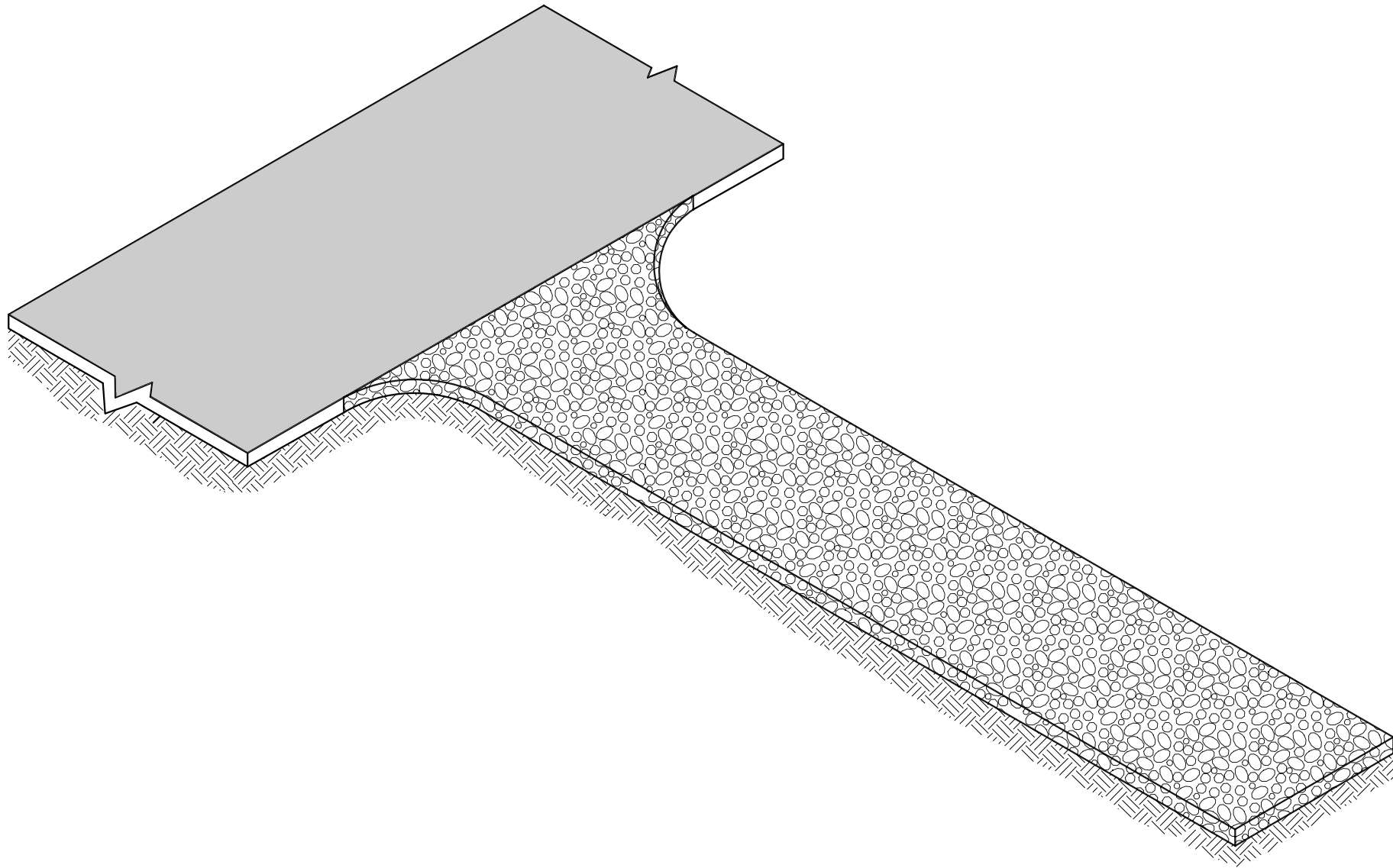
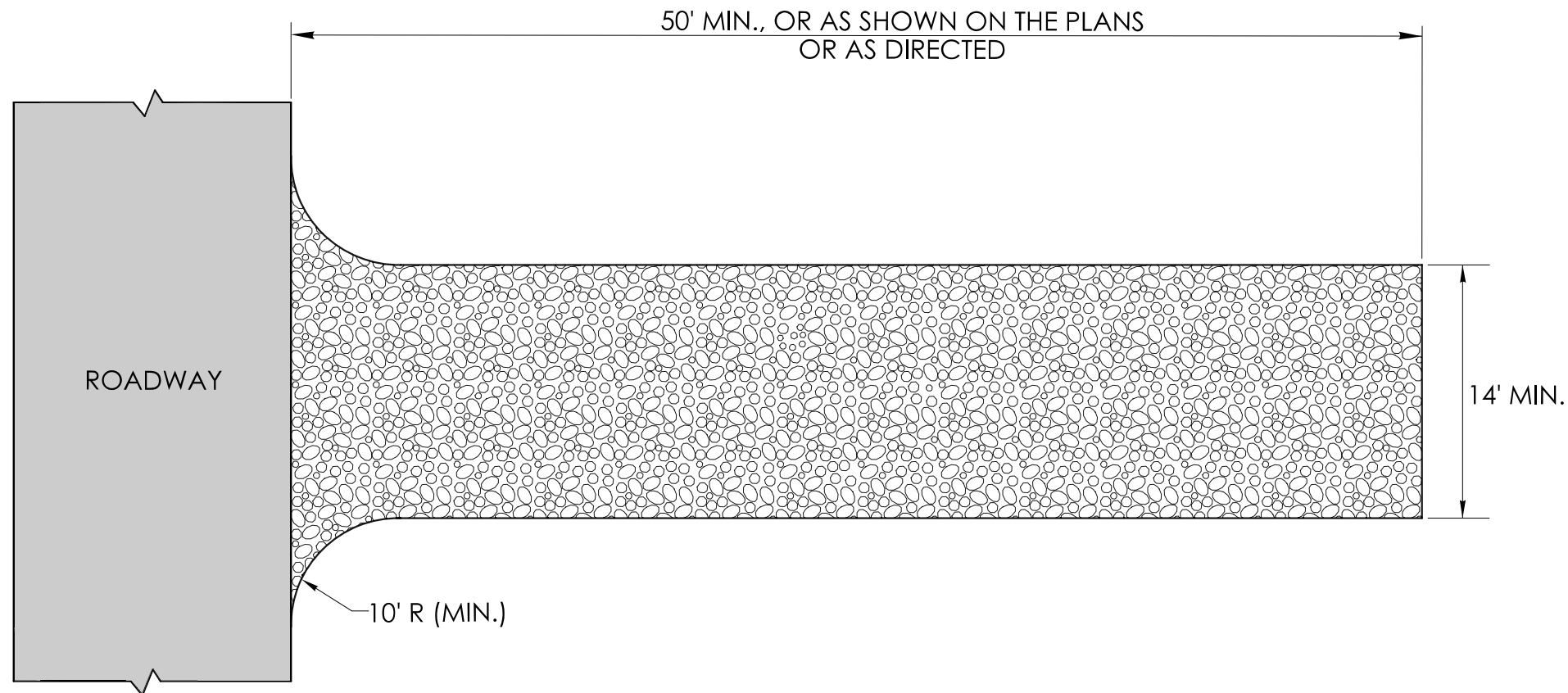


✓*	SHEET NO.	TITLE	APPROVAL DATE**	✓*	SHEET NO.	TITLE	APPROVAL DATE**
✓	HW-211_01	ANTI-TRACKING PAD	11-09-22		HW-821_01a	TRANSITION - 45" F-SHAPE TO 45" VERTICAL SHAPE SHEET 1	11-08-22
✓	HW-286_01	DRAINAGE TRENCH EXCAVATION	11-09-22		HW-821_01b	TRANSITION - 45" F-SHAPE TO 45" VERTICAL SHAPE SHEET 2	11-08-22
✓	HW-505_01a	STRAIGHT ENDWALLS	01-21-25		HW-821_01c	TRANSITION - 45" F-SHAPE TO 45" VERTICAL SHAPE SHEET 3	11-08-22
✓	HW-505_01b	STEEL REINFORCING FOR STRAIGHT ENDWALLS (2" DIFF BASE TO FLOW LINE)	01-05-24		HW-821_02a	45" F-SHAPE PRECAST CONCRETE BARRIER CURB SHEET 1	11-08-22
✓	HW-505_01c	STEEL REINFORCING FOR STRAIGHT ENDWALLS (STANDARD RIPRAP APPLICATION)	01-05-24		HW-821_02b	45" F-SHAPE PRECAST CONCRETE BARRIER CURB SHEET 2	11-08-22
	HW-505_02	TYPE "D-G" & "L" ENDWALLS	01-05-24		HW-821_03a	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 1	11-08-22
✓	HW-586_01	CATCH BASIN AND DROP INLET TYPES "C" AND "C-L" STRUCTURES	01-05-24		HW-821_03b	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 2	11-08-22
	HW-586_02	CATCH BASIN (TYPES "C" AND "C-L") FOR DOUBLE GRATE TYPE I STRUCTURES	01-05-24		HW-821_03c	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 3	11-08-22
✓	HW-586_03	CATCH BASIN (TYPES "C" AND "C-L") FOR DOUBLE GRATE TYPE II STRUCTURES	01-05-24		HW-821_03d	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 4	11-08-22
✓	HW-586_04	PRECAST CATCH BASIN AND ROUND STRUCTURE	10-17-24		HW-821_03e	TRANSITION - 32" JERSEY SHAPE TO 45" F-SHAPE	11-08-22
	HW-586_05	PRECAST CATCH BASIN TYPES FOR DOUBLE GRATE TYPE I	10-17-24		HW-821_04a	MERRITT PARKWAY NARROW MEDIAN BARRIER	11-08-22
✓	HW-586_06	PRECAST CATCH BASIN TYPES FOR DOUBLE GRATE TYPE II	10-17-24		HW-821_04b	MERRITT PARKWAY - 2' WIDE MEDIAN BARRIER AND ROADSIDE BARRIER	11-08-22
	HW-586_07a	CATCH BASIN TYPE "C" AND "C-L" TOPS	01-05-24		HW-821_05a	TRANSITION - 45" F-SHAPE TO 54" VERTICAL SHAPE SHEET 1	11-08-22
	HW-586_07b	CATCH BASIN TYPE "C" AND "C-L" DOUBLE GRATE TYPE I TOPS	11-09-22		HW-821_05b	TRANSITION - 45" F-SHAPE TO 54" VERTICAL SHAPE SHEET 2	11-08-22
✓	HW-586_07c	CATCH BASIN TYPE "C" AND "C-L" DOUBLE GRATE TYPE II TOPS	11-08-22		HW-821_06	54" VERTICAL SHAPE BARRIER	11-08-22
	HW-586_07d	CATCH BASIN TYPE "C-G" AND "C-M" BARRIER CURB TOPS	11-09-22		HW-821_07	MISCELLANOUS DETAILS FOR BARRIER TRANSITIONS	11-08-22
✓	HW-586_08	CATCH BASIN FRAMES AND GRATES	11-09-22		HW-821_08a	F-SHAPE CONC. BARRIER CURB (21"x45") TRANSITION FOR THRIE-BEAM	10-17-24
	HW-586_09	CATCH BASIN LOCK DOWN TOPS	11-09-22		HW-821_08b	F-SHAPE CONC. BARRIER CURB (21"x45") TRANSITION FOR THRIE-BEAM - REINF.	11-08-22
✓	HW-586_10a	MANHOLE FRAME AND COVER	01-05-24		HW-821_09a	SINGLE SLOPE CONC. BARRIER CURB (20"x42") TRANS. FOR THRIE-BEAM	11-08-22
	HW-586_10b	MANHOLE FRAME AND GRATE	01-05-24		HW-821_09b	SINGLE SLOPE CONC. BARRIER CURB (20"x42") TRANS. FOR THRIE-BEAM - REINF.	11-08-22
✓	HW-586_10c	REINFORCED PRECAST CONCRETE MANHOLE	11-08-22		HW-821_10a	VERTICAL FACE CONC. (21"x54") TRANSITION FOR THRIE-BEAM	11-08-22
	HW-586_10d	MANHOLE NON-PRECAST CONCRETE UNIT	11-08-22		HW-821_10b	VERTICAL FACE CONC. (21"x54") TRANSITION FOR THRIE-BEAM REINF.	11-08-22
	HW-686_01a	CONCRETE PIPE CONNECTION SHEET 1	11-08-22		HW-821_11a	42" SINGLE SLOPE PRECAST CONCRETE BARRIER CURB -SHEET 1	01-05-24
	HW-686_01b	CONCRETE PIPE CONNECTION SHEET 2	11-08-22		HW-821_11b	42" SINGLE SLOPE PRECAST CONCRETE BARRIER CURB -SHEET 2	01-05-24
	HW-686_02a	DRAINANGE PIPE ENDS SHEET 1 [CORRUGATED METAL PIPE]	11-08-22		HW-822_01	TEMPORARY PRECAST CONCRETE BARRIER CURB	11-08-22
	HW-686_02b	DRAINAGE PIPE ENDS SHEET 2 [CONCRETE PIPE]	11-08-22		HW-822_02a	TEMPORARY TRAFFIC BARRIER - DETAILS	11-08-22
	HW-751_01	UNDERDRAINS AND UNDERDRAIN OUTLETS	10-17-24		HW-822_02b	TEMPORARY TRAFFIC BARRIER (BOLTED)	01-23-25
	HW-803_01	PAVED APRONS	11-08-22		HW-822_02c	TEMPORARY TRAFFIC BARRIER & TEMPORARY TRAFFIC BARRIER (PINNED)	01-23-25
	HW-811_01	CONCRETE CURBING	11-08-22		HW-905_01	STONE WALL FENCE	11-09-22
	HW-813_01	GRANITE STONE TRANSITION CURBING	11-08-22		HW-906_01	WIRE FENCE	11-08-22
	HW-813_02	STONE CURBING	11-08-22				
✓	HW-815_01	BITUMINOUS CONCRETE CURBING	11-08-22				

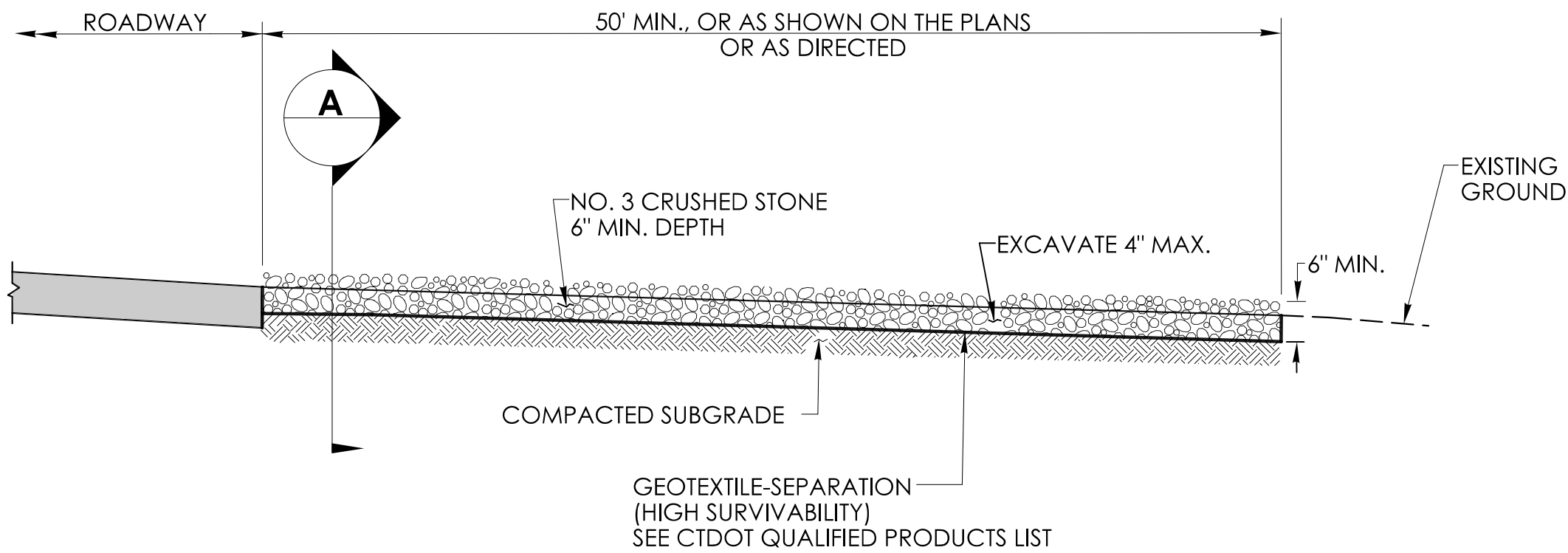
GENERAL NOTE:
1. THE LENGTH OF THE ANTI-TRACKING PAD SHALL BE INCREASED AS DIRECTED FOR SITES COMPOSED OF CLAY OR SILTS.



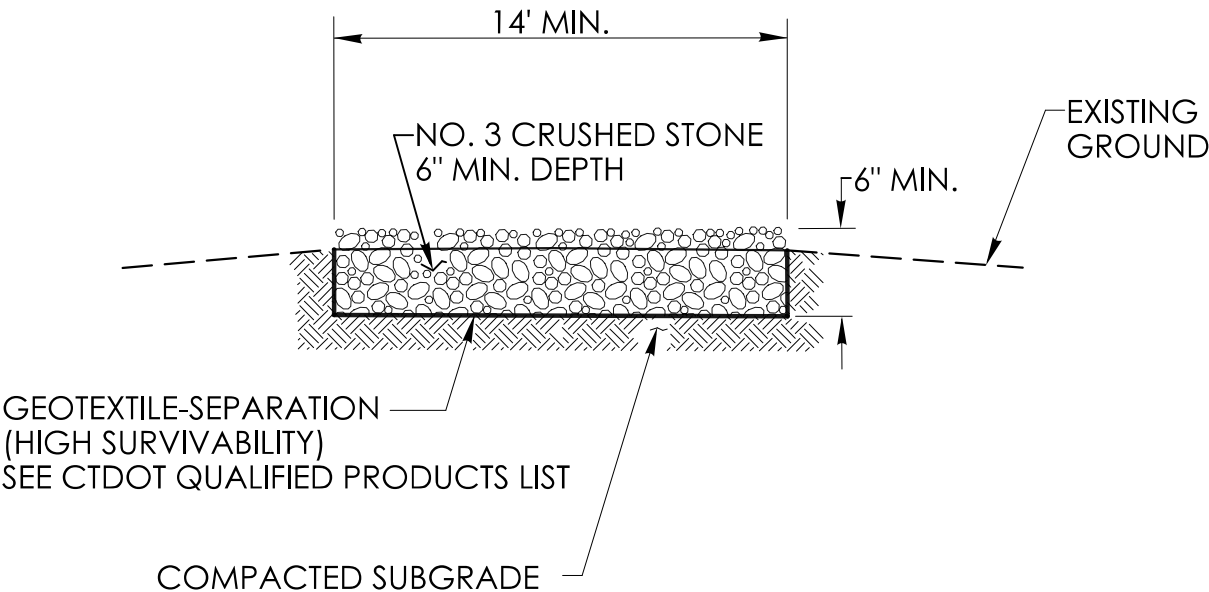
ANTI-TRACKING PAD



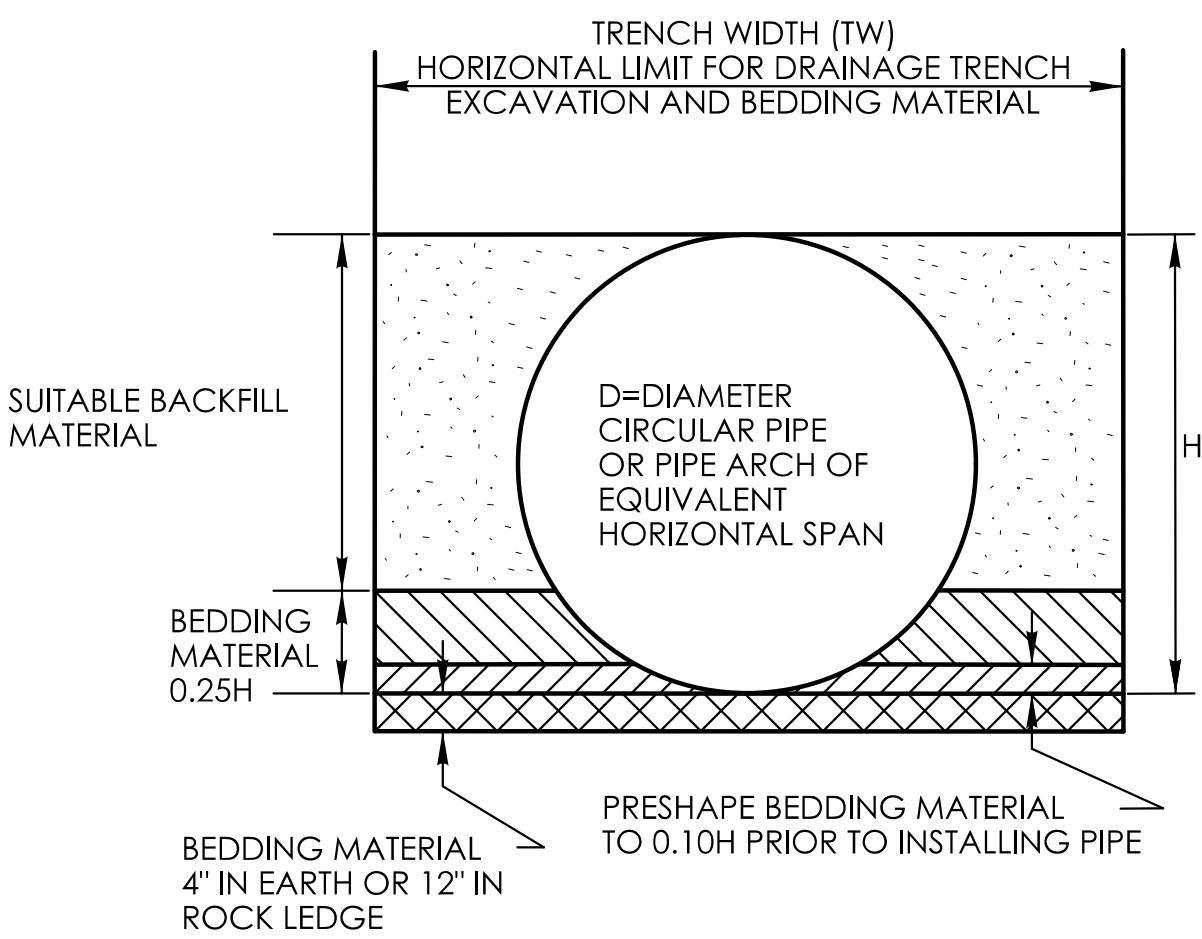
PLAN



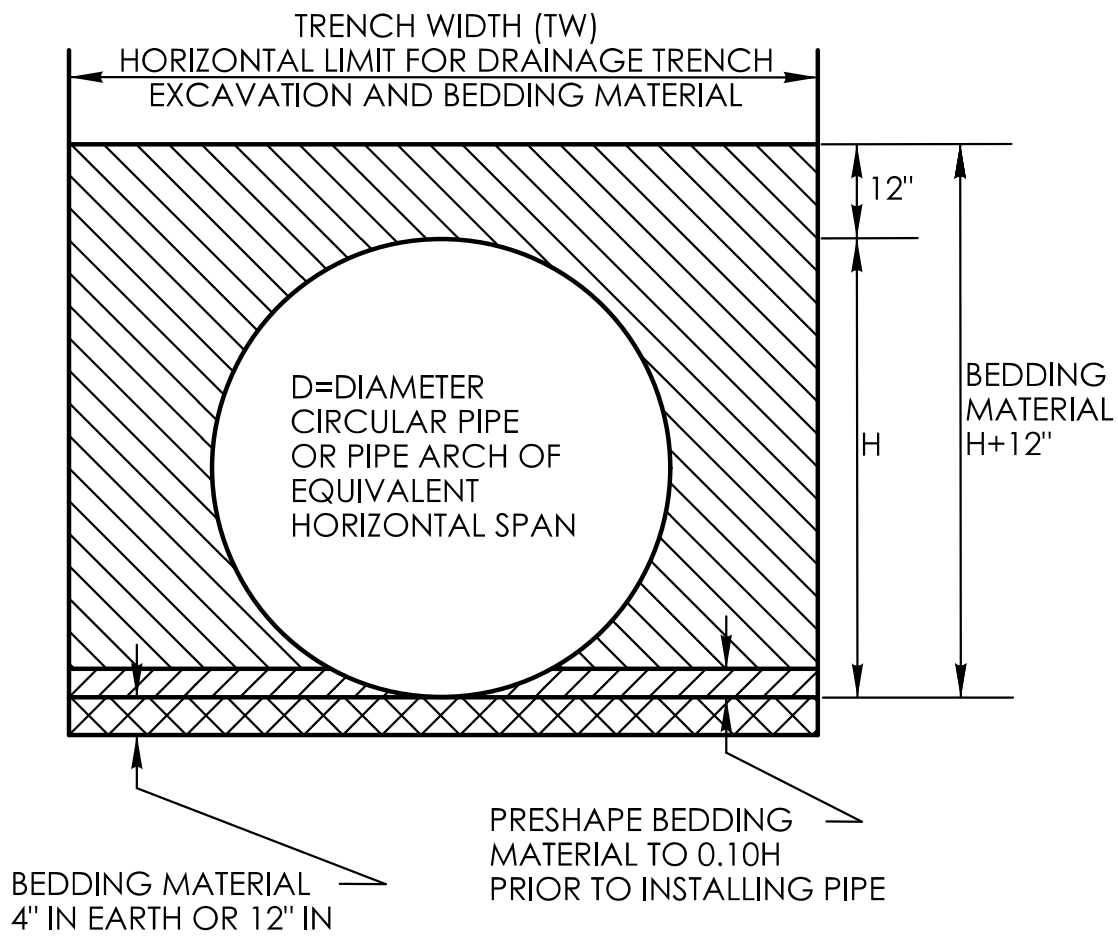
ELEVATION



SECTION A



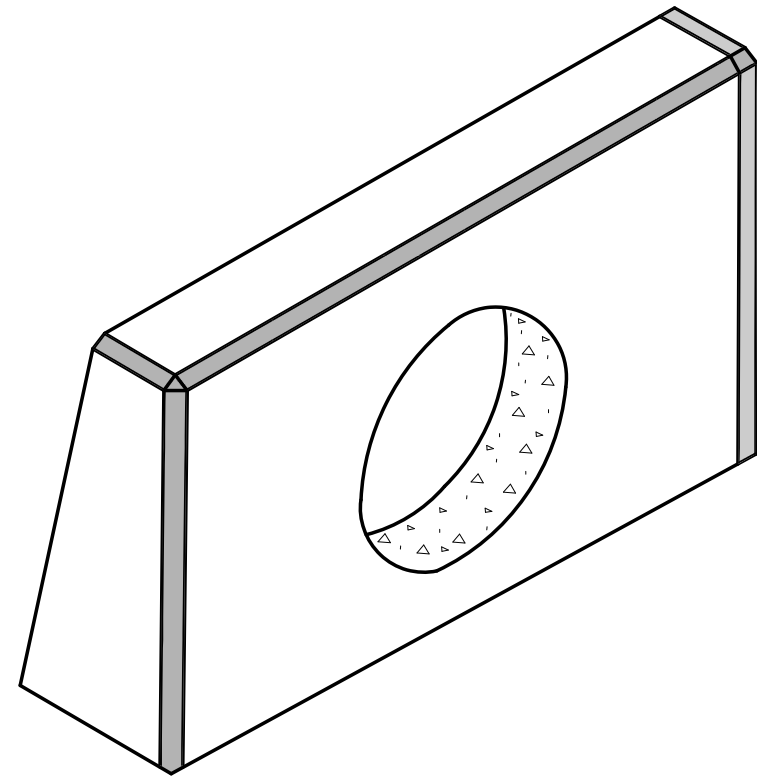
PIPE TRENCH
FOR PIPES LESS THAN 48"



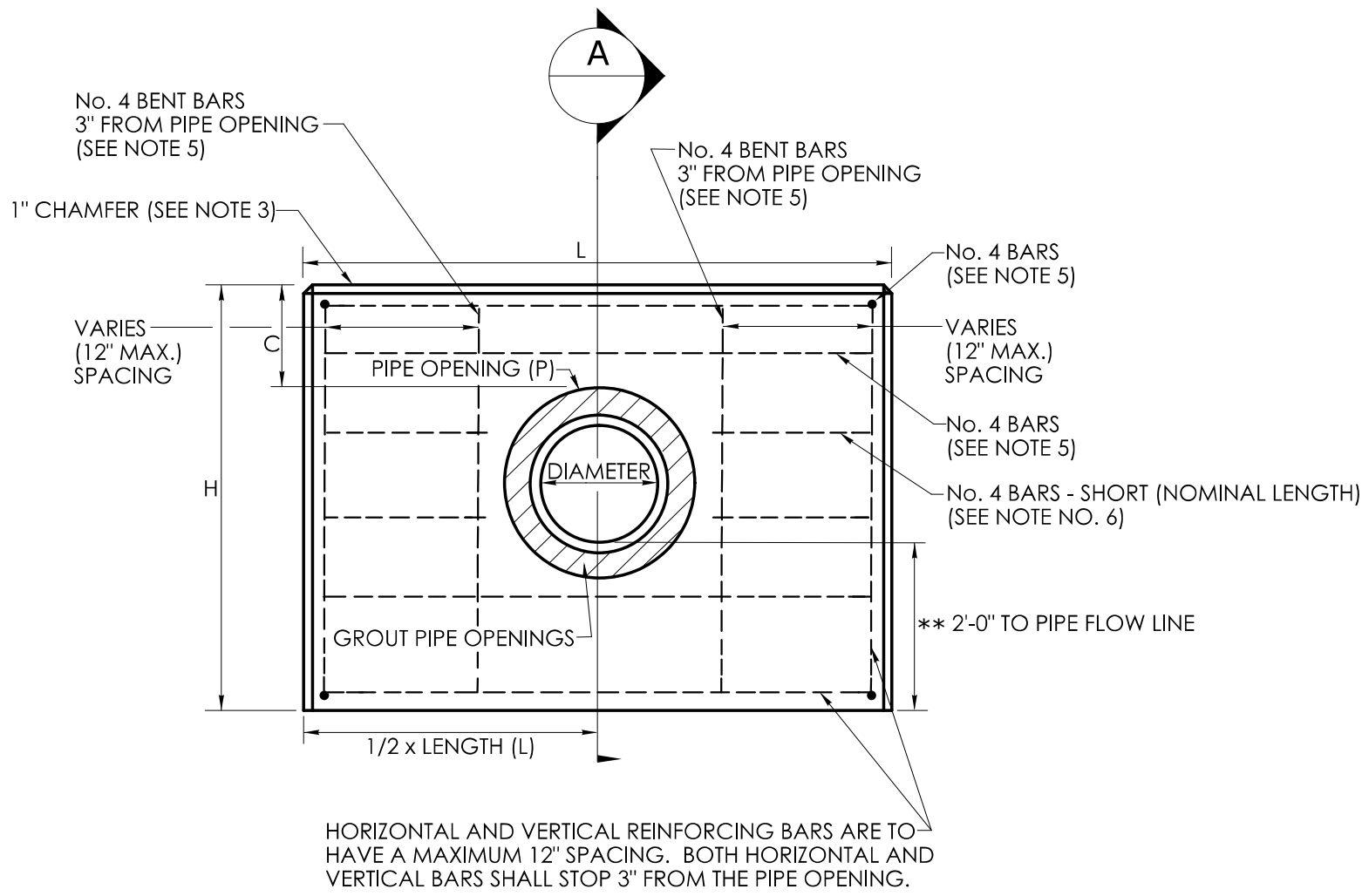
PIPE TRENCH
FOR PIPES GREATER THAN
OR EQUAL TO 48"

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

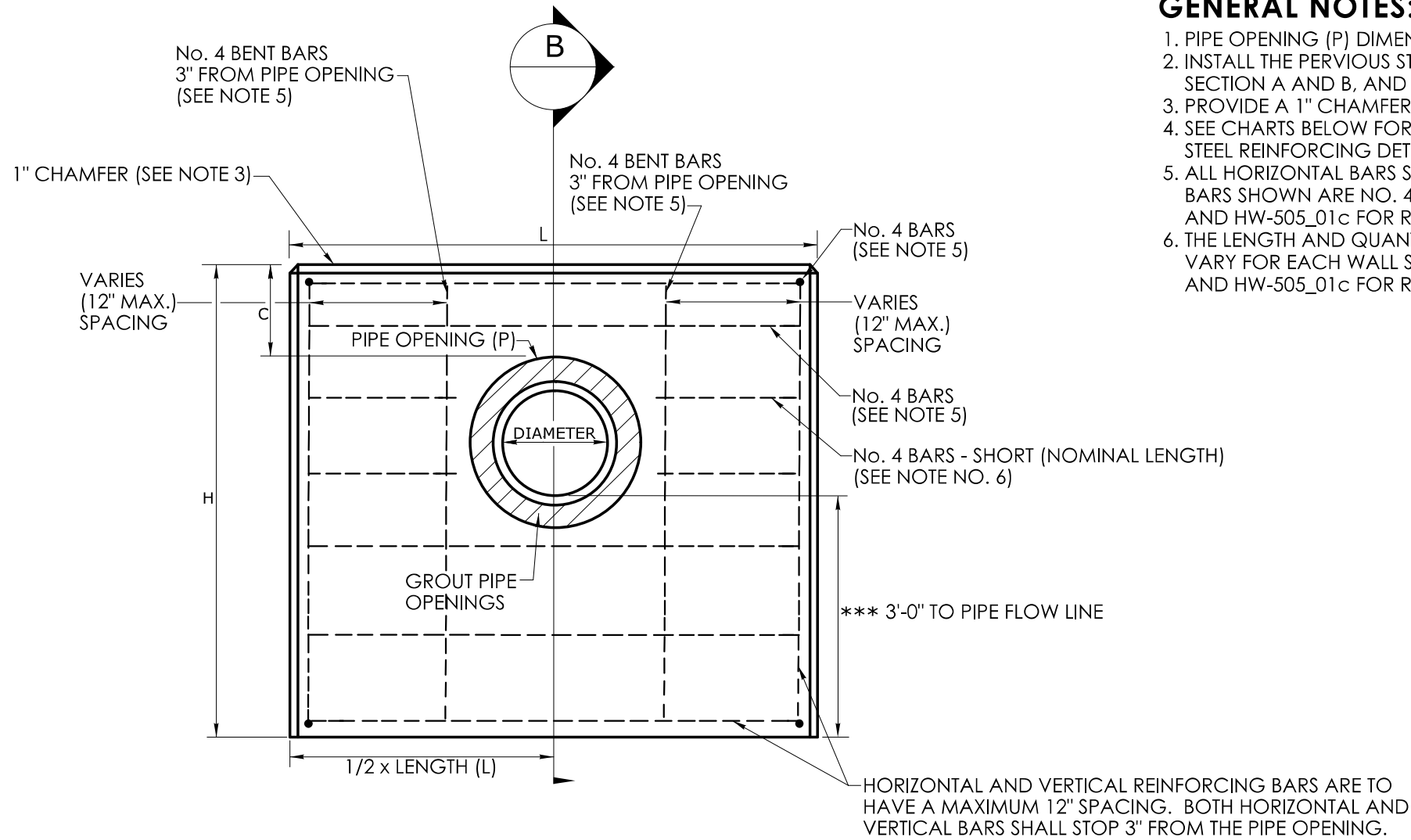


STRAIGHT ENDWALL



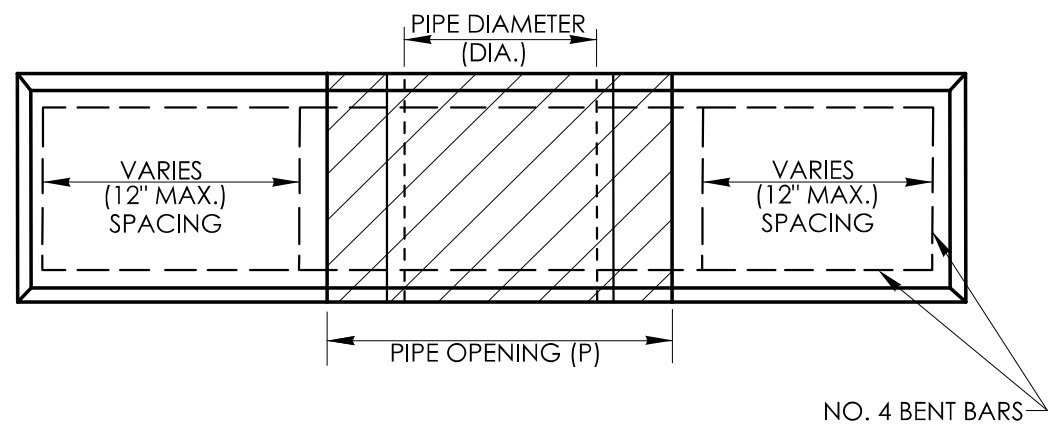
FRONT ELEVATION

** THIS ENDWALL CONFIGURATION IS TO BE USED WHEN ALL MATERIAL EXCEPT STANDARD RIPRAP IS TO BE INSTALLED AT THE OUTLET. A 2'-0" ELEVATION DIFFERENCE IS PROVIDED FROM THE BASE TO THE PIPE FLOW LINE.

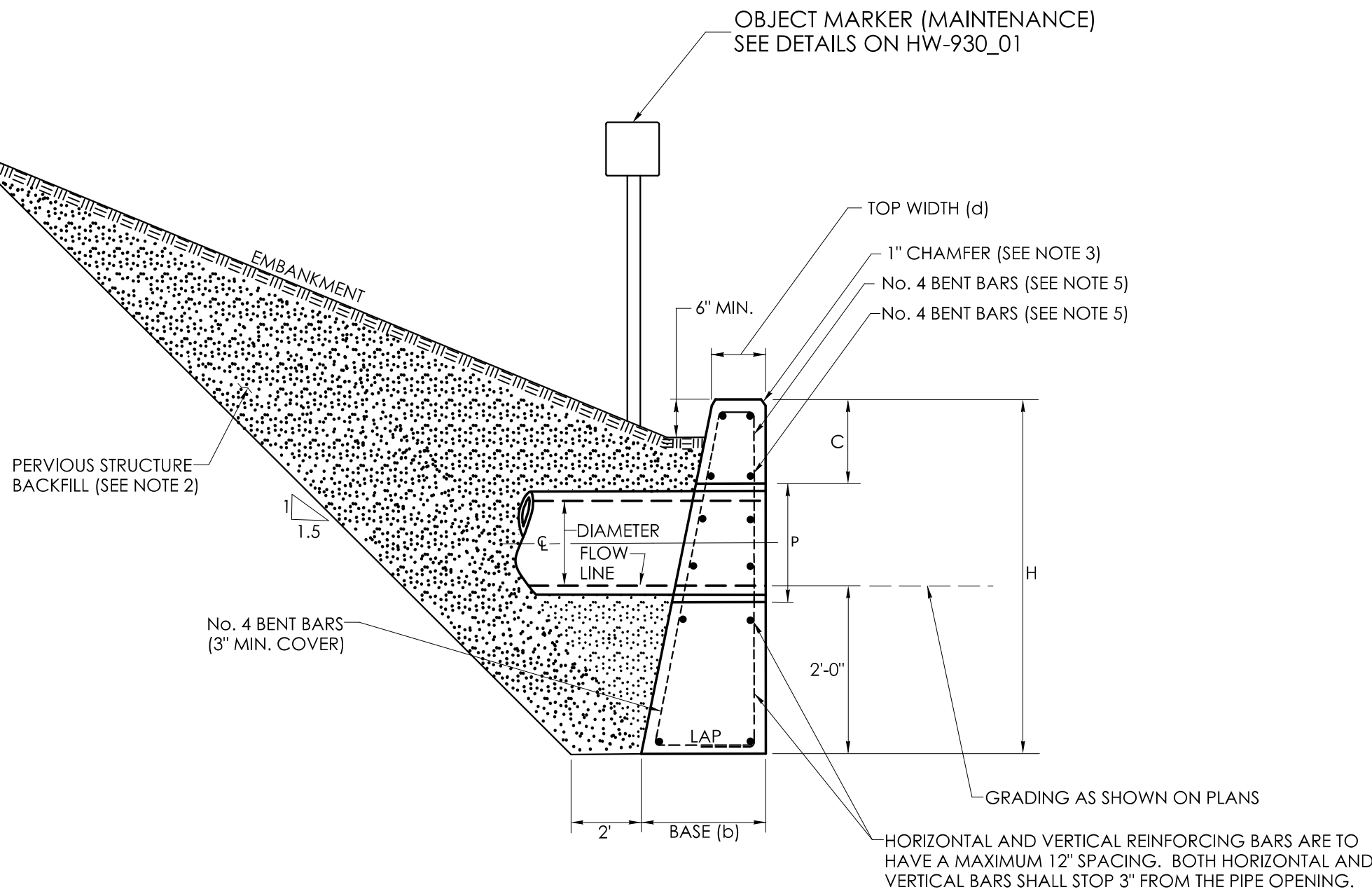


FRONT ELEVATION

*** THIS ENDWALL CONFIGURATION IS TO BE USED WHEN STANDARD RIPRAP IS INSTALLED AT THE OUTLET. A 3'-0" ELEVATION DIFFERENCE IS PROVIDED TO ACCOMMODATE THE PLACEMENT OF THE STANDARD RIPRAP.

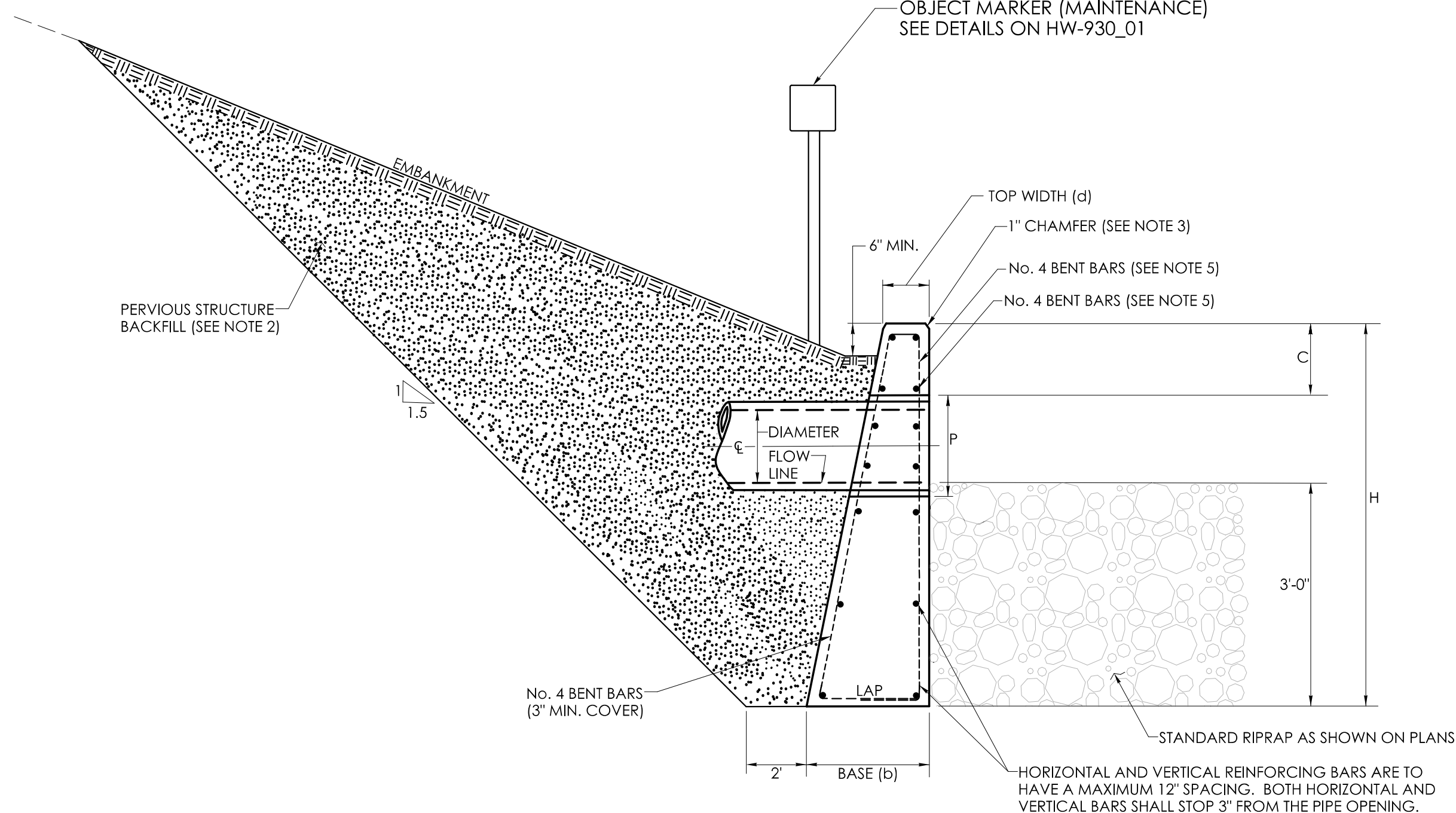


STRAIGHT ENDWALL PLAN



SECTION A

STRAIGHT ENDWALL



SECTION B

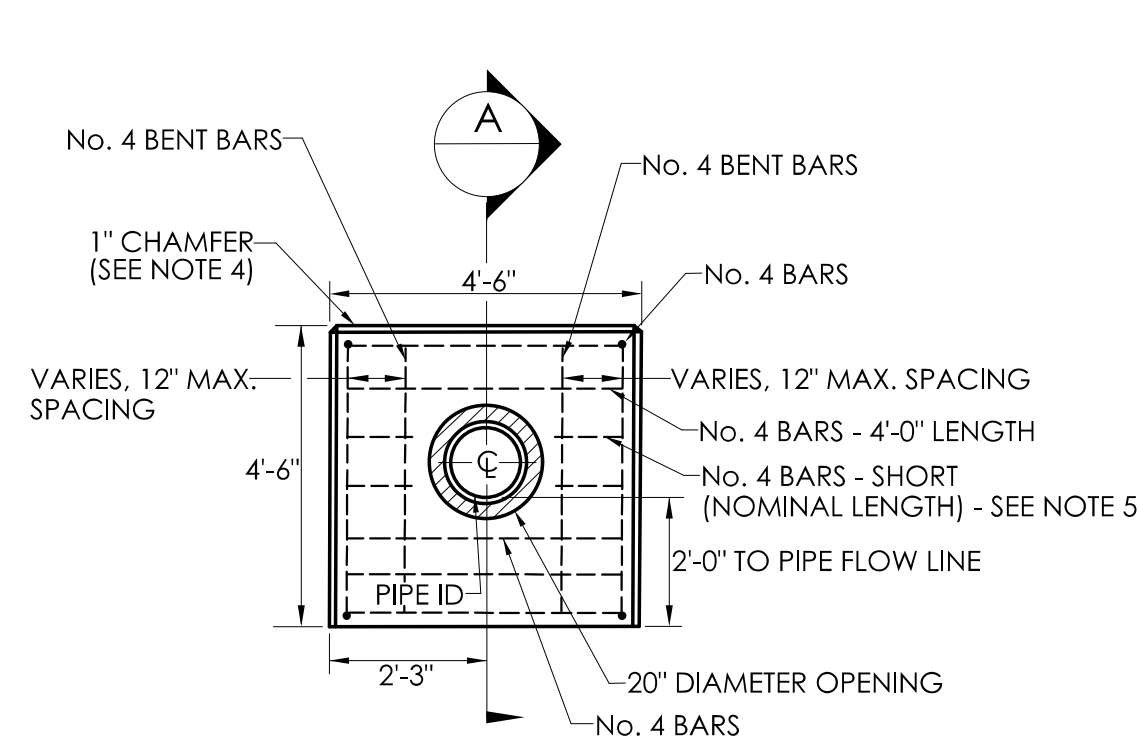
STRAIGHT ENDWALL FOR STANDARD RIPRAP APPLICATION

STRAIGHT ENDWALL DIMENSIONS								
CONCRETE					REINFORCING STEEL			
PIPE DIAMETER (DIA.)	CLEARANCE (C)	PIPE OPENINGS (P)	TOTAL HEIGHT (H)	LENGTH (L)	TOP WIDTH (d)	BASE (b)	VOL.	
IN.	IN.	IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	C.Y.	
12"	14"	20"	4'-6"	4'-6"	1'-3"	2'-0"	1.10	
15"	13.5"	24"	4'-9"	5'-6"	1'-3"	2'-0"	1.39	
18"	14"	26"	5'-0"	6'-6"	1'-3"	2'-0"	1.75	
24"	14"	32"	5'-6"	8'-6"	1'-6"	2'-3"	2.87	
30"	12"	42"	6'-0"	10'-6"	1'-9"	2'-6"	3.98	
36"	12"	48"	6'-6"	12'-6"	1'-9"	2'-8"	5.67	
42"	12"	54"	7'-0"	14'-6"	2'-0"	3'-0"	7.99	
48"	11"	62"	7'-6"	16'-6"	2'-0"	3'-0"	9.59	

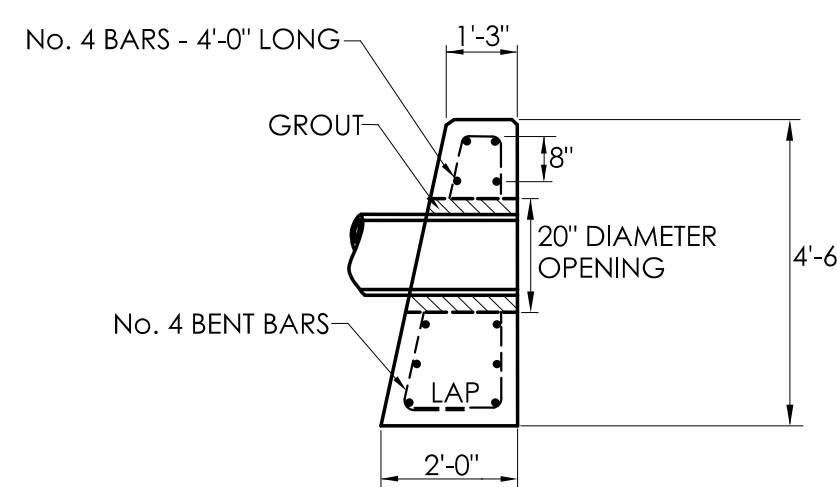
SEE PROJECT PLANS FOR NON-STANDARD ENDWALL DETAILS

