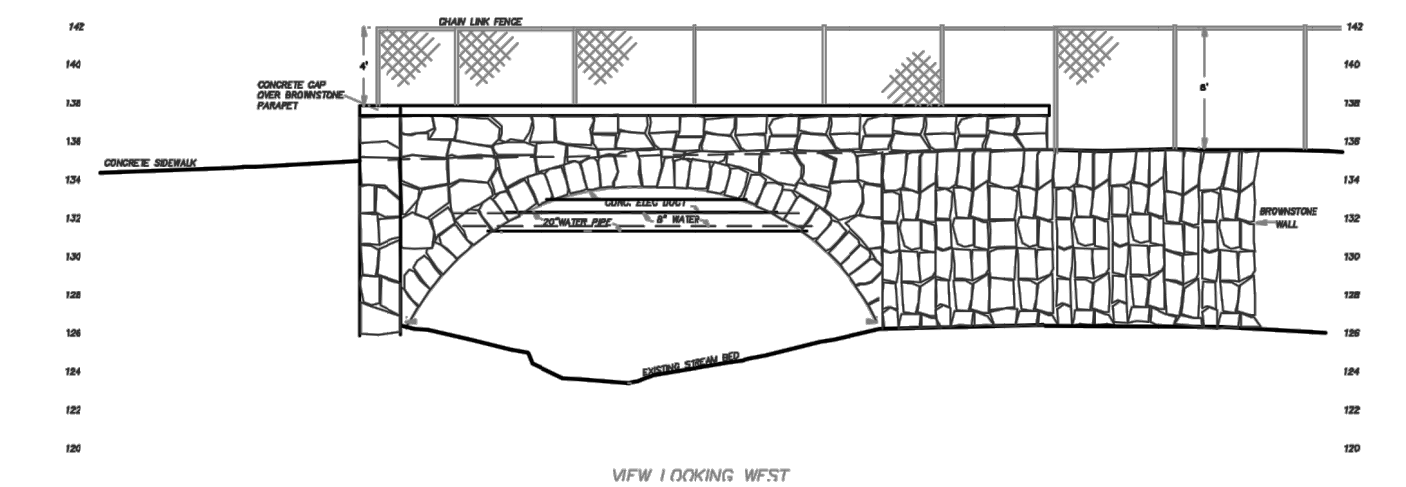
**EXISTING PLAN**  
SCALE: 1" = 20'

**NOTES:**

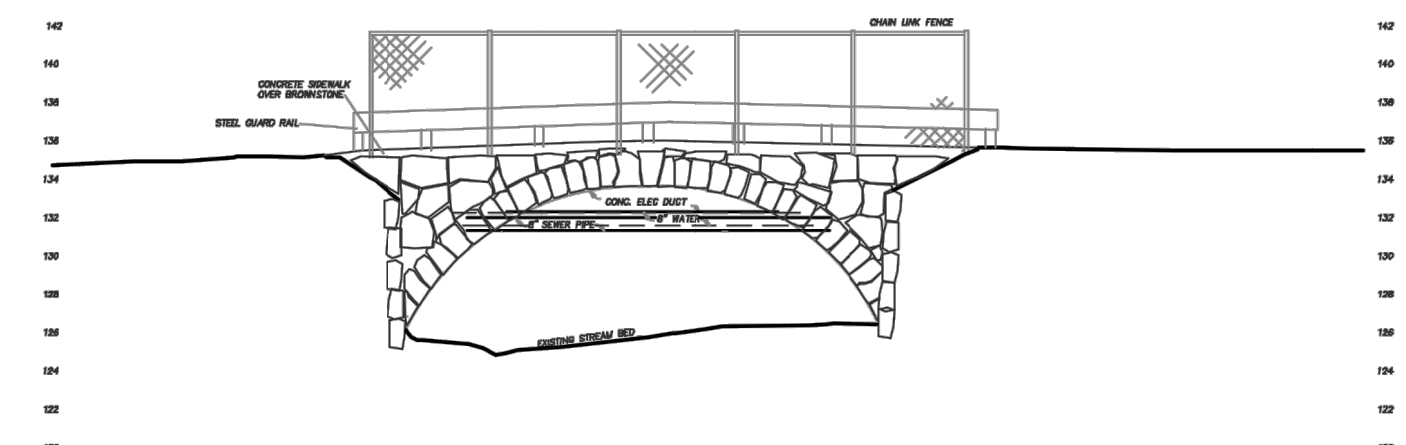
- ORDINARY HIGH WATER FLAGGED BY SOIL SCIENCE ENVIRONMENTAL SERVICES, INC. AND FIELD LOCATED BY WILLIAM HEARN, L.S.
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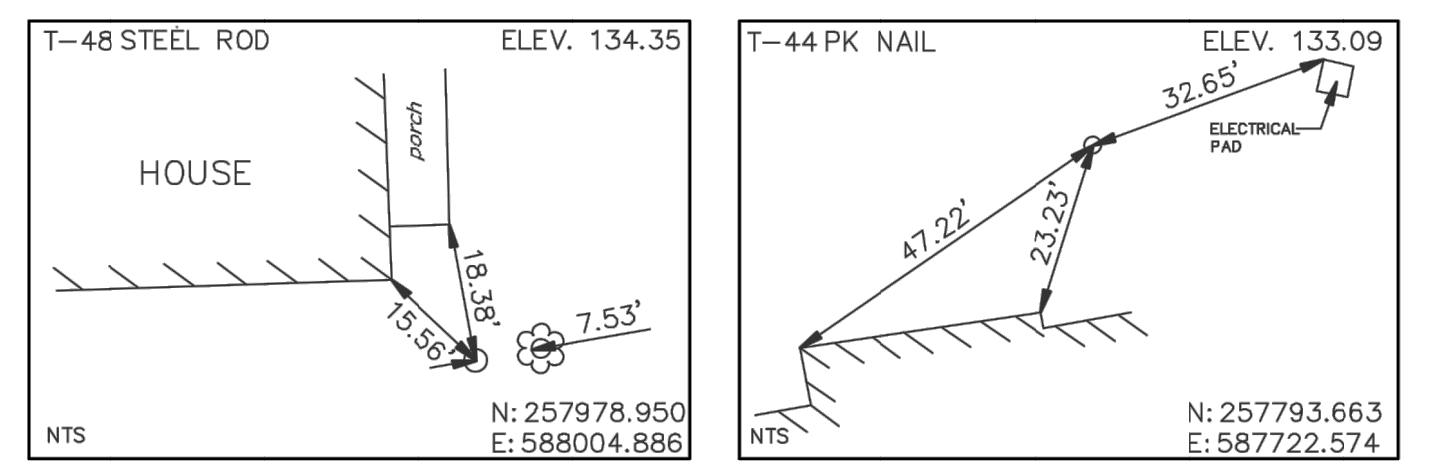
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**EXISTING UPSTREAM STRUCTURE ELEVATION (LOOKING DOWNSTREAM)**  
SCALE: 1" = 10'-0"



**EXISTING DOWNSTREAM STRUCTURE ELEVATION (LOOKING UPSTREAM)**  
SCALE: 1" = 10'-0"



**SURVEY CONTROL TIES**  
SCALE: N.T.S.

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NO.	DATE	DESCRIPTION
<b>REVISIONS</b>		

SUPV.	
DESIGN	
DRAWN	
CHECKED	
DATE	

**PREPARED FOR**  
CITY OF MERIDEN  
142 EAST MAIN STREET  
MERIDEN, CONNECTICUT 06450

**REPLACEMENT OF CENTER STREET BRIDGE OVER HARBOR BROOK  
EVERSOURCE GAS PERMANENT RELOCATION PLAN**

D - CENTER STREET	-	-	-	SHEET	EVG 2
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF



\*ONLY STANDARD SHEETS MARKED WITH AN "✓" ARE IN THIS PROJECT #

\*\*REVISED OR ADDED

✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-211_01	ANTI-TRACKING PAD	11-09-22
	HW-286_01	DRAINAGE TRENCH EXCAVATION	11-09-22
	HW-506_01a	ENDWALLS	11-09-22
	HW-506_01b	STEEL REINFORCING FOR ENDWALLS	11-09-22
	HW-506_02	TYPE "D-G" & "L" ENDWALLS	11-09-22
	HW-506_03	ENDWALLS FOR PIPE - ARCH	11-09-22
	HW-586_01	CATCH BASIN AND DROP INLET TYPES "C" AND "C-L" STRUCTURES	11-09-22
	HW-586_02	CATCH BASIN ( TYPES "C" AND "C-L" ) FOR DOUBLE GRATE TYPE I STRUCTURES	11-09-22
	HW-586_03	CATCH BASIN ( TYPES "C" AND "C-L" ) FOR DOUBLE GRATE TYPE II STRUCTURES	11-09-22
	HW-586_04	PRECAST CATCH BASIN AND ROUND STRUCTURE	11-09-22
	HW-586_05	PRECAST CATCH BASIN TYPES FOR DOUBLE GRATE TYPE I	11-09-22
	HW-586_06	PRECAST CATCH BASIN TYPES FOR DOUBLE GRATE TYPE II	11-09-22
	HW-586_07a	CATCH BASIN TYPE "C" AND "C-L" TOPS	11-09-22
	HW-586_07b	CATCH BASIN TYPE "C" AND "C-L" DOUBLE GRATE TYPE I TOPS	11-09-22
	HW-586_07c	CATCH BASIN TYPE "C" AND "C-L" DOUBLE GRATE TYPE II TOPS	11-09-22
	HW-586_07d	CATCH BASIN TYPE "C-G" AND "C-M" BARRIER CURB TOPS	11-09-22
	HW-586_08	CATCH BASIN FRAMES AND GRATES	11-09-22
	HW-586_09	CATCH BASIN LOCK DOWN TOPS	11-09-22
	HW-586_10a	MANHOLE FRAME AND COVER	11-09-22
	HW-586_10b	MANHOLE FRAME AND GRATE	11-09-22
	HW-586_10c	REINFORCED PRECAST CONCRETE MANHOLE	11-09-22
	HW-586_10d	MANHOLE NON-PRECAST CONCRETE UNIT	11-09-22
	HW-686_01a	CONCRETE PIPE CONNECTION SHEET 1	11-09-22
	HW-686_01b	CONCRETE PIPE CONNECTION SHEET 2	11-09-22
	HW-686_02a	DRAINAGE PIPE ENDS SHEET 1 [ CORRUGATED METAL PIPE ]	11-09-22
	HW-686_02b	DRAINAGE PIPE ENDS SHEET 2 [ CONCRETE PIPE ]	11-09-22
	HW-751_01	UNDERDRAINS AND UNDERDRAIN OUTLETS	11-09-22
	HW-803_01	PAVED APRONS	11-09-22
	HW-811_01	CONCRETE CURBING	11-09-22
	HW-813_01	GRANITE STONE TRANSITION CURBING	11-09-22
	HW-813_02	STONE CURBING	11-09-22
	HW-815_01	BITUMINOUS CONCRETE CURBING	11-09-22

✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-821_01a	TRANSITION - 45" F-SHAPE TO 45" VERTICAL SHAPE SHEET 1	11-09-22
	HW-821_01b	TRANSITION - 45" F-SHAPE TO 45" VERTICAL SHAPE SHEET 2	11-09-22
	HW-821_01c	TRANSITION - 45" F-SHAPE TO 45" VERTICAL SHAPE SHEET 3	11-09-22
	HW-821_02a	45" F-SHAPE PRECAST CONCRETE BARRIER CURB SHEET 1	11-09-22
	HW-821_02b	45" F-SHAPE PRECAST CONCRETE BARRIER CURB SHEET 2	11-09-22
	HW-821_03a	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 1	11-09-22
	HW-821_03b	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 2	11-09-22
	HW-821_03c	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 3	11-09-22
	HW-821_03d	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 4	11-09-22
	HW-821_03e	TRANSITION - 32" JERSEY SHAPE TO 45" F-SHAPE	11-09-22
	HW-821_04a	MERRITT PARKWAY NARROW MEDIAN BARRIER	11-09-22
	HW-821_04b	MERRITT PARKWAY - 2' WIDE MEDIAN BARRIER AND ROADSIDE BARRIER	11-09-22
	HW-821_05a	TRANSITION - 45" F-SHAPE TO 54" VERTICAL SHAPE SHEET 1	11-09-22
	HW-821_05b	TRANSITION - 45" F-SHAPE TO 54" VERTICAL SHAPE SHEET 2	11-09-22
	HW-821_06	54" VERTICAL SHAPE BARRIER	11-09-22
	HW-821_07	MISCELLANEOUS DETAILS FOR BARRIER TRANSITIONS	11-09-22
	HW-821_08a	F-SHAPE CONC. BARRIER CURB (21"x45") TRANSITION FOR THRIE-BEAM	11-09-22
	HW-821_08b	F-SHAPE CONC. BARRIER CURB (21"x45") TRANSITION FOR THRIE-BEAM - REINF.	11-09-22
	HW-821_09a	SINGLE SLOPE CONC. BARRIER CURB (20"x42") TRANS. FOR THRIE-BEAM	11-09-22
	HW-821_09b	SINGLE SLOPE CONC. BARRIER CURB (20"x42") TRANS. FOR THRIE-BEAM - REINF.	11-09-22
	HW-821_10a	VERTICAL FACE CONC. (21"x54") TRANSITION FOR THRIE-BEAM	11-09-22
	HW-821_10b	VERTICAL FACE CONC. (21"x54") TRANSITION FOR THRIE-BEAM REINF.	11-09-22
	HW-821_11a	42" SINGLE SLOPE PRECAST CONCRETE BARRIER CURB -SHEET 1	11-09-22
	HW-821_11b	42" SINGLE SLOPE PRECAST CONCRETE BARRIER CURB -SHEET 2	11-09-22
	HW-822_01	TEMPORARY PRECAST CONCRETE BARRIER CURB	11-09-22
	HW-822_02a	TEMPORARY TRAFFIC BARRIER - DETAILS	11-09-22
	HW-822_02b	TEMPORARY TRAFFIC BARRIER (BOLTED)	11-09-22
	HW-822_02c	TEMPORARY TRAFFIC BARRIER & TEMPORARY TRAFFIC BARRIER (PINNED)	11-09-22
	HW-905_01	STONE WALL FENCE	11-09-22
	HW-906_01	WIRE FENCE	11-09-22

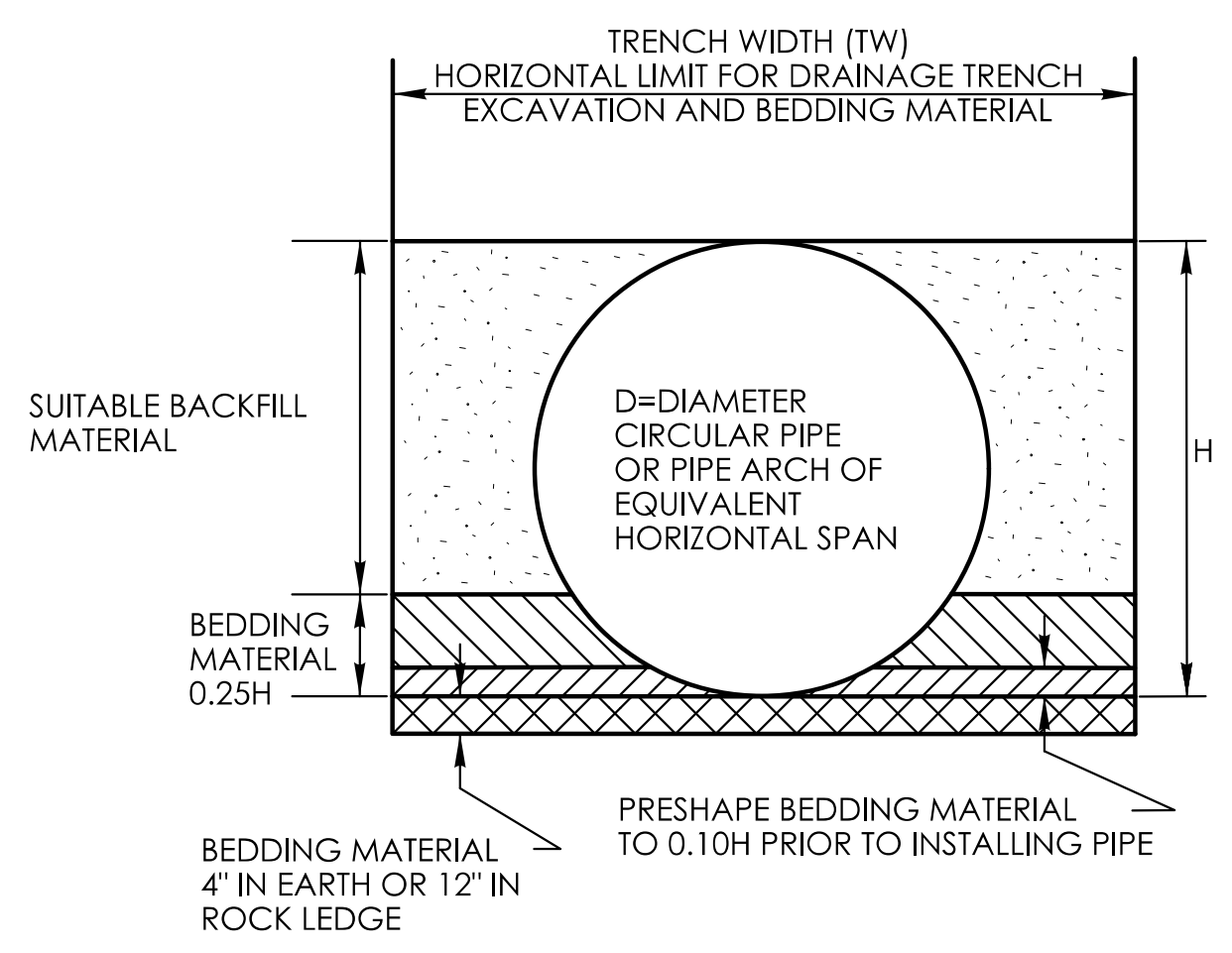


\*ONLY STANDARD SHEETS MARKED WITH AN " ✓ " ARE IN THIS PROJECT #

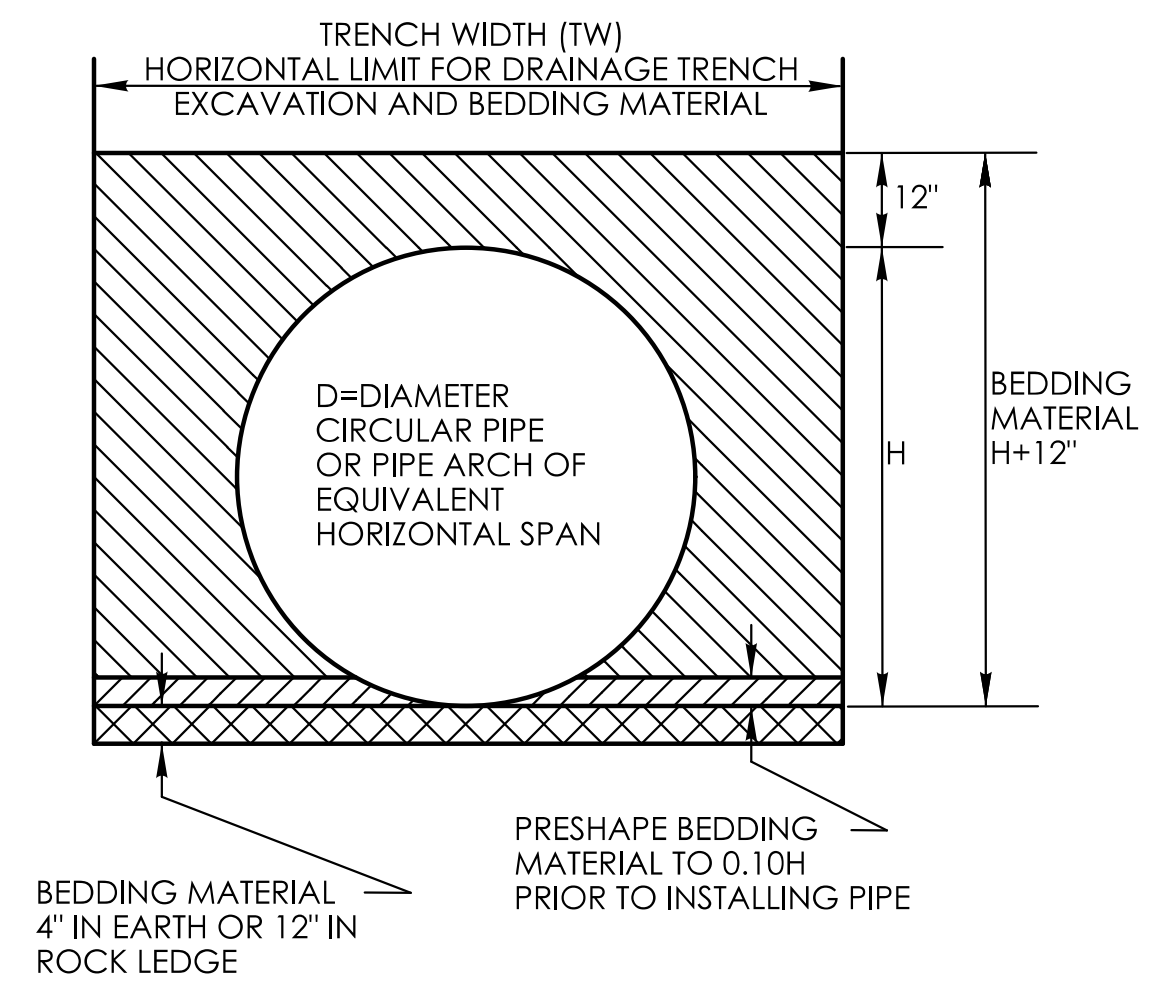
\*\*REVISED OR ADDED

✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-910_01	W-BEAM METAL BEAM RAIL HARDWARE	11-09-22
	HW-910_02	METAL BEAM RAIL (TYPE R-B 350) GUIDERAIL	11-09-22
	HW-910_03	METAL BEAM RAIL (TYPE MD-B 350) GUIDERAIL	11-09-22
	HW-910_04	METAL BEAM RAIL (TYPE R-B 350) SYSTEMS 5, 5A, & 6	11-09-22
	HW-910_05	METAL BEAM RAIL R-B 350 SPAN TYPE I, II, III SECTIONS	11-09-22
	HW-910_06	R-B 350 BRIDGE ATTACHMENT SAFETY SHAPE PARAPET	11-09-22
	HW-910_07	R-B 350 BRIDGE ATTACHMENT VERTICAL SHAPE PARAPET	11-09-22
	HW-910_08	R-B 350 BRIDGE ATTACHMENT TRAILING END	11-09-22
	HW-910_09a	MISCELLANEOUS GUIDERAIL TRANSITIONS SHEET 1	11-09-22
	HW-910_09b	MISCELLANEOUS GUIDERAIL TRANSITIONS SHEET 2	11-09-22
	HW-910_10	METAL BEAM RAIL 8" x 6" BOX BEAM	11-09-22
	HW-910_11	CURVED GUIDERAIL TREATMENT DETAIL	11-09-22
	HW-910_12a	MERRITT PARKWAY GUIDERAIL LEADING END ATTACHMENTS AND SYSTEMS 2&3	11-09-22
	HW-910_12b	MERRITT PARKWAY GUIDERAIL HARDWARE DETAILS	11-09-22
	HW-910_12c	MERRITT PARKWAY GUIDERAIL TRAILING END ATTACHMENTS	11-09-22
	HW-910_12d	MERRITT PARKWAY MEDIAN GUIDERAIL AND END ANCHOR	11-09-22
	HW-910_13a	THRIE-BEAM METAL BEAM RAIL HARDWARE	11-09-22
	HW-910_13b	THRIE-BEAM TRANSITIONS	11-09-22
	HW-910_14a	THRIE-BEAM 350 BRIDGE ATTACHMENT	11-09-22
	HW-910_14b	THRIE-BEAM 350 GUIDERAIL TRANSITION TO R-B 350 GUIDERAIL	11-09-22
	HW-910_15	MD-B 350 MEDIAN BARRIER SAFETY SHAPE ATTACHMENT TYPE I	11-09-22
	HW-910_16	MD-B 350 MEDIAN BARRIER SAFETY SHAPE ATTACHMENT TYPE II	11-09-22
	HW-910_17	R-B TERMINAL SECTION	11-09-21
	HW-910_18	METAL BEAM RAIL (TYPE MD-I) GUIDERAIL	11-09-22
	HW-910_19a	METAL BEAM RAIL (MODIFIED TYPE R-I) AND END ANCHORAGE TYPE I	11-09-22
	HW-910_19b	METAL BEAM RAIL (MODIFIED TYPE R-I) AND END ANCHORAGE TYPE II	11-09-22
	HW-910_19c	METAL BEAM RAIL (MODIFIED TYPE R-I) SYSTEMS 2 AND 3	11-09-22
	HW-910_20	MASH W-BEAM HARDWARE	11-09-22
	HW-910_21	METAL BEAM RAIL ( R-B MASH ) GUIDERAIL	11-09-22
	HW-910_22	METAL BEAM RAIL ( MD-B MASH) GUIDERAIL	11-09-22
	HW-910_23	METAL BEAM RAIL (R-B MASH) HALF & QUARTER POST SPACING GUIDERAIL	11-09-22
	HW-910_24	METAL BEAM RAIL SPAN SECTION TYPES II AND III	11-09-22
	HW-910_25	METAL BEAM RAIL TRANSITION 350 TO MASH	11-09-22

✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-910_26	THRIE-BEAM ATTACHMENT HARDWARE	11-09-22
	HW-910_27	THRIE-BEAM ATTACHMENT	11-09-22
	HW-910_28	R-B MASH BRIDGE ATTACHMENT TRAILING END	11-09-22
	HW-911_01	R-B END ANCHORAGE TYPE I AND II	11-09-22
	HW-911_02	MD-B END ANCHORAGE TYPE I	11-09-22
	HW-911_03	ANCHOR IN EARTH CUT SLOPE & ANCHOR IN ROCK CUT SLOPE	11-09-22
	HW-911_05	MERRITT PARKWAY GUIDERAIL END ANCHORS	11-09-22
	HW-913_01a	CHAIN LINK FENCE	11-09-22
	HW-913_01b	CHAIN LINK FENCE HARDWARE	11-09-22
	HW-913_02	CHAIN LINK FENCE GATES	11-09-22
	HW-918_01a	THREE CABLE GUIDERAIL (I-BEAM POSTS) SHEET 1	11-09-22
	HW-918_01b	THREE CABLE GUIDERAIL (I-BEAM POSTS) SHEET 2	11-09-22
	HW-918_01c	THREE CABLE GUIDERAIL (I-BEAM POSTS) SHEET 3	11-09-22
	HW-921_01	CONCRETE SIDEWALKS	11-09-22
	HW-922_01	BITUMINOUS CONCRETE SIDEWALK AND BITUMINOUS CONCRETE DRIVEWAY	11-09-22
	HW-924_01	CONCRETE DRIVEWAY RAMPS	11-09-22
	HW-949_01a	LANDSCAPE PLANTING	11-09-22
	HW-949_01b	TREE STAKING	11-09-22
	HW-1800_01	GRADING PLAN FOR IMPACT ATTENUATION SYSTEMS (FLARED AND TANGENTIAL)	11-09-22
	HW-1800_02	GRADING PLAN FOR IMPACT ATTENUATION SYSTEMS (MEDIAN/GORE)	11-09-22



**PIPE TRENCH  
FOR PIPES LESS THAN 48"**

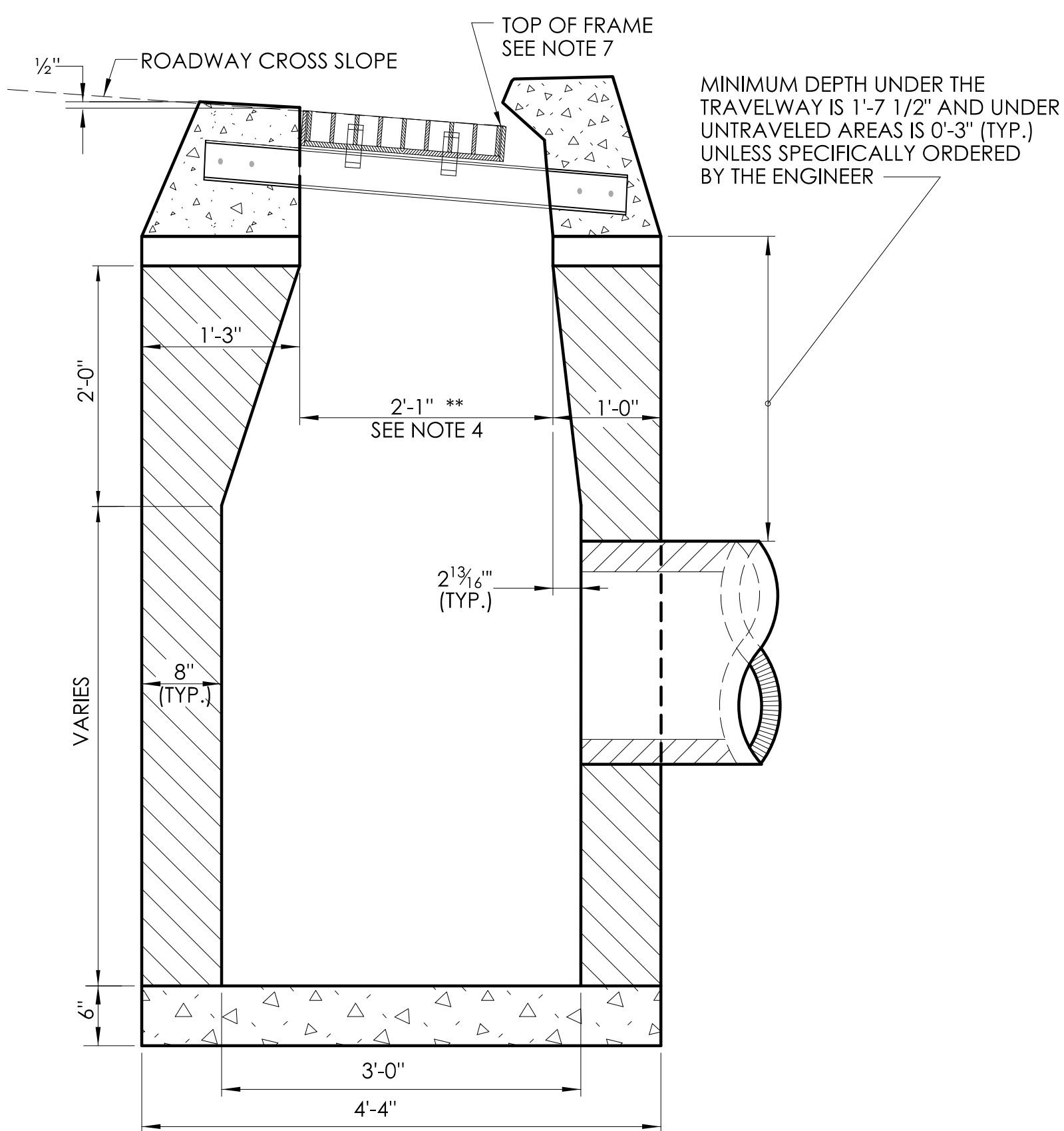


**PIPE TRENCH  
FOR PIPES GREATER THAN  
OR EQUAL TO 48"**

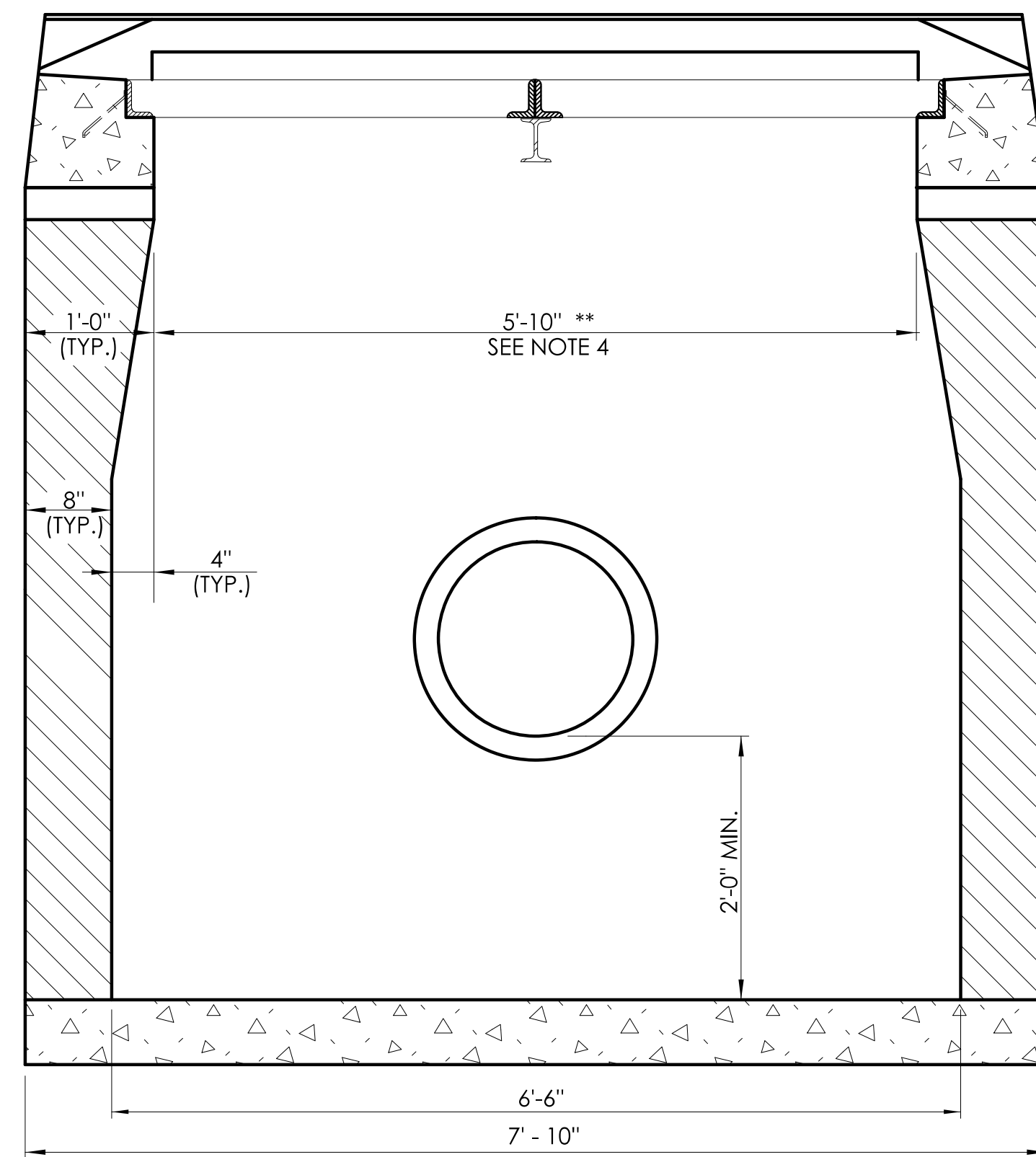
**TRENCH WIDTH (TW) CHART**

PIPE, PIPE-ARCH, OR DRAINAGE STRUCTURE	TRENCH WIDTH
PIPE OR PIPE-ARCH WITH NOMINAL INSIDE HORIZONTAL SPAN LESS THAN 30'	2' GREATER THAN NOMINAL INSIDE HORIZONTAL SPAN
PIPE OR PIPE-ARCH WITH NOMINAL INSIDE HORIZONTAL SPAN GREATER THAN OR EQUAL TO 30'	3' GREATER THAN NOMINAL INSIDE HORIZONTAL SPAN
PIPE OR PIPE-ARCH FABRICATED FROM STRUCTURAL PLATES	4' GREATER THAN NOMINAL INSIDE HORIZONTAL SPAN
DRAINAGE STRUCTURES	2' BEYOND ALL EXTERIOR OR FOUNDATION WALLS



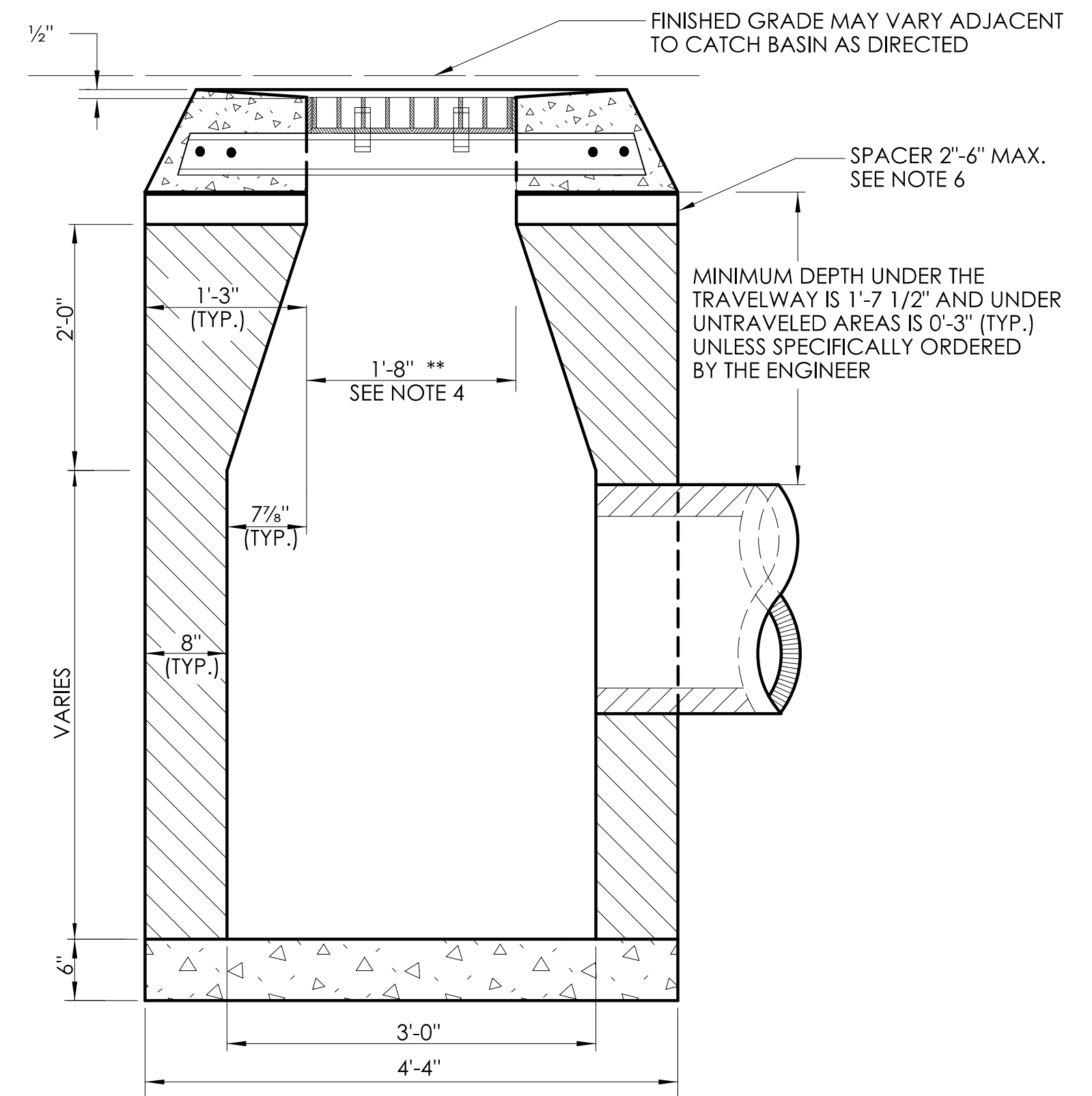


SECTION B

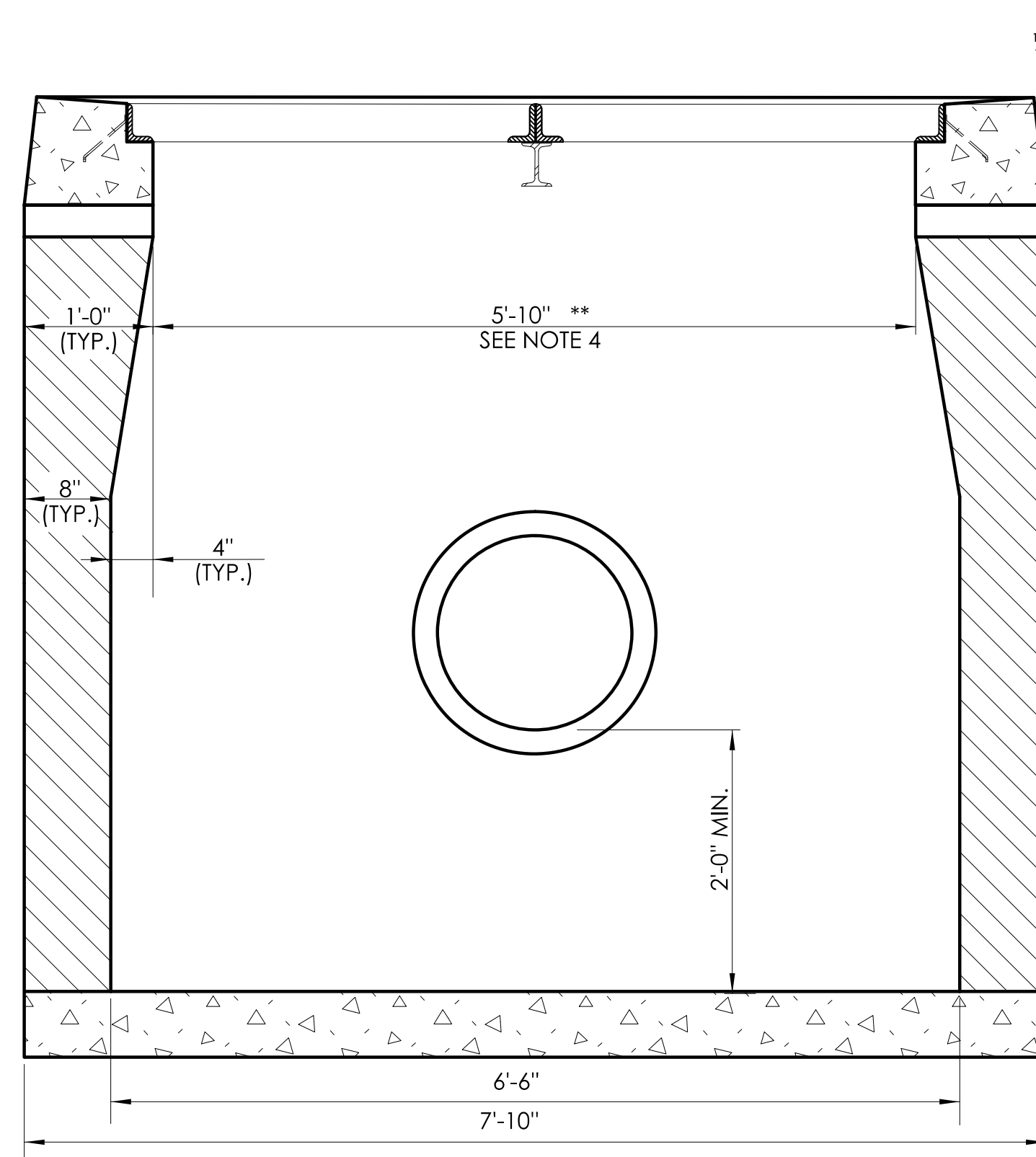


SECTION A

TYPE "C" CATCH BASIN DOUBLE GRATE - TYPE II



SECTION B

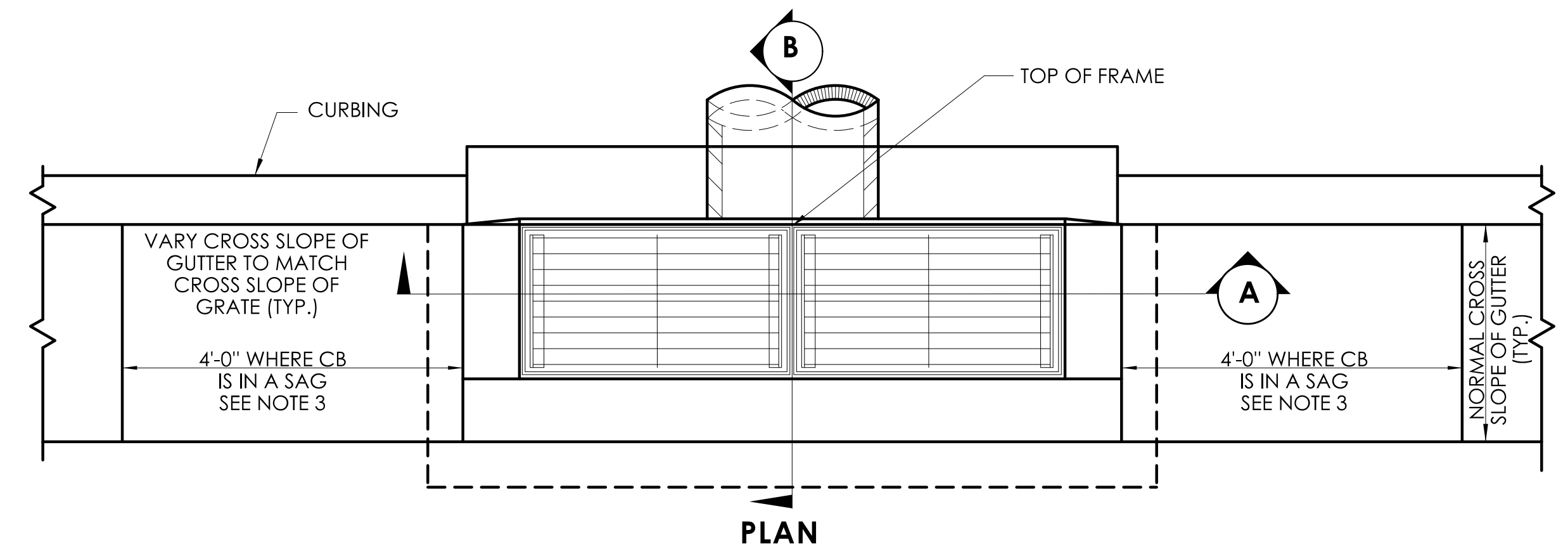


SECTION A

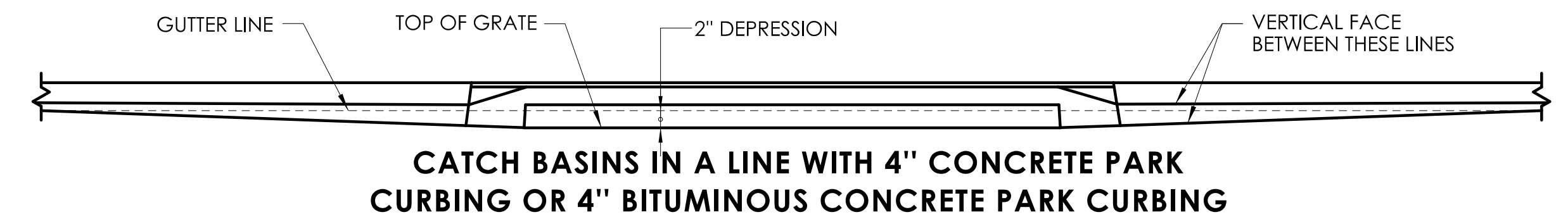
TYPE "C-L" CATCH BASIN DOUBLE GRATE - TYPE II

**GENERAL NOTES:**

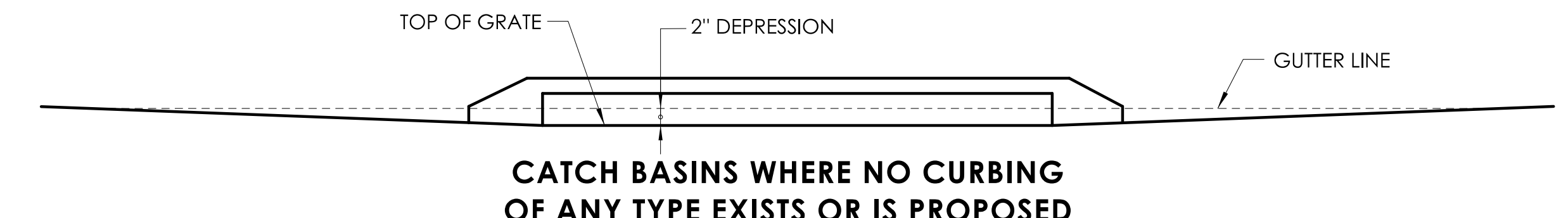
1. FOR CATCH BASIN TOPS, SEE SHEET NO. HW-586\_07.
2. ALL THE FACES OF THE STRUCTURE IN CONTACT WITH CONCRETE PAVEMENT SHALL BE COVERED WITH A LAYER OF TAR PAPER OR APPROVED EQUAL.
3. USE 6'-0" ON UPGRADE SIDE (SEE PLAN VIEW) OF CONTINUOUS GRADE AND 1'-0" ON DOWNGRADE SIDE OF CONTINUOUS GRADE AS DIRECTED BY THE ENGINEER.
4. IF MASONRY UNITS ARE REQUIRED, THE BASIN SHALL BE CONSTRUCTED IN CONFORMANCE WITH DIMENSIONS SHOWN. CORBELLING SHALL BE PERMITTED TO A MAXIMUM OF 3". NO PROJECTION SHALL EXTEND INSIDE THE LIMITS NOTED BY \*\*.
5. WALL THICKNESS OF ALL CATCH BASINS OVER 10' DEEP SHALL BE INCREASED TO 12" THICK. INSIDE DIMENSION SHALL REMAIN THE SAME. 12" THICKNESS SHALL START AFTER THE FIRST 10'.
6. SPACERS CAN BE EITHER CONCRETE MASONRY UNIT OR PRECAST, WITH THE REQUIRED REINFORCING (RECOMMENDED BY THE MANUFACTURER) AS NEEDED TO PROVIDE THE PROPER GRADE SHOWN ON THE PLANS.
7. TOP OF FRAME ELEVATION SHALL BE MEASURED IN BETWEEN BOTH GRATES AT THE GUTTER.



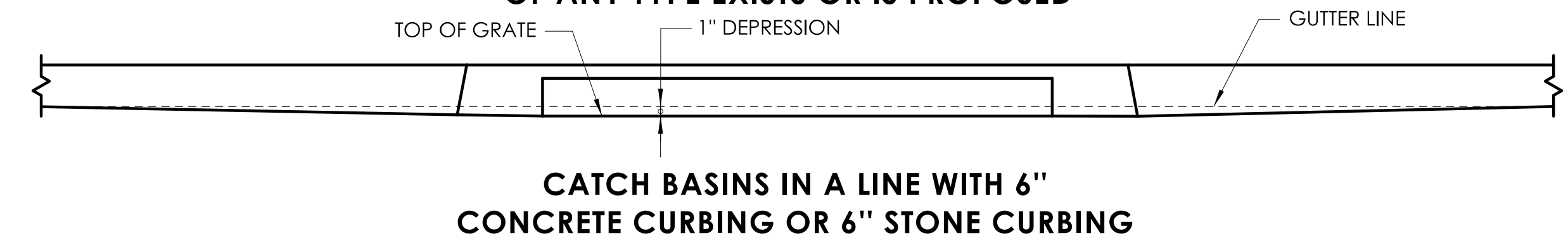
PLAN



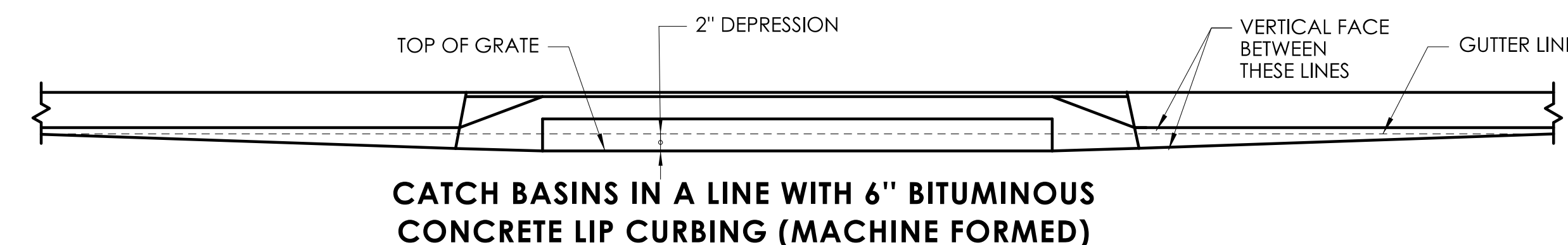
CATCH BASINS IN A LINE WITH 4" CONCRETE PARK CURBING OR 4" BITUMINOUS CONCRETE PARK CURBING



CATCH BASINS WHERE NO CURBING OF ANY TYPE EXISTS OR IS PROPOSED



CATCH BASINS IN A LINE WITH 6" CONCRETE CURBING OR 6" STONE CURBING



CATCH BASINS IN A LINE WITH 6" BITUMINOUS CONCRETE LIP CURBING (MACHINE FORMED)

DETAILS OF DEPRESSED GUTTER STRIP FOR TYPE "C" CATCH BASIN DOUBLE GRATE TYPE II

NOT TO SCALE

SIGNATURE BLOCK:  
OFFICE OF ENGINEERING  
2800 BERLIN TURNPIKE  
NEWINGTON, CT 06111

SUBMITTED BY:  
Digitally signed by  
Leo Fontaine, P.E.  
Date: 2022.09.27  
14:31:43-04'00'

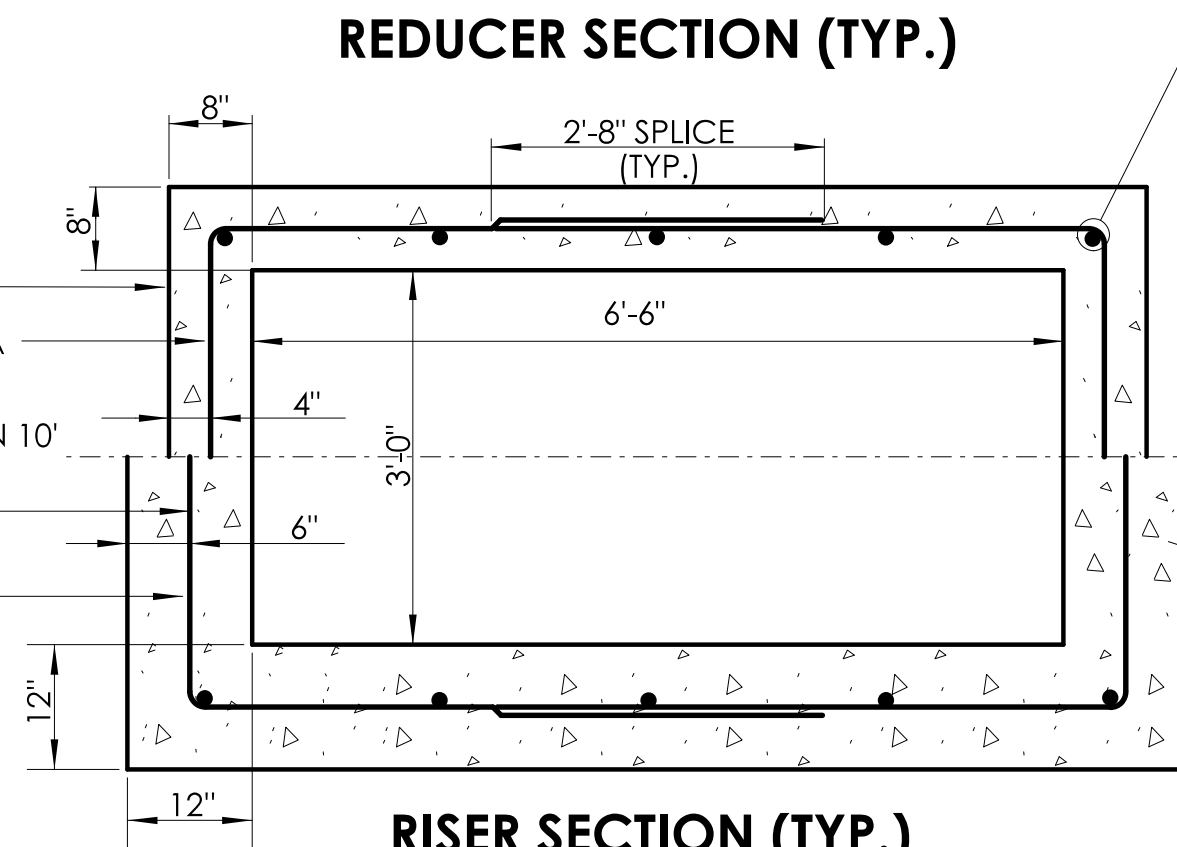
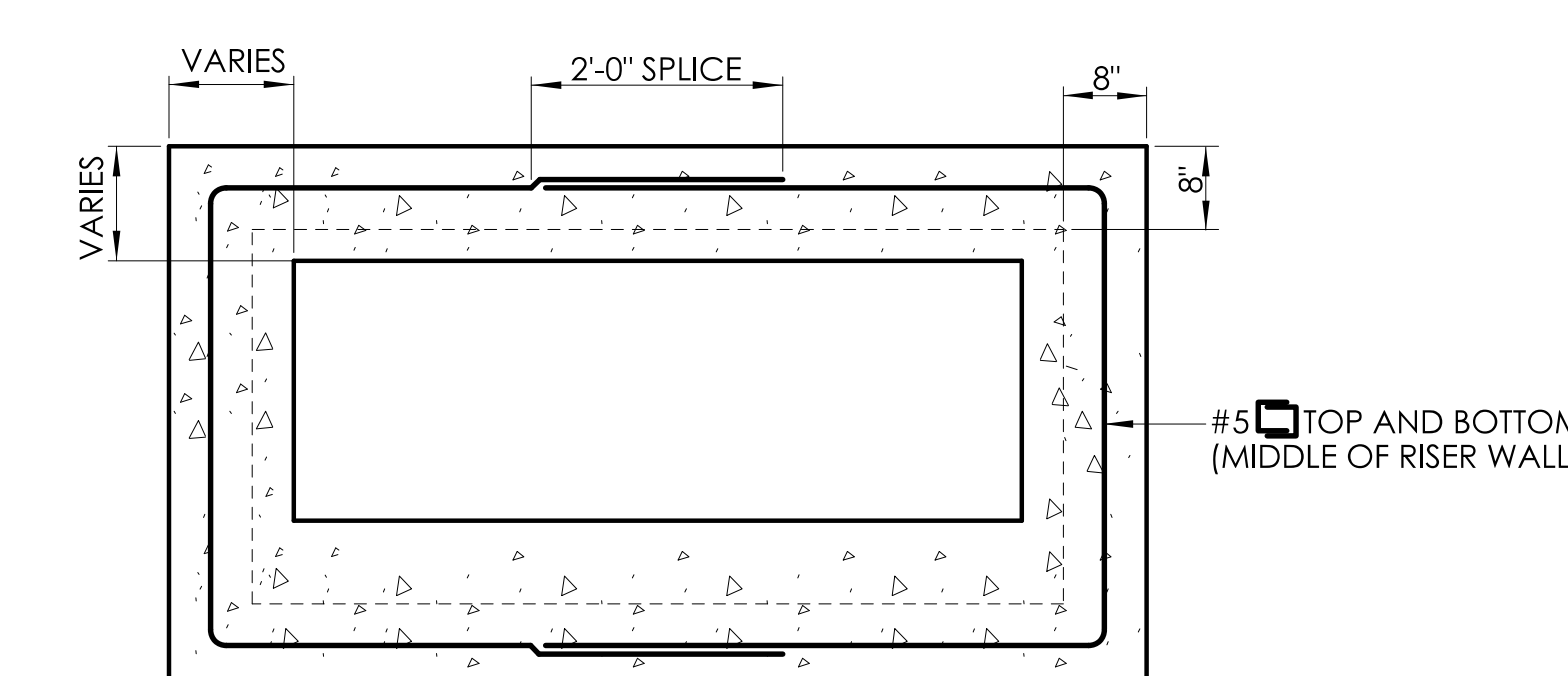
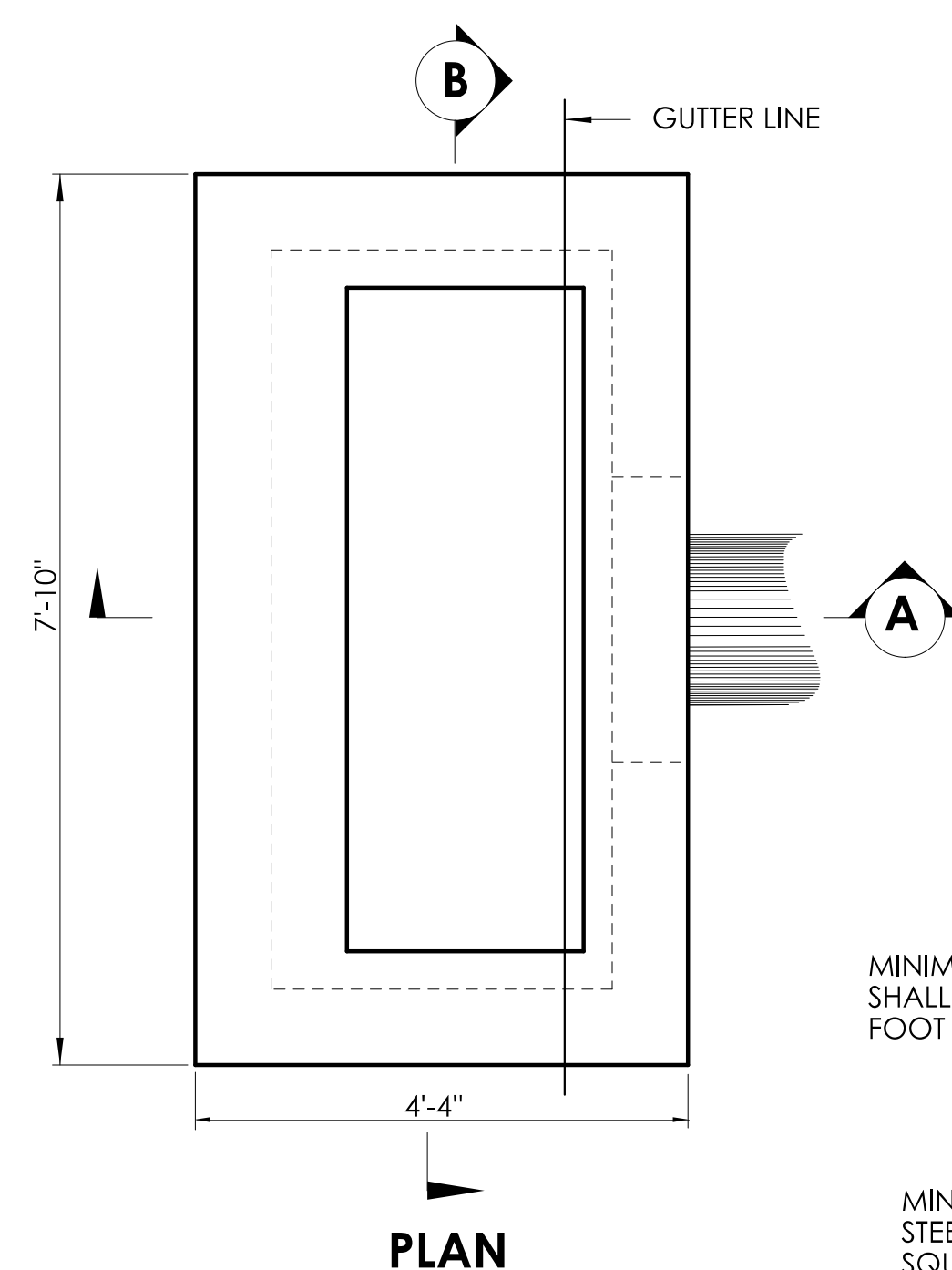
APPROVED BY:  
Digitally signed by  
Michael J. Calabrese,  
Michael  
Date: 2022.11.08  
11:50:39-05'00'



CTDOT  
STANDARD SHEET

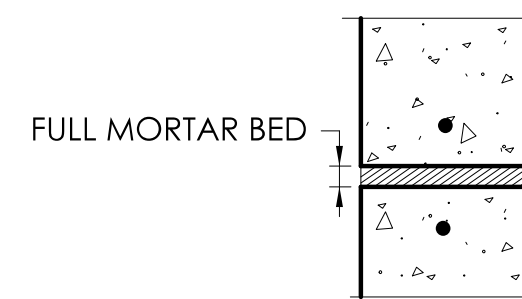
STANDARD SHEET TITLE:  
CATCH BASIN ( TYPES "C" AND "C-L" )  
FOR DOUBLE GRATE TYPE II STRUCTURES

STANDARD SHEET NO.:  
HW- 586\_03

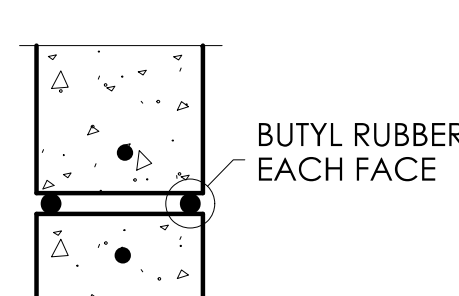


PLACE VERTICAL STEEL AS REQUIRED TO HOLD CIRCUMFERENTIAL STEEL IN POSITION DURING CASTING (TYP.)

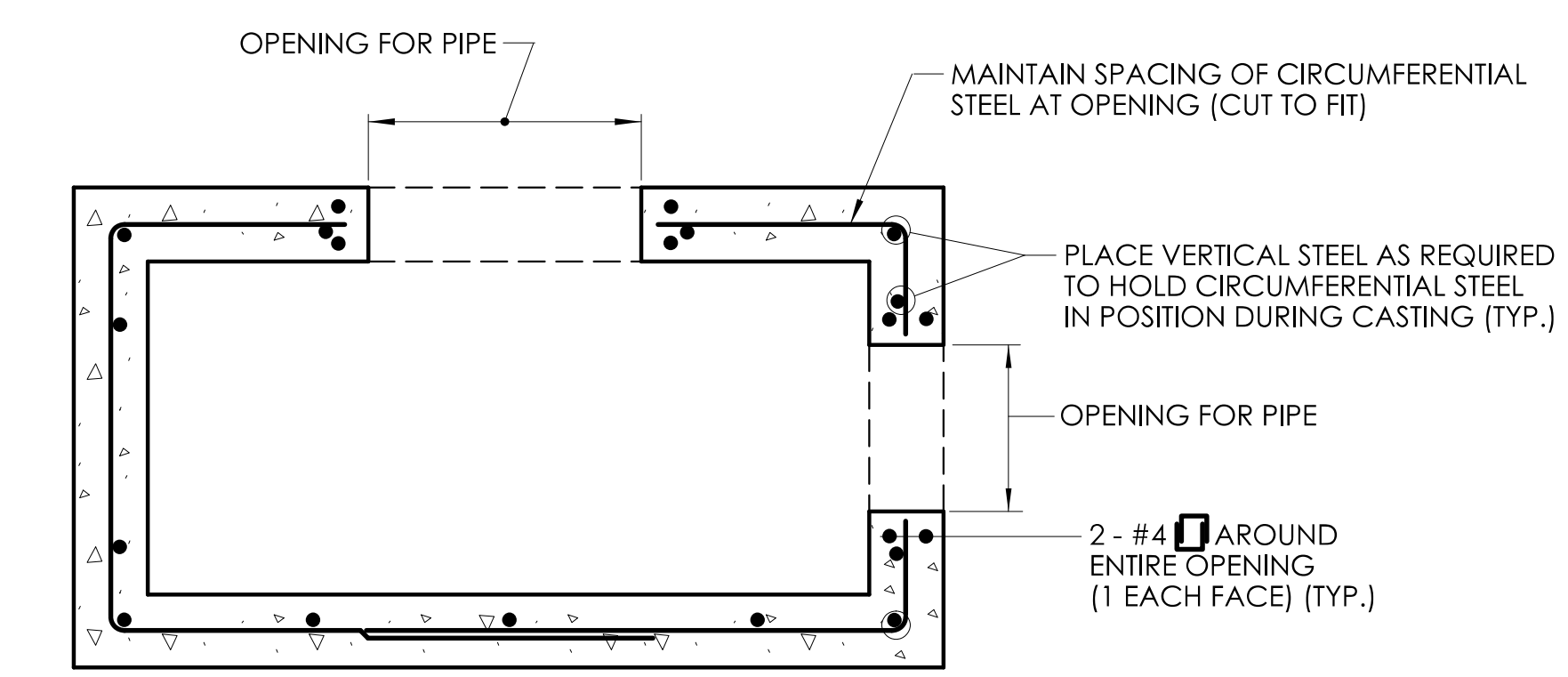
CATCH BASINS 10' DEEP OR LESS  
MINIMUM CIRCUMFERENTIAL STEEL AREA SHALL BE 0.44 SQUARE INCHES PER FOOT  
CATCH BASINS GREATER THAN 10' AND LESS THAN 20' DEEP (SEE NOTE 3 AND 4)  
MINIMUM CIRCUMFERENTIAL STEEL AREA SHALL BE 0.44 SQUARE INCHES PER FOOT



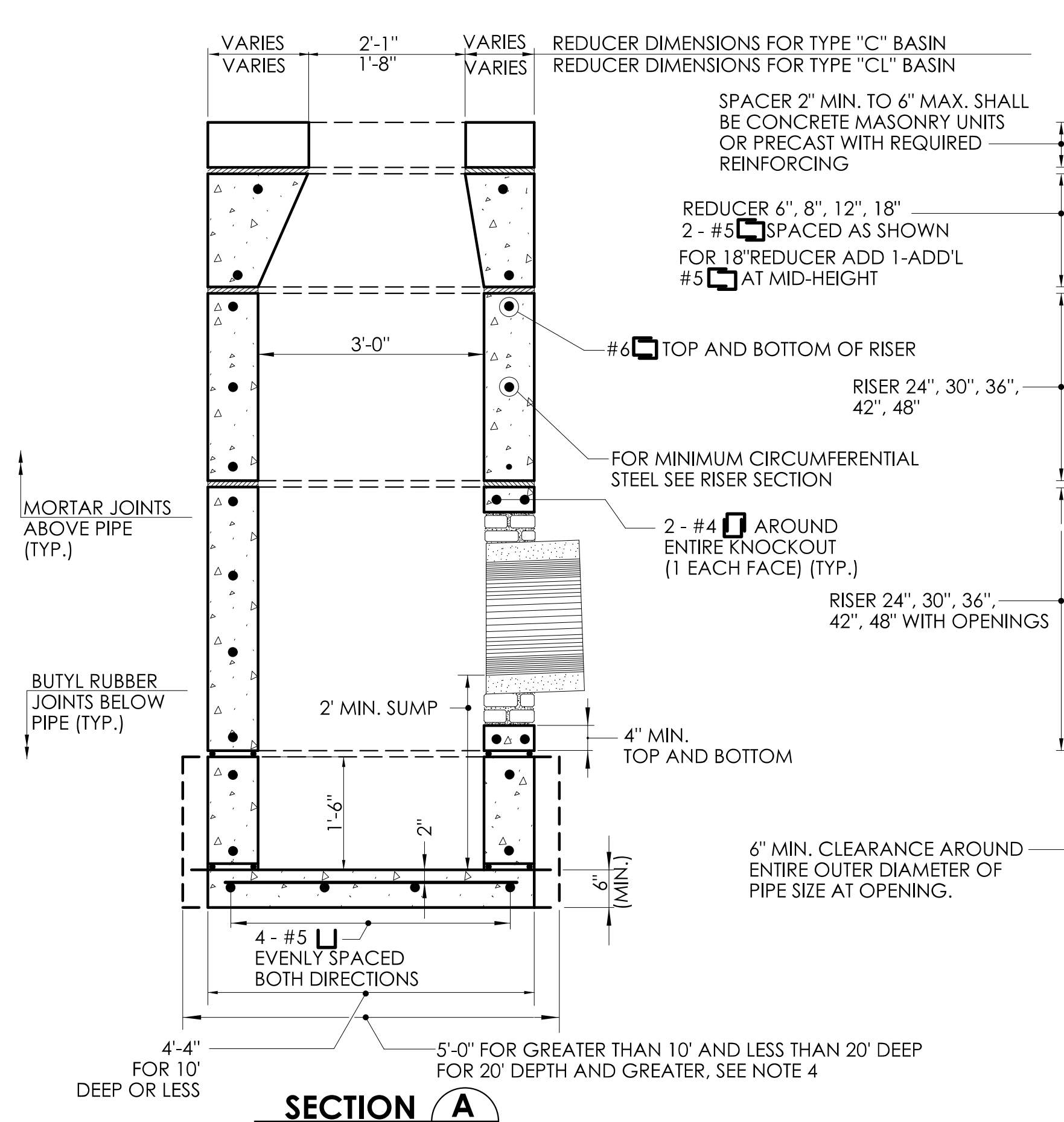
MORTAR JOINT



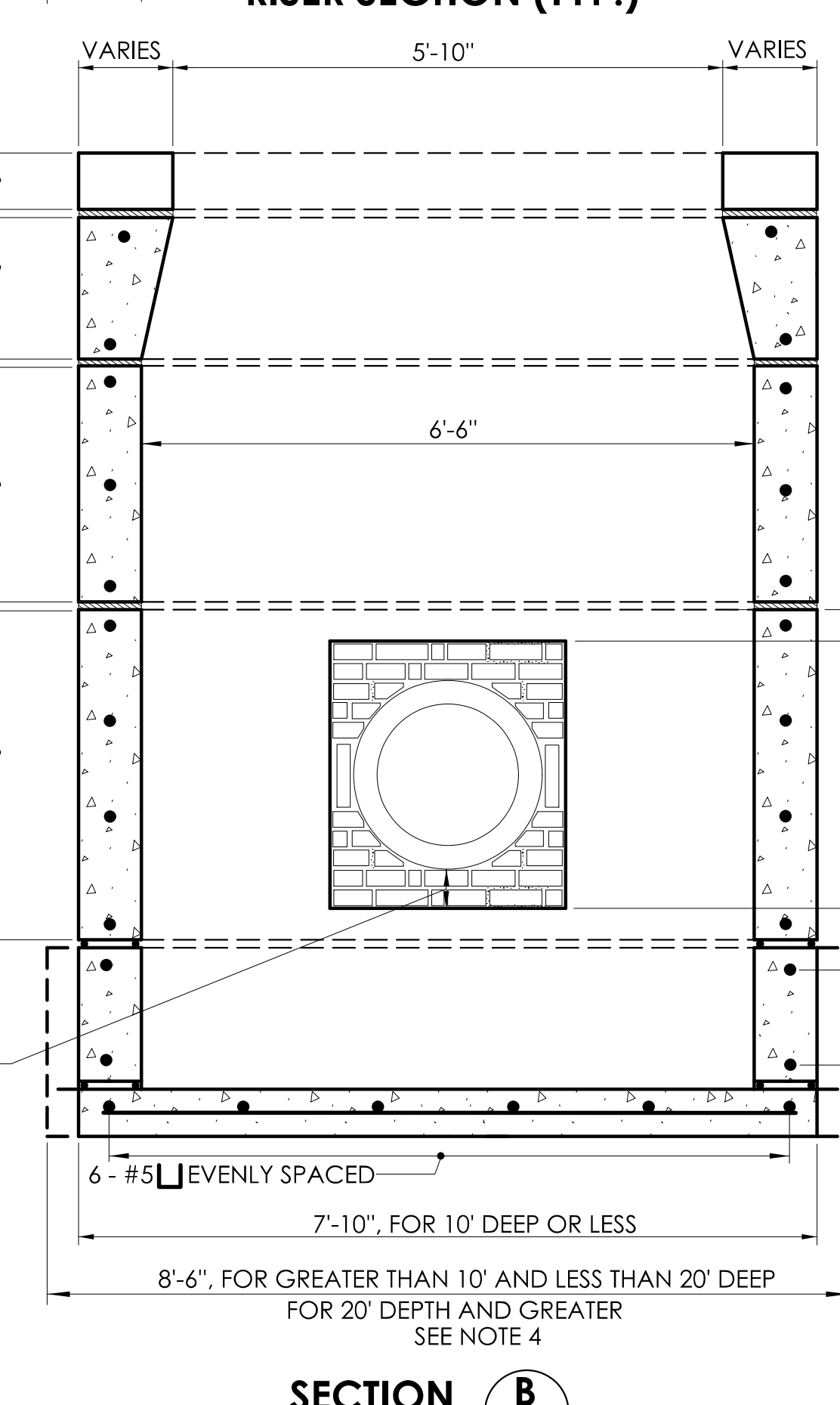
BUTYL RUBBER JOINT



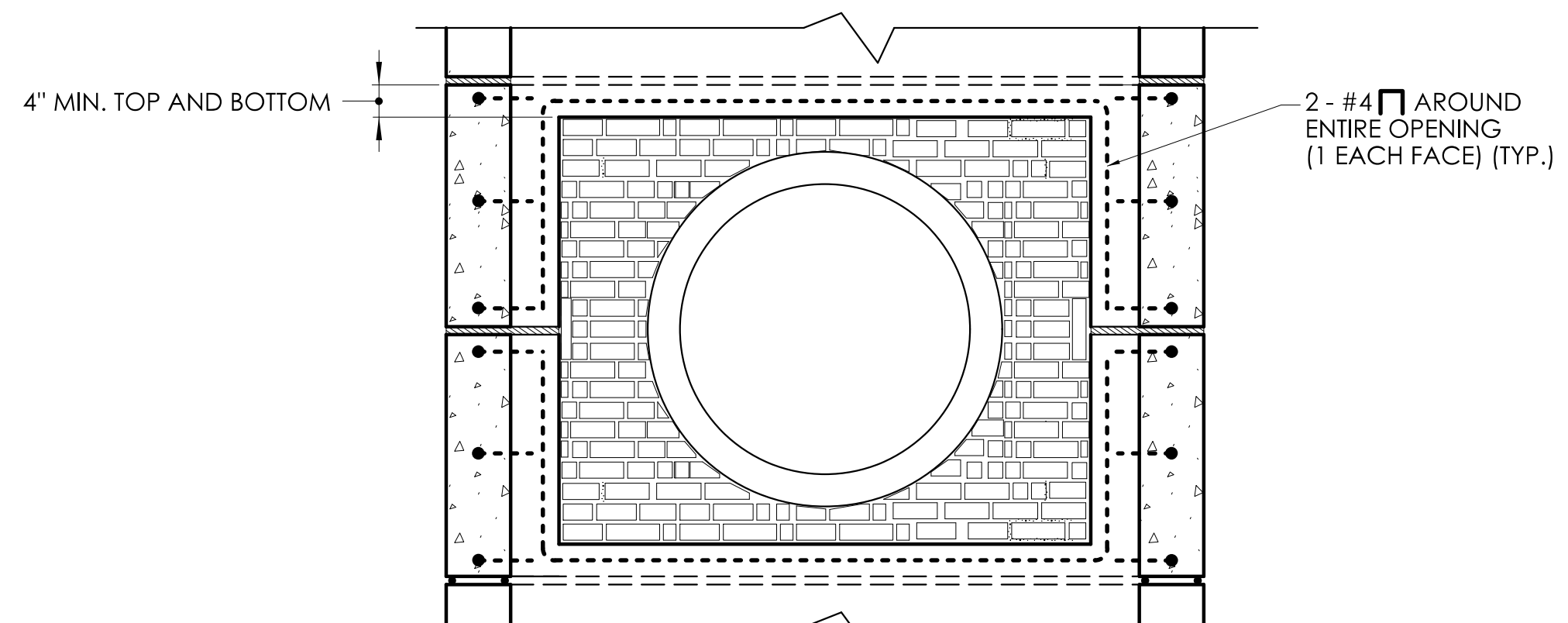
TYPICAL SECTION THROUGH SINGLE RISER WITH OPENINGS



SECTION A



SECTION B



DOUBLE RISER OPENING (TYP.) PIPES GREATER THAN 24" OUTSIDE DIAMETER

**GENERAL NOTES:**

1. WELDED WIRE FABRIC WITH AN AREA EQUAL TO OR GREATER THAN THE REINFORCING SHOWN MAY BE SUBSTITUTED AS APPROVED BY THE ENGINEER.
2. ALL REINFORCEMENT SHALL HAVE A MINIMUM CLEAR COVER OF 2 INCHES EXCEPT FOR BENEATH BOTTOM REINFORCEMENT IN TOP SLABS, WHERE THE MINIMUM MAY BE 1 1/2 INCHES.
3. WALL THICKNESS OF ALL CATCH BASINS OVER 10 FEET DEEP SHALL BE INCREASED TO 12 INCHES. INSIDE DIMENSIONS SHALL REMAIN THE SAME. THE 12 INCH THICKNESS SHALL START AFTER THE FIRST 10 FEET.
4. BASES AND RISERS AT A DEPTH OF 20 FEET AND GREATER SHALL BE DESIGNED BY THE CONTRACTOR AND WORKING DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
5. RISERS MAY BE PREFABRICATED WITH PIPE OPENINGS IN ALL FOUR WALLS. ADEQUATE REINFORCING AROUND PIPE OPENINGS SHALL BE PROVIDED. RISERS USED WHERE A PIPE OPENING IS TO REMAIN IN PLACE MUST BE FORMED UP WITH BRICK AS DIRECTED BY THE ENGINEER.
6. RISERS SHALL NEVER HAVE CORNER PIPE ENTRIES. ROUND STRUCTURES SHALL BE USED WHEN PIPES CANNOT ALIGN WITH A RECTANGULAR STRUCTURE KNOCKOUT.
7. FOR CATCH BASIN TOPS, SEE SHEET NO. HW-586\_07.

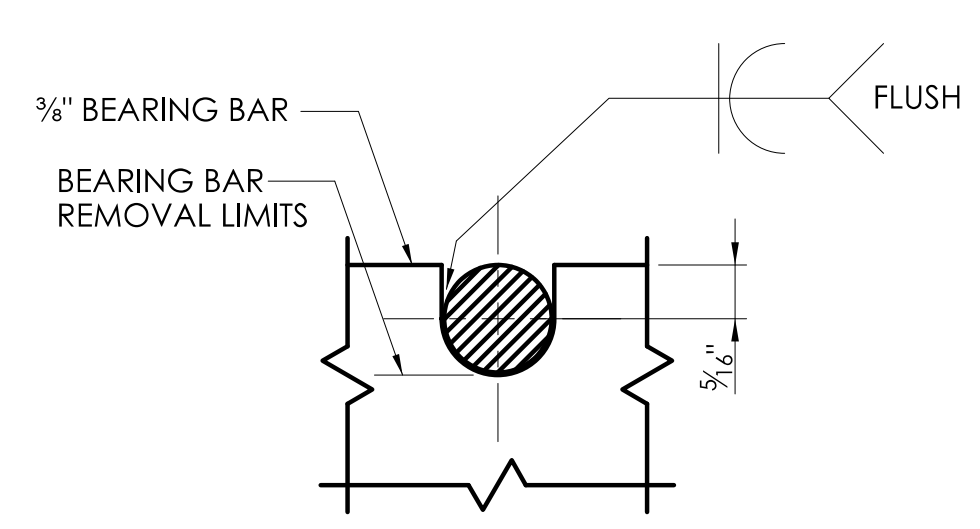
**PRECAST CONCRETE TYPE "C" AND "C-L" DOUBLE GRATE TYPE II CATCH BASIN**  
(UNDER 10' DEEP SHOWN)

NOT TO SCALE	SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111	SUBMITTED BY: Lito Fontaine, P.E. Date: 2022.09.27 14:33:02-04'00'	APPROVED BY: Digitally signed by Michael J. Calabrese, P.E. Date: 2022.11.08 11:45:52-05'00'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	CTDOT STANDARD SHEET	STANDARD SHEET TITLE: PRECAST CATCH BASIN TYPES FOR DOUBLE GRATE TYPE II	STANDARD SHEET NO.: HW-586_06
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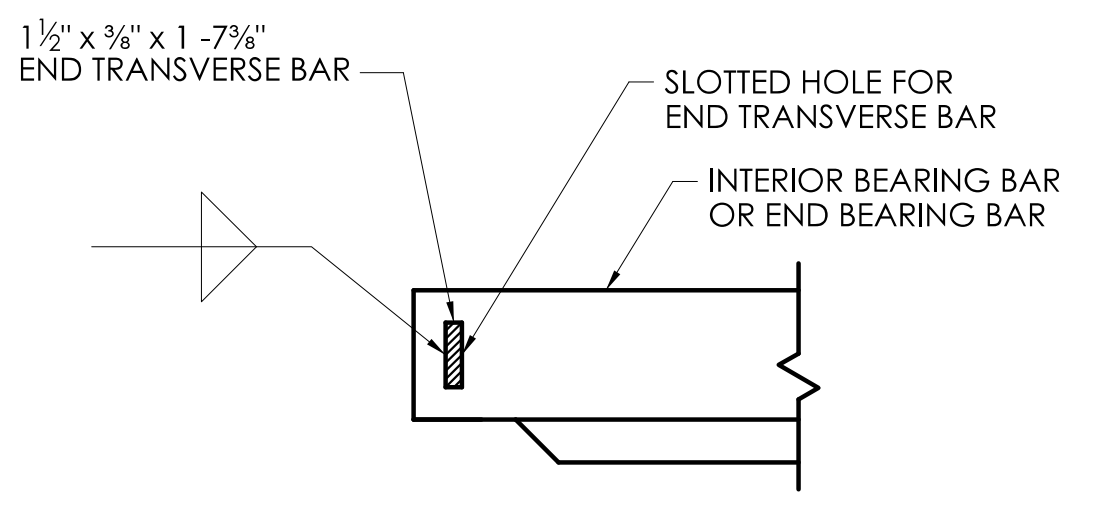


**GENERAL NOTES:**

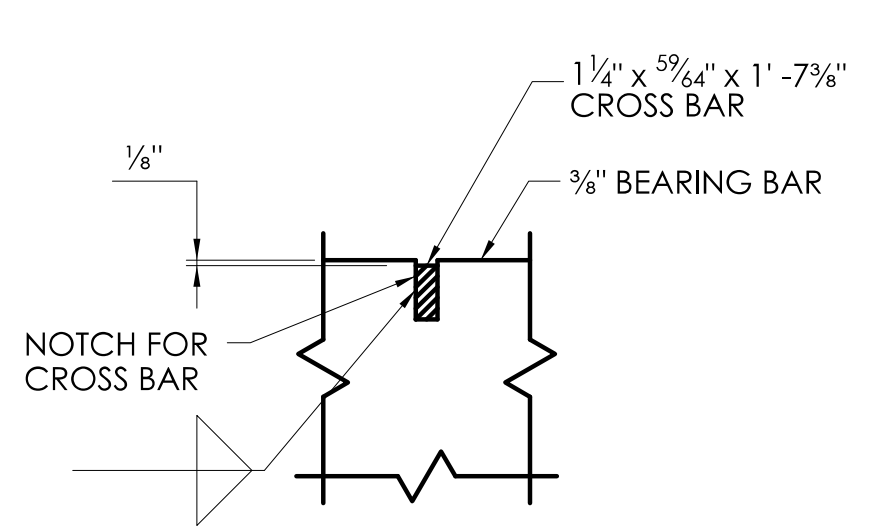
1. STEEL OR CAST IRON SHALL BE USED FOR FRAMES. STEEL SHALL BE USED FOR TYPE "A" AND "B" GRATES.
2. TYPE "A" GRATES SHALL BE USED ON ALL ROADWAYS WHERE BICYCLE TRAFFIC IS ALLOWED OR ON HEAVY DUTY LOCK DOWN TOPS AS DIRECTED BY THE ENGINEER.
3. TYPE "B" GRATES SHALL BE USED ON ALL LIMITED ACCESS HIGHWAYS, RAMPS AND WHERE BICYCLE TRAFFIC IS NOT ALLOWED OR AS DIRECTED BY THE ENGINEER.
4. DO NOT GALVANIZE CAST IRON FRAMES.
5. DIMENSIONAL TOLERANCES SHALL BE  $\pm \frac{3}{16}$ ".
6. ALL STEEL BARS SHALL BE WELDED AT ALL INTERSECTIONS.



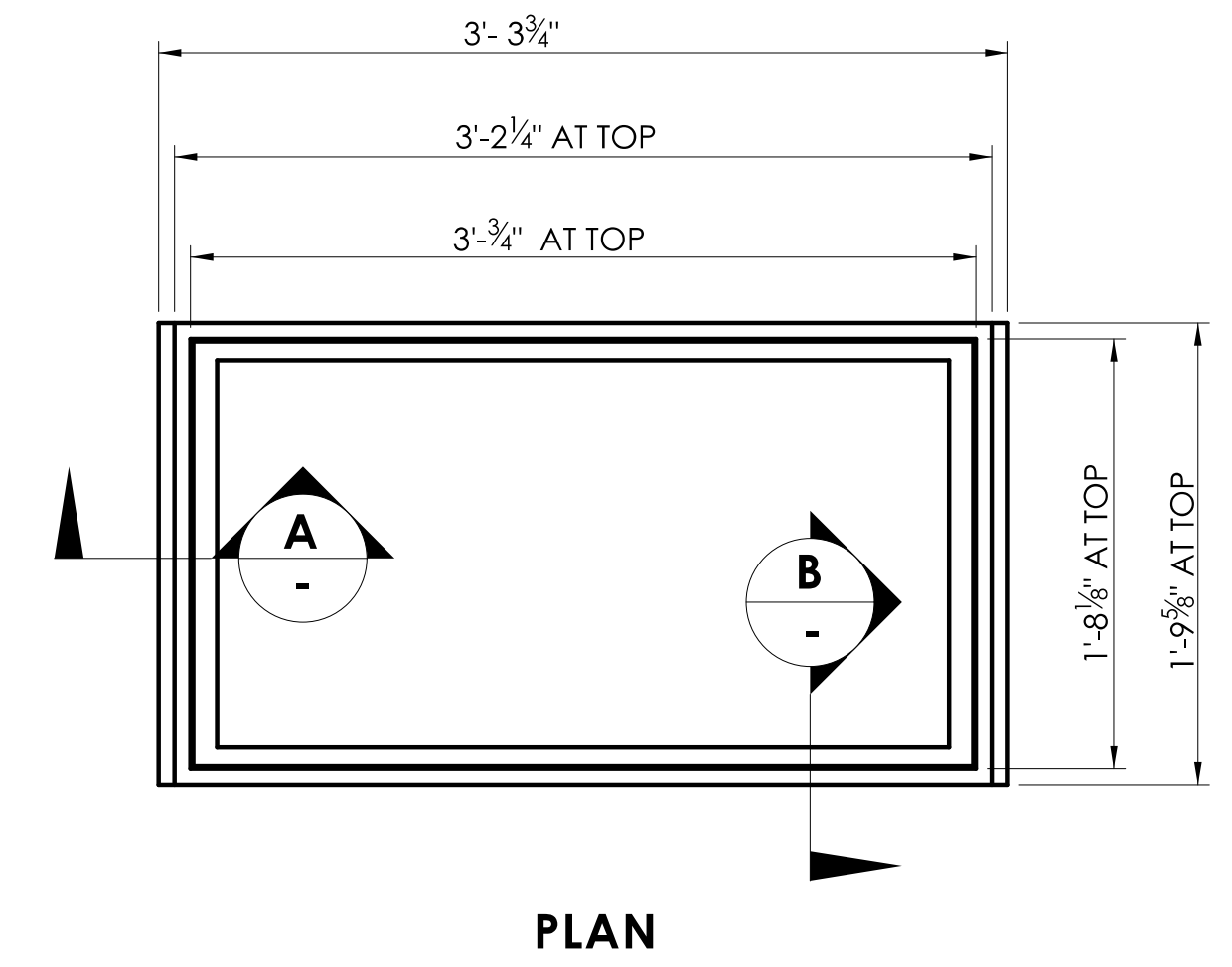
**ROUND BAR ATTACHMENT  
CATCH BASIN GRATE TYPE A**



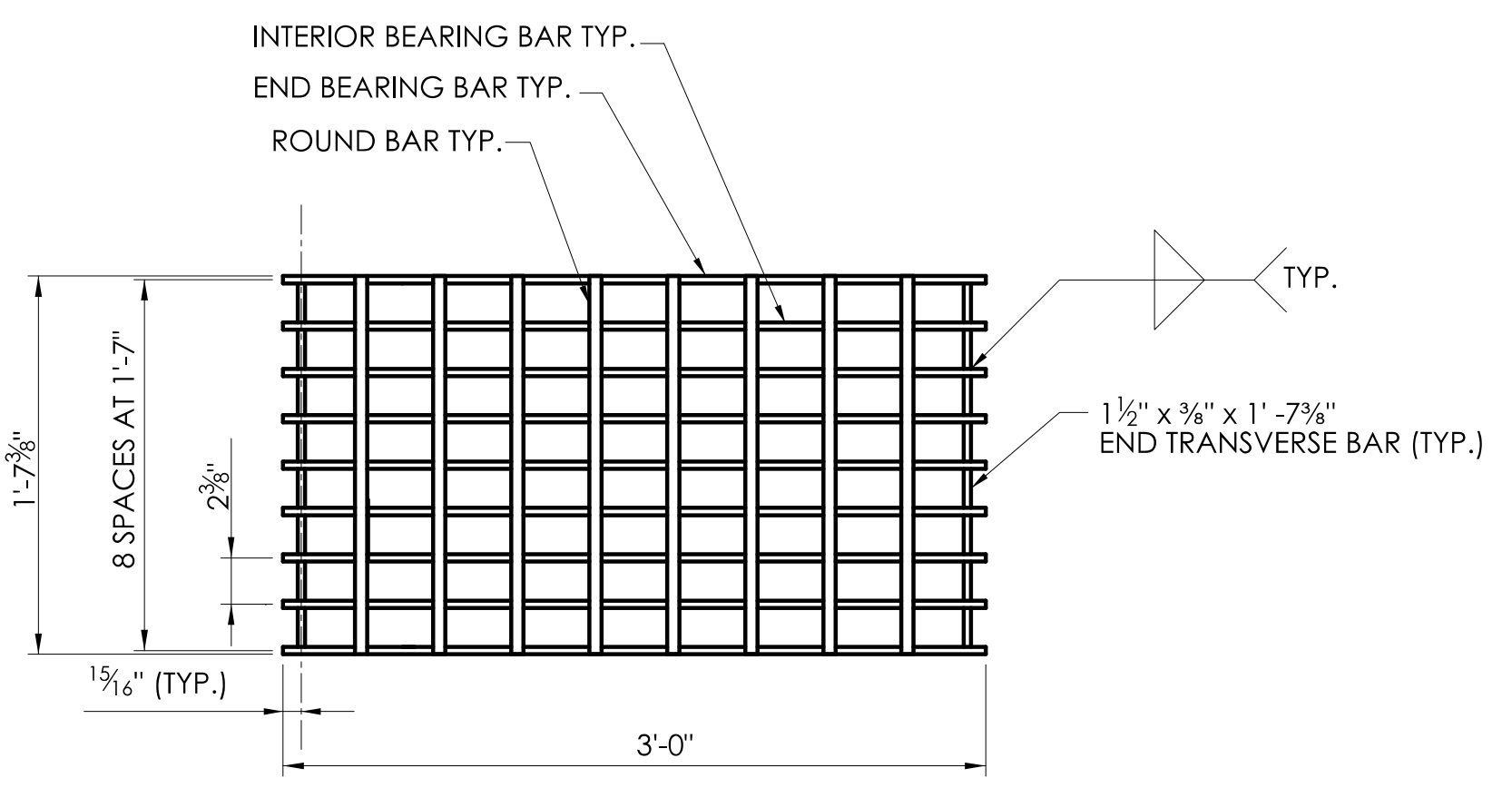
**END TRANSVERSE BAR ATTACHMENT  
CATCH BASIN GRATE TYPE A AND B**



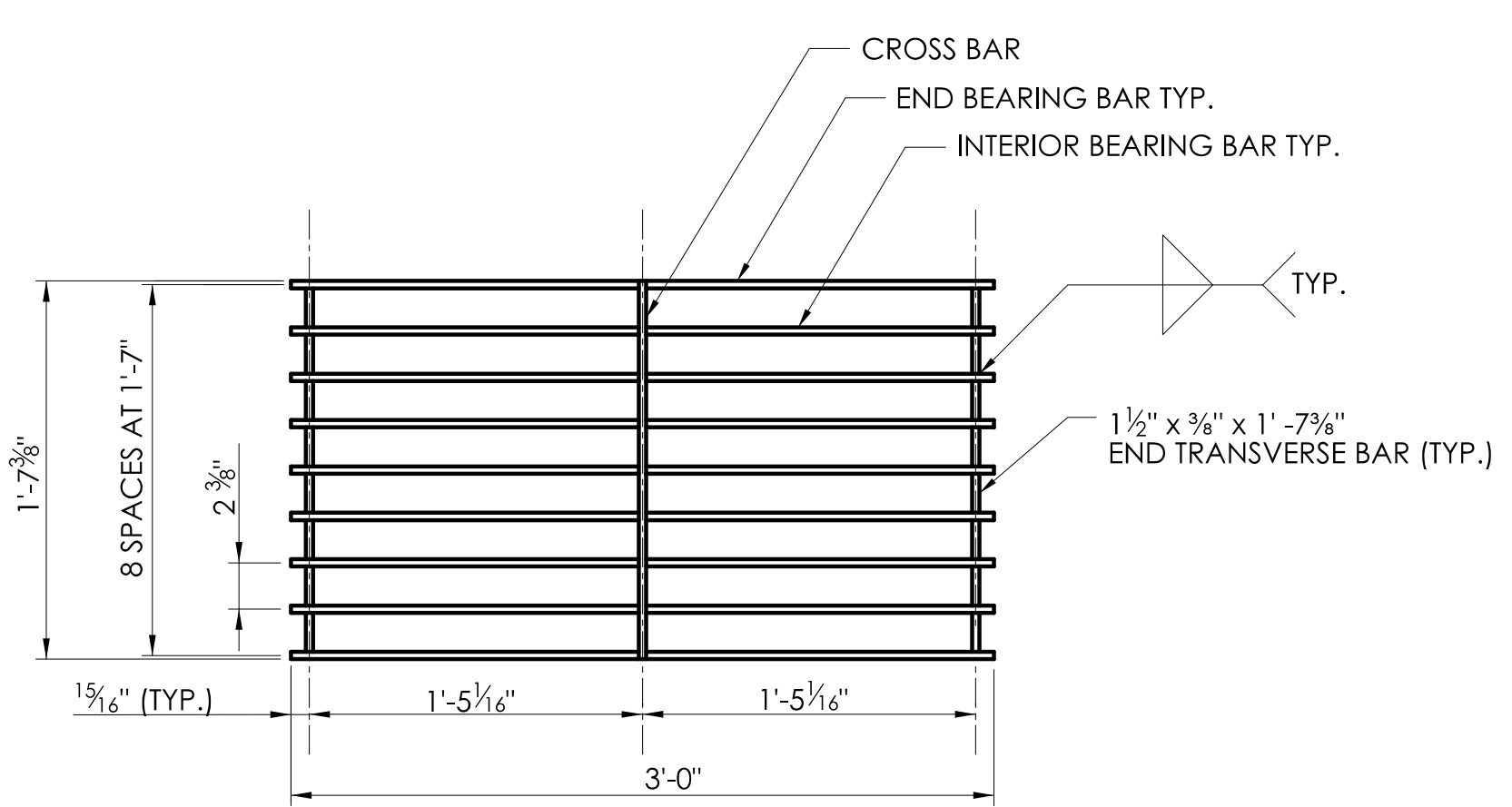
**CROSS BAR ATTACHMENT  
CATCH BASIN GRATE TYPE B**