STRAIGHT ENDWALL DIMENSIONS (FOR STANDARD RIPRAP APPLICATION)												
CONCRETE								REINFORCING STEEL				
PIPE DIAMETER (DIA.)	CLEARANCE (C)	PIPE OPENINGS (P)	TOTAL HEIGHT (H)	LENGTH (L)	TOP WIDTH (d)	BASE (b)	VOL.	PIPE DIAMETER (DIA.)	NO. 4 BENT BARS	NO. 4 BARS - (NOMINAL LENGTH)		
IN.	IN.	IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	C.Y.	IN.	EA.	EA.		
12"	14"	20"	5'-6"	4'-6"	1'-3"	2'-2"	1.52	12"	4	16 - (4'-0")		
15"	13.5"	24"	5'-9"	5'-6"	1'-3"	2'-2"	1.88	15"	6	16 - (5'-0")		
18"	14"	26"	6'-0"	6'-6"	1'-3"	2'-2"	2.31	18"	6	16 - (6'-0")		
24"	14"	32"	6'-6"	8'-6"	1'-6"	2'-5"	3.66	24"	8	18 - (8'-0")		
30"	12"	42"	7'-0"	10'-6"	1'-9"	2'-8"	5.03	30"	8	16 - (10'-0")		
36"	12"	48"	7'-6"	12'-6"	1'-9"	2'-10"	6.98	36"	10	18 - (12'-0")		
42"	12"	54"	8'-0"	14'-6"	2'-0"	3'-2"	9.68	42"	12	18 - (14'-0")		
48"	11"	62"	8'-6"	16'-6"	2'-0"	3'-2"	11.50	48"	14	20 - (16'-0")		

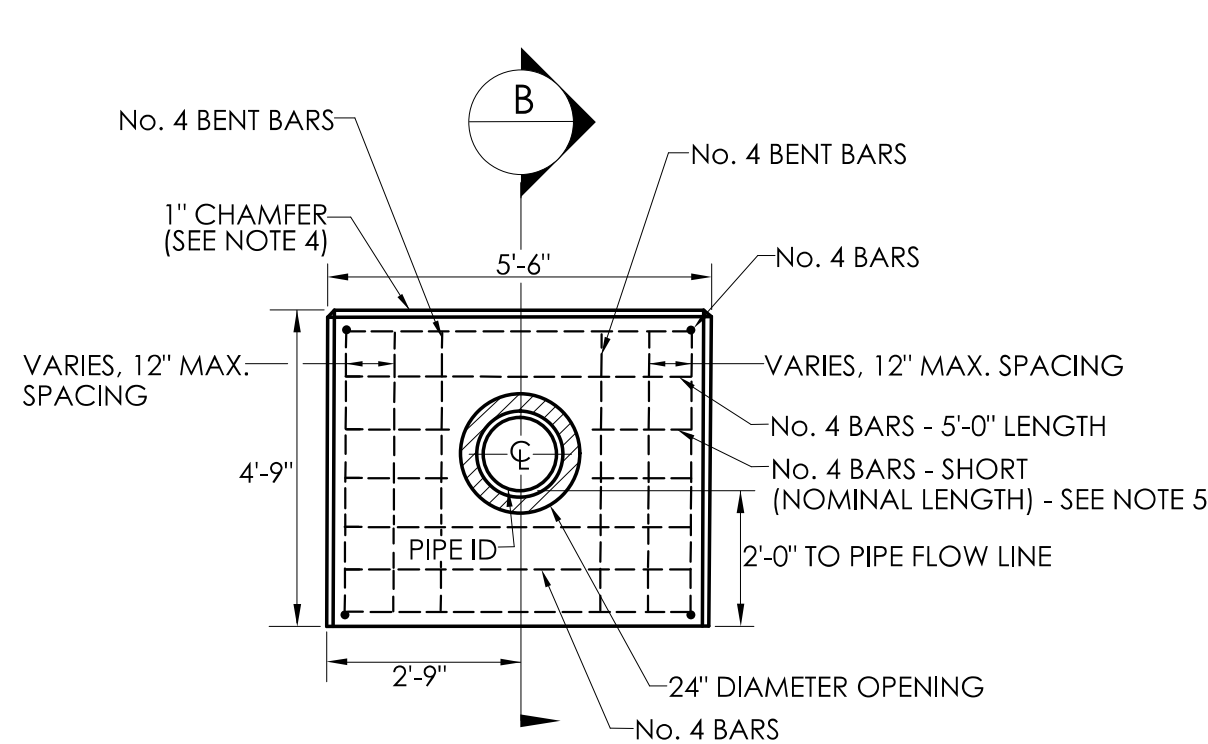
SEE PROJECT PLANS FOR NON-STANDARD ENDWALL DETAILS



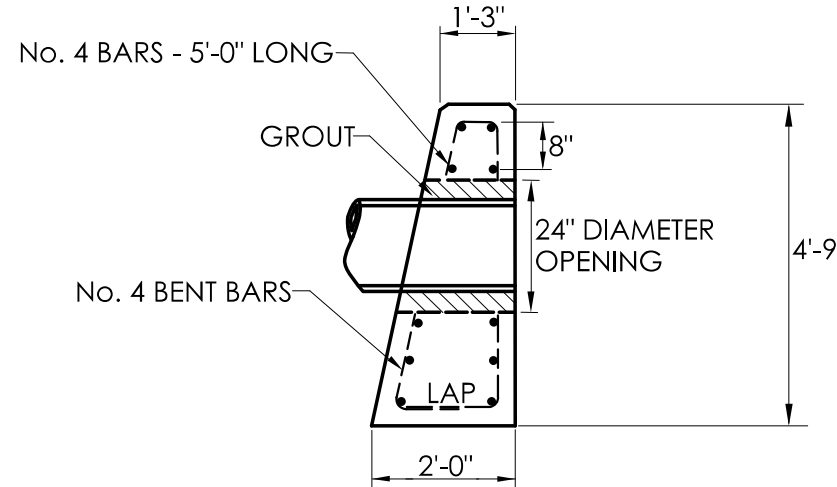
FRONT ELEVATION
(FOR 12" RCP)



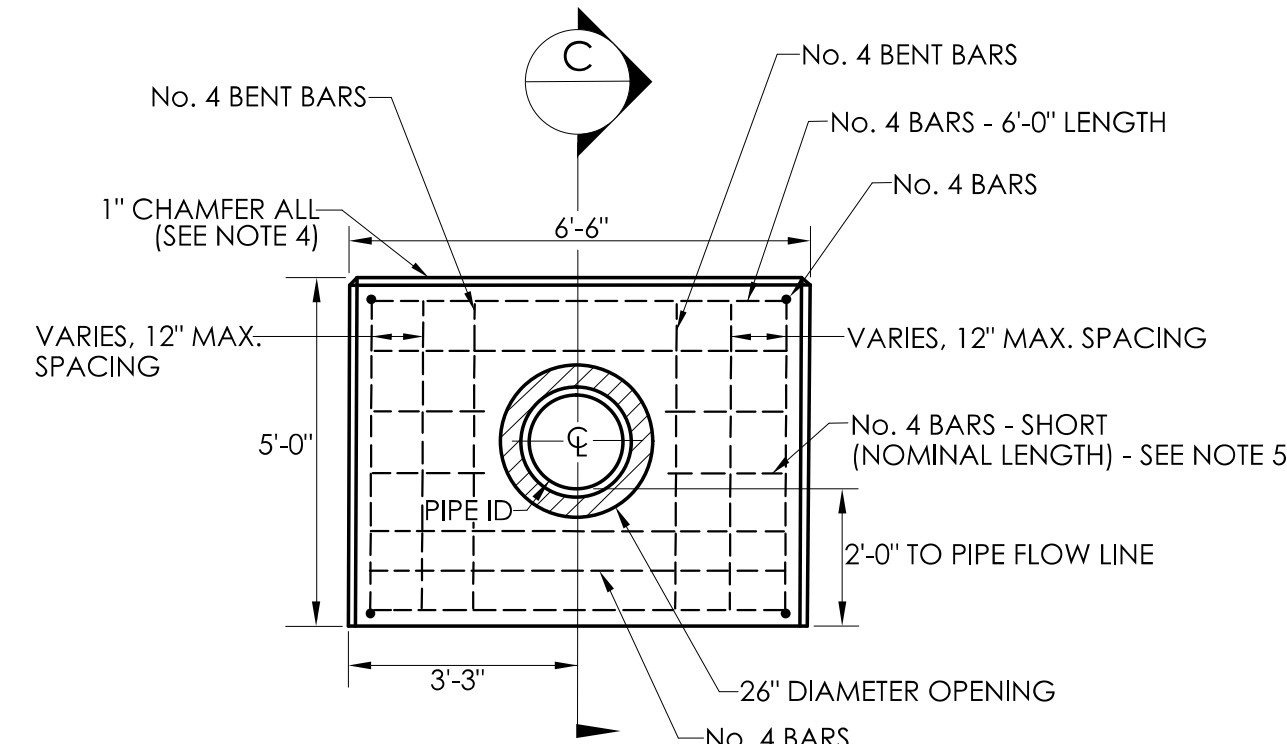
SECTION A
(FOR 12" RCP)



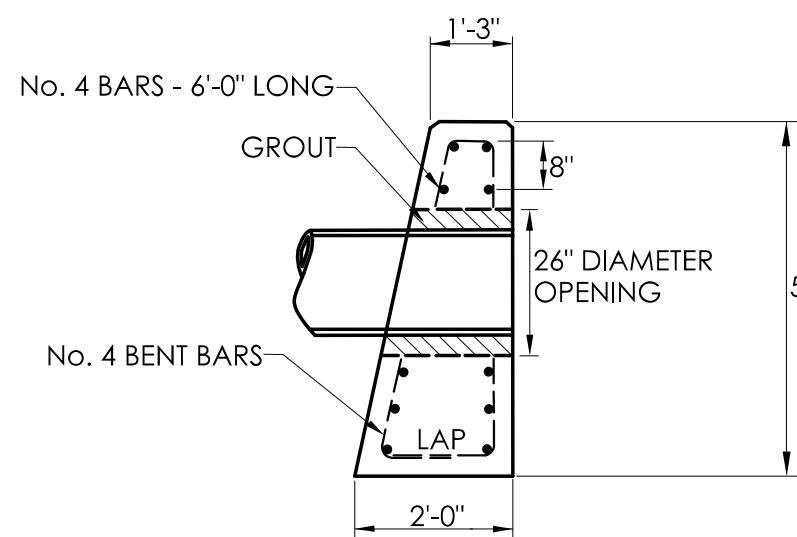
FRONT ELEVATION
(FOR 15" RCP)



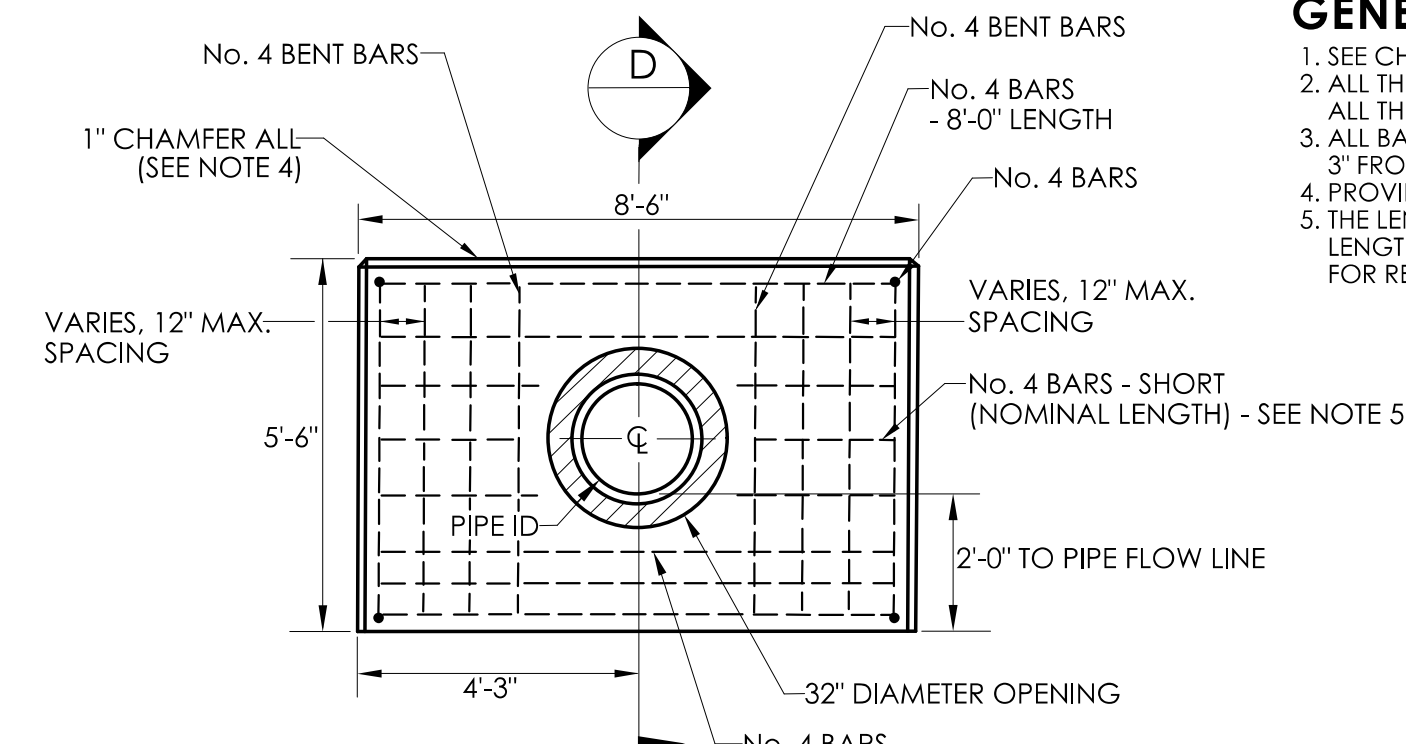
SECTION B
(FOR 15" RCP)



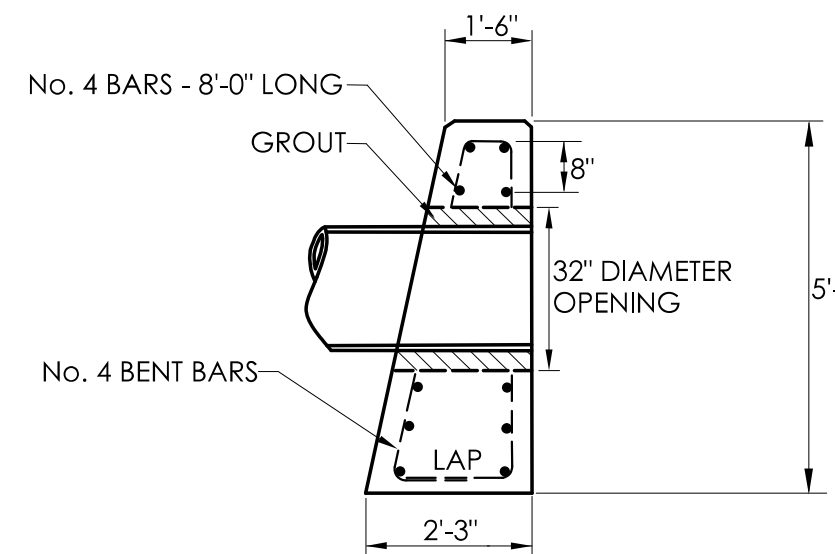
FRONT ELEVATION
(FOR 18" RCP)



SECTION C
(FOR 18" RCP)

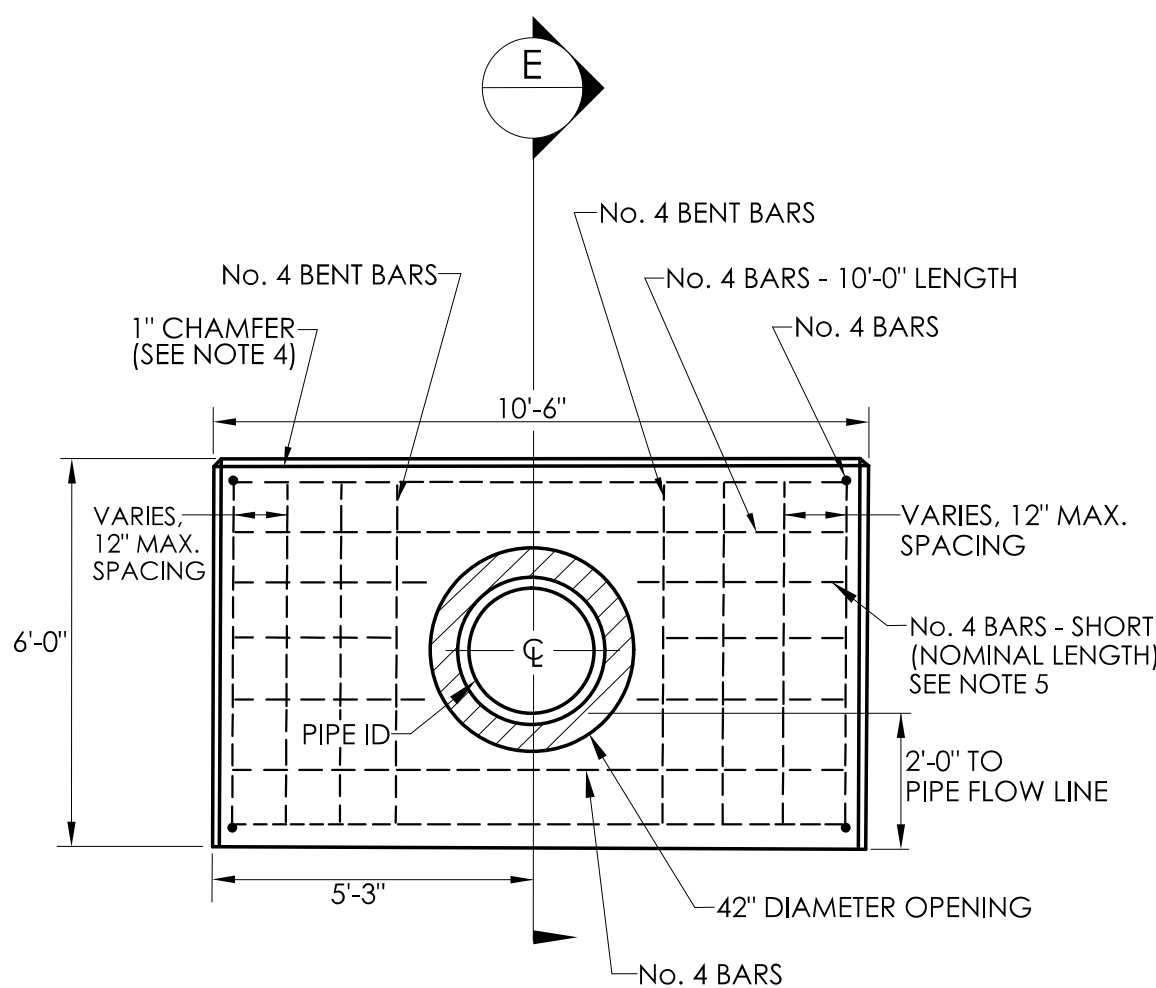


FRONT ELEVATION
(FOR 24" RCP)

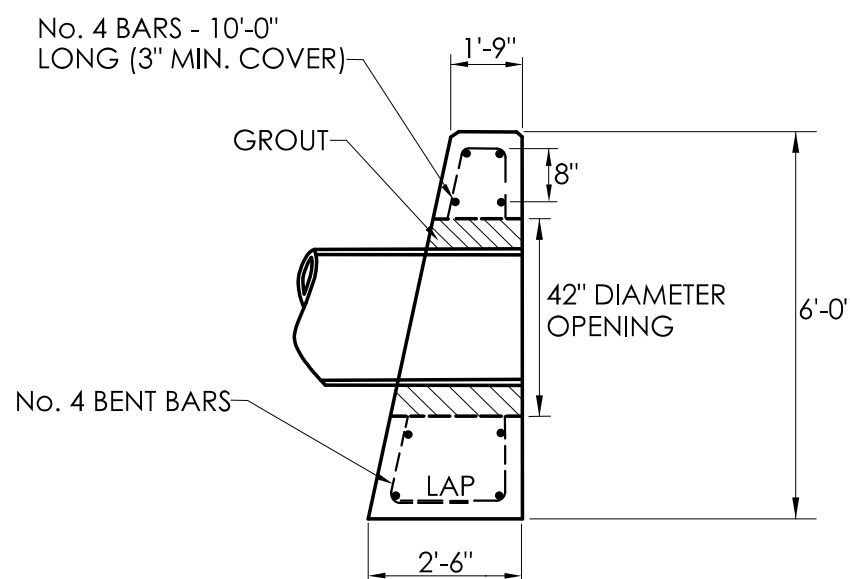


SECTION D
(FOR 24" RCP)

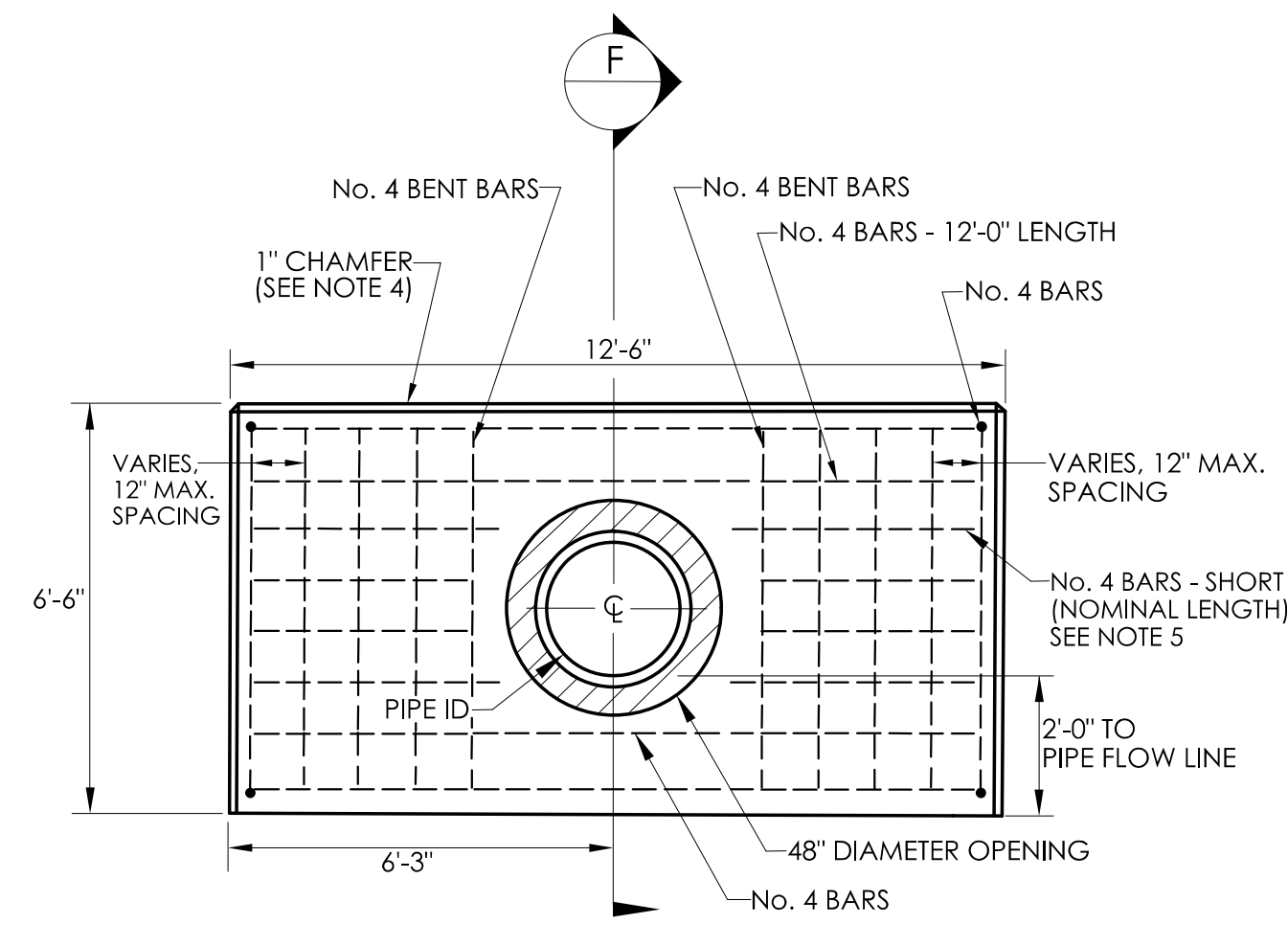
- GENERAL NOTES:**
- SEE CHARTS ON HW-505_01a FOR REINFORCING BARS.
 - ALL THE HORIZONTAL BARS SHOWN ARE NO. 4 BARS AND ALL THE VERTICAL BARS SHOWN ARE NO. 4 BENT BARS.
 - ALL BARS SHALL HAVE A 3" MIN. COVER AND ALSO STOP 3" FROM THE PIPE OPENING AND HAVE 12" MAX. SPACING.
 - PROVIDE A 1" CHAMFER ON ALL EXPOSED EDGES OR AS SHOWN.
 - THE LENGTH AND QUANTITY OF NO. 4 BARS - SHORT (NOMINAL LENGTH) VARY FOR EACH WALL SIZE. THESE BARS ARE SHOWN FOR REFERENCE ONLY.



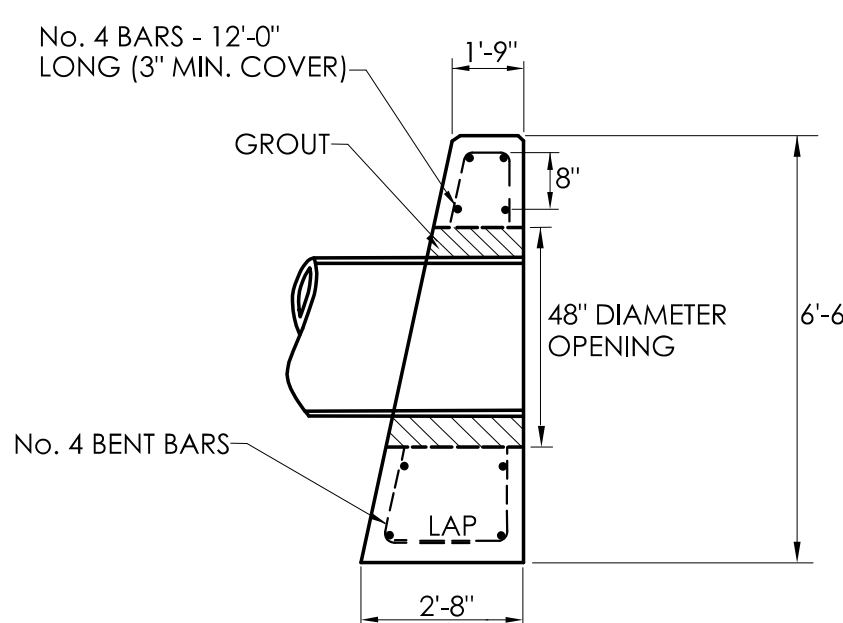
FRONT ELEVATION
(FOR 30" RCP)



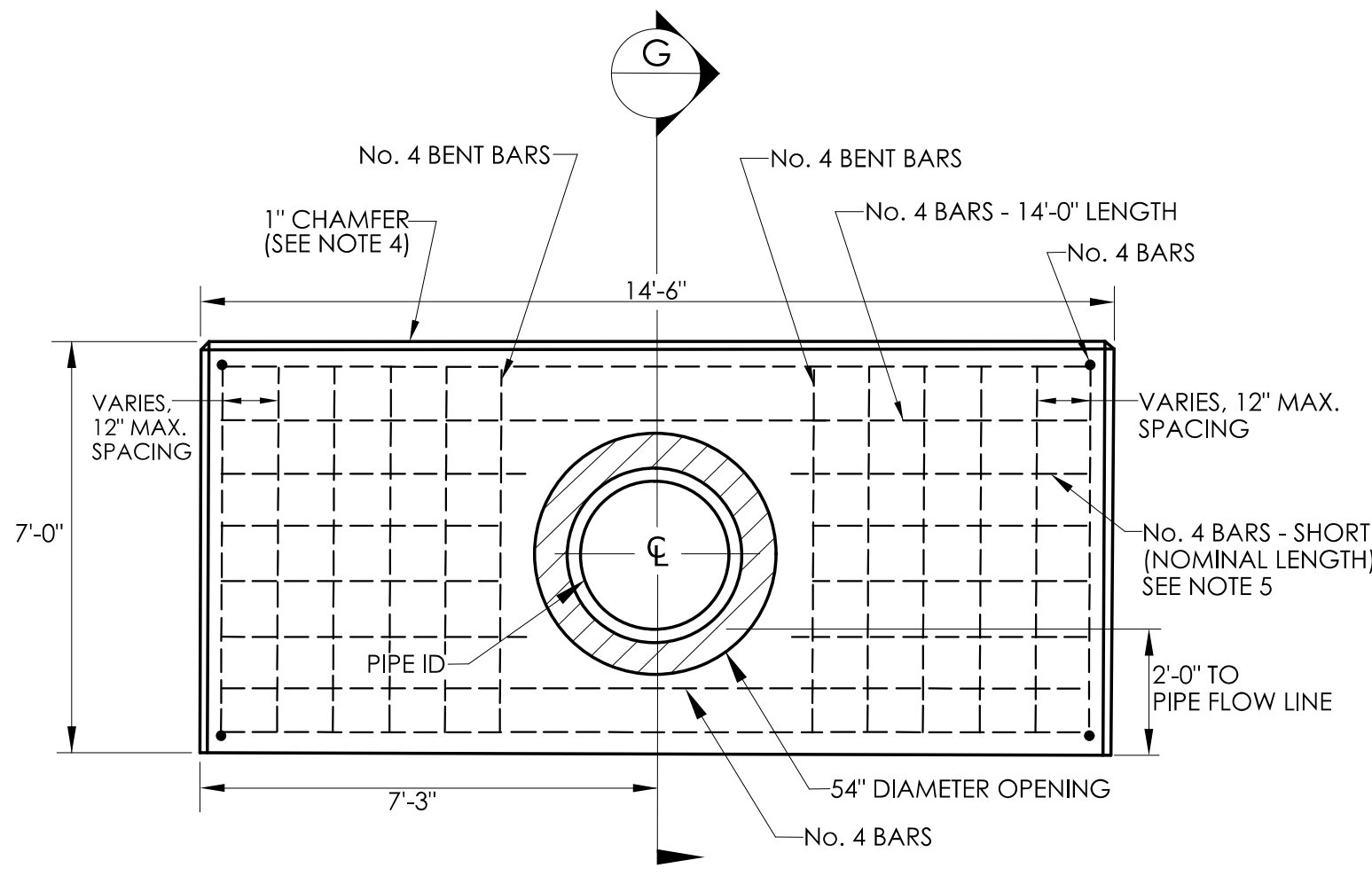
SECTION E
(FOR 30" RCP)



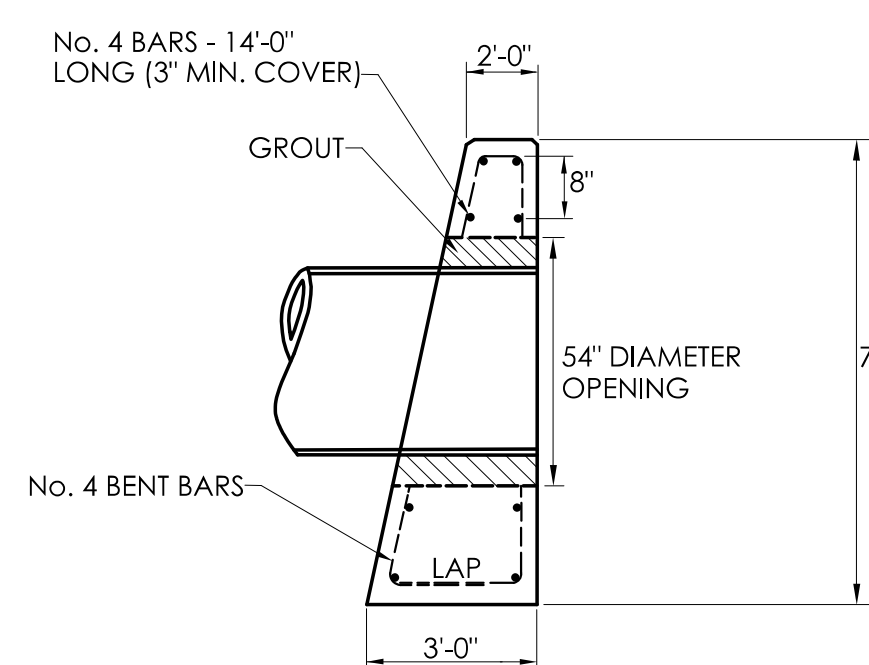
FRONT ELEVATION
(FOR 36" RCP)



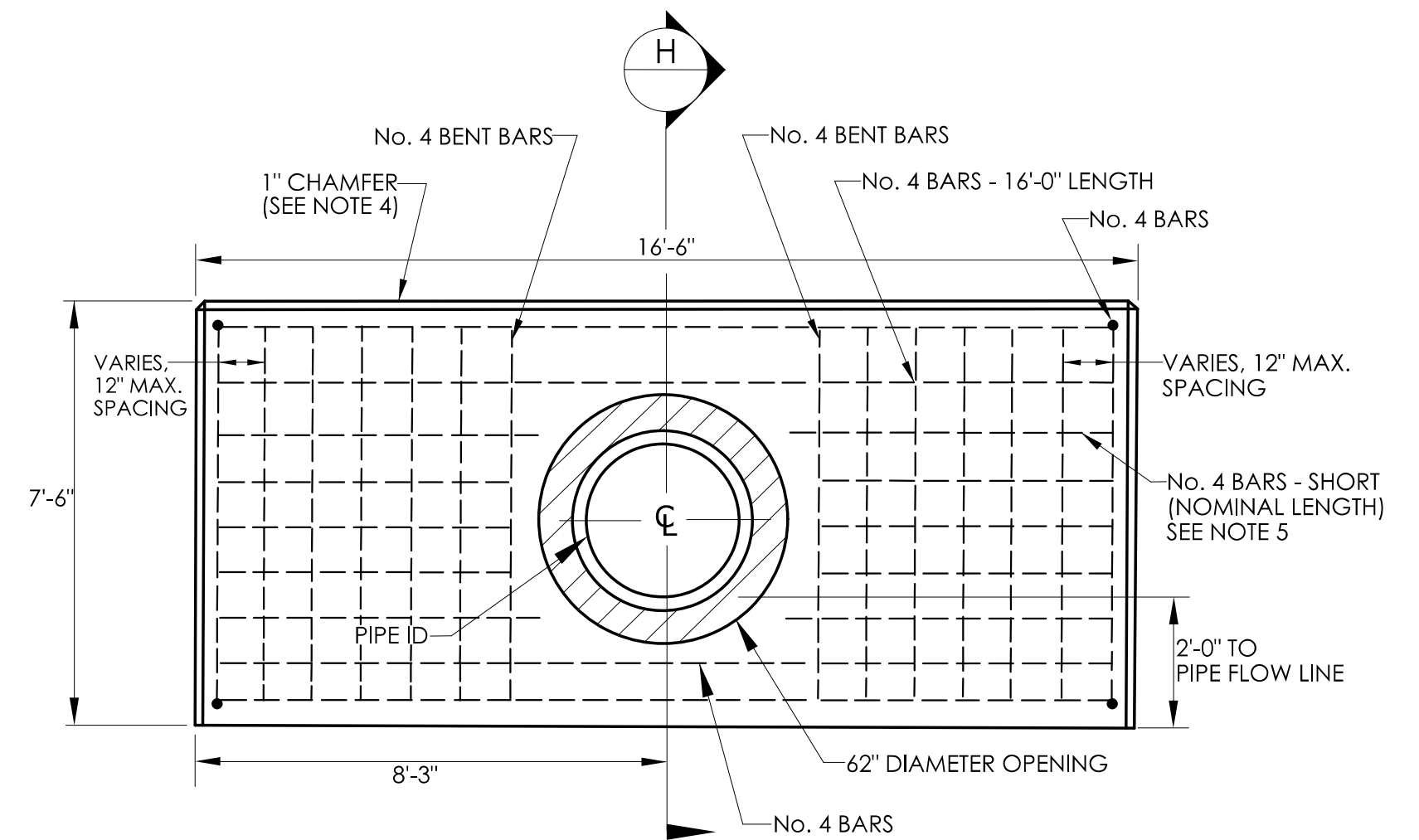
SECTION F
(FOR 36" RCP)



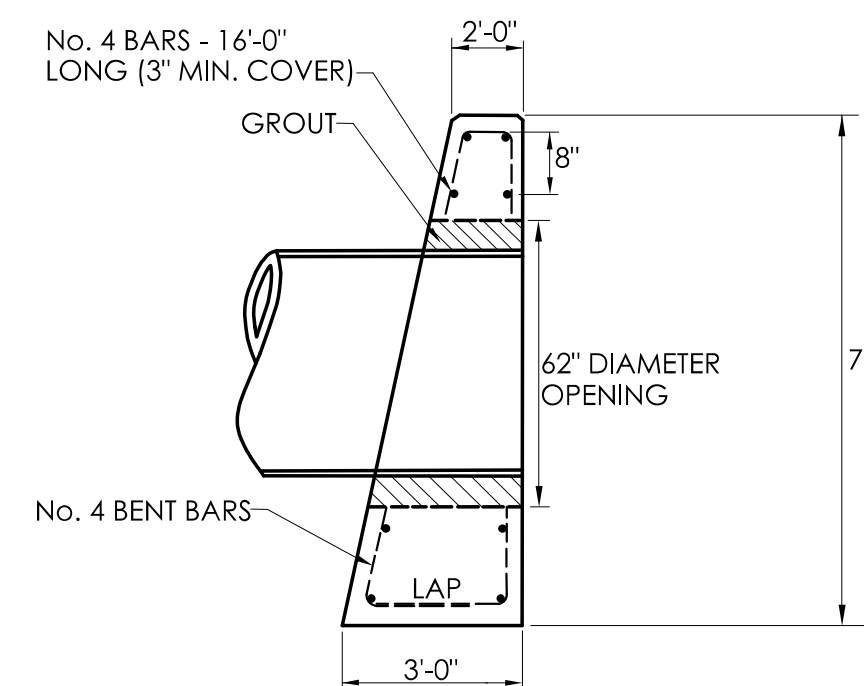
FRONT ELEVATION
(FOR 42" RCP)



SECTION G
(FOR 42" RCP)



FRONT ELEVATION
(FOR 48" RCP)



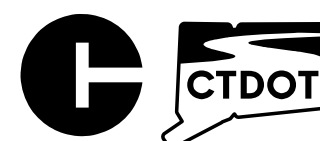
SECTION H
(FOR 48" RCP)

NOT TO SCALE

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

SUBMITTED BY:
Digitally signed by
Leo Fontaine, P.E.
Date: 2024.12.16
10:11:02-0500

APPROVED BY:
Digitally signed by
Michael N.
Calabrese, P.E.
Date: 2025.01.21
12:31:55-0500



CONNECTICUT
DEPARTMENT OF
TRANSPORTATION

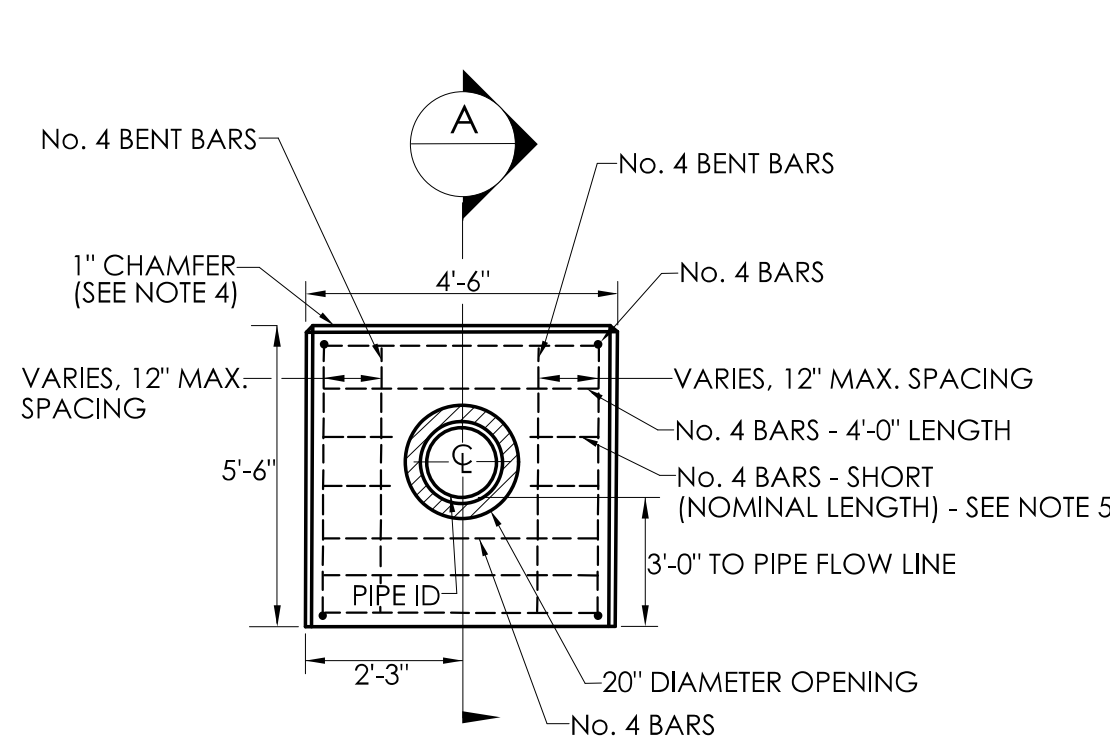
CTDOT
STANDARD SHEET

STANDARD SHEET TITLE:

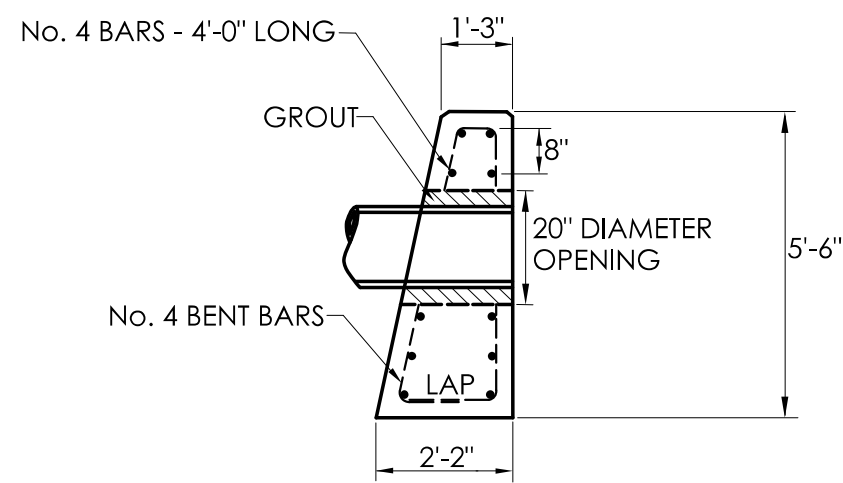
STEEL REINFORCING FOR STRAIGHT ENDWALLS
(FOR 2'-0" DIFFERENCE FROM BASE TO FLOW LINE)

STANDARD SHEET NO.:

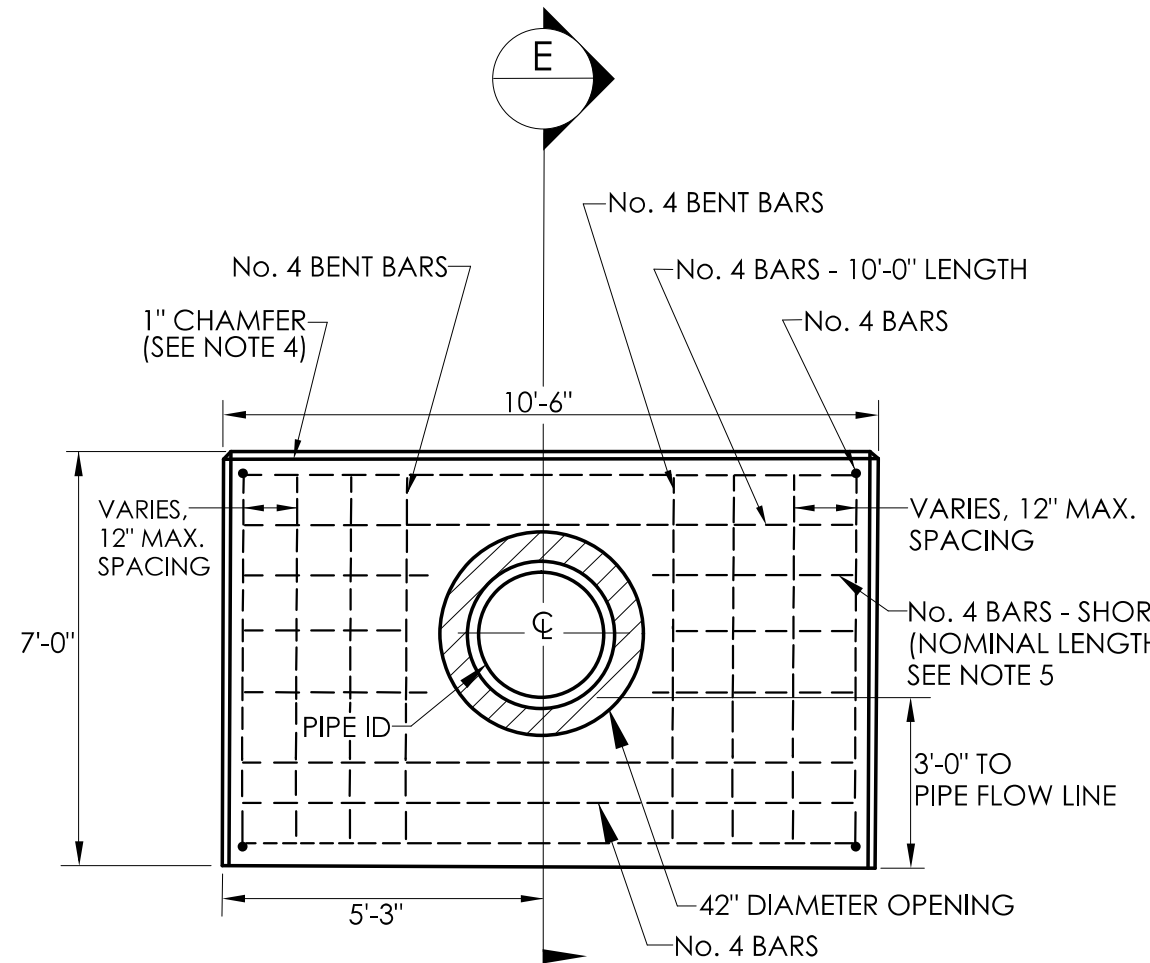
HW-505_01b



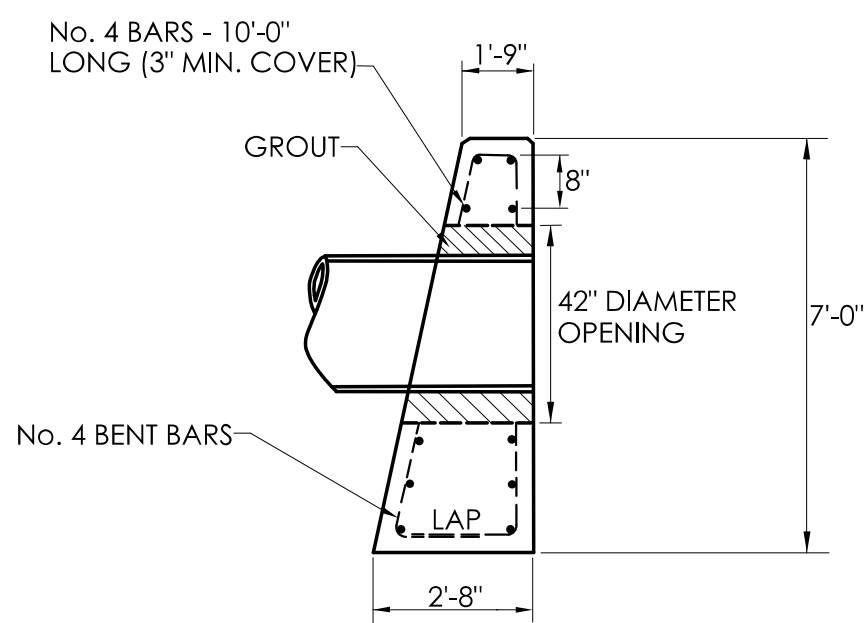
**FRONT ELEVATION
(FOR 12" RCP)**



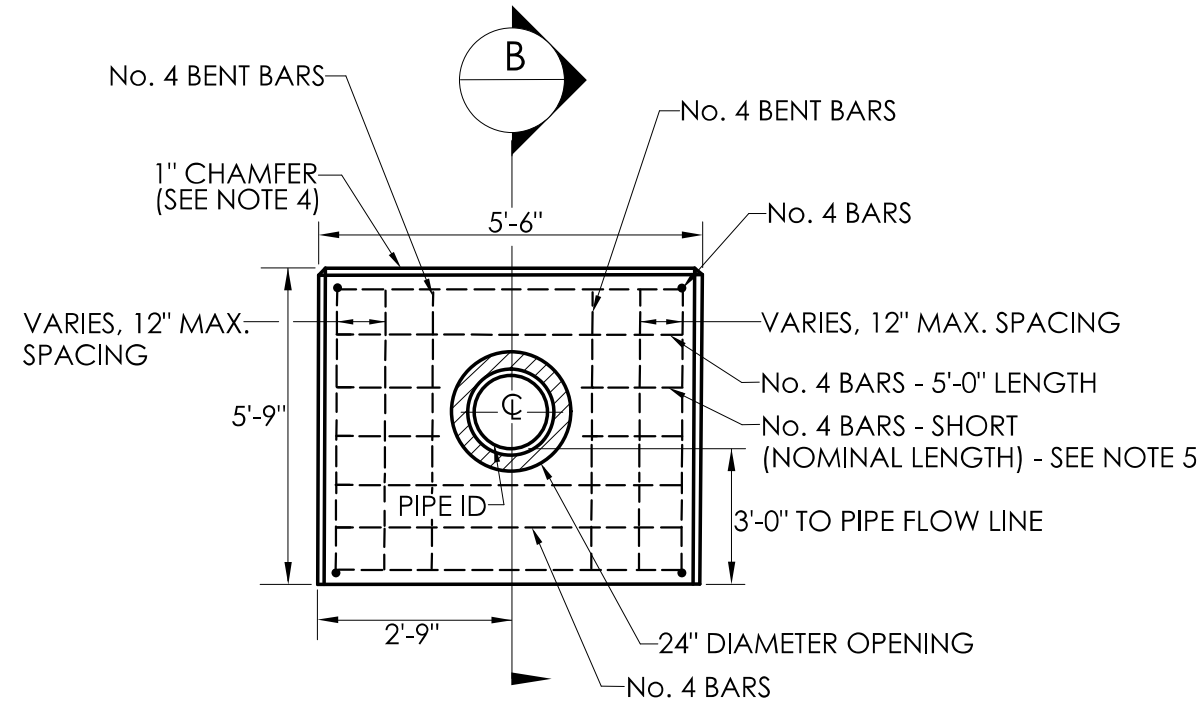
**SECTION A
(FOR 12" RCP)**



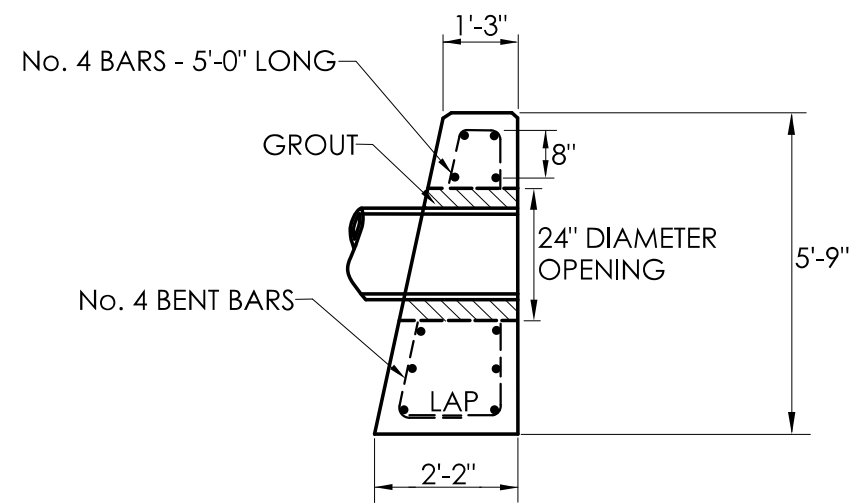
**FRONT ELEVATION
(FOR 30" RCP)**



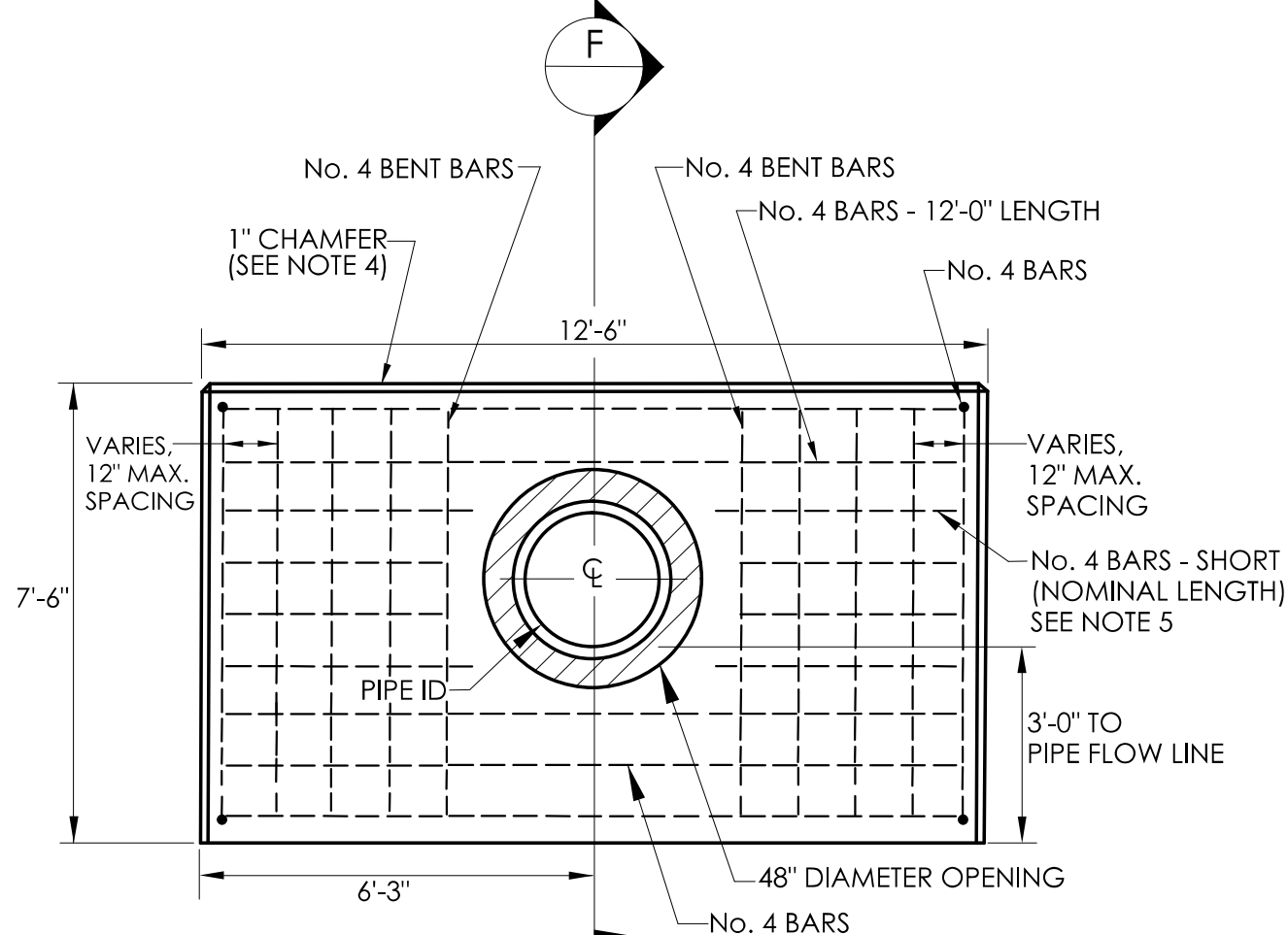
**SECTION E
(FOR 30" RCP)**



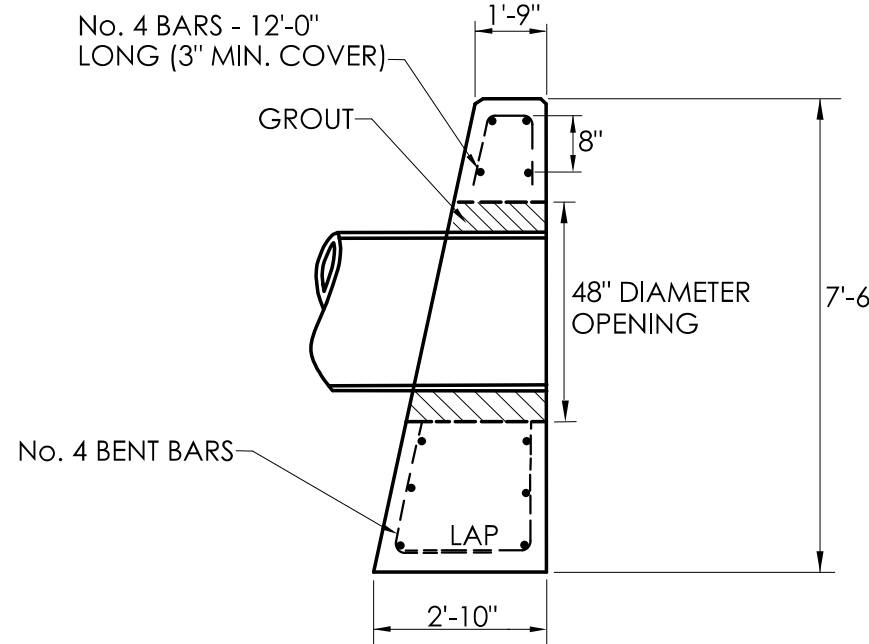
**FRONT ELEVATION
(FOR 15" RCP)**



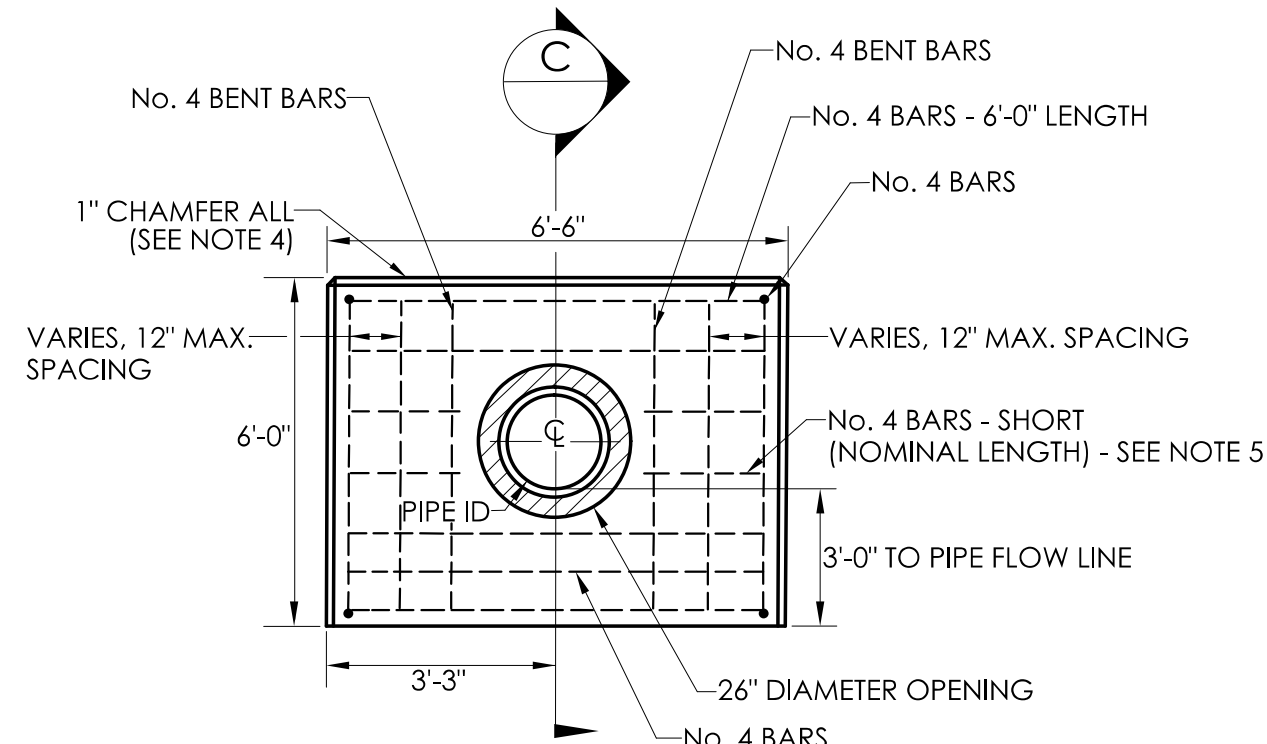
**SECTION B
(FOR 15" RCP)**



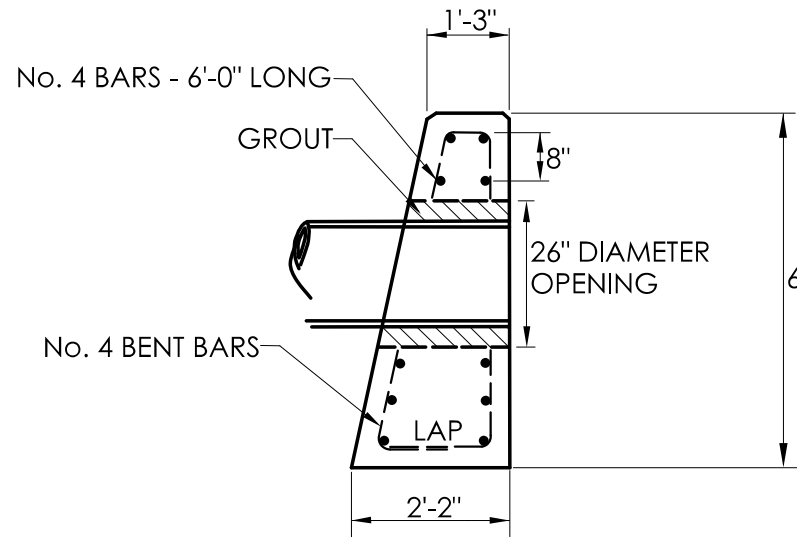
**FRONT ELEVATION
(FOR 36" RCP)**



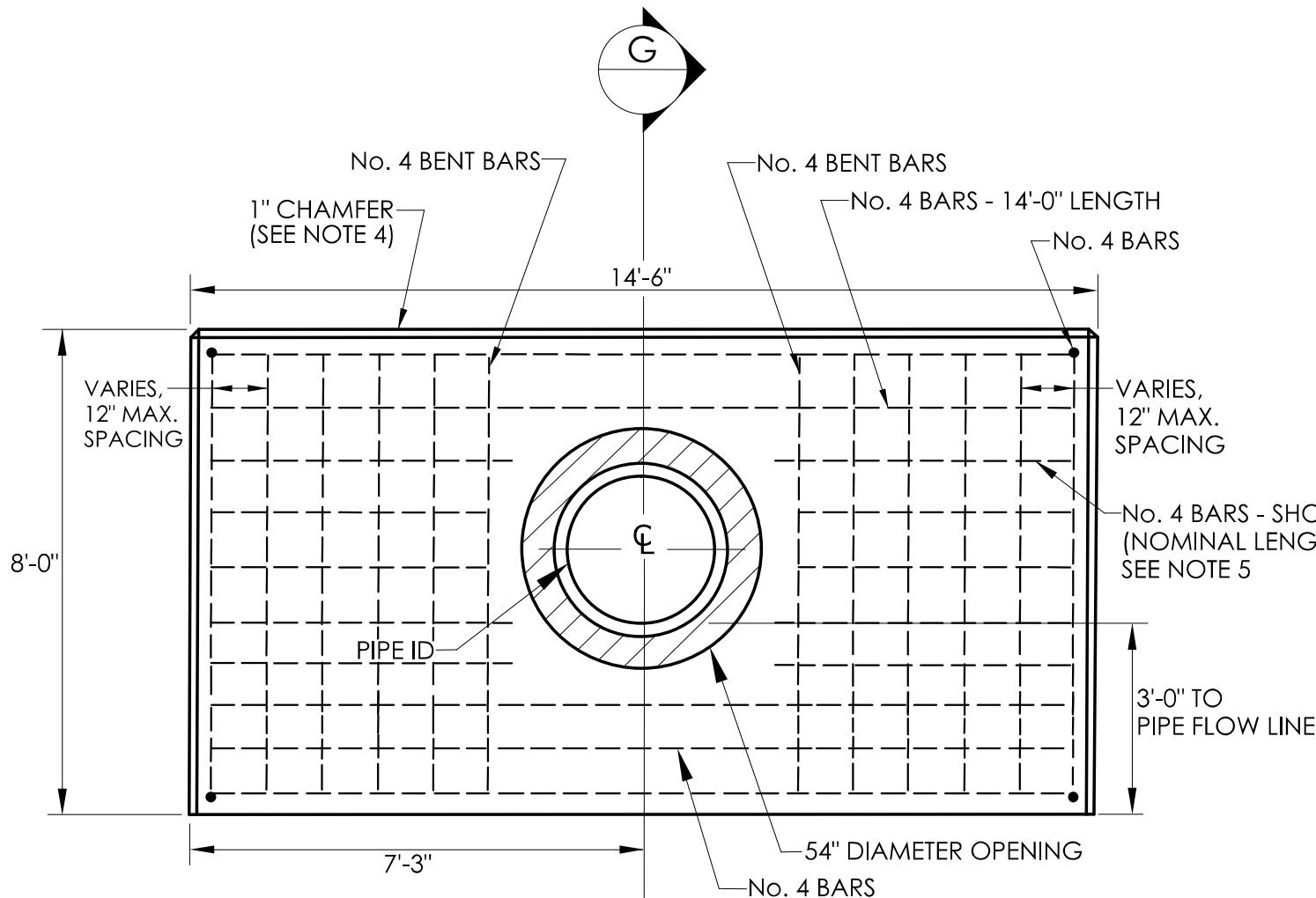
**SECTION F
(FOR 36" RCP)**



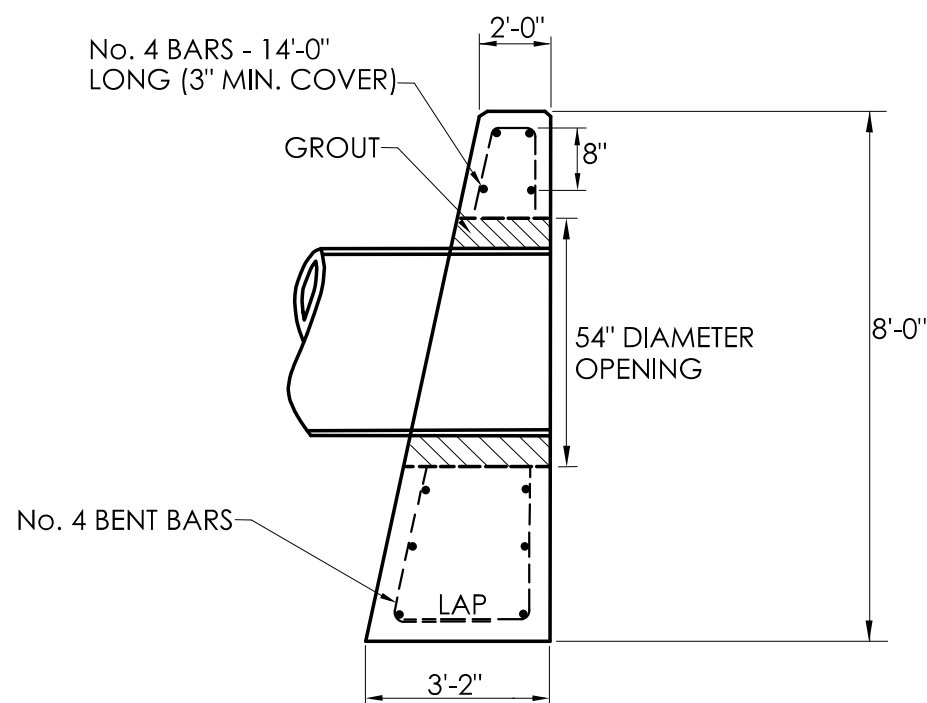
**FRONT ELEVATION
(FOR 18" RCP)**



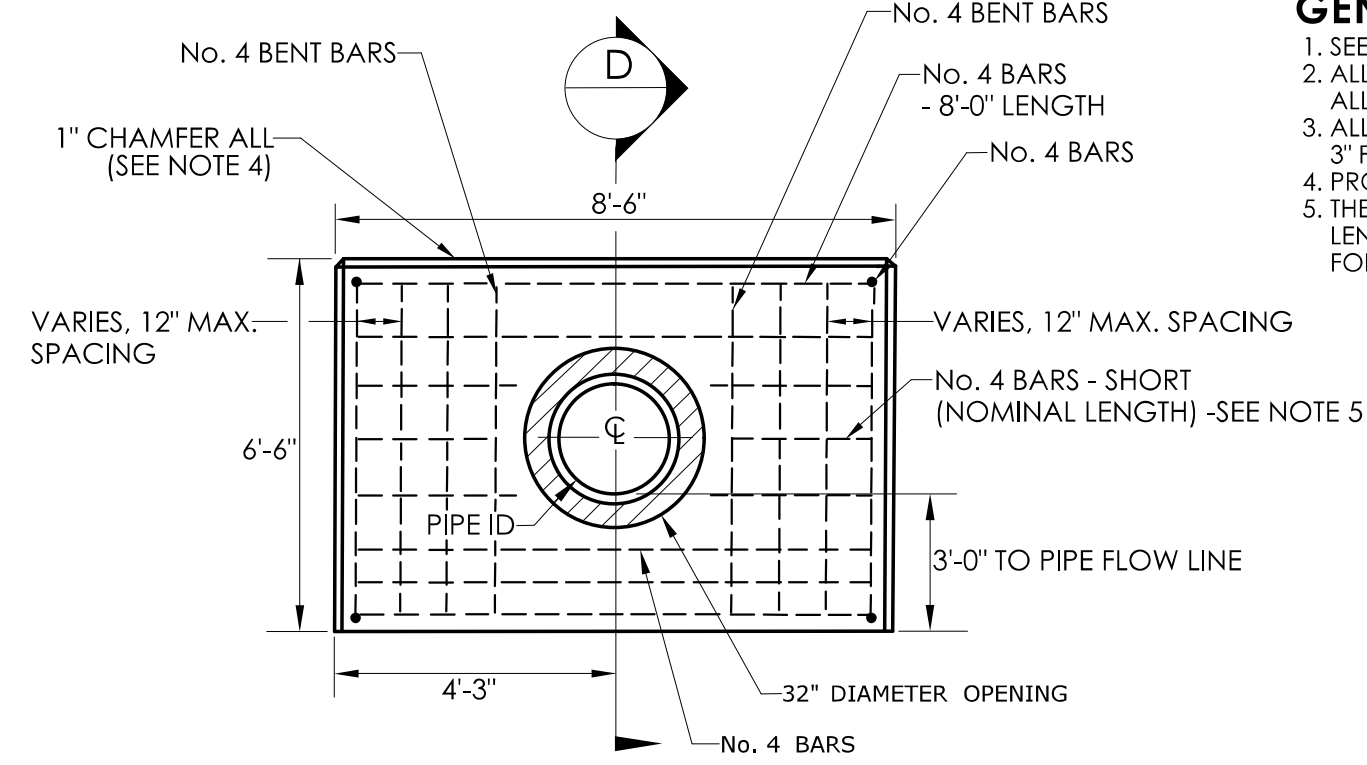
**SECTION C
(FOR 18" RCP)**



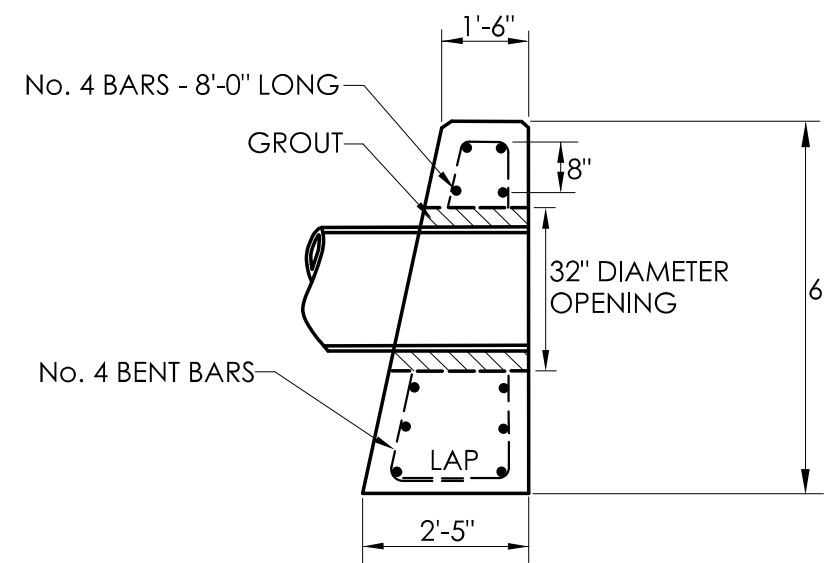
**FRONT ELEVATION
(FOR 42" RCP)**



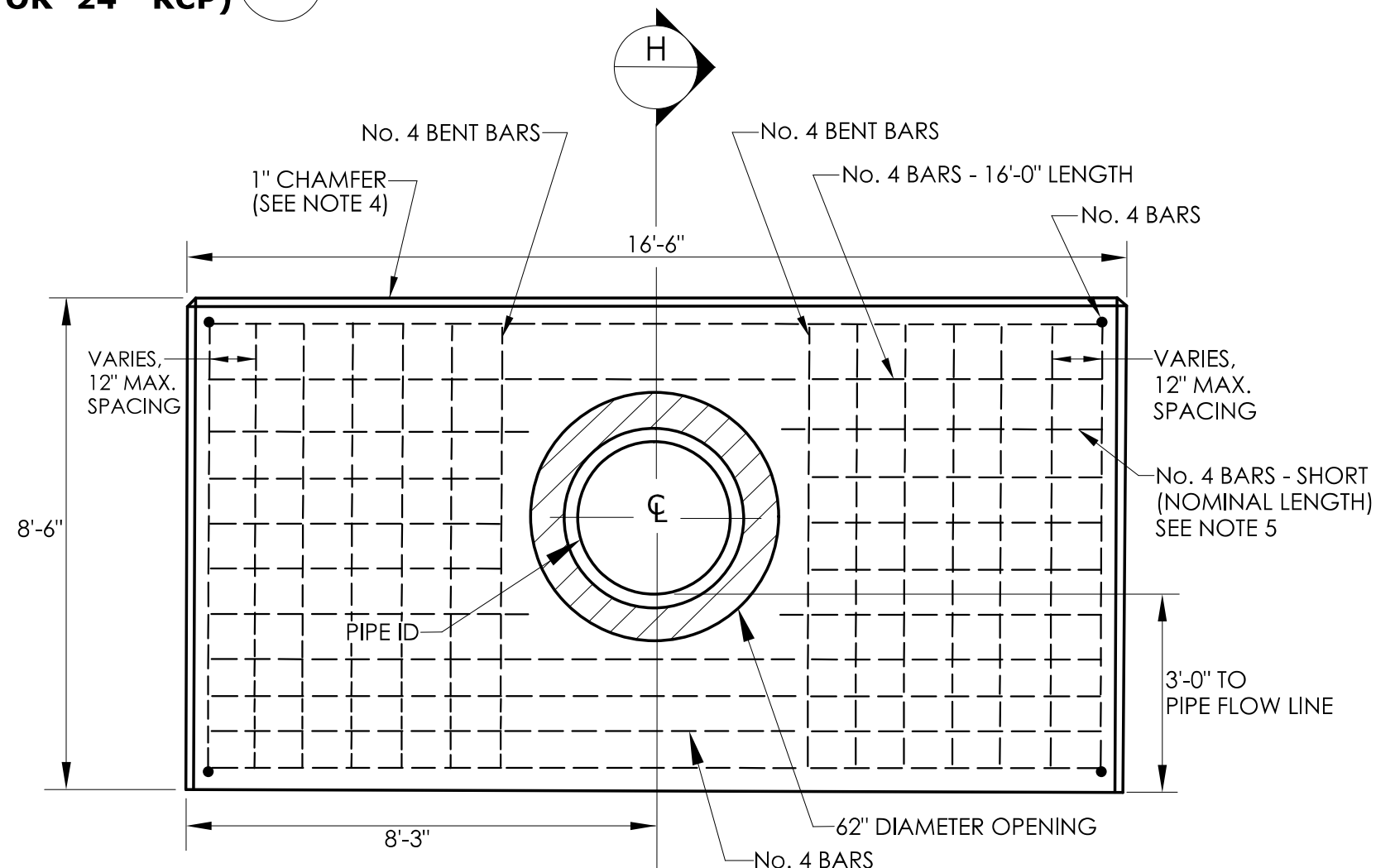
**SECTION G
(FOR 42" RCP)**



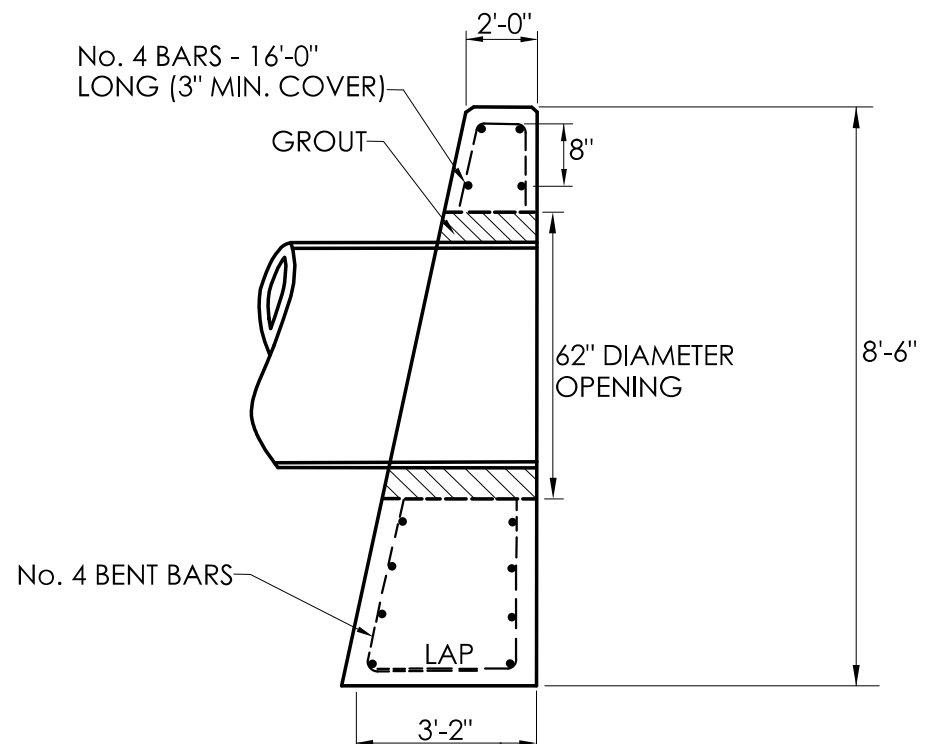
**FRONT ELEVATION
(FOR 24" RCP)**



**SECTION D
(FOR 24" RCP)**



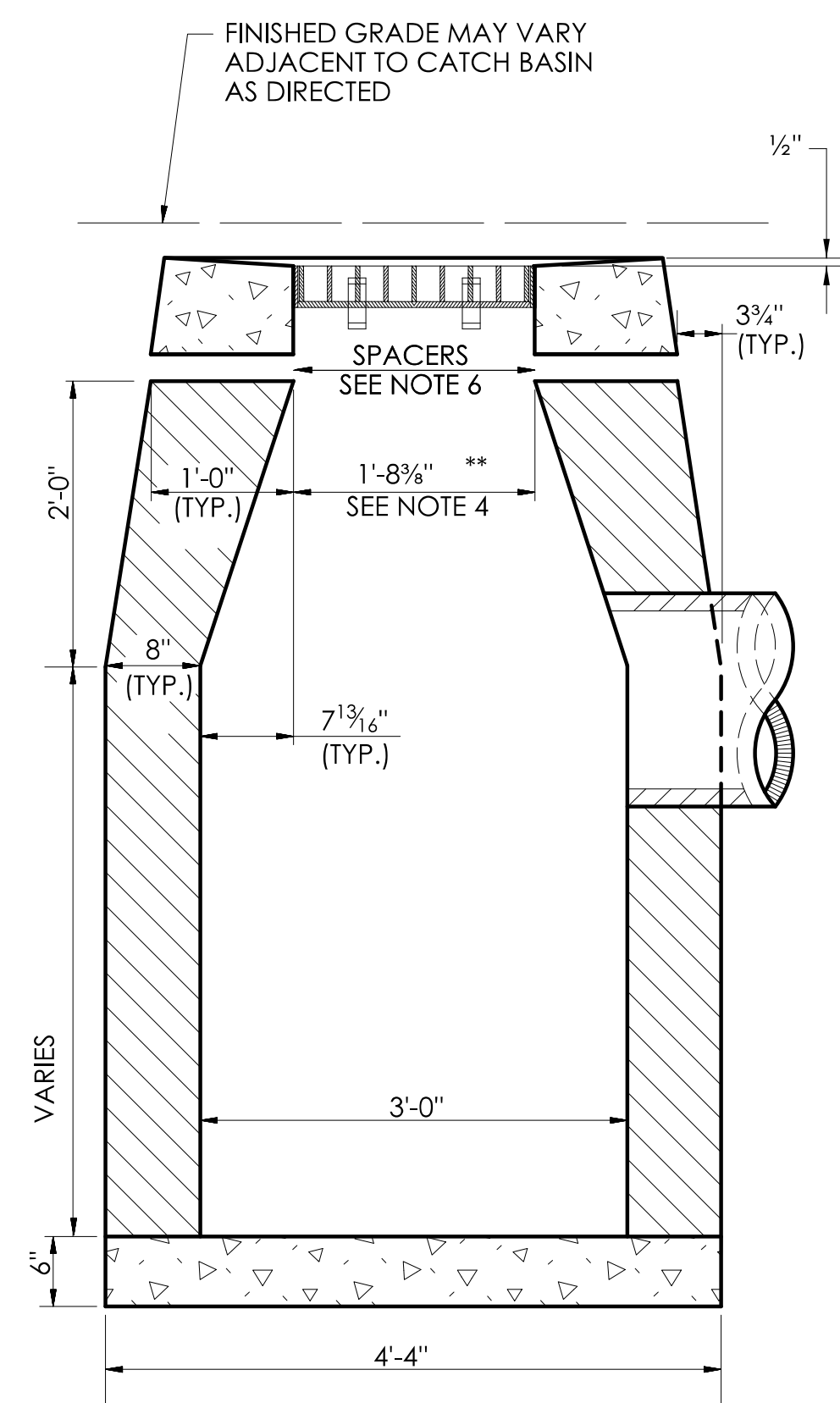
**FRONT ELEVATION
(FOR 48" RCP)**



**SECTION H
(FOR 48" RCP)**

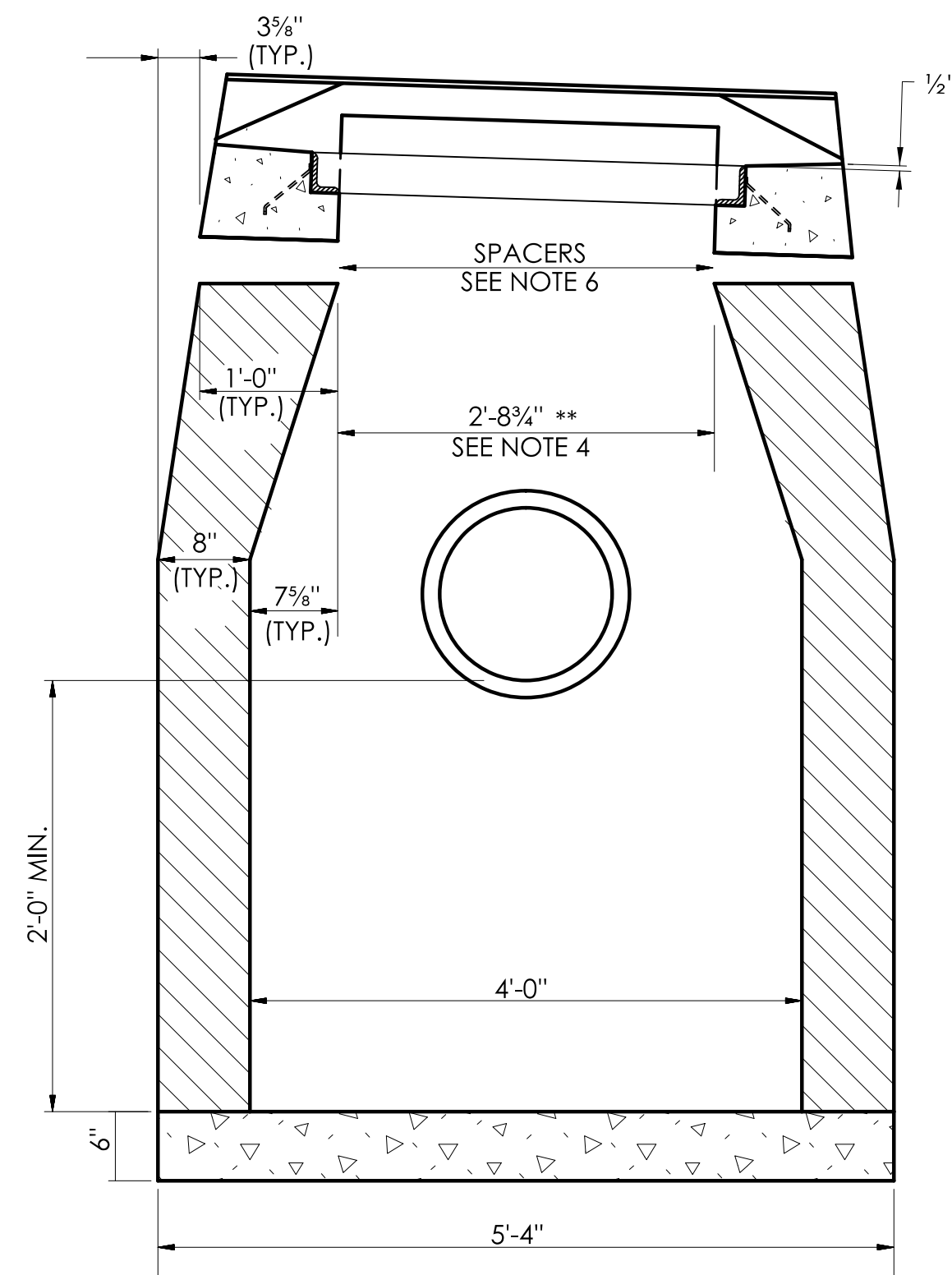
GENERAL NOTES:

1. SEE CHARTS ON HW-505_01a FOR REINFORCING BARS.
2. ALL THE HORIZONTAL BARS SHOWN ARE NO. 4 BARS AND ALL THE VERTICAL BARS SHOWN ARE NO. 4 BENT BARS.
3. ALL BARS SHALL HAVE A 3" MIN. COVER AND ALSO STOP 3" FROM THE PIPE OPENING AND HAVE 12" MAX. SPACING.
4. PROVIDE A 1" CHAMFER ON ALL EXPOSED EDGES OR AS SHOWN.
5. THE LENGTH AND QUANTITY OF NO. 4 BARS - SHORT (NOMINAL LENGTH) VARY FOR EACH WALL SIZE. THESE BARS ARE SHOWN FOR REFERENCE ONLY.



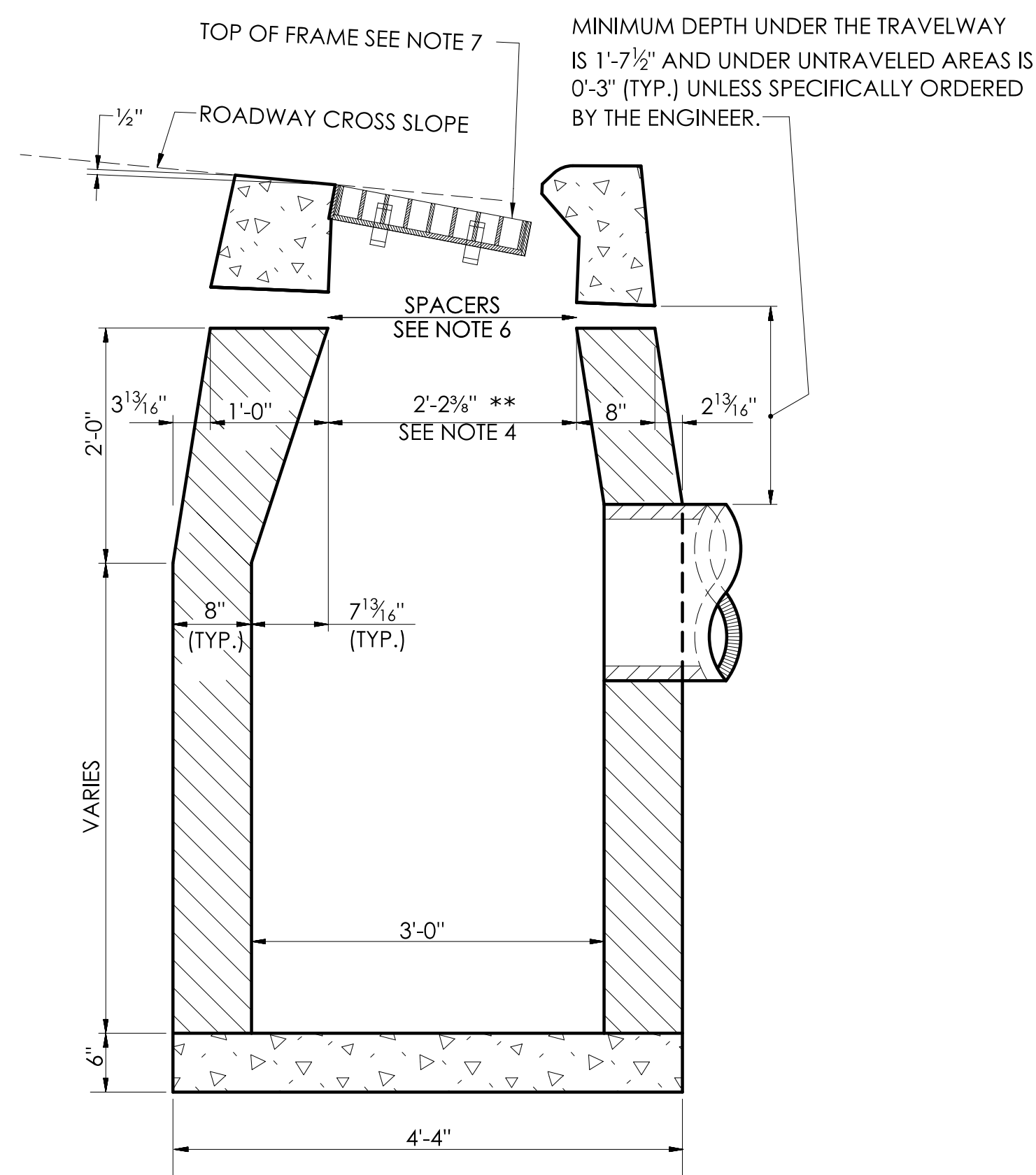
SECTION **B**

TYPE "C-L" CATCH BASIN



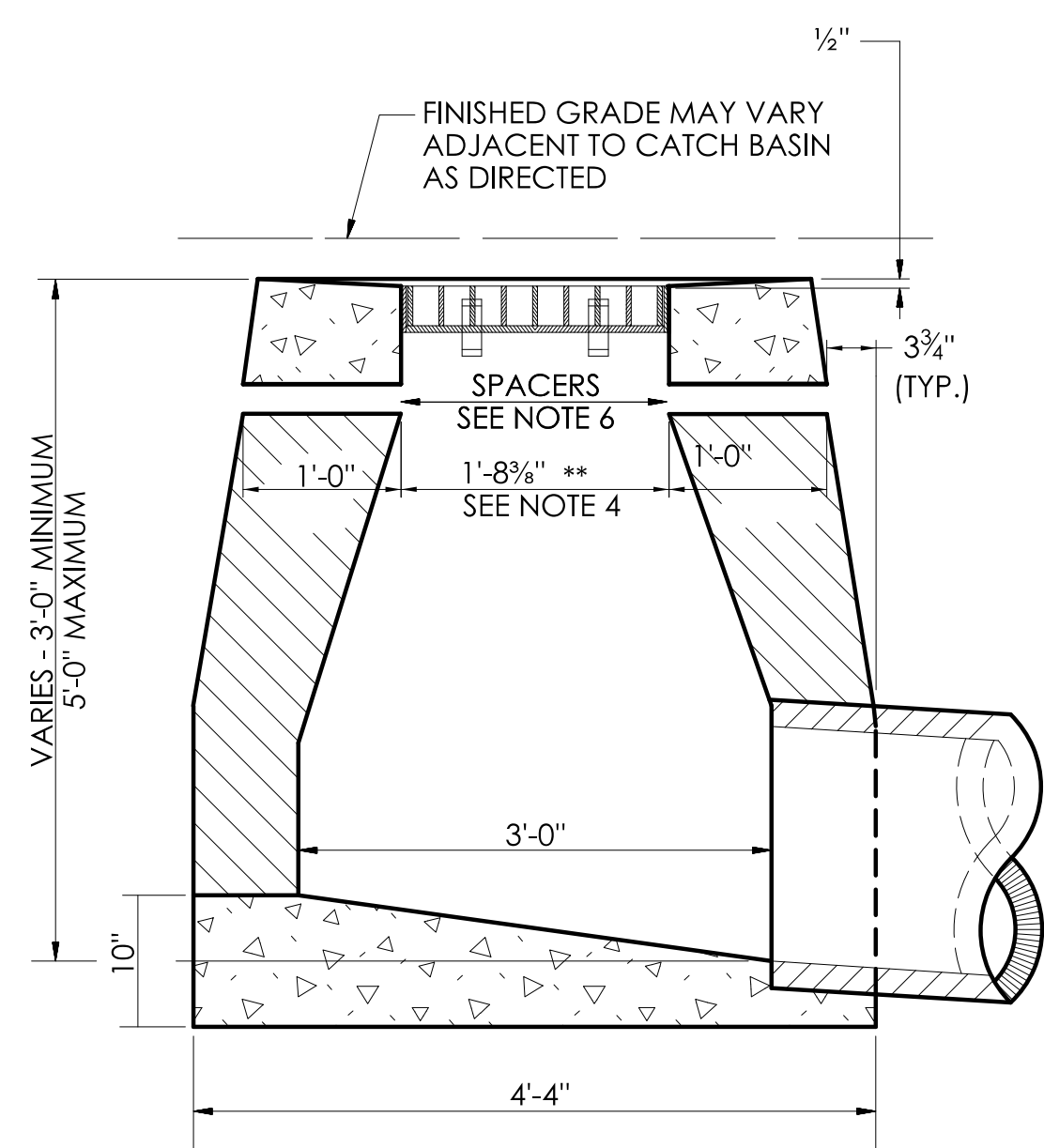
SECTION A

**TYPE "C" & "C-L" CATCH BASIN
(TYPE "C" TOP SHOWN)**



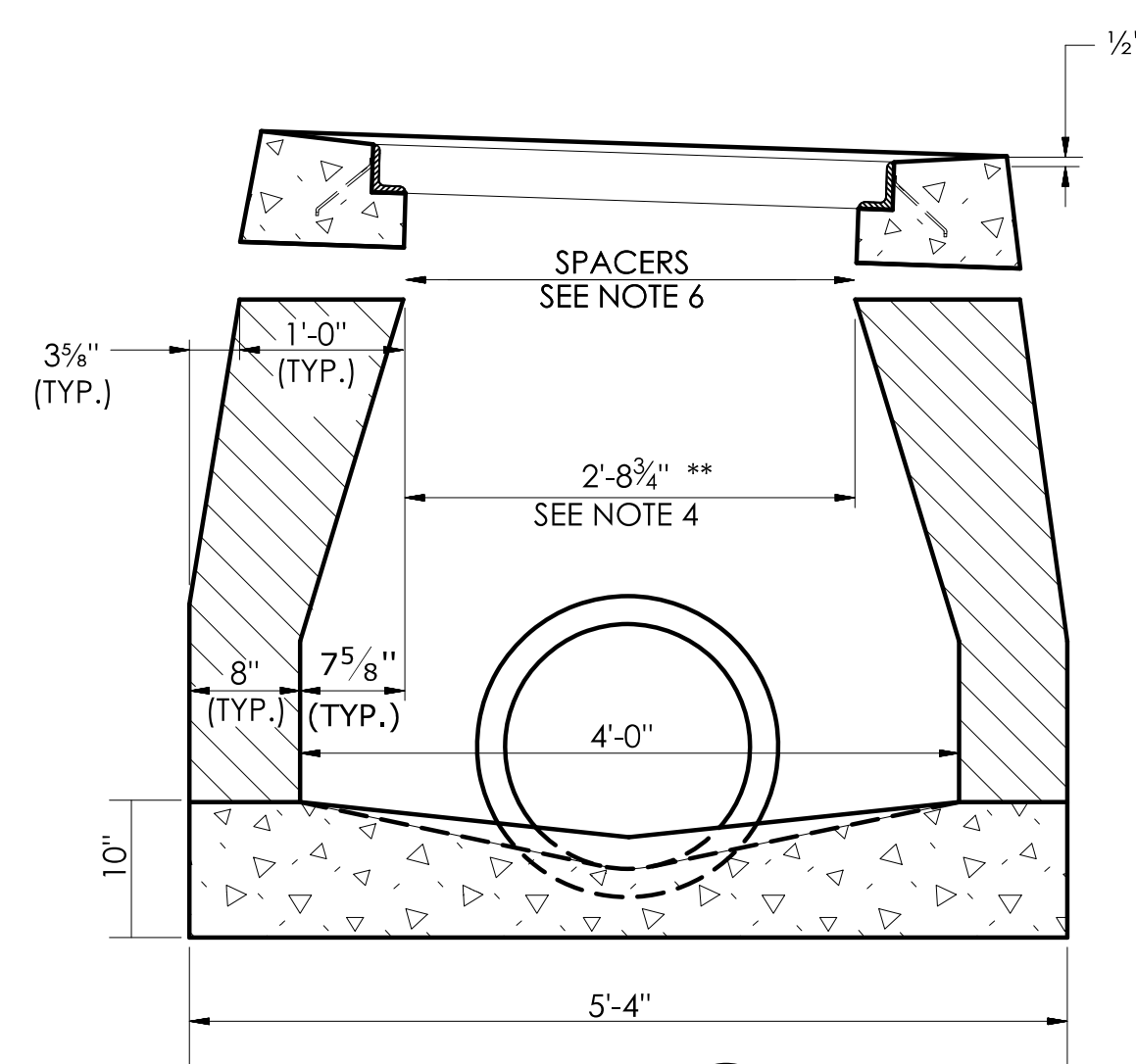
SECTION B

TYPE "C" CATCH BASIN



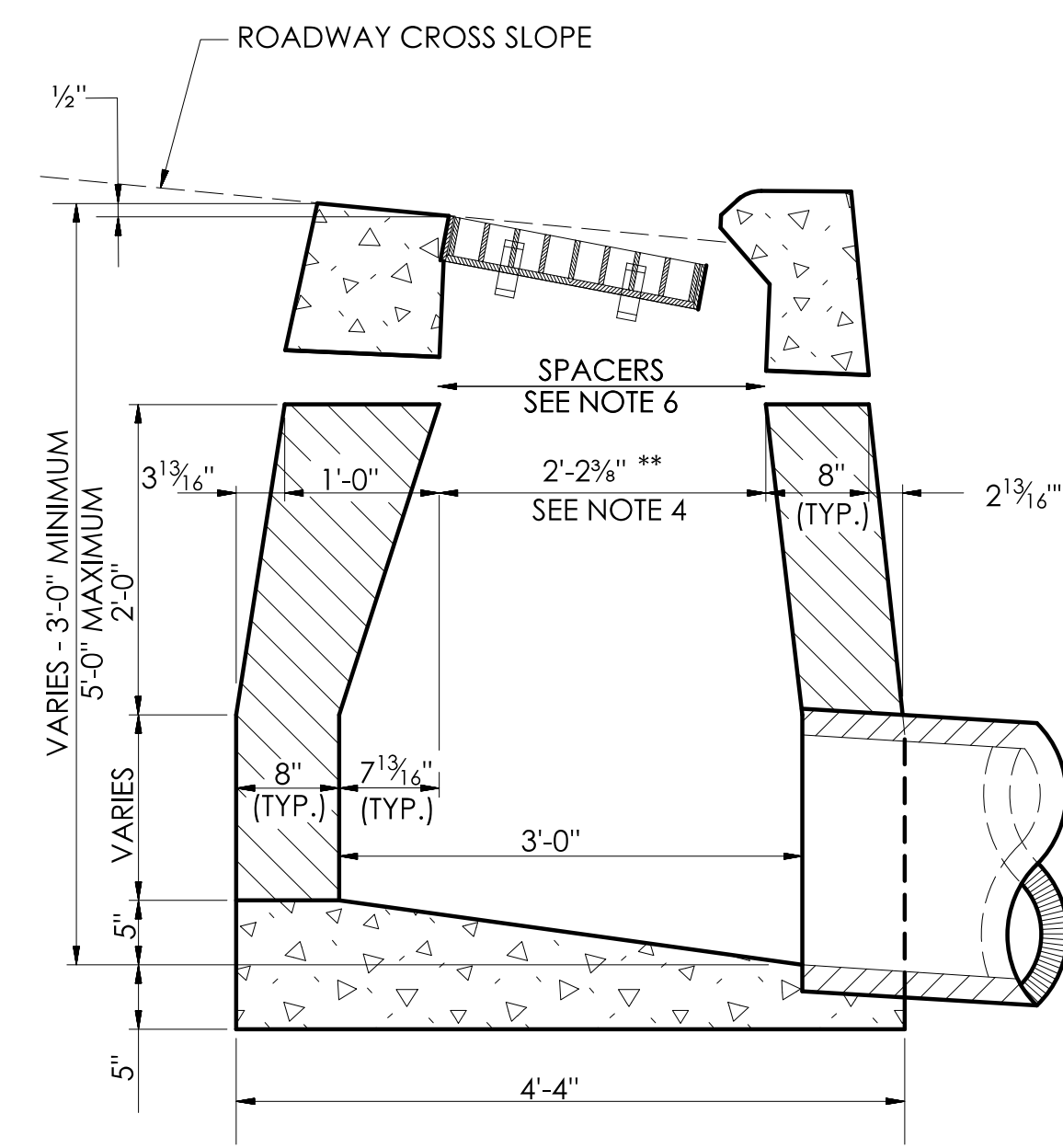
SECTION B

TYPE "C-L" DROP INLET



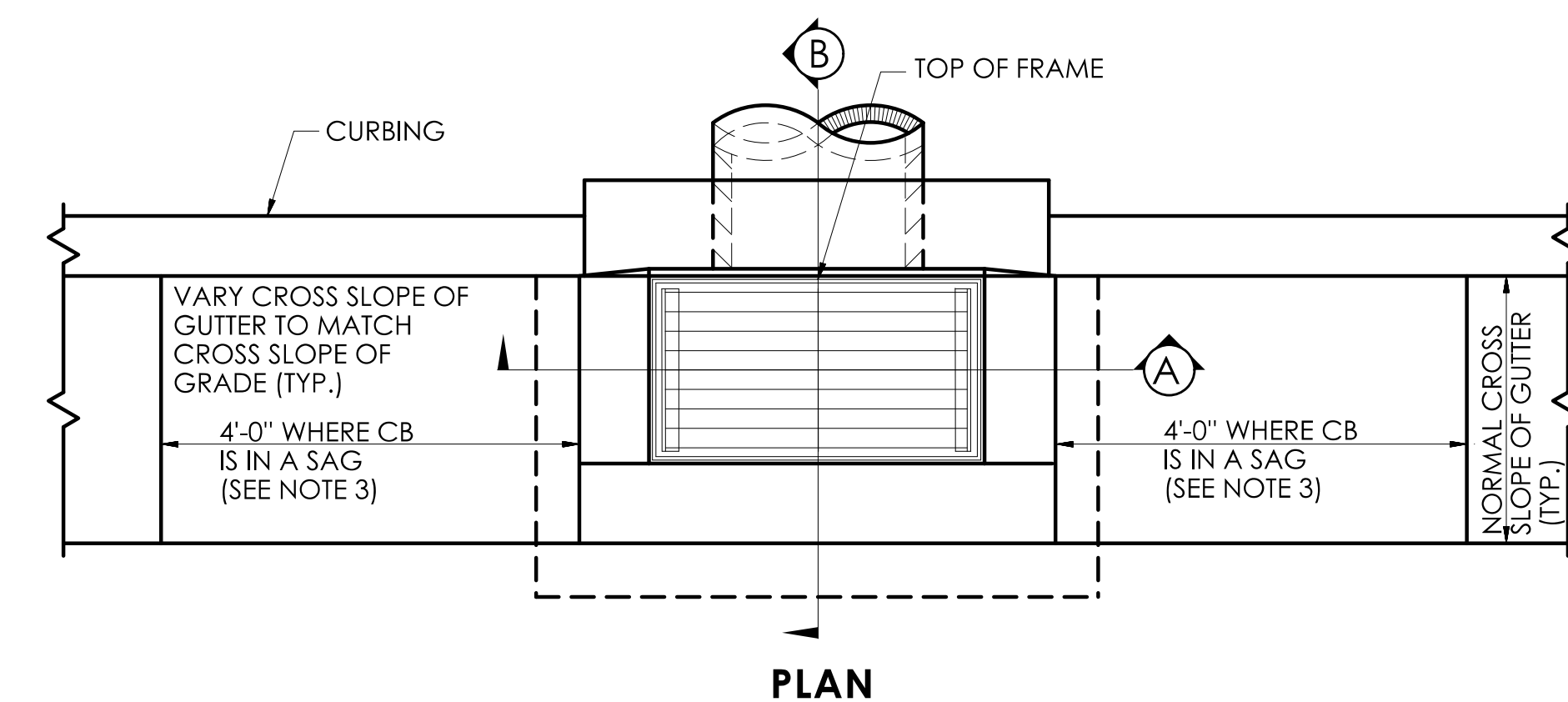
SECTION (A)