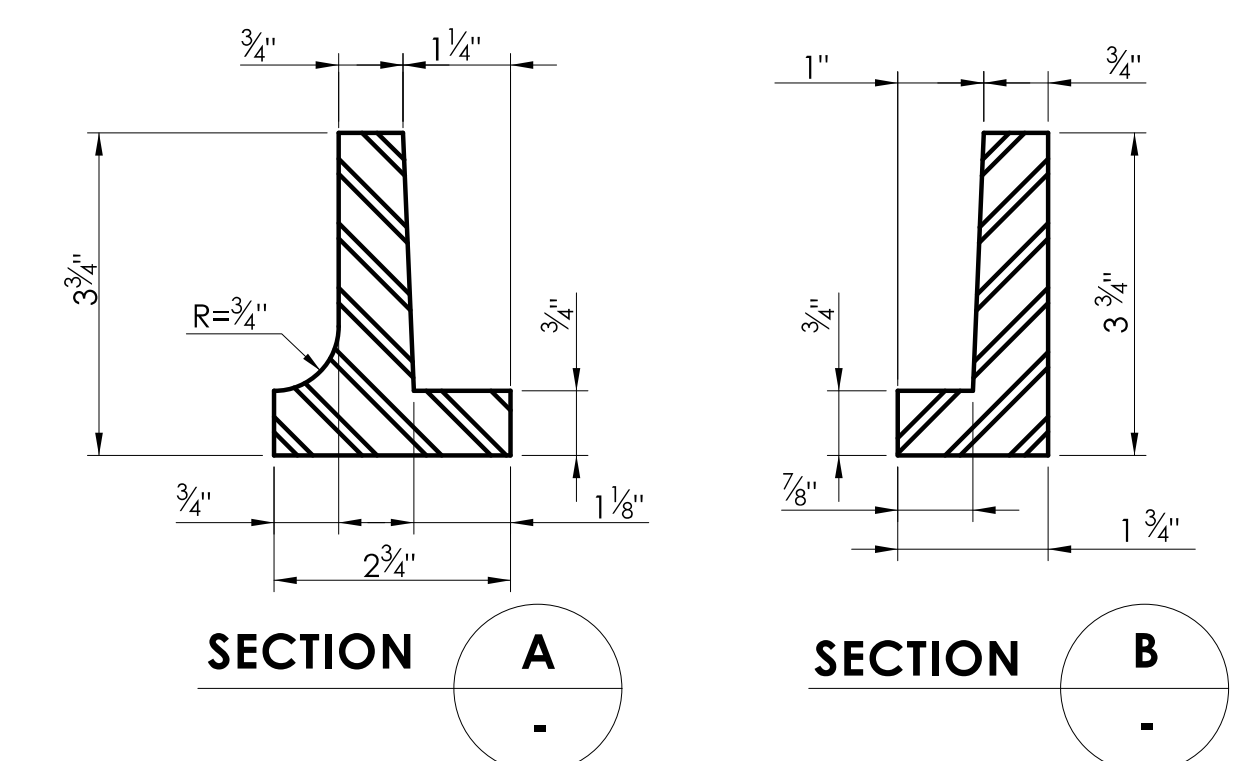
**PLAN**



**PLAN**



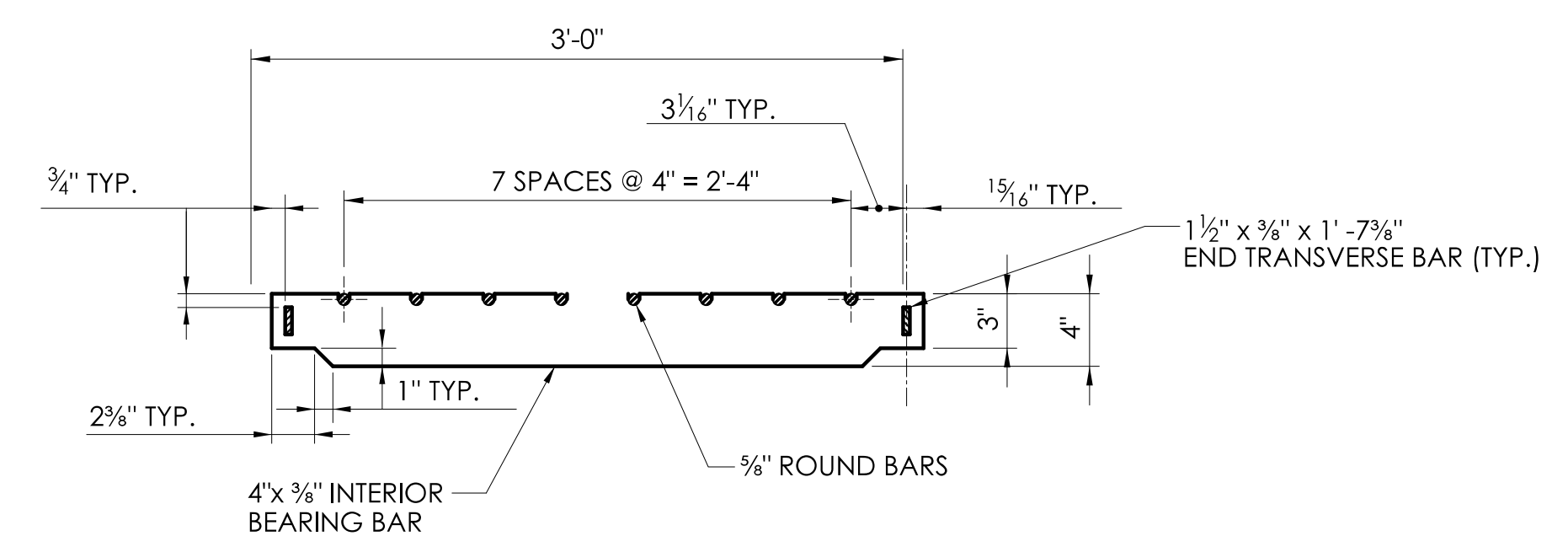
**PLAN**



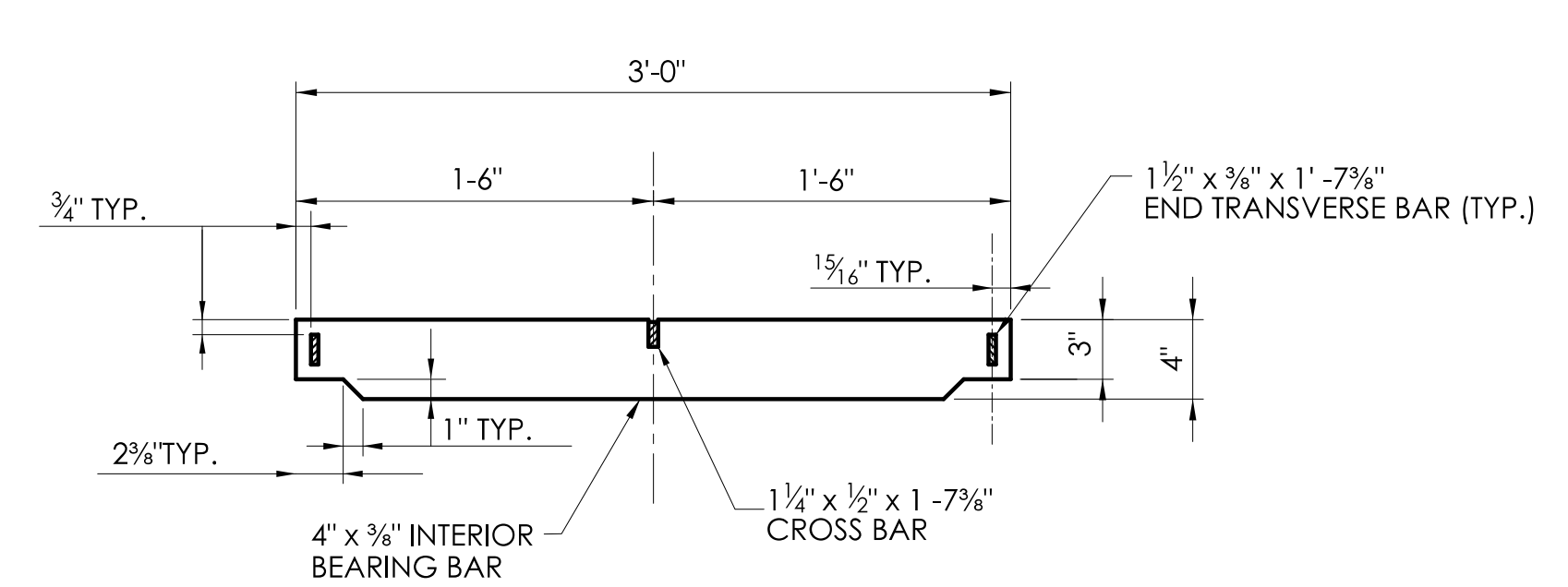
**SECTION A**

**SECTION B**

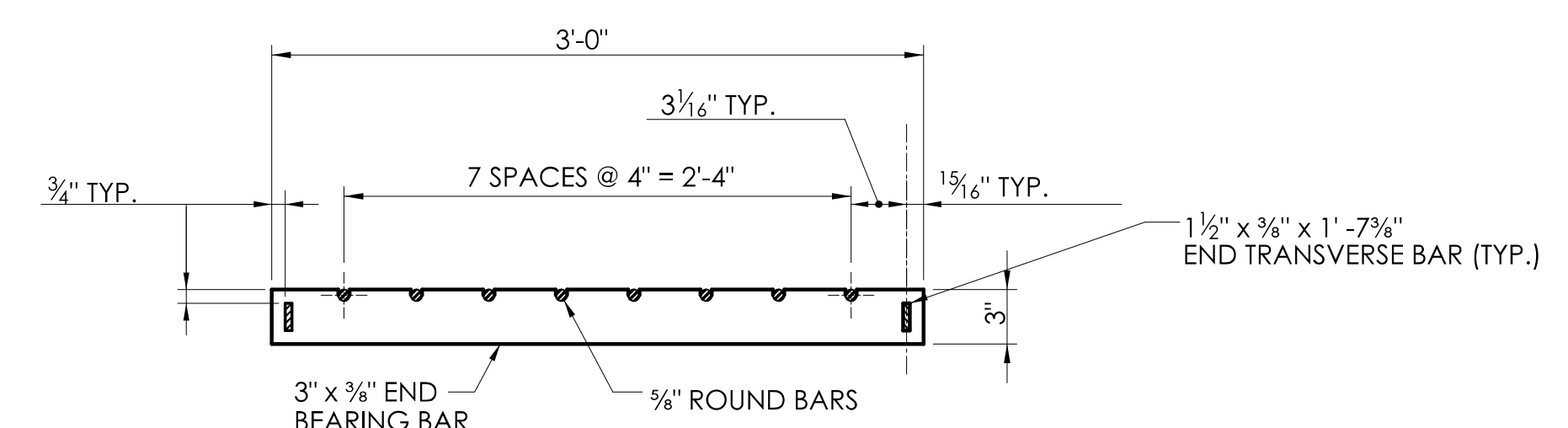
**CAST IRON FRAME ALTERNATE**



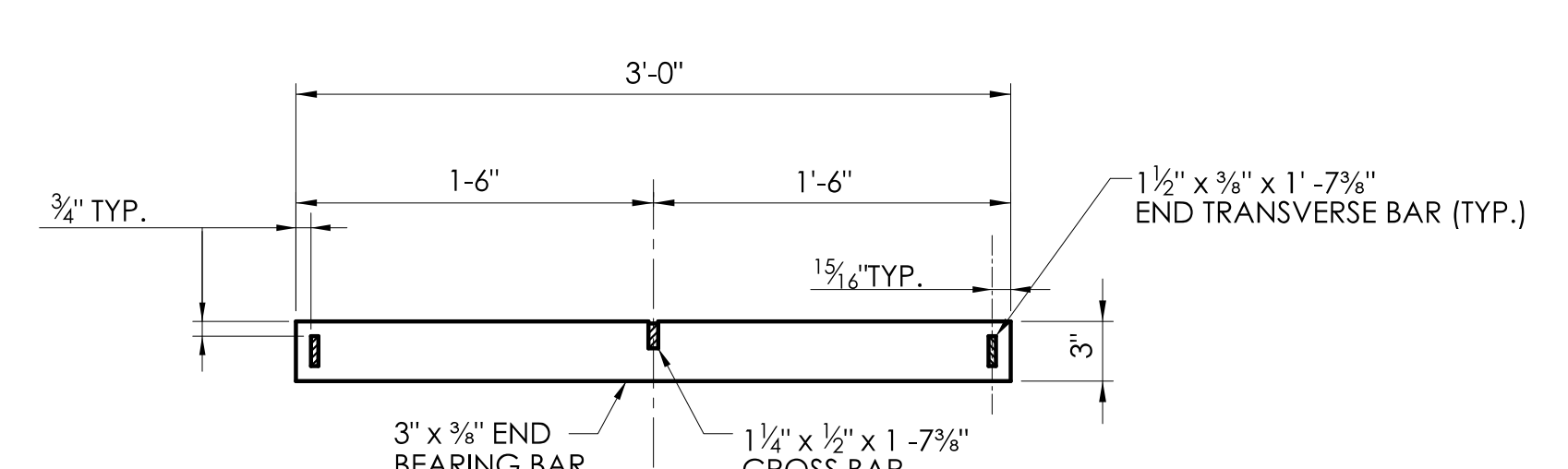
**ELEVATION- INTERIOR BEARING BAR**



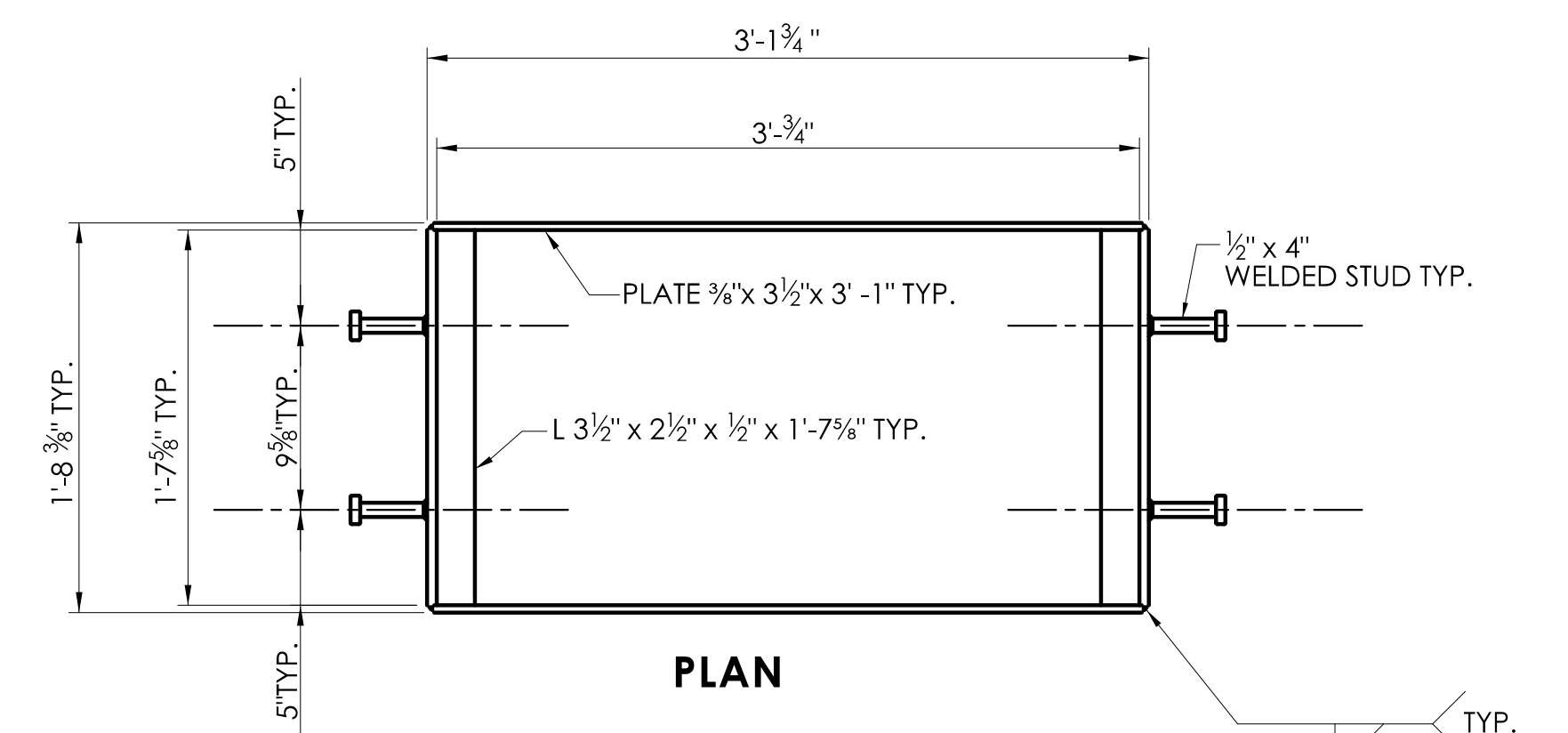
**ELEVATION- INTERIOR BEARING BAR**



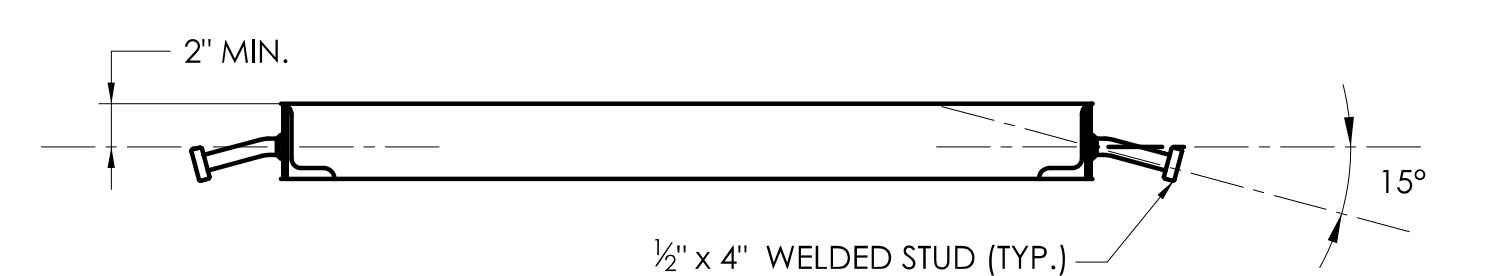
**ELEVATION- END BEARING BAR  
CATCH BASIN GRATE TYPE A**



**ELEVATION- END BEARING BAR  
CATCH BASIN GRATE TYPE B**



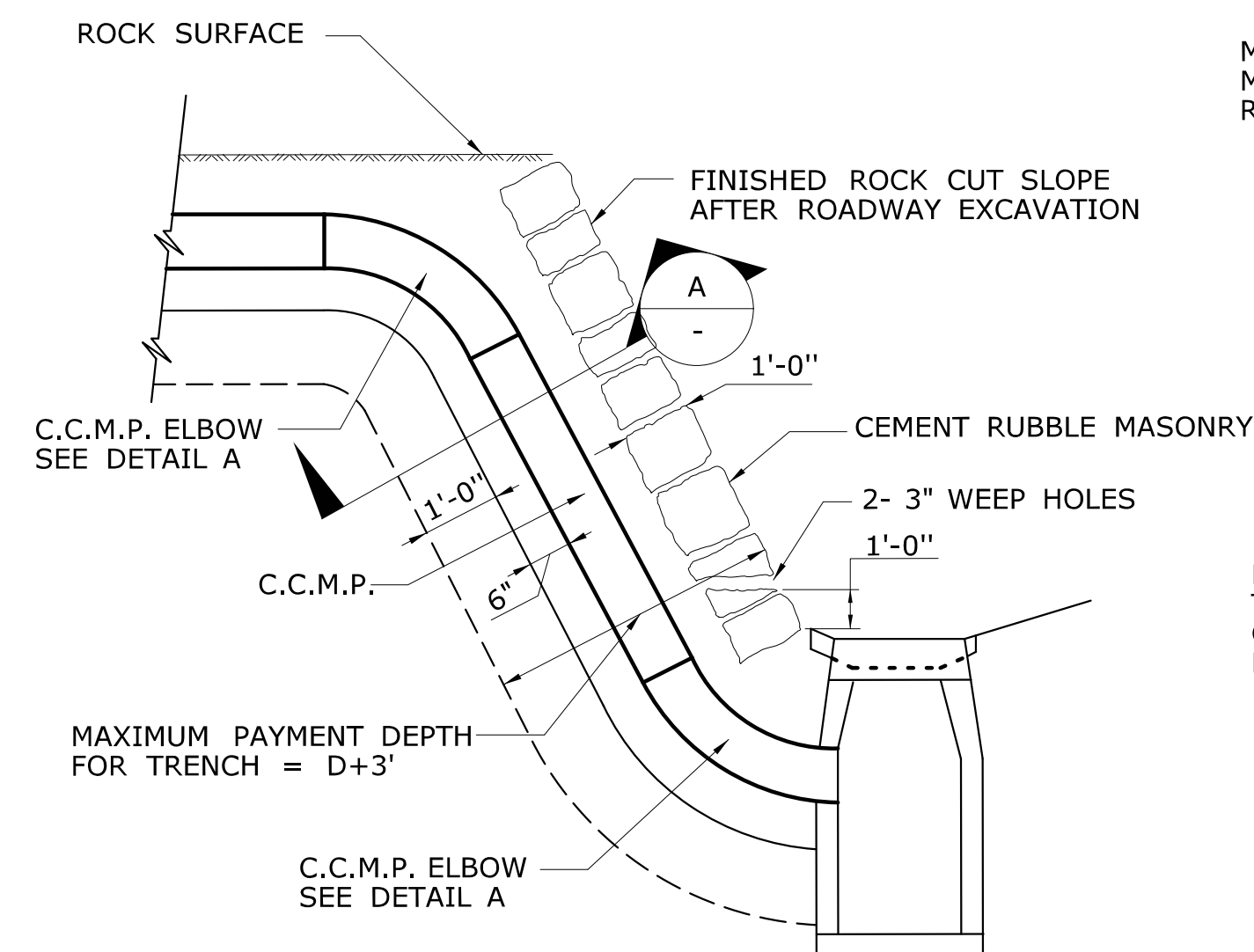
**PLAN**



**WELDED STUD ANCHOR DETAILS  
STEEL FRAME**

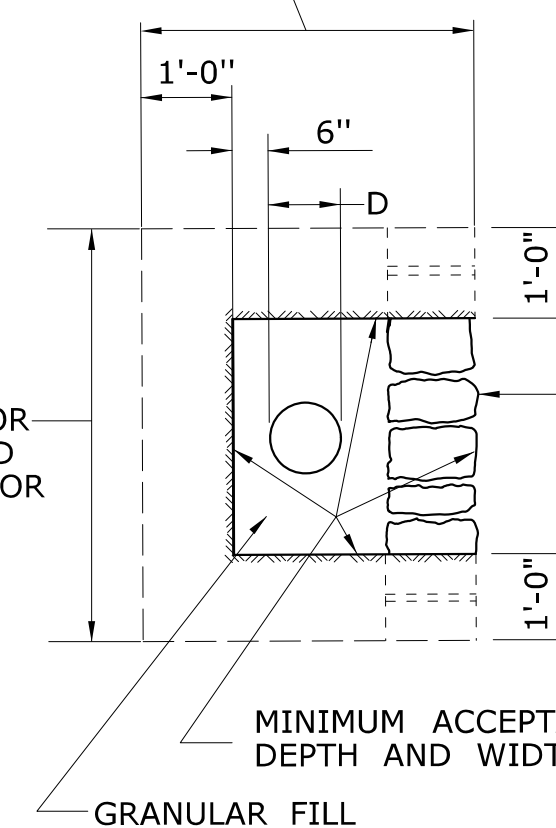
**GENERAL NOTES:**

1. ROCK REMOVED BEYOND THE MAXIMUM LIMIT SHOWN SHALL BE REPLACED WITH CEMENT RUBBLE MASONRY AND GRANULAR FILL.
2. COATED CORRUGATED METAL PPE (C.C.M.P.).
3. D = PIPE DIAMETER.



MAXIMUM DEPTH FOR TRENCH =  $D+3'$   
 MAXIMUM GRANULAR FILL =  $D+2'$  FOR ROCK ACTUALLY REMOVED.

MAXIMUM WIDTH =  $D+4'$  FOR TRENCH, GRANULAR FILL AND CEMENT RUBBLE MASONRY FOR ROCK ACTUALLY REMOVED.



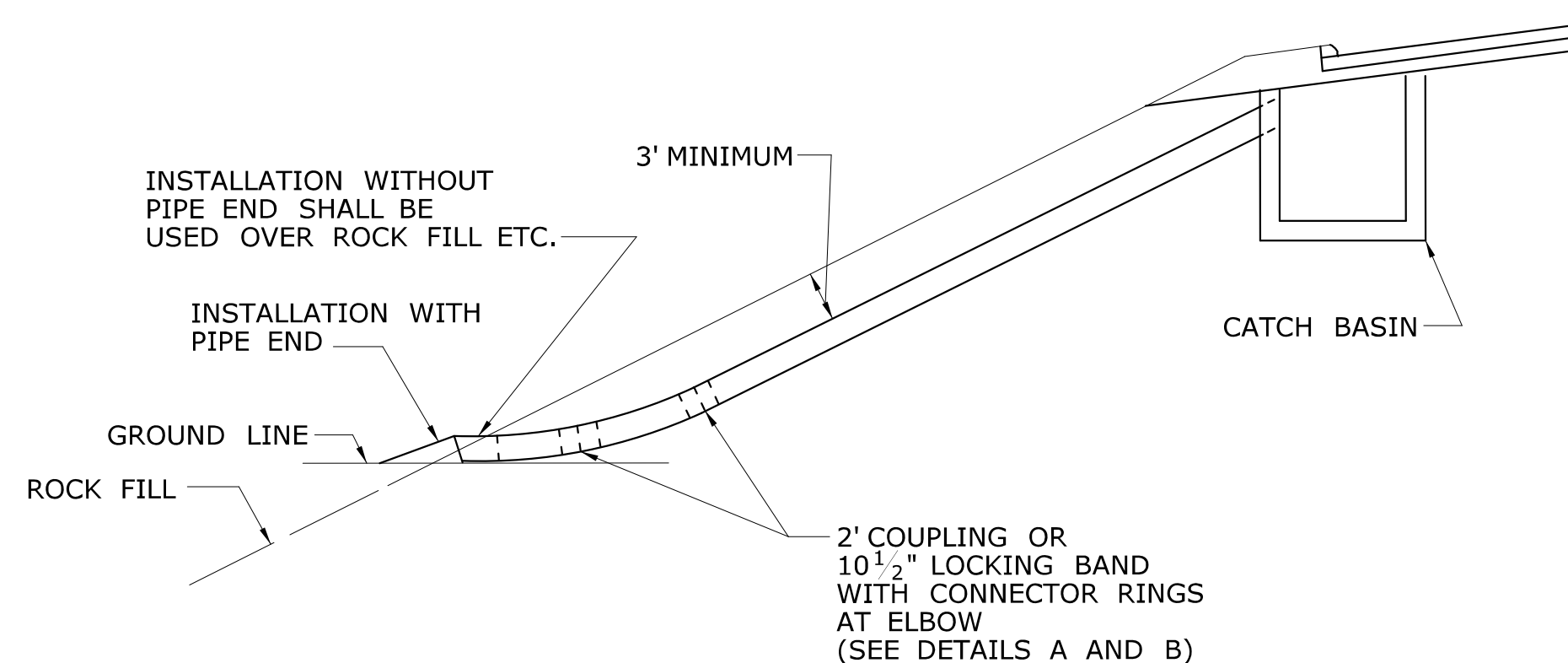
**SECTION A**

1'-0" CEMENT RUBBLE MASONRY FOR FULL WIDTH OF TRENCH OPENED. THE CEMENT RUBBLE MASONRY SHALL BE COMPOSED OF ROCK OF THE SAME APPEARANCE AS, OR SIMILAR TO THE ADJACENT ROCK CUT.

MINIMUM ACCEPTABLE DIMENSIONS FOR DEPTH AND WIDTH =  $D+2'$  (EACH)

GRANULAR FILL

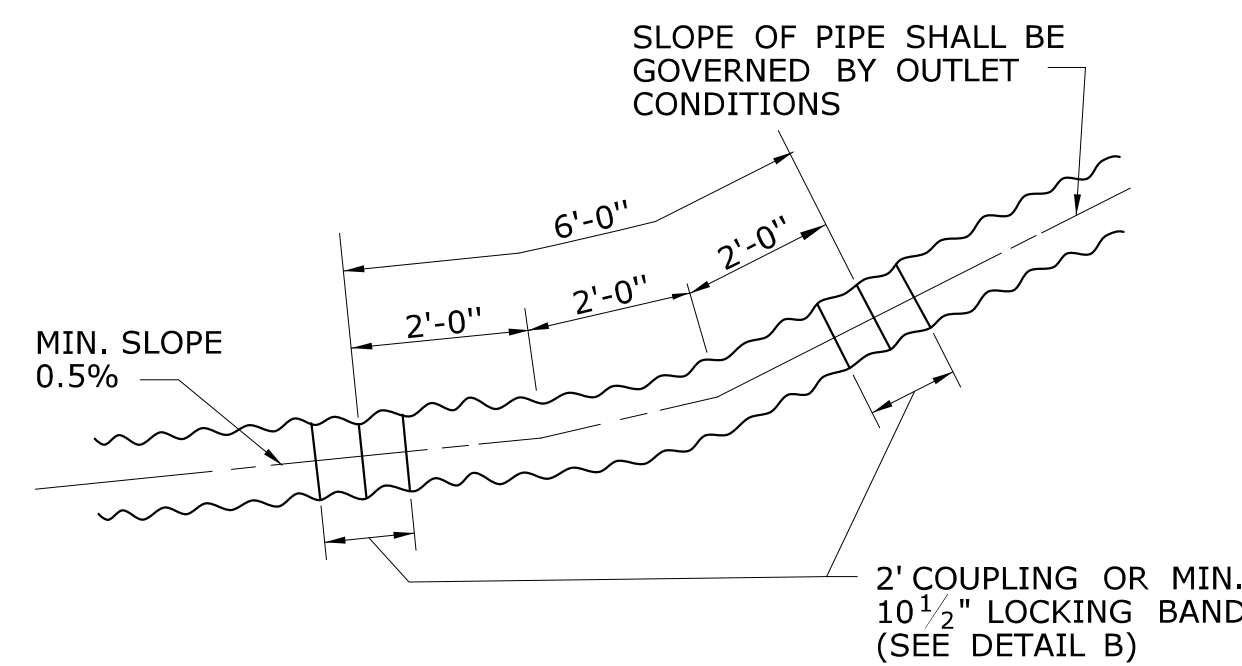
**TYPICAL INSTALLATION OF C.C.M.P. IN ROCK SLOPE**



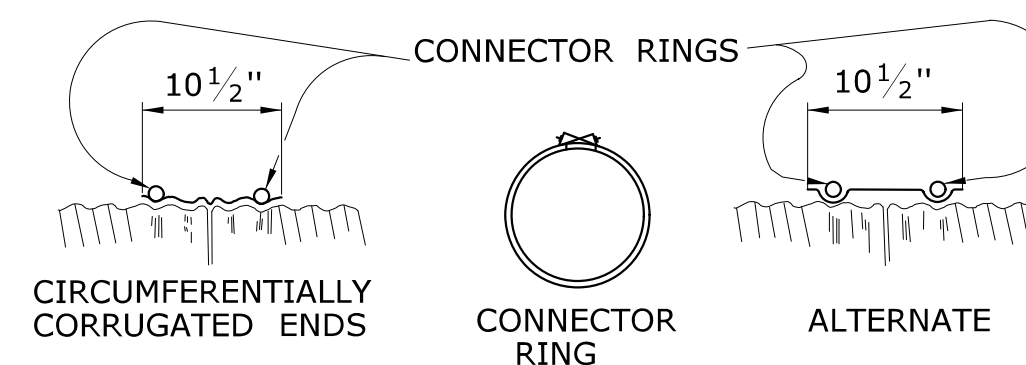
**TABLE C  
CONNECTOR RINGS**

PIPE DIAMETER	LENGTH OF RING
12"	52"
15"	61"
18"	71"
21"	80"
24"	90"
30"	108"
36"	128"
42"	147"
48"	166"

**TYPICAL INSTALLATION OF C.C.M.P. ELBOW IN FILL SLOPE**



**DETAIL A  
C.C.M.P. ELBOW AND COUPLING**



**DETAIL B  
ELBOW DIMENSIONS**

RODS:  $\frac{7}{16}$ " DIAMETER ELECTRO-GALVANIZED WITH 6" LENGTH OF  $\frac{3}{8}$ " ROLLED THREADS EACH END, FURNISHED CURVED, TO FIT PIPE. SEE TABLE C

LUGS: DOUBLE TAKE UP, CAST IRON, ELECTRO-GALVANIZED.

NOTE: THE COUPLER FASTENING DEVICE SHALL NOT INTERFERE WITH INSTALLATION OF CONNECTOR RINGS.

NOT TO SCALE  
###

SIGNATURE BLOCK:  
OFFICE OF ENGINEERING  
2800 BERLIN TURNPIKE  
NEWINGTON, CT 06111

SUBMITTED BY:  
Leo Fontaine, P.E.  
2020.07.08  
09:27:31-04'00"

APPROVED BY:  
James Fallon, P.E.



CTDOT  
STANDARD SHEET

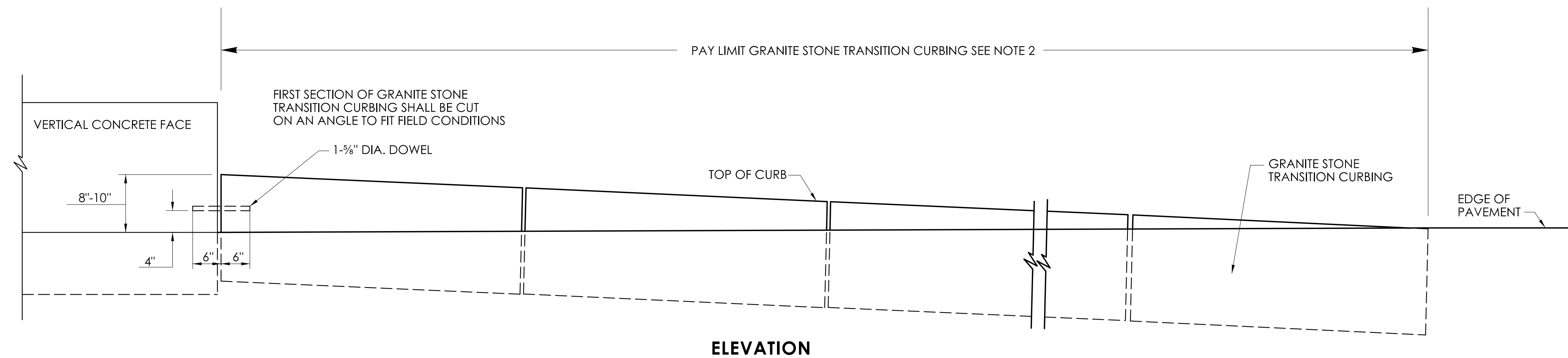
STANDARD SHEET TITLE:  
C.C.M. PIPE INSTALLATION

STANDARD SHEET NO.:  
HW-686\_01

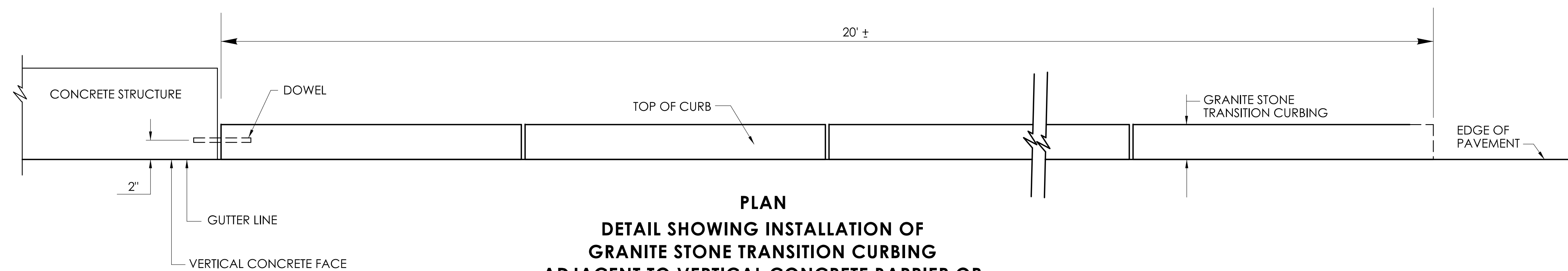


**GENERAL NOTES:**

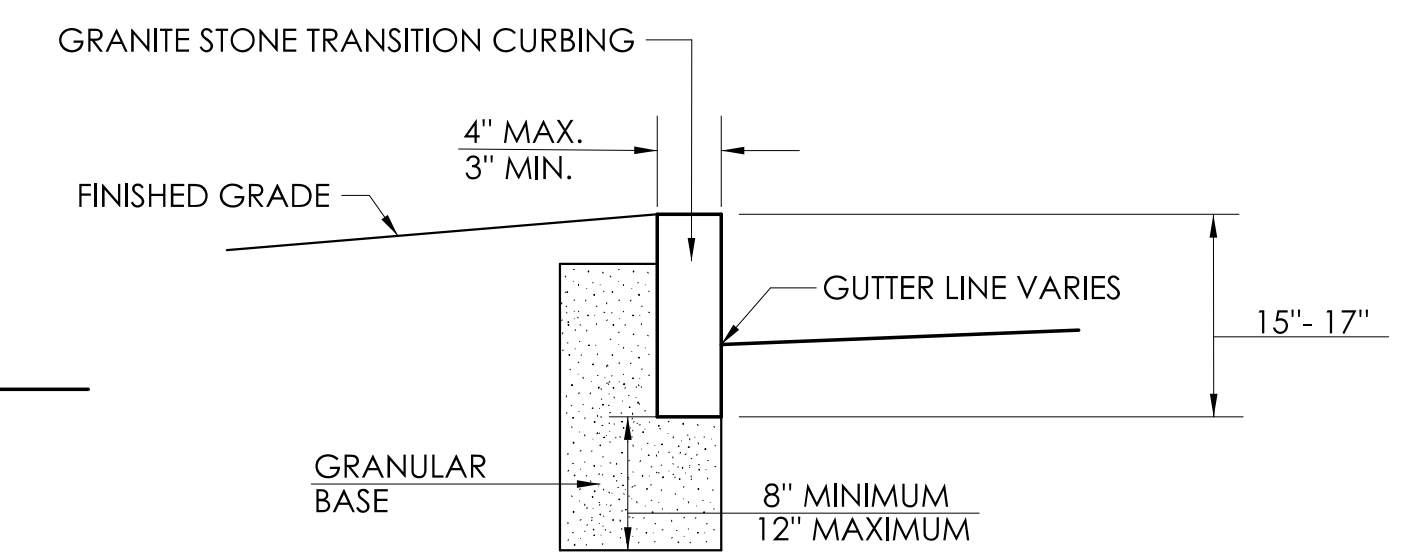
1. GRANITE STONE TRANSITION CURBING (INCLUDING DOWEL) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR "GRANITE STONE TRANSITION CURBING".
2. FOR NEW R-B 350 GUIDERAIL TRANSITIONS, ADJUSTMENT OF EXISTING CURBING HEIGHT TO A 4" REVEAL AT THE BRIDGE PARAPET WILL BE REQUIRED. IT MAY BE PAID FOR, WHEN NOTED ON THE PLANS, UNDER THE ITEM "RESET CURBING".
3. NEW INSTALLATIONS OF THIS CURBING SHALL ONLY BE ALLOWED ON THE MERRITT PARKWAY.
4. GRANITE STONE TRANSITION CURBING SHALL BE INSTALLED TO MATCH THE SLOPE OF SLOPED GRANITE STONE CURBING ON THE BRIDGE. ALL SECTIONS OF THE TRANSITION CURBING SHALL BE 2'-0" LONG.



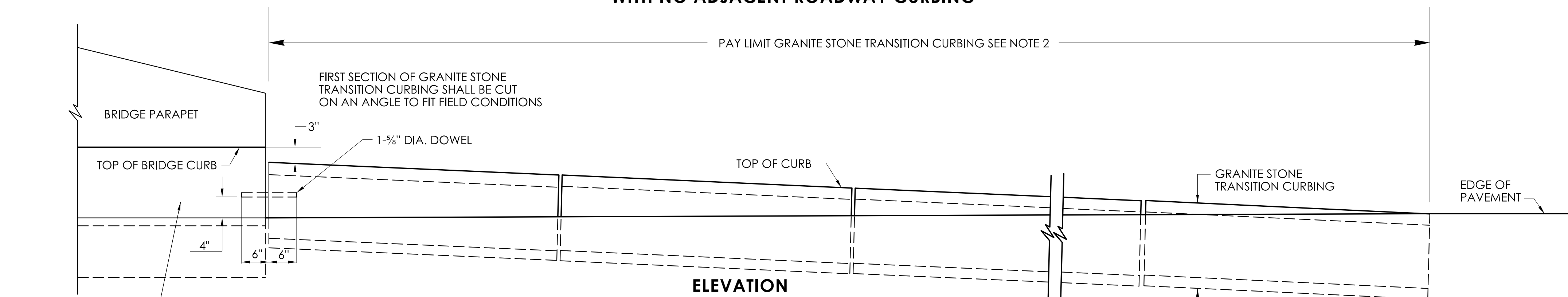
**ELEVATION**



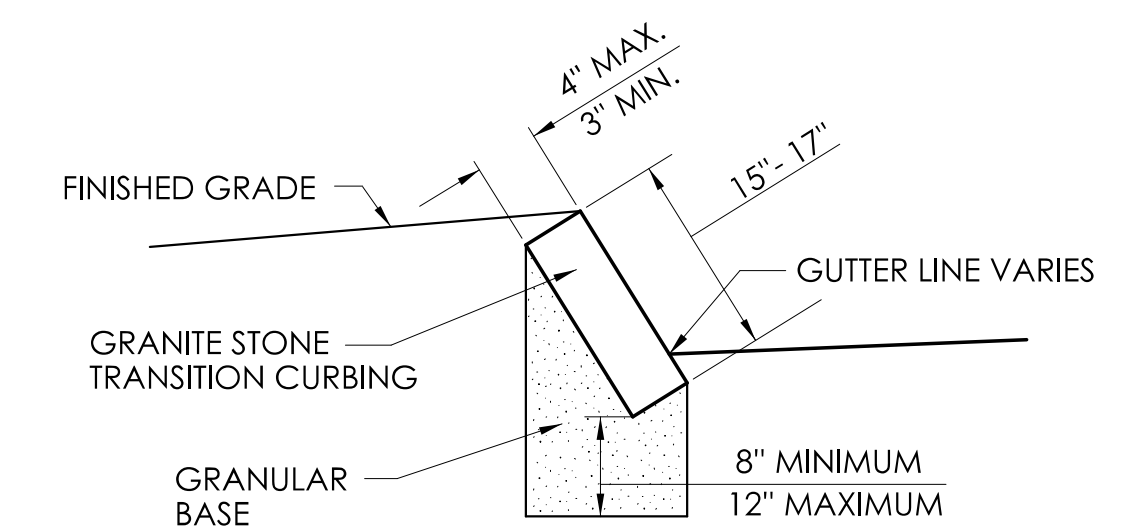
**PLAN**  
**DETAIL SHOWING INSTALLATION OF**  
**GRANITE STONE TRANSITION CURBING**  
**ADJACENT TO VERTICAL CONCRETE BARRIER OR**  
**VERTICAL FACE CONCRET BRIDGE BUILD-OUT**  
**WITH NO ADJACENT ROADWAY CURBING**



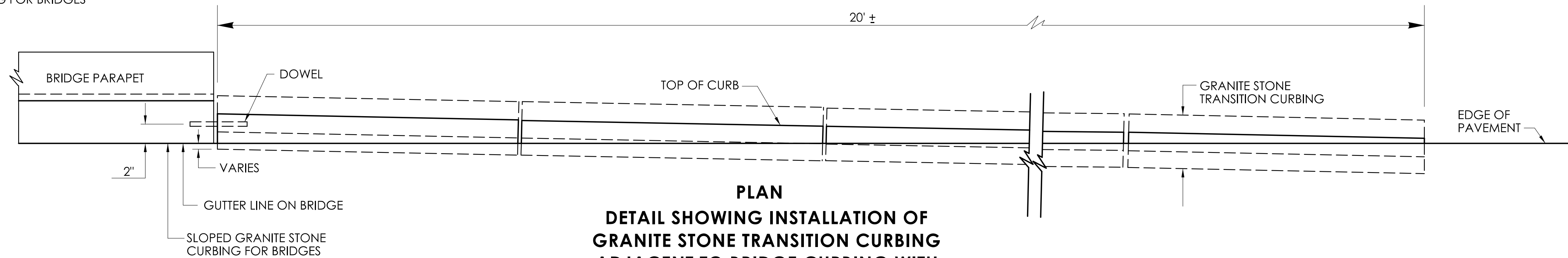
**TYPICAL SECTION SHOWING**  
**INSTALLATION OF**  
**GRANITE STONE TRANSITION CURBING**  
**AT VERTICAL FACE**



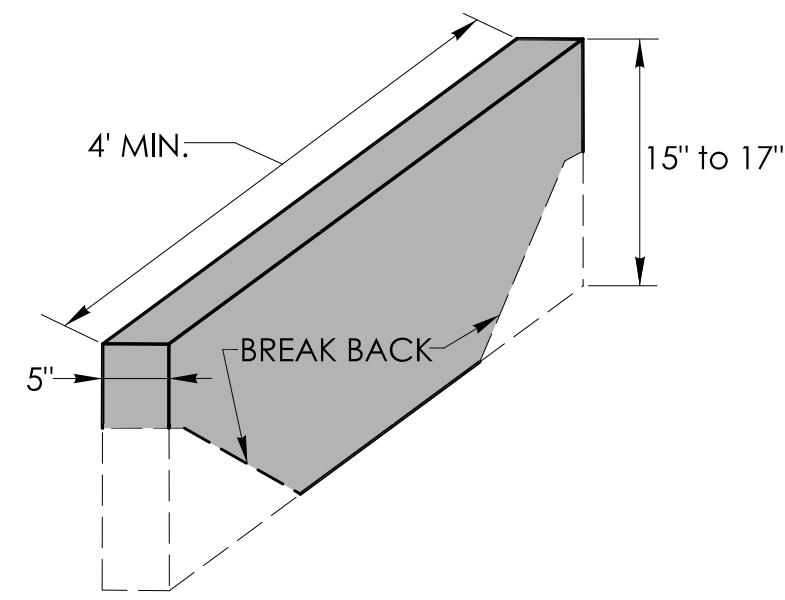
**ELEVATION**



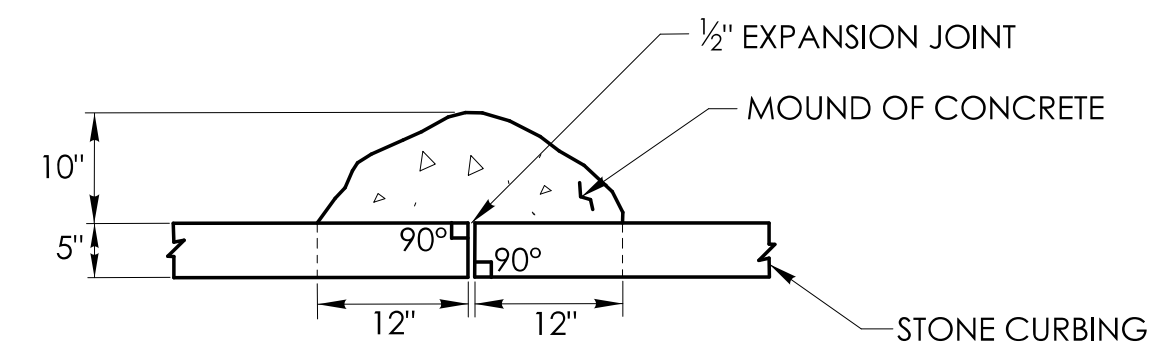
**TYPICAL SECTION SHOWING**  
**INSTALLATION OF**  
**GRANITE STONE TRANSITION CURBING**  
**AT SLOPED GRANITE BRIDGE CURBING**



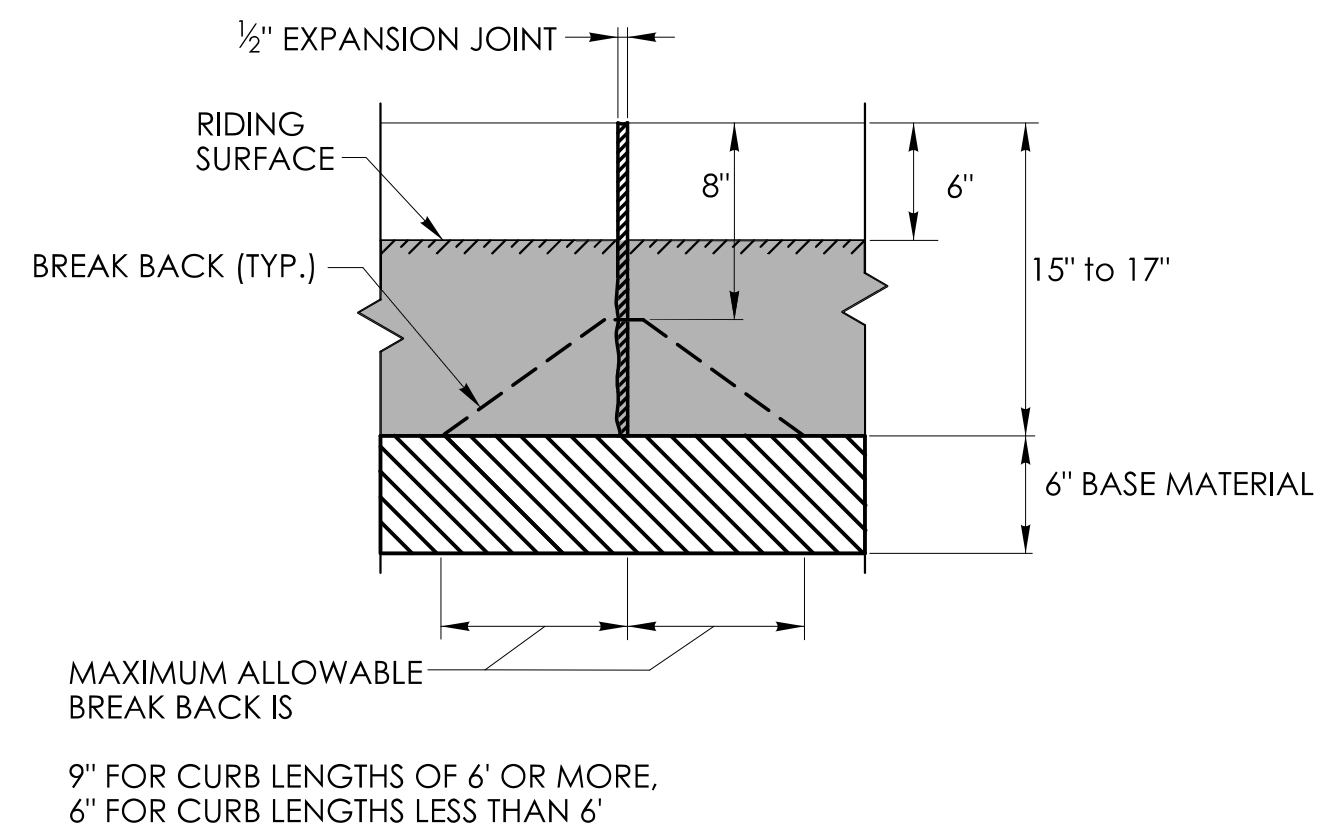
**PLAN**  
**DETAIL SHOWING INSTALLATION OF**  
**GRANITE STONE TRANSITION CURBING**  
**ADJACENT TO BRIDGE CURBING WITH**  
**NO ADJACENT ROADWAY CURBING**



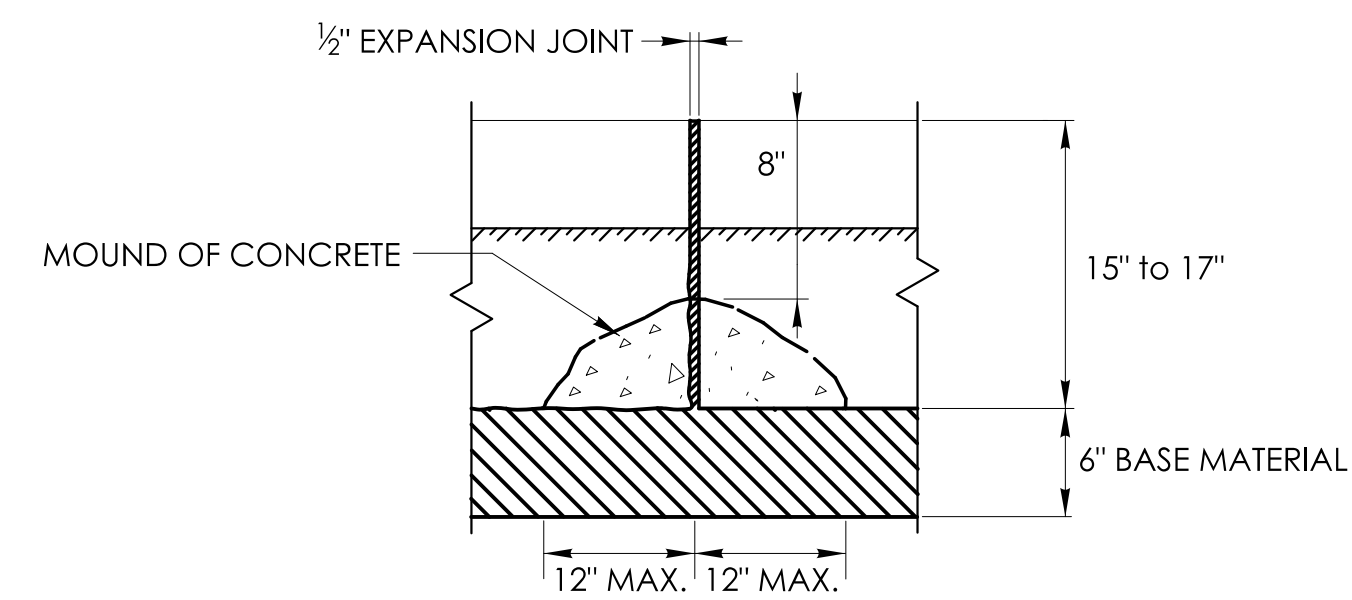
**STONE CURBING**



**PLAN**

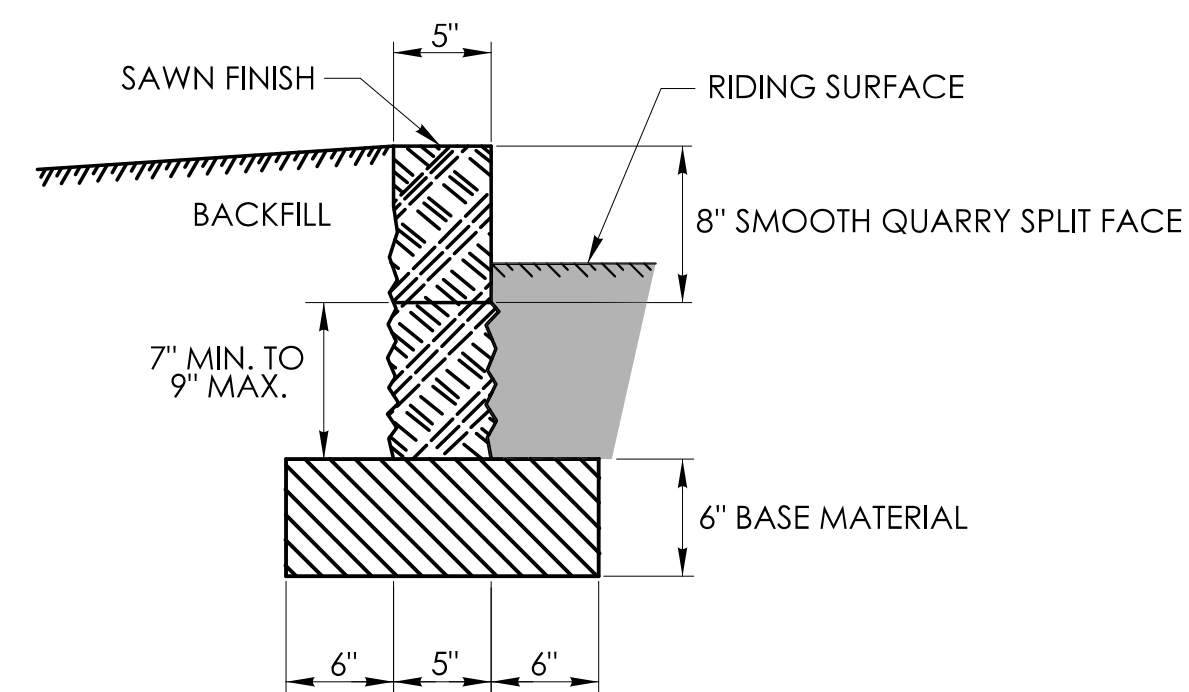


**FRONT ELEVATION**



**BACK ELEVATION**

**MOUND OF CONCRETE AT ALL JOINTS FOR STONE CURBING**



**SECTION**

NOT TO SCALE

SIGNATURE BLOCK:  
OFFICE OF ENGINEERING  
2800 BERLIN TURNPIKE  
NEWINGTON, CT 06111

SUBMITTED BY:  
Leo Fontana, P.E.  
Date: 2022.09.27  
14:42:55-04'00'

APPROVED BY:  
Digitally signed by  
Michael J. Calabrese, P.E.  
Date: 2022.11.08  
11:40:25-05'00'

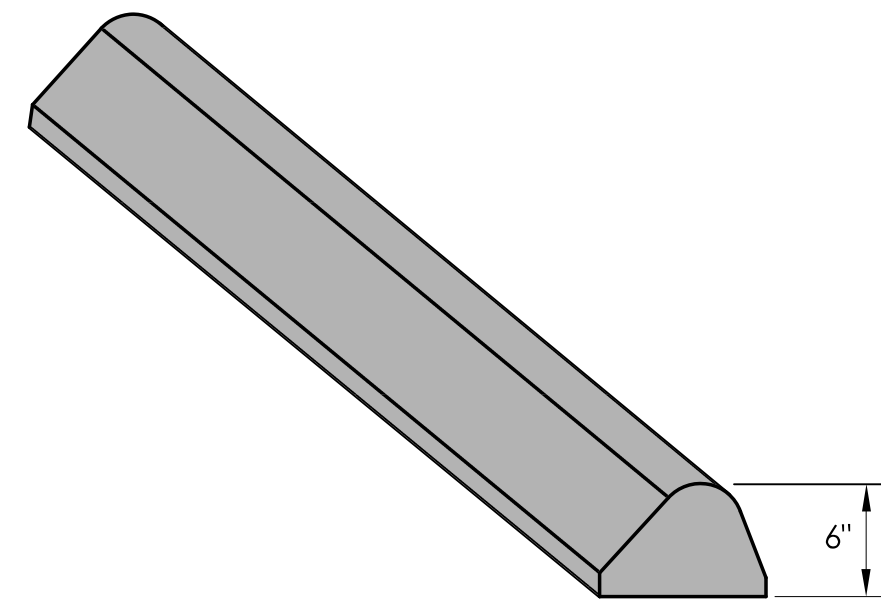


CTDOT  
STANDARD SHEET

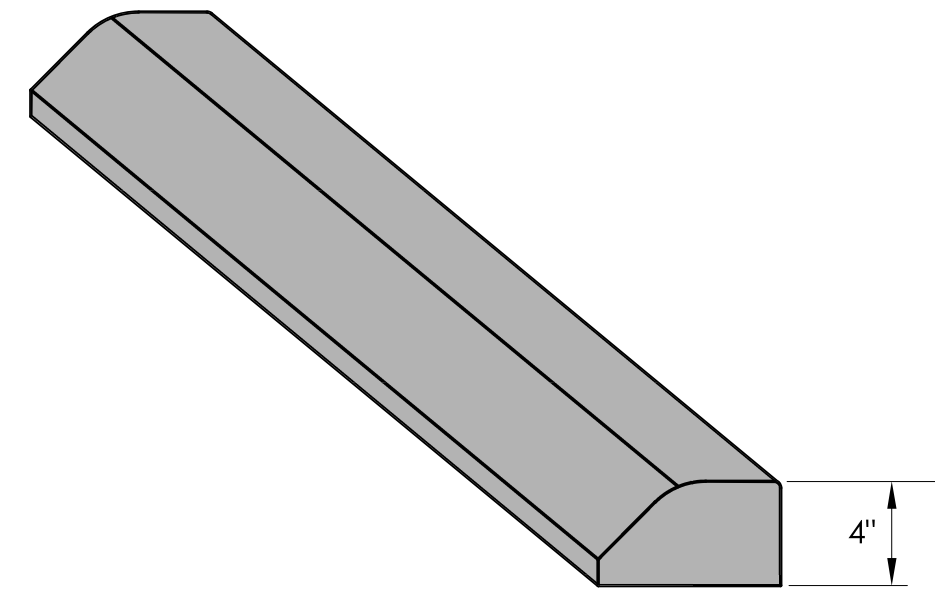
STANDARD SHEET TITLE:  
**STONE CURBING**

STANDARD SHEET NO.:  
**HW-813\_02**

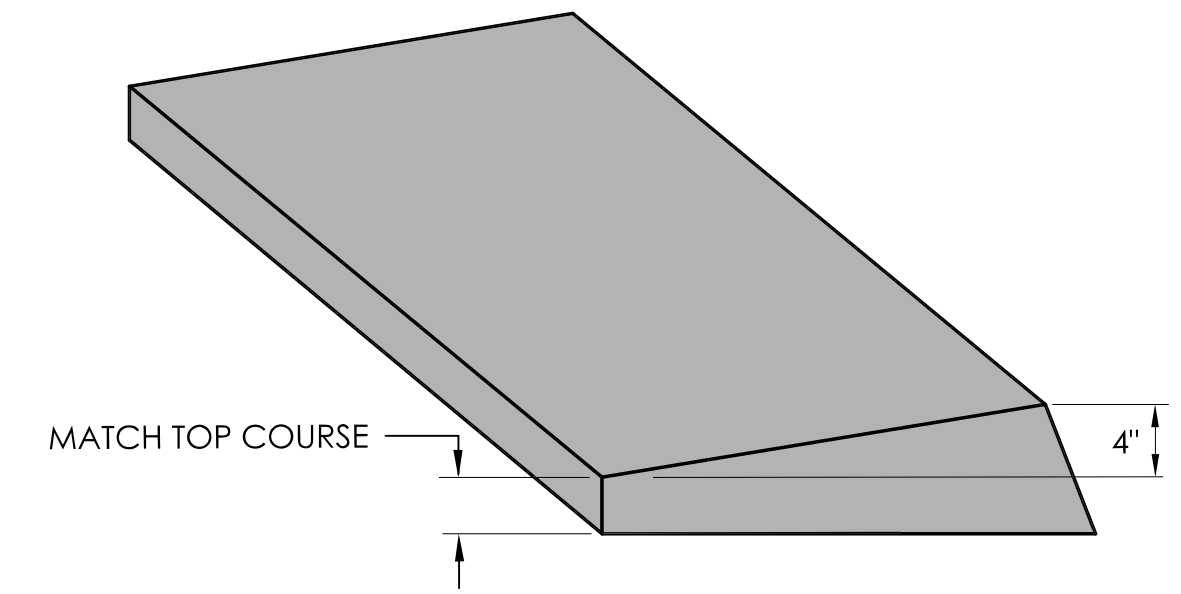




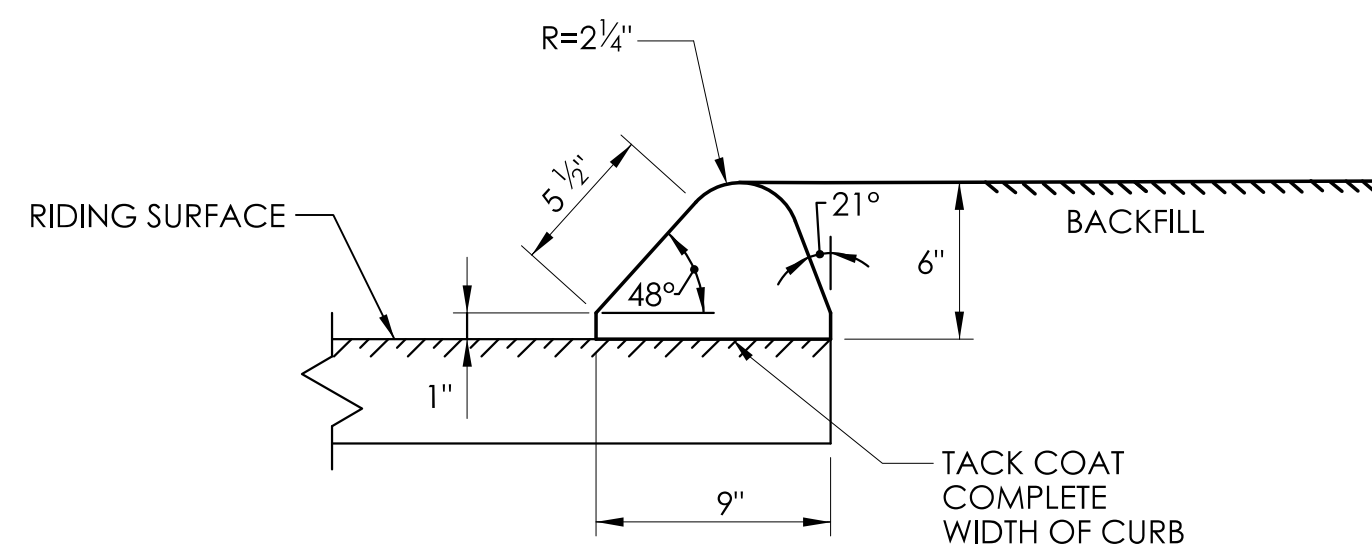
**BITUMINOUS CONCRETE LIP CURBING  
(6" HIGH)**