**TYPE "C" & "C-L" DROP INLET
(TYPE "C-L" TOP SHOWN)**

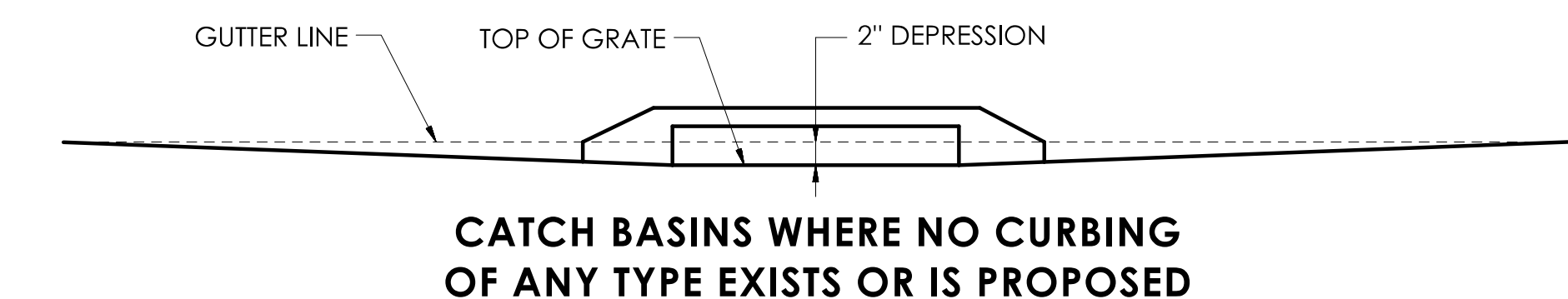


SECTION 

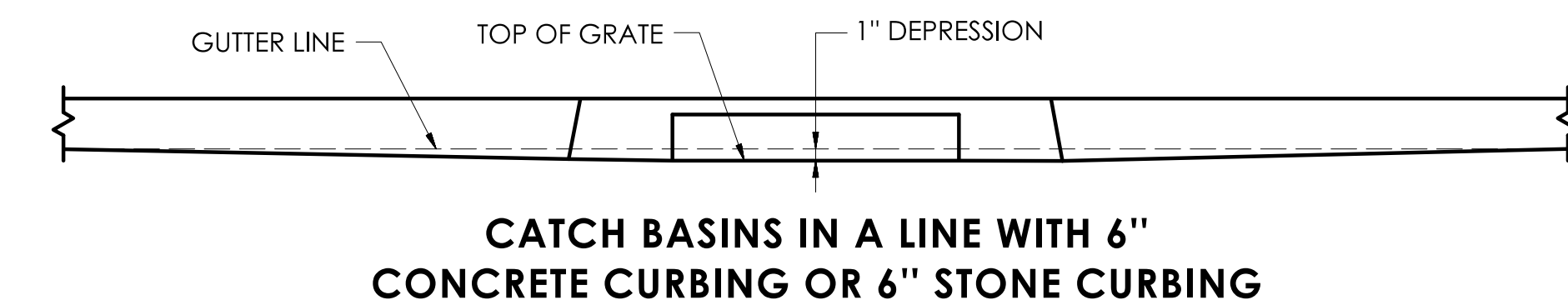
TYPE "C" DROP INLET



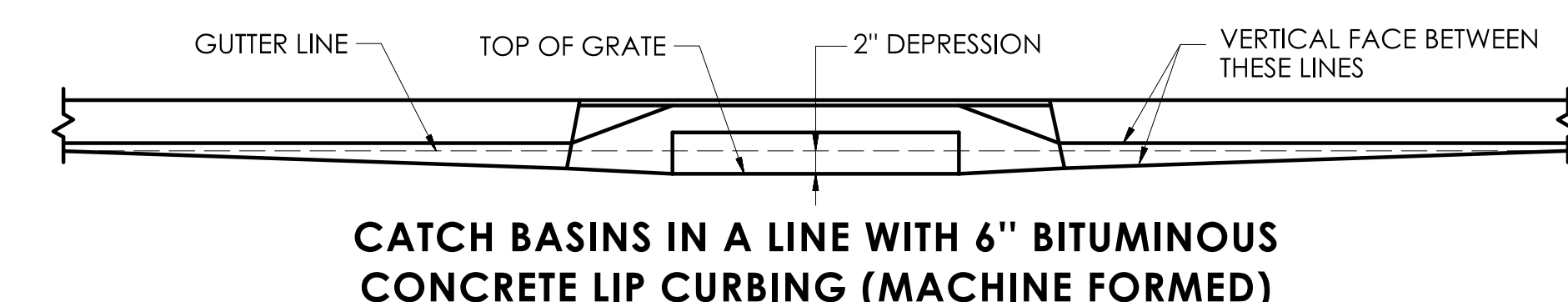
CATCH BASINS IN A LINE WITH 4" CONCRETE PARK CURBING OR 4" BITUMINOUS CONCRETE PARK CURBING



**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

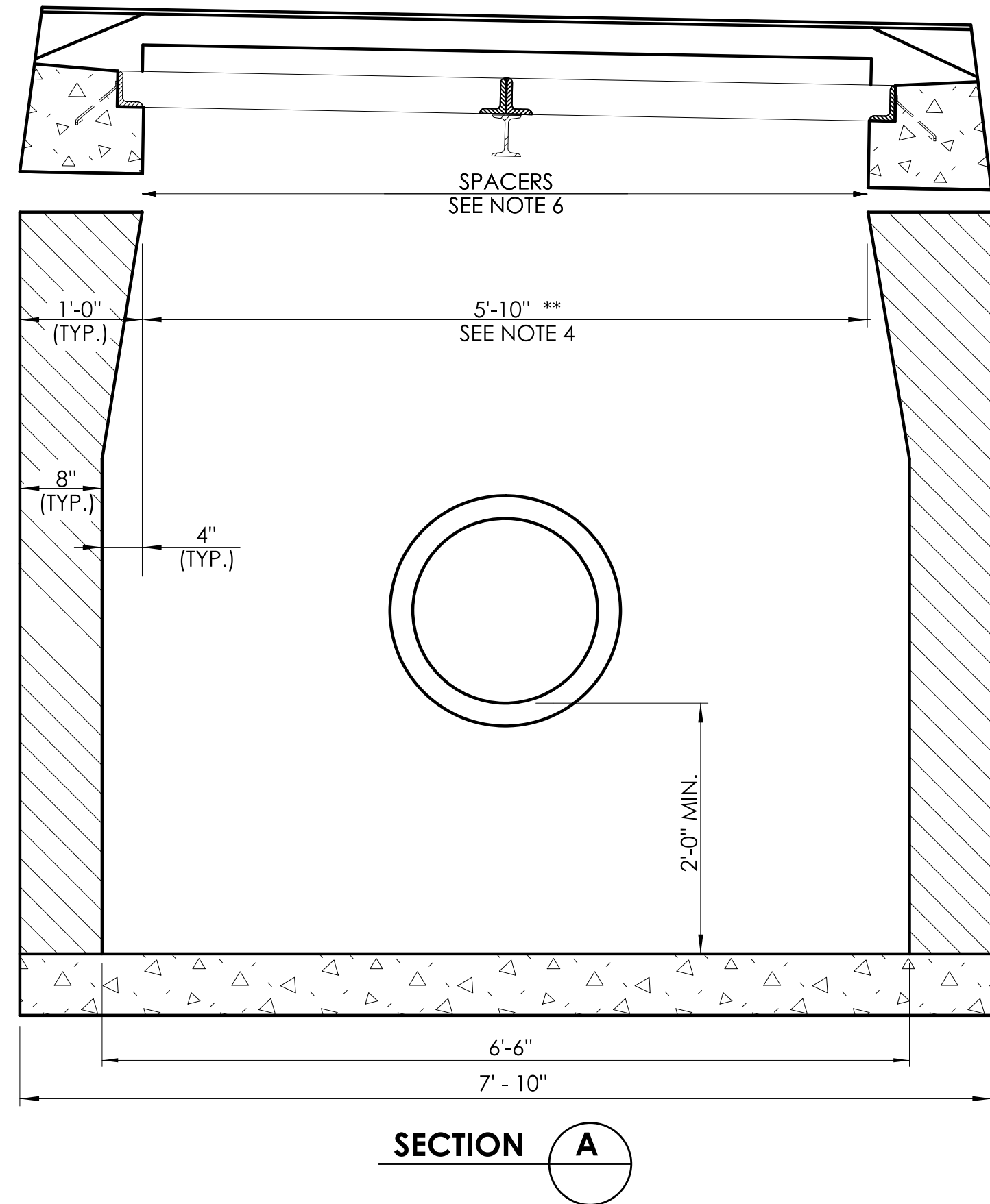
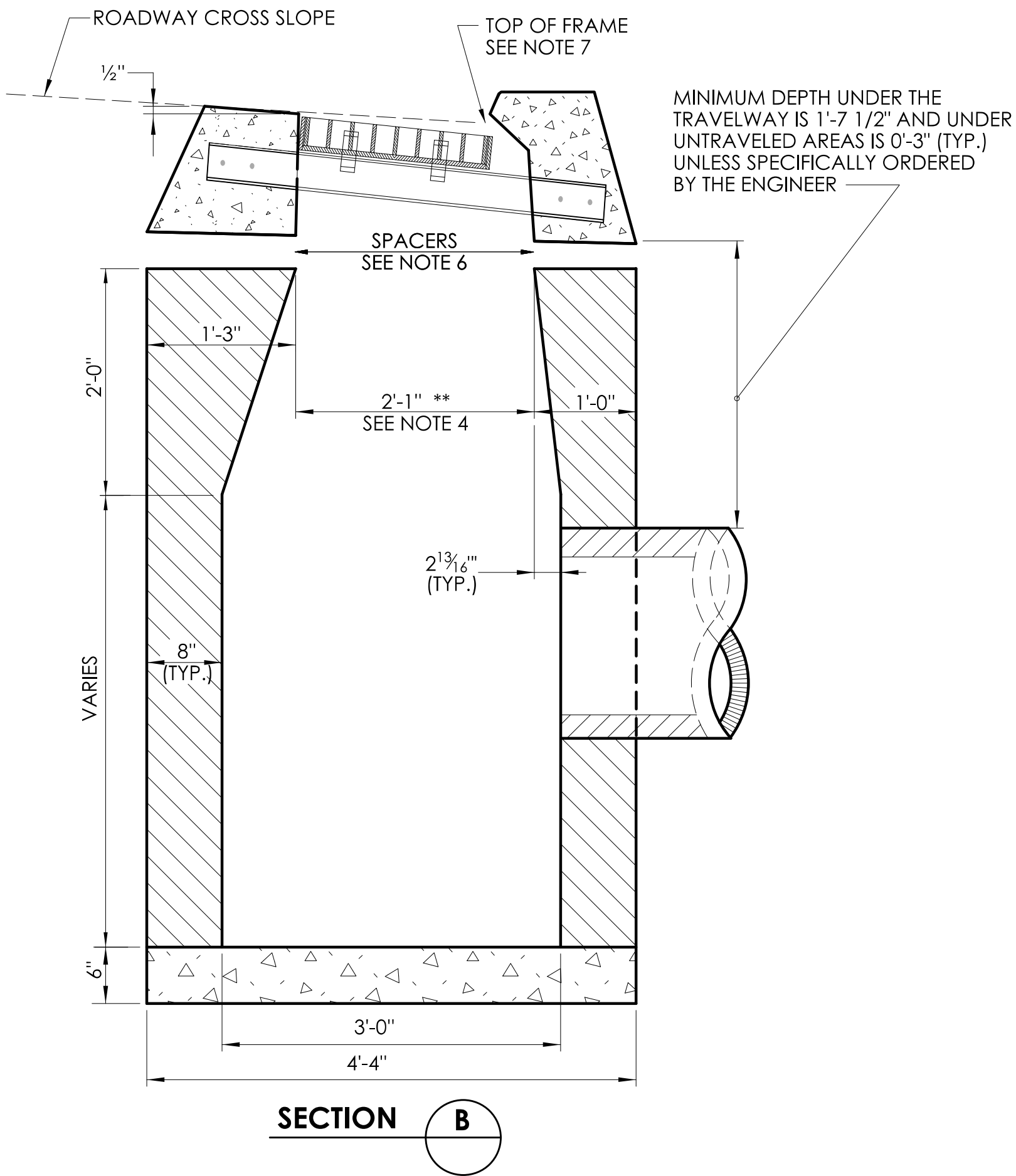


CATCH BASINS IN A LINE WITH 6" BITUMINOUS CONCRETE LIP CURBING (MACHINE FORMED)

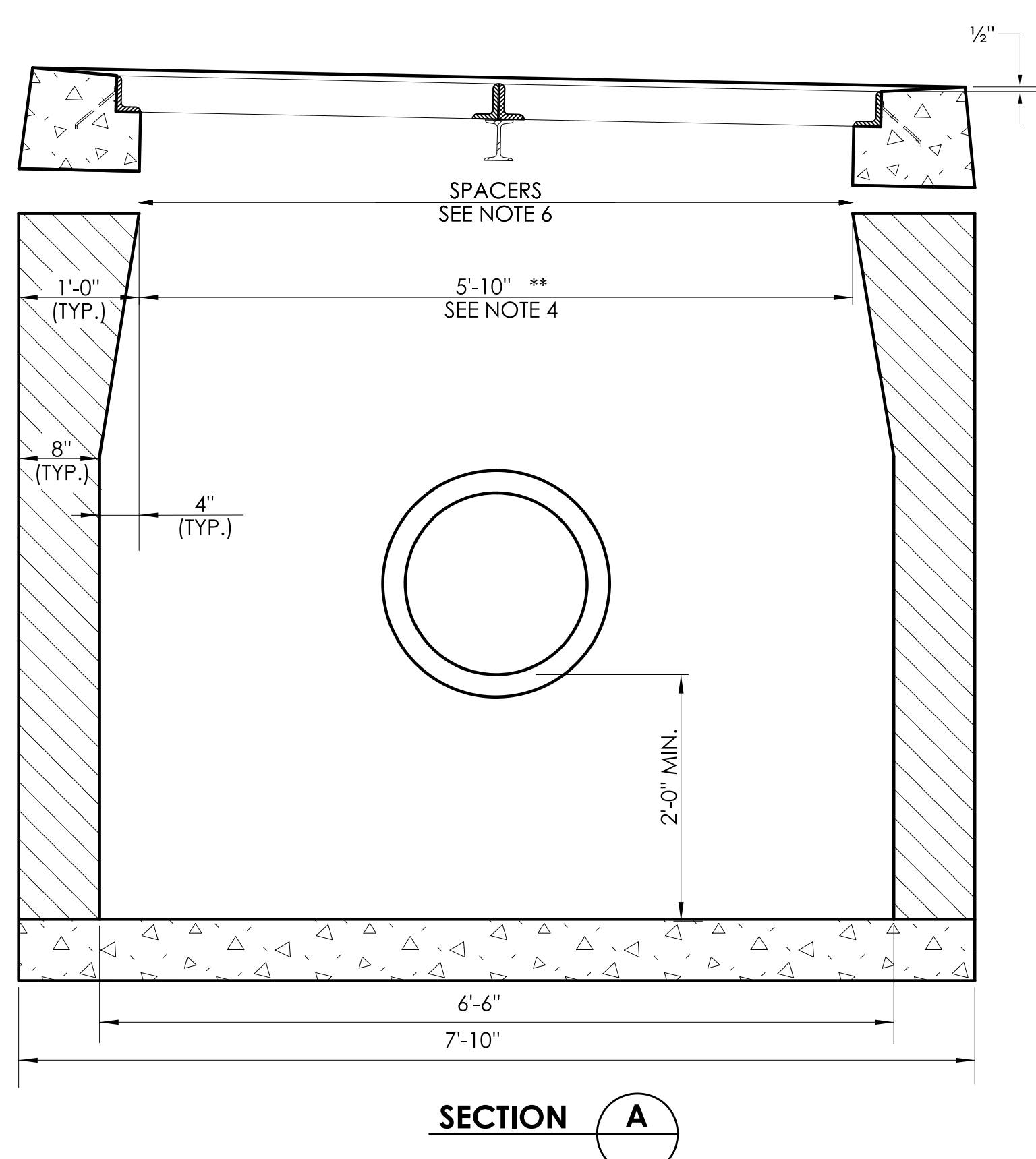
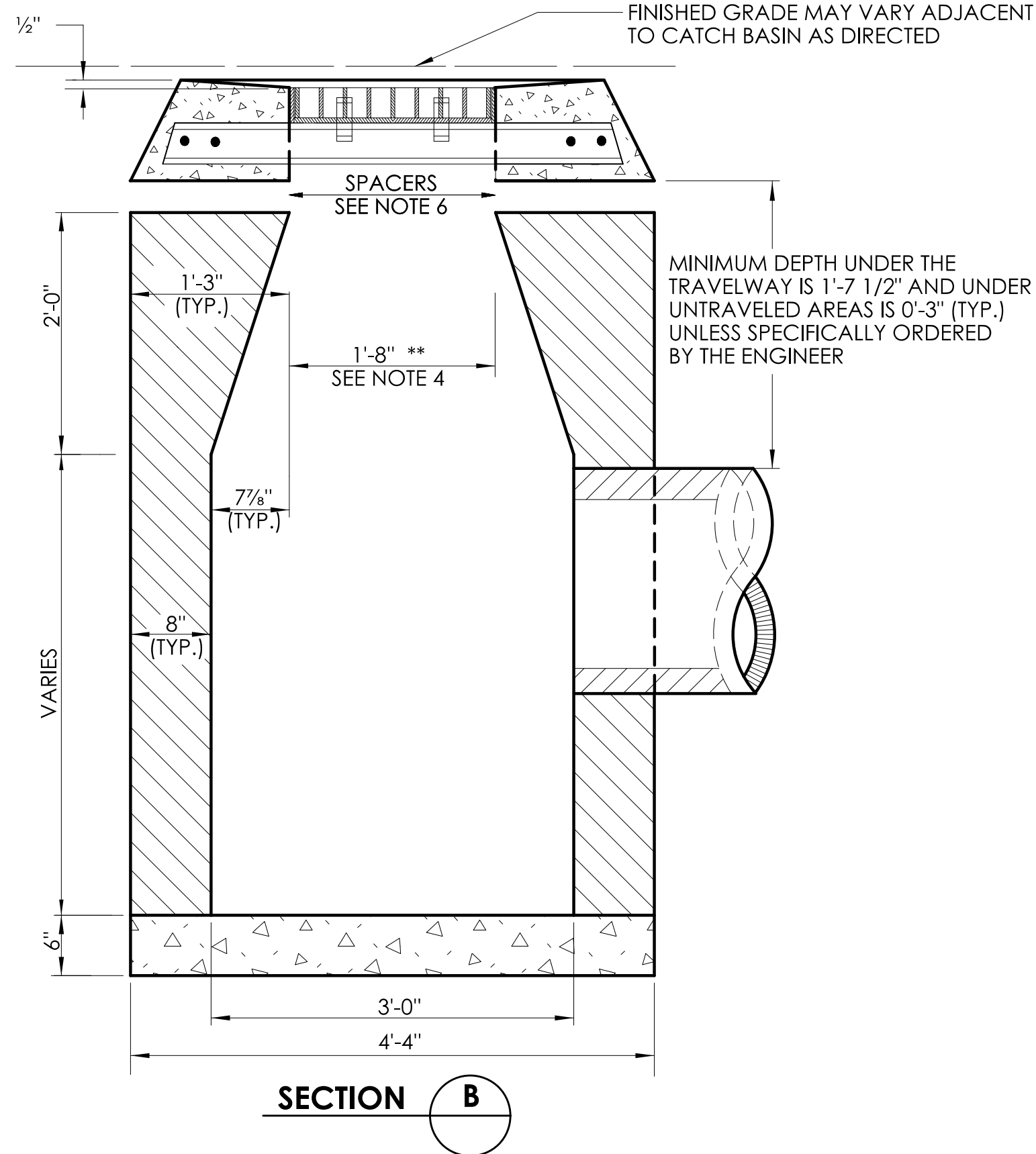
DETAILS OF DEPRESSED GUTTER STRIP FOR TYPE "C" CATCH BASIN

- GENERAL NOTES:**

1. FOR CATCH BASIN TOPS, SEE SHEET NO. HW-586_07.
2. ALL FACES OF STRUCTURES 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 OR AS DIRECTED BY THE ENGINEER.
4. IF MASONRY UNITS ARE REQUIRED, THE BASIN SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE DIMENSIONS SHOWN. CORBELLING SHALL BE PERMITTED TO A MAXIMUM OF 3". NO PROJECTION SHALL EXTEND INSIDE THE LIMITS FOR THE CATCH BASIN OPENINGS SHOWN IN THE SECTION VIEWS **.
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. FOR GRADE ADJUSTMENT OF THE CATCH BASIN TOP (TO MATCH THE ROADWAYS' PROFILE AND CROSS SLOPE SHOWN ON THE PLANS) USE: SPACERS EITHER CONCRETE MASONRY UNIT OR PRECAST WITH THE REQUIRED REINFORCING (RECOMMENDED BY THE MANUFACTURER) COMBINED WITH MORTAR AS NEEDED TO PROVIDE THE PROPER GRADE ADJUSTMENTS.
7. TOP OF FRAME ELEVATION SHALL BE MEASURED IN THE CENTER OF GRATE AT GUTTER LINE.



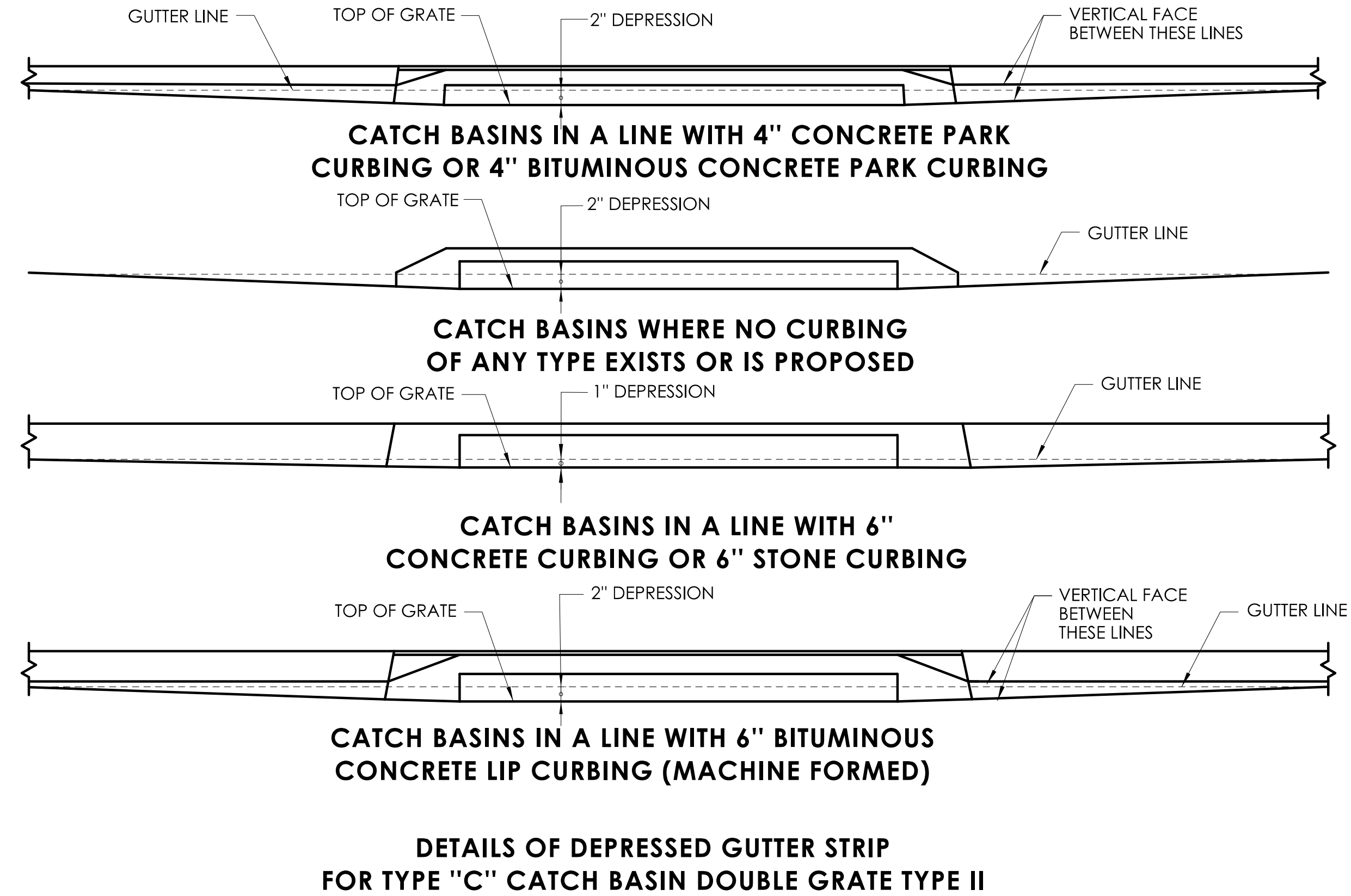
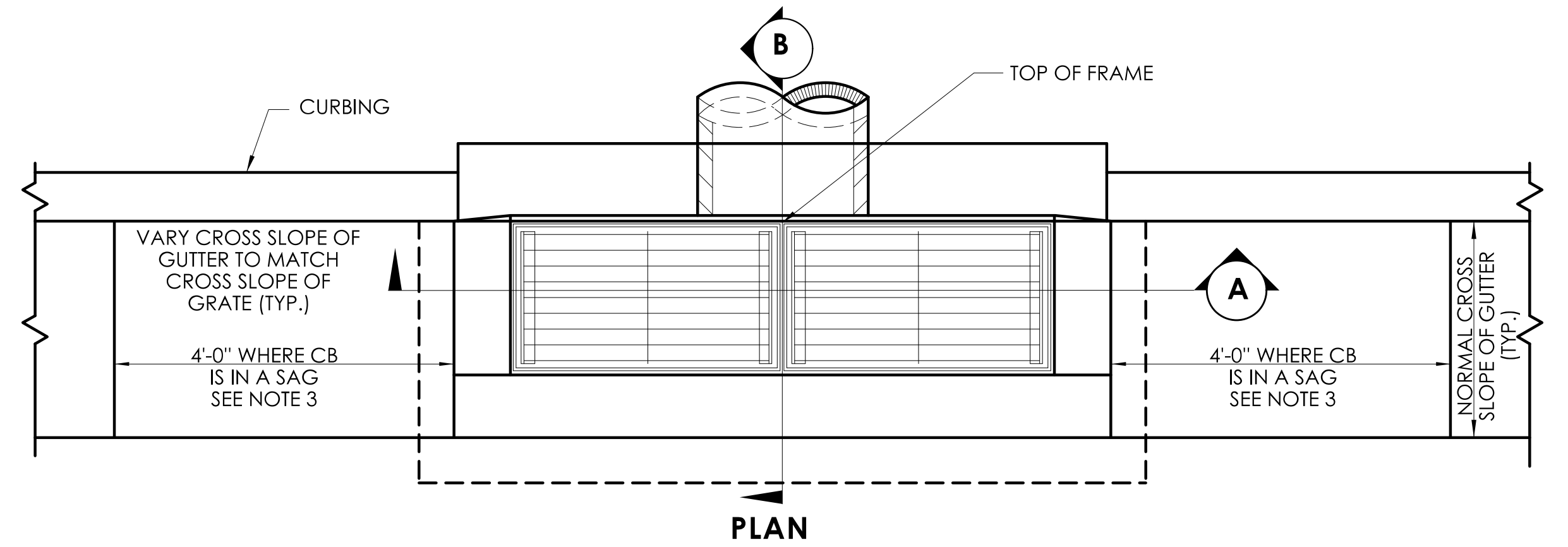
TYPE "C" CATCH BASIN DOUBLE GRATE - TYPE II

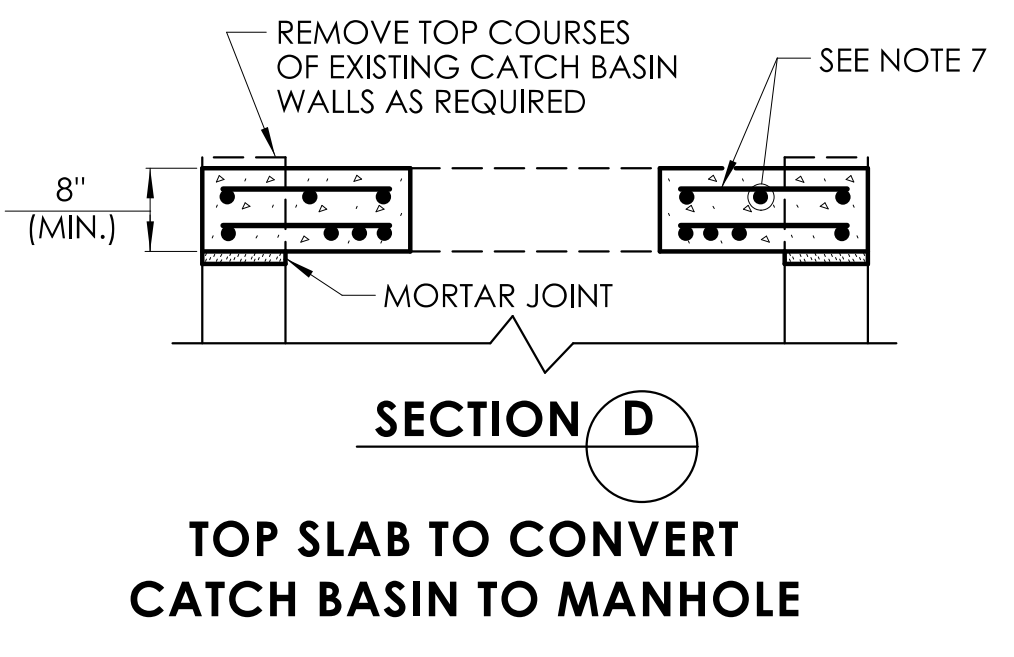
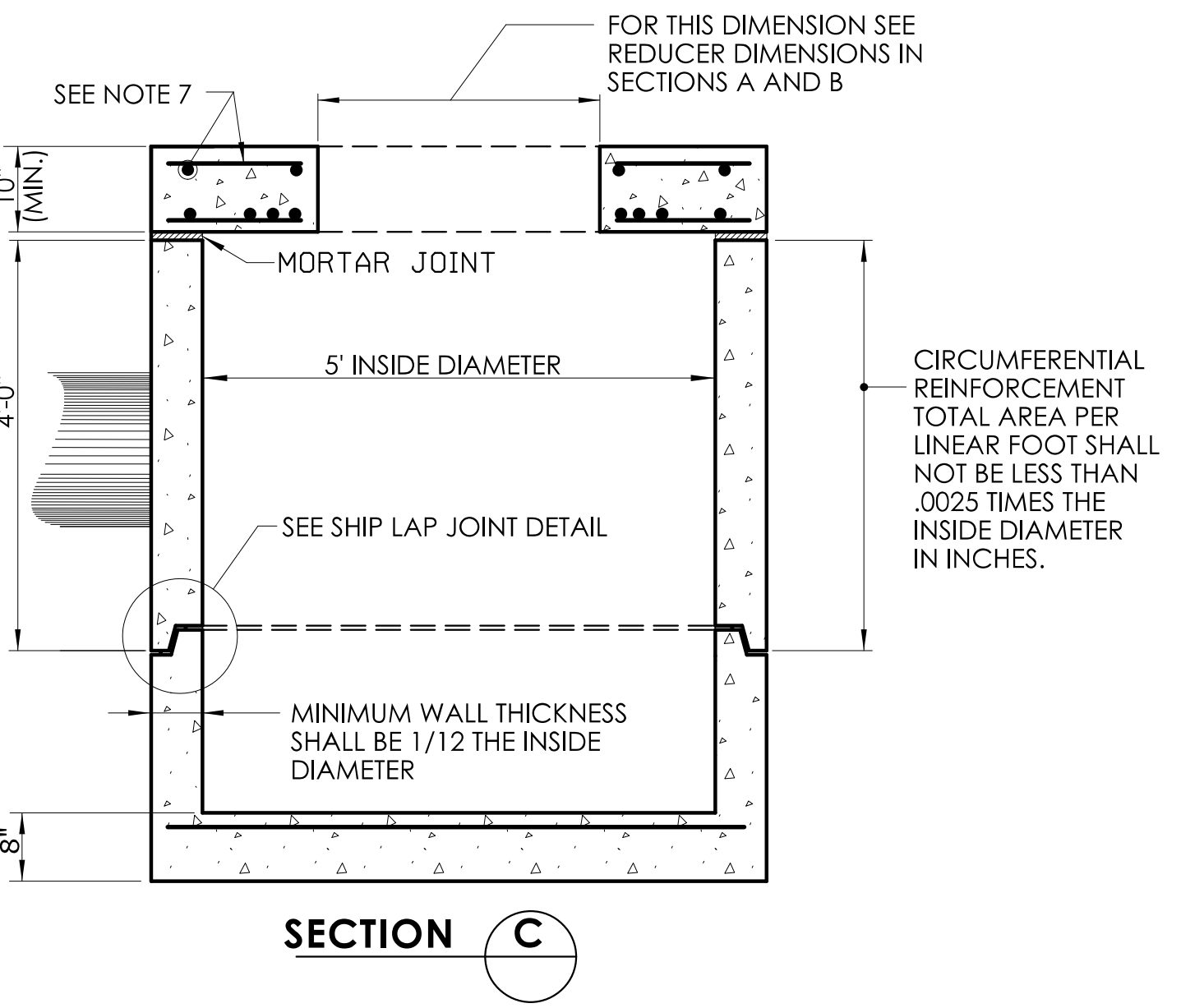
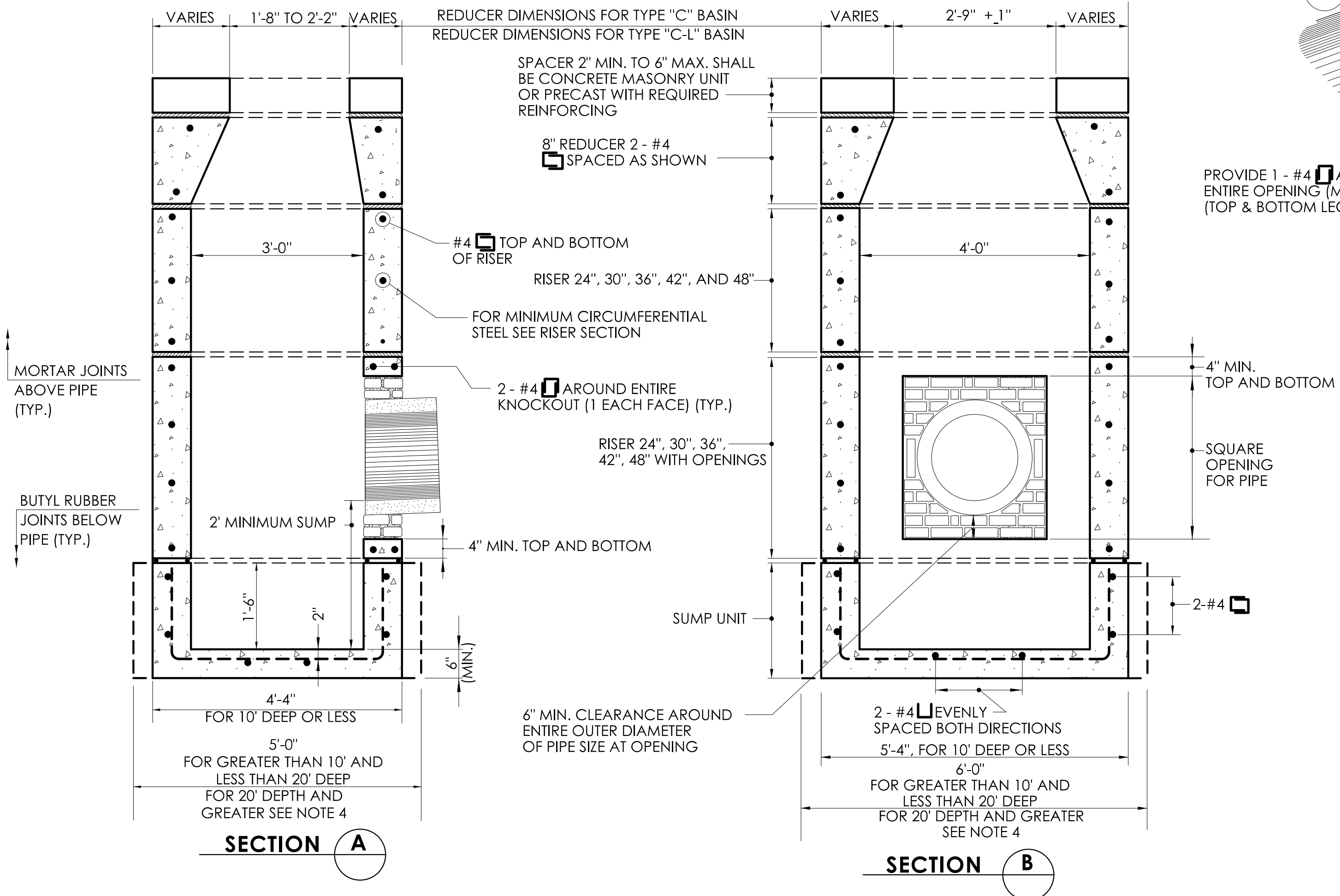
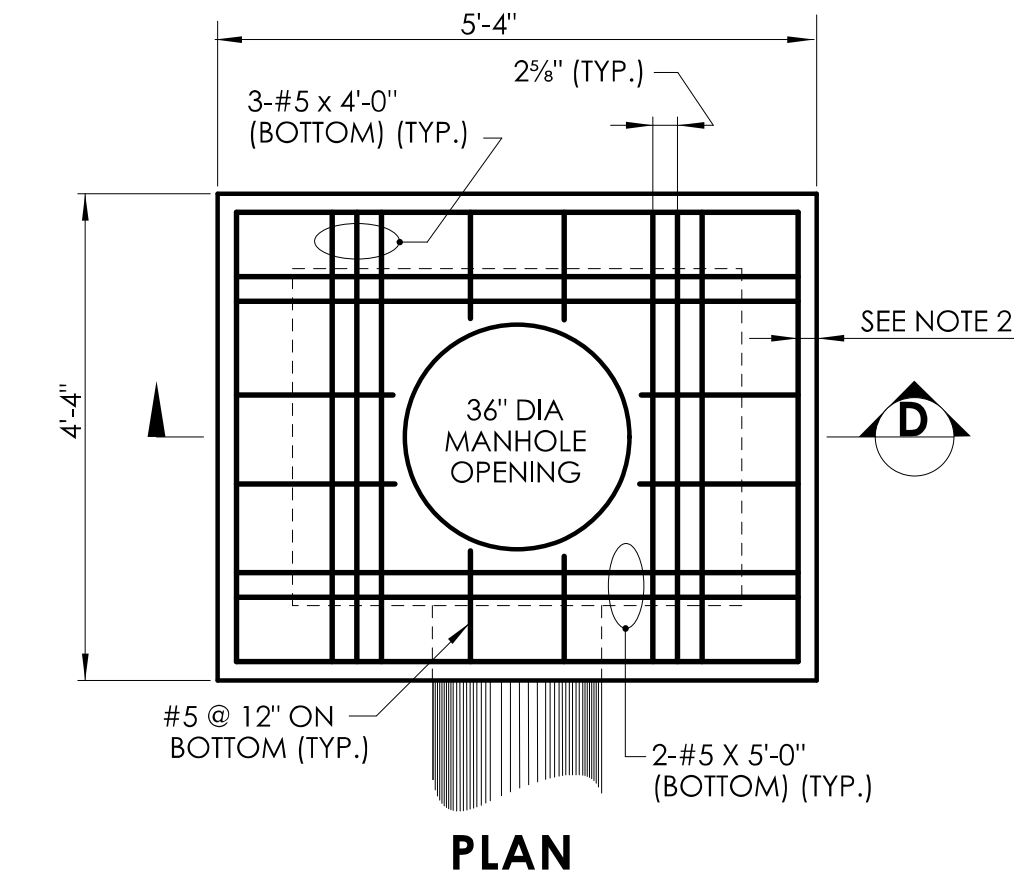
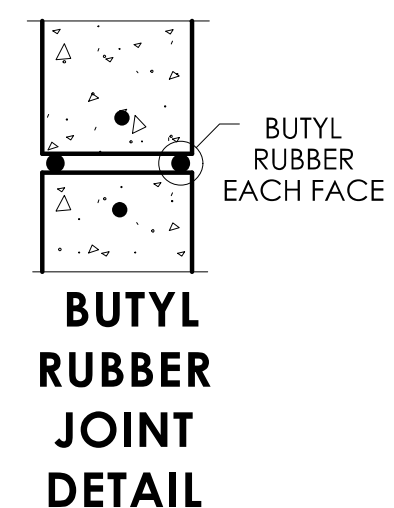
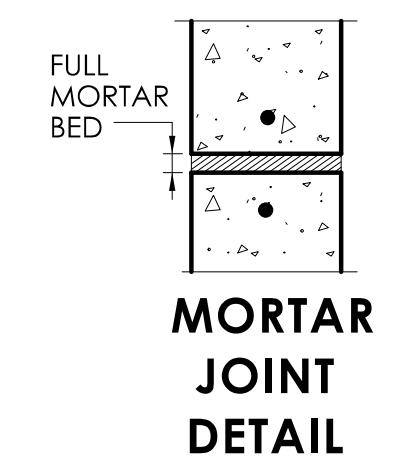
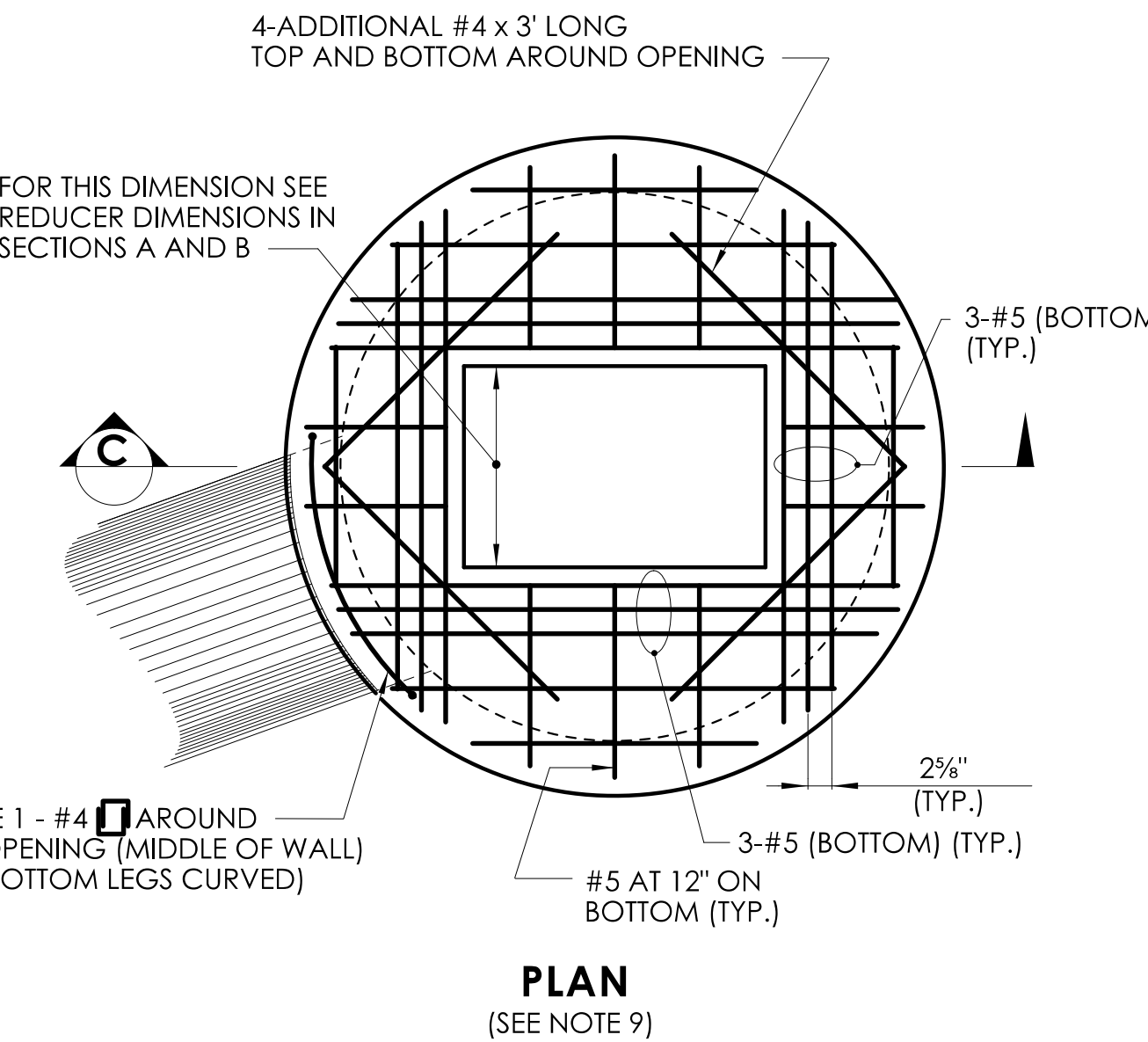
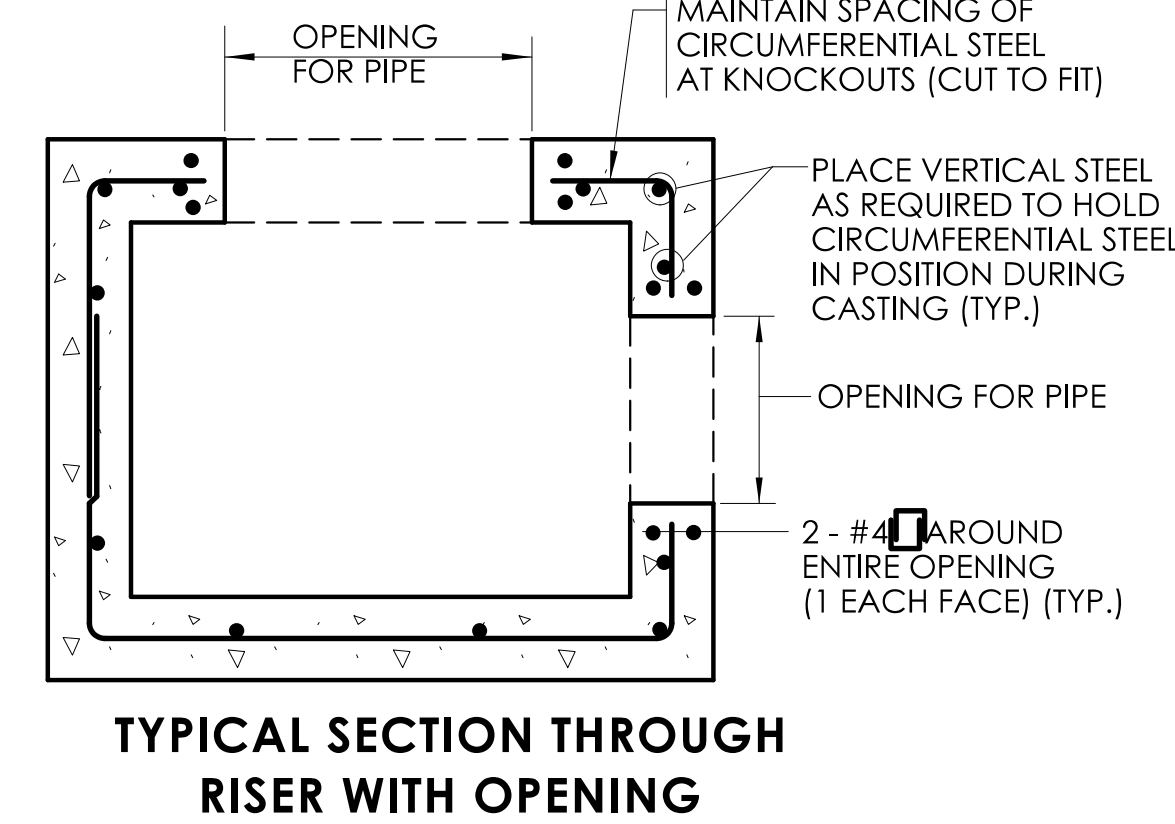
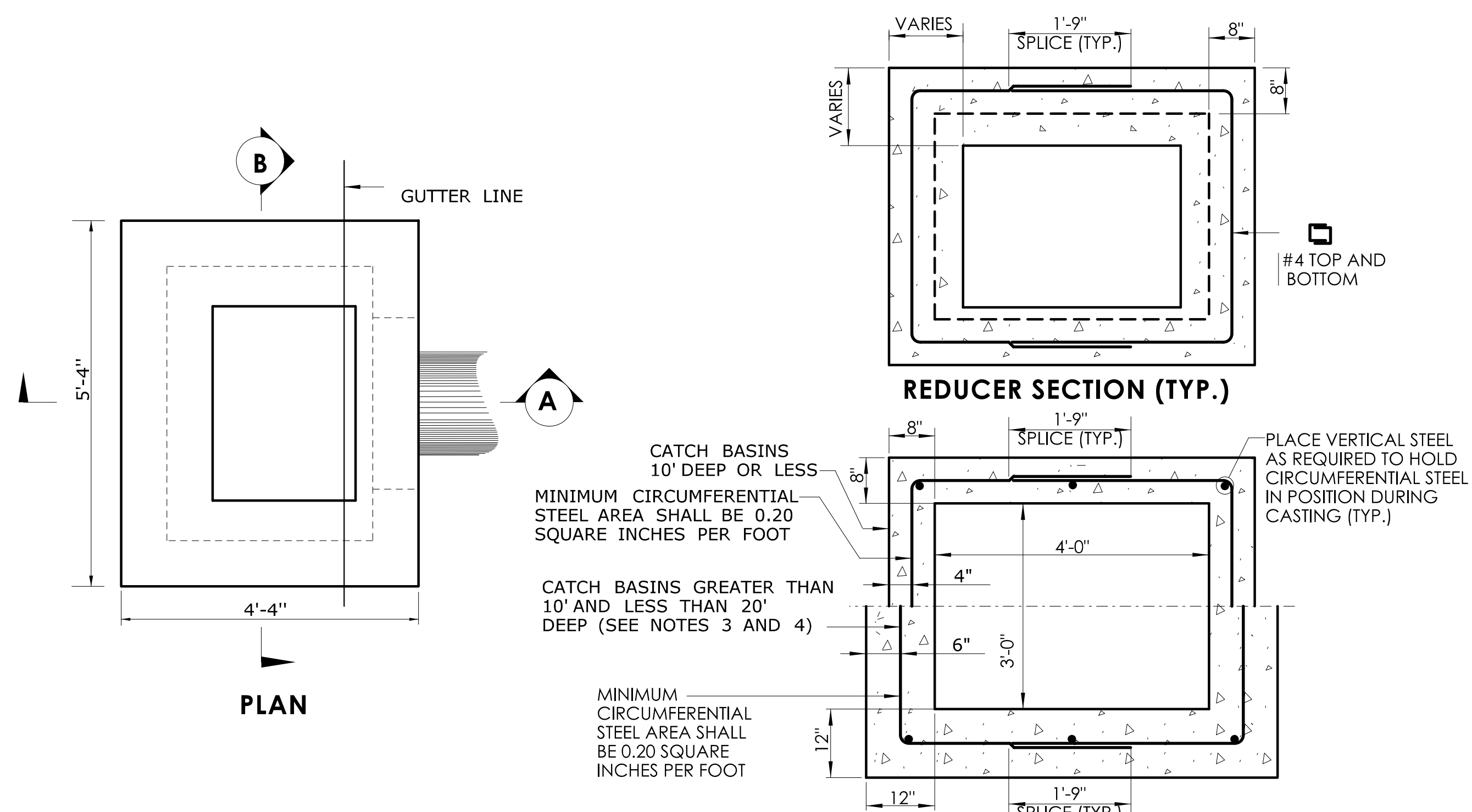