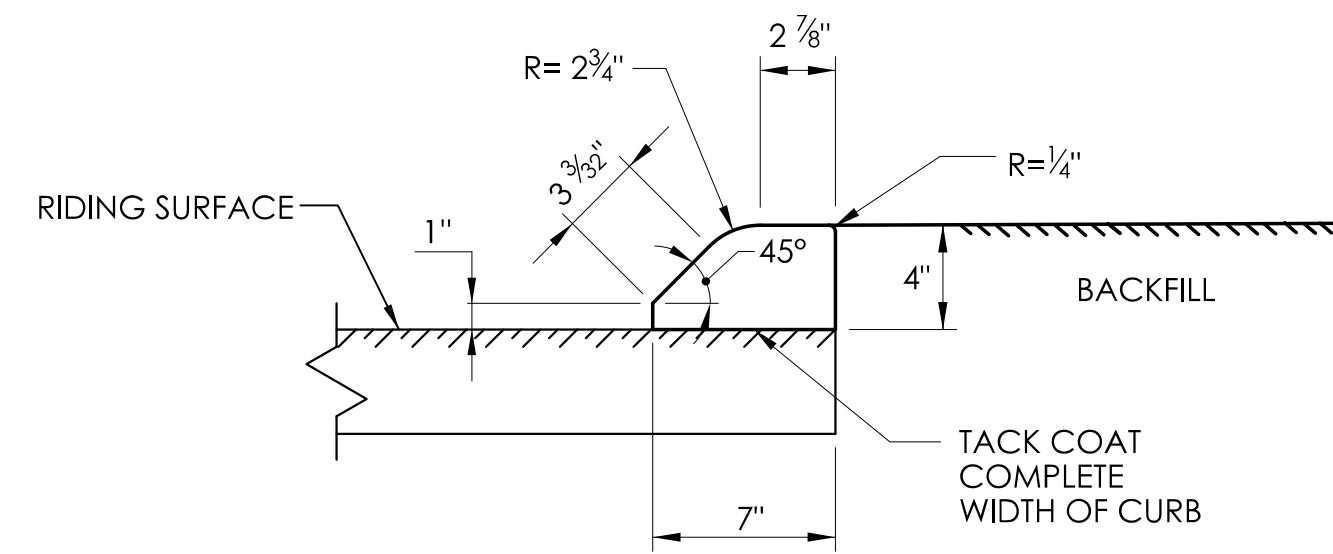
**BITUMINOUS CONCRETE PARK CURBING  
(4" HIGH)**



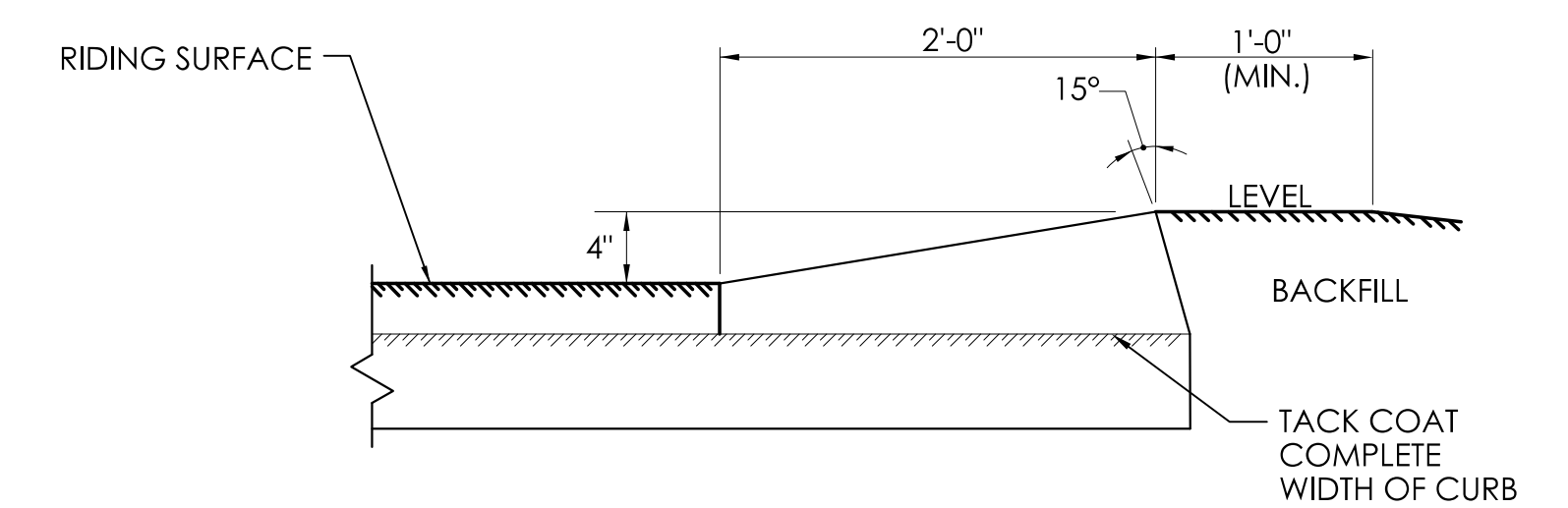
**BITUMINOUS CONCRETE BERM CURBING  
(4" HIGH)**



**SECTION**



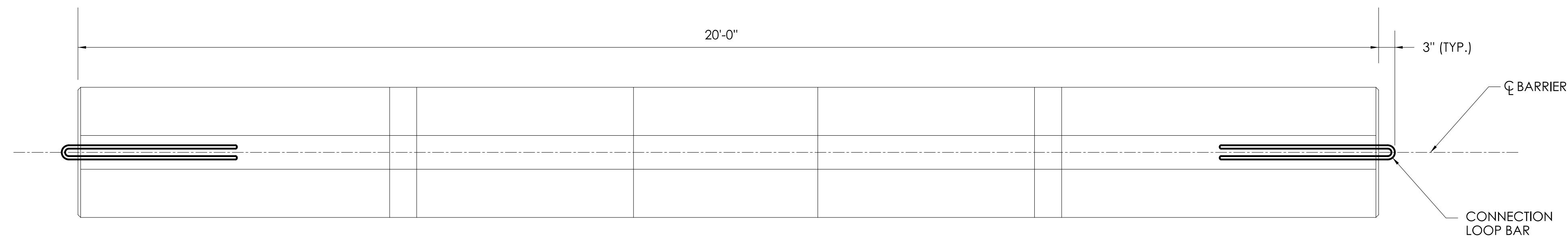
**SECTION**



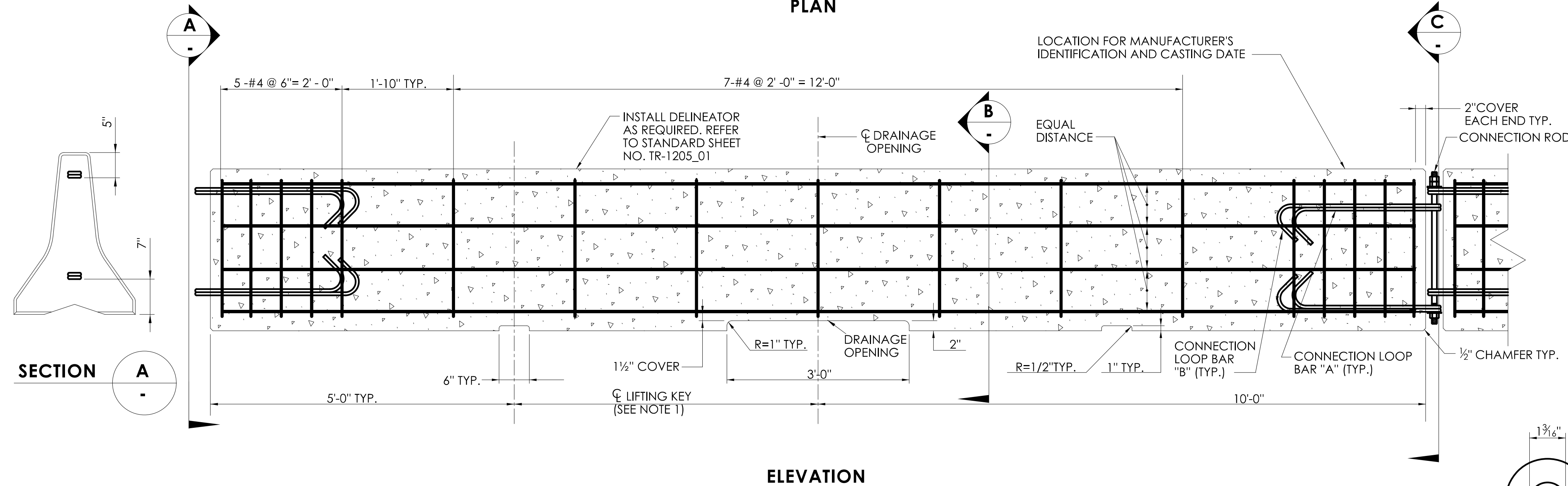
**SECTION**

**GENERAL NOTES:**

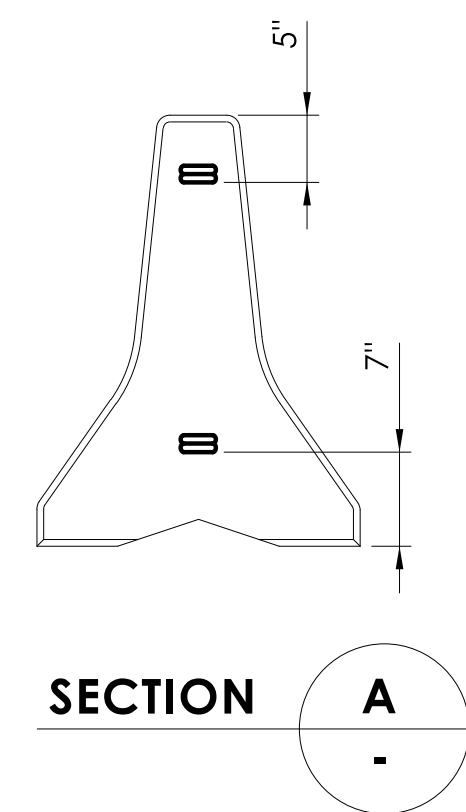
1. ALTERNATE DESIGNS FOR LIFTING KEYS, HOLES OR OTHER HANDLING DEVICES MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
2. EXPECTED PERMANENT DYNAMIC DEFLECTION IS 3'-6" BASED ON TL-3 CRASH TESTS WITH 240' OF TPCBC.



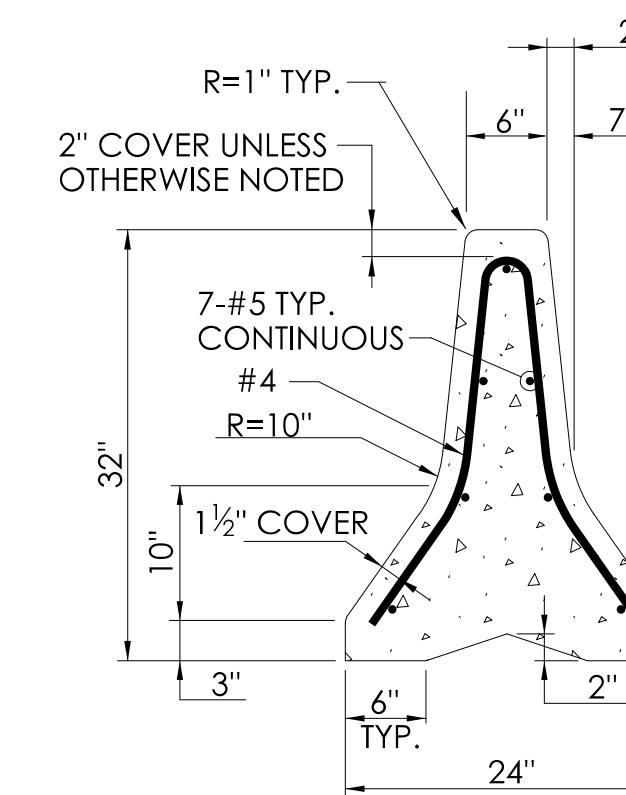
**PLAN**



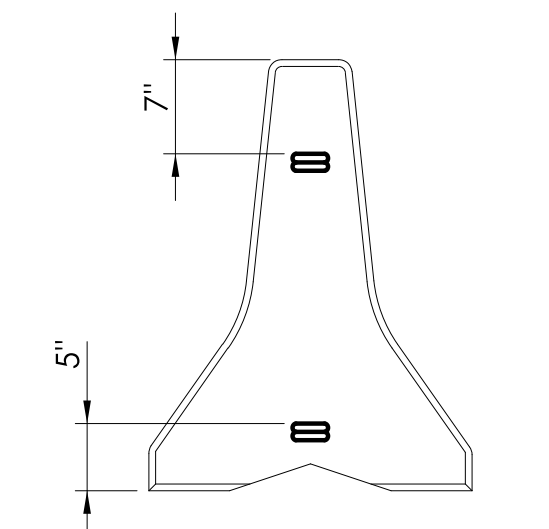
**ELEVATION**



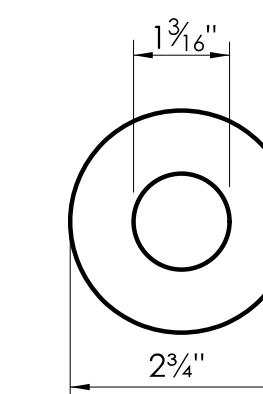
**SECTION A**



**SECTION B**



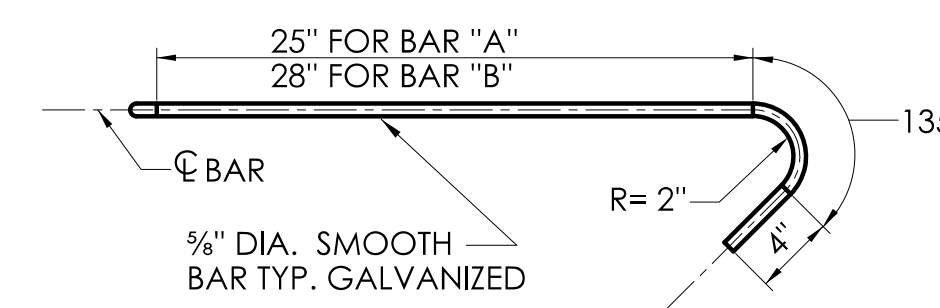
**END VIEW C**



**WASHER DETAIL**



**PLAN**



**ELEVATION**

**CONNECTION LOOP BAR**

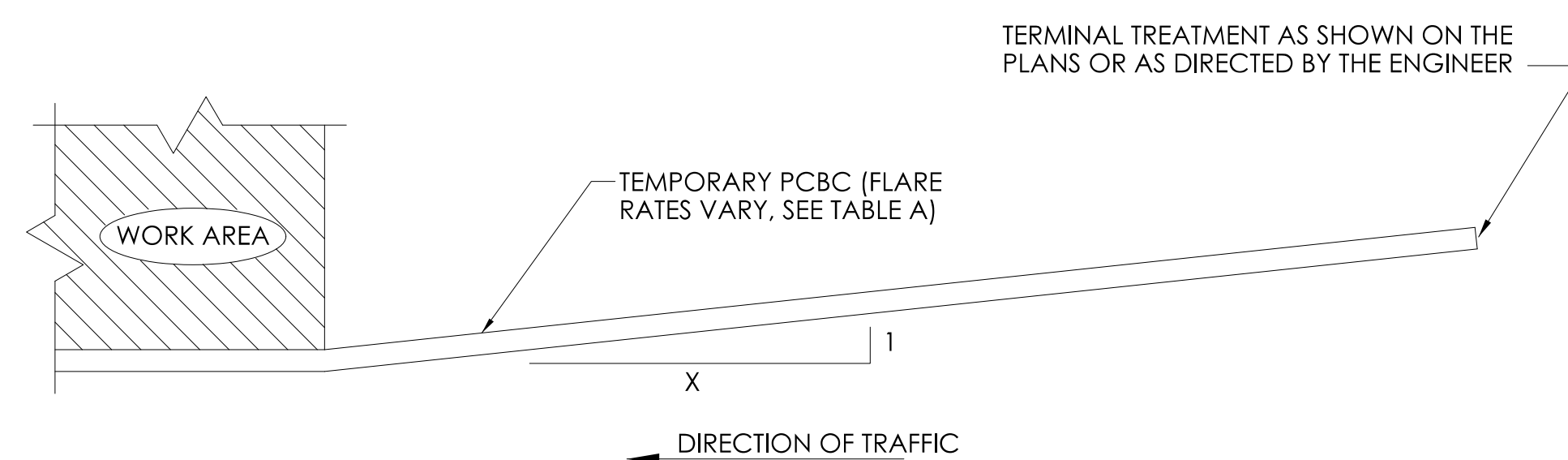
BAR "A" = 6'-0" TOTAL  
BAR "B" = 6'-6" TOTAL

TWO HEAVY HEX NUTS AT TOP. ONE HEAVY HEX NUT AT BOTTOM. ONE STEEL FLAT WASHER TOP AND BOTTOM. SEE WASHER DETAIL. ALL GALVANIZED.

1" DIA. ROD GALVANIZED

THREAD CONNECTION ROD A MINIMUM OF 4" TYP.

**CONNECTION ROD**



**PLAN - TYPICAL INSTALLATION**

TABLE A FLARE RATES	
* SPEED	FLARE RATE (X : 1)
≤ 30MPH	4 : 1
> 30MPH BUT < 45MPH	6 : 1
≥ 45MPH NON-LIMITED ACCESS HIGHWAYS	8 : 1
ALL LIMITED ACCESS HIGHWAYS	10 : 1

\* DESIGN SPEED THROUGH THE WORK AREA.

NOT TO SCALE

SIGNATURE BLOCK:  
OFFICE OF ENGINEERING  
2800 BERLIN TURNPIKE  
NEWINGTON, CT 06111

SUBMITTED BY:  
Digitally signed by  
Leo Fontana, P.E.  
Date: 2022.09.27  
15:00:00-04'00'

APPROVED BY:  
Digitally signed by  
Michael J. Calabrese,  
Michael  
Date: 2022.11.08  
10:22:53-05'00'



STATE OF CONNECTICUT  
DEPARTMENT  
OF  
TRANSPORTATION

CTDOT  
STANDARD SHEET

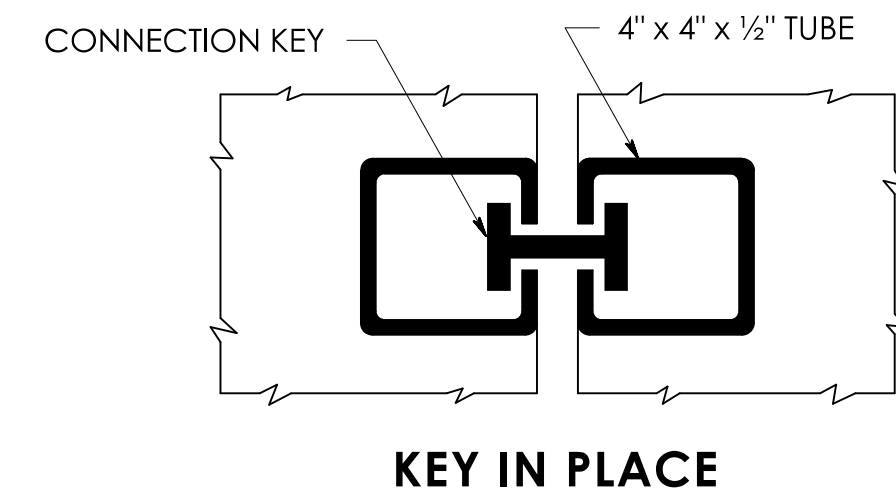
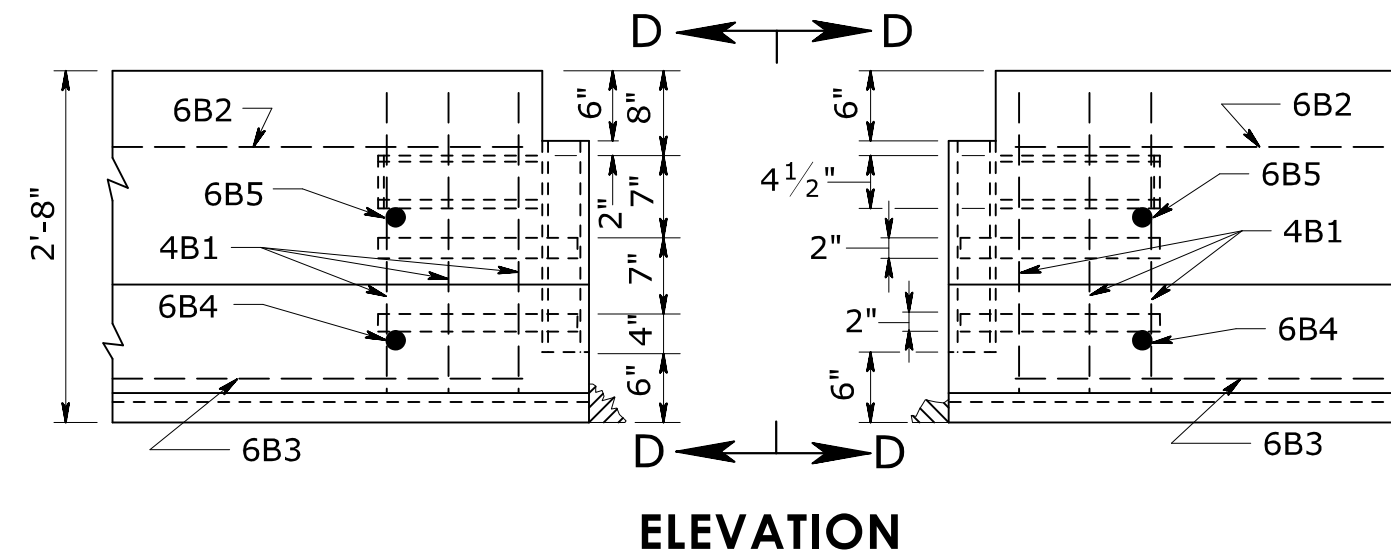
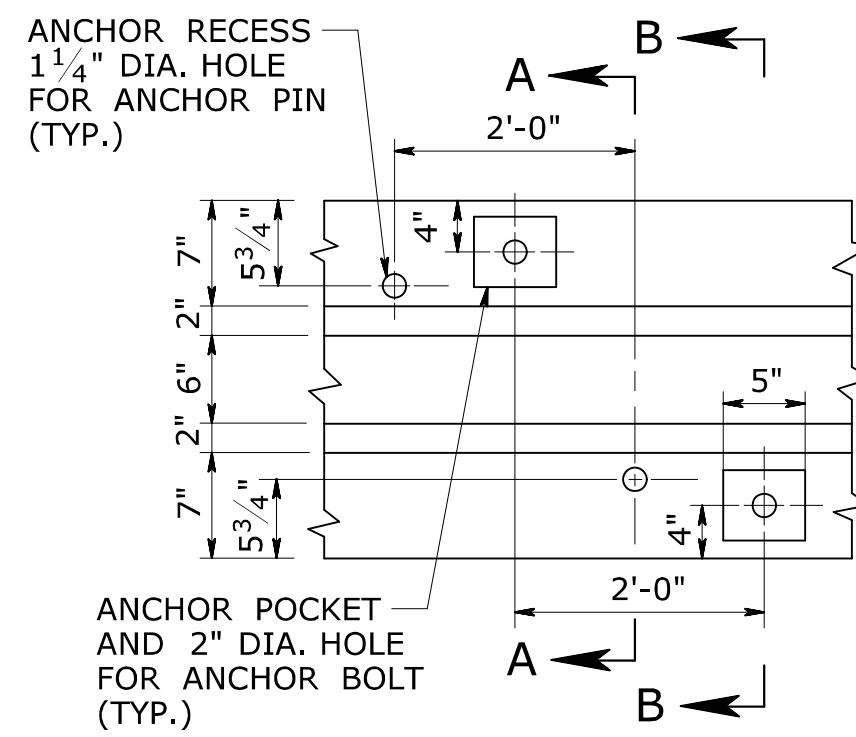
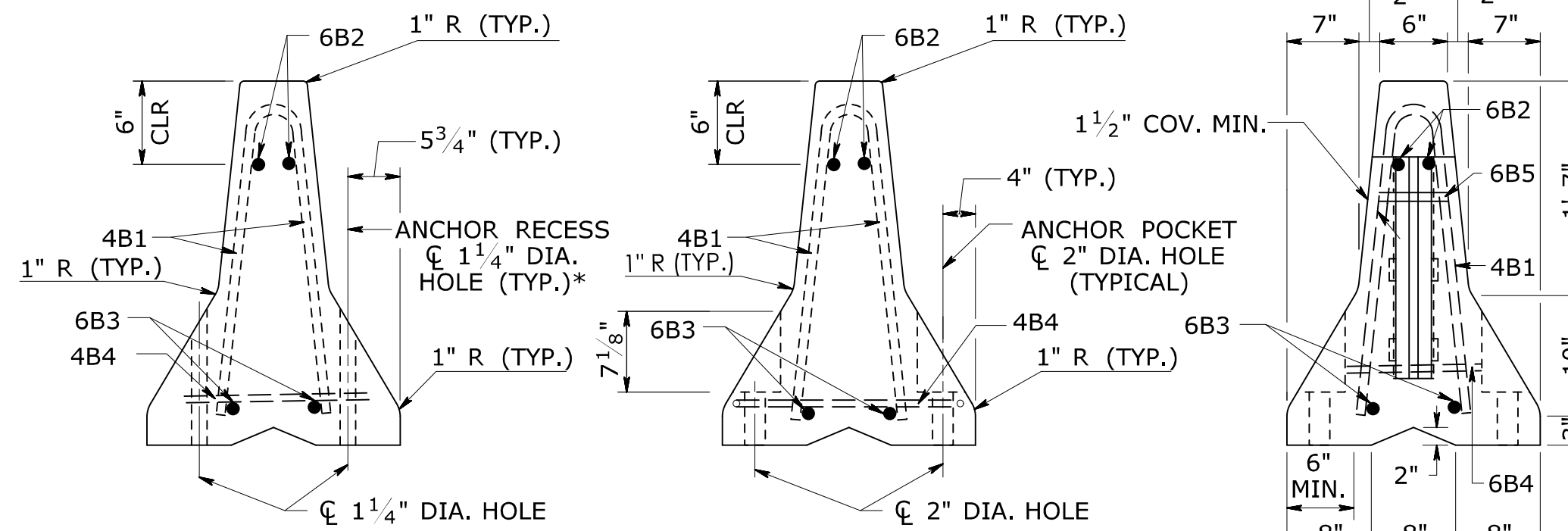
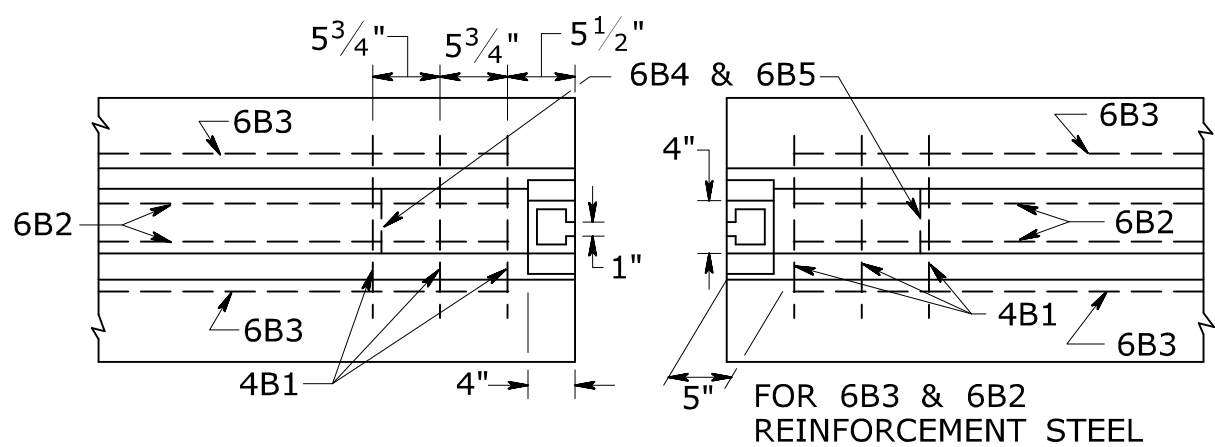
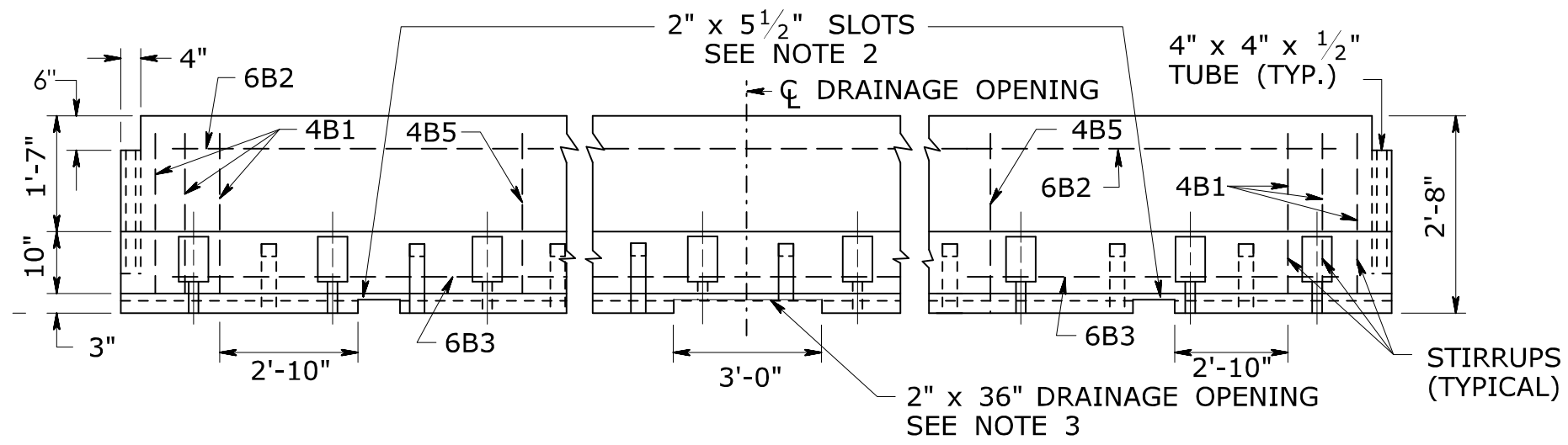
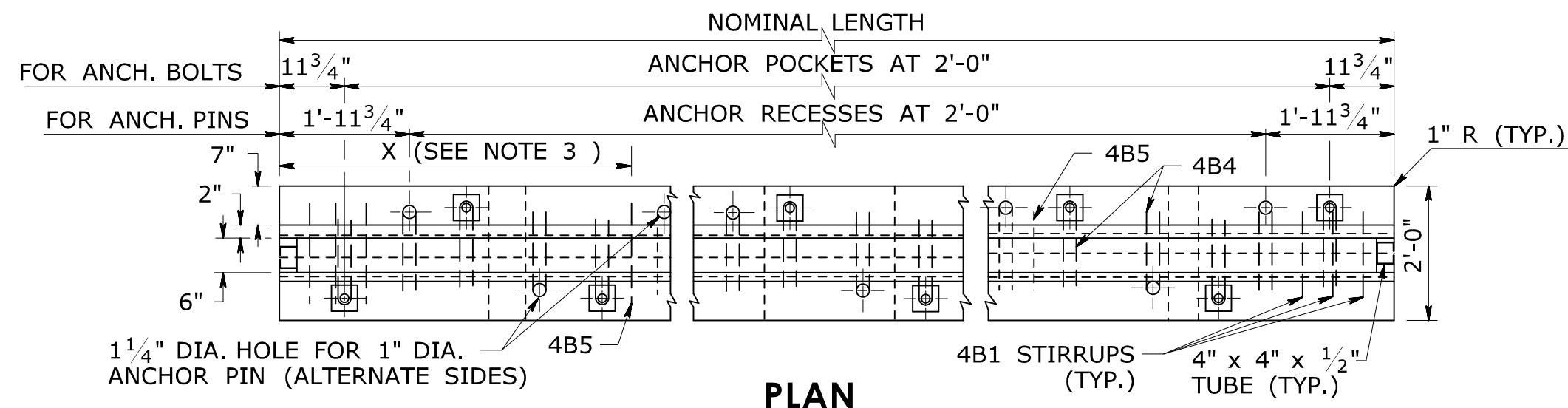
STANDARD SHEET TITLE:

TEMPORARY PRECAST CONCRETE BARRIER CURB

STANDARD SHEET NO.:

HW- 822-01

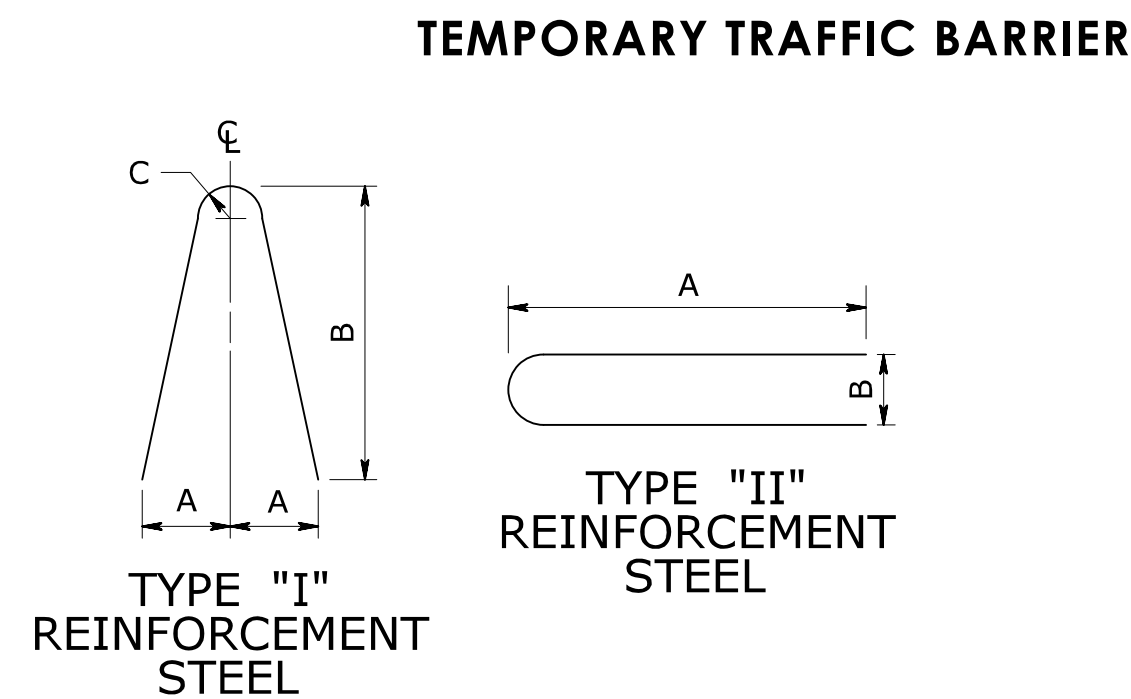




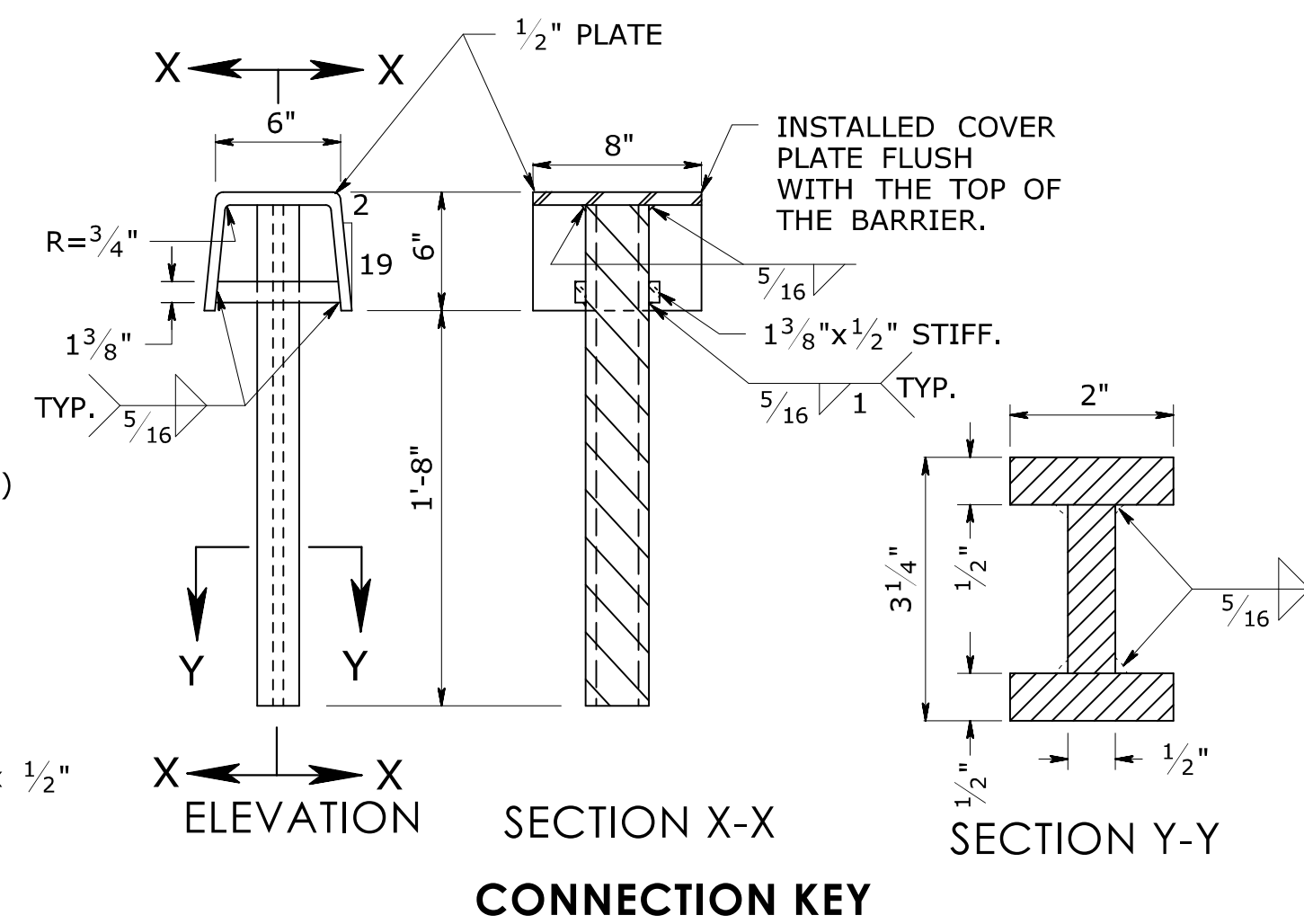
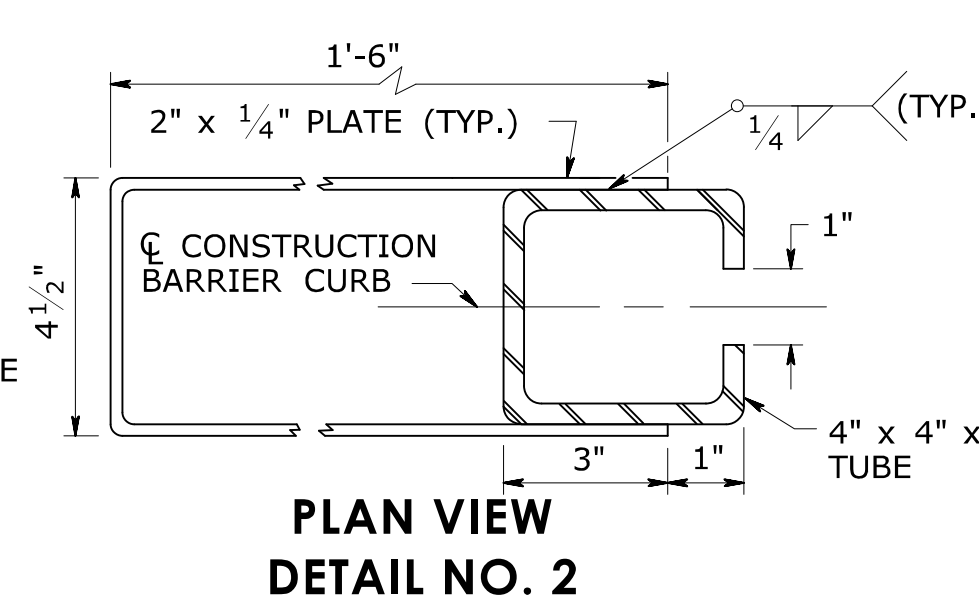
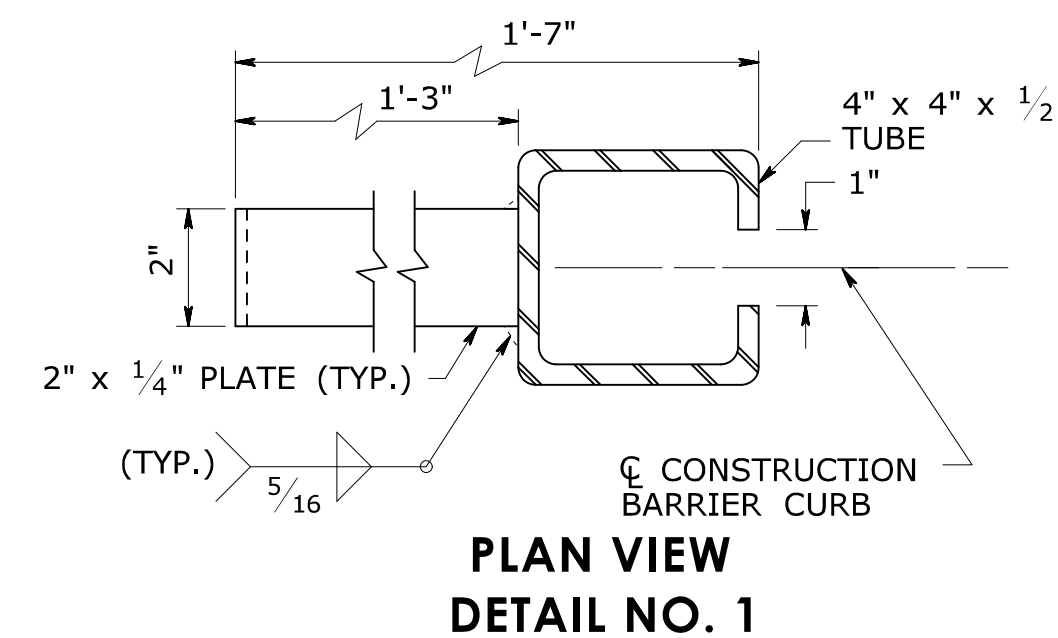
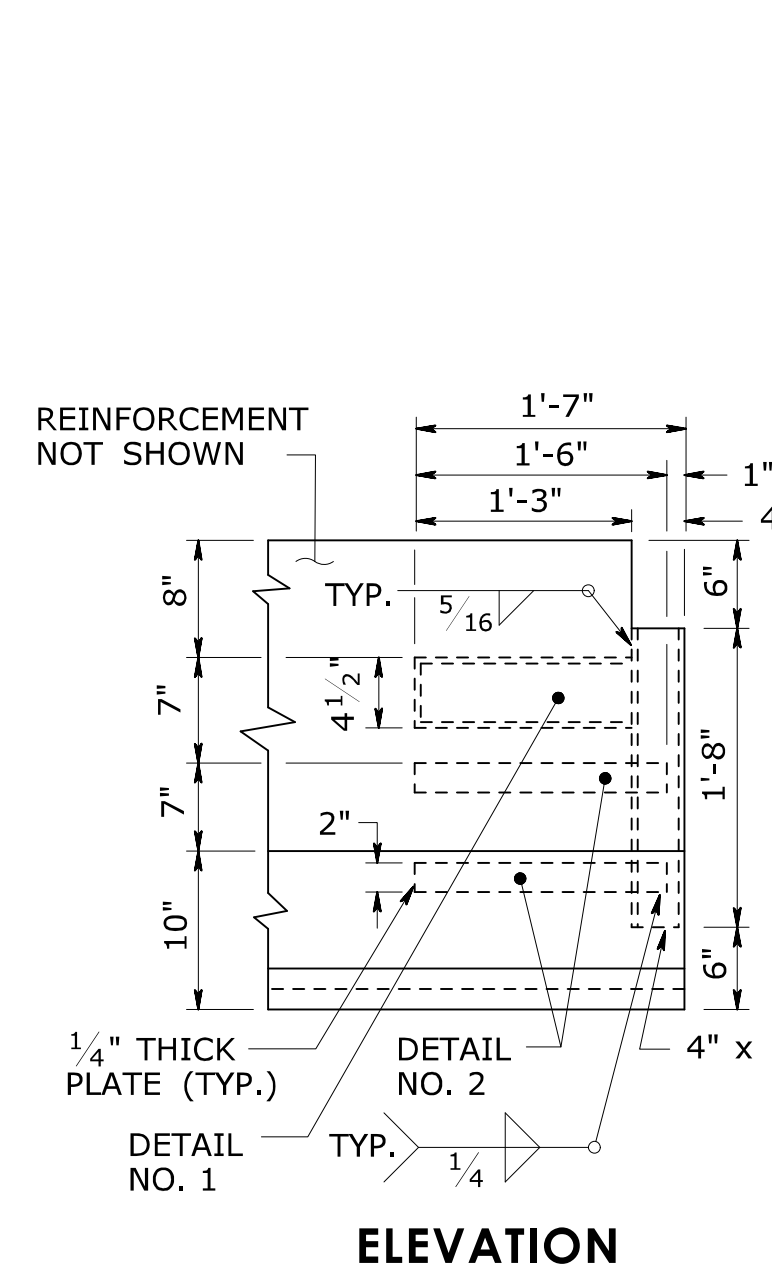
- GENERAL NOTES:**
1. CONCRETE CLEAR COVER FOR REINFORCEMENT STEEL IS 1 1/2" (MIN.).
  2. 2" x 5 1/2" SLOTS - TWO REQUIRED IN SECTIONS 12 FEET AND GREATER. ONE REQUIRED IN 8 FOOT AND 10 FOOT SECTIONS.
  3. 2" x 36" DRAINAGE OPENING IS ONLY REQUIRED FOR TEMPORARY TRAFFIC BARRIER UNITS OF 20 FEET IN LENGTH, LOCATED IN MIDDLE OF THE BARRIER UNIT.
  4. A TEMPORARY TRAFFIC BARRIER UNIT IS 20 FEET IN LENGTH; HOWEVER OTHER LENGTHS MAY BE USED TO MEET FIELD CONDITIONS. THE NUMBER AND PLACEMENT OF THE 4B4 AND 4B5 REINFORCEMENT STEEL WILL VARY WITH THE LENGTH OF THE BARRIER UNIT AS SHOWN ON THE TABLE OF VARIABLE REINFORCEMENT STEEL. THE 6B2 AND 6B3 REINFORCEMENT STEEL TO BE PLACED 10 INCHES SHORTER THAN THE NOMINAL LENGTH OF THE BARRIER UNITS.
  5. ANCHOR RECESS HOLES OR ANCHOR POCKETS WITH ASSOCIATED REINFORCEMENT STEEL ARE ONLY REQUIRED FOR THE ASSOCIATED TEMPORARY TRAFFIC BARRIER (PINNED) OR TEMPORARY TRAFFIC BARRIER (BOLTED).

NOMINAL LENGTH OF BARRIER UNIT	MARK	"X"	NO. EACH SECTION
20'	4B4	N.A.	19
20'	4B5	6'-11"	2
18'	4B4	N.A.	17
18'	4B5	6'-5"	2
16'	4B4	N.A.	15
16'	4B5	5'-11"	2
14'	4B4	N.A.	13
14'	4B5	7'-0"	1
12'	4B4	N.A.	11
12'	4B5	6'-0"	1
10'	4B4	N.A.	9
10'	4B5	5'-0"	1
8'	4B4	N.A.	7
8'	4B5	-	0

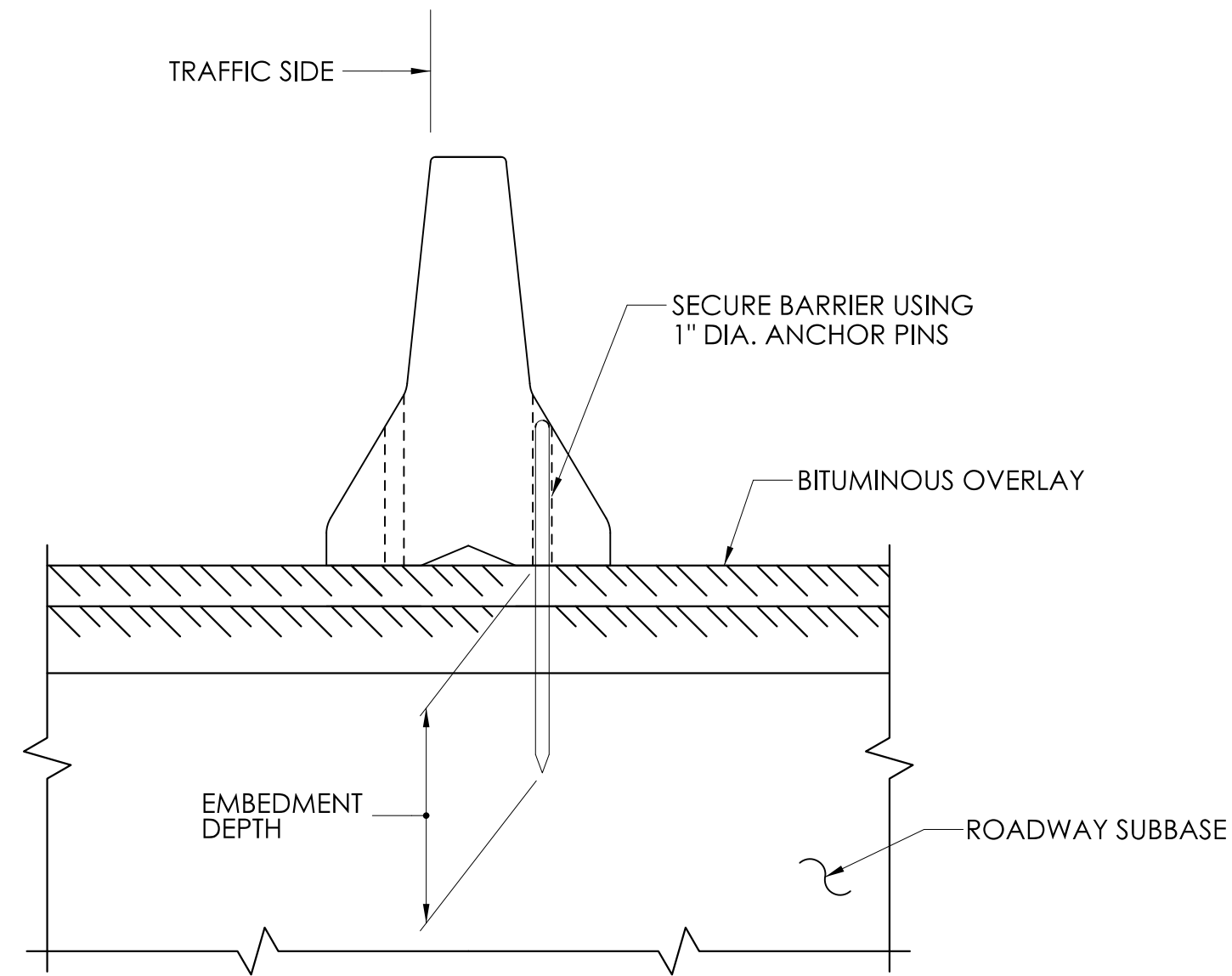
"X" DISTANCE FROM END OF BARRIER TO 4B5 REINFORCEMENT STEEL



MARK	SIZE	NUMBER IN EACH SECTION	LENGTH	TYPE	A	B	C	LOCATION
4B1	#4	6	4'-11"	I	5"	26"	2"	STIRRUPS
4B4	#4	SEE NOTE 4	3'-1"	II	15 1/2"	4"		STIRRUPS
4B5	#4	SEE NOTE 4	4'-11"	I	5"	26"	2"	STIRRUPS
6B2	#6	2	SEE NOTE 4	STR.				LONGITUDINAL (TOP) NORMAL SECTION
6B3	#6	2	SEE NOTE 4	STR.				LONGITUDINAL (BOTTOM) NORMAL SECTION
6B4	#6	2	1'-2"	STR.				TRANSVERSE (BOTTOM) NORMAL SECTION
6B5	#6	2	0'-6"	STR.				TRANSVERSE (TOP) NORMAL SECTION



**TEMPORARY TRAFFIC BARRIER CONNECTION DETAILS**



**END VIEW - TEMPORARY TRAFFIC BARRIER (PINNED)**

SEE NOTES 2 & 3 FOR PIN OPTIONS  
ROADSIDE APPLICATION SHOWN

**NOTE A**

ENSURE THAT THE LENGTH OF THE ANCHOR PIN IS SUCH THAT THE FOLLOWING MINIMUM EMBEDMENT LENGTH IS OBTAINED:

- (A) INTO CONCRETE PAVEMENT 0'-5"
- (B) INTO FLEXIBLE PAVEMENT 1'-6"
- (C) INTO UNPAVED AREA 2'-6"



**ANCHOR PIN**

FOR ANCHORING IN CONCRETE SLABS, THE TIP MAY BE OMITTED.

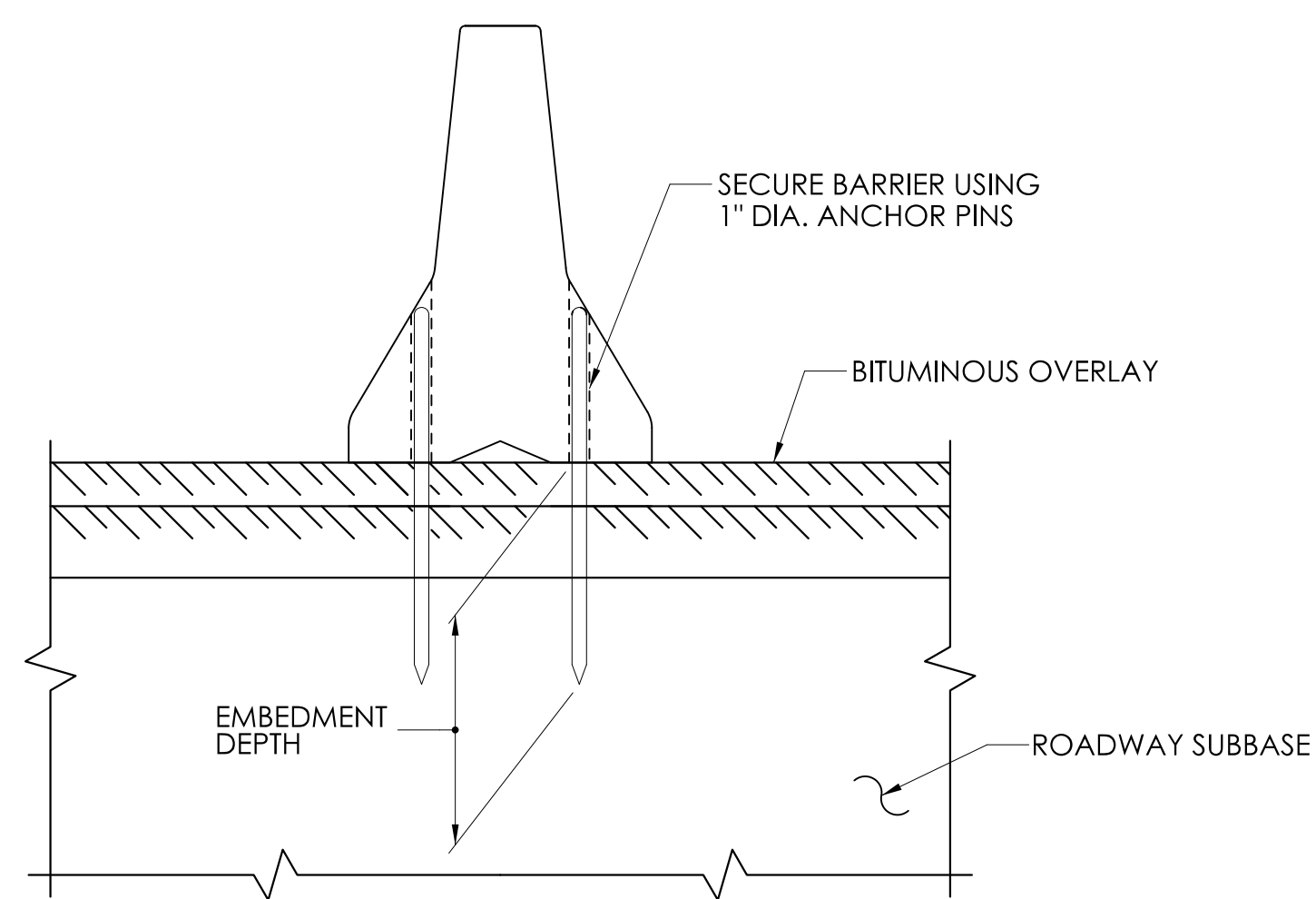
**GENERAL NOTES:**

1. THE FIRST AND LAST UNIT OF A TEMPORARY TRAFFIC BARRIER LAYOUT SHALL BE 20 FOOT IN LENGTH AND FULLY PINNED ( 9 PINS ) ON BOTH SIDES.
2. TEMPORARY TRAFFIC BARRIER ( PINNED ) SHALL ONLY BE PINNED ON THE WORK AREA SIDE OF THE BARRIER AFTER THE REQUIRED LENGTH OF BARRIER IS PLACED.
3. TEMPORARY TRAFFIC BARRIER ( PINNED ) SHALL BE FULLY PINNED ( 9 PINS ) IN LOCATIONS WHERE THE BARRIERS ARE DIVIDING OPPOSING TRAFFIC.
4. ALL ANCHOR PINS INSTALLED SHALL NOT PROJECT BEYOND THE TEMPORARY TRAFFIC BARRIER'S SURFACE.
5. INSTALL DELINEATORS AS REQUIRED, REFER TO TRAFFIC STANDARD SHEET NO. TR-1205\_01.

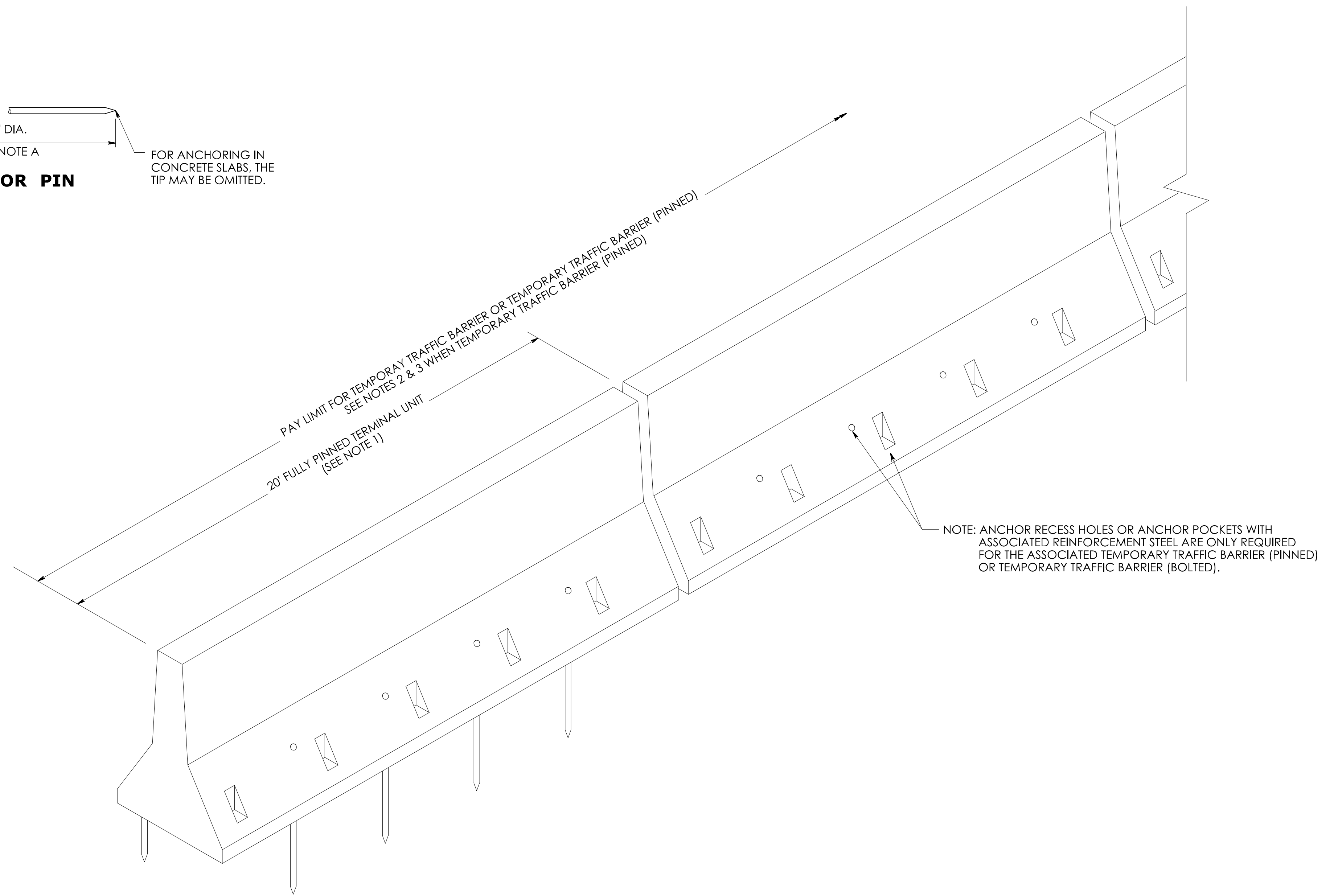
7. TEMPORARY TRAFFIC BARRIER DESIGN DEFLECTION DISTANCES BY TYPE;

BARRIER TYPE	**DEFLECTION
UNPINNED	40'
PINNED	20'

\*\* MASH STANDARD DEFLECTION CAUSED BY 5,000 LB VEHICLE TRAVELING 62 MPH IMPACTING THE BARRIER AT 25 DEGREE ANGLE.



**END VIEW - TERMINAL UNIT**

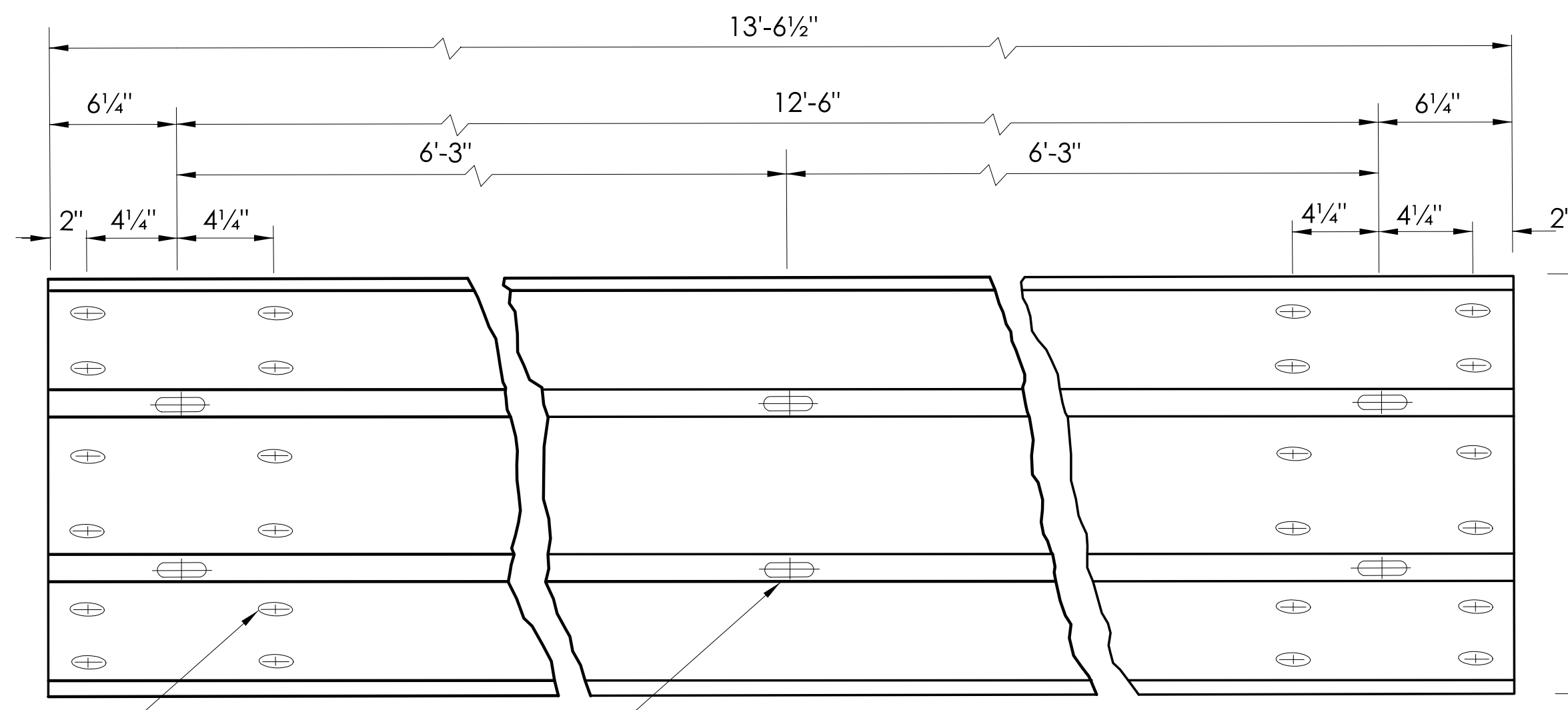


**TEMPORARY TRAFFIC BARRIER**

MASH 2016 COMPLIANT  
APPROVAL ID. 2021-01

NOT TO SCALE	SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111	SUBMITTED BY: <i>Leo Fontana</i> Digitally signed by Leo Fontana, P.E. Date: 2022.09.27 15:00:15-04'00'	APPROVED BY: <i>Michael J. Calabrese</i> Digitally signed by Michael J. Calabrese, Michael Date: 2022.11.08 10:20:44-05'00'	STATE OF CONNECTICUT <b>DEPARTMENT OF TRANSPORTATION</b>	<b>CTDOT STANDARD SHEET</b>	STANDARD SHEET TITLE: <b>TEMPORARY TRAFFIC BARRIER AND TEMPORARY TRAFFIC BARRIER (PINNED)</b>	STANDARD SHEET NO.: <b>HW- 822_02c</b>
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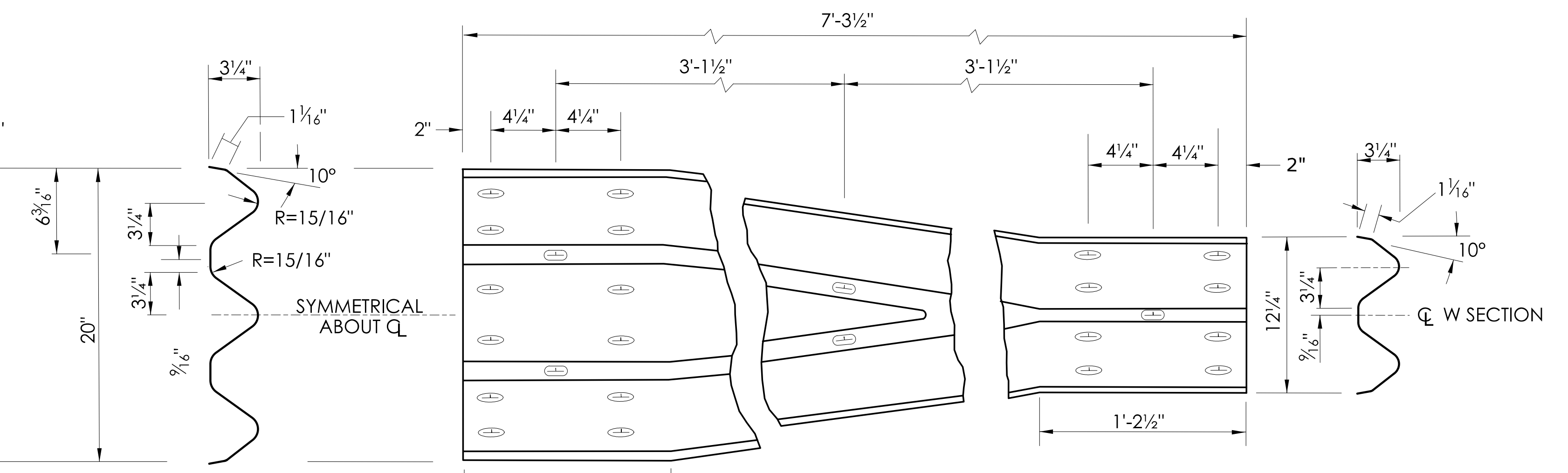




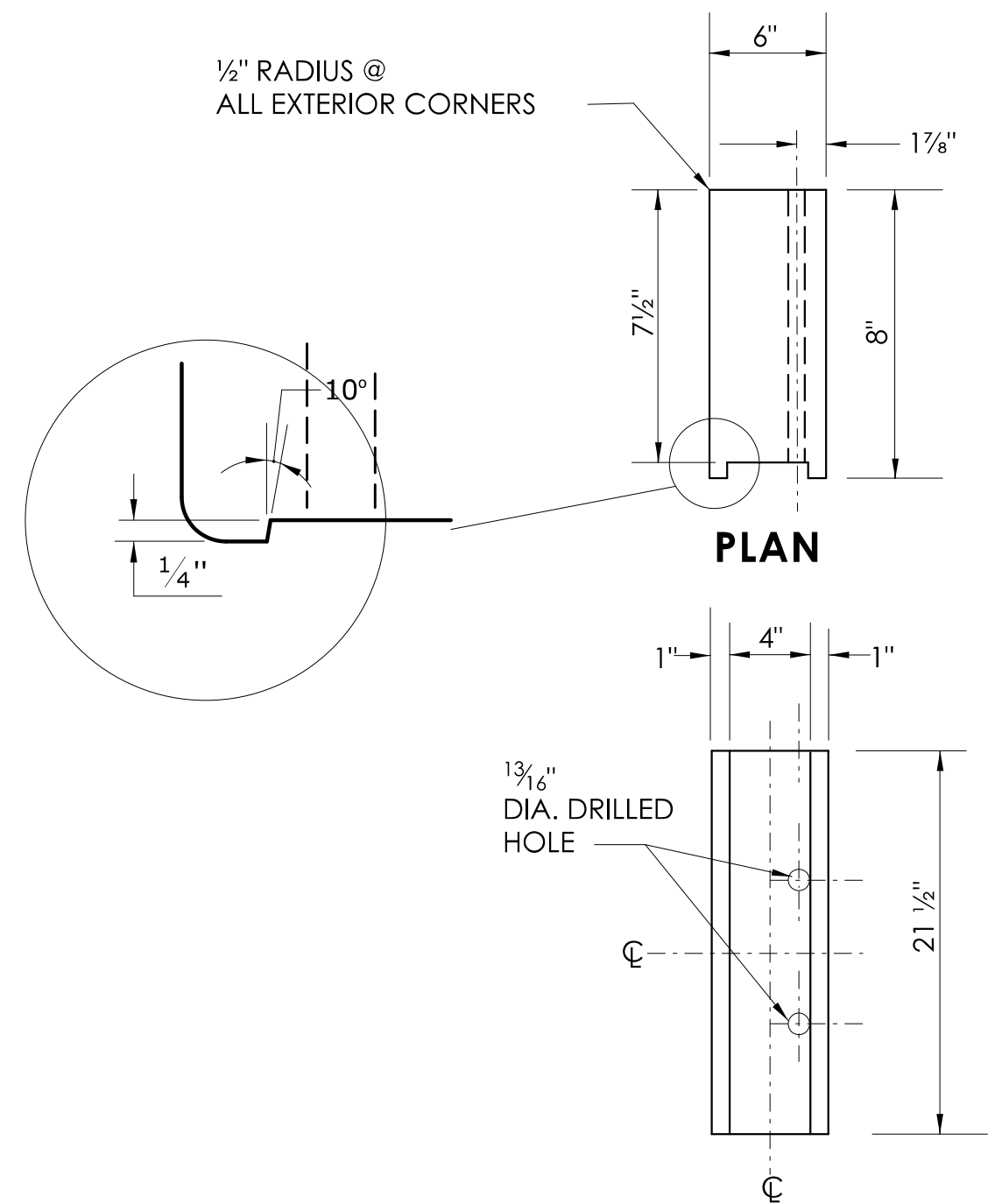
RAIL SPLICE BOLT SLOTS  
3/32" x 1 1/8" (TYP.)

POST BOLT SLOT  
3/4" x 2 1/2" (TYP.)

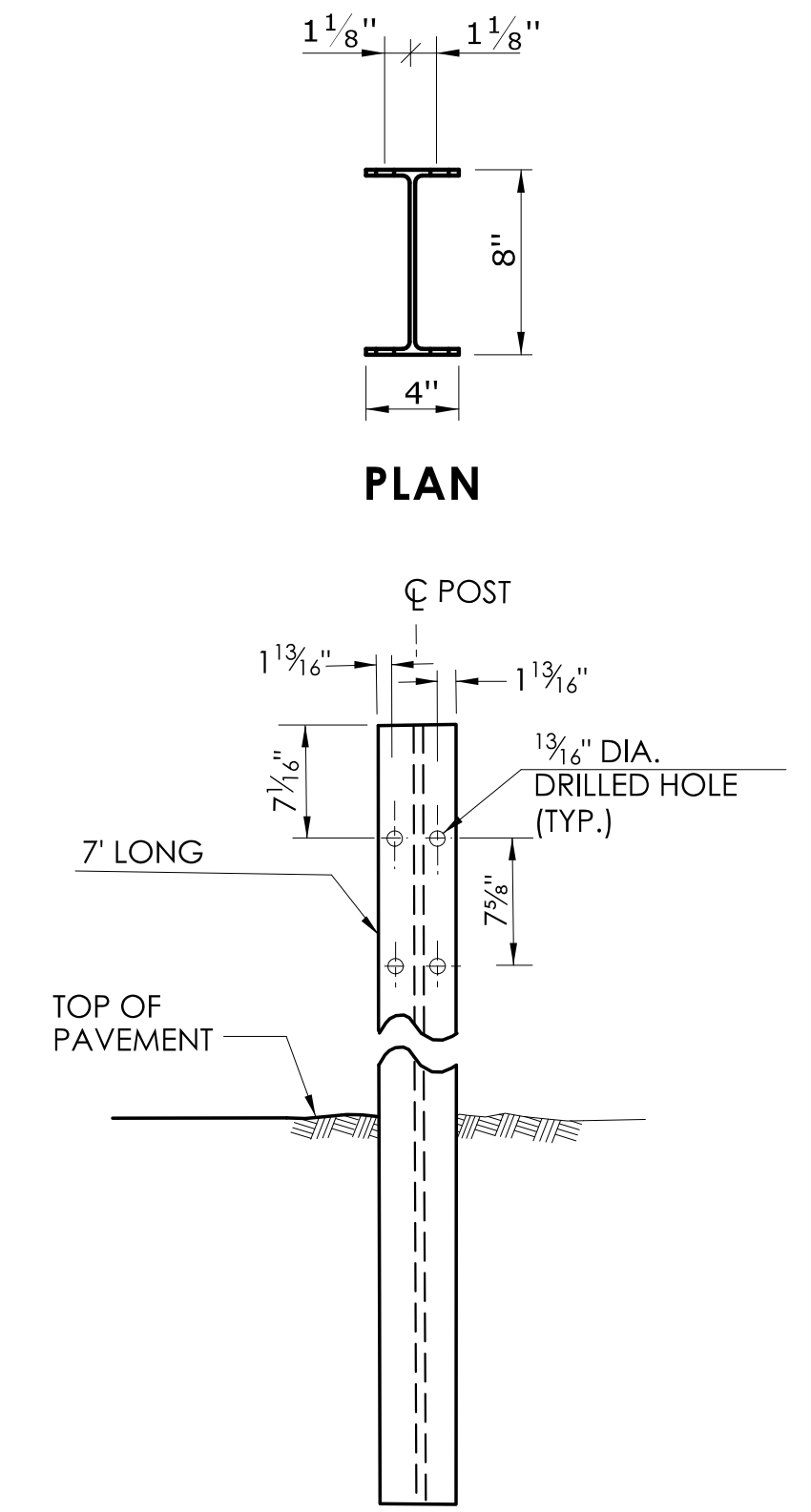
**DETAIL A**  
**THRIE-BEAM RAIL ELEMENT**  
**(10 GAUGE)**



**DETAIL B**  
**THRIE-BEAM RAIL ELEMENT**  
**(10 GAUGE)**

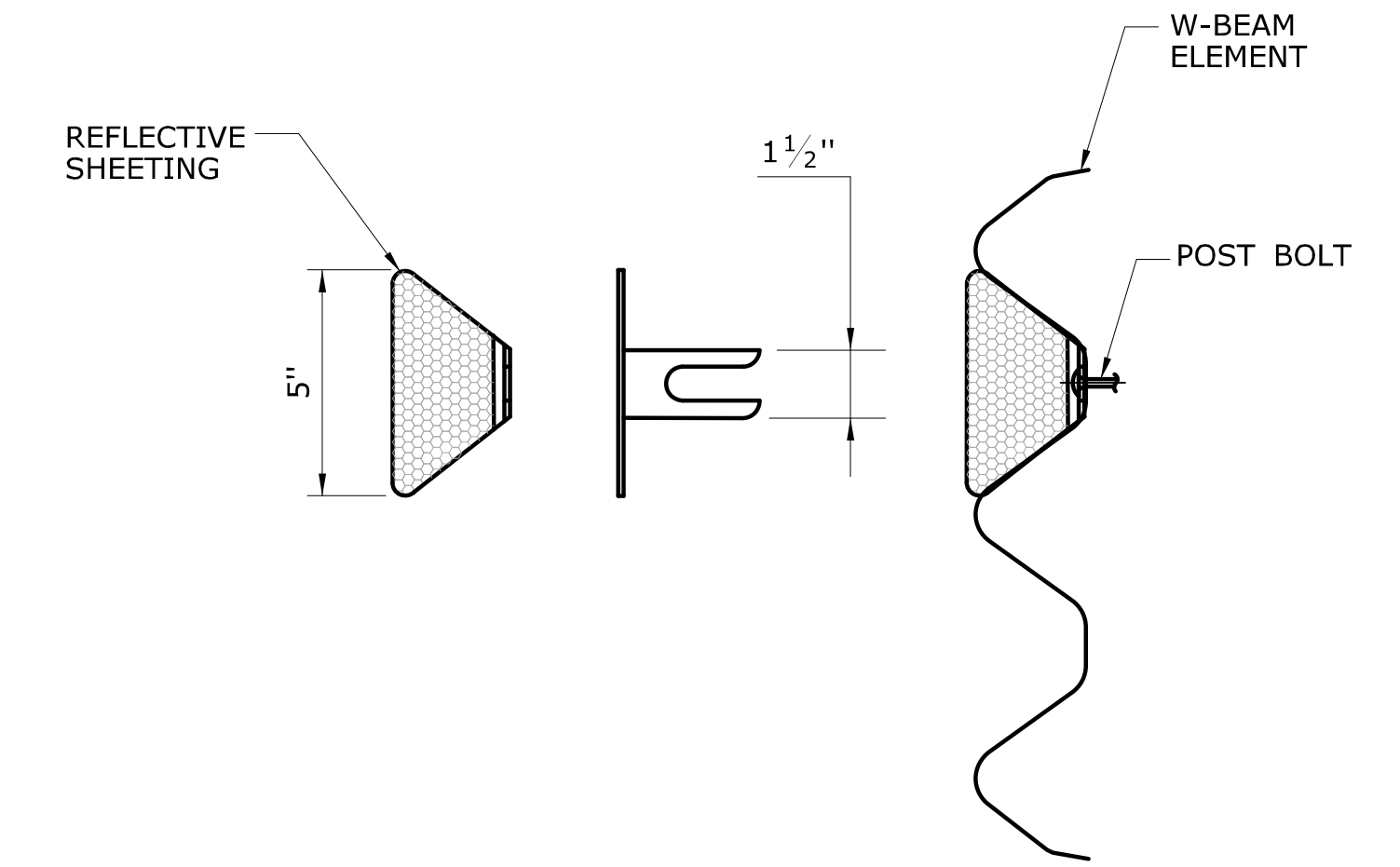


**ELEVATION**  
**DETAIL C**  
**THRIE-BEAM**  
**POLYETHYLENE BLOCKOUT**

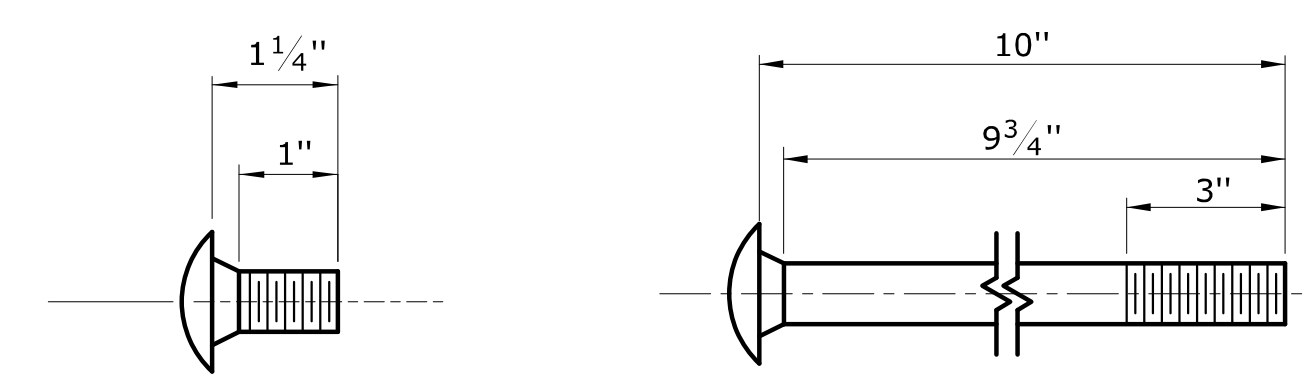


**ELEVATION**  
**DETAIL D**  
**THRIE-BEAM POST DETAIL**  
**W8 x 13**  
**BOLT HOLE LOCATION**

- DELINEATOR NOTES:**
1. DELINEATORS SHALL BE FORMED OF .080 POLY-CARBONATE OR .080 SHEET ALUMINUM IN ACCORDANCE WITH M.18.13.
  2. REFLECTIVE SHEETING SHALL CONFORM TO M.18.09.2.
  3. DELINEATORS SHALL BE INSTALLED ON THE POST CLOSEST TO THE DESIGNATED SPACING.
  4. REFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHERE IT SHALL BE YELLOW.
  5. INSTALL DELINEATORS ON RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 6' FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE DELINEATORS MUST BE INSTALLED ON ANY RUN OF RAIL.
- DELINEATOR SPACING:  
RADIUS ≥ 300' - SPACE EVERY 50'  
RADIUS < 300' - SPACE EVERY 25'

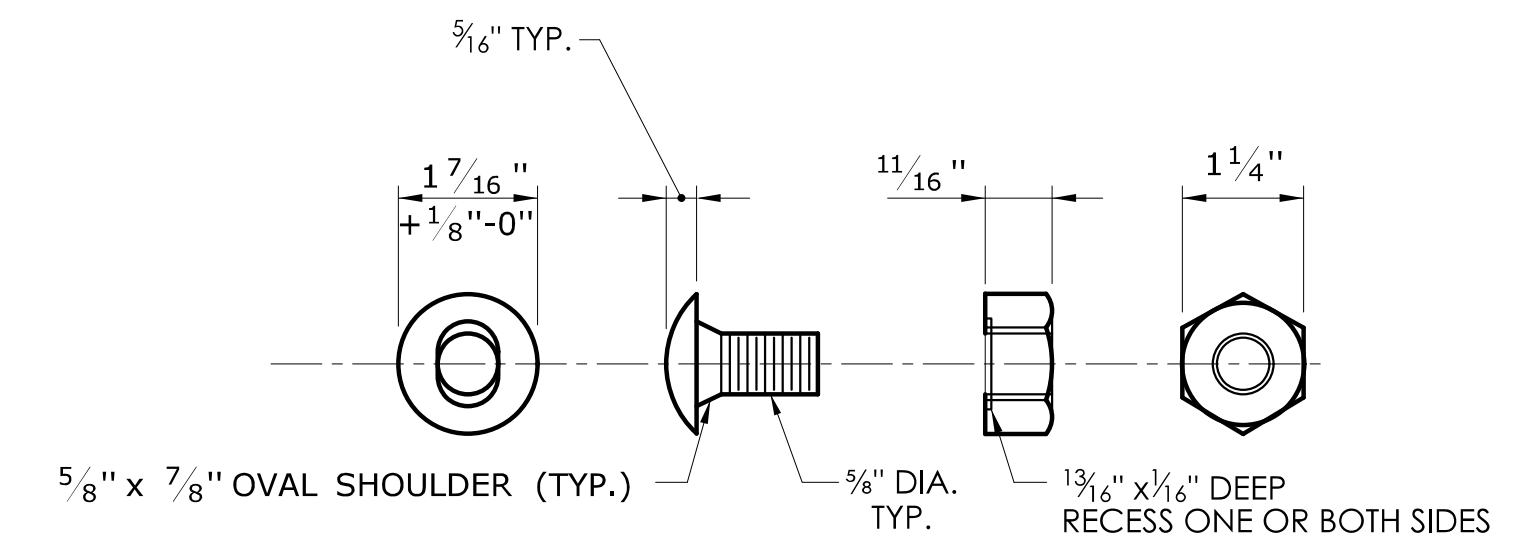


**DELINEATOR DETAIL**



**SPLICE BOLT**  
**DETAIL**

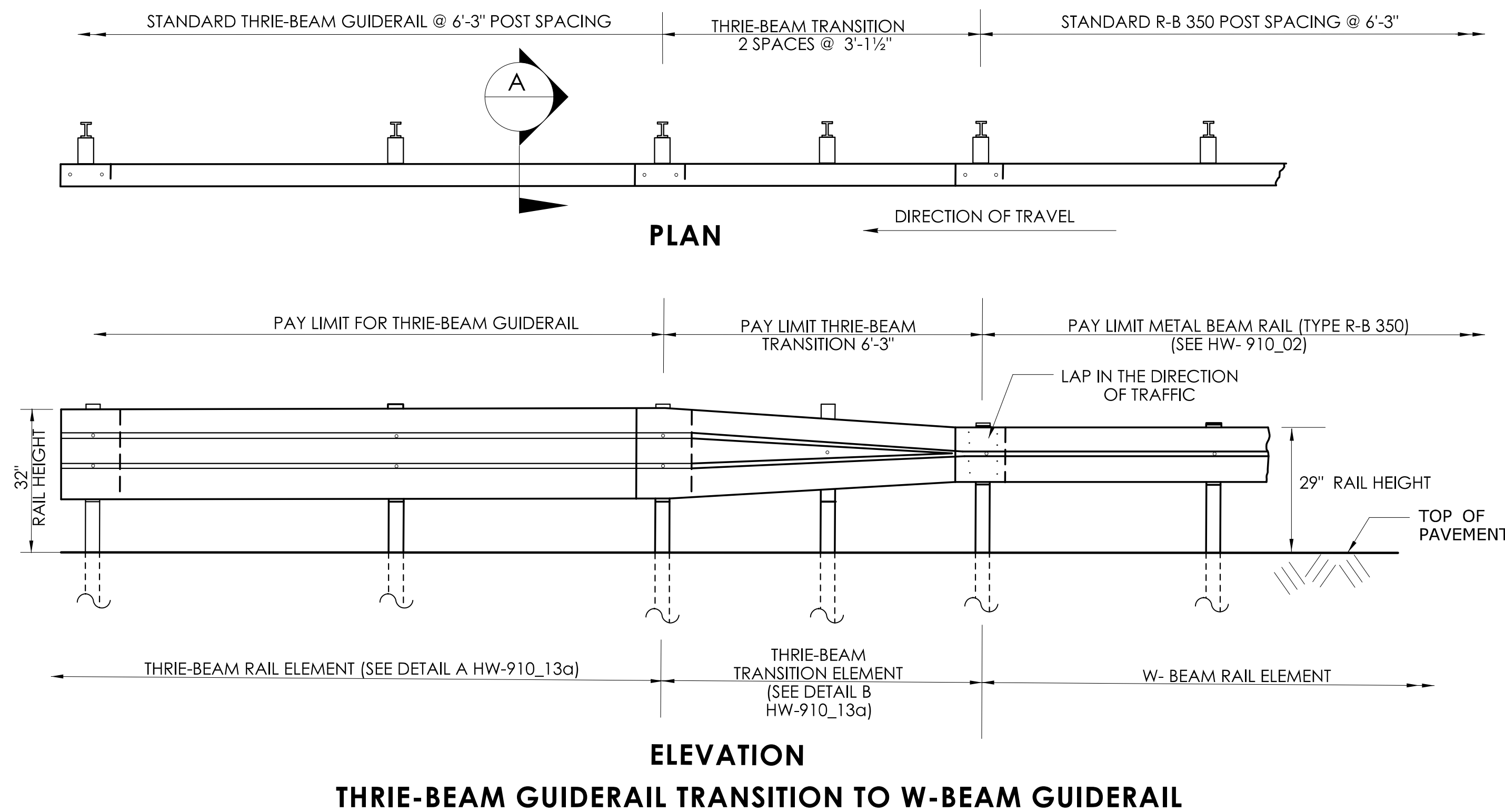
**POST BOLT DETAIL**  
(UNTHREADED PORTION NOT TO EXCEED 6 3/4")



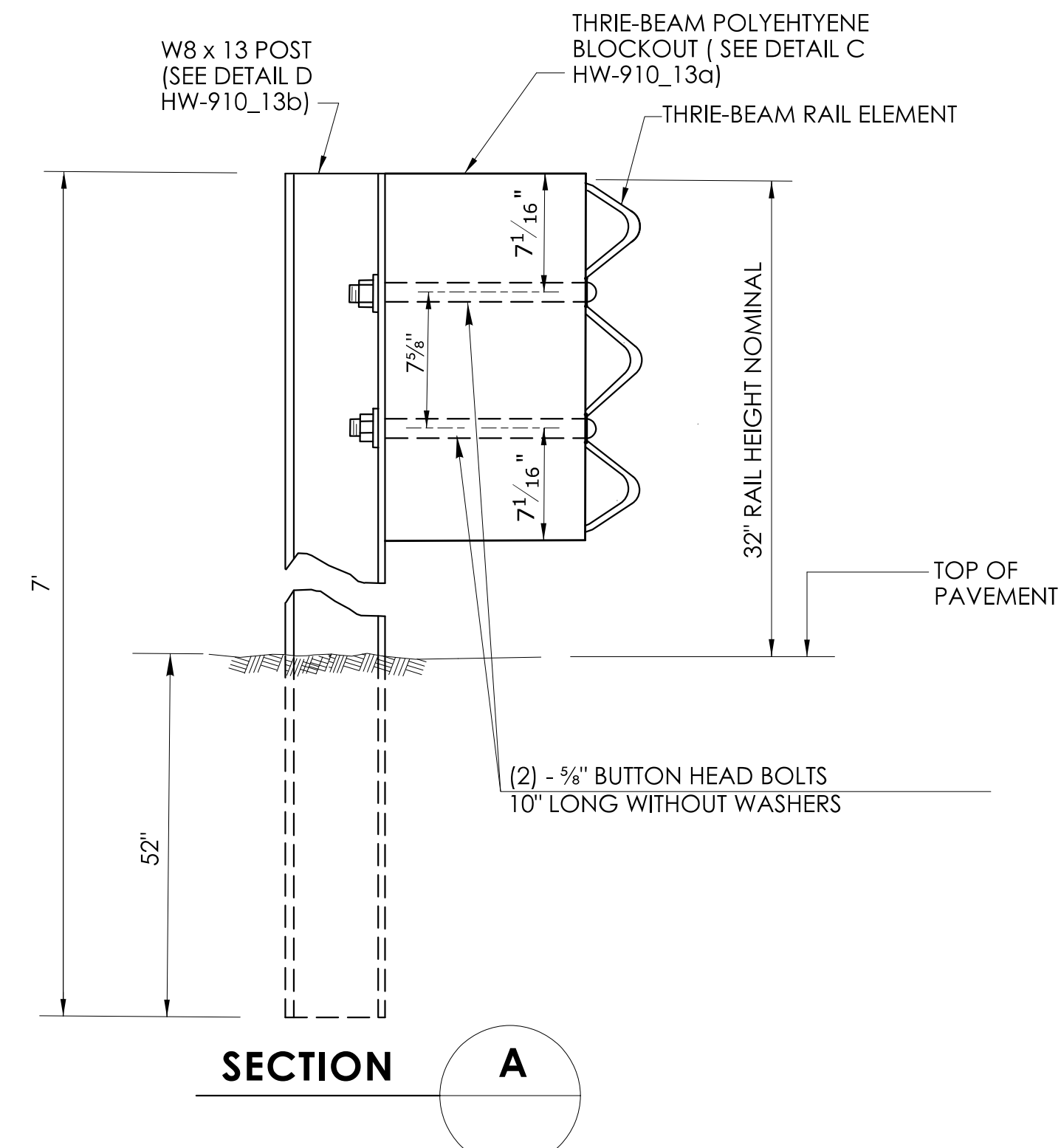
**BUTTONHEAD BOLT**

**HEX NUT**

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. DIAMETER SHOWN IS TYPICAL FOR ALL GUIDERAIL BOLTS. SEE DETAILS ABOVE FOR SPECIFIC LENGTHS.



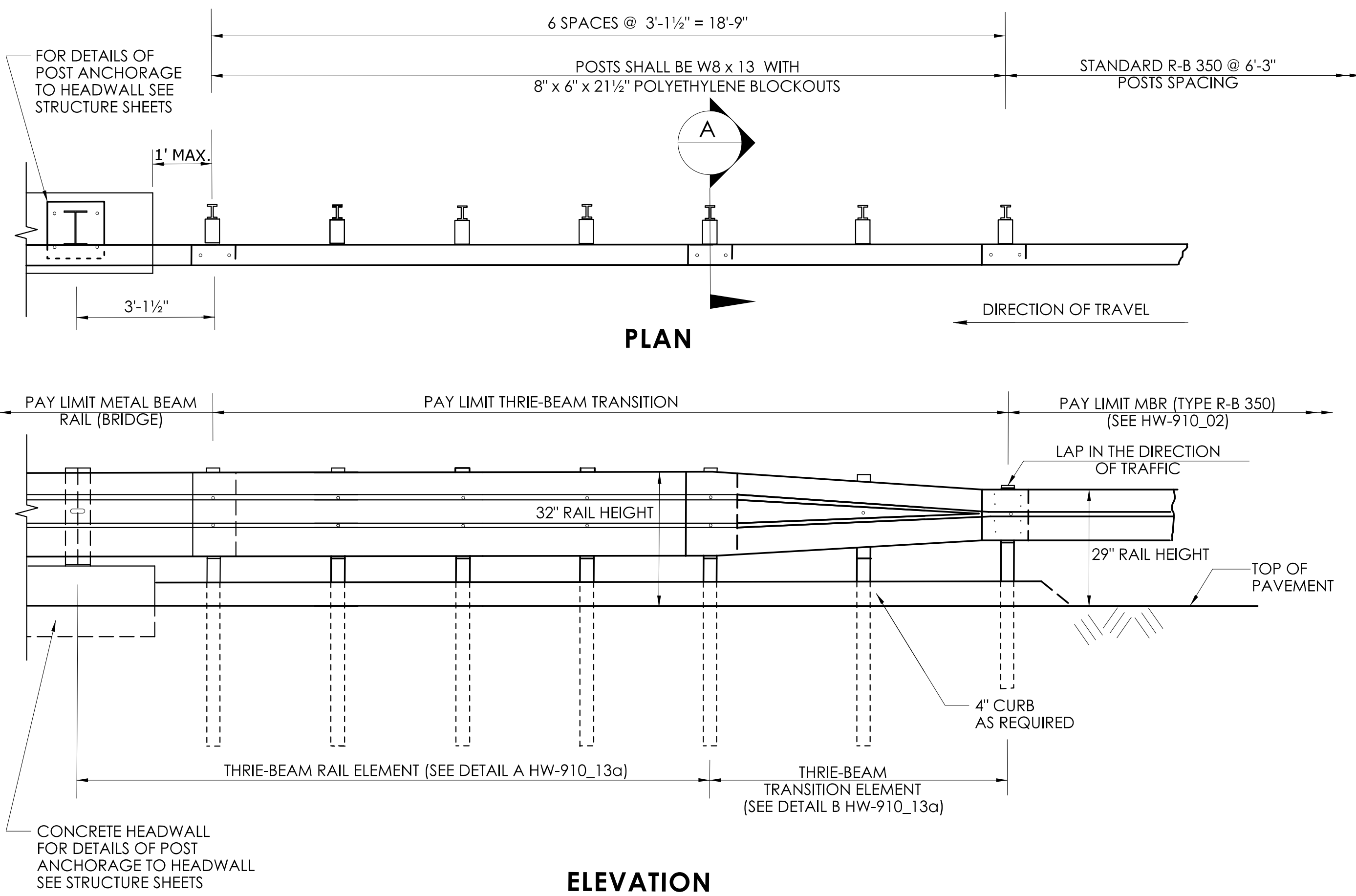
**THRIE-BEAM GUIDERAIL TRANSITION TO W-BEAM GUIDERAIL**



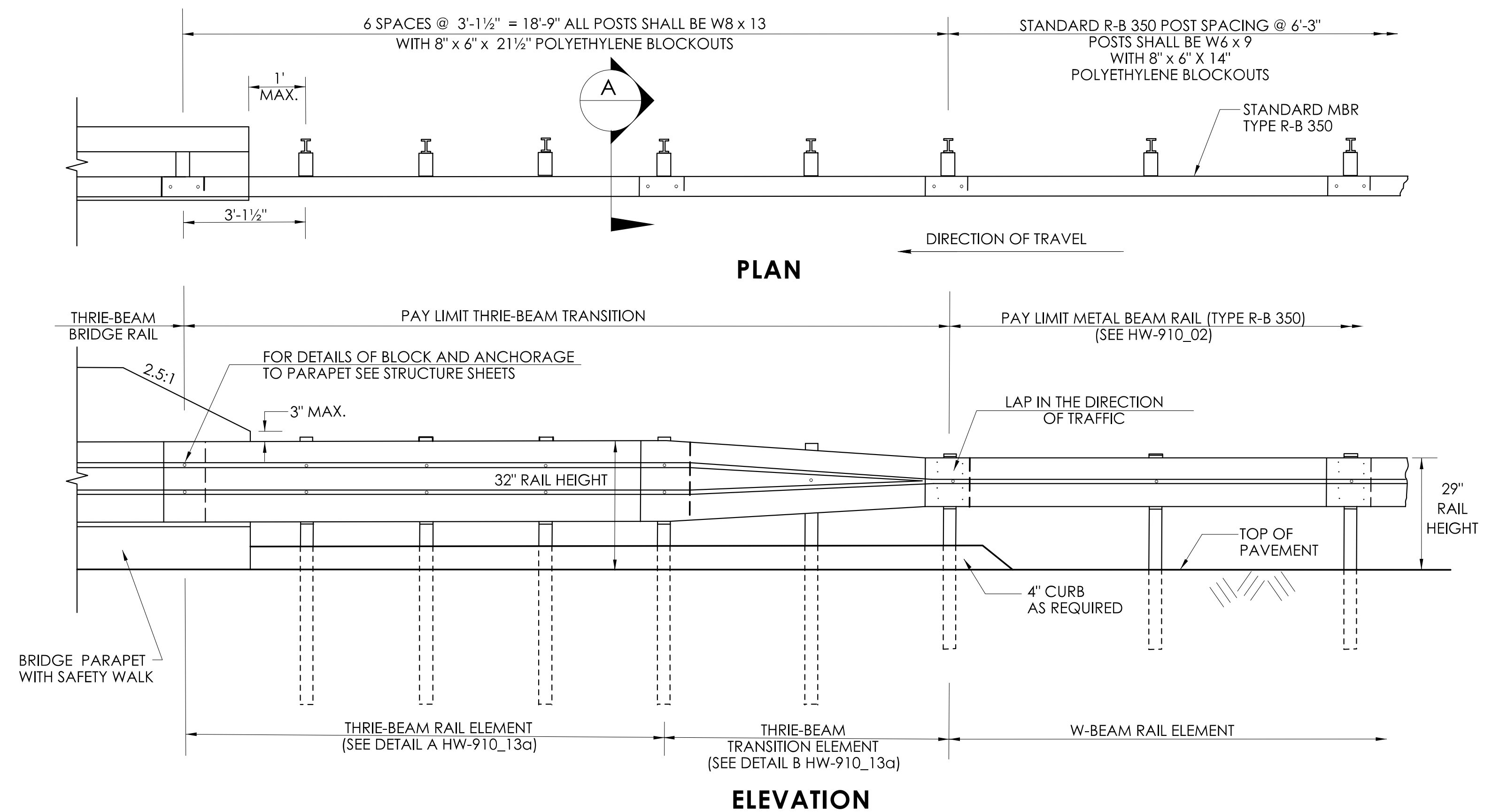
**W8 x 13 THRIE-BEAM POST CONNECTION DETAIL**

**GENERAL NOTES:**

1. THRIE-BEAM RAIL ELEMENTS AND THRIE-BEAM TRANSITION ELEMENTS SHALL BE 10 GAUGE.
2. MATERIAL FOR "M.B.R. TYPE R-B 350" SHALL CONFORM TO THE SPECIFICATIONS FOR "M.B.R. TYPE R-B 350" AND AS NOTED ON THE PLANS.
3. MATERIAL FOR "THRIE-BEAM TRANSITION" SHALL CONFORM TO THE SPECIFICATIONS FOR "THRIE-BEAM TRANSITION" AND AS NOTED ON THE PLANS.
4. MINIMUM RAIL HEIGHT OF R-B 350 GUIDERAIL FOR NEW CONSTRUCTION SHALL BE 29" ± 1".
5. SEE HW-910\_01 FOR W-BEAM METAL BEAM HARDWARE.



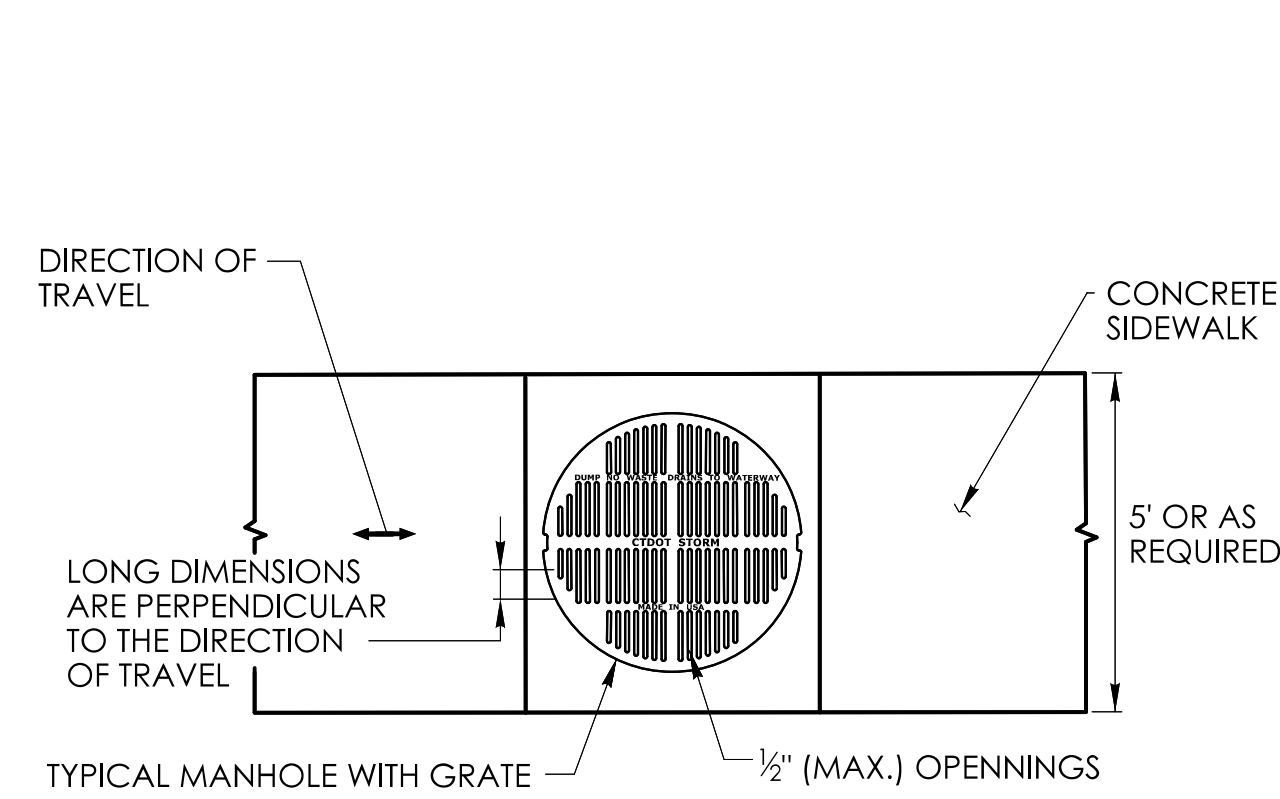
**R-B 350 TRANSITION TO THRIE-BEAM PEDESTAL POST MOUNTED TO HEADWALL**



**THRIE-BEAM TRANSITION TO BRIDGE PARAPET WITH SAFETY WALK**

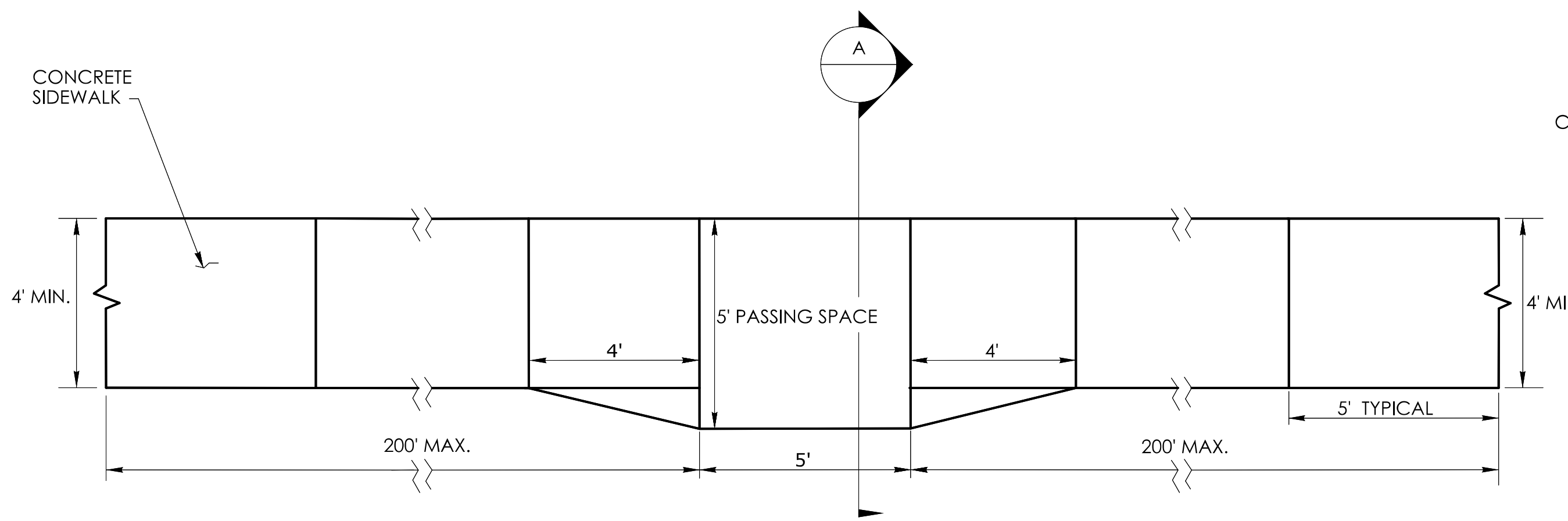


- GENERAL NOTES:**
1. SEE CONCRETE SIDEWALK RAMPS GUIDE SHEETS FOR PEDESTRIAN RAMP TYPES.
  2. ALL CURBING SHALL BE INSTALLED AS EITHER PRECAST OR CAST IN PLACE AS DIRECTED.