TYPE "C-L" CATCH BASIN DOUBLE GRATE - TYPE II

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. FOR GRADE ADJUSTMENT OF THE CATCH BASIN TOP (TO MATCH THE ROADWAYS' PROFILE AND CROSS-SLOPE SHOWN ON THE PLANS) USE: SPACERS EITHER CONCRETE MASONRY UNIT OR PRECAST WITH THE REQUIRED REINFORCING (RECOMMENDED BY THE MANUFACTURER) COMBINED WITH MORTAR AS NEEDED TO PROVIDE THE PROPER GRADE ADJUSTMENTS.
7. TOP OF FRAME ELEVATION SHALL BE MEASURED IN BETWEEN BOTH GRATES AT THE GUTTER.



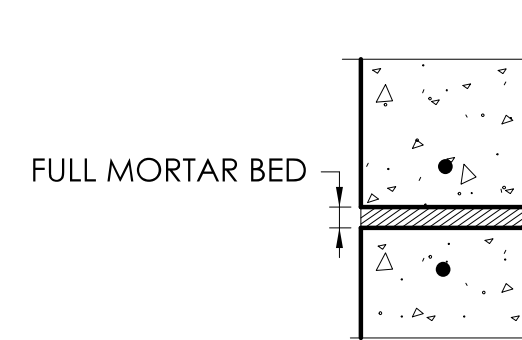
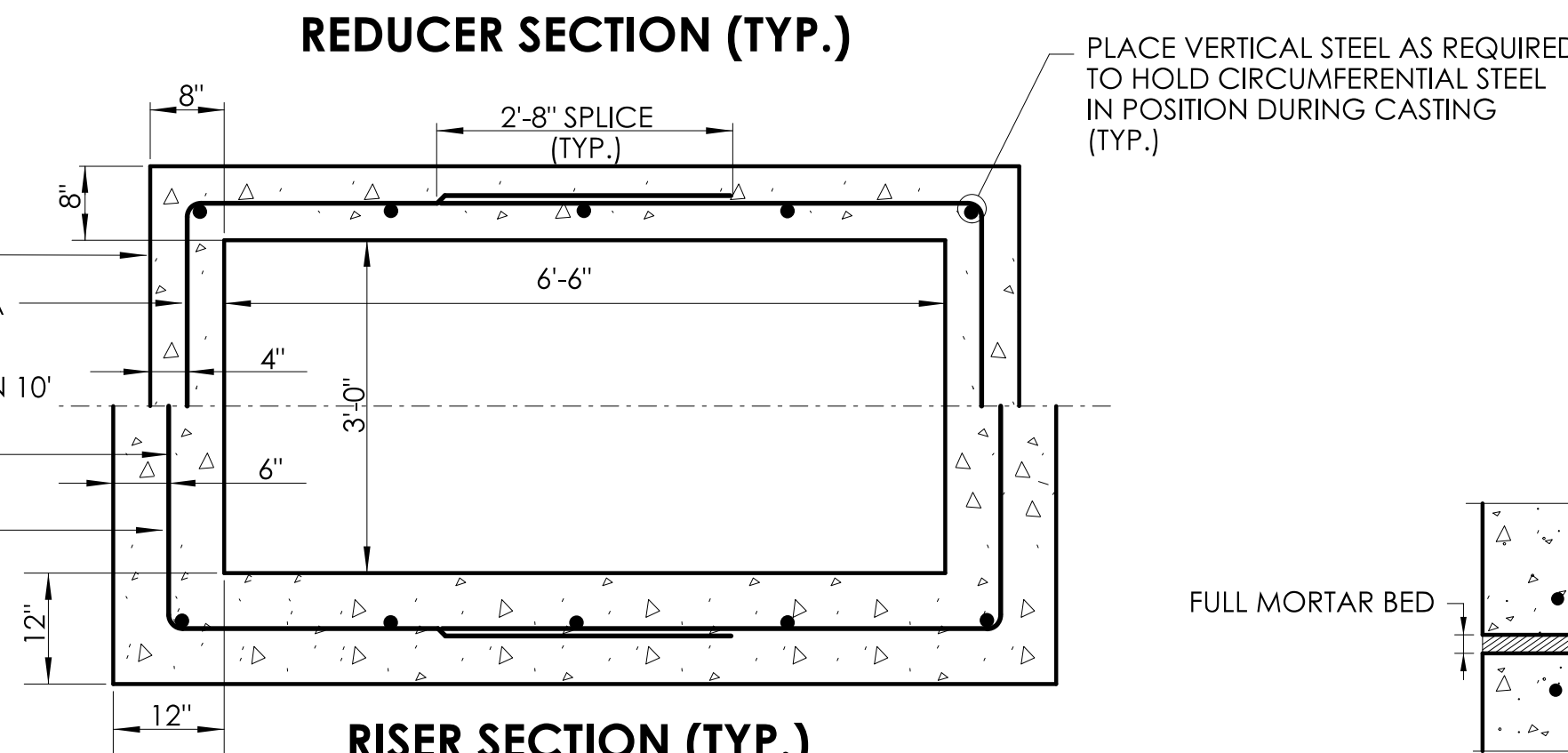
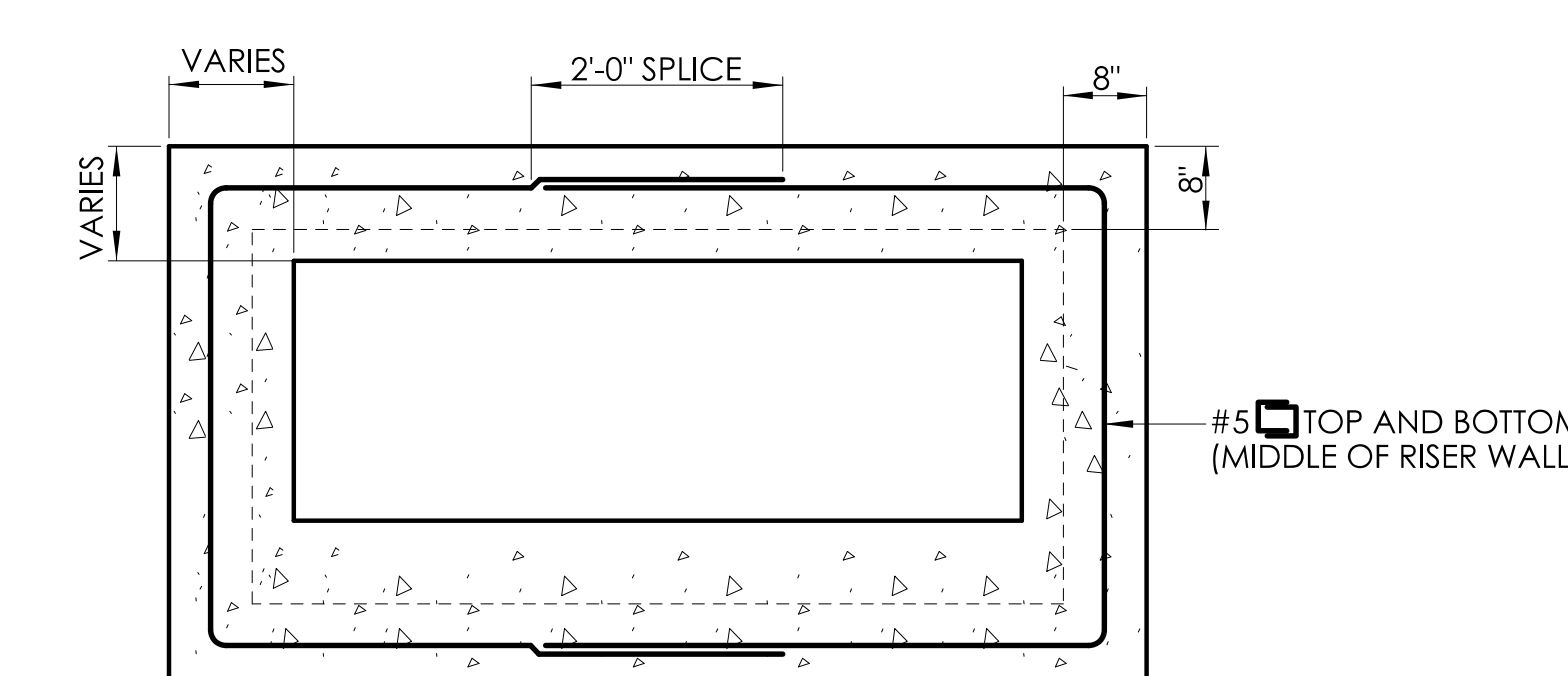
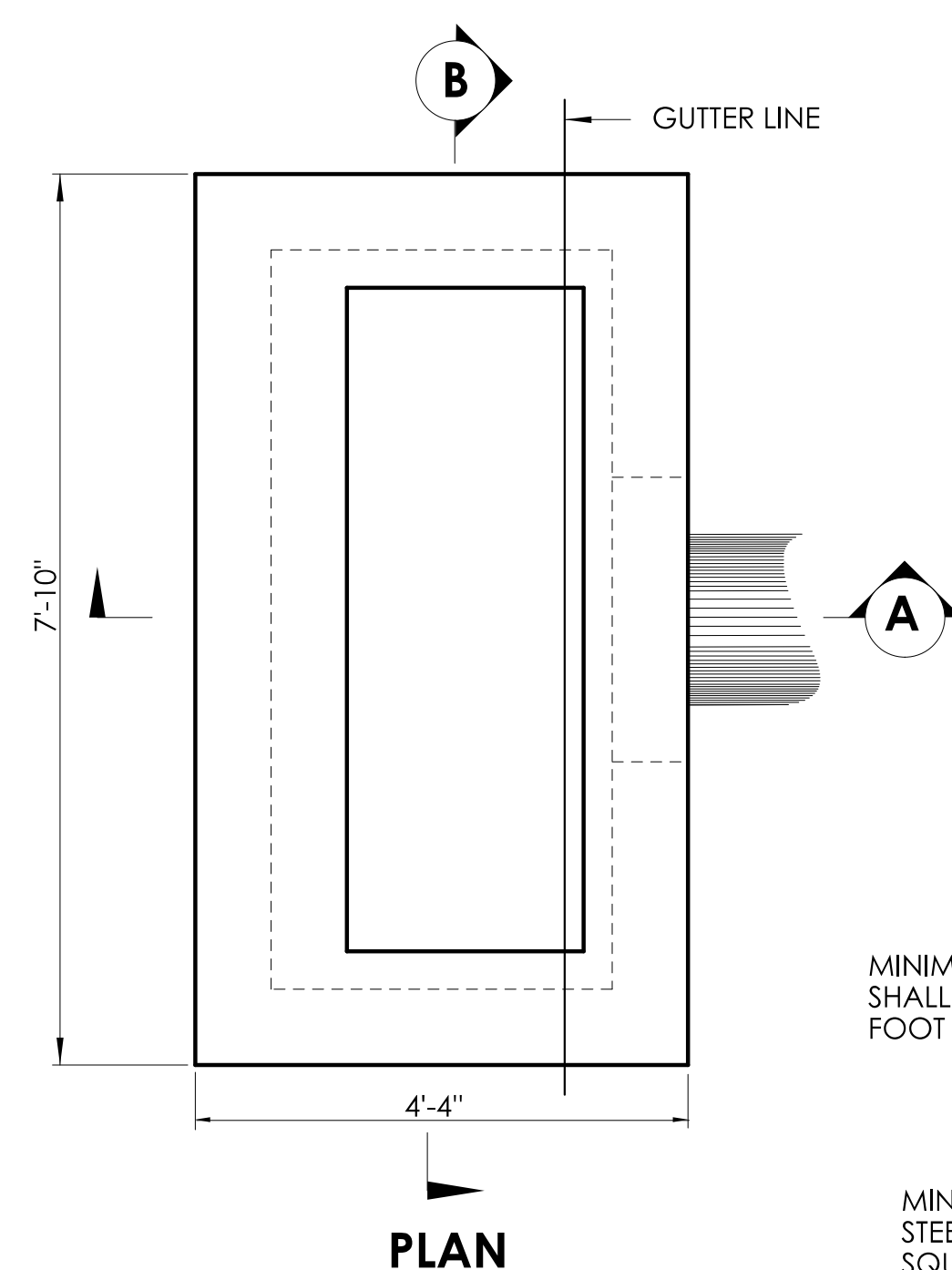


- GENERAL NOTES:**
1. WELDED WIRE FABRIC WITH AN AREA EQUAL TO OR GREATER THAN THE REINFORCING SHOWN MAY BE SUBSTITUTED AS APPROVED BY THE ENGINEER.
 2. ALL REINFORCEMENT SHALL HAVE A MINIMUM CLEAR COVER OF 2 INCHES, EXCEPT FOR BENEATH BOTTOM REINFORCEMENT IN TOP SLABS, WHERE THE MINIMUM MAY BE 1 1/2 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. SHRINKAGE AND TEMPERATURE REINFORCEMENT SHALL BE PROVIDED IN THE TOPS OF SLABS. THE TOTAL AREA OF REINFORCEMENT PROVIDED SHALL BE AT LEAST 0.125 SQUARE INCHES PER FOOT IN EACH DIRECTION. THE MAXIMUM SPACING OF THIS REINFORCEMENT SHALL NOT EXCEED 18 INCHES.
 8. THE DETAILS SHOWN IN THE PLAN VIEW FOR PRECAST CONCRETE ROUND STRUCTURES SHALL ALSO BE USED FOR CONVERTING MANHOLES TO CATCH BASINS.
 9. FOR CATCH BASIN TOPS, SEE SHEET NO. HW-586_07 FOR RECTANGULAR OPENING OR SHEET NOS. HW-586_10a, HW-586_10b OR HW-586_10c FOR CIRCULAR OPENING.

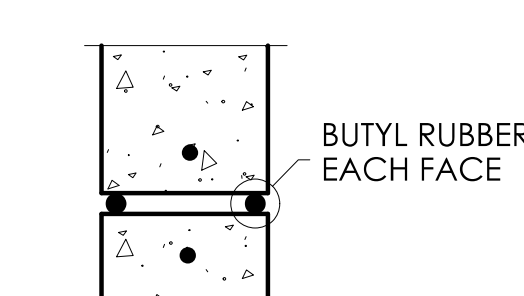
PRECAST CONCRETE TYPE "C" AND "C-L" CATCH BASIN
(UNDER 10' DEEP SHOWN)

PRECAST CONCRETE TYPE "C" AND "C-L" ROUND STRUCTURE
(SEE NOTE 6)

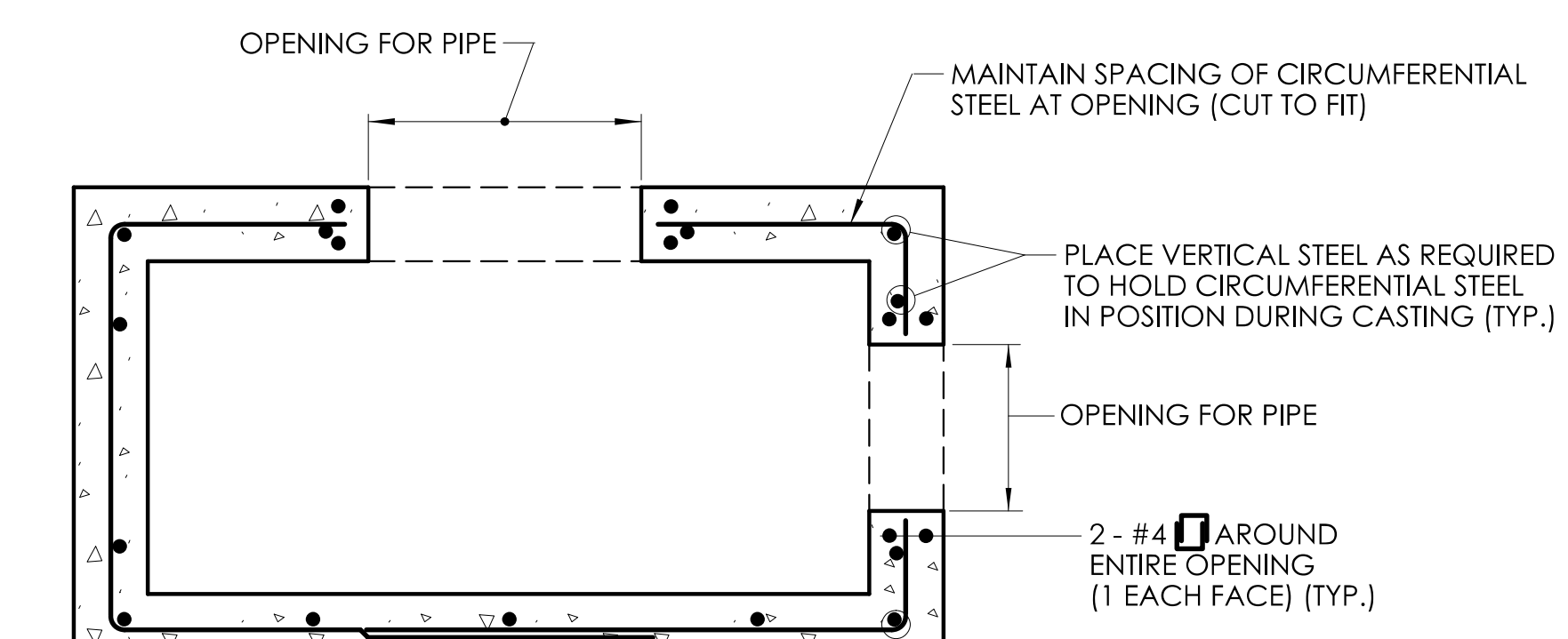
TOP SLAB TO CONVERT CATCH BASIN TO MANHOLE



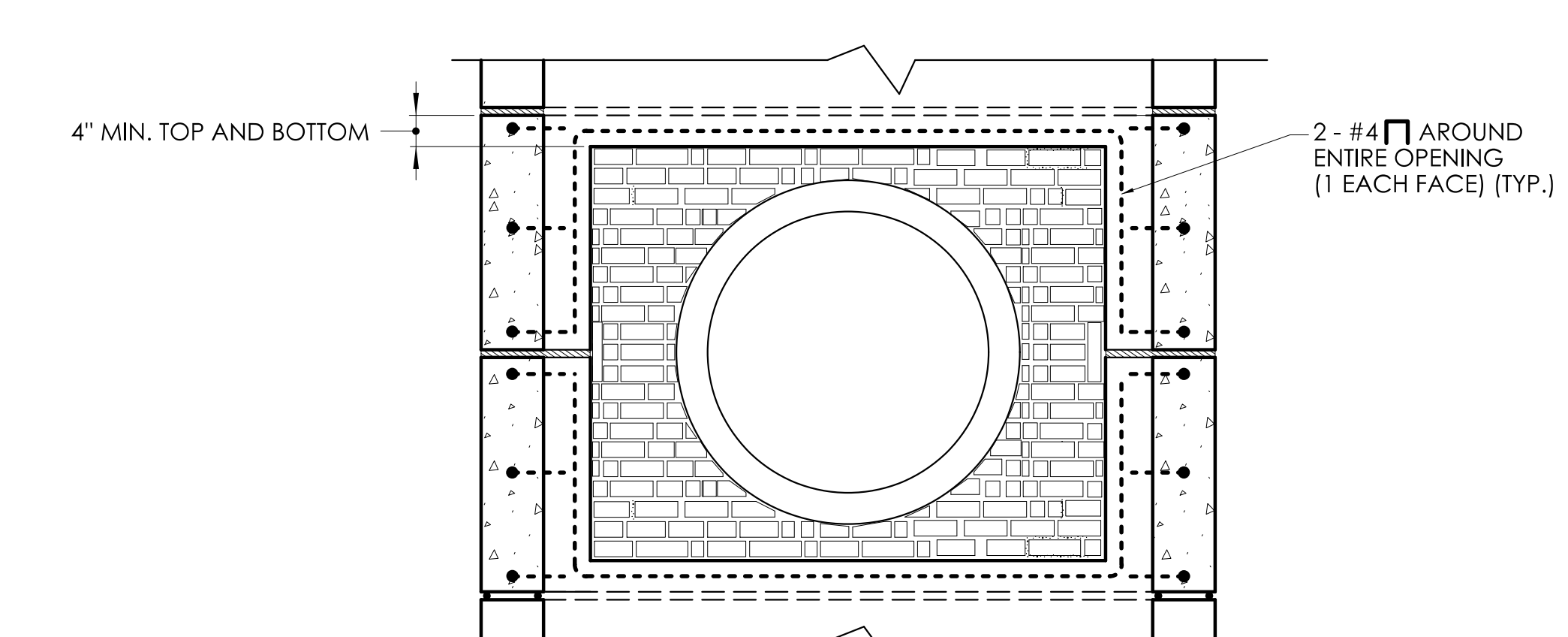
MORTAR JOINT



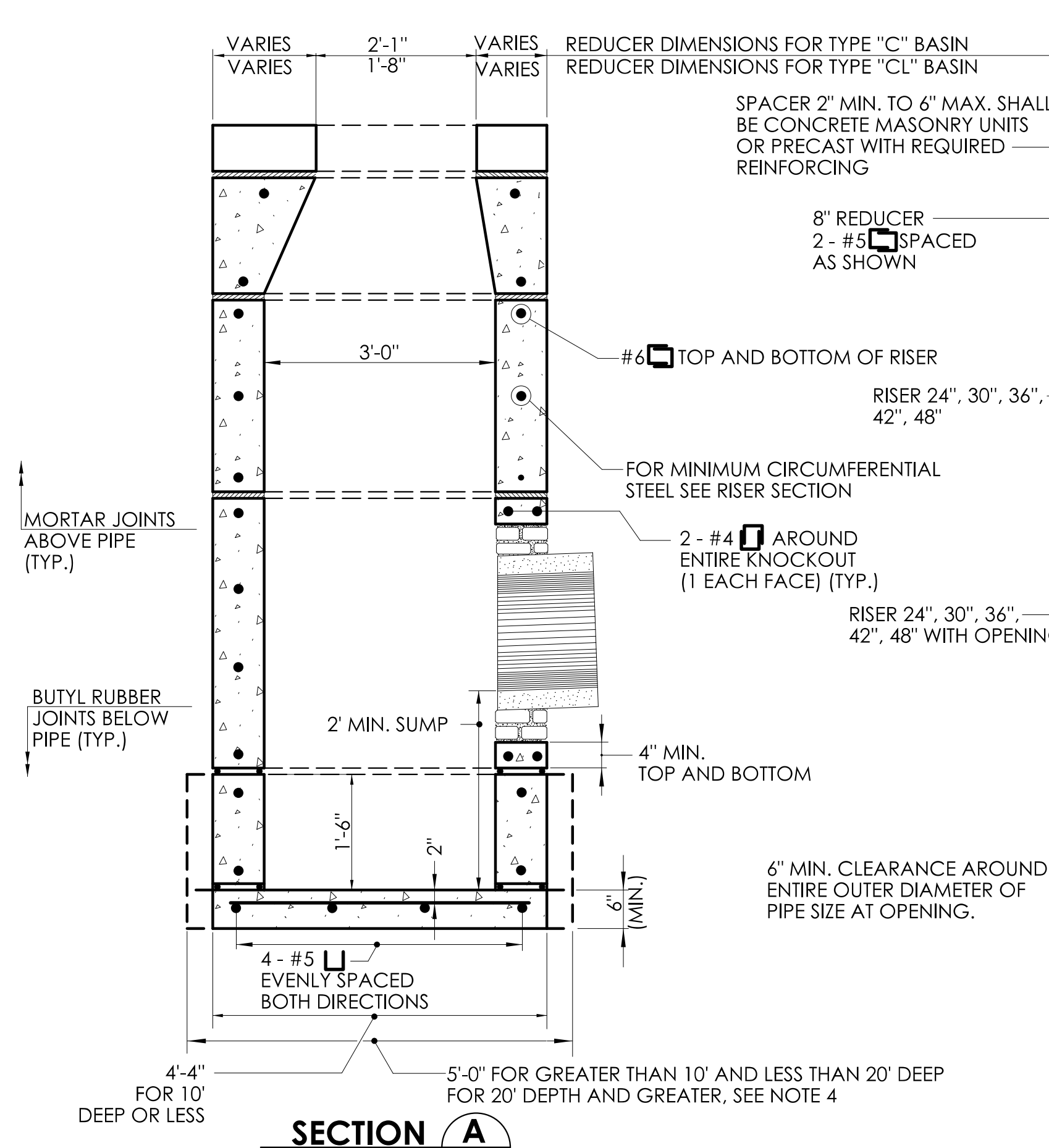
BUTYL RUBBER JOINT



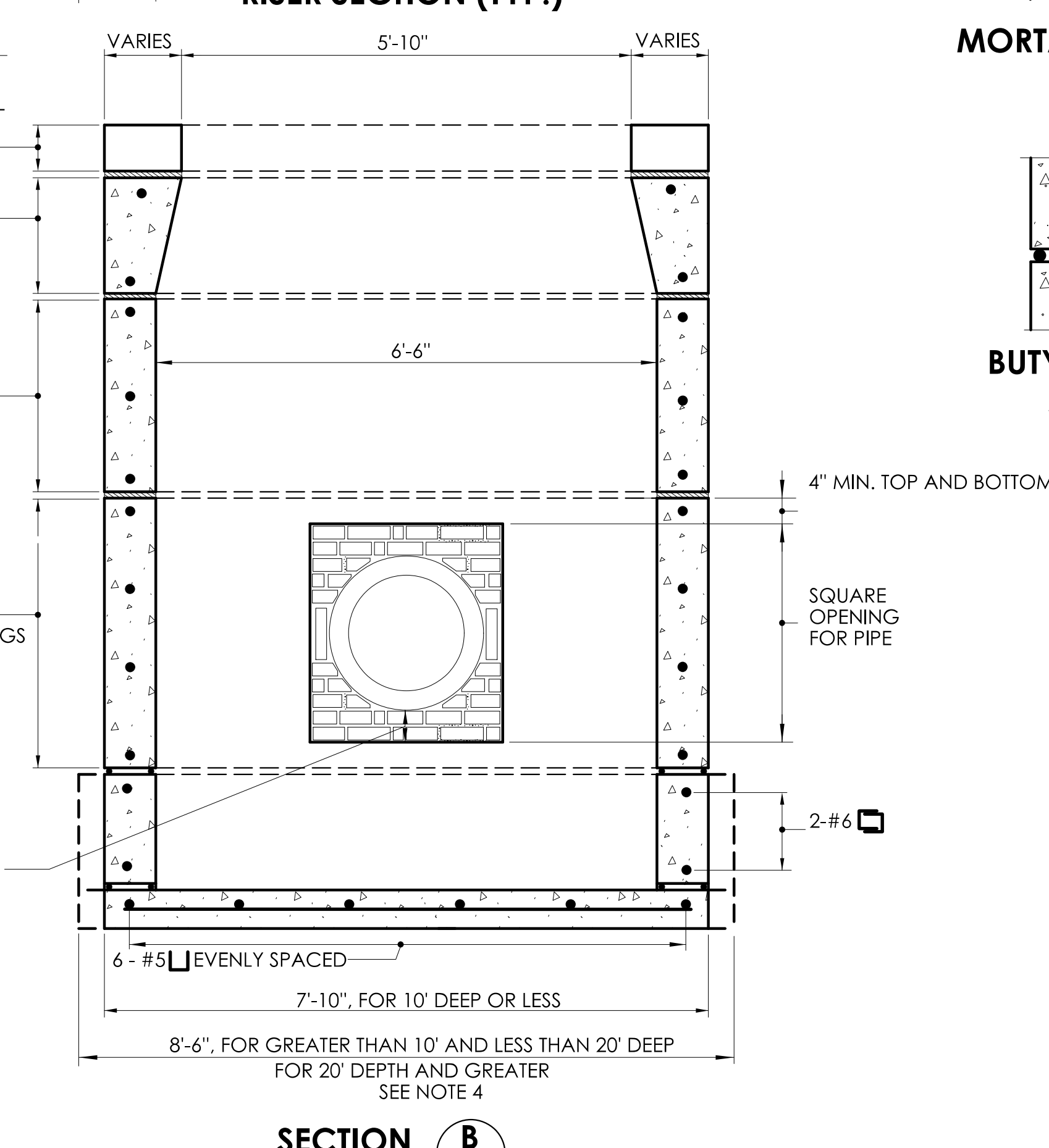
TYPICAL SECTION THROUGH SINGLE RISER WITH OPENINGS



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



SECTION A-A



SECTION B-B

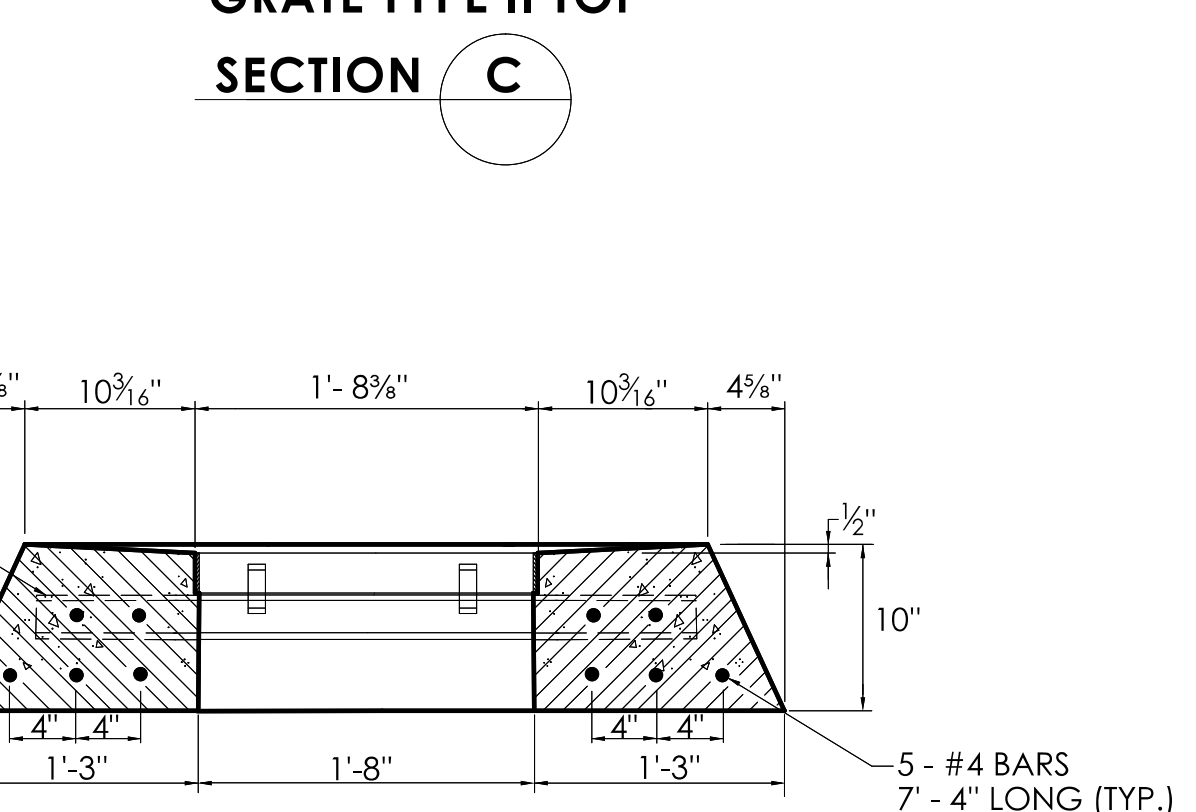
PRECAST CONCRETE TYPE "C" AND "C-L" DOUBLE GRATE TYPE II CATCH BASIN
(UNDER 10' DEEP SHOWN)

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.

1. SEE SHEET HW-586_08 FOR CATCH BASIN FRAMES AND GRATES,
AND HW-586_09 CATCH BASIN LOCK DOWN TOPS.
2. SEE SHEET HW-586_03 CATCH BASIN TOPS (TYPE "C" AND "C-L") FOR
DOUBLE GRATE TYPE II, TO DETERMINE THE TOP OF FRAME AT THE GUTTER.
3. ALL BARS SHALL HAVE A MINIMUM 2" COVER
4. MANUFACTURING DIMENSIONAL TOLERANCE TABLE

**TYPE "C-L" CATCH BASIN DOUBLE
GRATE TYPE II TOP
PLAN**



SECTION D



SECTION A



SECTION B

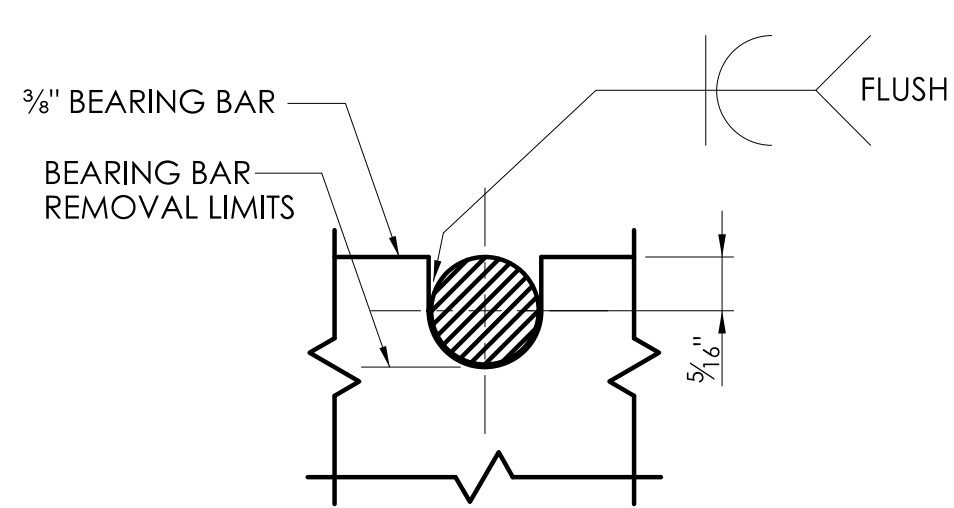


SECTION B



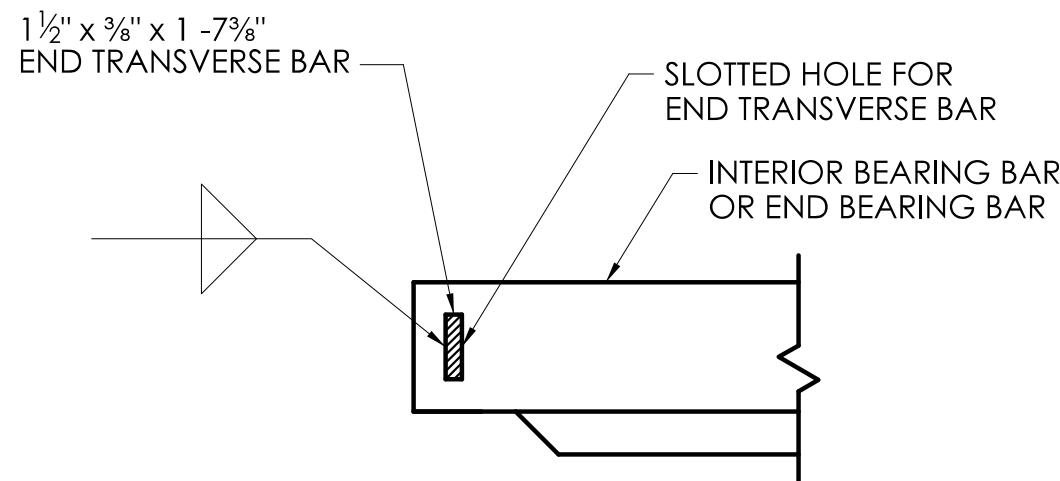
SECTION B



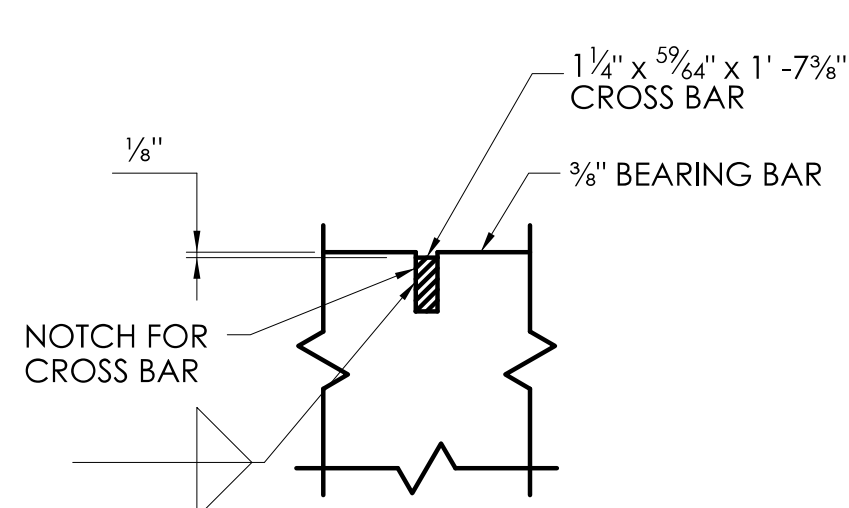


NOTE:
3/8" DIA. ROUND BAR SHALL CONTACT BEARING BAR AT BOTTOM AND BE FLUSH AT TOP.

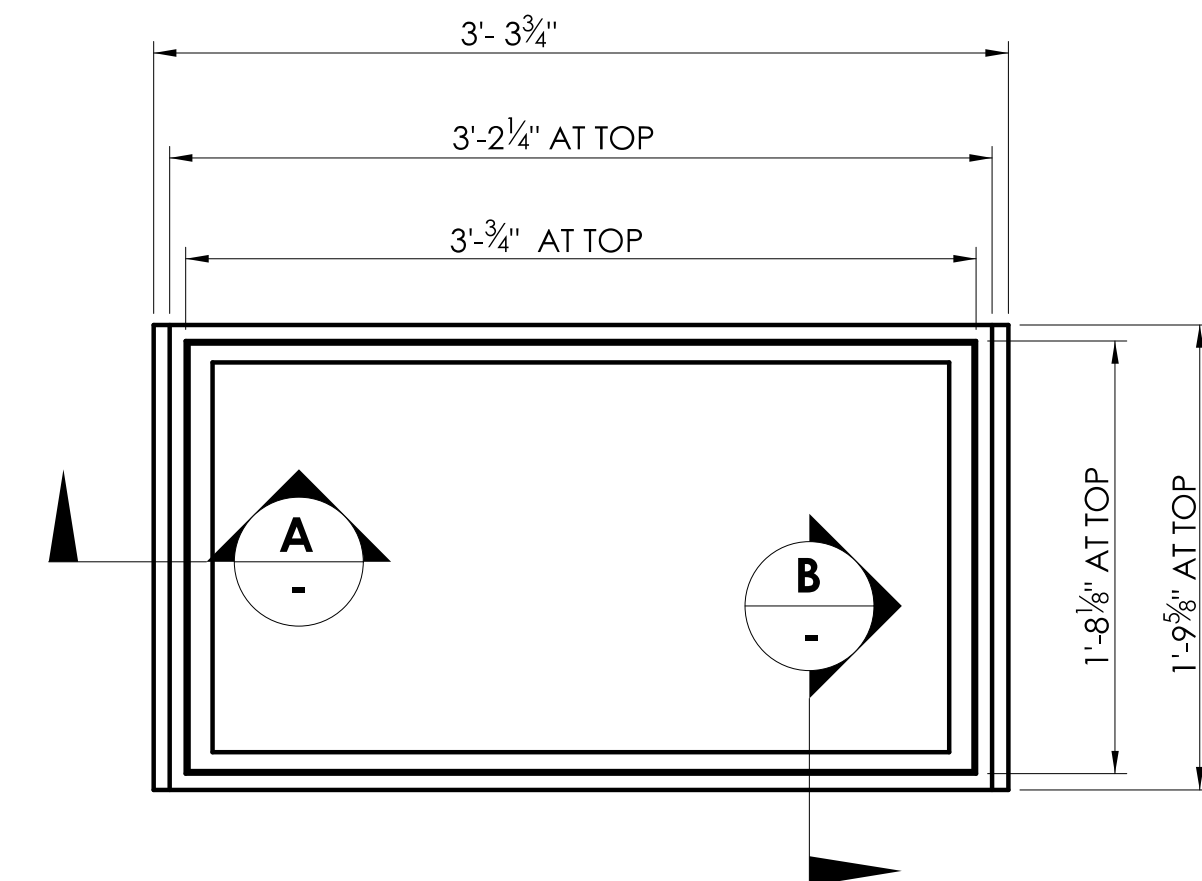
**ROUND BAR ATTACHMENT
CATCH BASIN GRATE TYPE A**



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



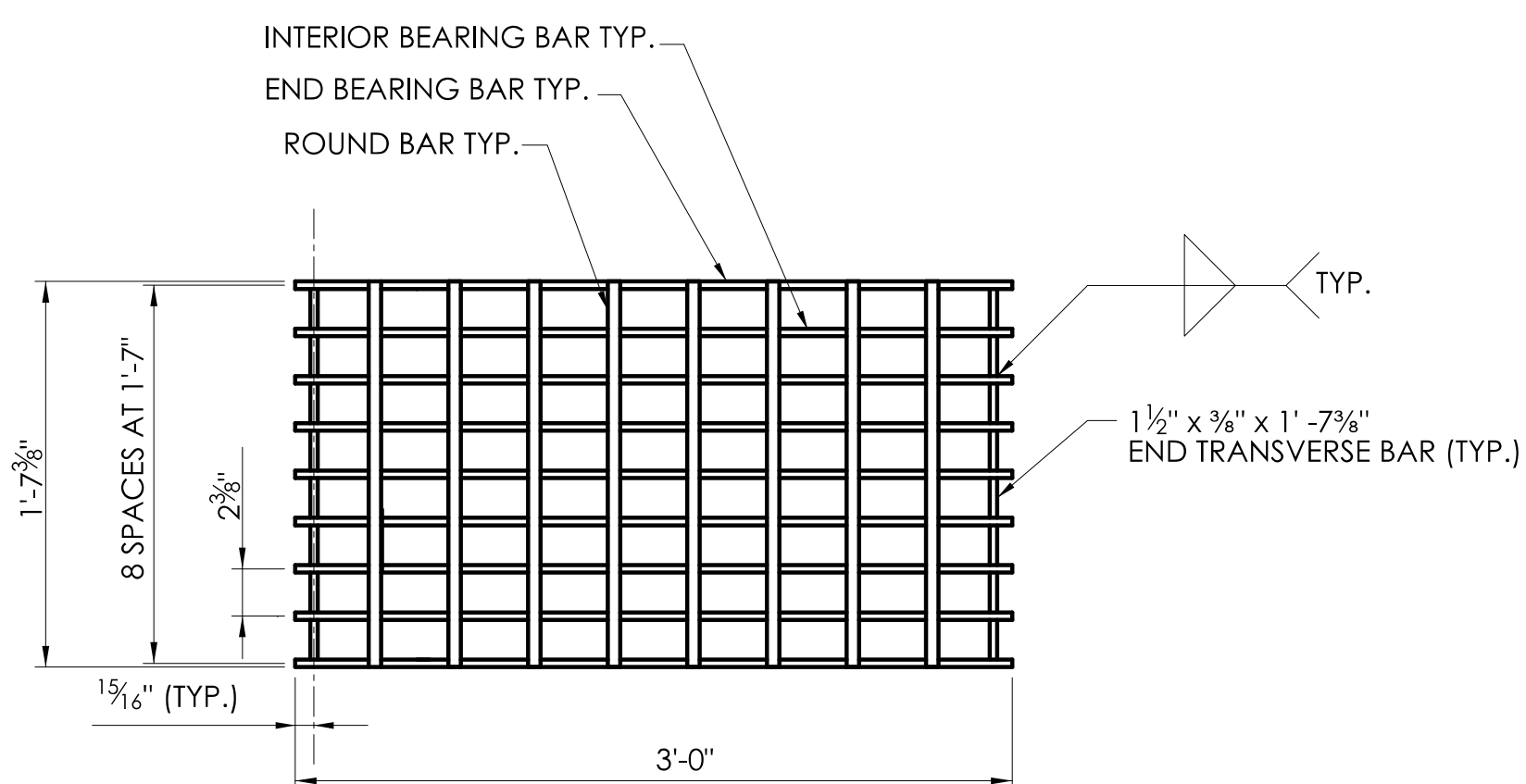
**CROSS BAR ATTACHMENT
CATCH BASIN GRATE TYPE B**



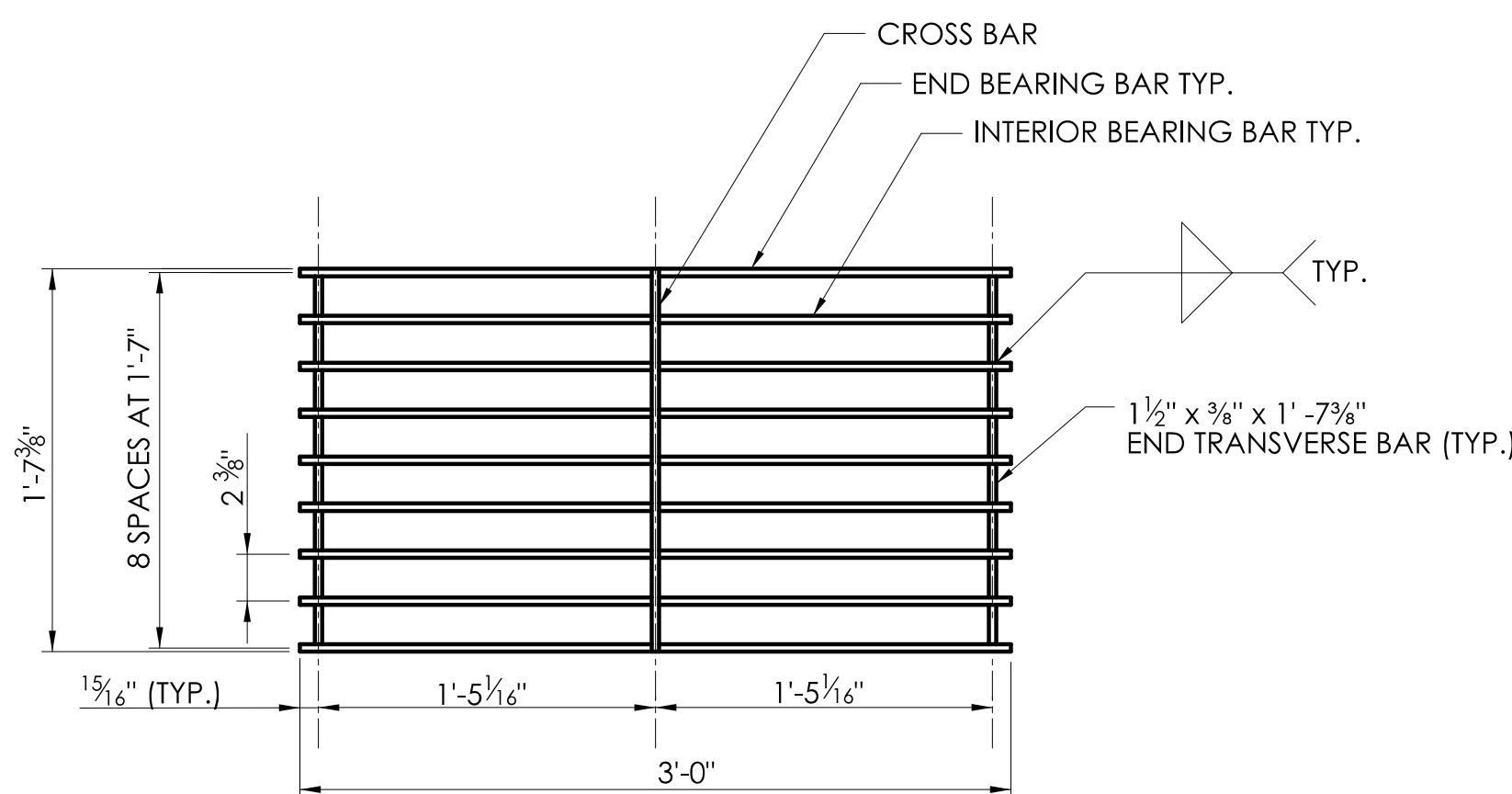
PLAN

GENERAL NOTES:

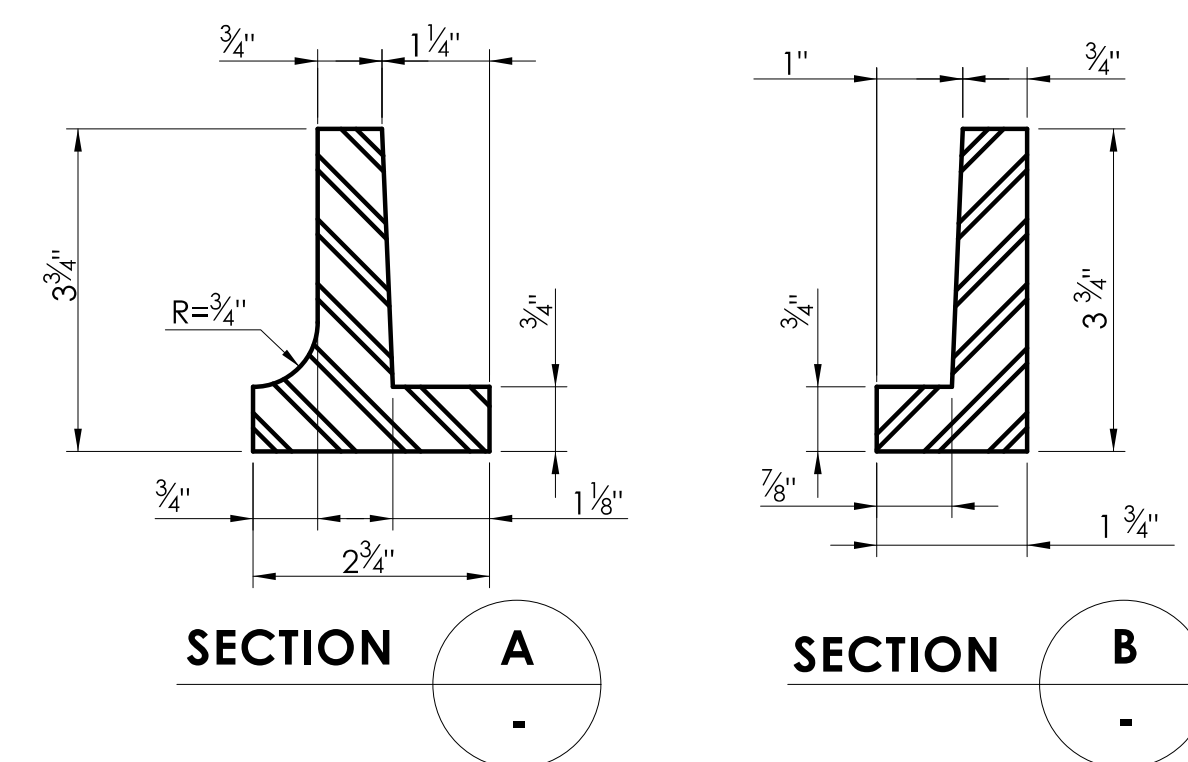
1. STEEL OR CAST IRON SHALL BE USED FOR FRAMES. STEEL SHALL BE USED FOR TYPE "A" AND "B" GRATES.
2. TYPE "A" GRATES SHALL BE USED ON ALL ROADWAYS WHERE BICYCLE TRAFFIC IS ALLOWED OR ON HEAVY DUTY LOCK DOWN TOPS AS DIRECTED BY THE ENGINEER.
3. TYPE "B" GRATES SHALL BE USED ON ALL LIMITED ACCESS HIGHWAYS, RAMP 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 $\pm 3/16$ ".
6. ALL STEEL BARS SHALL BE WELDED AT ALL INTERSECTIONS.



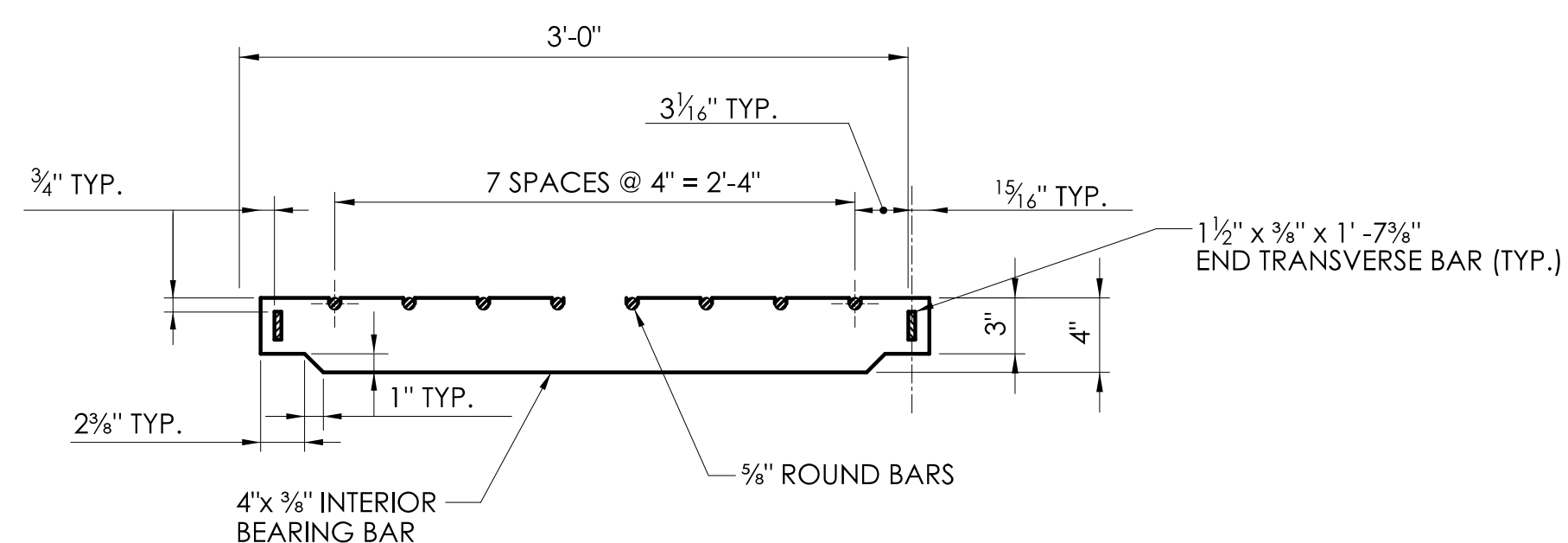
PLAN



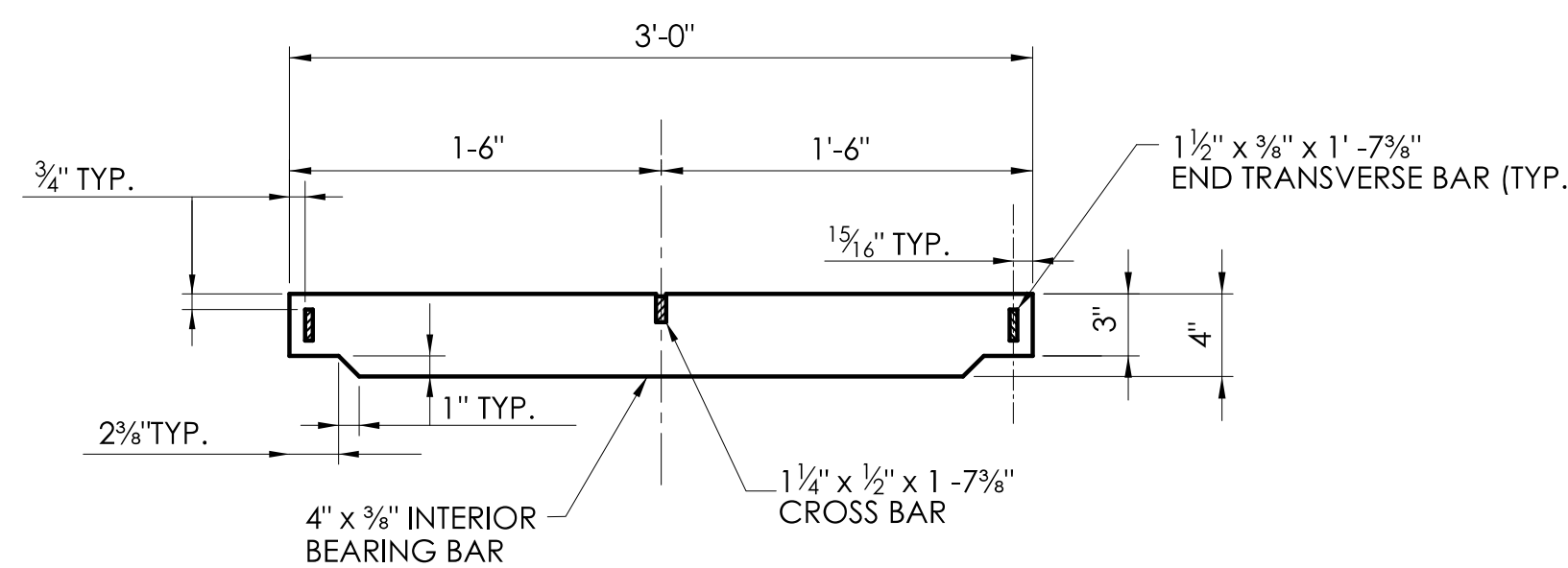
PLAN



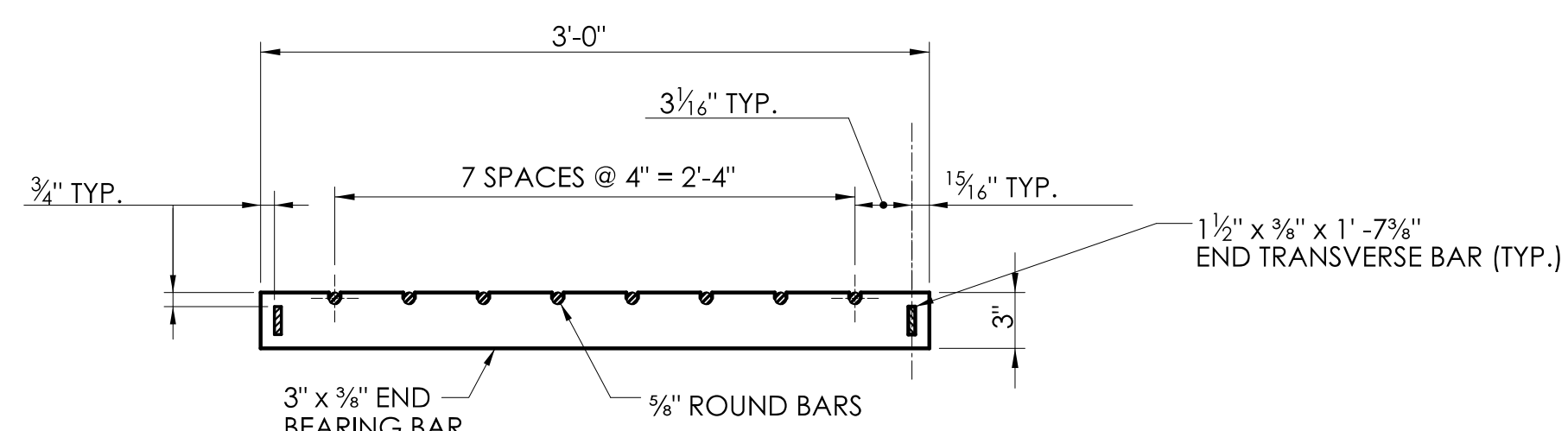
CAST IRON FRAME ALTERNATE



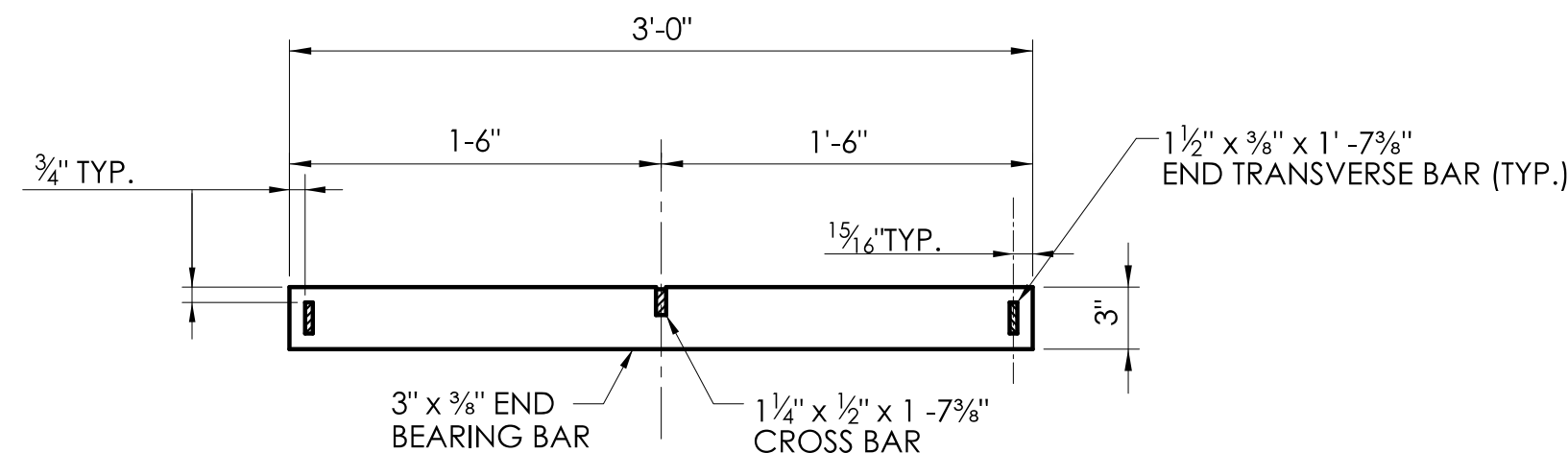
ELEVATION- INTERIOR BEARING BAR



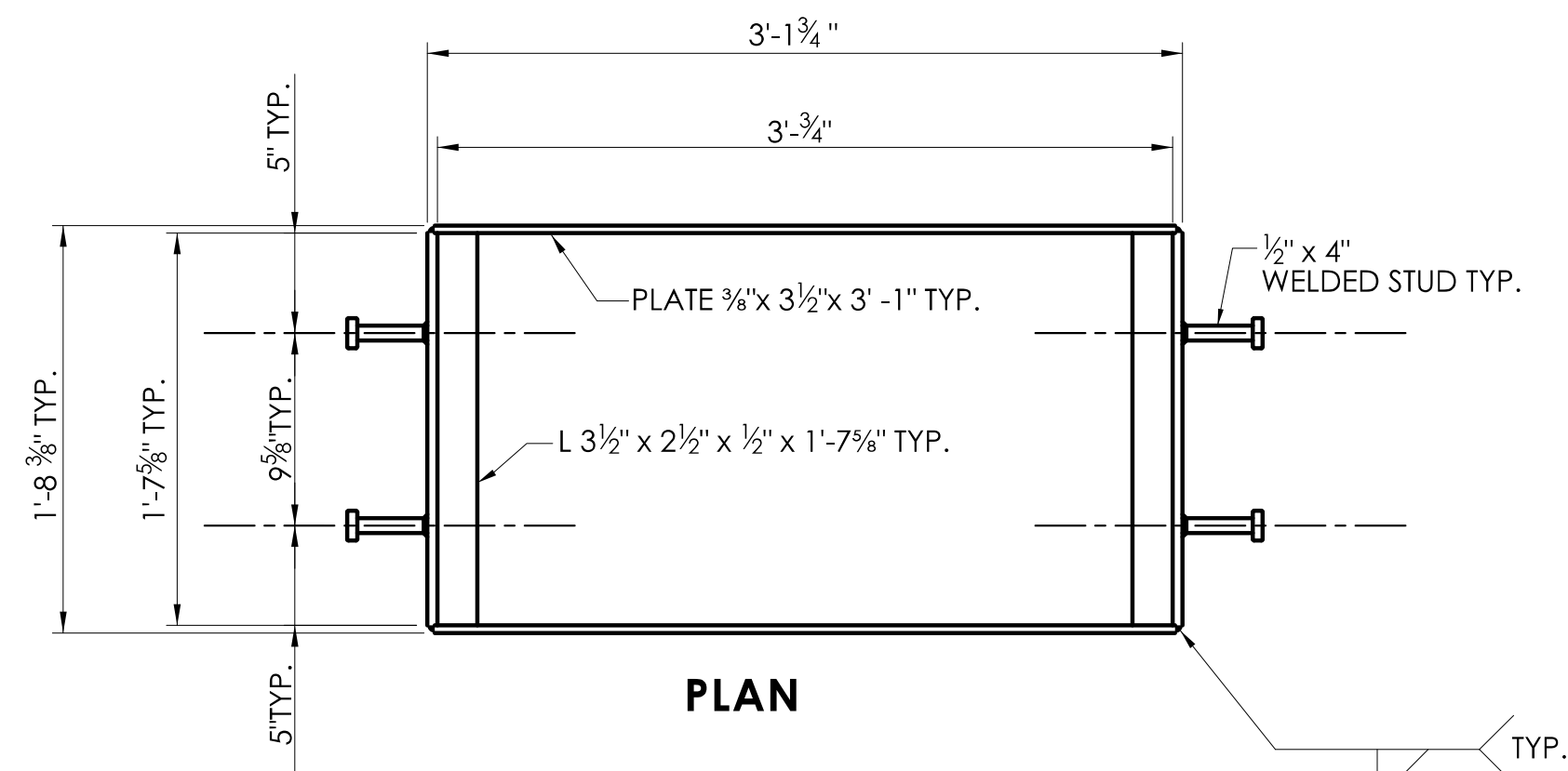
ELEVATION- INTERIOR BEARING BAR



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



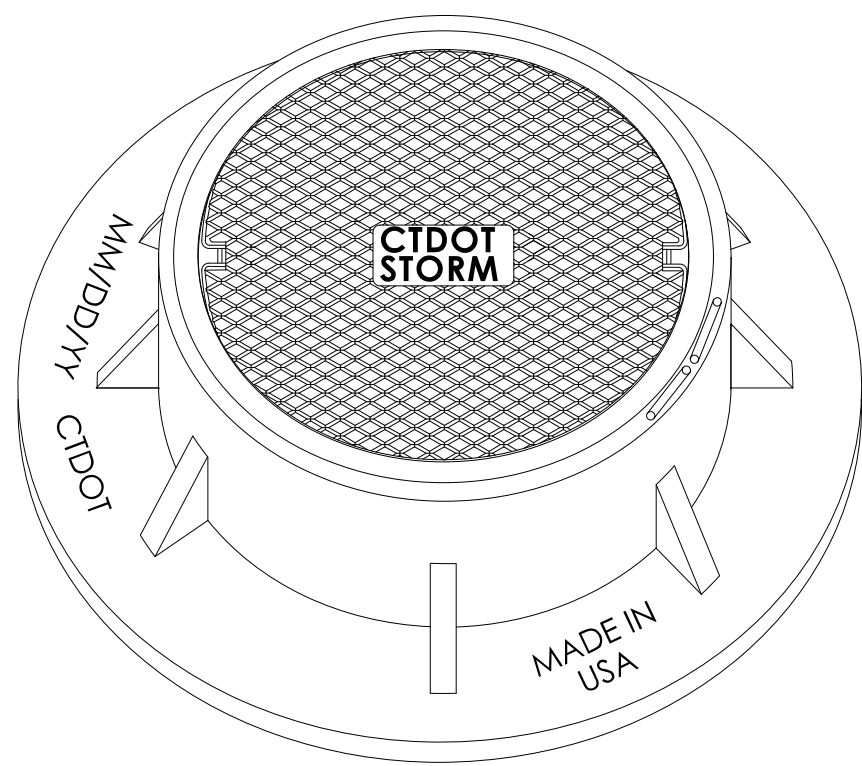
**ELEVATION- END BEARING BAR
CATCH BASIN GRATE TYPE B**



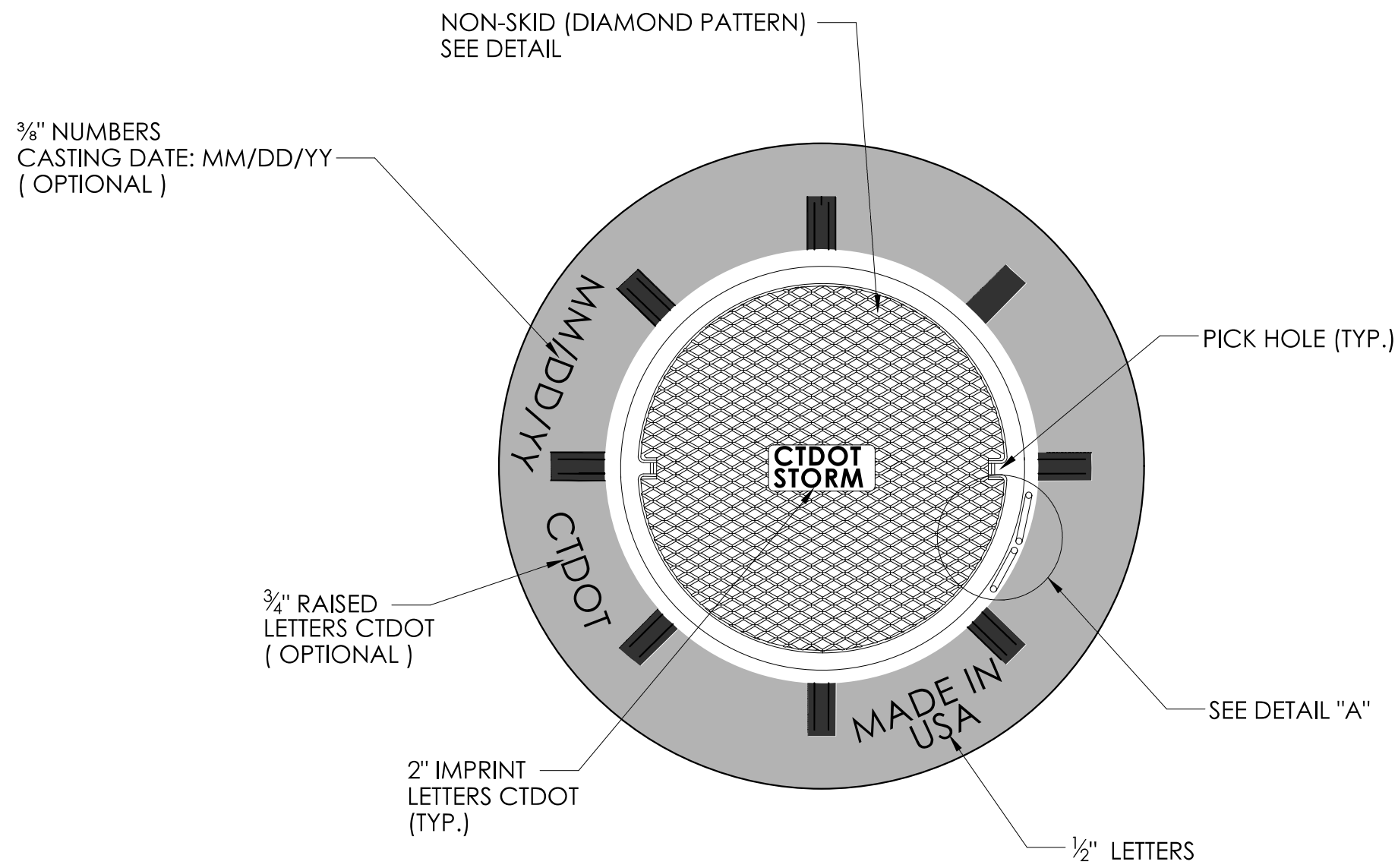
**WELDED STUD ANCHOR DETAILS
STEEL FRAME**

GENERAL NOTES:

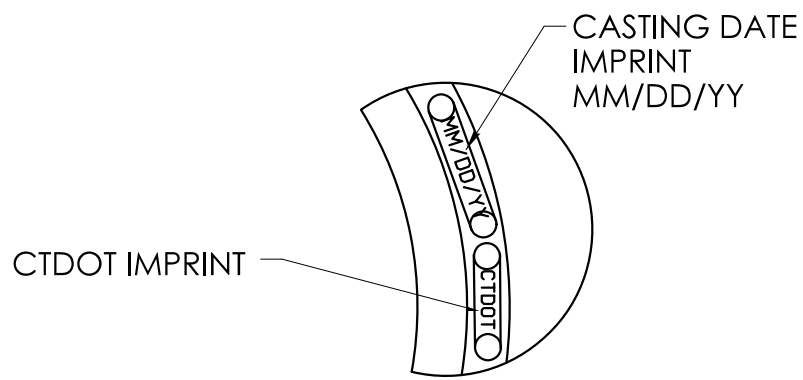
1. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
2. CASTING DATE SHALL BE INDICATED ON EACH; FRAME (SEE DETAIL A) AND COVER (PLACED ON UNDERSIDE).



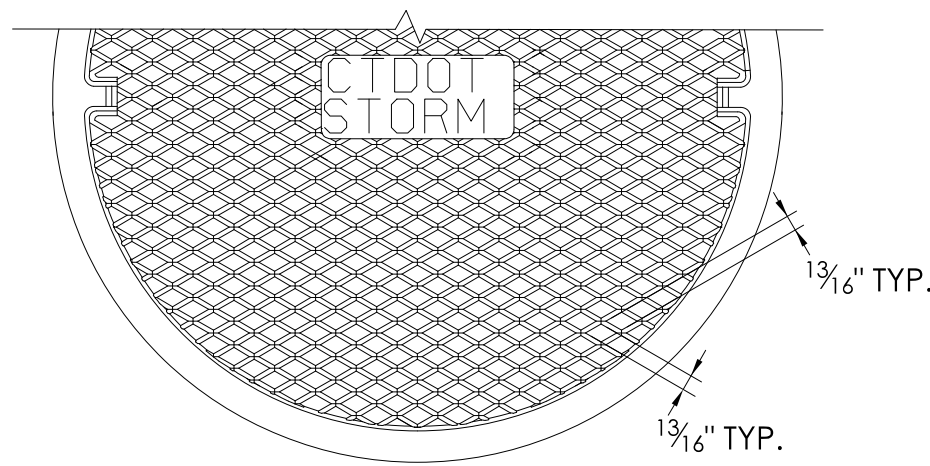
MANHOLE FRAME AND COVER



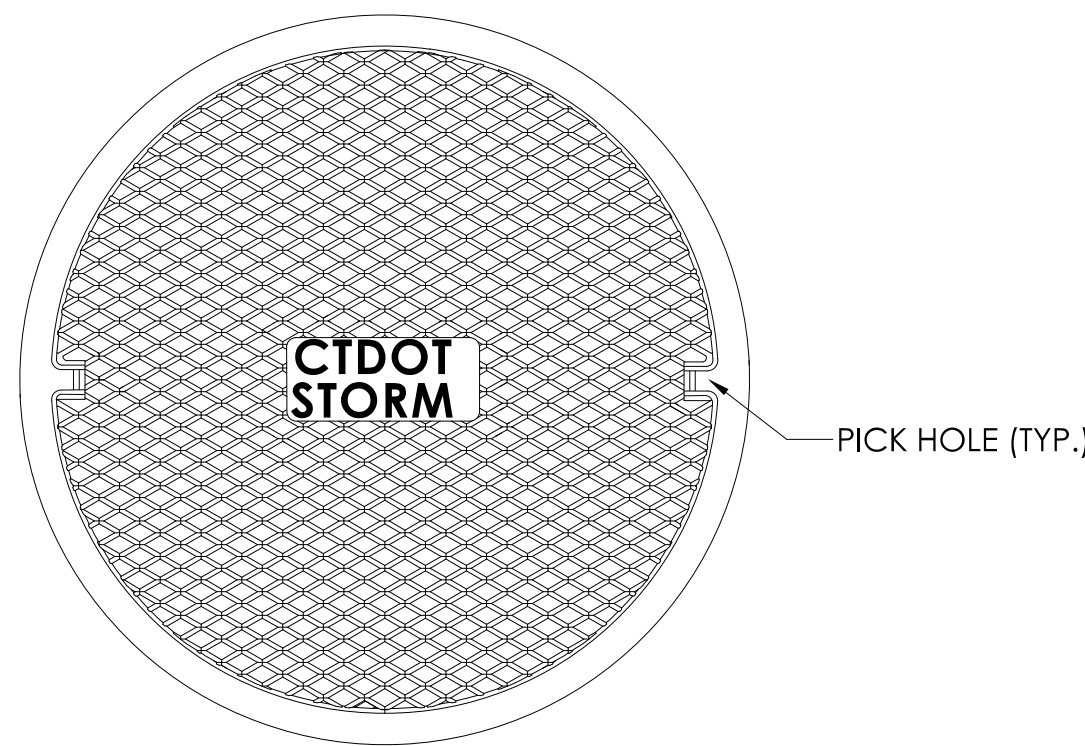
PLAN



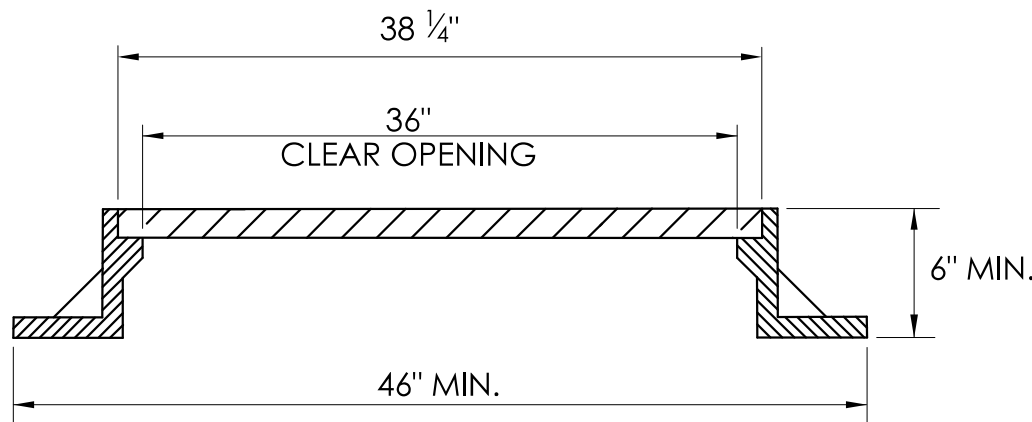
DETAIL "A"



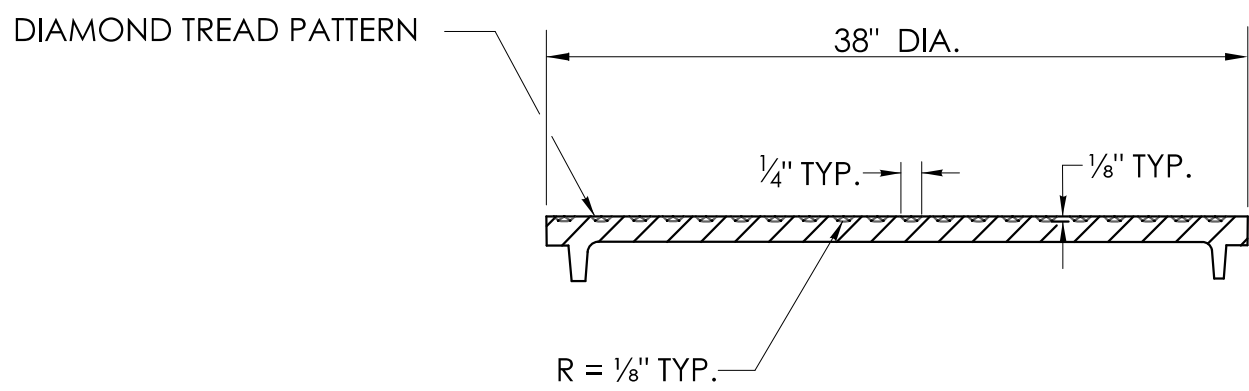
DIAMOND PATTERN
PLAN



MANHOLE COVER
PLAN

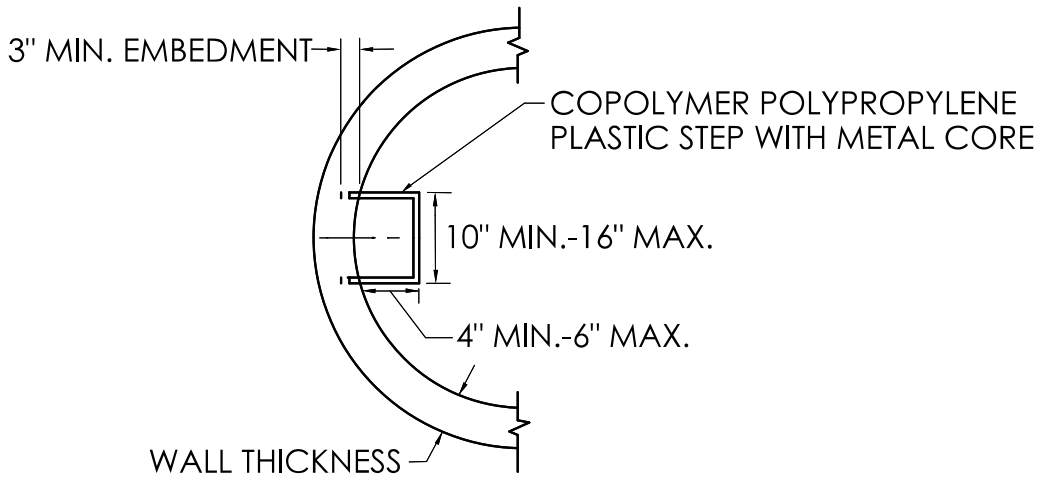


MANHOLE FRAME AND COVER

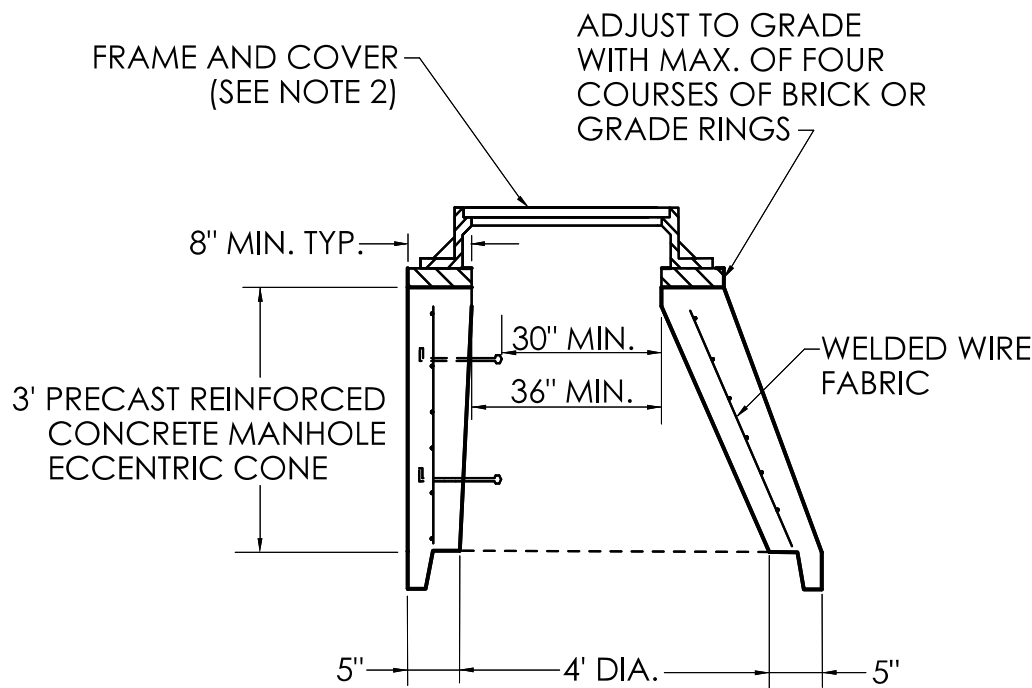


MANHOLE COVER WITH
DIAMOND PATTERN

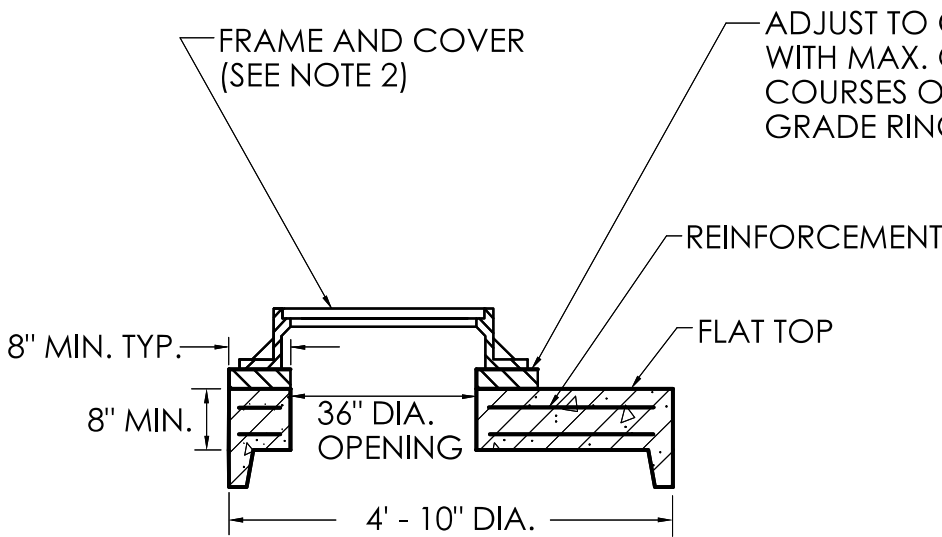
- GENERAL NOTES:**
1. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCE.
 2. SEE SHEETS HW-586_10a, AND HW-586_10b FOR MANHOLE FRAME, GRATE AND COVER DETAIL.