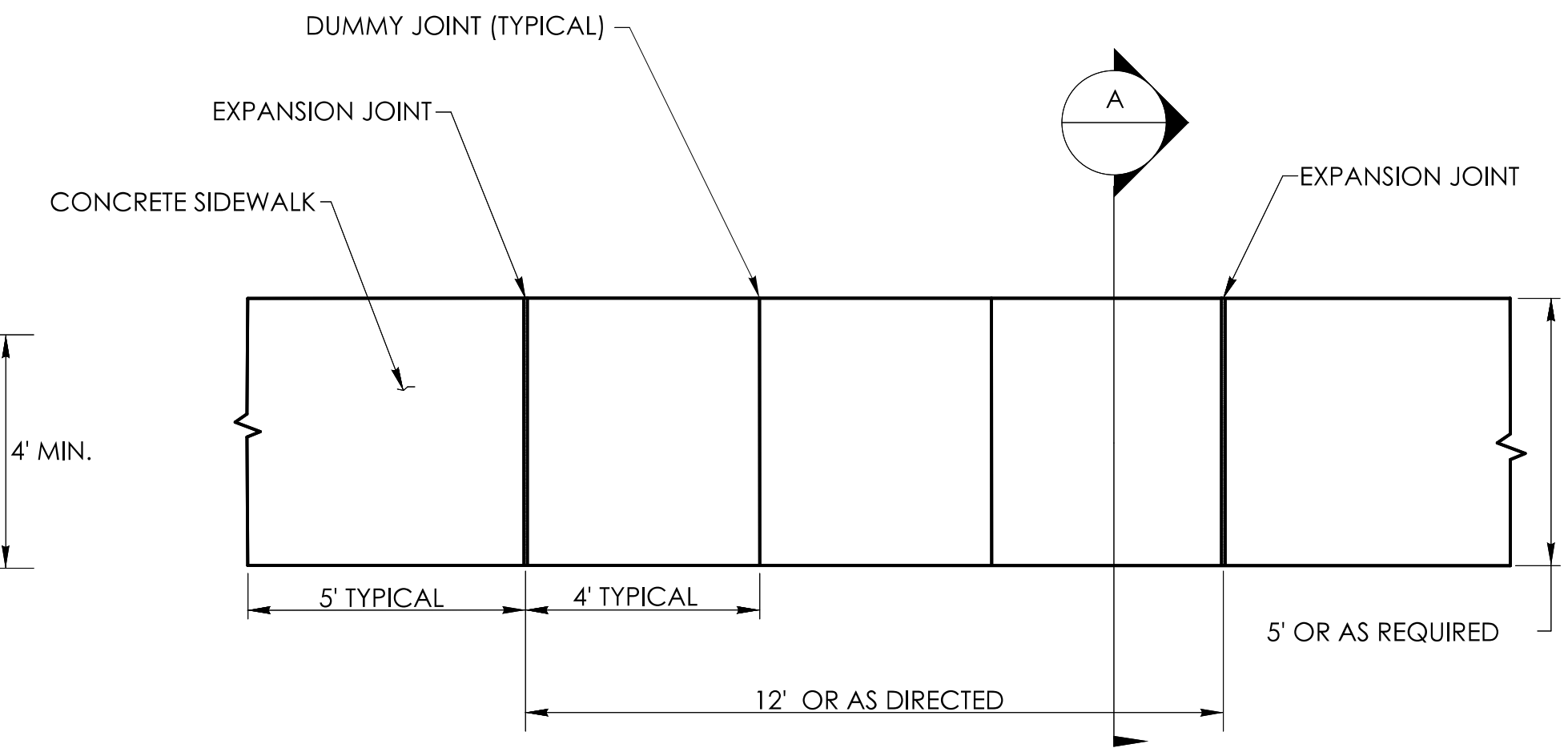
**PEDESTRIAN ACCESS ROUTE OVER A MANHOLE WITH GRATE**

1. HORIZONTAL OPENINGS IN GRATES AND JOINTS MUST NOT BE MORE THAN 1/2 INCH
2. ELONGATED OPENINGS IN GRATES MUST BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DIRECTION OF TRAVEL

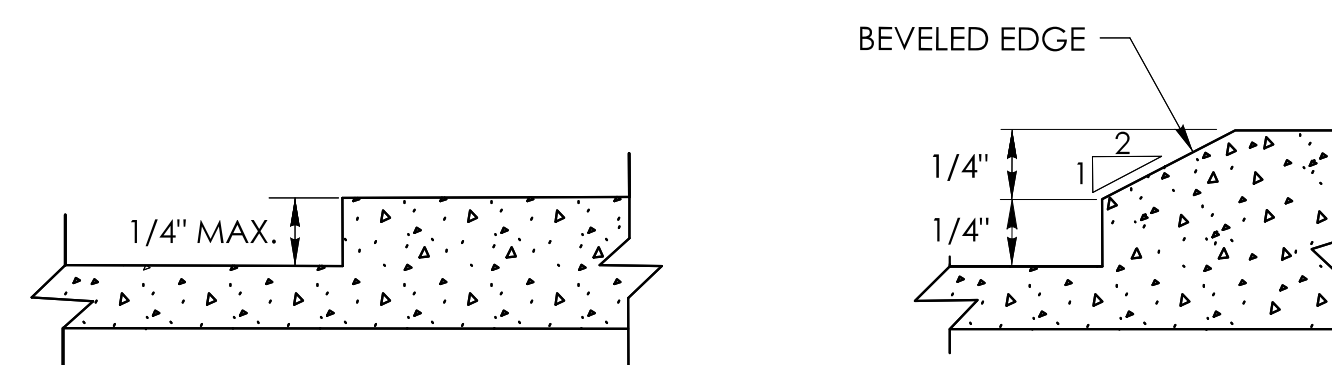


**5' PASSING SPACE FOR 4' WIDE SIDEWALK PLAN**

PASSING SPACES SHALL BE PROVIDED AT INTERVALS OF 200' MAXIMUM FOR SIDEWALKS LESS THAN 5' IN WIDTH

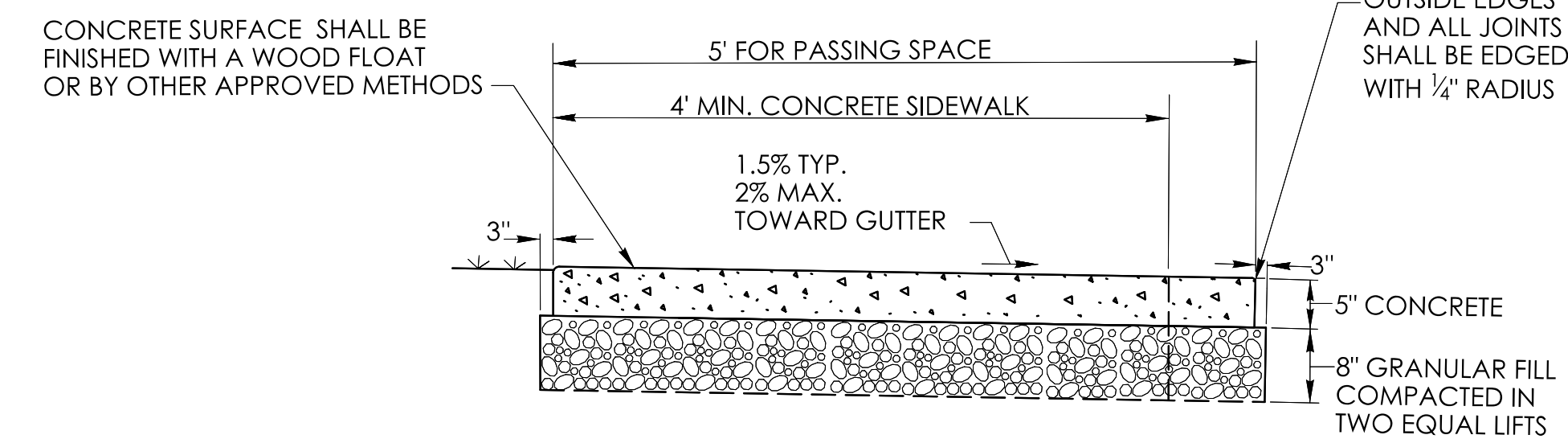


**5' WIDE SIDEWALK PLAN**



**VERTICAL SURFACE DISCONTINUITIES**

VERTICAL SURFACE DISCONTINUITIES MUST BE BEVELED TO A HEIGHT NOT GREATER THAN 1/4 INCH. THE BEVEL MUST BE THE ENTIRE WIDTH OF THE DISCONTINUITY



**5' PASSING SPACE FOR 4' WIDE SIDEWALK**

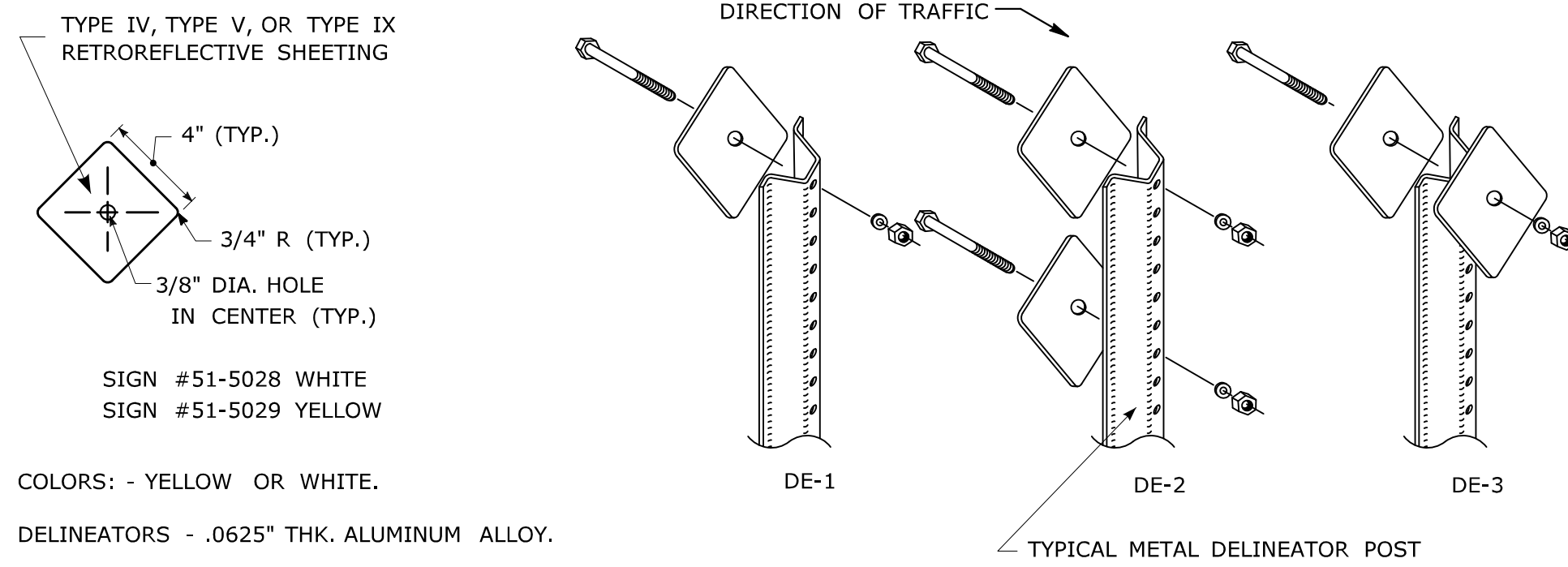
SECTION A

<p>NOT TO SCALE</p>	<p>SIGNATURE BLOCK:</p> <p>OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111</p>	<p>SUBMITTED BY:</p> <p>Digitally signed by Leo Fontaine, P.E. Date: 2022.09.27 15:15:58-04'00'</p>	<p>APPROVED BY:</p> <p>Digitally signed by Michael A. Calabrese, Michael Date: 2022.11.08 09:42:54-05'00'</p>	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	<p>CTDOT STANDARD SHEET</p>	<p>STANDARD SHEET TITLE: <b>CONCRETE SIDEWALKS</b></p>	<p>STANDARD SHEET NO.: <b>HW-921_01</b></p>
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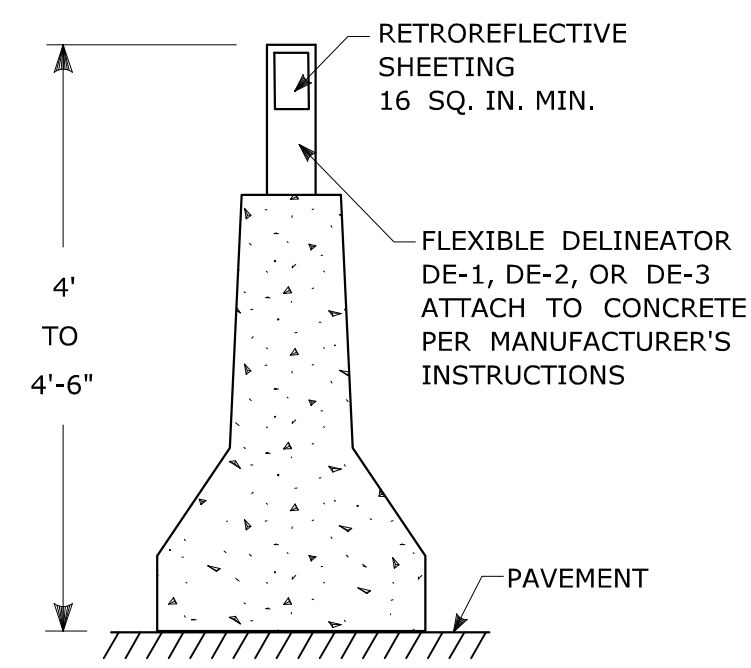


**DELINEATORS DE-1, DE-2, DE-3  
INSTALLATION ON DELINEATOR POSTS**

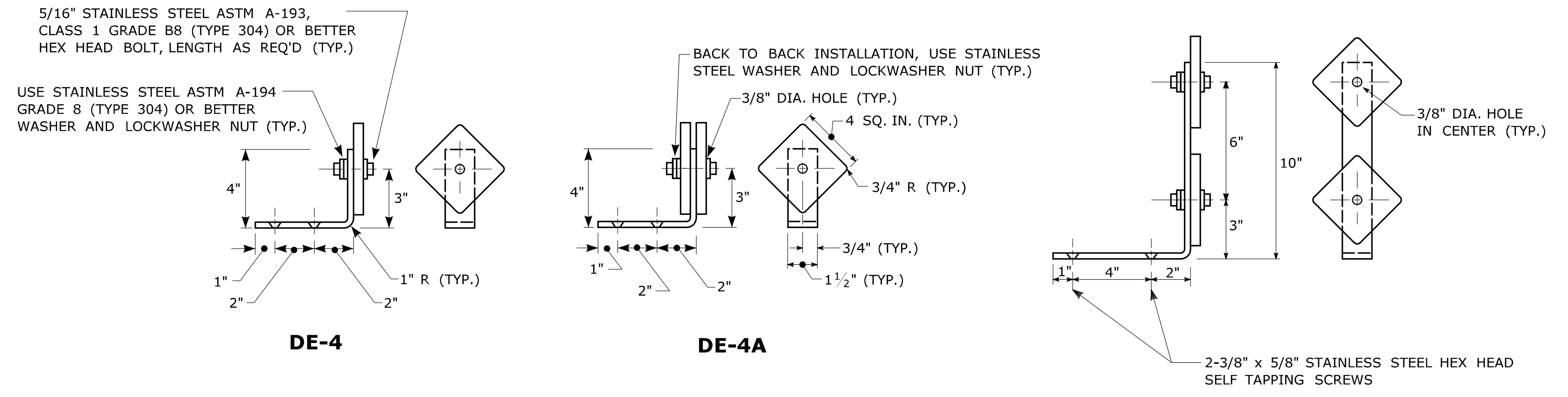


TYPE IV, TYPE V, OR TYPE IX RETROREFLECTIVE SHEETING  
4" (TYP.)  
3/4" R (TYP.)  
3/8" DIA. HOLE IN CENTER (TYP.)  
SIGN #51-5028 WHITE  
SIGN #51-5029 YELLOW  
COLORS: - YELLOW OR WHITE.  
DELINEATORS - .0625" THK. ALUMINUM ALLOY.  
FACE SHALL BE PRESSURE SENSITIVE, SELF ADHERING, TYPE IV, TYPE V, OR TYPE IX RETROREFLECTIVE SHEETING.  
DELINEATORS SHALL BE FASTENED WITH 5/16" STAINLESS STEEL ASTM A-193 CLASS 1, GRADE B8 (TYPE 304) OR BETTER HEX HEAD BOLT (LENGTH AS REQUIRED), WASHER AND FIBER INSERT SELF LOCKING NUT, ON STANDARD METAL DELINEATOR POST.

**INSTALLATION ON PERMANENT CONCRETE BARRIER, BRIDGE PARAPETS AND RETAINING WALLS**



**DELINEATORS DE-4, DE-4A, DE-5  
FOR INSTALLATION ON METAL BRIDGE RAIL**

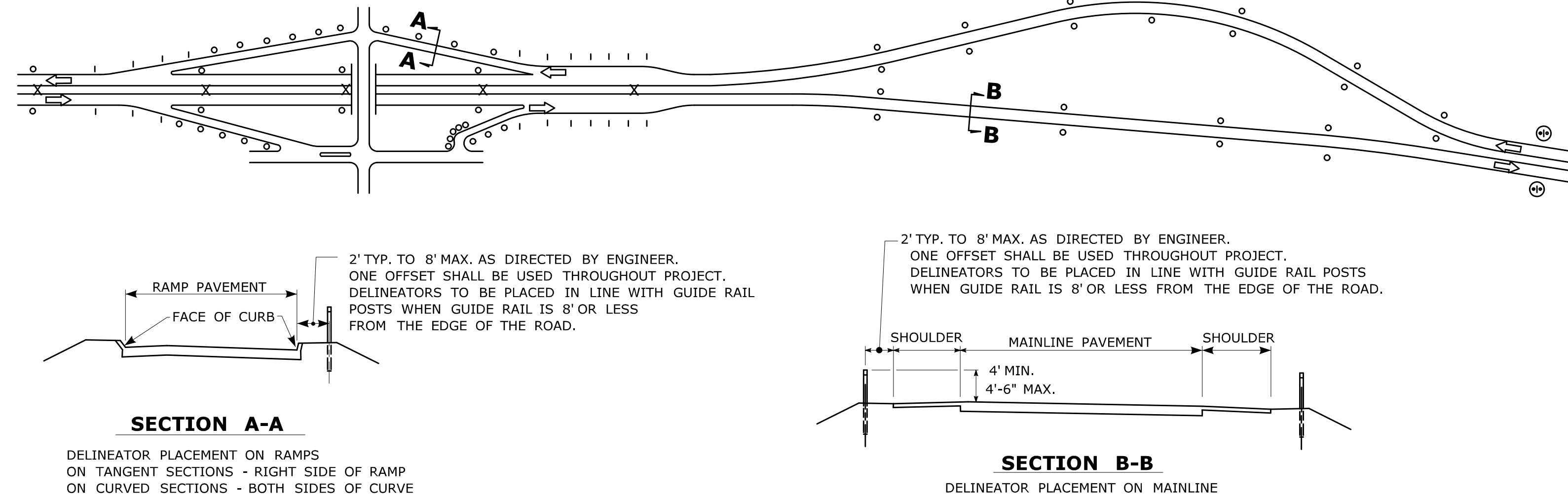


5/16" STAINLESS STEEL ASTM A-193, CLASS 1 GRADE B8 (TYPE 304) OR BETTER HEX HEAD BOLT, LENGTH AS REQ'D (TYP.)  
USE STAINLESS STEEL ASTM A-194 GRADE 8 (TYPE 304) OR BETTER WASHER AND LOCKWASHER NUT (TYP.)  
BACK TO BACK INSTALLATION, USE STAINLESS STEEL WASHER AND LOCKWASHER NUT (TYP.)  
3/8" DIA. HOLE (TYP.)  
4 SQ. IN. (TYP.)  
3/4" R (TYP.)  
3/4" (TYP.)  
1 1/2" (TYP.)  
2-3/8" x 5/8" STAINLESS STEEL HEX HEAD SELF TAPPING SCREWS  
COLORS: - YELLOW OR WHITE.  
DELINEATORS - .0625" THK. ALUMINUM ALLOY.  
BRACKET - .125" THK. ALUMINUM ALLOY, AND SHALL CONFORM TO SPECIFICATION M.18.07-03 BRIDGE RAIL MOUNTING BRACKETS.  
FACE SHALL BE PRESSURE SENSITIVE, SELF ADHERING, TYPE IV, TYPE V, OR TYPE IX RETROREFLECTIVE SHEETING.  
USE STAINLESS STEEL WASHERS ON FACE OF DELINEATORS, 5/8" O.D. X 3/8" I.D. X .032" THK. (TYP.)

**DELINEATORS DE-1, DE-2, DE-3 TO BE PAID FOR UNDER SECTION 12.05 DELINEATORS.**

**DELINEATORS TYPE DE-4, DE-4A, AND DE-5 TO BE PAID FOR UNDER SECTION 12.05 DELINEATORS.**

**TYPICAL MAINLINE & INTERCHANGE DELINEATION**



**DELINEATOR SPACING NOTES:**

- 1) AT LOCATIONS WHERE THE MEDIAN WIDTH (BETWEEN SHOULDERS) IS 12' OR LESS, AND MEDIAN BEAM RAIL IS PRESENT, TYPE DE-3 DELINEATORS SHALL BE MOUNTED WITHIN THE MEDIAN BEAM RAIL.
- 2) SPACING ON MAINLINE EXPRESSWAY TANGENTS SHALL BE 400'.
- 3) SPACING ON MAINLINE EXPRESSWAY CURVES SHALL BE AS SPECIFIED IN TABLE 3F-1 OF THE MUTCD.
- 4) ON ACCELERATION AND DECELERATION LANES AND ON-RAMP TANGENT SECTIONS, DELINEATOR SPACING SHALL BE 100'.
- 5) ON CURVED PORTIONS OF RAMP, DELINEATOR SPACING SHALL BE IN ACCORDANCE WITH TABLE 3F-1 OF THE MUTCD, BUT NOT TO EXCEED 100'.

**LEGEND:**

- o DE-1 DELINEATORS OR DE-4 DELINEATOR ASSEMBLY
- | DE-2 DELINEATORS OR DE-5 DELINEATOR ASSEMBLY
- X DE-3 DELINEATORS ASSEMBLY OR DE-4A DELINEATOR
- ⊙ D10-1, 2, 3, OR 4 ASSEMBLY TO BE INSTALLED WHERE SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

**COLOR APPLICATION, FOR DE-1 THRU DE-5**

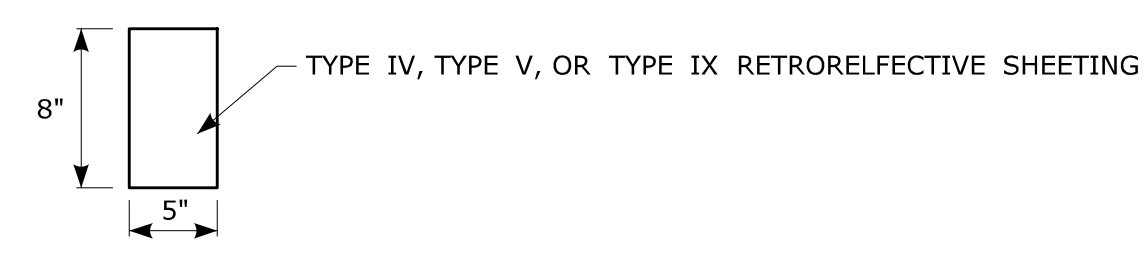
LEFT SIDE OF ALL ROADWAYS AND RAMP - YELLOW  
RIGHT SIDE OF ALL ROADWAYS AND RAMP - WHITE

**MUTCD TABLE 3F-1  
APPROXIMATE SPACING FOR DELINEATORS  
ON HORIZONTAL CURVES**

RADIUS (R) OF CURVE (feet)	APPROXIMATE SPACING (S) ON CURVE (feet)
50	20
115	25
180	35
250	40
300	50
400	55
500	65
600	70
700	75
800	80
900	85
1,000	90

DISTANCE IN FEET WERE ROUNDED TO THE NEAREST 5 FEET. SPACING FOR SPECIFIC RADII MAY BE INTERPOLATED FROM TABLE. THE MINIMUM SPACING SHOULD BE 20 FEET. THE SPACING ON CURVES SHOULD NOT EXCEED 300 FEET. IN ADVANCE OF OR BEYOND A CURVE, AND PROCEEDING AWAY FROM THE END OF THE CURVE, THE SPACING OF THE FIRST DELINEATOR IS 2S, THE SECOND IS 3S, AND THE THIRD 6S BUT NOT TO EXCEED 300 FEET.  
S REFERS TO THE DELINEATOR SPACING FOR SPECIFIC RADII COMPUTED FROM THE FORMULA:  $S=3\sqrt{R-50}$ .

**DELINEATORS DE-7, DE-7A, DE-7B, DE-7D FOR  
INSTALLATION ON TEMPORARY PRECAST CONCRETE BARRIER CURB  
AND TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE)**



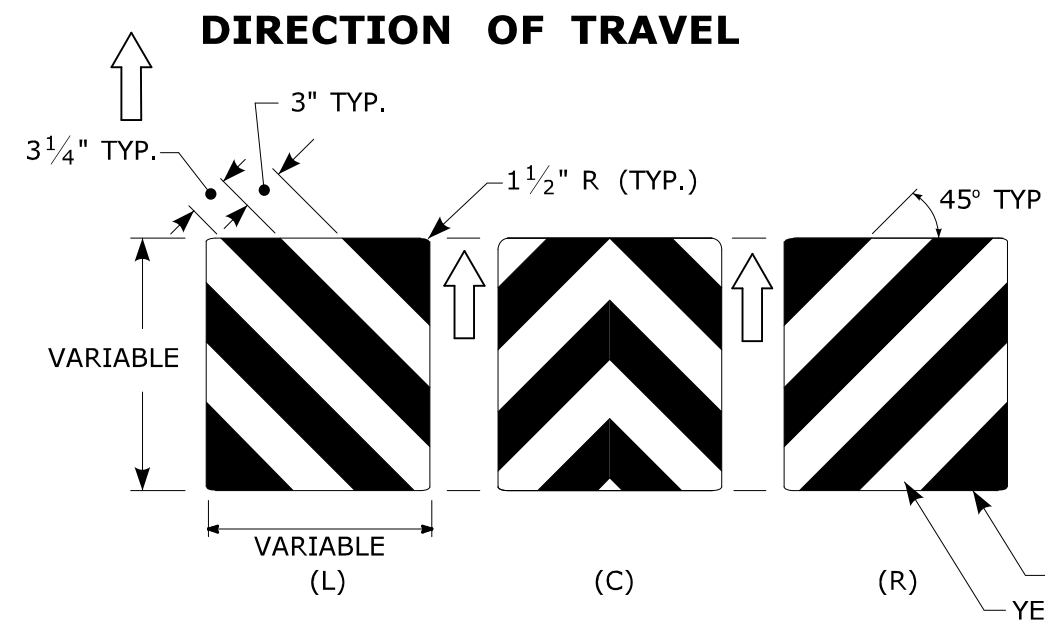
DE-7 ONE WAY WHITE  
DE-7A ONE WAY YELLOW  
DE-7B TWO WAY YELLOW  
DE-7D TWO WAY WHITE  
TEMPORARY PRECAST CONCRETE BARRIER DELINEATORS ARE TO BE FABRICATED OF ALUMINUM, STEEL, PLASTIC, OR OF A MATERIAL APPROVED BY THE ENGINEER AND MOUNTED IN THE CENTER OF EACH SECTION OF TEMPORARY BARRIER AS REQUIRED AND PER MANUFACTURER'S INSTRUCTIONS.

**SPACING FOR TEMPORARY BARRIER CURB DELINEATORS:**

ON THE LEADING TAPERED SECTION - EVERY 20',  
ON THE FIRST 100' OF THE PARALLEL SECTION - EVERY 20',  
ON THE REMAINING LENGTH - EVERY 100', MINIMUM OF 2' IF LESS THAN 100',  
ALTERNATING ONE WAY TRAFFIC - EVERY 20',  
ALL OTHER ROADWAYS SHALL BE DELINEATED IN ACCORDANCE WITH MUTCD.

**DELINEATORS DE-7, DE-7A, DE-7B, AND DE-7D  
TO BE PAID FOR UNDER SECTION 12.05 DELINEATORS.**

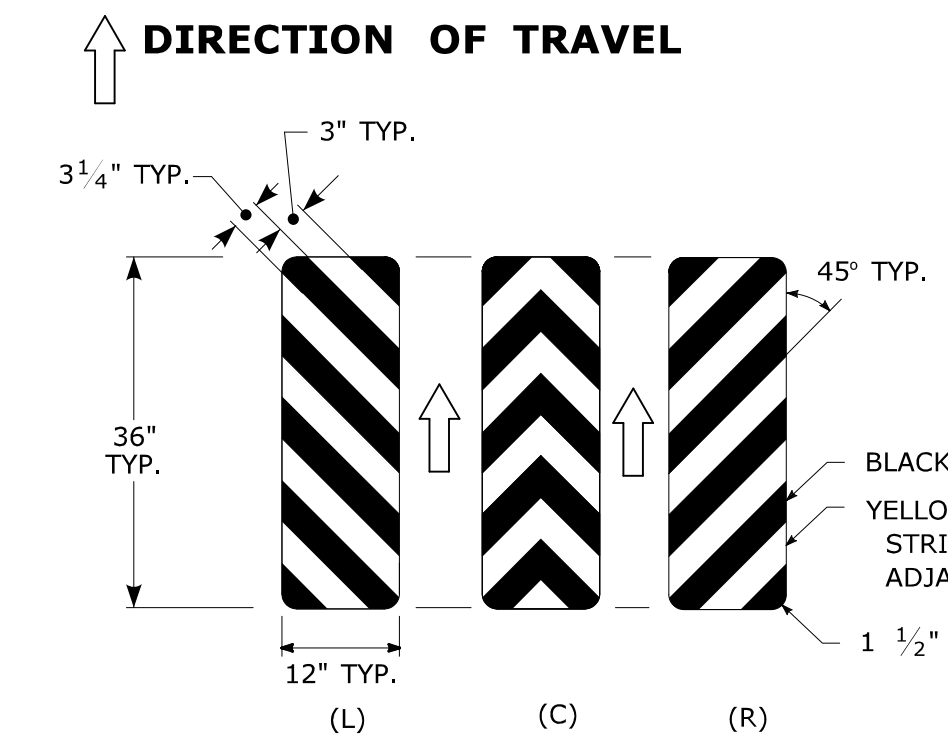
**ATTENUATOR REFLECTORS  
SIGN #40-4266**



THIS SHEETING WITHOUT A SUBSTRATE TO BE INSTALLED ON THE NOSE OF THE IMPACT ATTENUATOR WITH ADHESIVE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE SHEETING SHALL COVER THE NOSE OF THE IMPACT ATTENUATOR.  
ON A CURVED NOSE, THE WIDTH OF THE SHEETING SHALL EXTEND 1" BEYOND THE POINT OF CURVATURE ON EACH SIDE OF THE NOSE.  
THE HEIGHT AND WIDTH OF THE SHEETING VARIES DEPENDING ON THE SIZE OF THE NOSE OF THE IMPACT ATTENUATOR.  
BLACK OPAQUE (TYP.)  
YELLOW TYPE IV OR TYPE IX RETROREFLECTIVE STRIPE (ANGLE DOWNWARD TOWARD ADJACENT PAVEMENT) (TYP.)

**ATTENUATOR REFLECTOR TO BE PAID FOR UNDER SECTION 18.0 IMPACT ATTENUATOR**

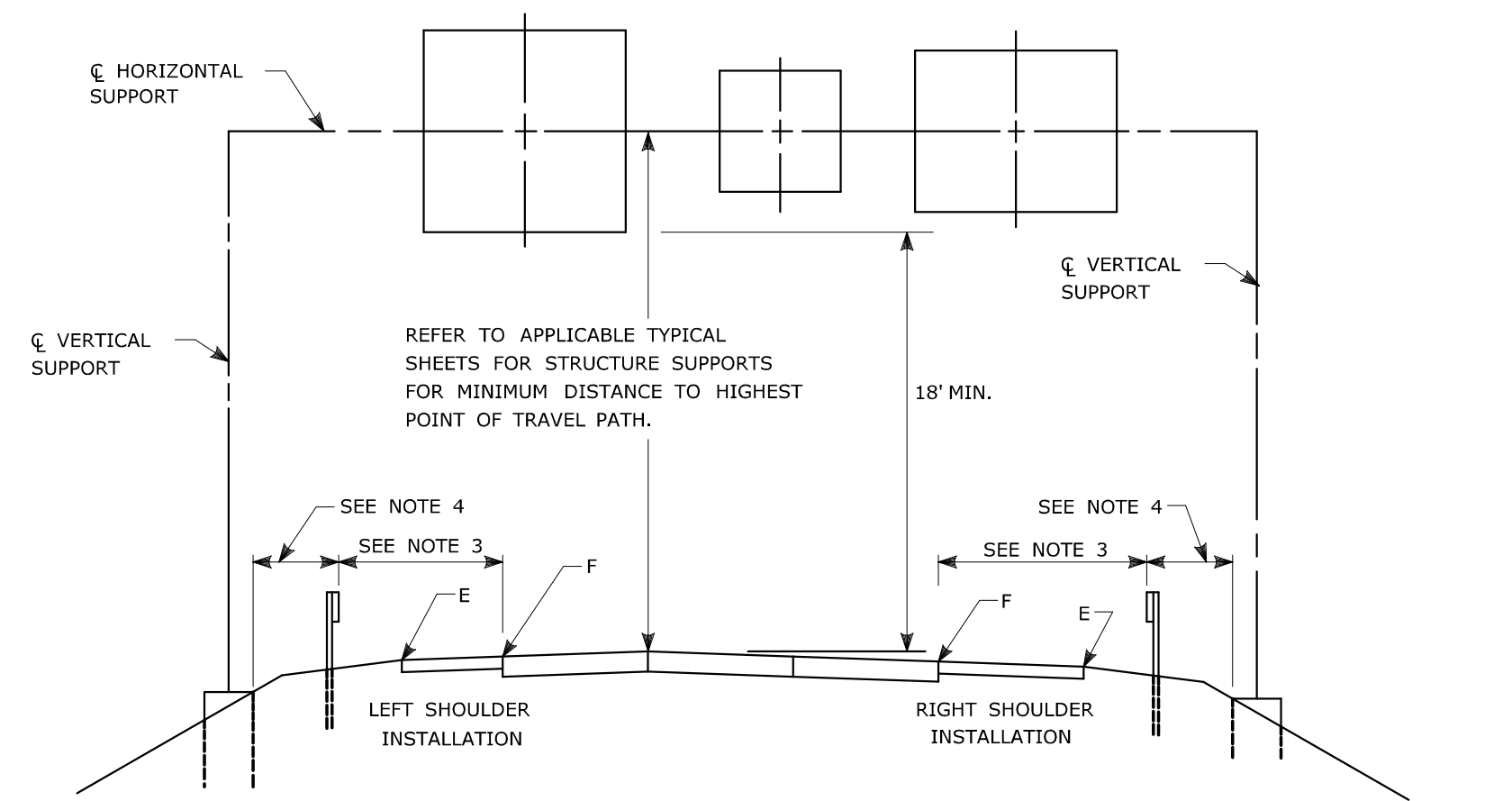
**TYPE 3 OBJECT MARKERS  
SIGN #41-4267**



SIGN #41-4267 MARKER MOUNTED ON 4lb. METAL SIGN POST. BOTTOM OF SIGN #41-4267 TO BE 4" ABOVE ADJACENT EDGE OF PAVEMENT. FINAL LOCATIONS OF SIGN #41-4267 MARKERS WILL BE AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.  
BLACK OPAQUE (TYP.)  
YELLOW TYPE IX RETROREFLECTIVE STRIPE (ANGLE DOWNWARD TOWARD ADJACENT PAVEMENT) (TYP.)  
1 1/2" R (TYP.)

**TYPE 3 OBJECT MARKER TO BE PAID FOR UNDER SECTION 12.08 SIGN FACE SHEET ALUMINUM**

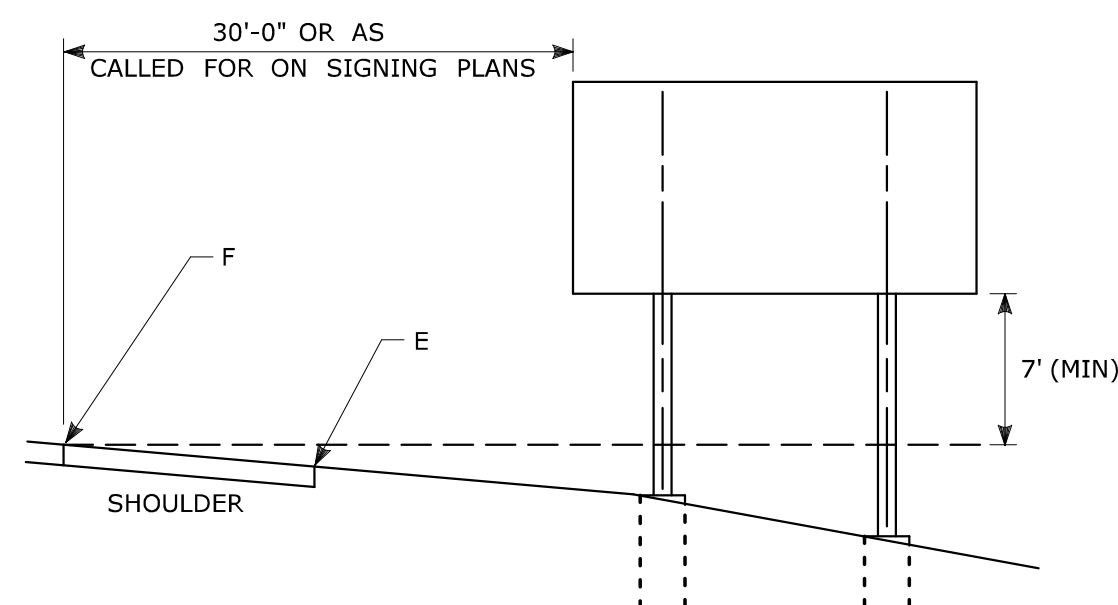




**TYPICAL PLACEMENT OF OVERHEAD SIGNS ON SIGN SUPPORTS**

**NOTES:**

- 1) FOR PLACEMENT OF CANTILEVER SIGN SUPPORT USE APPLICABLE PORTION OF ABOVE DETAIL.
- 2) BARRIER SYSTEMS MAY BE REQUIRED FOR BOTH SIDES OF SUPPORTS IN MEDIANS.
- 3) IMPACT PROTECTION SHALL BE PROVIDED FOR THE SIGN SUPPORTS LOCATED WITHIN CLEAR ZONE.
- 4) SIGN SUPPORT FOUNDATIONS SHALL BE LOCATED OUTSIDE OF BARRIER SYSTEMS DEFLECTION AREA.
- 5) ALL SIGNS ARE TO BE LEVEL, REGARDLESS OF CAMBER IN SUPPORT.



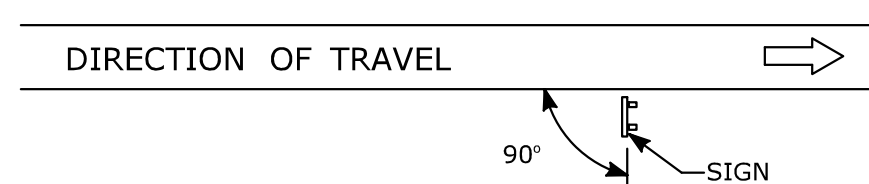
**TYPICAL PLACEMENT OF SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS**

**NOTES:**

- 1) MIN. VERTICAL CLEARANCE ABOVE SIDEWALKS SHALL BE 7'.
- 2) WHERE GUIDE RAIL IS USED, THE OFFSET TO THE NEAR EDGE OF SIGN FACE SHALL BE AS SHOWN ELSEWHERE IN THE CONTRACT PLANS.
- 3) ON INTERSECTING ROADS AT RAMP TERMINI, THE OFFSET TO THE NEAR EDGE OF OF SIGN FACE SHALL BE 6' MIN. FROM POINT "E".
- 4) IF 30'-0" MIN. CANNOT BE MET, PLEASE CONTACT THE ENGINEER.

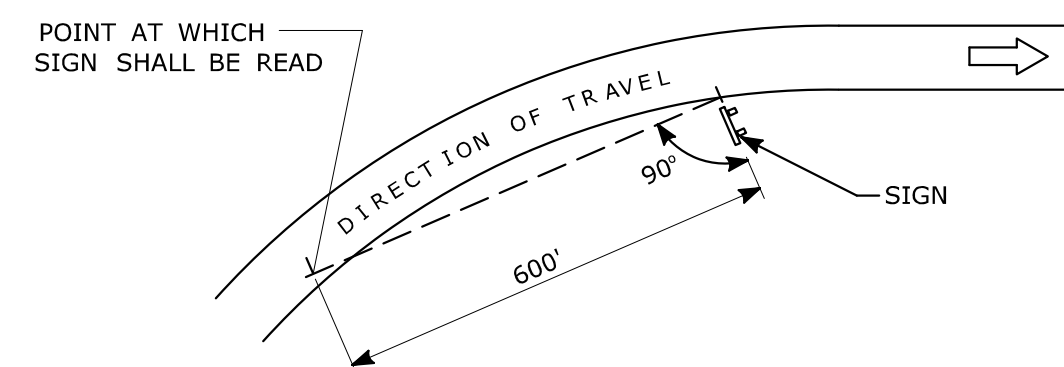
FOR MAXIMUM EFFECTIVENESS, POSITION SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS AS FOLLOWS:

ON A TANGENT SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH THE TRAFFIC LANE WHICH THE SIGN SERVES. SIGNS LOCATED 30 FT OR MORE FROM THE EDGE OF THE ROAD SHALL BE TURNED APPROXIMATELY 3° TOWARD THE ROAD.



**DIAGRAM "A"**

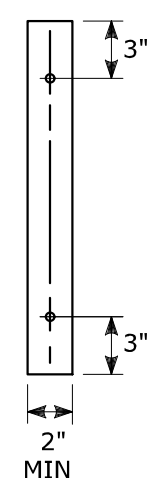
ON A HORIZONTAL CURVE SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH A STRAIGHT LINE BETWEEN THE SIGN AND THE POINT AT WHICH THE SIGN SHALL BE READ.



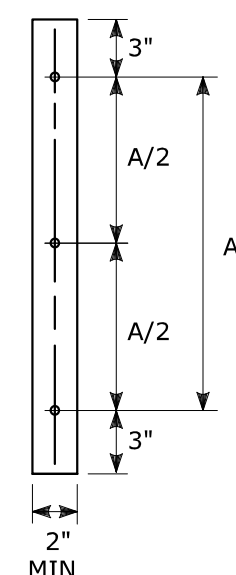
**DIAGRAM "B"**

**SIGN ORIENTATION DETAILS FOR SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS**

RETROREFLECTIVE STRIPS 48" LONG OR LESS:



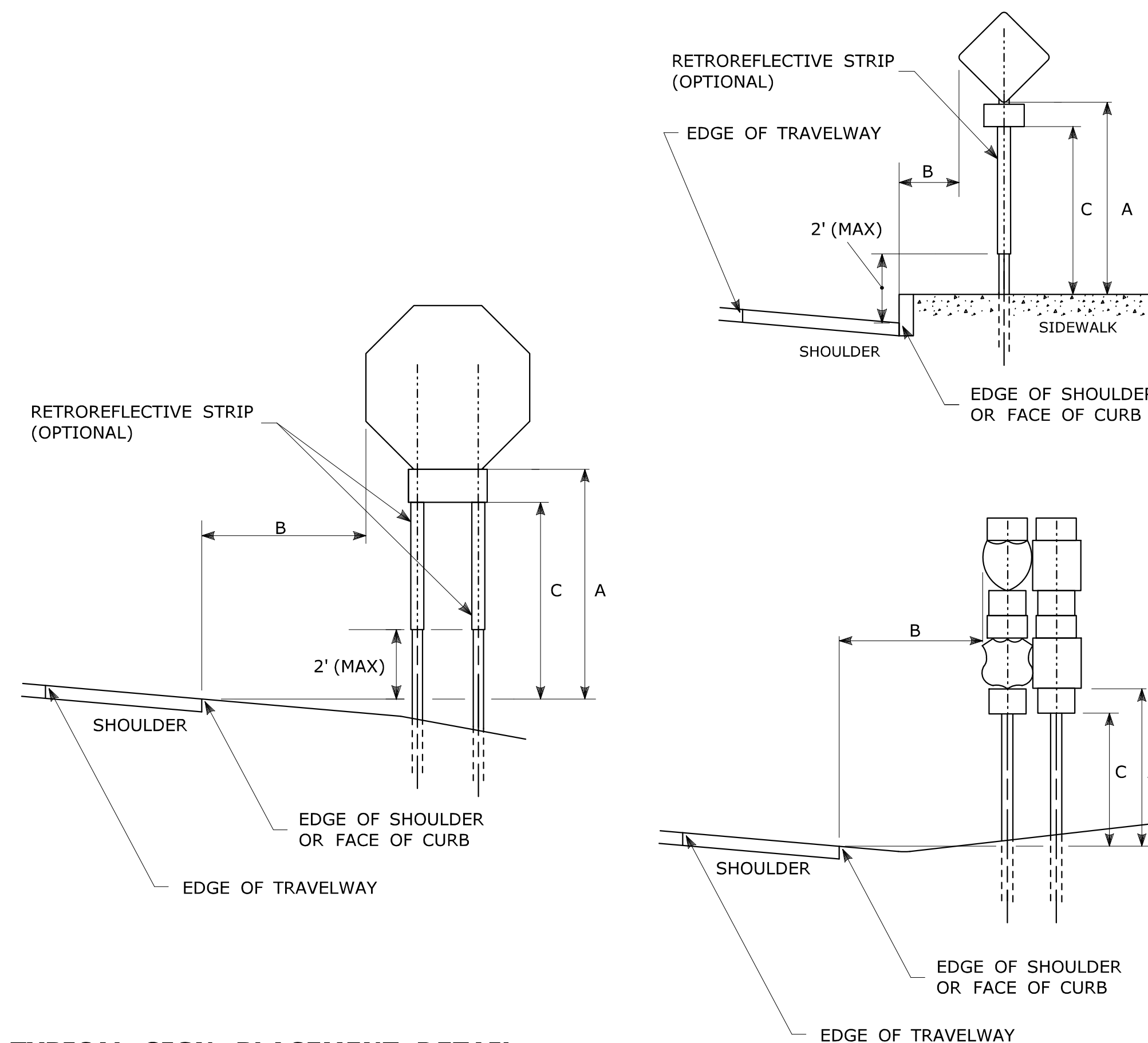
RETROREFLECTIVE STRIPS OVER 48" LONG:



**RETROREFLECTIVE STRIP DETAIL**

**NOTES:**

- RETROREFLECTIVE STRIPS WHICH ARE 48 IN LONG OR LESS SHALL BE ATTACHED USING 2 BOLTS AND RETROREFLECTIVE STRIPS OVER 48 IN LONG SHALL BE ATTACHED USING 3 BOLTS AS SHOWN ON THE DETAILS ABOVE. REFER TO STANDARD SHEET No. TR-1208.02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR MOUNTING DETAILS.
- RETROREFLECTIVE STRIP COLOR SHALL MATCH THE BACKGROUND COLOR OF THE SIGN, EXCEPT THAT THE COLOR OF THE STRIP FOR "YIELD" AND "DO NOT ENTER" SIGNS SHALL BE RED.



**TYPICAL SIGN PLACEMENT DETAIL**

**NOTES:**

- ALL SIGNS AND SHIELDS ON DIRECTIONAL ASSEMBLIES SHALL ABUT VERTICALLY. REFER TO STANDARD SHEET No. TR-1208.02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR SIGN POSTS AND SIGN MOUNTING.
- IF A RETROREFLECTIVE STRIP IS USED ON SIGN SUPPORT, IT SHALL BE PLACED FOR THE FULL LENGTH OF THE SUPPORT FROM THE BOTTOM OF THE SIGN TO WITHIN 2 FT ABOVE THE EDGE OF THE ROADWAY. PARKING SIGNS TYPICALLY USE 45° MOUNTING BRACKET.

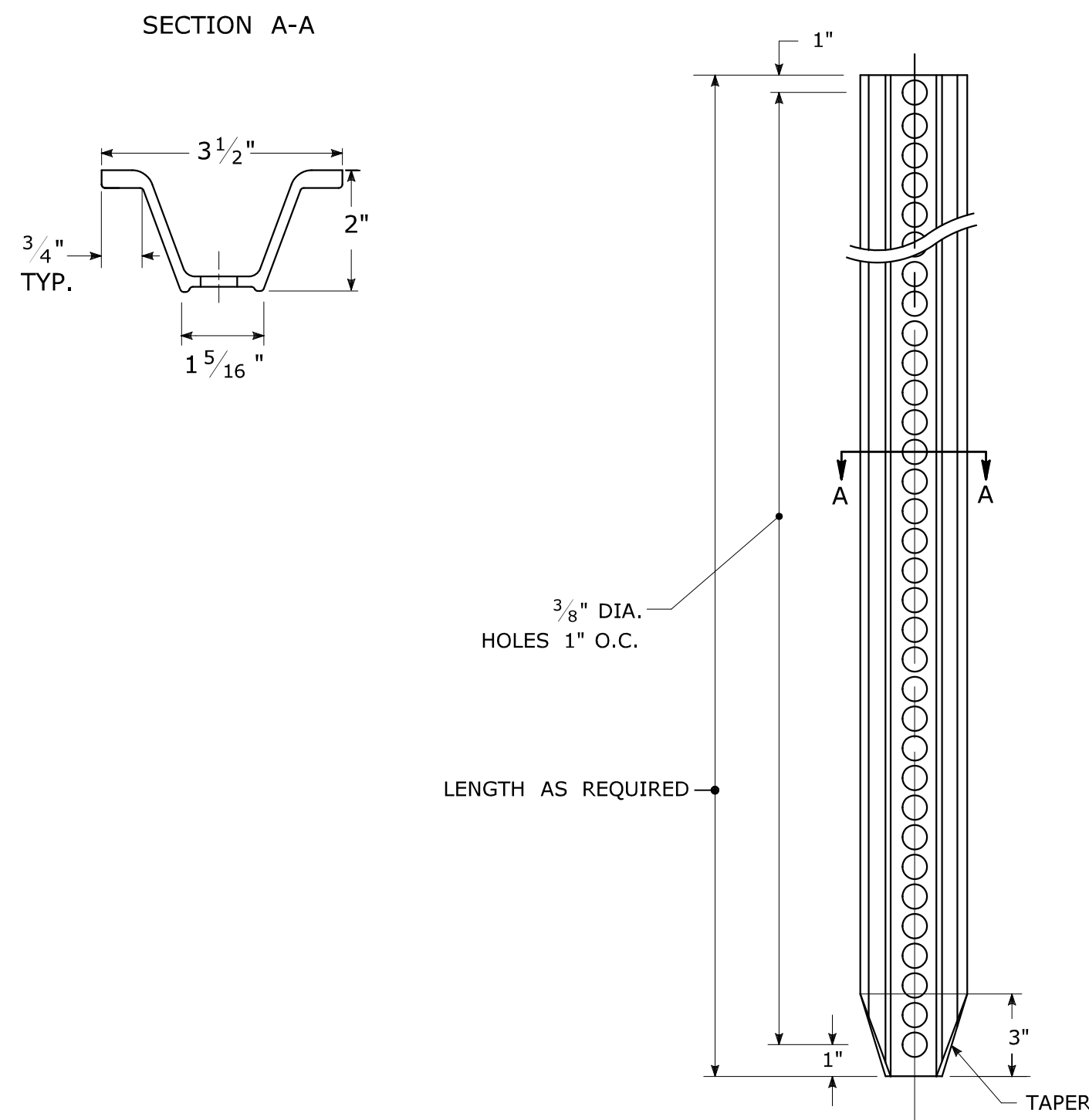
DIM."A" MIN SIGN HEIGHT	DIM."B" MIN LATERAL OFFSET (1)	DIM."C" MIN PLAQUE HEIGHT (1)	ASSEMBLY LOCATION
7' (2)	6' 12' (3)	5'	SIGNS ON FREEWAYS AND EXPRESSWAYS EXCEPT CHEVRON ALIGNMENT SIGNS, ONE-DIRECTION LARGE ARROW SIGNS, DO NOT ENTER SIGNS, AND WRONG WAY SIGNS
5'	2'	4'	• SIGNS IN RURAL AREAS • DO NOT ENTER AND WRONG WAY SIGNS ALONG EXIT RAMP • DO NOT ENTER AND WRONG WAY SIGNS ON LIMITED ACCESS HIGHWAYS
5'	2'	N/A	• CHEVRON ALIGNMENT SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMP, AND IN RURAL AREAS • ONE-DIRECTION LARGE ARROW SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMP, AND IN RURAL AREAS
4'	6' 12' (3)	N/A	INCIDENT MANAGEMENT SIGNS AND MILE POST MARKER ASSEMBLIES LOCATED ON FREEWAYS AND EXPRESSWAYS
4'	2'	4'	CENTRAL ISLANDS OF ROUNDABOUTS
7'	2' (4)	6'	BUSINESS & RESIDENTIAL AREAS WHERE PARKING OR OTHER OBSTRUCTIONS LIMIT VISIBILITY
7'	2' (4)	7'	SIDEWALKS (5)

- (1) OR AS DIRECTED BY THE ENGINEER
- (2) 8 FT MINIMUM HEIGHT REQUIRED IF A SUPPLEMENTAL PLAQUE IS SUBMOUNTED BELOW THE MAJOR SIGN.
- (3) 6 FT FROM EDGE OF SHOULDER, WHEN SHOULDER IS OVER 6 FT WIDE  
12 FT FROM EDGE OF TRAVELWAY, WHEN SHOULDER IS LESS THAN 6 FT WIDE.
- (4) A LATERAL OFFSET OF AT LEAST 1 FT FROM THE FACE OF THE CURB MAY BE USED WHERE SIDEWALK WIDTH IS LIMITED OR WHERE EXISTING UTILITY POLES ARE CLOSE TO THE CURB.
- (5) A CLEAR PATH OF NOT LESS THAN 4 FT SHALL BE PROVIDED IN SIDEWALK AREAS.