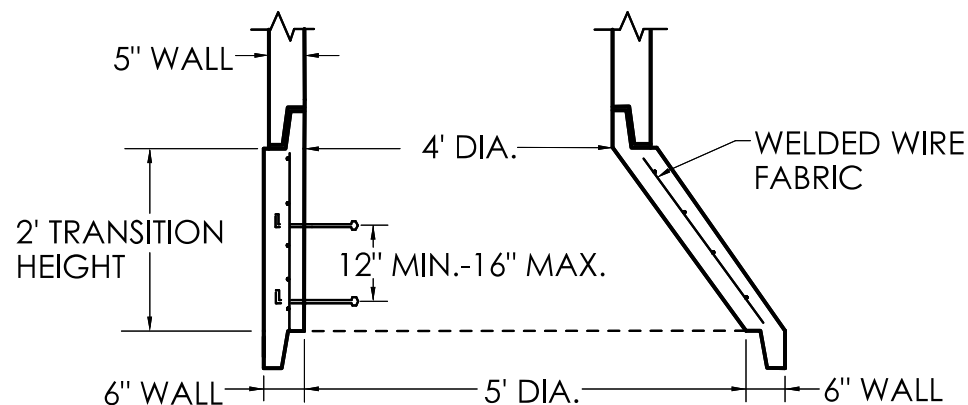
STEP DETAIL



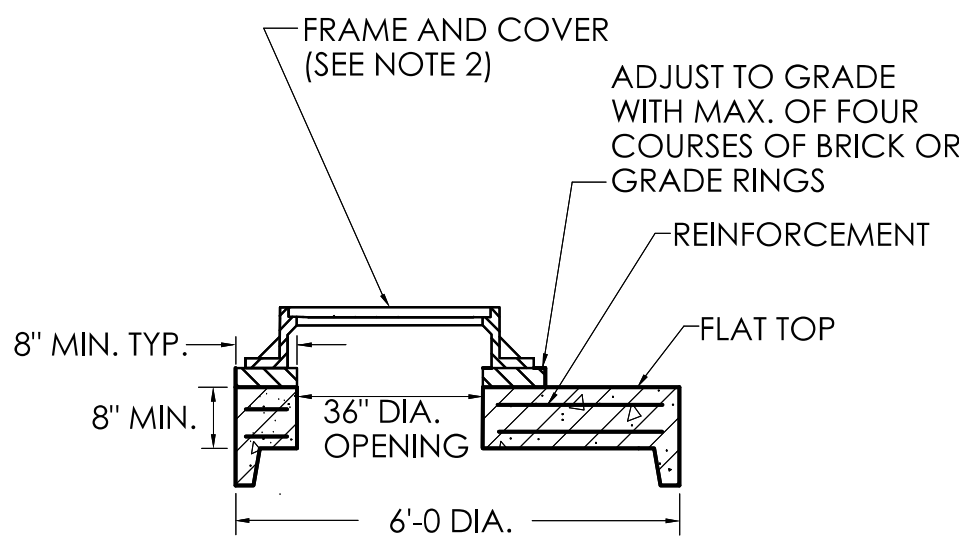
ECCENTRIC CONE SECTION



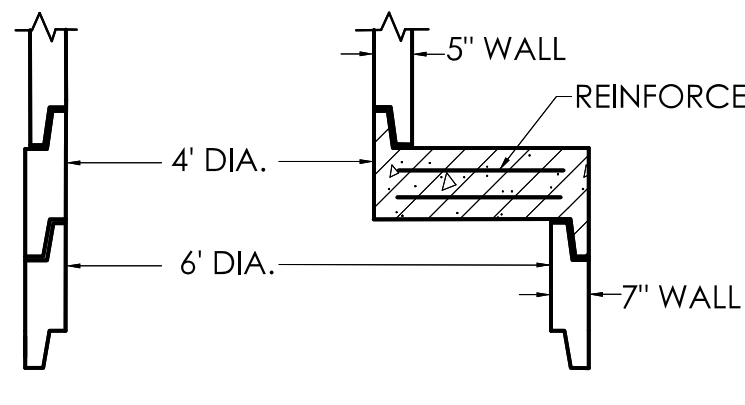
FLAT SLAB TOP FOR RISER SECTION



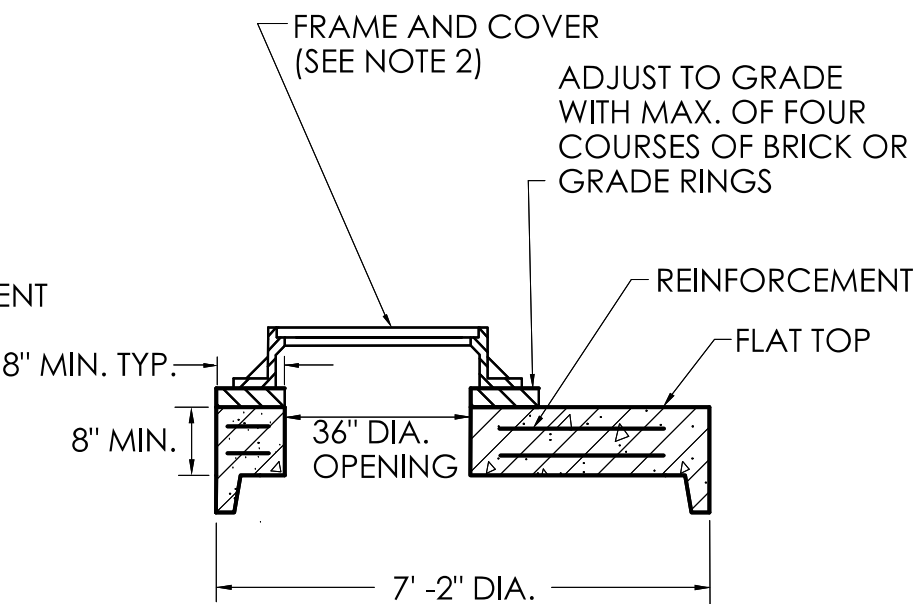
TRANSITION SECTION



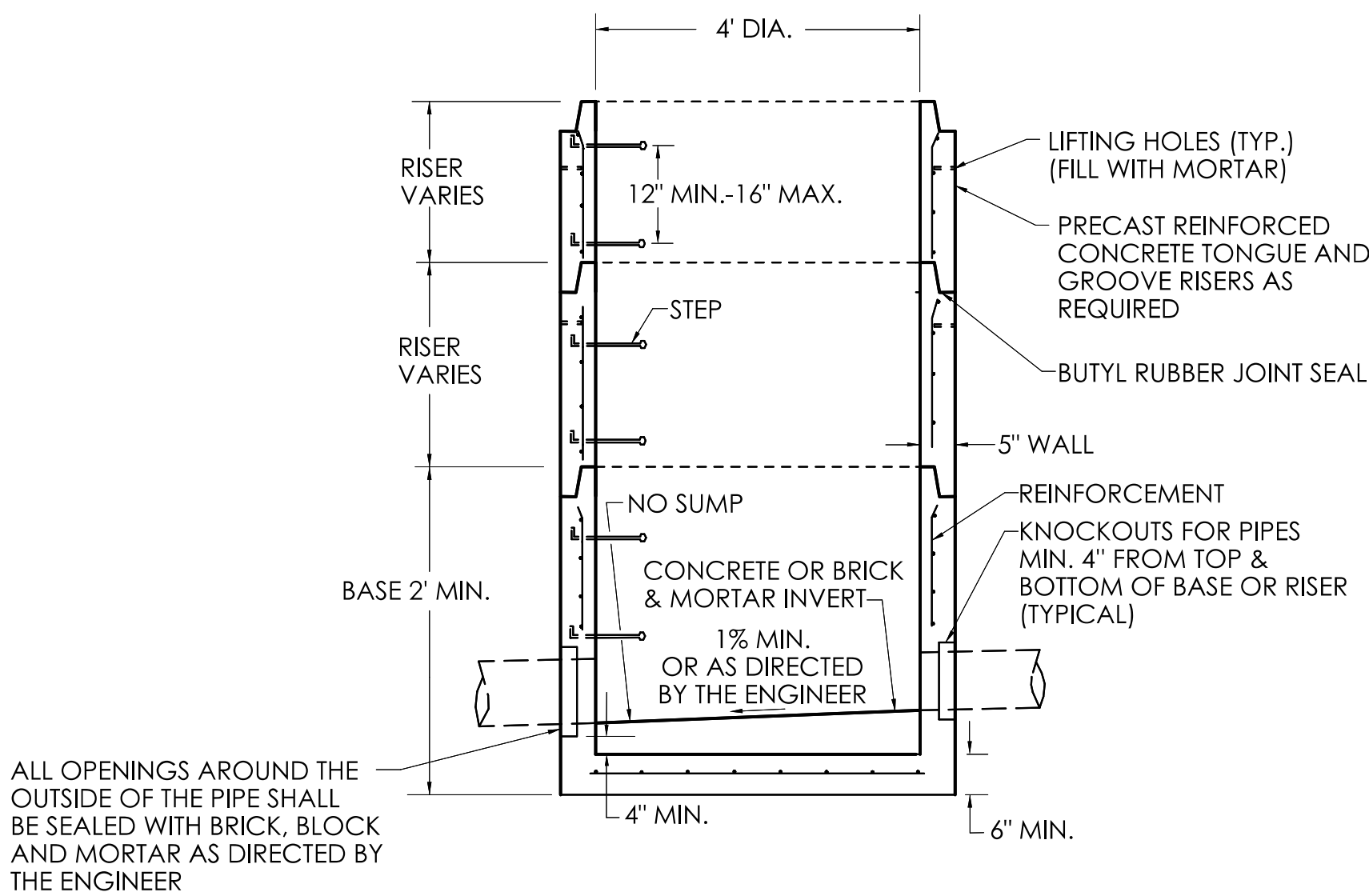
FLAT SLAB TOP FOR RISER SECTION



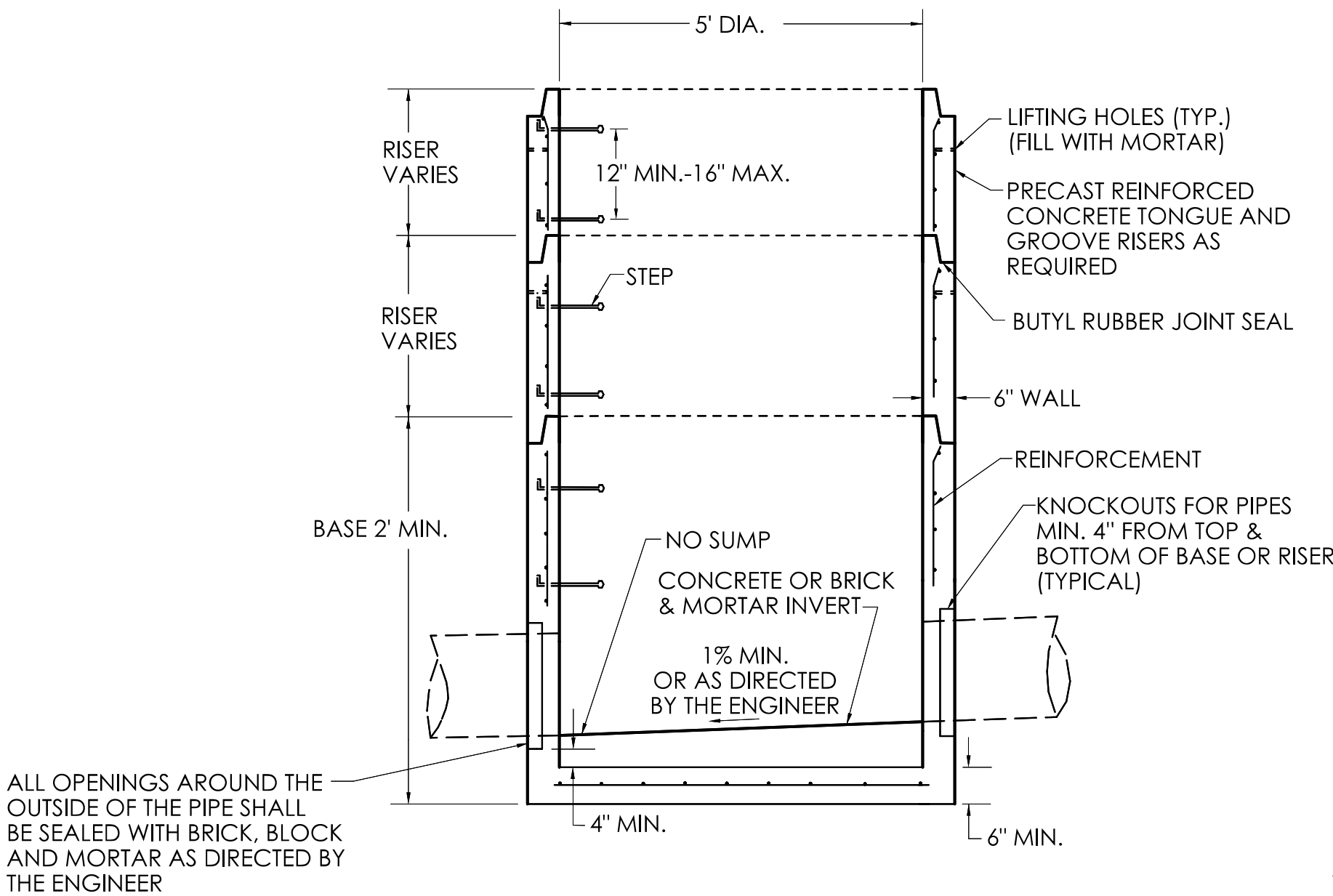
REDUCER SECTION



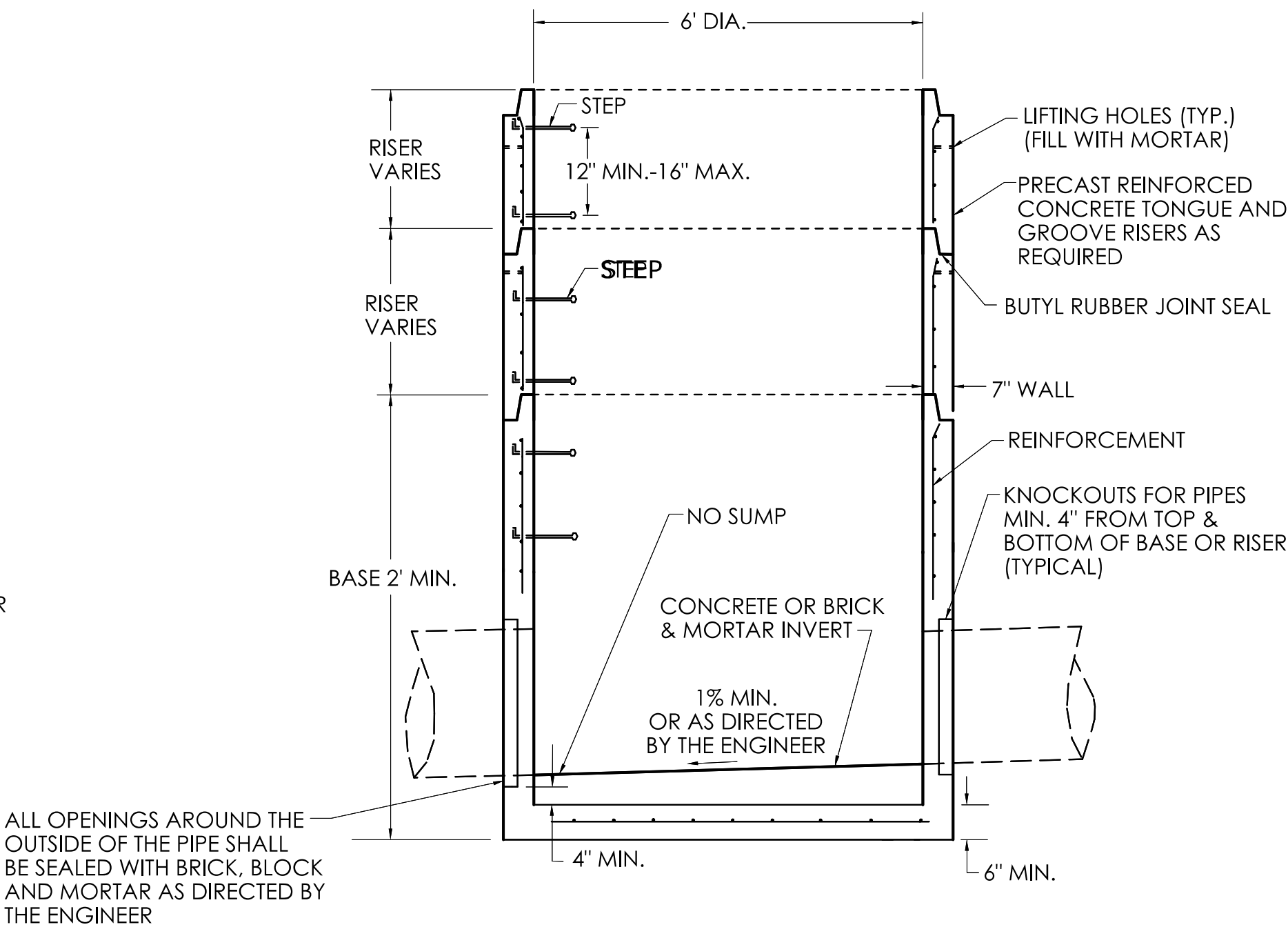
FLAT SLAB TOP FOR RISER SECTION



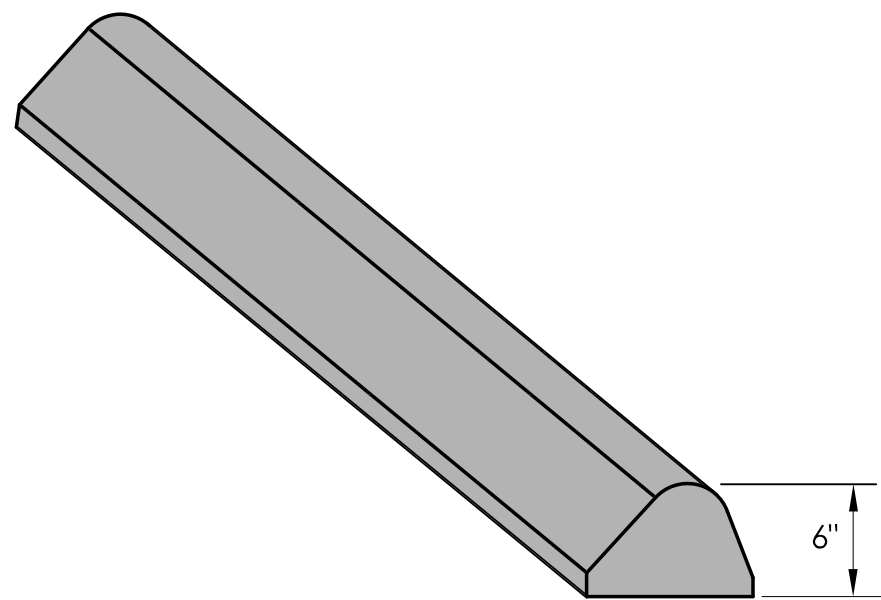
4' DIAMETER REINFORCED PRECAST CONCRETE MANHOLE SECTION



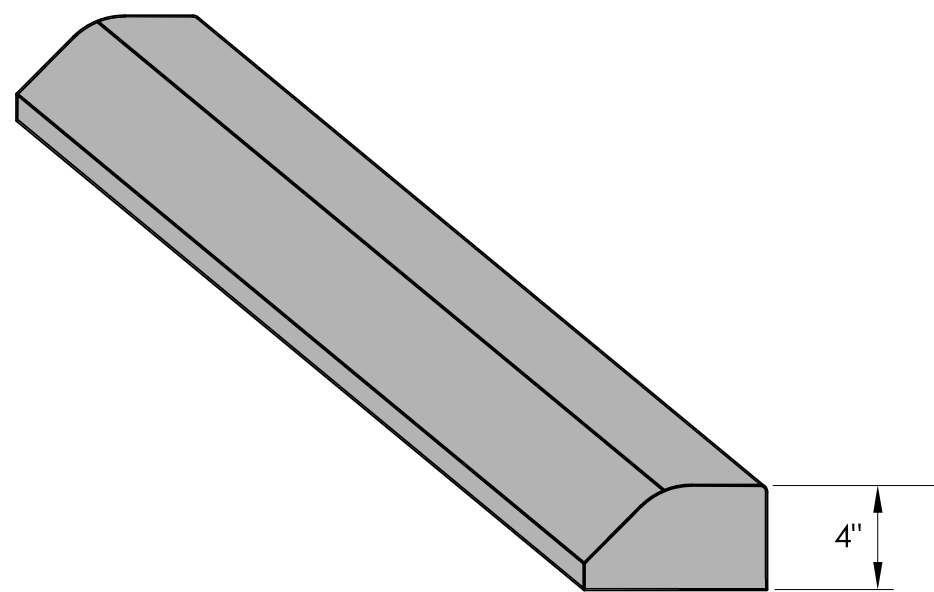
5' DIAMETER REINFORCED PRECAST CONCRETE MANHOLE SECTION



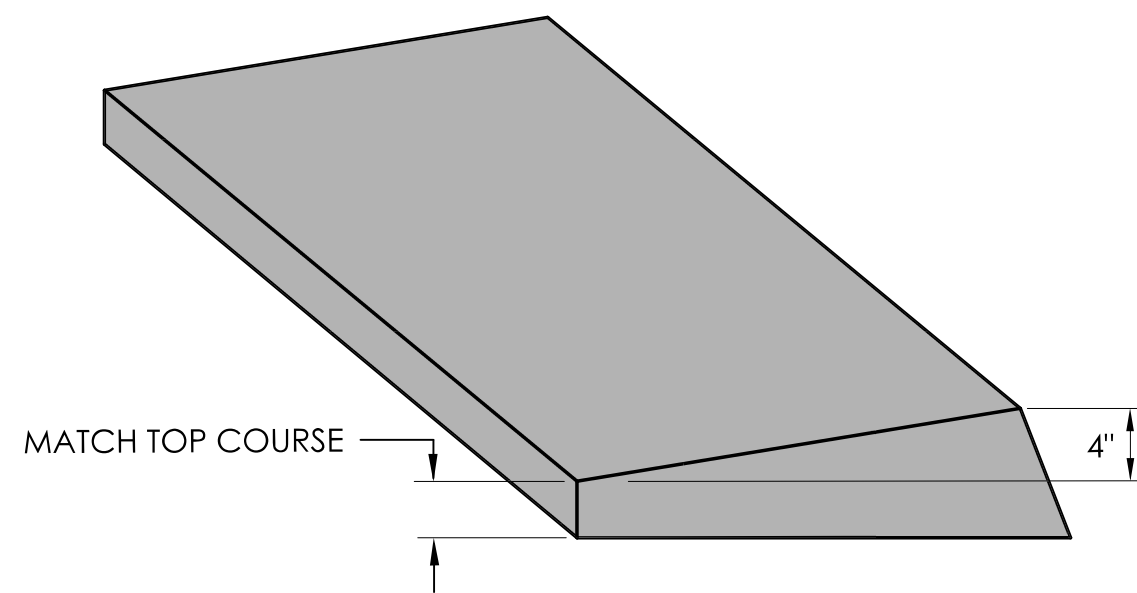
6' DIAMETER REINFORCED PRECAST CONCRETE MANHOLE SECTION



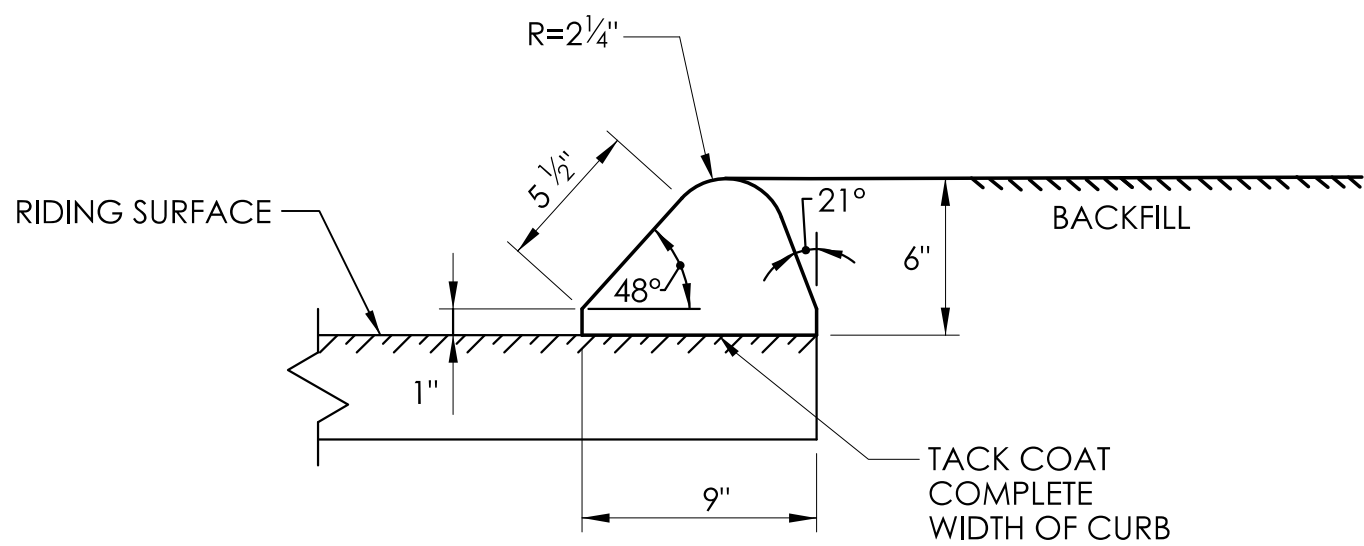
BITUMINOUS CONCRETE LIP CURBING
(6" HIGH)



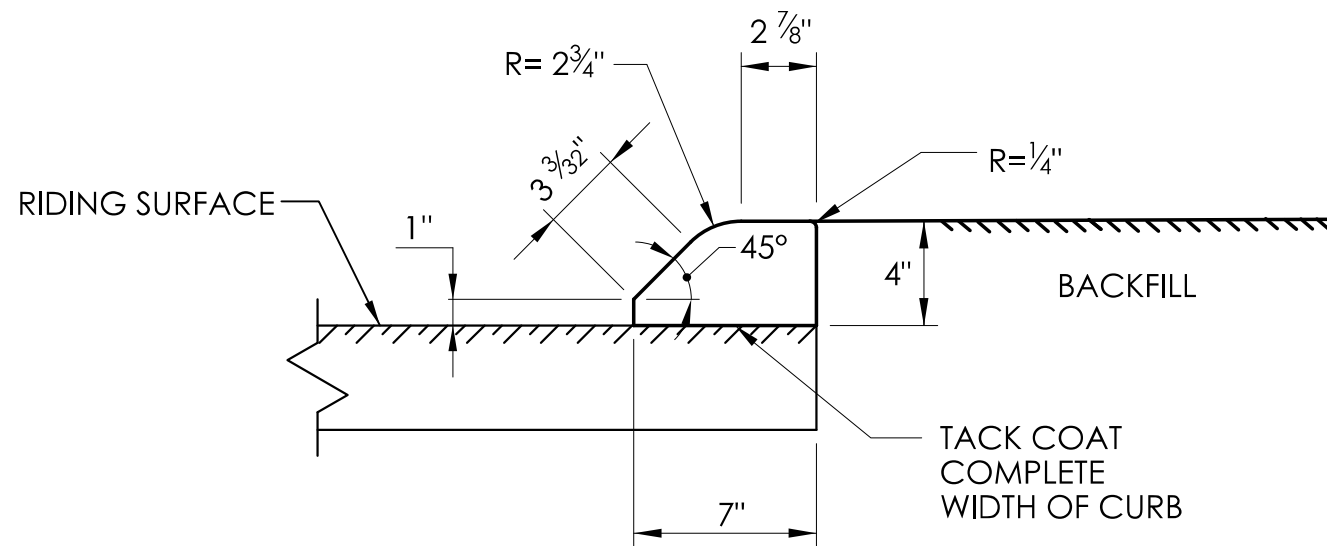
BITUMINOUS CONCRETE PARK CURBING
(4" HIGH)



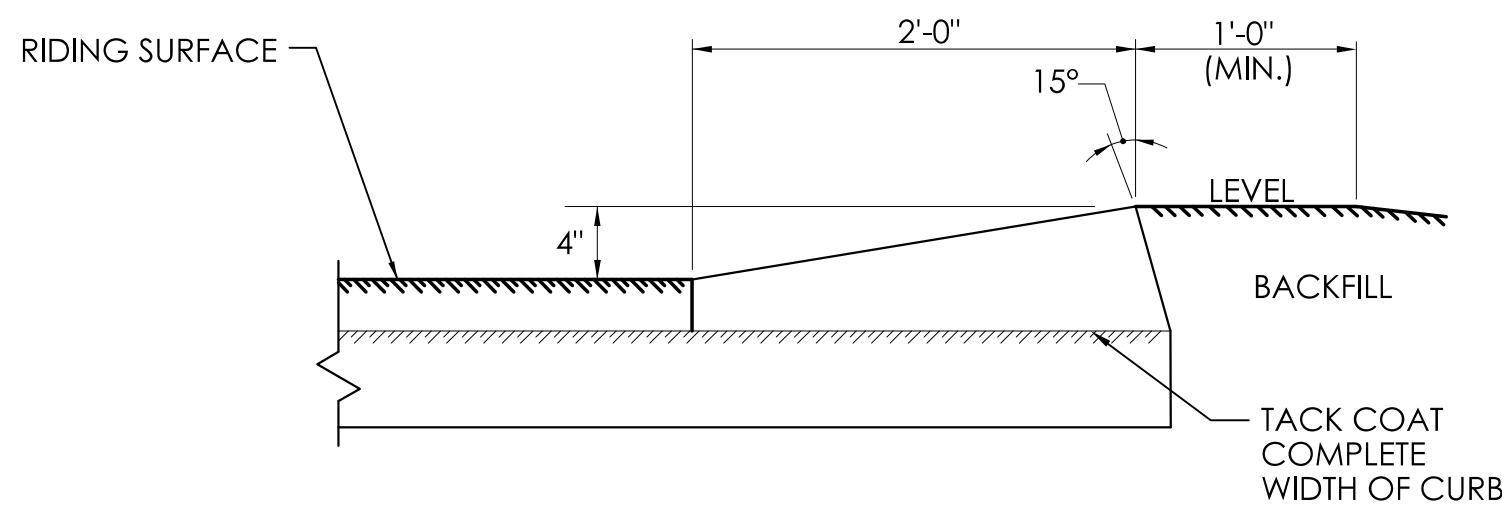
BITUMINOUS CONCRETE BERM CURBING
(4" HIGH)



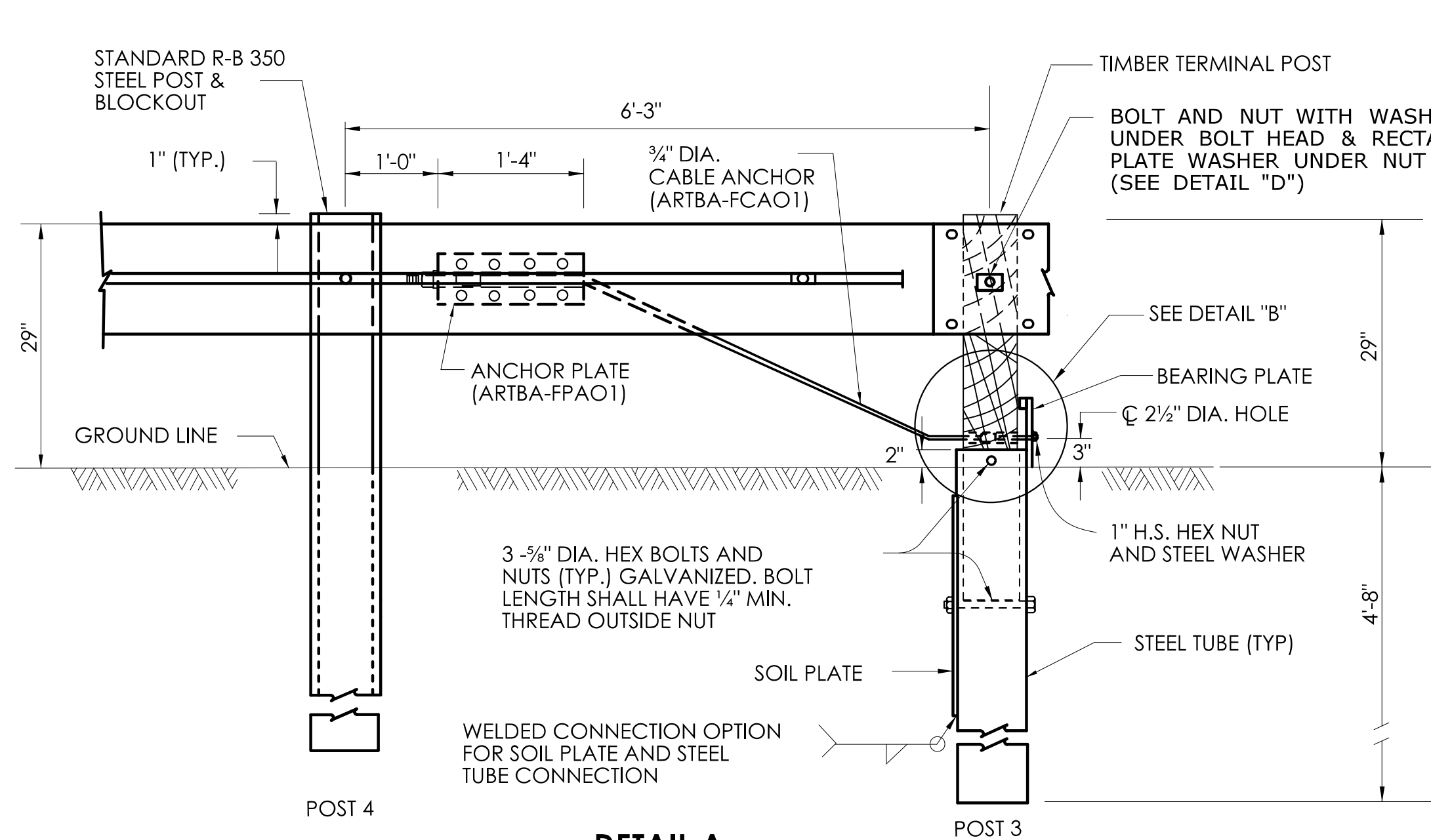
SECTION



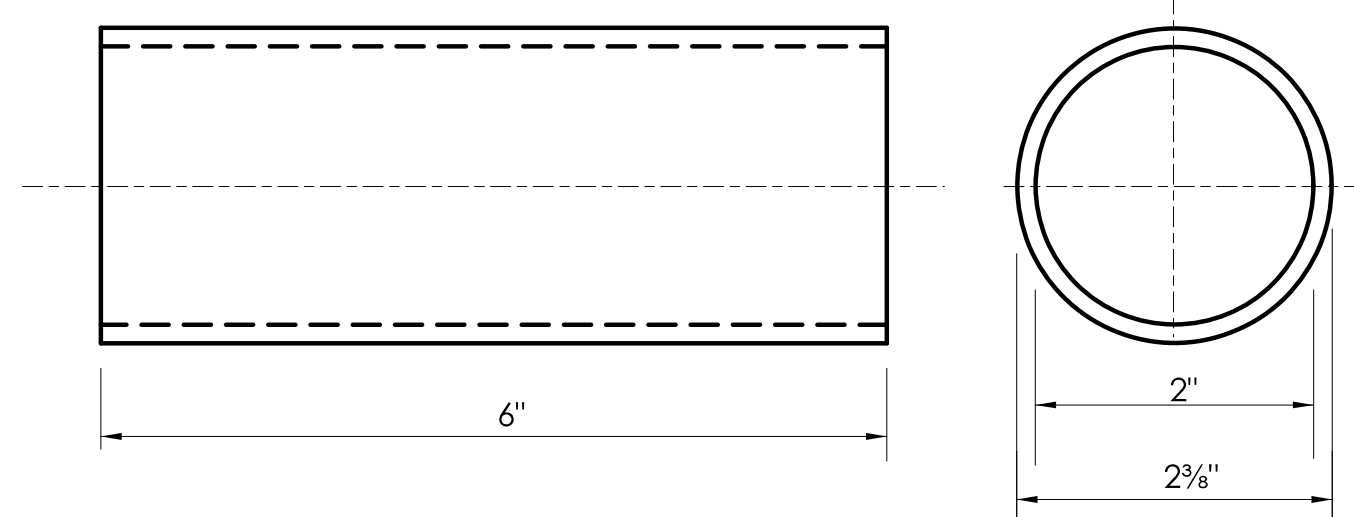
SECTION



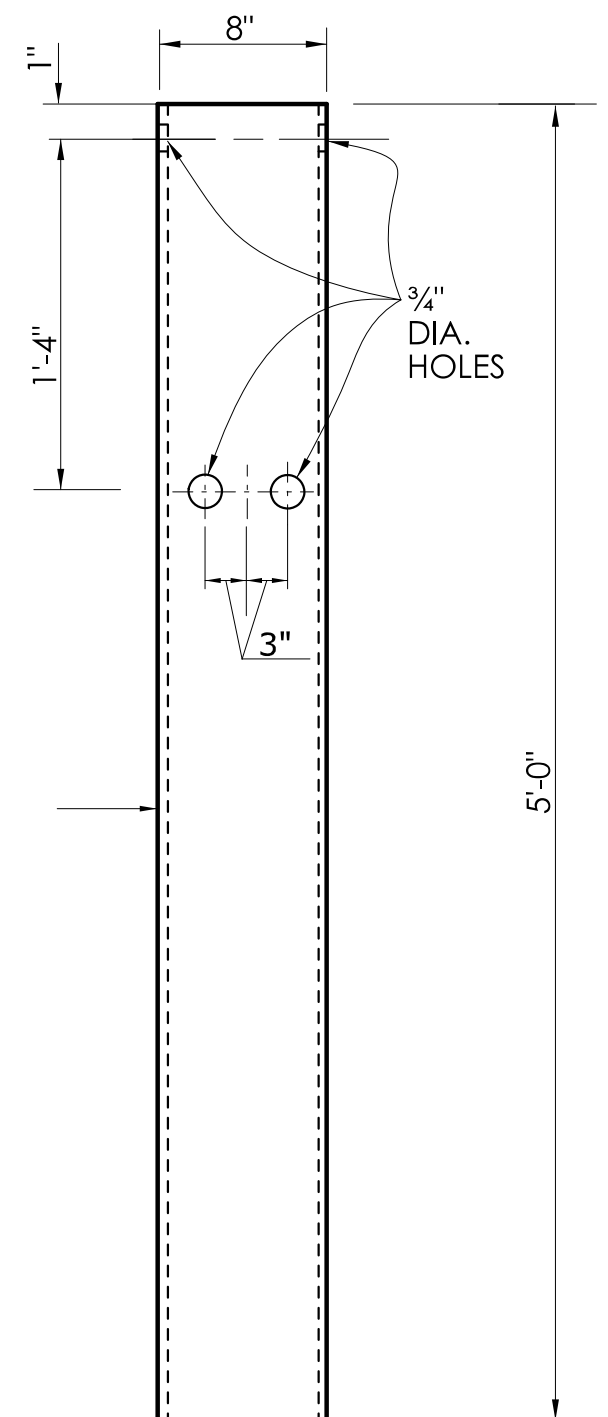
SECTION



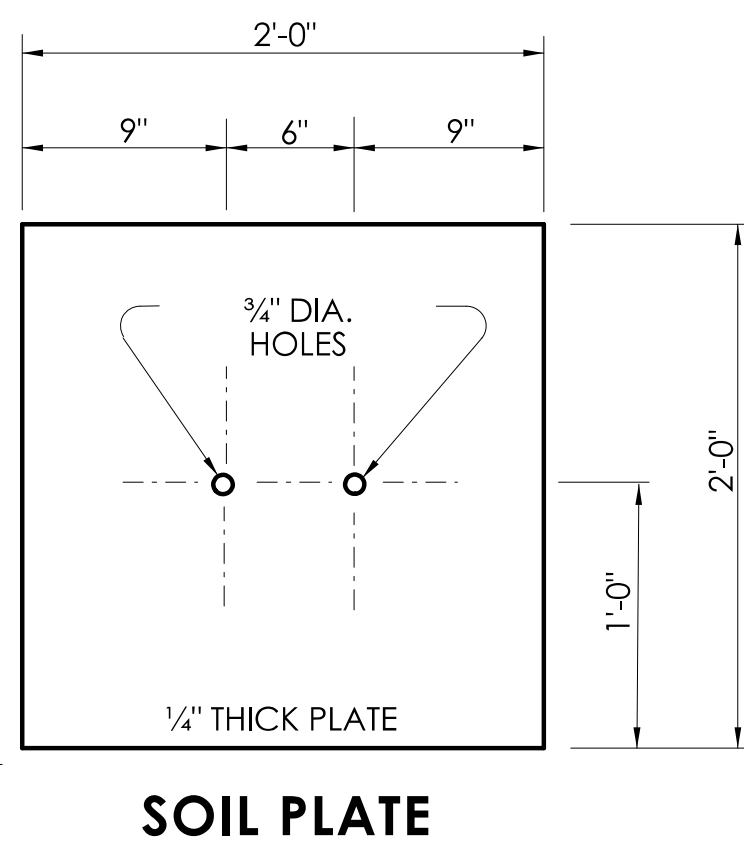
DETAIL A
CABLE ANCHORAGE ASSEMBLY



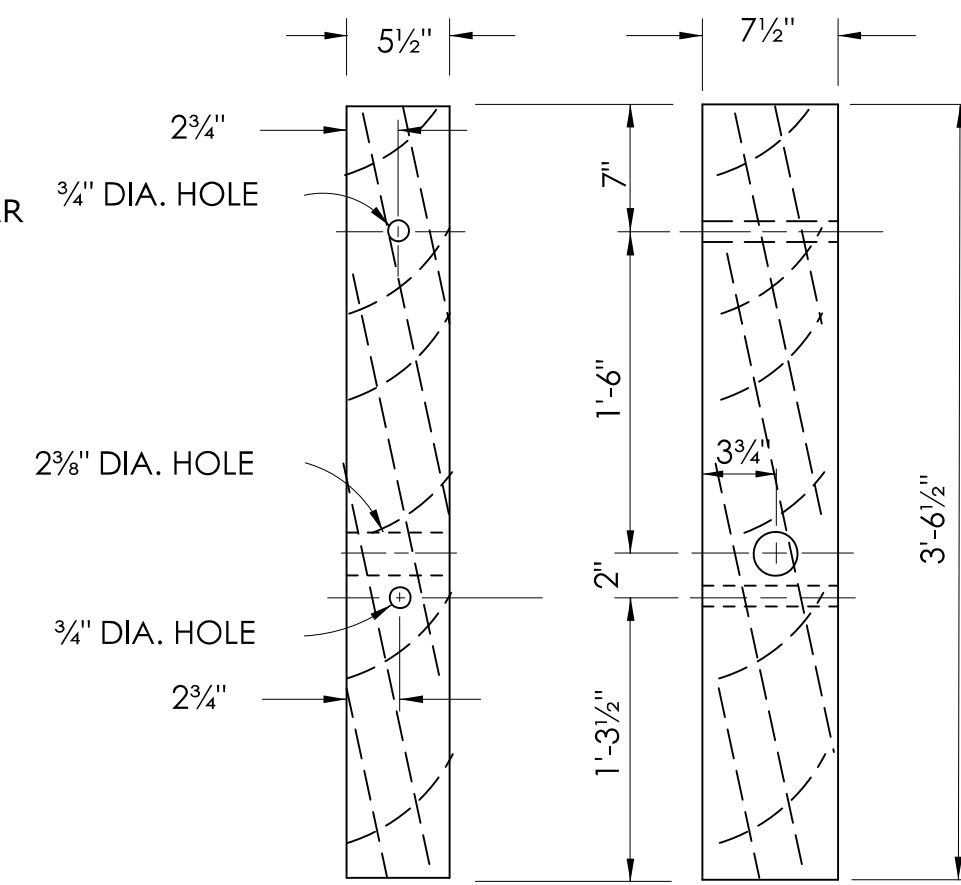
BREAKAWAY TERMINAL POST SLEEVE
(ARTBA-FMMO2)



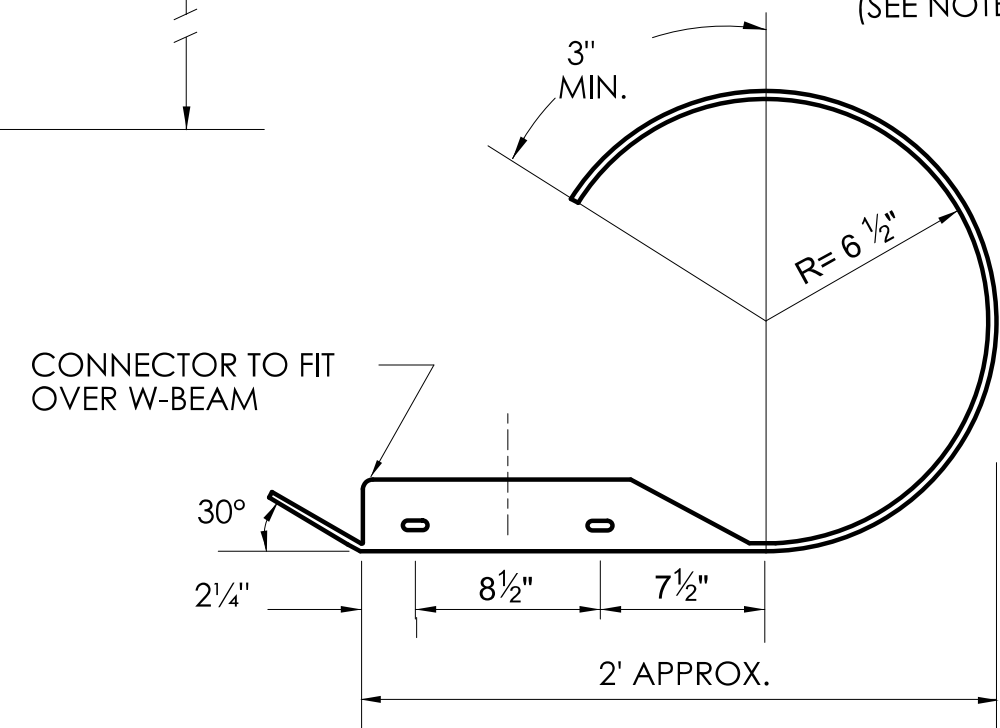
STEEL TUBE



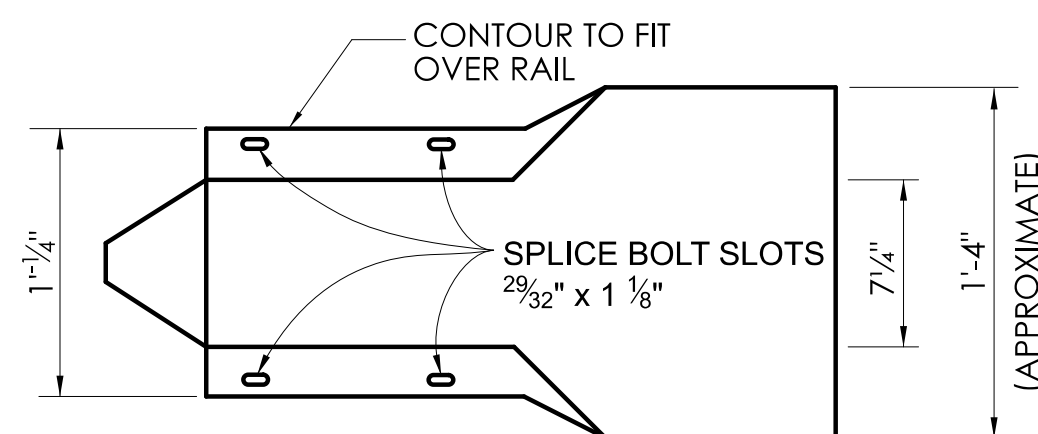
SOIL PLATE



DETAIL C
TIMBER TERMINAL POST
(ARTBA-PDFO1)
(SEE NOTE 2)

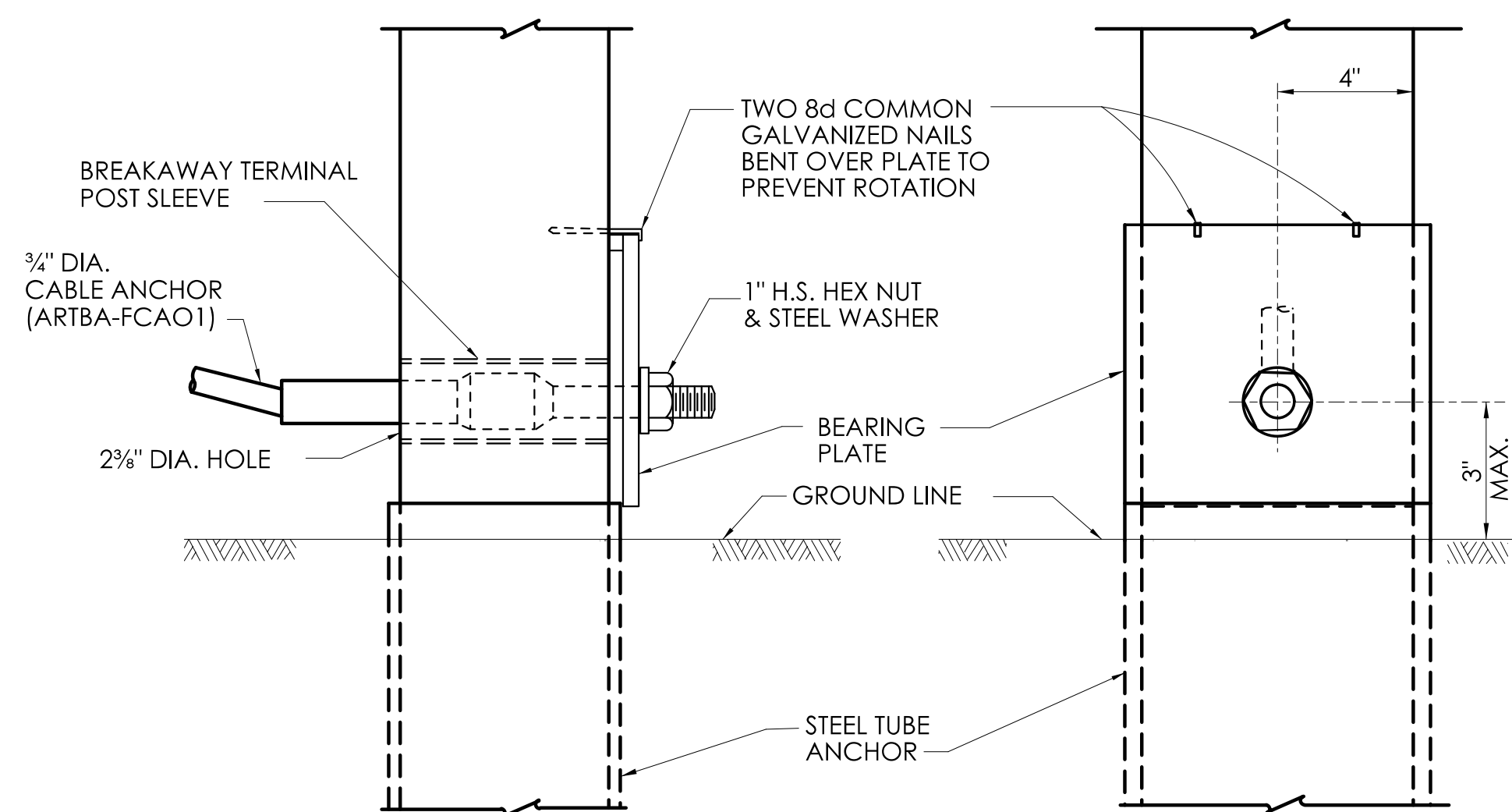


PLAN

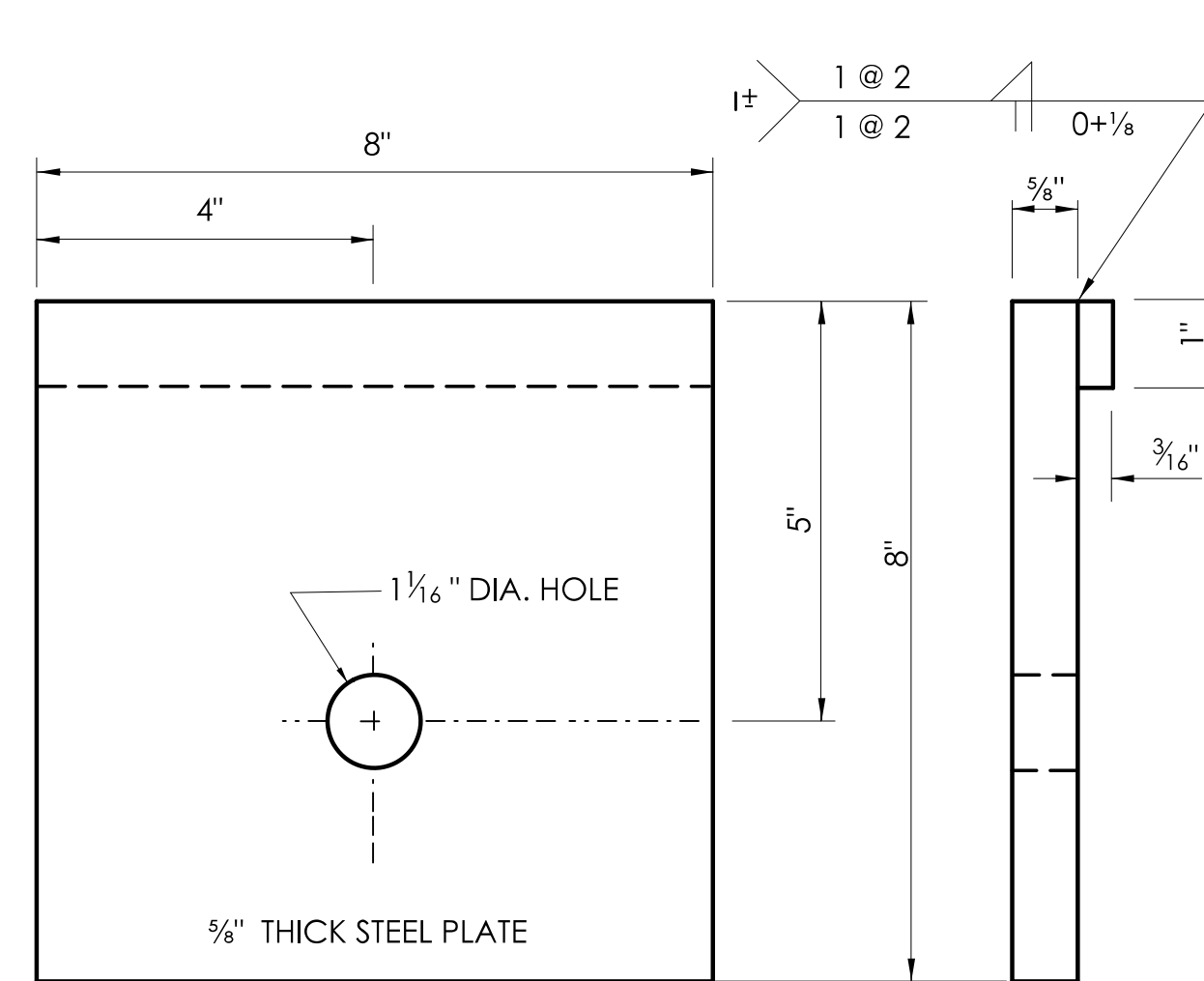


ELEVATION

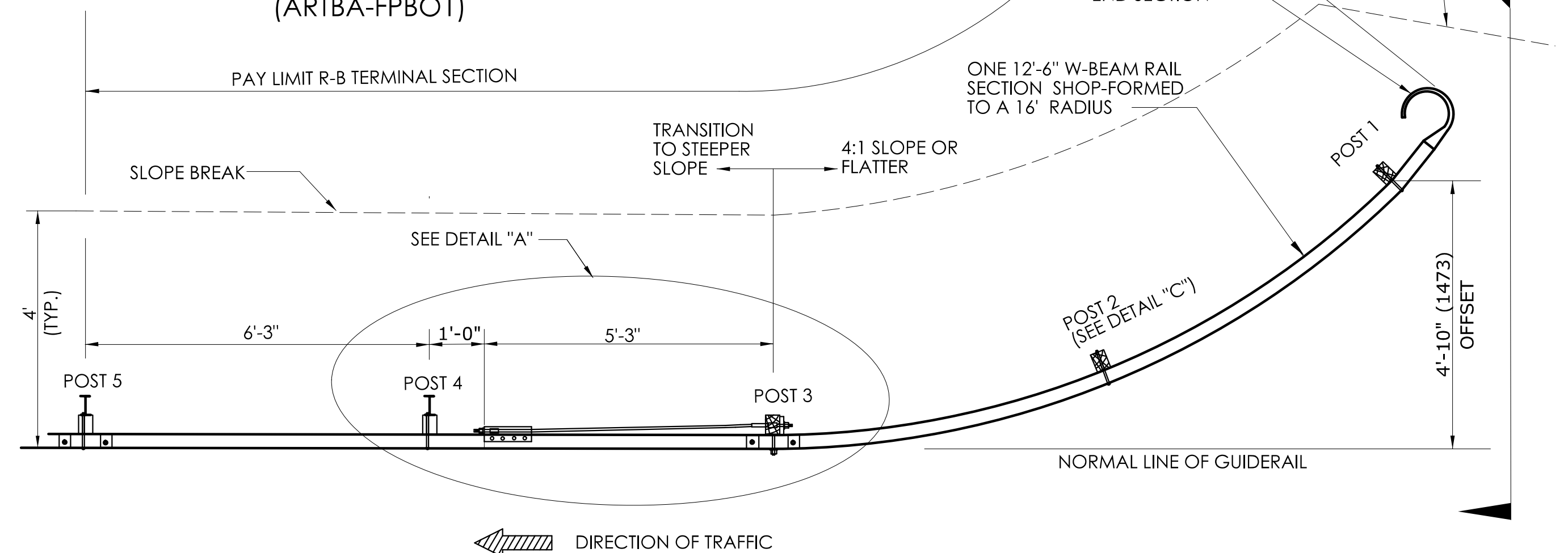
ROUNDED W-BEAM END SECTION



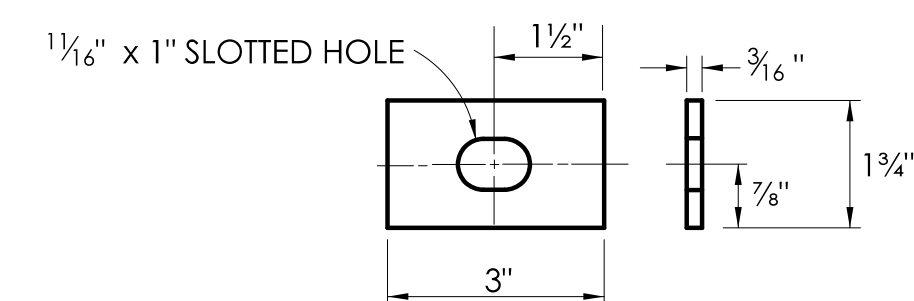
DETAIL B



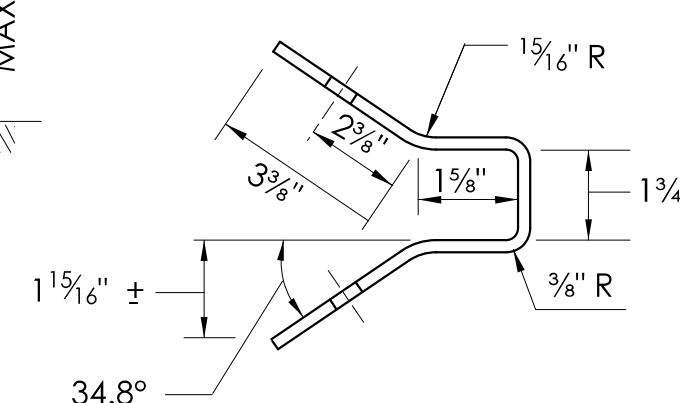
BEARING PLATE
(ARTBA-FPBO1)