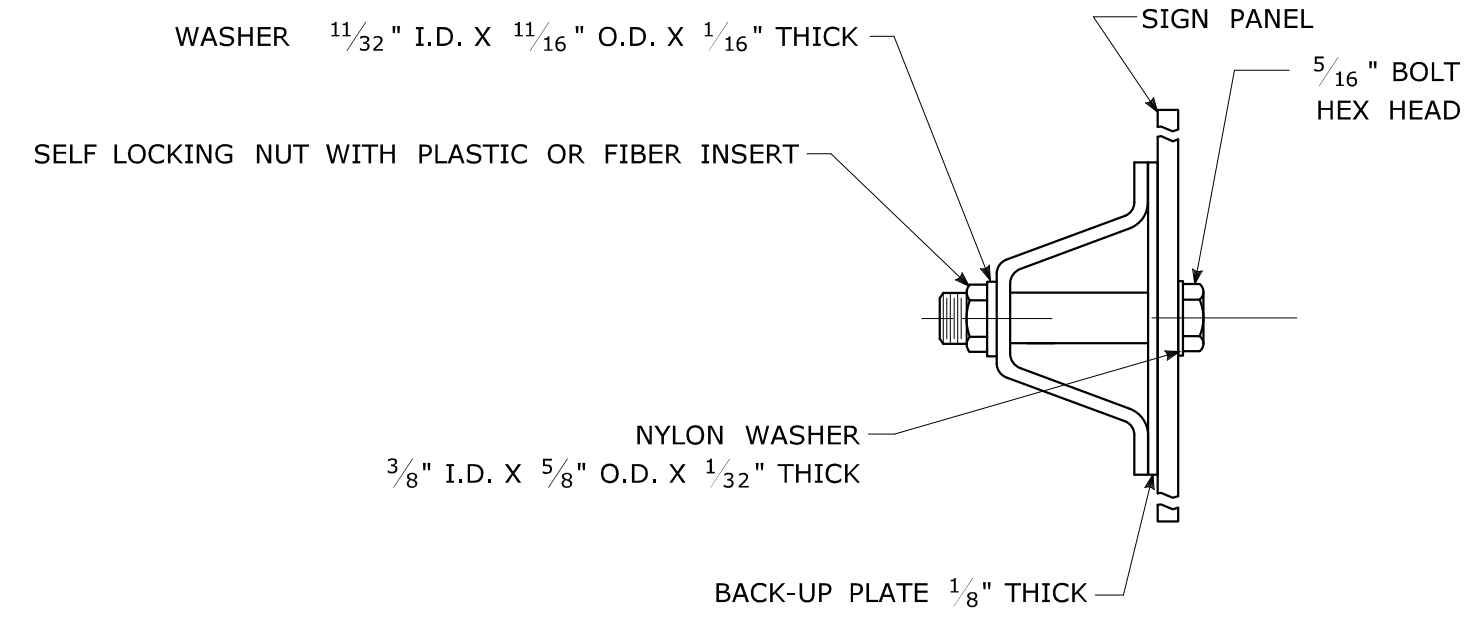
<p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p>		<p>NOT TO SCALE</p>		<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>		<p>MARK F. MAKUCH, P.E. 2018.08.17 09:06:06-04'00'</p>		<p>CTDOT STANDARD SHEET</p>		<p>SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS</p>		<p>TR-1208_01</p>	
3	8-2018	INCLUDED INCIDENT MANAGEMENT AND MILE MARKER SIGNS.		<p>Plotted Date: 8/10/2018</p>		<p>Mark F. Makuch, P.E. 2018.08.17 09:06:06-04'00'</p>		<p>OFFICE OF ENGINEERING</p>		<p>STANDARD SHEET TITLE:</p>		<p>STANDARD SHEET NO.:</p>	
2	4-2017	MINOR REVISIONS.		<p>Filename: TR_1208_01_1_2018.dgn Model: TR-1208_01</p>		<p>APPROVED BY: <i>Mark F. Carfino, P.E.</i> 2018.08.21 07:48:06-04'00'</p>		<p>STANDARD SHEET NO.:</p>		<p>STANDARD SHEET NO.:</p>		<p>STANDARD SHEET NO.:</p>	
1	2-2011	MINOR REVISIONS.		<p>Model: TR-1208_01</p>		<p>APPROVED BY: <i>YFCR</i></p>		<p>STANDARD SHEET NO.:</p>		<p>STANDARD SHEET NO.:</p>		<p>STANDARD SHEET NO.:</p>	
REV.	DATE	REVISION DESCRIPTION		<p>Plotted Date: 8/10/2018</p>		<p>Model: TR-1208_01</p>		<p>OFFICE OF ENGINEERING</p>		<p>STANDARD SHEET TITLE:</p>		<p>STANDARD SHEET NO.:</p>	



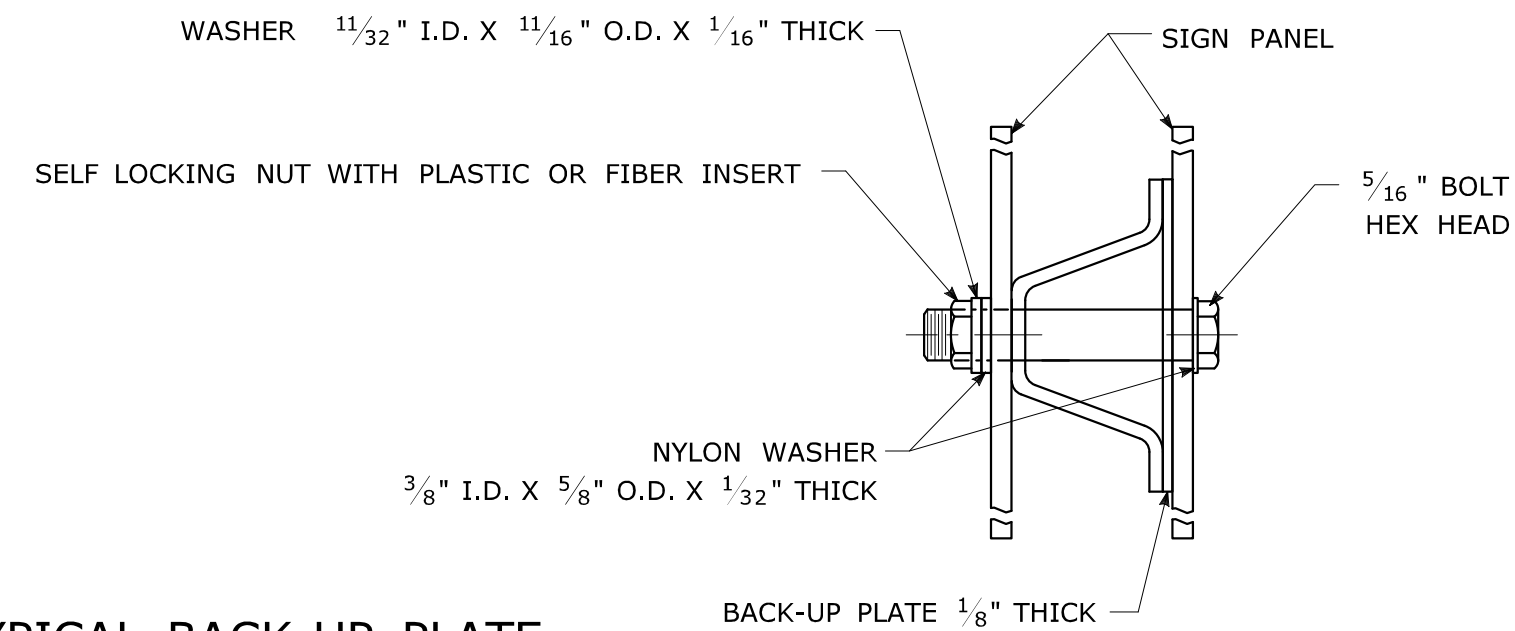
TYPICAL METAL SIGN POSTS



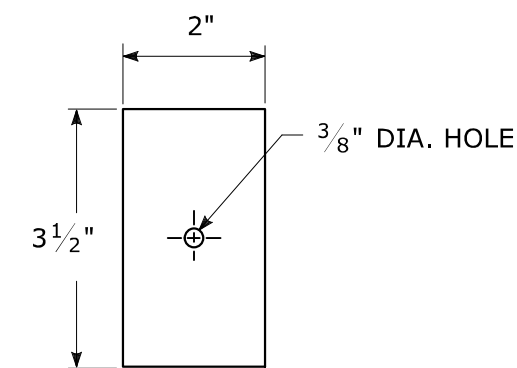
TYPICAL SIGN PANEL ATTACHMENT



TYPICAL BACK TO BACK SIGN PANEL ATTACHMENT



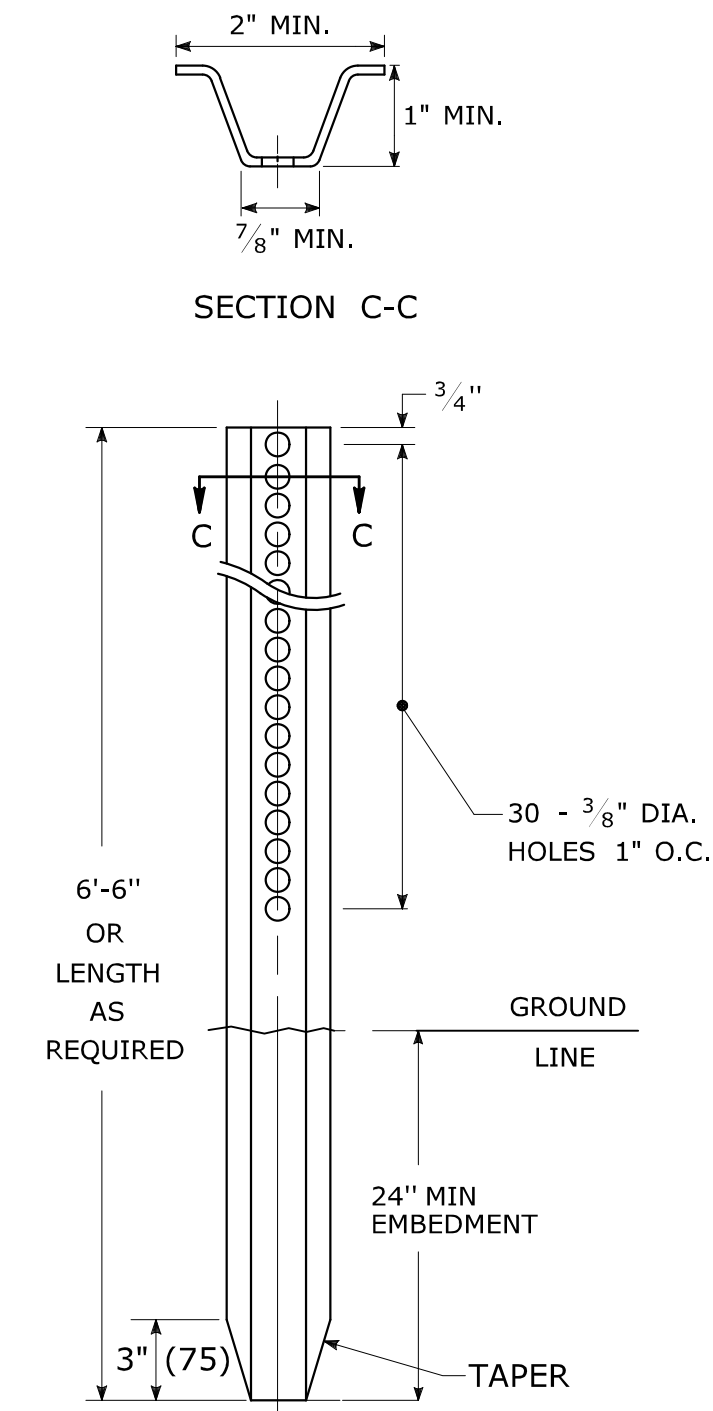
TYPICAL BACK-UP PLATE



BOLTS - STAINLESS STEEL CONFORMING TO ASTM F593, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316),  
 SELF LOCKING NUTS - STAINLESS STEEL CONFORMING TO ASTM F594, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316),  
 WASHERS - STAINLESS STEEL CONFORMING TO ASTM A240, (ALLOY TYPES 304 OR 316).

METAL DELINEATOR POST

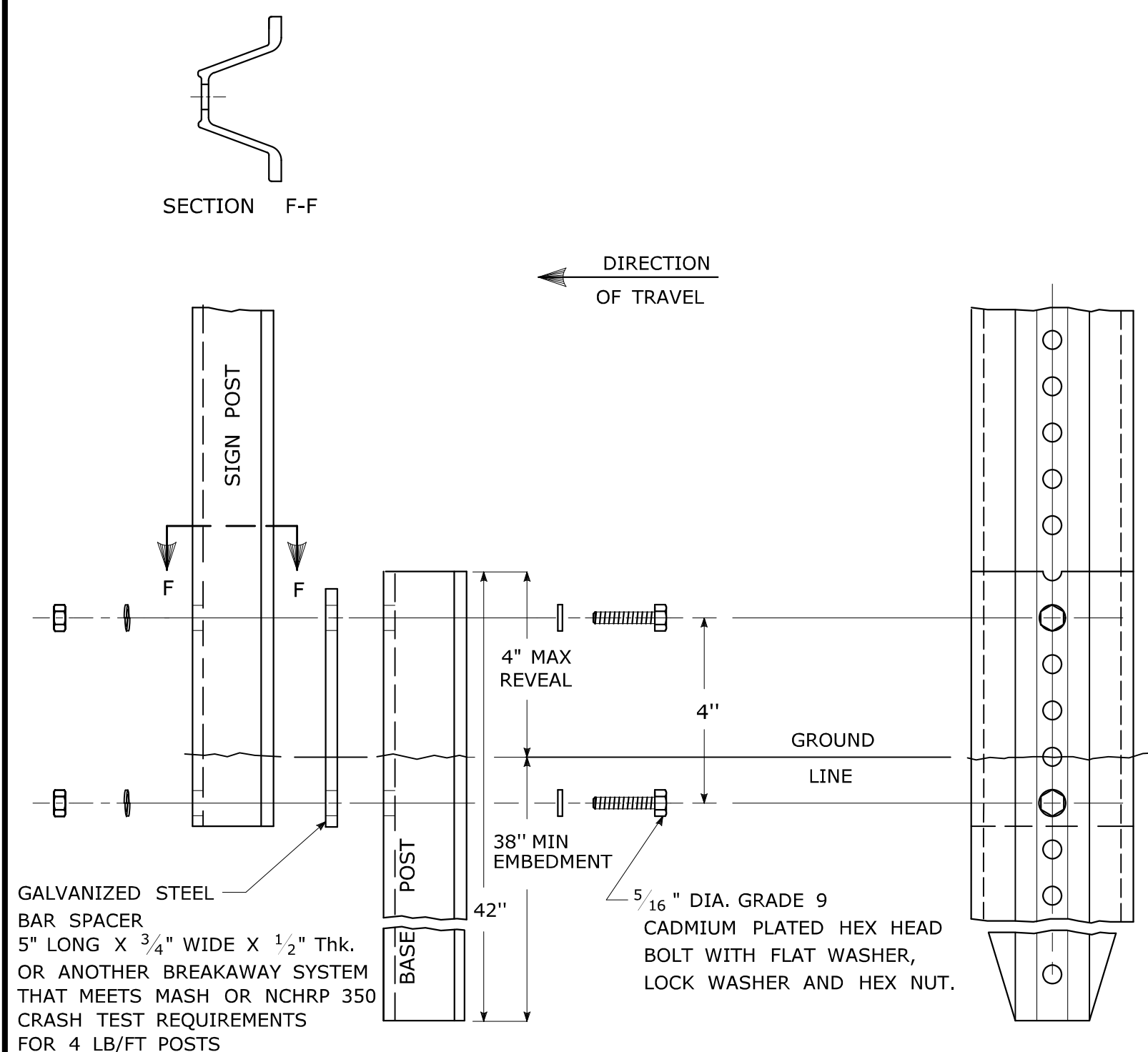
WT./FT. = 1.12 LBS./FT. MIN.



GENERAL NOTES:

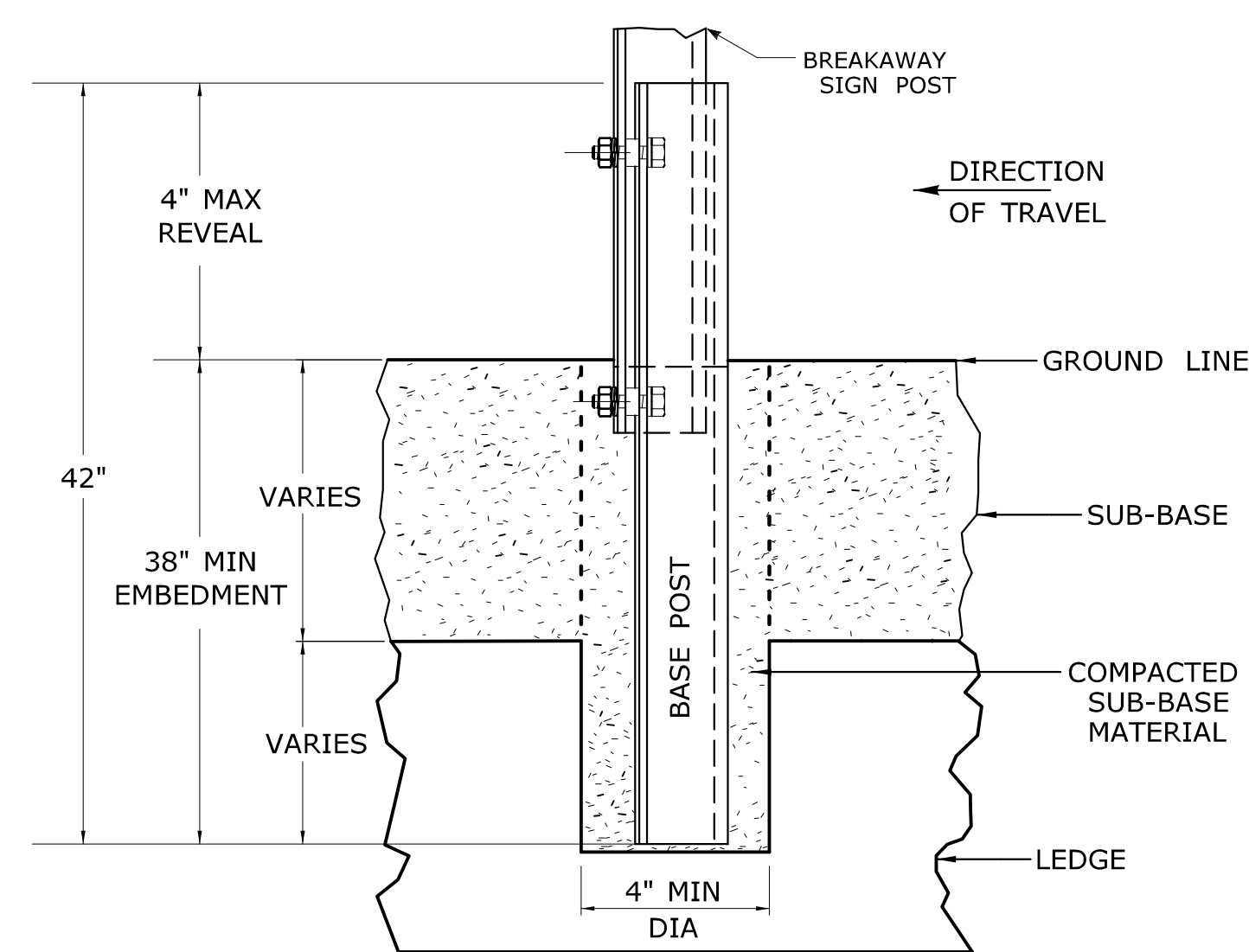
- STEEL FOR DELINEATOR POSTS SHALL BE ASTM A36 STEEL. STEEL FOR ALL OTHER POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499 GRADE 80 AND TO THE CHEMICAL REQUIREMENTS OF ASTM A1 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT (MASS) OF 91 LBS. OR GREATER PER LINEAR YARD.
- AFTER FABRICATION, ALL STEEL POSTS, STRAPS AND PLATES SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A123.
- WASHERS FOR BREAKAWAY INSTALLATIONS SHALL MEET ASTM F436, TYPE 1.
- SPACER BAR FOR BREAKAWAY INSTALLATION SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A36.
- ALL BOLTS, NUTS, AND WASHERS FOR BREAKAWAY INSTALLATIONS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A153.
- ALL SIGN POSTS SHALL HAVE BREAKAWAY FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS." THE BREAKAWAY FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGNS SHOWN IN THE PLANS AT 60 MPH WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- SIGN POSTS SHALL BE 4 LBS./FT.

BREAKAWAY INSTALLATION FOR 4 LBS./FT. POSTS

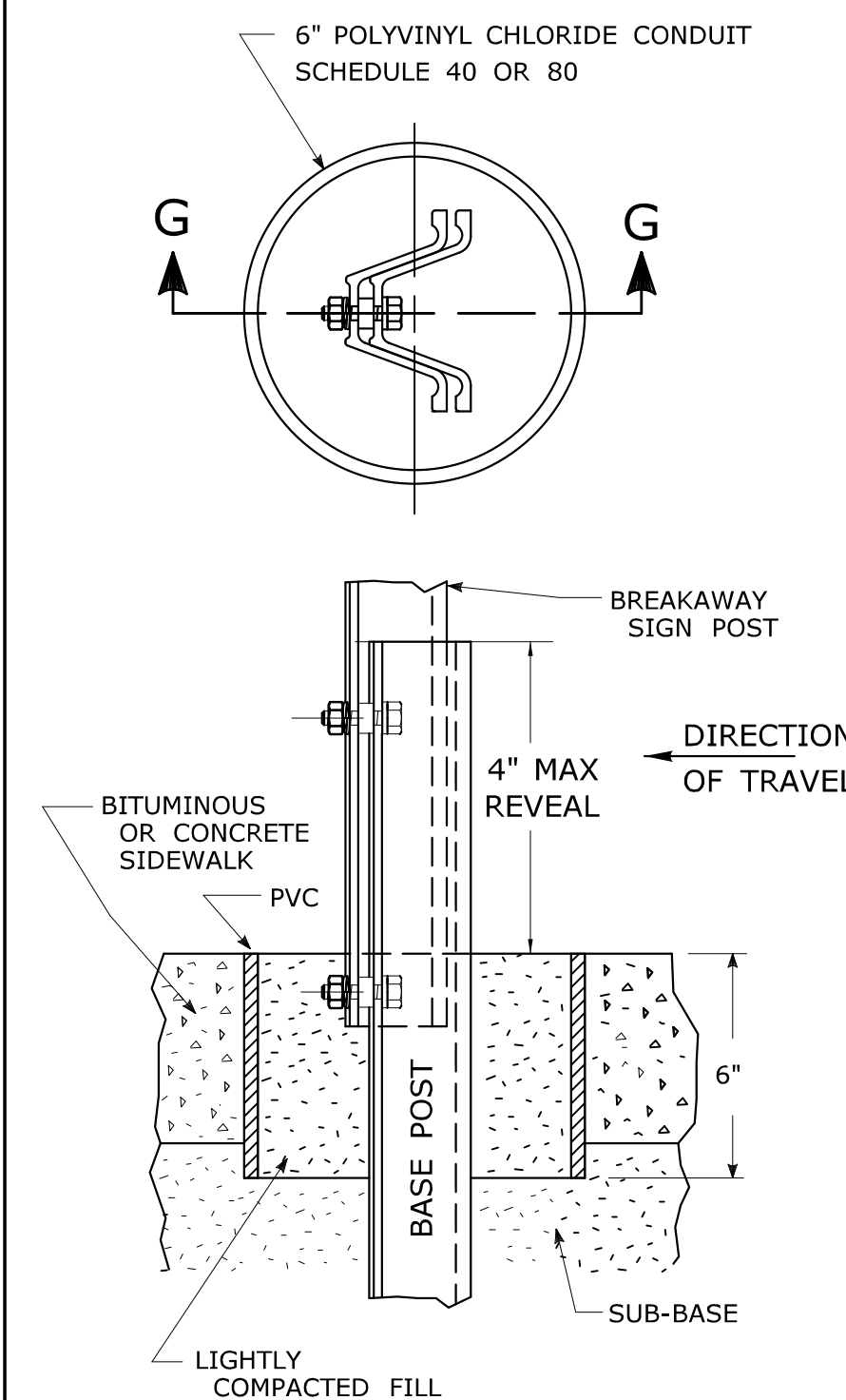


TYPICAL SIGN POST INSTALLATION IN LEDGE

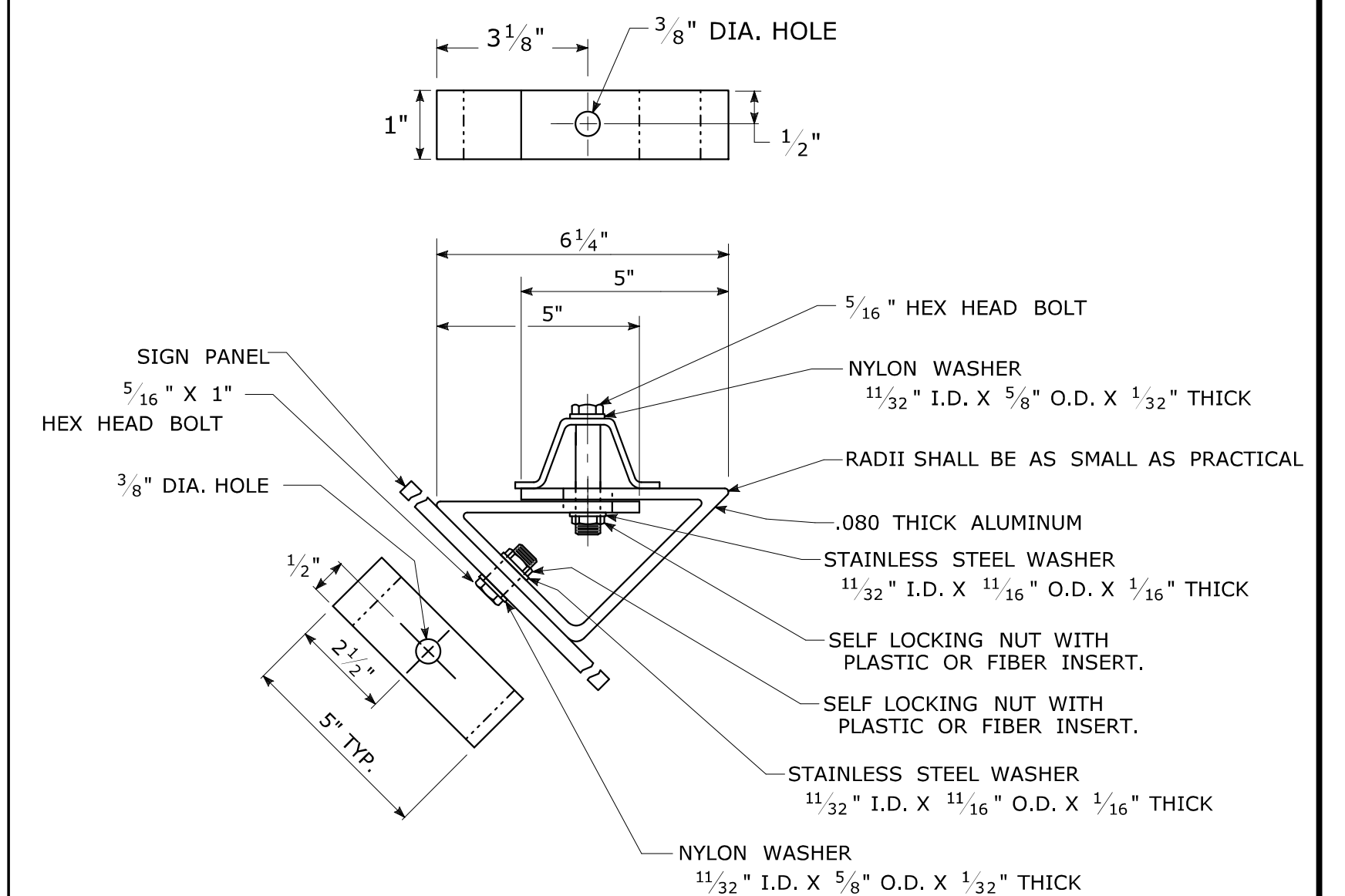
LEDGE SHALL BE REMOVED TO DRIVE THE BASE POST TO A DEPTH OF 38". HOLE SHALL BE FILLED WITH SUB-BASE MATERIAL AND COMPACTED WITH A TAMPING BAR, OR TECHNIQUE APPROVED BY THE ENGINEER, PRIOR TO BASE POST INSTALLATION.



TYPICAL SLEEVE FOR PAVED AREAS



45° MOUNTING BRACKET FOR INSTALLATION OF PARKING SIGNS



REV.	DATE	REVISION DESCRIPTION
2	6-2017	SIGN POST REVISIONS.
1	2-2011	MINOR REVISIONS.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/6/2017

NOT TO SCALE

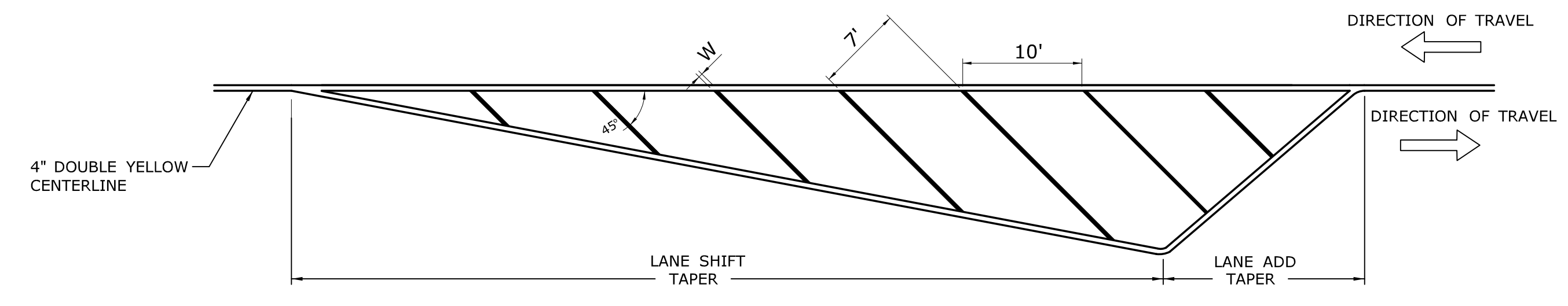
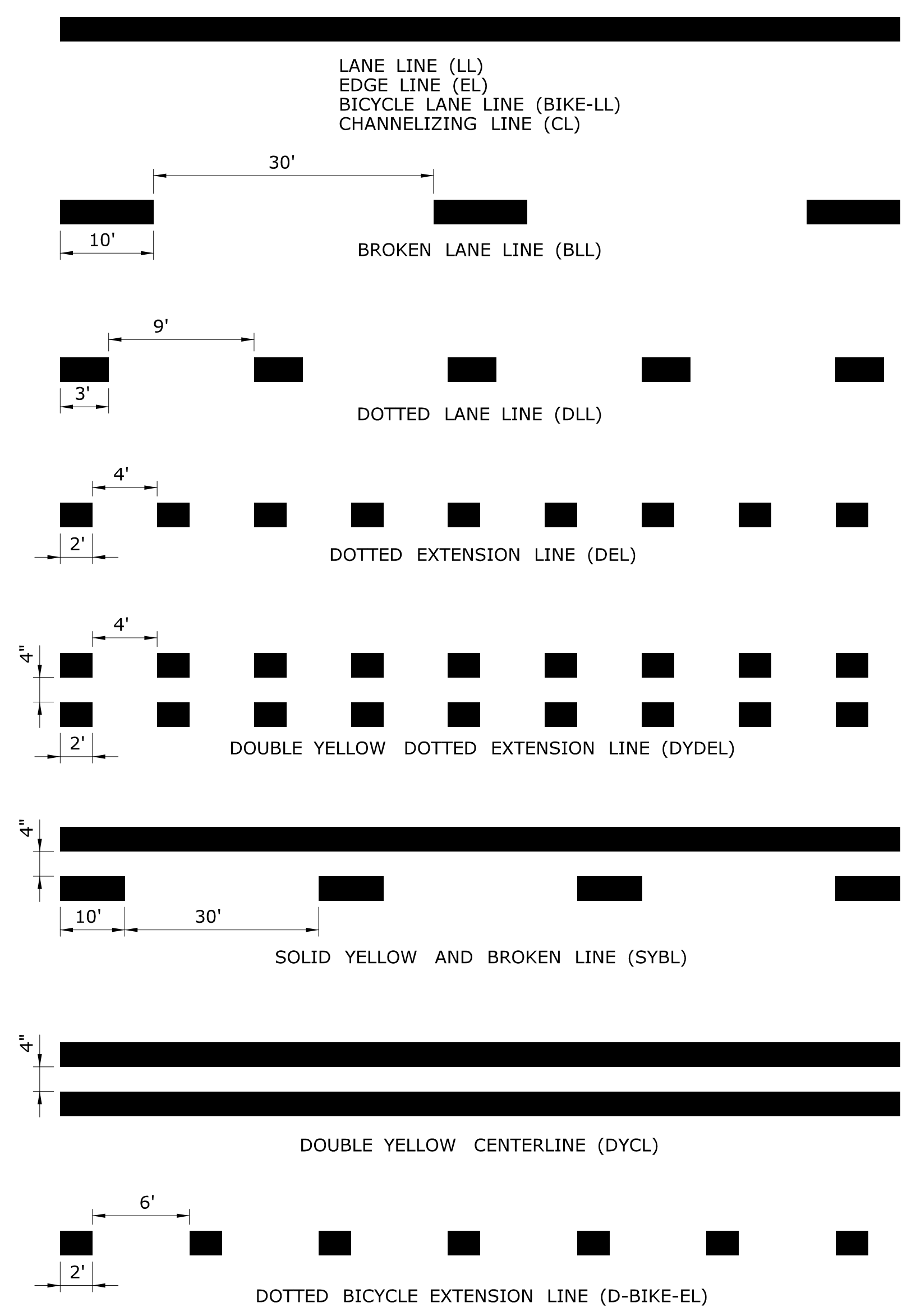


STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

SUBMITTED BY: *Mark Makuch*  
 NAME/DATE/TIME: Mark F. Makuch, P.E. 2017.06.07 07:30:30-04'00'  
 APPROVED BY: *Mary E. Baker*  
 NAME/DATE/TIME: Mary E. Baker, P.E. 2017.06.13 15:28:14-04'00'  
*Gregory M. Dorosh*  
 NAME/DATE/TIME: Gregory M. Dorosh, P.E. 2017.06.15 09:27:29-04'00'

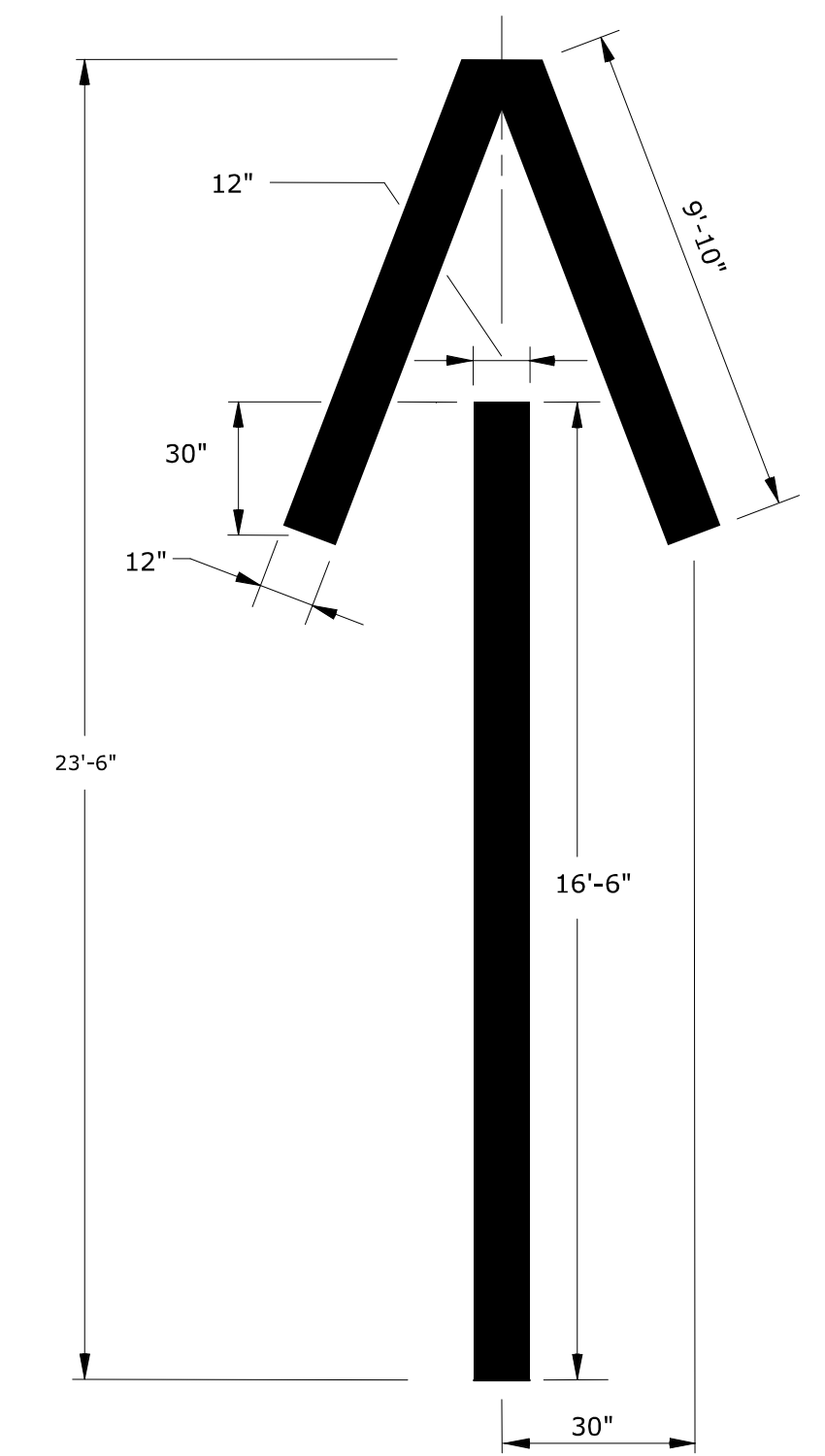
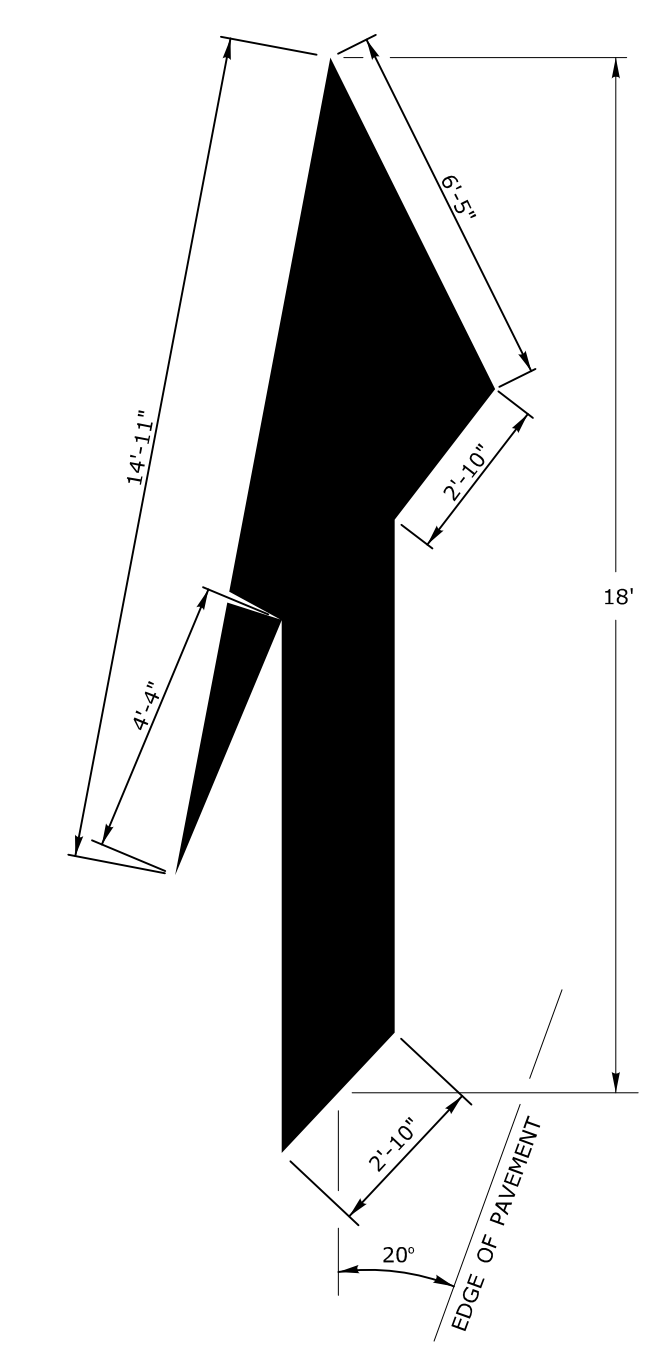
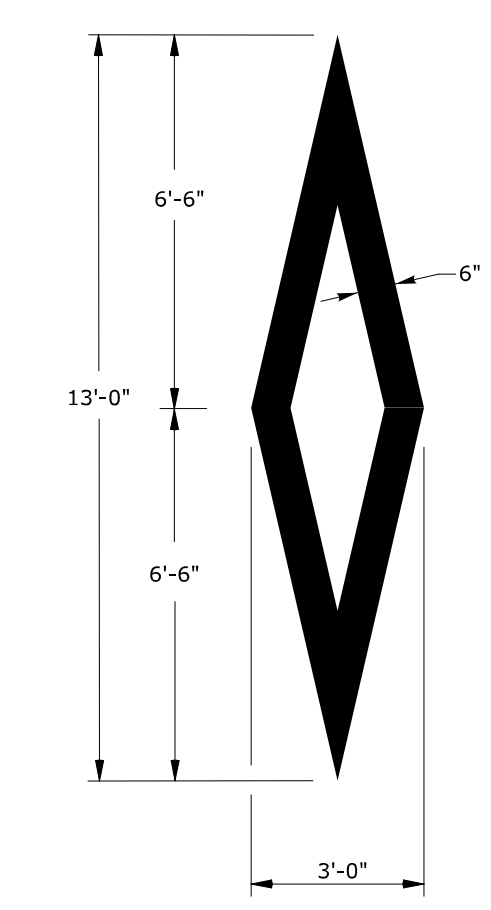
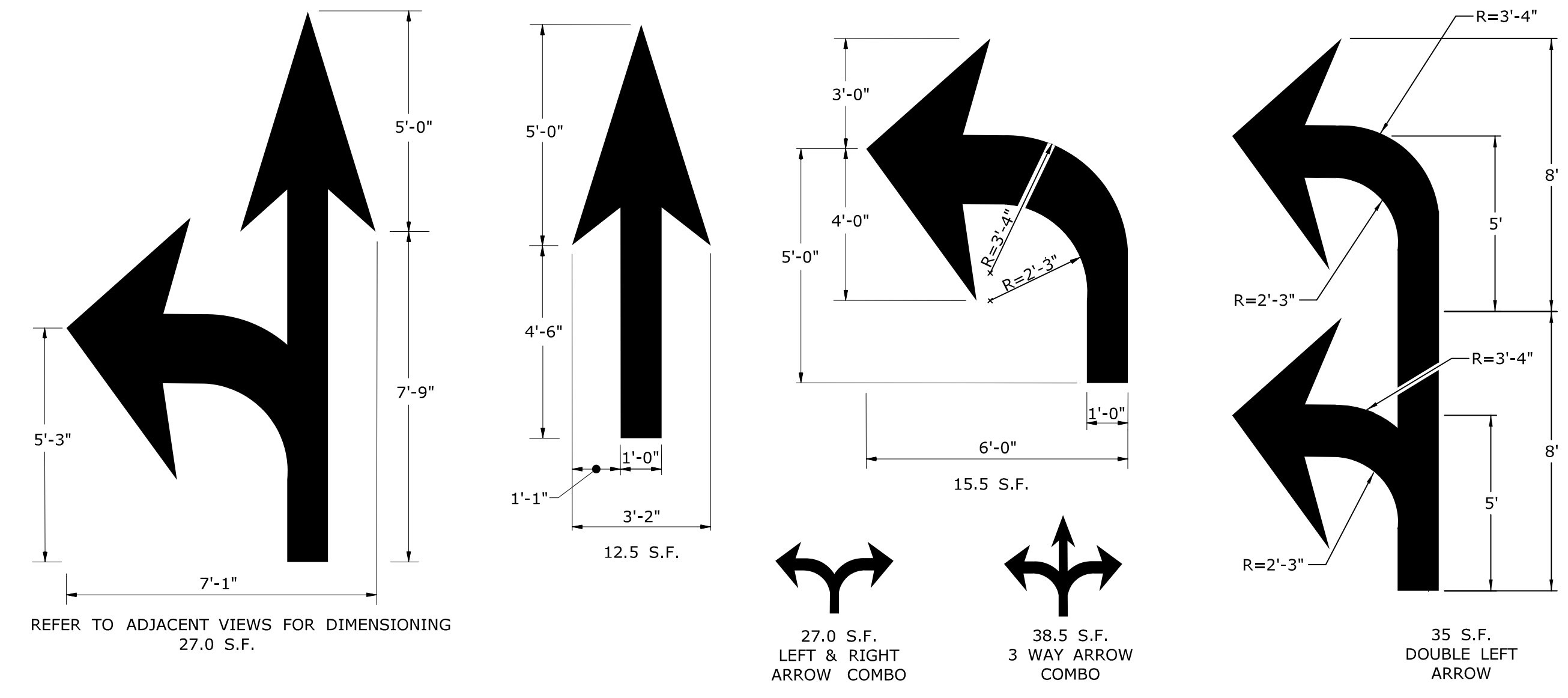
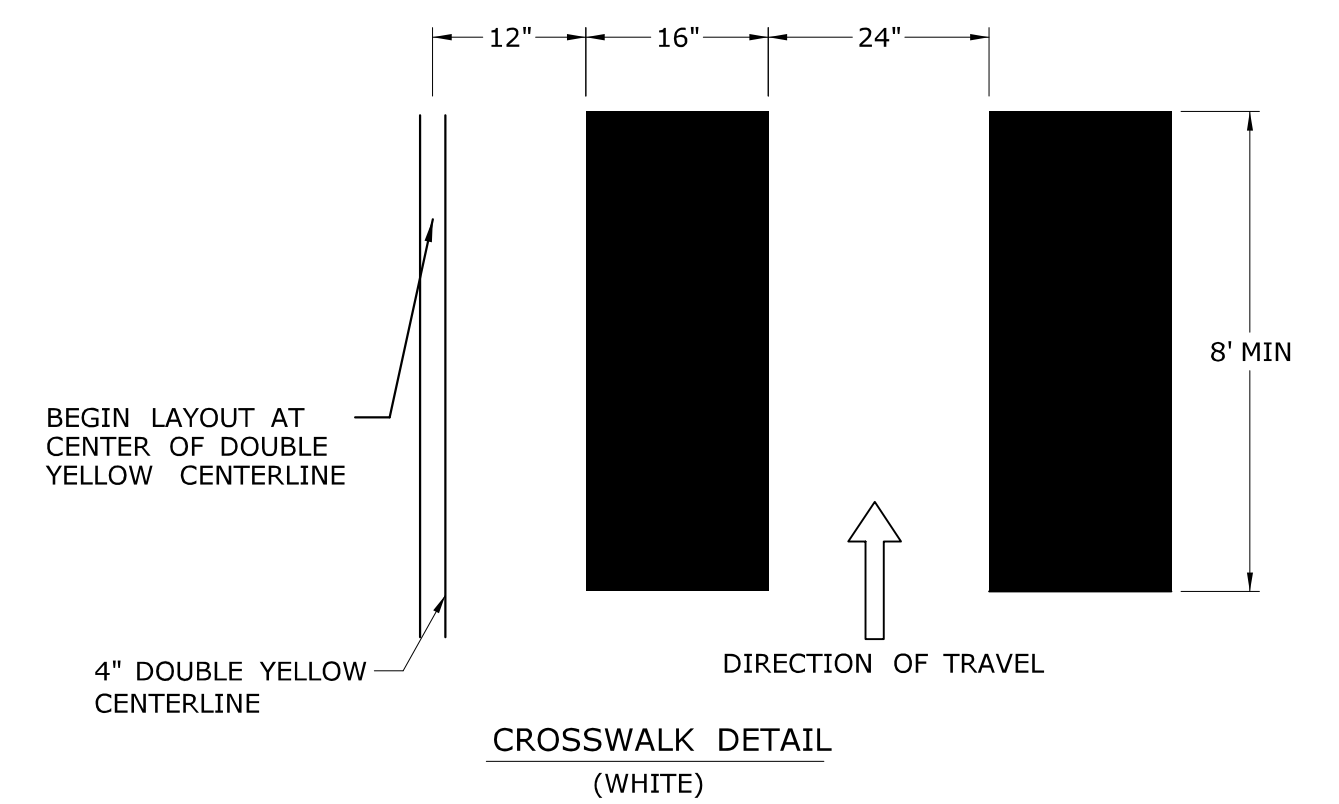
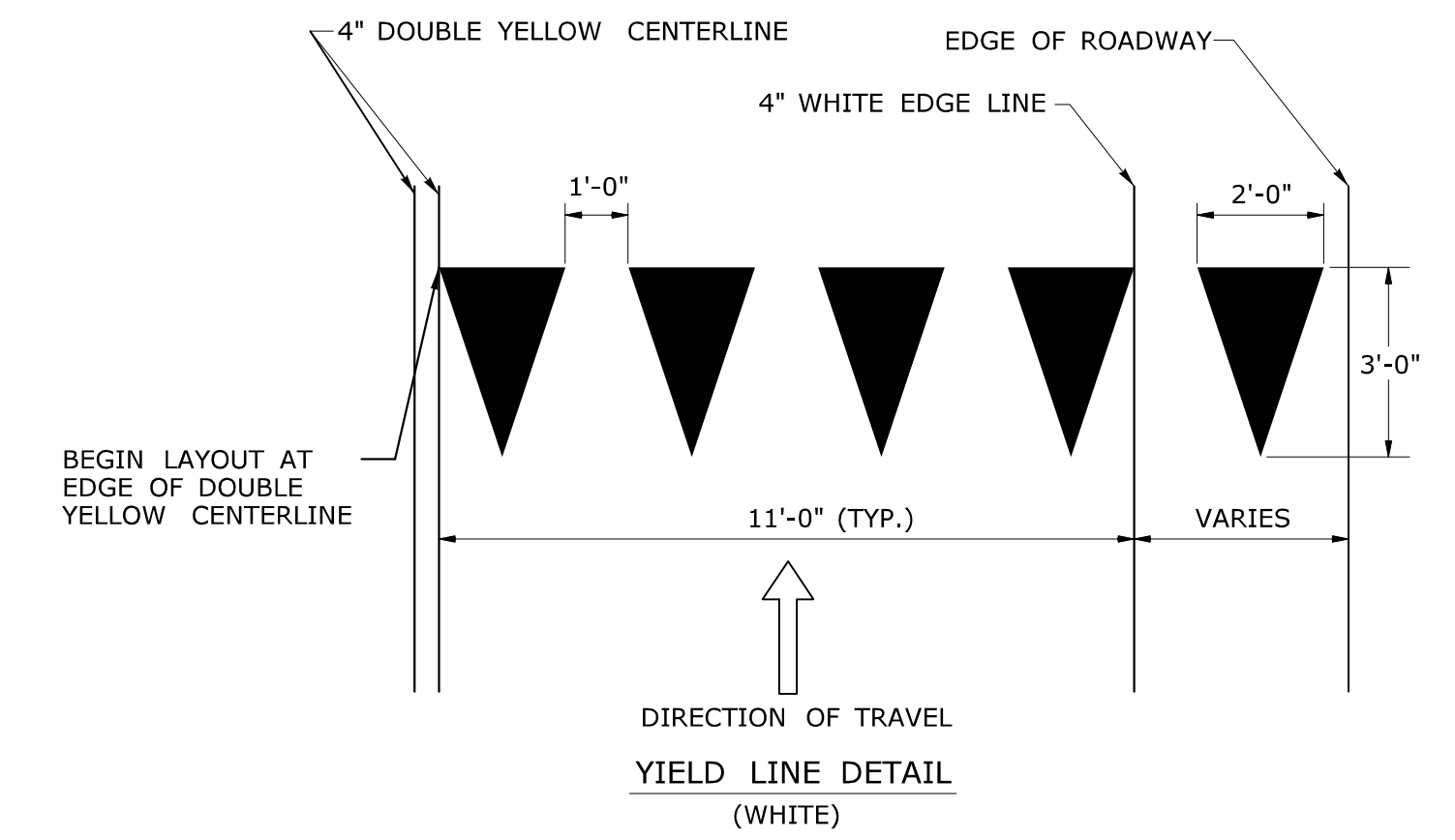
CTDOT STANDARD SHEET OFFICE OF ENGINEERING

STANDARD SHEET TITLE: METAL SIGN POSTS AND SIGN MOUNTING DETAILS  
 GUIDE SHEET NO.: TR-1208\_02



CROSS HATCHED ISLAND DETAIL  
(YELLOW)

W IS TO BE 6" WHEN POSTED SPEED ≤ 45 MPH  
W IS TO BE 12" WHEN POSTED SPEED > 45 MPH  
CROSS HATCHED ISLANDS ARE TO BE INSTALLED WHERE CALLED FOR ON THE PLANS



- NOTES :
1. AREA OF PAVEMENT MARKINGS AS INDICATED IS APPROXIMATE.
  2. RIGHT TURN PAVEMENT MARKING ARROWS ARE MIRROR IMAGE OF LEFT TURN PAVEMENT MARKING ARROWS.

REV.	DATE	REVISION DESCRIPTION
1	8-2018	REMOVED ROUNDABOUT MARKINGS.

Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

Filename: TR-1210\_04.dgn Model: CT\_Civil\_2D\_Sheet

SUBMITTED BY: NAME/DATE/TIME:  
Mark F. Makuch, P.E.  
2018.08.17 09:07:44-04'00'

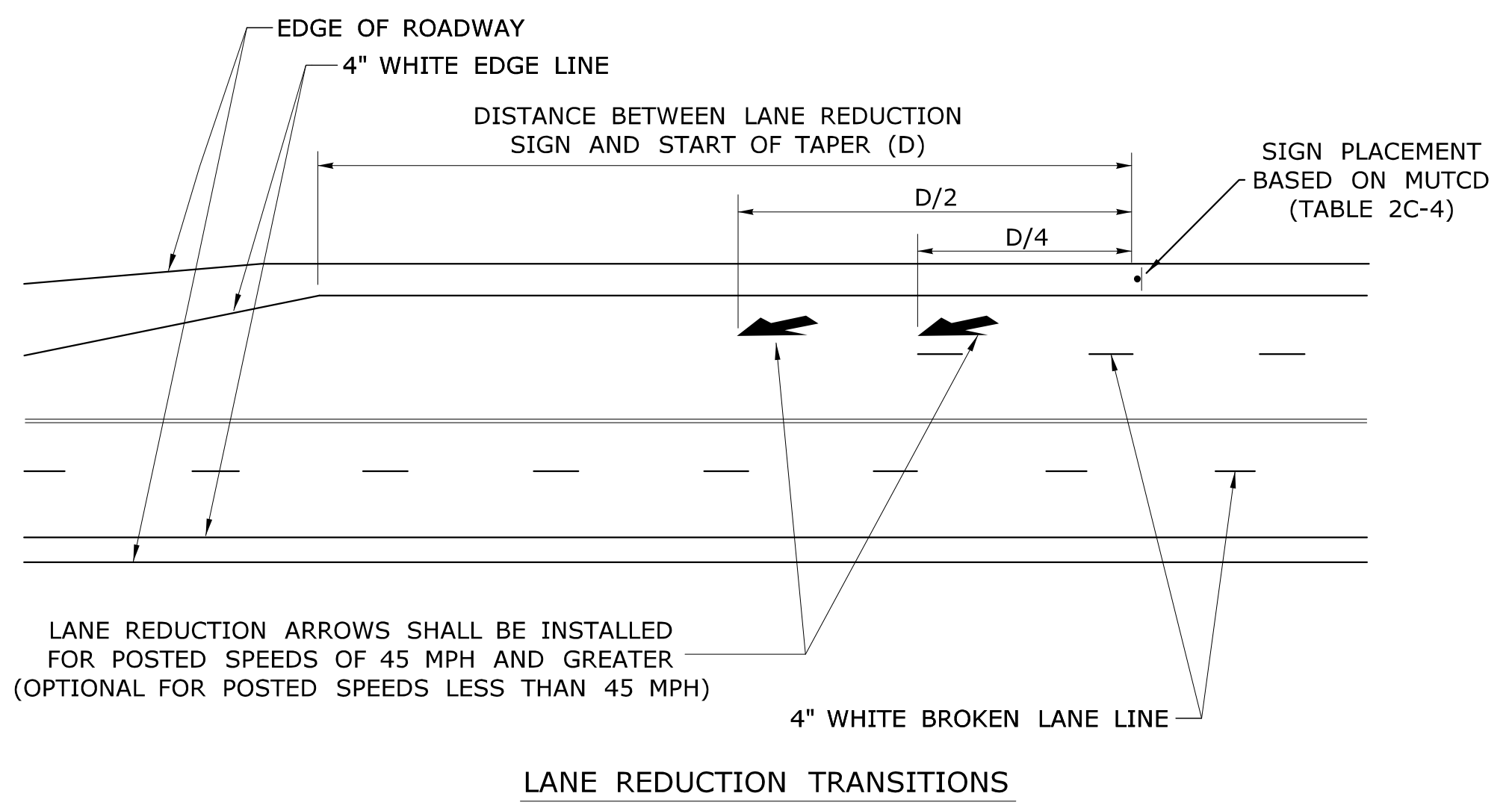
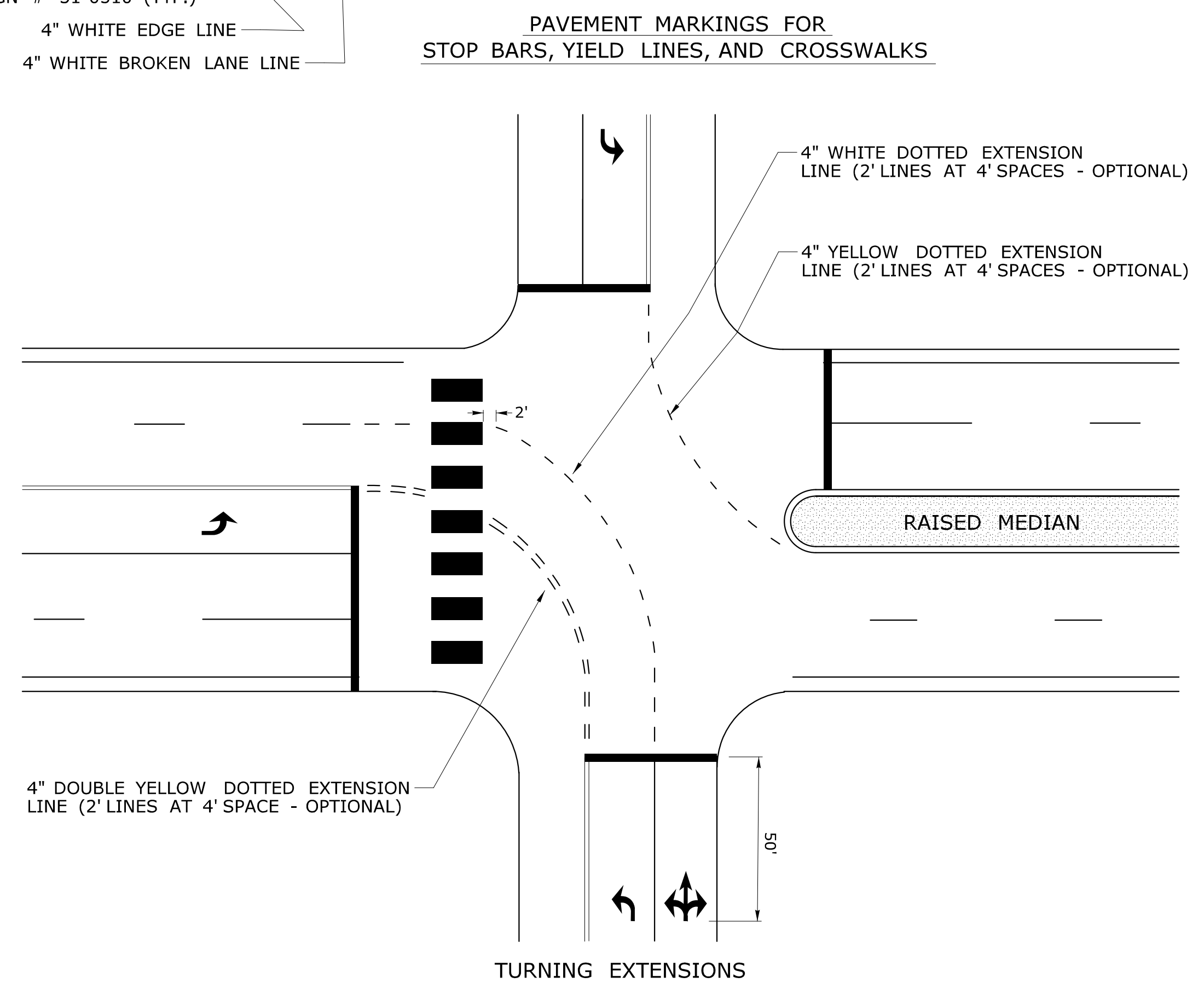
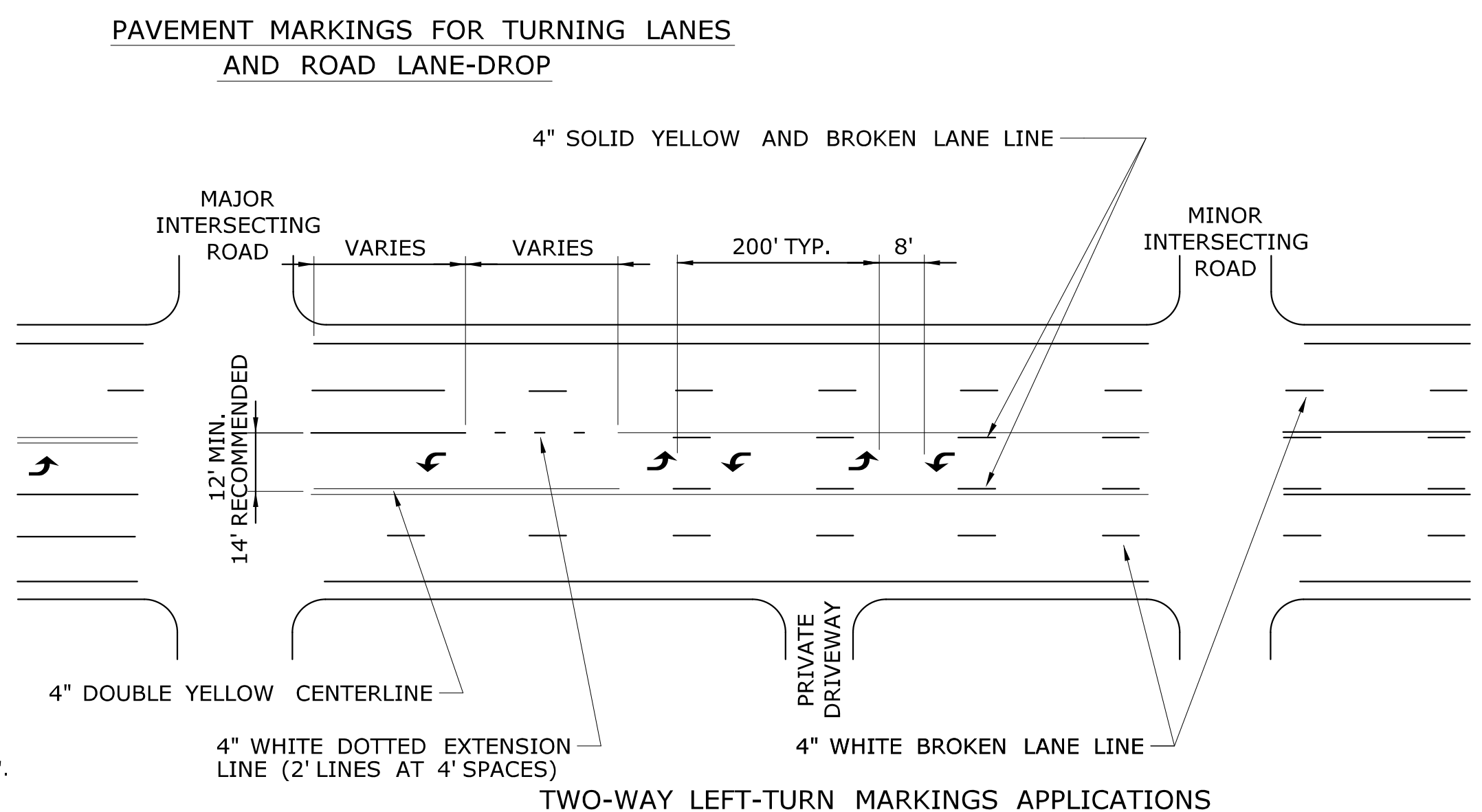
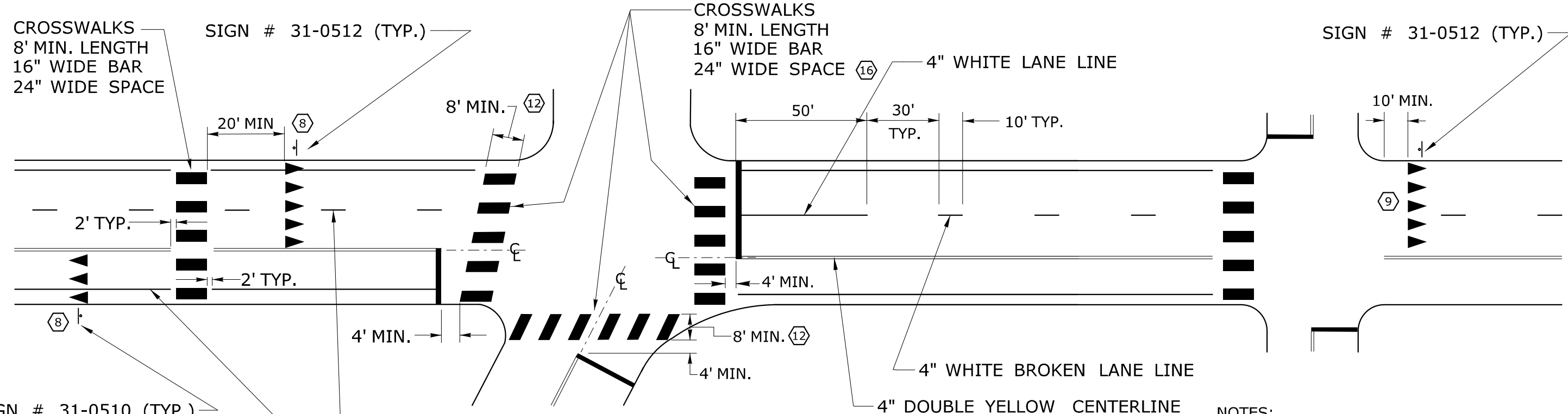
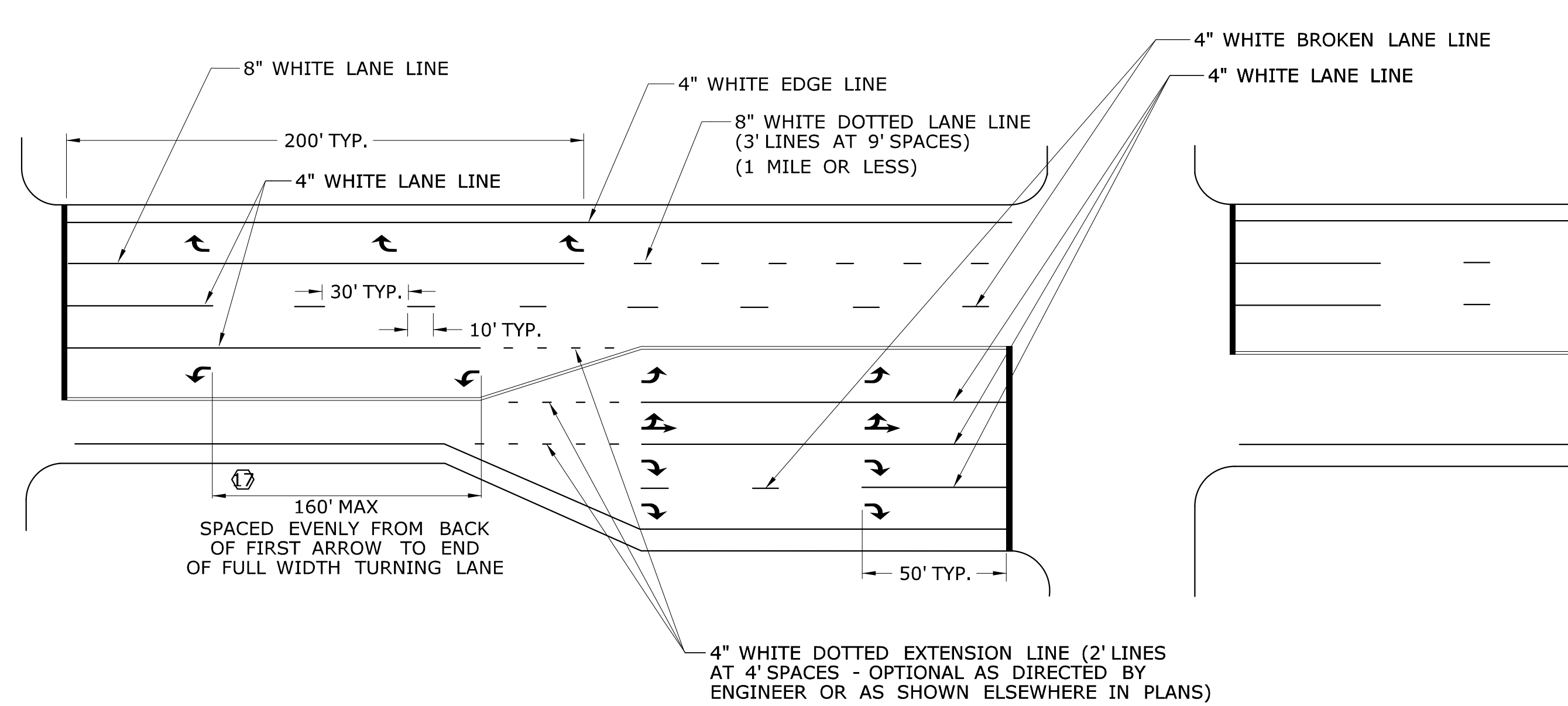
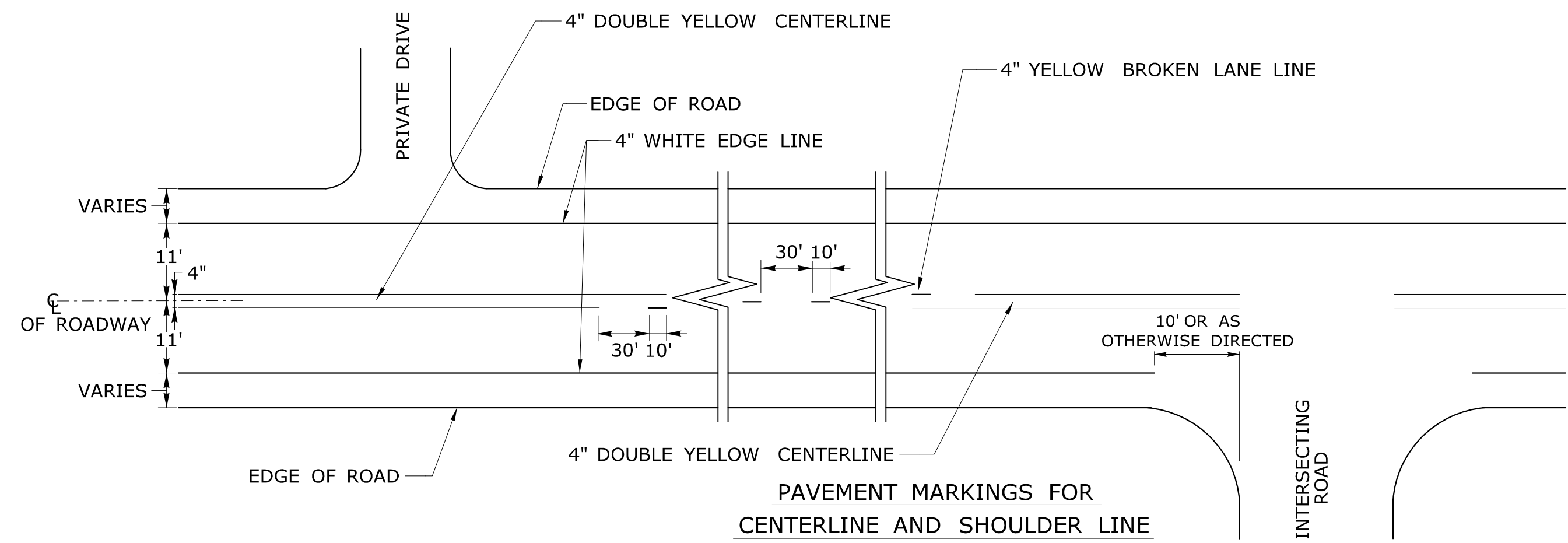
APPROVED BY: NAME/DATE/TIME:  
Mark F. Carlino, P.E.  
2018.08.21 07:48:45-04'00'

CTDOT  
STANDARD SHEET  
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:  
PAVEMENT MARKING LINES AND SYMBOLS

STANDARD SHEET NO.:  
TR-1210\_04





- NOTES:**  
 STOP BARS AND YIELD LINES
- STOP BARS AND YIELD LINES SHALL BE WHITE.
  - STOP BARS SHALL BE 12" MIN. UNLESS OTHERWISE NOTED ON PLANS.
  - STOP BARS TO BE PLACED A MINIMUM OF 4' IN ADVANCE OF THE NEAREST EDGE OF CROSSWALK AND SHOULD BE PLACED 90° TO THE CENTERLINE OF THE ROADWAY.
  - IN THE ABSENCE OF A MARKED CROSSWALK THE STOP BAR SHOULD BE PLACED 90° TO THE CENTERLINE OF THE ROADWAY, AT THE DESIRED STOPPING POINT AT LEAST 5' AND NO MORE THAN 30' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.
  - THE STOP SIGN SHOULD BE PLACED IN LINE WITH THE STOP BAR. HOWEVER, IF THE STOP SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP BAR SHOULD BE PLACED AT THE STOPPING POINT.
  - FOR STOP BARS AT RAMPS SEE DETAILS "R", "S", "T", & "U" AND NOTES ON TRAFFIC STANDARD SHEET TR-1210 07 "PAVEMENT MARKINGS FOR DIVIDED HIGHWAYS EXIT RAMPS".
  - FOR YIELD LINE INSTALLATIONS, ONLY FULL TRIANGLES ARE TO BE INSTALLED.
  - MID-BLOCK CROSSWALKS ARE CROSSWALKS LOCATED MORE THAN 50 FEET FROM A SIGNALIZED OR UNSIGNALIZED INTERSECTION. YIELD LINES ASSOCIATED WITH MIDBLOCK CROSSWALKS SHALL BE INSTALLED AND SHOULD BE LOCATED 20 TO 50 FEET IN ADVANCE OF THE NEAREST CROSSWALK LINE OR AS DIRECTED BY THE ENGINEER.
  - WHERE A YIELD LINE EXISTS ON AN APPROACH TO A CROSSWALK, THE APPROPRIATE "YIELD TO PEDESTRIANS" SIGN IS REQUIRED.
  - FOR CROSSWALKS AT UNSIGNALIZED INTERSECTIONS WITH MINOR STREET STOP CONTROL, YIELD LINES SHALL BE INSTALLED ON MULTI-LANE APPROACHES, BUT NOT SINGLE LANE APPROACHES.
  - THE YIELD SIGN SHOULD BE PLACED IN LINE WITH A YIELD LINE. HOWEVER, IF THE YIELD SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO YIELD, THE YIELD LINE SHOULD BE PLACED AT THE YIELDING POINT.
- CROSSWALKS**
- CROSSWALK MARKINGS SHALL BE WHITE.
  - AT LOCATIONS WHERE THE CROSSWALK IS SKEWED, BARS TO BE PARALLEL TO  $\epsilon$  AND ENDS OF BARS TO BE PARALLEL. THE LENGTH OF THE BARS WILL VARY DEPENDING ON THE ANGLE OF SKEW.
  - BARS SHOULD BE NO CLOSER THAN 1' FROM EDGE OF ROAD.
  - ONLY FULL LENGTH BARS ARE TO BE INSTALLED.
  - DECORATIVE CROSSWALKS SHALL BE BANDED FROM CURB TO CURB WITH A MINIMUM 12" WIDE WHITE TRANSVERSE LINE ALONG EACH EDGE.
  - 24" WIDE SPACE TO BE CENTERED ON YELLOW CENTERLINE.
- PAVEMENT MARKINGS FOR TURNING LANES**
- INSTALL AT LEAST TWO ARROWS PER LANE WHERE STORAGE LENGTH IS GREATER THAN 150 FEET.



E5 - SERIES				G20 - SERIES				M4 - SERIES				R1 - SERIES				R9 & R11 - SERIES				W1 - SERIES				W3 - SERIES																																									
COPY & BORDER - WHITE BACKGROUND - GREEN				VARIABLE MILEAGE				VARIABLE ARROW				COPY & BORDER - WHITE BACKGROUND - RED				COPY & BORDER - BLACK BACKGROUND - WHITE				VARIABLE MILEAGE COPY & BORDER - BLACK BACKGROUND - WHITE				OCTAGON - RED W/ WHITE BORDER ARROW & BORDER - BLACK BACKGROUND - FLUORESCENT ORANGE																																									
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																		
16.0	48	51-6147	2	8.0	48X24	80-9612	2	2.0	24X12	80-9707	1	5.0	30X24	80-9703	1	13.30	30	31-0552	2	3.75	30X18	80-9076	1	12.5	60X30	80-9077	2	9.0	36	80-9432L	1	16.0	48	80-9433L	2	25.0	60	80-9483L	2	9.0	36	80-9050	1	16.0	48	80-9051	2																		
VARIABLE MILEAGE				VARIABLE ARROW				COPY & BORDER - RED BACKGROUND - WHITE				VARIABLE ARROW COPY & BORDER - BLACK BACKGROUND - WHITE				VARIABLE MILEAGE COPY & BORDER - BLACK BACKGROUND - WHITE				TRIANGLE - RED W/ WHITE BORDER ARROW & BORDER - BLACK BACKGROUND - FLUORESCENT ORANGE																																													
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																										
9.0	36	80-9711	1	16.0	48	80-9712	2	3.0	24X18	80-9708	1	6.25	30X30	80-9706	1	10.83	60	31-0528	2	3.0	24X18	80-9074	1	12.5	60X30	80-9078	2	8.0	48X24	80-9424	2	16.0	48	80-9431R	1	16.0	48	80-9452L	2	25.0	60	80-9484L	2	9.0	36	80-9054	1	16.0	48	80-9451R	2	16.0	48	80-9485R	2	25.0	60	80-9488R	2	16.0	48	80-9055	2		
GENERAL STATUTES SEC 13a-115, 13a-145 COMMISSIONER OF TRANSPORTATION				VARIABLE MILEAGE				VARIABLE ARROW				R4 - SERIES				VARIABLE ARROW COPY & BORDER - BLACK BACKGROUND - WHITE				COPY & BORDER - BLACK BACKGROUND - WHITE				W1-6				TOP CIRCLE - RED MIDDLE CIRCLE - YELLOW BOTTOM CIRCLE - GREEN COPY & BORDER - BLACK BACKGROUND - FLUORESCENT ORANGE																																					
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																						
16-M	5.0	30X24	80-1613	1	16.0	48	80-9712	2	6.0	48X18	80-9701R	2	6.0	48X18	80-9702L	2	3.90	36	31-0523	1	2.0	24X12	80-9075	1	12.5	60X30	80-9081	2	3.0	18X24	80-9401	1	5.0	24X30	80-9403	1	7.5	30X36	80-9404	1	25.0	60	80-9443L	2	25.0	60	80-9445R	2	9.0	36	80-9052	1	16.0	48	80-9053	2									
SUBPLATE VARIABLE SPEED				BUMP				00 M.P.H.				ROAD WORK AHEAD				SURVEY CREW				BLASTING ZONE 1000 FT				(VARIABLE LEGEND)																																									
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																										
16.0	48	80-9918L	2	9.0	36	80-9901	1	4.0	24	80-9569	1	6.25	30	80-9602	1	9.0	36	80-9803	1	9.0	36	80-9620	1	4.17	60X10	80-9913	2	16.0	48	80-9917R	2	16.0	48	80-9902	2	6.25	30	80-9567	1	12.0	96X18	80-9914	2	9.0	36	80-9933	1	12.5	60X30	80-9928	2	2.25	18	80-9950	PADDLE										
BUMP AHEAD				BUMP AHEAD				REDUCE SPEED TO 00 MPH				ROAD WORK 0000 FT				SLOW MOVING TRUCKS AHEAD				TURN OFF 2-WAY RADIO AND CELL PHONE				USE SHOULDER				SHOULDER CLOSED AHEAD				SHOULDER CLOSED																																	
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																						
16.0	48	80-9945	2	9.0	36	80-9801	1	9.0	36	80-9506	1	9.0	36	80-9614	1	9.0	36	80-9815	2	9.0	36	80-9607	1	10.5	42X36	80-9623	2	16.0	48	80-9956	2	16.0	48	80-9902	2	6.25	30	80-9567	1	16.0	48	80-9929	2	9.0	36	80-9933	1	24.0	72X48	80-9929	2	16.0	48	80-9952	2	(1)	16.0	48	80-9957	2	(2)	16.0	48	80-9959	2
LANE ENDS MERGE LEFT				LANE ENDS MERGE RIGHT				SPEED LIMIT 00				ROAD WORK 1000 FT				AHEAD				END BLASTING ZONE				STOP				SLOW																																					
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																						
16.0	48	80-9910L	2	16.0	48	80-9911R	2	9.0	36	80-9520	1	9.0	36	80-9805	1	16.0	48	80-9815	2	9.0	36	80-9607	1	10.5	42X36	80-9621	2	16.0	48	80-9956	2	16.0	48	80-9902	2	9.0	36	80-9933	1	24.0	72X48	80-9929	2	16.0	48	80-9952	2	(1)	16.0	48	80-9957	2	(2)	16.0	48	80-9959	2								
NEW				00 M.P.H.				ROAD WORK 1000 FT				AHEAD				END BLASTING ZONE				STOP				SLOW																																									
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																										
2.0	24X12	80-9049		9.0	36	80-9520	1	9.0	36	80-9805	1	16.0	48	80-9815	2	9.0	36	80-9607	1	10.5	42X36	80-9621	2	16.0	48	80-9956	2	16.0	48	80-9902	2	9.0	36	80-9933	1	24.0	72X48	80-9929	2	16.0	48	80-9952	2	(1)	16.0	48	80-9957	2	(2)	16.0	48	80-9959	2												

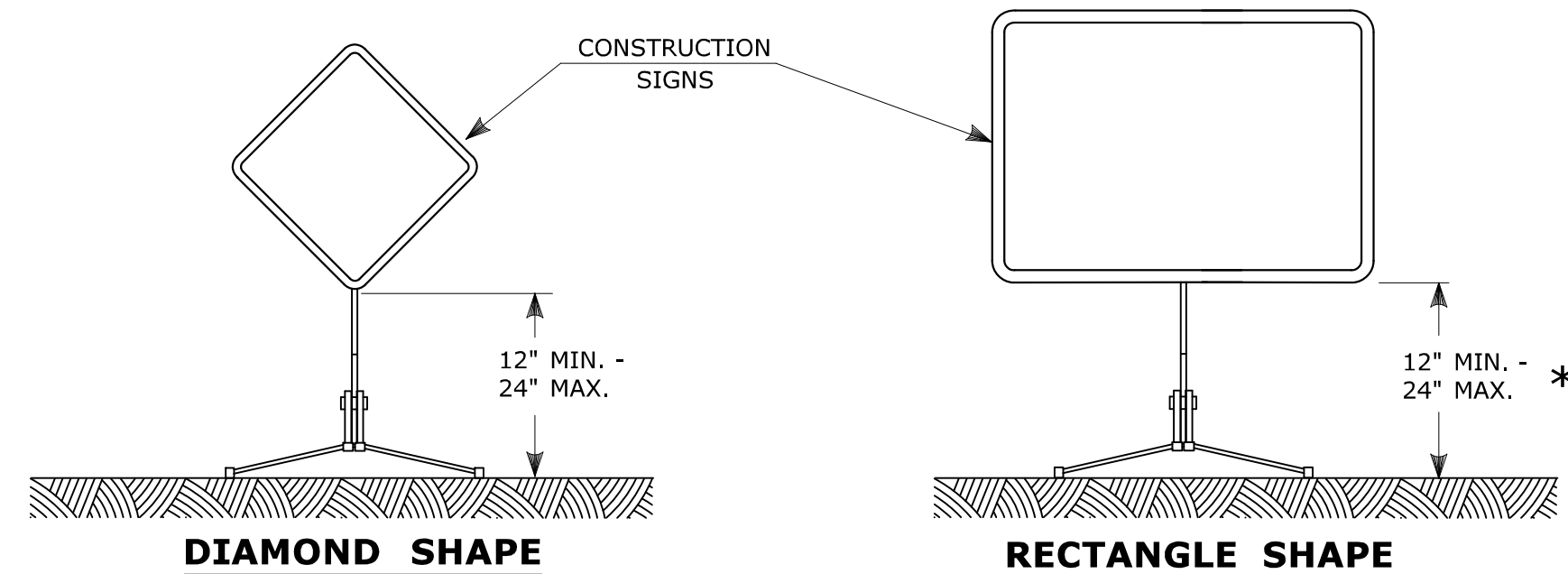
- NOTES:
- R1-SERIES SIGN THE LEGEND "O.S.T.A." SHALL APPEAR.
  - POSTS - SEE STANDARD SHEET TR-1208.02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS".
  - POSTS SHALL BE 4 LBS./FT.
  - ALL POSTS NOTED ARE FOR LONG TERM INSTALLATION. SEE STANDARD SHEET TR-1208.02.
  - FOR TEMPORARY SUPPORTS SEE STANDARD SHEET TR-1220.02 - "CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES".
  - FOR SPECIFIC SIGN DESIGN, CONTACT CONN. D.O.T., DIVISION OF TRAFFIC ENGINEERING. FOR BOLT HOLE PATTERN REFER TO FHWA PUBLICATION "STANDARD HIGHWAY SIGNS". SIGNS OF DIFFERENT DIMENSIONS TO BE ERRECTED ON THE SAME POSTS, OR SPAN/MAST ARM MOUNTED, MAY REQUIRE SPECIAL BOLT HOLE PATTERNS.
  - ALL CONSTRUCTION SIGNS TO BE PAID FOR UNDER THE CONSTRUCTION SIGNS ITEM IN THE CONTRACT.
  - MATERIALS & COLORS SHALL CONFORM TO STATE SPECIFICATIONS.

MATERIALS:  
SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES. ALUMINUM THICKNESS FOR POST MOUNTED SIGNS SHALL BE .100" EXCEPT SIGN #s. 80-1605, 80-9914, 80-9815, 80-9728, 80-9519, & 51-6147 (L OR R) WHICH SHALL BE .125", PLYWOOD THICKNESS FOR POST MOUNTED SIGNS SHALL BE 1/2" EXTERIOR GRADE A-C OR BETTER. SIGN BLANKS SHALL HAVE ONE COAT OF PRIMER PAINT PRIOR TO APPLICATION OF RETROREFLECTIVE SHEETING & COPY.

COLORS:  
BACKGROUND - FLUORESCENT ORANGE - EXCEPT AS NOTED.  
LEGEND - BLACK - EXCEPT AS NOTED.  
ALL SIGNS WITH FLUORESCENT ORANGE BACKGROUND TO USE TYPE VIII RETROREFLECTIVE SHEETING.  
ALL OTHER SIGNS TO USE TYPE IX RETROREFLECTIVE SHEETING.

6	8-2018	REVISED POST REQUIREMENTS AND SHEETING TYPE.	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED. NOT TO SCALE Plotted Date: 8/10/2018		SUBMITTED BY: <i>Mark Makuch</i> NAME/DATE/TIME: Mark F. Makuch, P.E. 2018.08.17 09:11:08-04'00' APPROVED BY: <i>Mark F. Carfino</i> NAME/DATE/TIME: Mark F. Carfino, P.E. 2018.08.21 07:49:34-04'00'	<b>CTDOT STANDARD SHEET OFFICE OF ENGINEERING</b>	STANDARD SHEET TITLE: <b>SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS</b>	STANDARD SHEET NO.: <b>TR-1220_01</b>
5	8-2015	UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION.						
4	6-2012	REVISED NOTE #1 TO REFERENCE "O.S.T.A."						
3	4-2012	REVISED NEW SIGNAL SIGN(S) TO CONFORM TO 2009 MUTCD.						
2	2-2011	MINOR REVISIONS.						
1	3-2010	REMOVED OBSOLETE SIGNS (50-5925, 50-5935).						
REV.	DATE	REVISION DESCRIPTION						



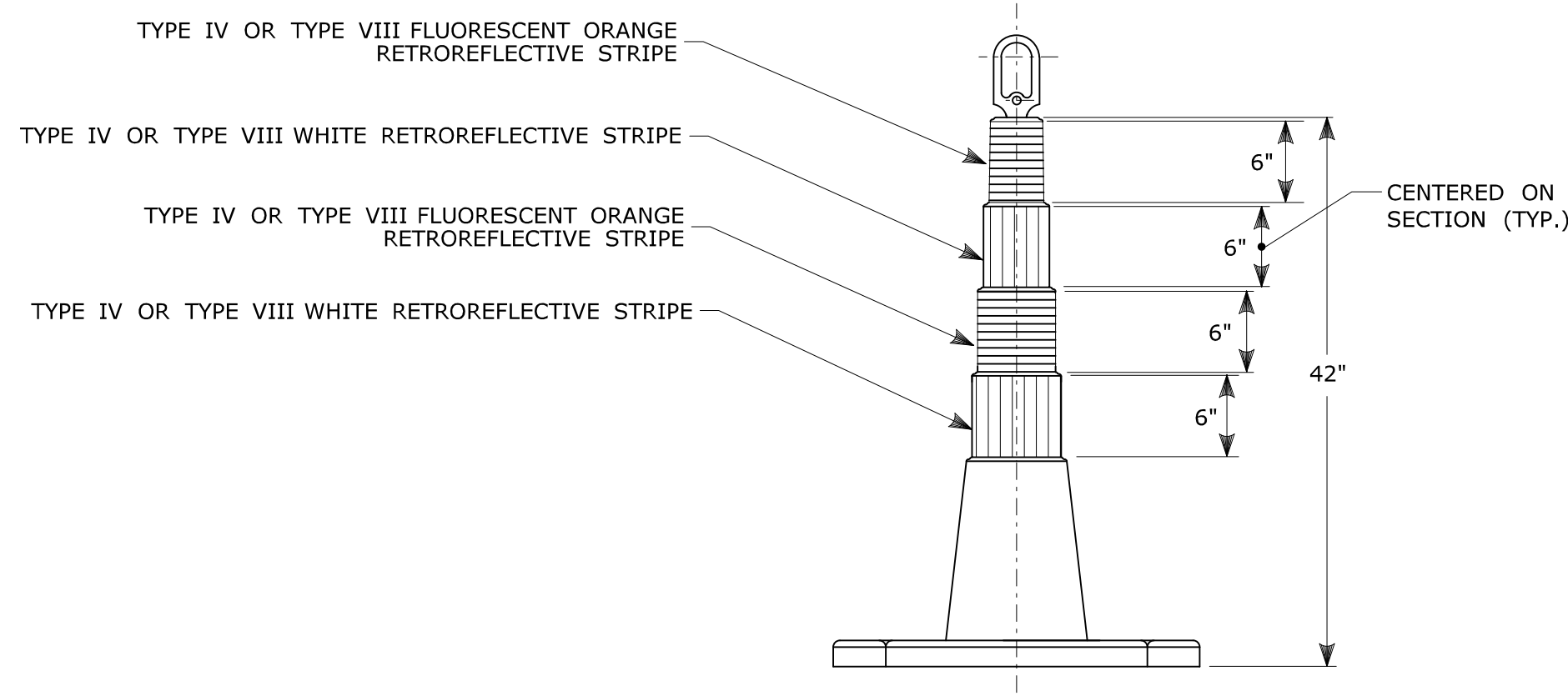


**PORTABLE CONSTRUCTION SIGNS**

NOTES FOR PORTABLE SIGN SUPPORTS:

- SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- MOUNTING HEIGHT OF SIGNS SHALL BE A MINIMUM OF 12" AND A MAXIMUM OF 24". SIGNS SHALL BE MOUNTED HIGHER AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY SUPPORT DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- PORTABLE SIGN SUPPORTS SHALL BE STABILIZED IN A MANNER THAT WILL NOT AFFECT THEIR COMPLIANCE WITH NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES.
- PORTABLE CONSTRUCTION SIGN SUPPORTS SHOULD NOT BE USED FOR DURATION OF MORE THAN 3 DAYS EXCEPT FOR R9-8 THROUGH R9-11a SERIES, R11 SERIES, W1-6 THROUGH W1-8 SERIES, M4-10, AND E5-1. SEE STANDARD SHEET TR-1220.01 - "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" FOR SIGN DETAILS.

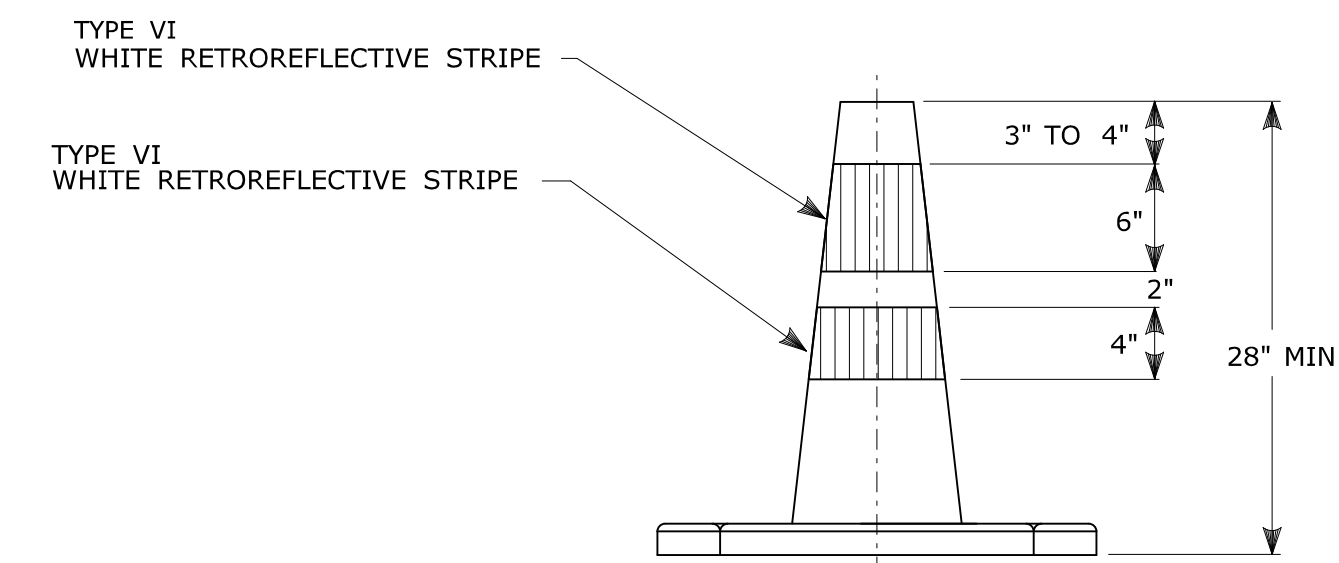
\* FOR E5-1 (EXIT SIGNS) USE MIN 48".



**42" TRAFFIC CONE**

NOTES:

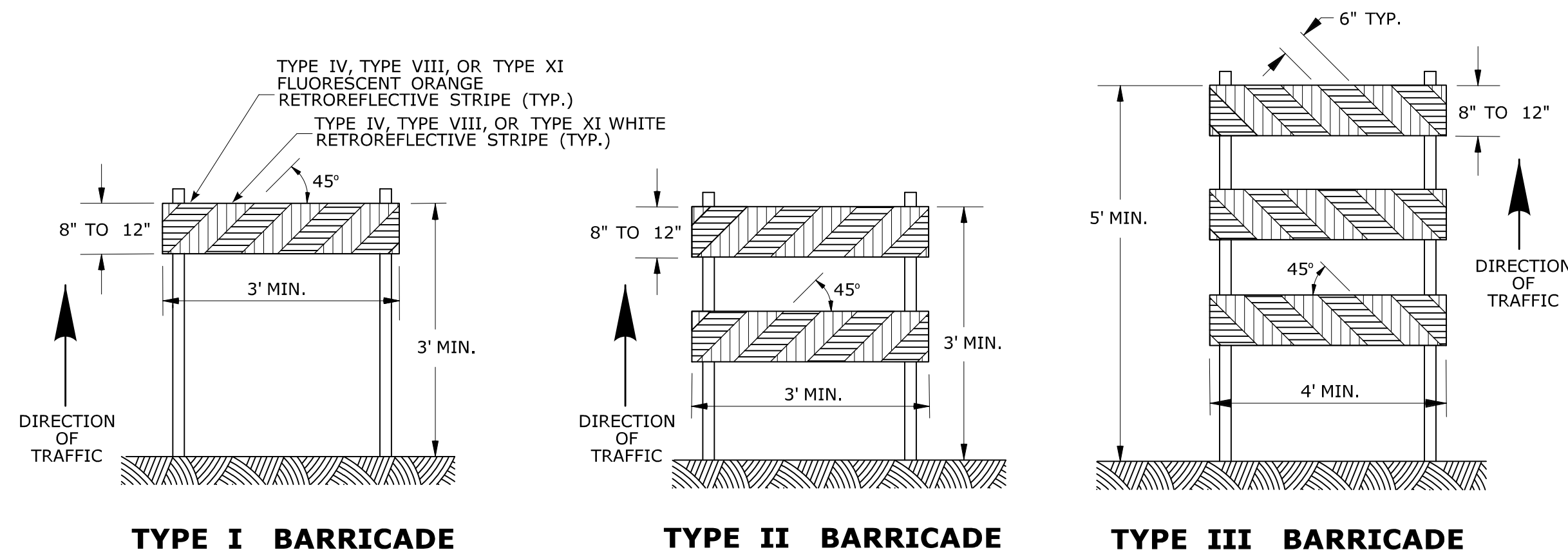
- TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
- IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
- THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.



**TRAFFIC CONE**

NOTES:

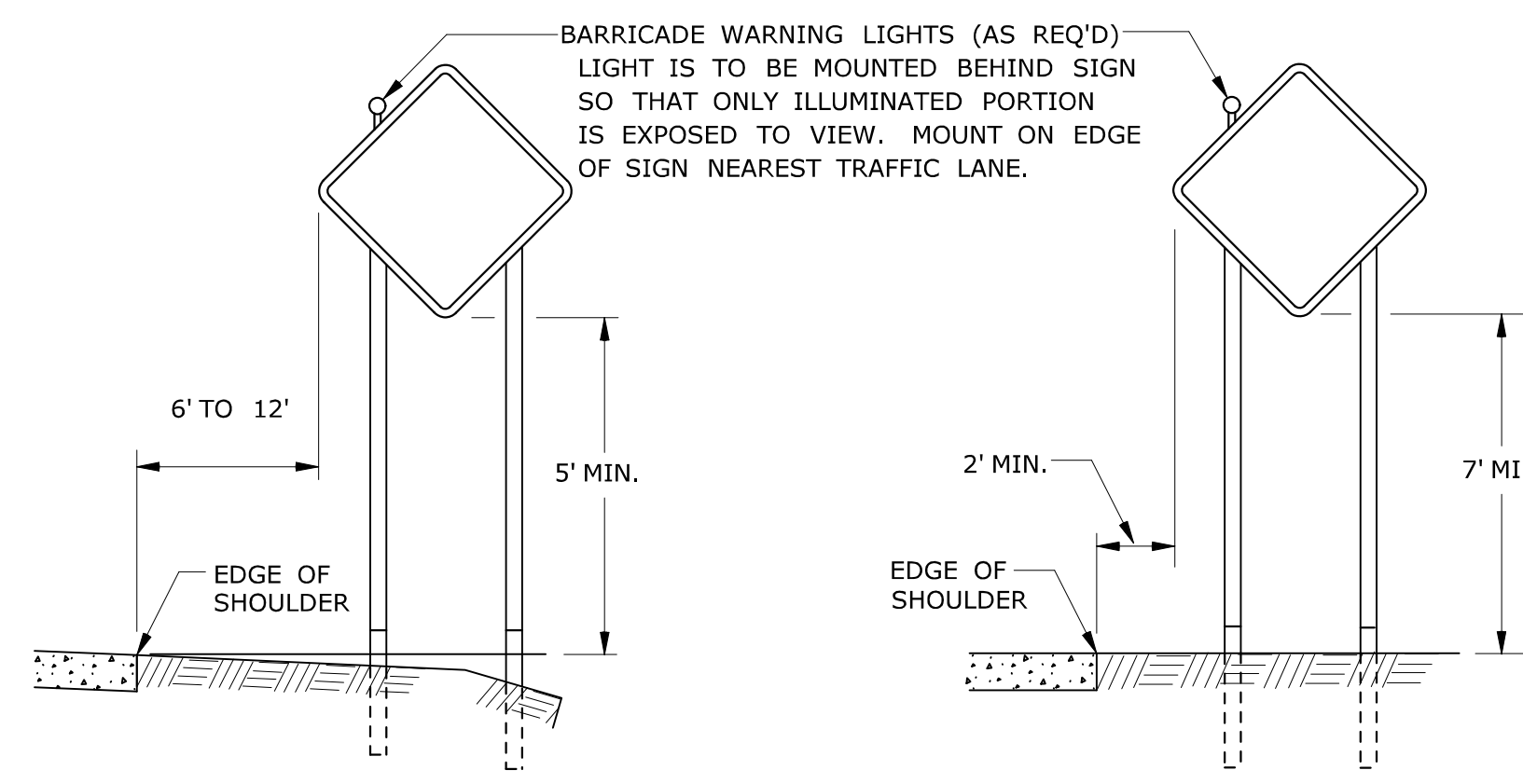
- TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
- IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- THE ENTIRE AREA OF WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
- TRAFFIC CONES NOT USED AT NIGHT MAY UTILIZE TYPE III SHEETING.
- THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.



**CONSTRUCTION BARRICADES**

NOTES:

- CONSTRUCTION BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH AND THE LATEST EDITION OF THE MUTCD.
- MARKINGS FOR BARRICADE RAILS SHALL BE ALTERNATE FLUORESCENT ORANGE AND WHITE STRIPES SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS. 6" WIDE STRIPES SHALL BE USED.
- THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS. THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE RAIL FACES.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY BARRICADE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- CORNERS OF BARRICADE RAILS SHALL BE ROUNDED.
- SIGNS MAY ONLY BE INSTALLED ON TYPE III BARRICADES AND SHALL BE PLACED SO AS TO COVER NO MORE THAN ONE BARRICADE RAIL.



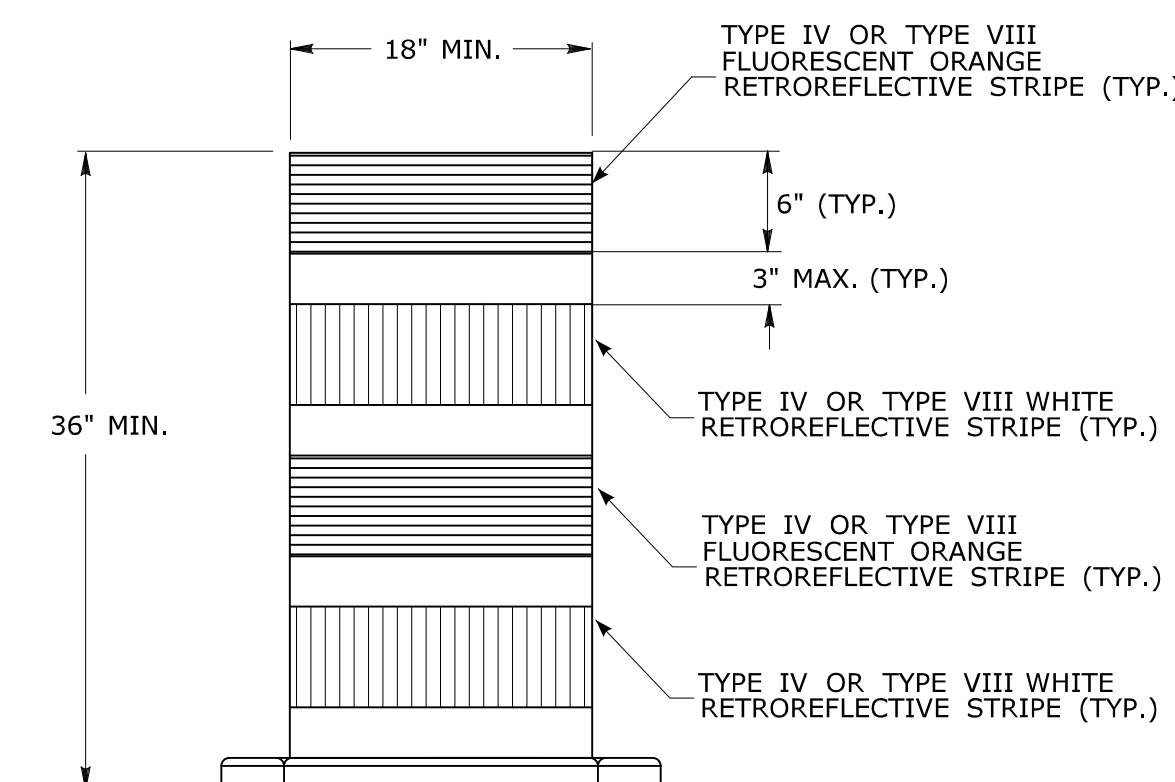
**RURAL AREA**

**URBAN AREA**

**PLACEMENT OF CONSTRUCTION SIGNS  
TYPICAL LONG TERM INSTALLATION**

NOTES:

- SUPPORTS SHALL BE METAL SIGN POSTS AND HAVE BREAK-AWAY FEATURES.  
REFER TO STANDARD SHEETS:  
TR-1208.01 - "SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS."  
TR-1208.02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS."



**TRAFFIC DRUM  
FRONT VIEW**

NOTES:

- TRAFFIC DRUM SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
- THE SECTIONS OF DRUMS NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.

<p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p>		<p>NOT TO SCALE</p>	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	<p>SUBMITTED BY: <i>Mark Makuch</i> NAME/DATE/TIME: Mark F. Makuch, P.E. 2018.08.17 09:12:43-04'00'</p>	<p>CTDOT STANDARD SHEET OFFICE OF ENGINEERING</p>	<p>STANDARD SHEET TITLE: <b>CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES</b></p>	<p>STANDARD SHEET NO.: <b>TR-1220_02</b></p>
<p>3 8-2018 UPDATED SHEETING TYPE AND COLOR.</p> <p>2 8-2015 UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION.</p> <p>1 2-2011 MINOR REVISIONS.</p>	<p>APPROVED BY: <i>Mark F. Carfino</i> NAME/DATE/TIME: Mark F. Carfino, P.E. 2018.08.21 07:49:51-04'00'</p>						
REV.	DATE	REVISION DESCRIPTION	Plotted Date: 8/10/2018	Filename: TR-1220_02_3.2018.dgn Model: TR-1220_02			