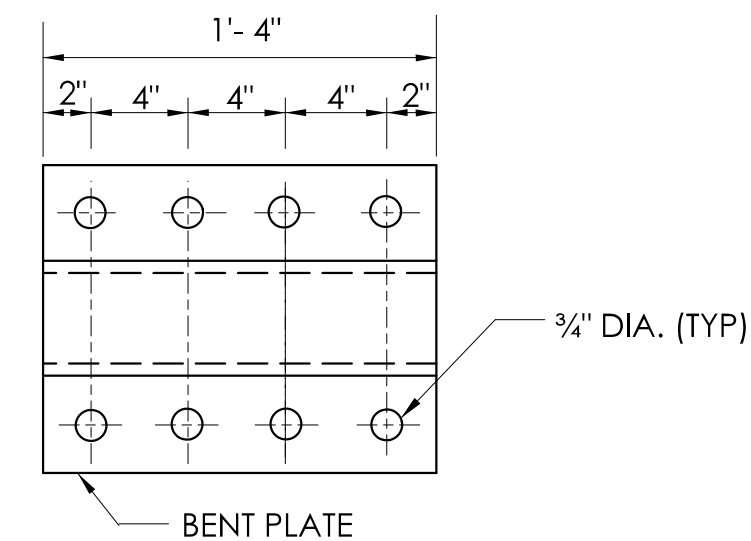
APPROACH END
(TRAILING END NOT SHOWN)



DETAIL D
RECTANGULAR PLATE WASHER



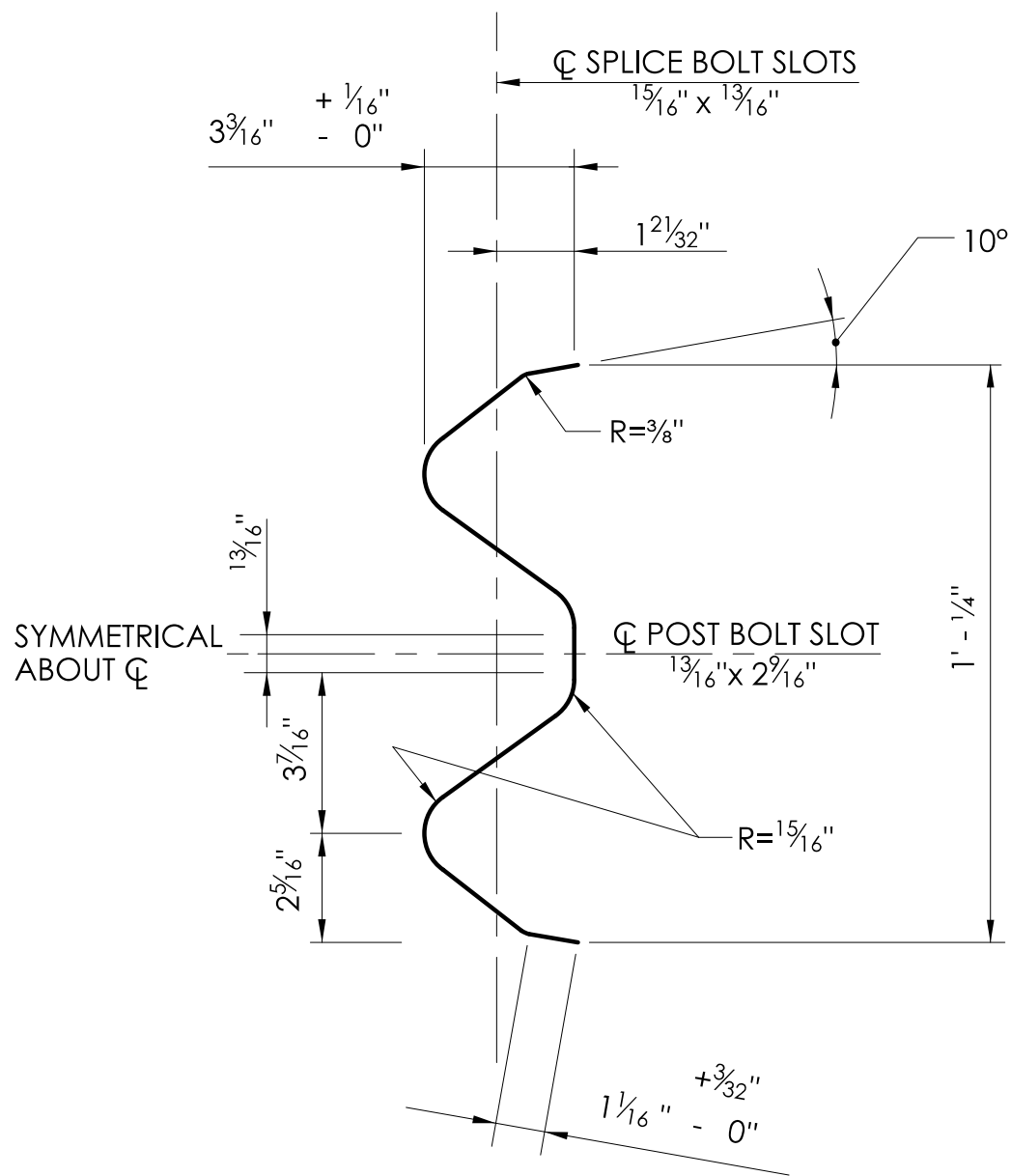
ANCHOR PLATE
(ARTBA-FPAO1)



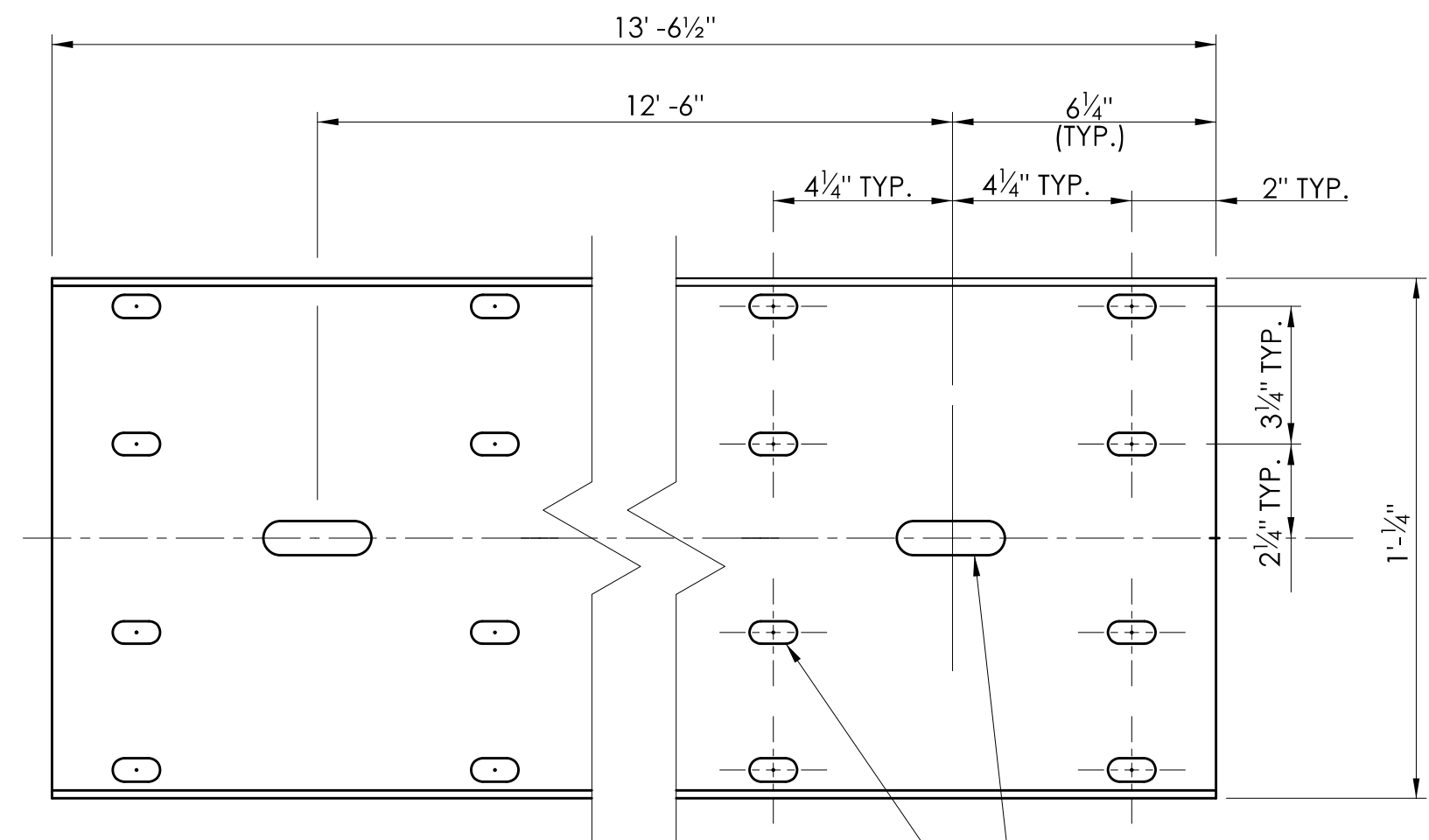
SECTION A

GENERAL NOTES:

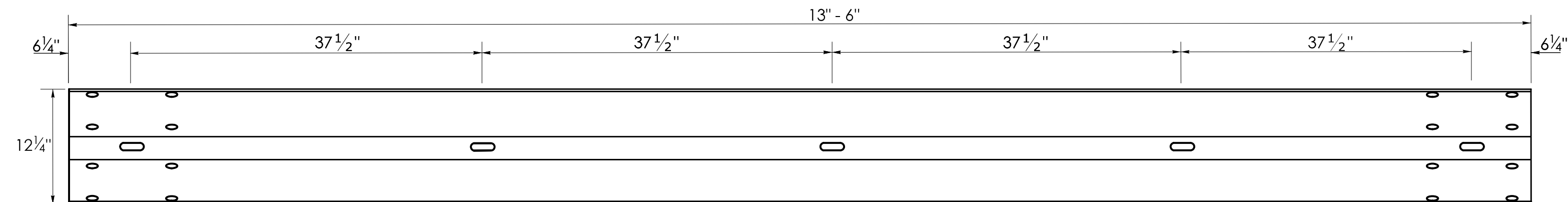
1. APPROACH END R-B TERMINAL SECTION SHALL ONLY BE USED ON LOW SPEED (<45 MPH) ROADWAYS.
2. POSTS 1, 2 AND 3 ARE TIMBER TERMINAL POSTS (DETAIL "C") WITH STEEL TUBES. POSTS 4 AND 5 ARE STANDARD R-B 350 STEEL POSTS WITH BLOCKOUTS.
3. REFER TO CTDOT STANDARD SPECIFICATIONS FOR MATERIAL AND GENERAL CONSTRUCTION METHODS.
4. MINIMUM RAIL HEIGHT FOR NEW CONSTRUCTION SHALL BE 29" +/- 1".



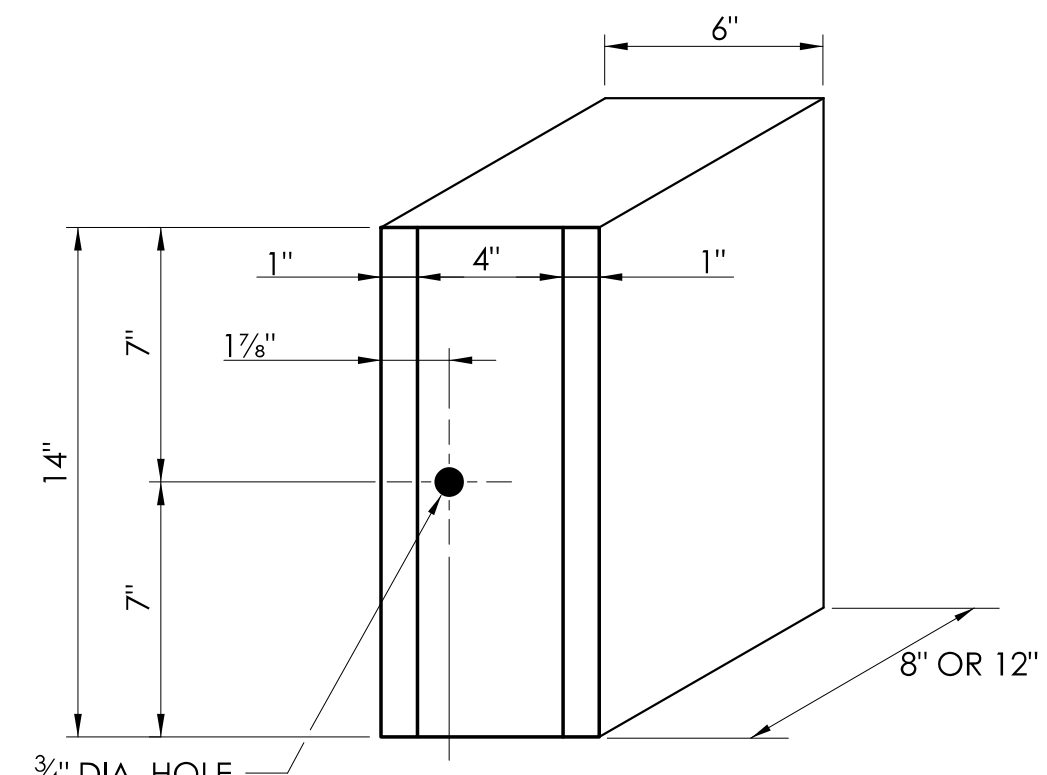
SECTION VIEW



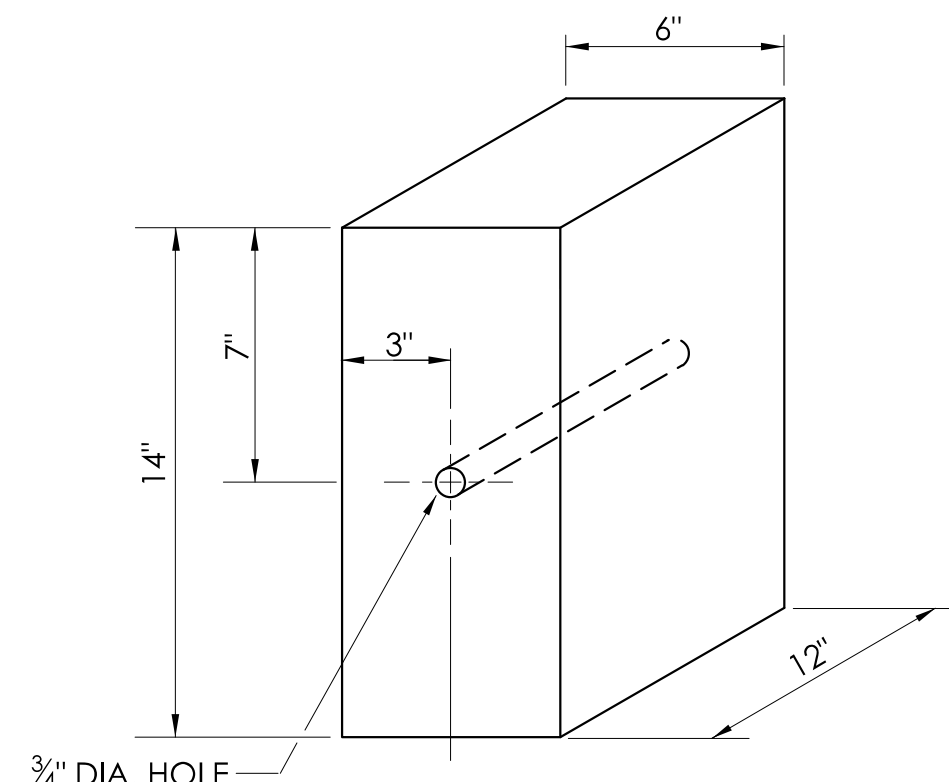
ELEVATION VIEW



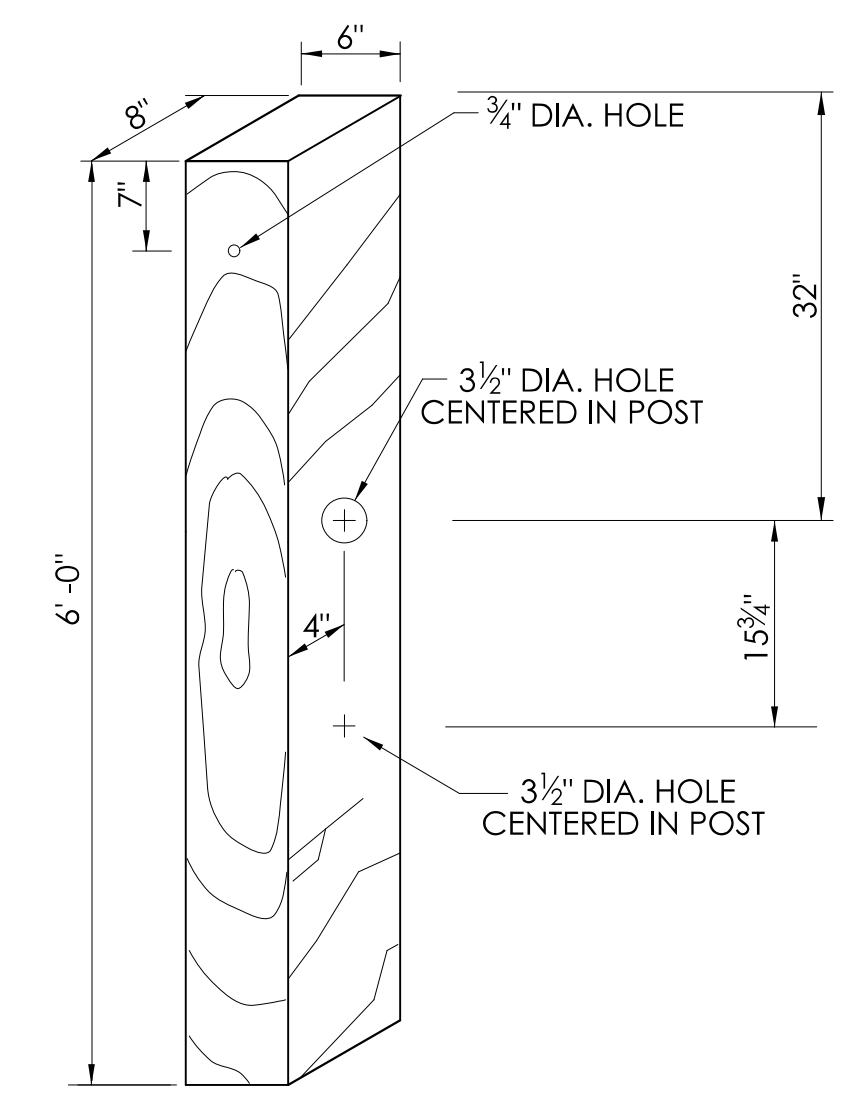
TYPICAL W-BEAM RAIL ELEMENT



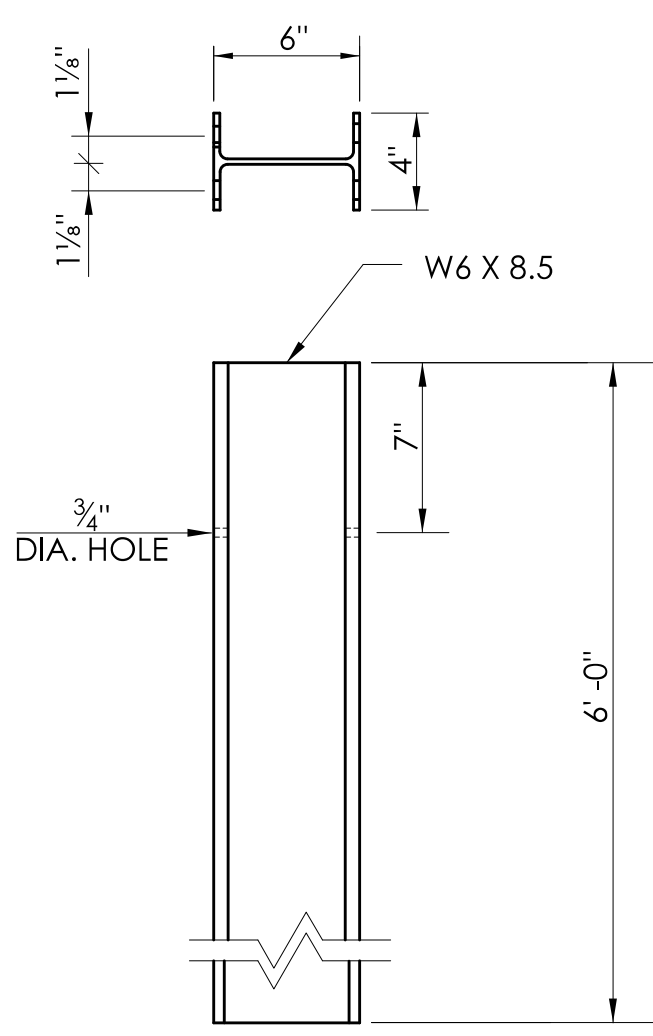
8" or 12" PLASTIC BLOCKOUT
NOMINAL DIMENSIONS



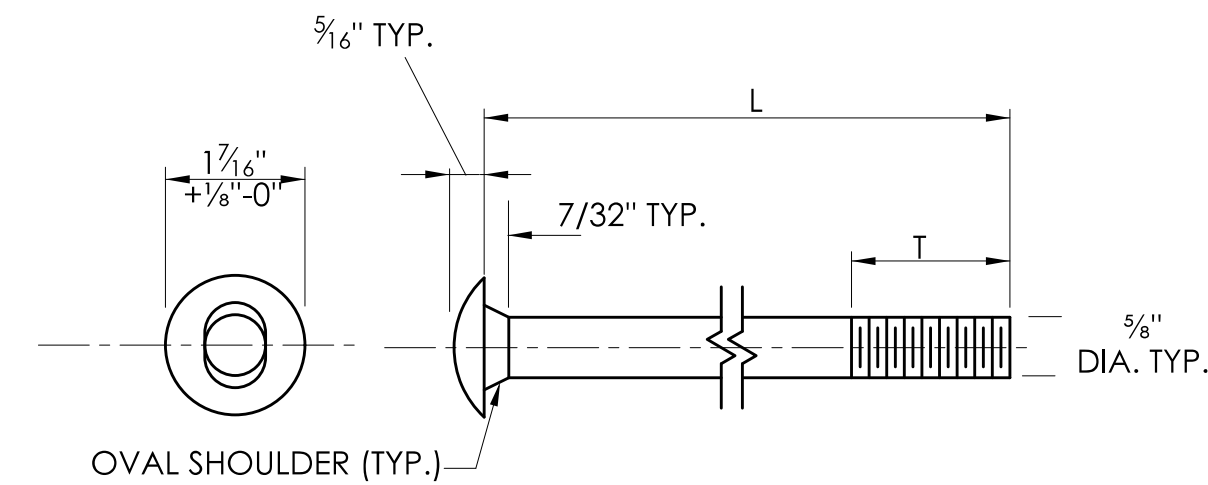
12" WOOD BLOCKOUT



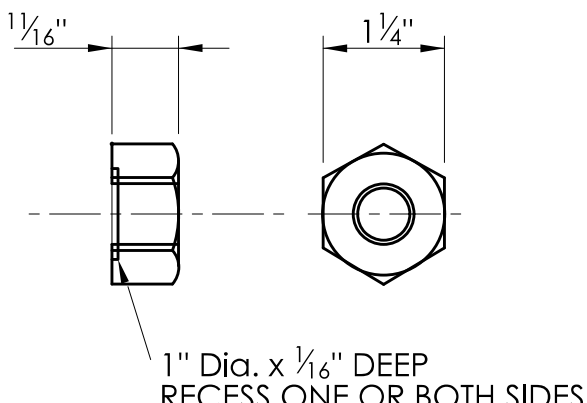
CONTROL RELEASE TIMBER (CRT) POST
6' - 0" LONG



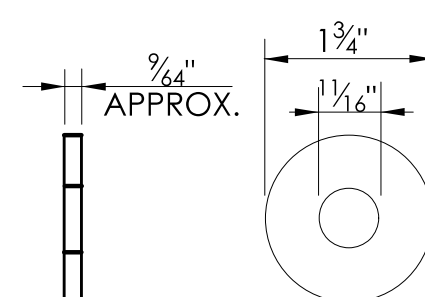
STEEL POST
6' - 0" LONG



5/8" BUTTONHEAD BOLT



HEX NUT



WASHER
[FWC16a]

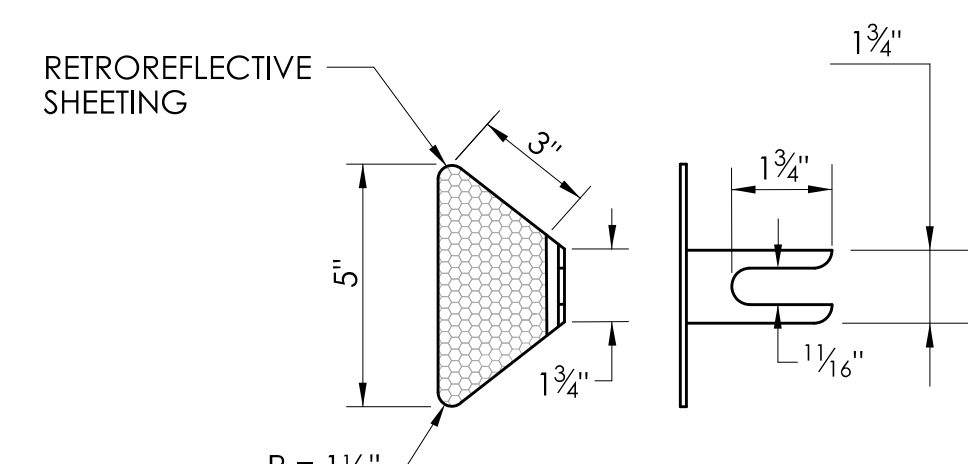
DESIGNATOR	L	T	INTENDED USE
FBB01	1 1/2"	1 1/8"	RAIL SPLICE BOLTS
FBB02	2"	1 3/4"	RUB RAIL BOLTS
FBB03	10"	4"	POST BOLTS (8" BLOCK OUTS)
	14"	4"	POST BOLTS (12" BLOCK OUTS)
FBB04	18"	4"	POST BOLTS (2-8" BLOCK OUTS)
	22"	4"	POST BOLTS (CRT WOOD POST SYSTEM)

5/8" BUTTON HEAD BOLT(S) AND RECESSED NUT(S)

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.

GENERAL NOTES:

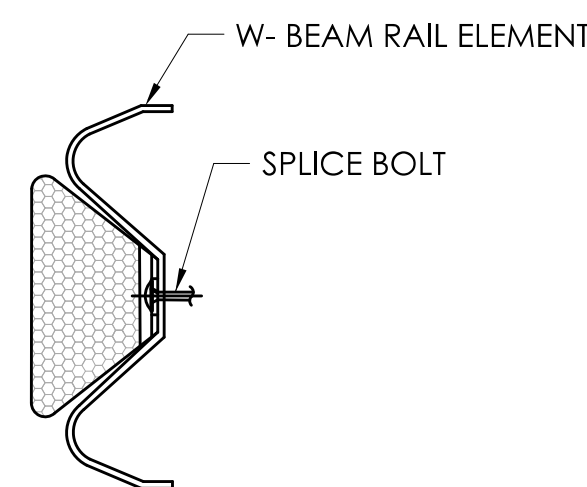
- W6 x 9 POSTS MAY BE USED IN PLACE OF W6 x 8.5 POSTS.
- W-BEAM GUIDERAIL SHALL USE CLASS A (12 GAUGE), TYPE II W-BEAM RAIL ELEMENTS.
- SEVEN FOOT LONG STEEL POSTS (W6 X 8.5) ARE TO BE INSTALLED WHERE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES



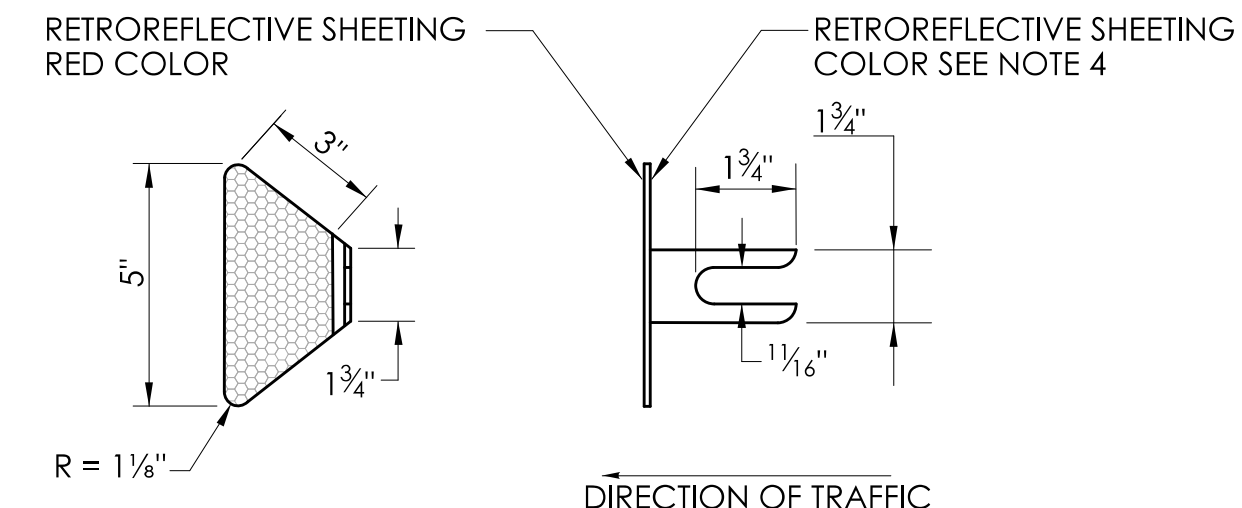
W-BEAM DELINEATOR

INSTALLATION NOTES:

- INSTALL W-BEAM DELINEATORS ON RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 8' FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE W-BEAM DELINEATORS SHALL BE INSTALLED ON ANY LENGTH OF GUIDERAIL.
- THE SPACING OF W-BEAM DELINEATORS IS 50 FEET, INSTALLED AT RAIL SPLICE LOCATIONS. SPACING IS 25 FEET ON RADII LESS THAN 300 FEET.
- NO W-BEAM DELINEATORS ARE PERMITTED WITHIN 75 FEET OF THE IMPACT HEAD OF ANY TANGENTIAL OR FLARED IMPACT ATTENUATION SYSTEM.
- RETROREFLECTIVE 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.
- FOR HIGHWAY OFF RAMP, INSTALL W-BEAM DOUBLE SIDED DELINEATORS ACCORDING TO INSTALLATION REQUIREMENTS STATED BELOW FOR W-BEAM DOUBLE SIDED DELINEATORS.



W-BEAM DELINEATOR
INSTALLATION



W-BEAM DOUBLE SIDED DELINEATOR
FOR HIGHWAY OFF RAMPs

INSTALLATION NOTES:

- INSTALL W-BEAM DOUBLE SIDED DELINEATORS ON HIGHWAY OFF RAMPs W-BEAM GUIDERAIL BETWEEN THE PAINTED TRAFFIC STOP LINE TO THE FARTHEST "WRONG WAY" SIGNS FROM THE INTERSECTION.
- INSTALL THE W-BEAM DOUBLE SIDED DELINEATORS AT 6'-3" SPACING.
- NO W-BEAM DOUBLE SIDED DELINEATORS ARE PERMITTED WITHIN 75 FEET OF THE IMPACT HEAD OF ANY TANGENTIAL OR FLARED IMPACT ATTENUATION SYSTEM.
- RETROREFLECTIVE SHEETING COLOR SHALL BE RED ON BACKSIDE (NOT FACING NORMAL DIRECTION OF TRAFFIC) WITH FRONT SIDE HAVING WHITE EXCEPT ON THE LEFT SIDE OF RAMPs.WHERE IT SHALL BE YELLOW.

NOT TO SCALE

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

SUBMITTED BY:
Digitally signed by
Leo Fontaine, P.E.
Date: 2024.12.19
14:56:01-05'00'

APPROVED BY:
Digitally signed by
Michael N. Calabrese, P.E.
Date: 2025.01.29
12:30:53-05'00'



CONNECTICUT
DEPARTMENT OF
TRANSPORTATION

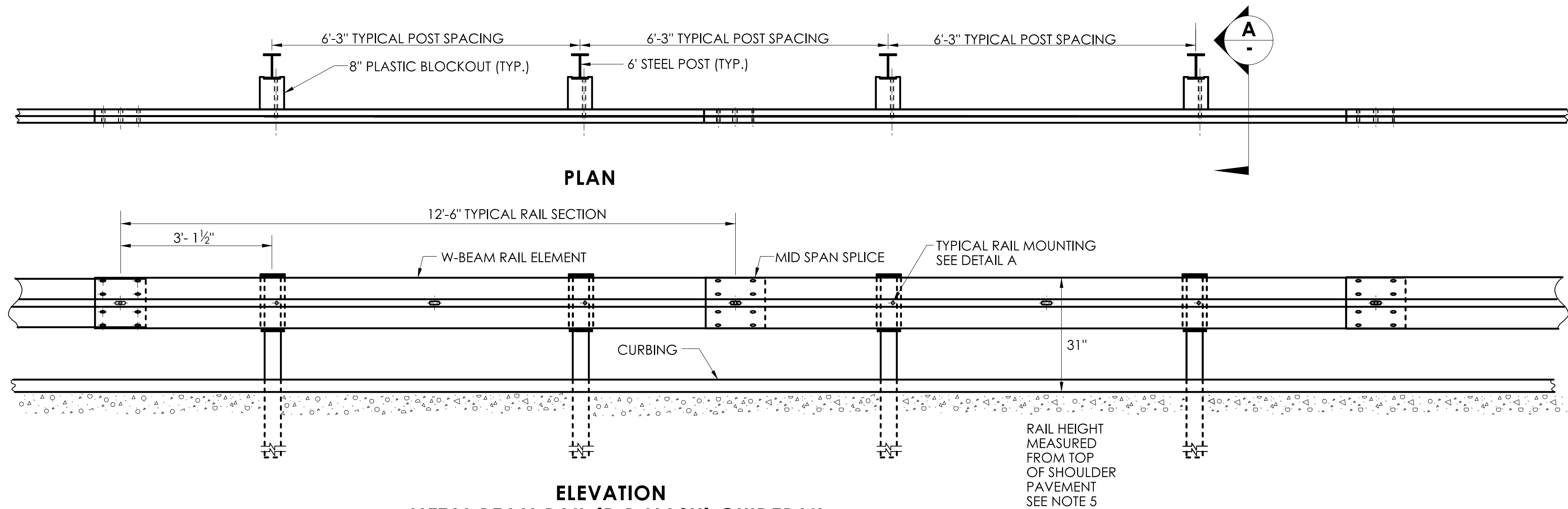
CTDOT
STANDARD SHEET

STANDARD SHEET TITLE:

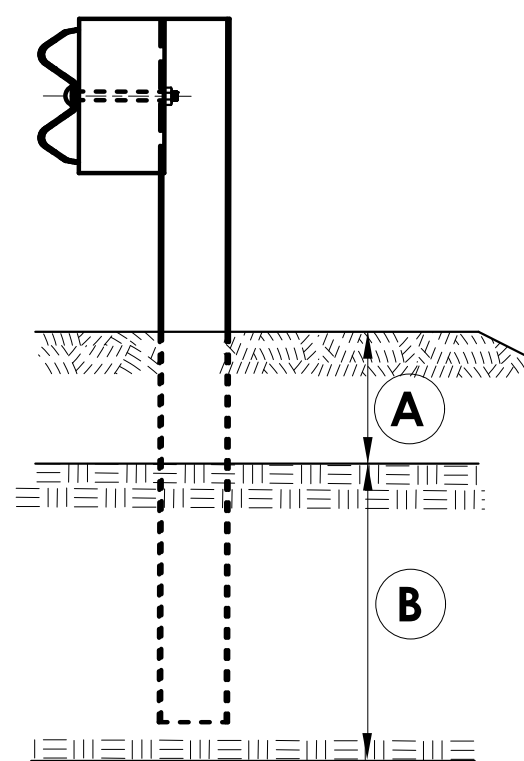
MASH W-BEAM HARDWARE

STANDARD SHEET NO.:

HW-910_20



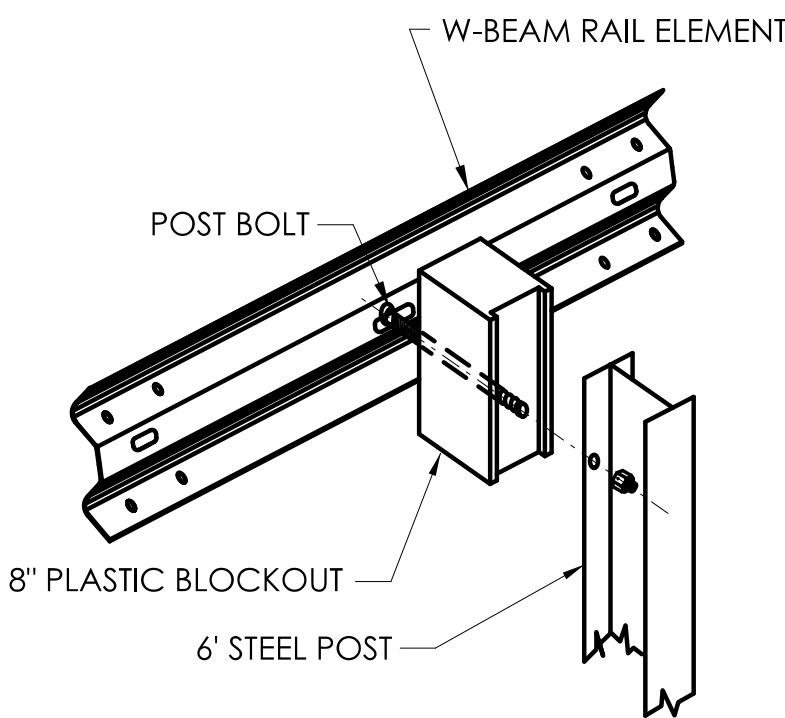
ELEVATION
METAL BEAM RAIL (R-B MASH) GUIDERAIL



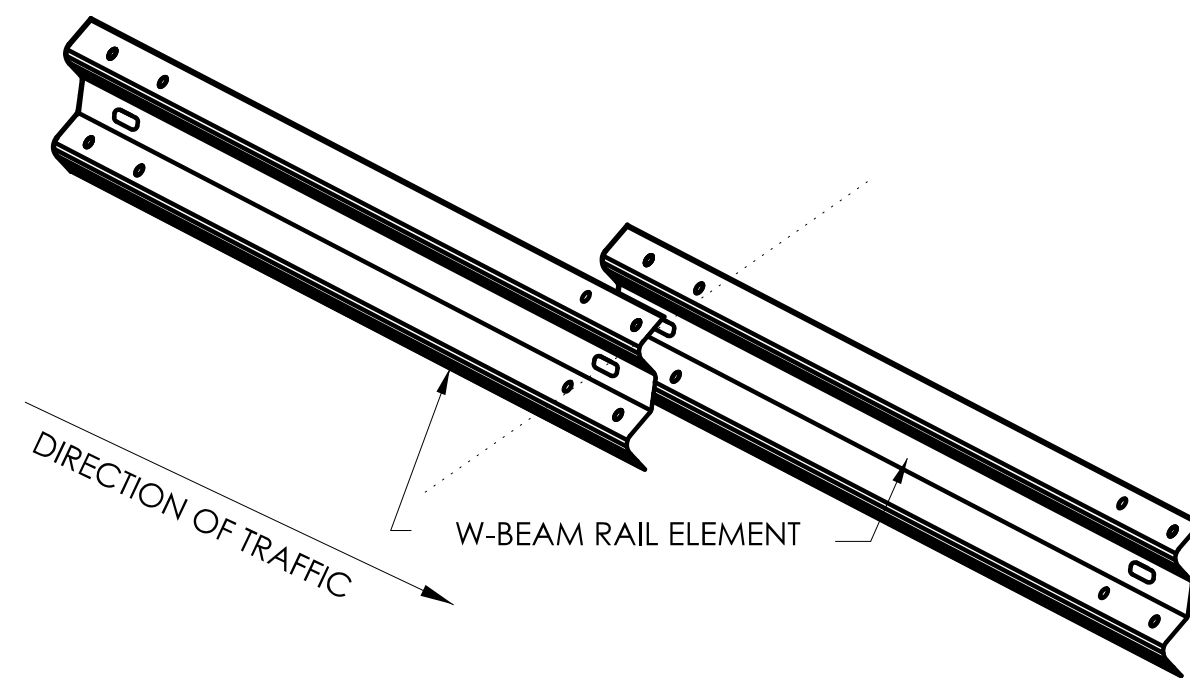
ELEVATION

CONDITION 1:
IF SOIL DEPTH
IS $\leq$ 18" DEEP (A)
DRILL 20" DIA.
HOLE 24" INTO
LEDGE. (B)

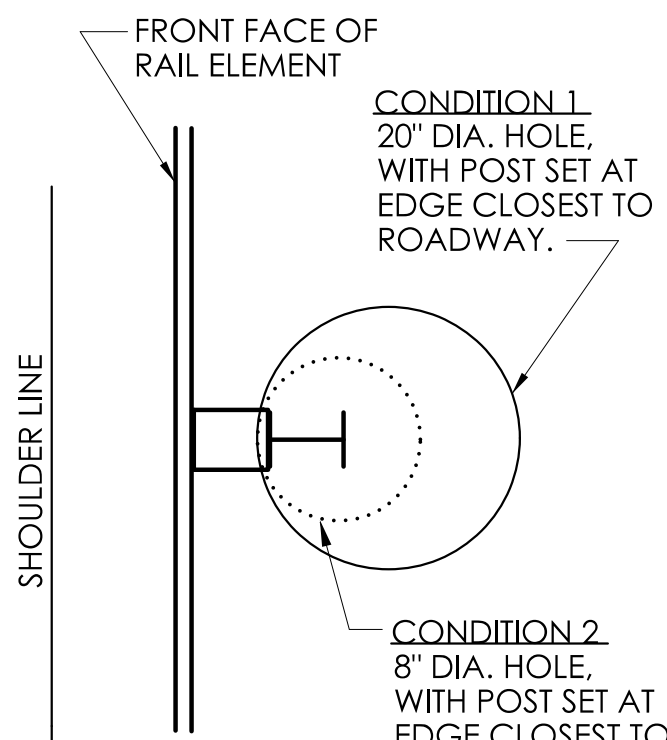
CONDITION 2:
IF SOIL DEPTH
IS $>$ 18" DEEP (A)
DRILL 8" DIA. HOLE
12" INTO LEDGE (B) OR TO
THE DEPTH OF FULL
EMBEDMENT
WHICHEVER IS LESS.



DETAIL A
RAIL MOUNTING

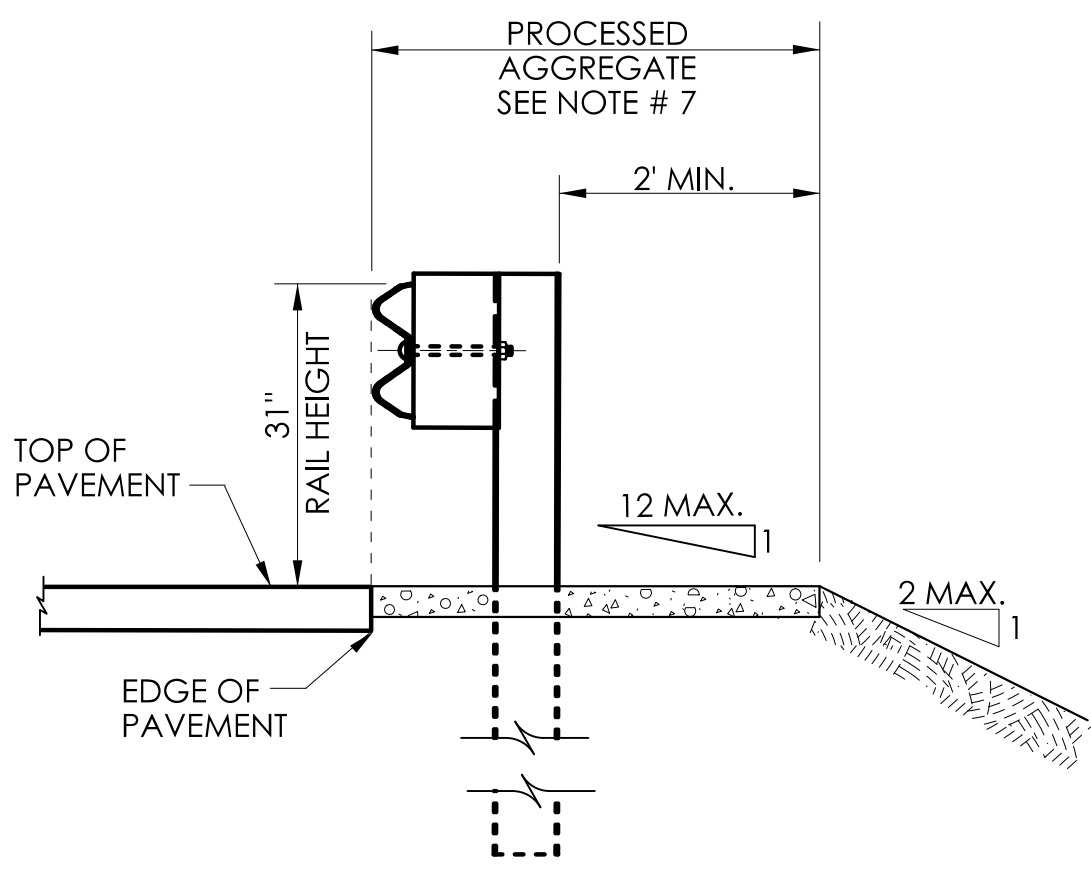


LAP W-BEAM RAIL SECTIONS
NOTE: EIGHT (8) SPLICE BOLTS PER JOINT



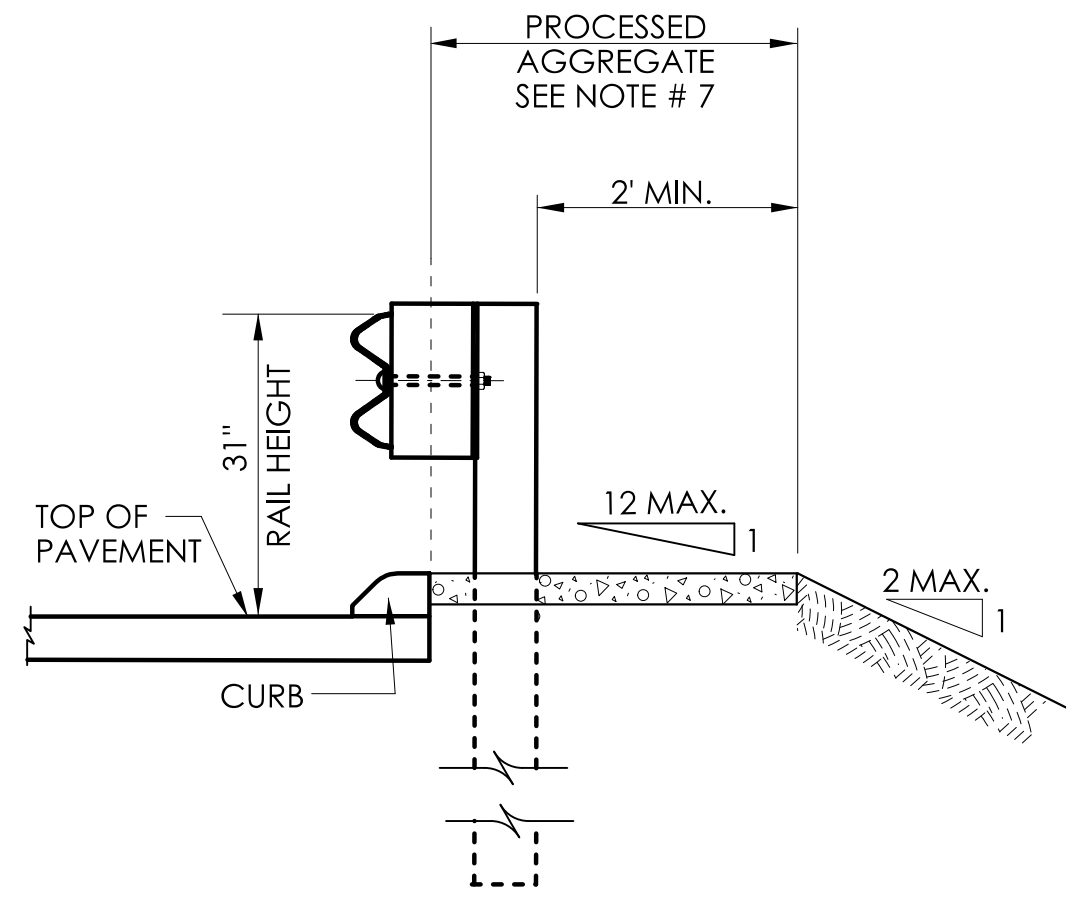
PLAN

GUIDERAIL POSTS IN ROCK



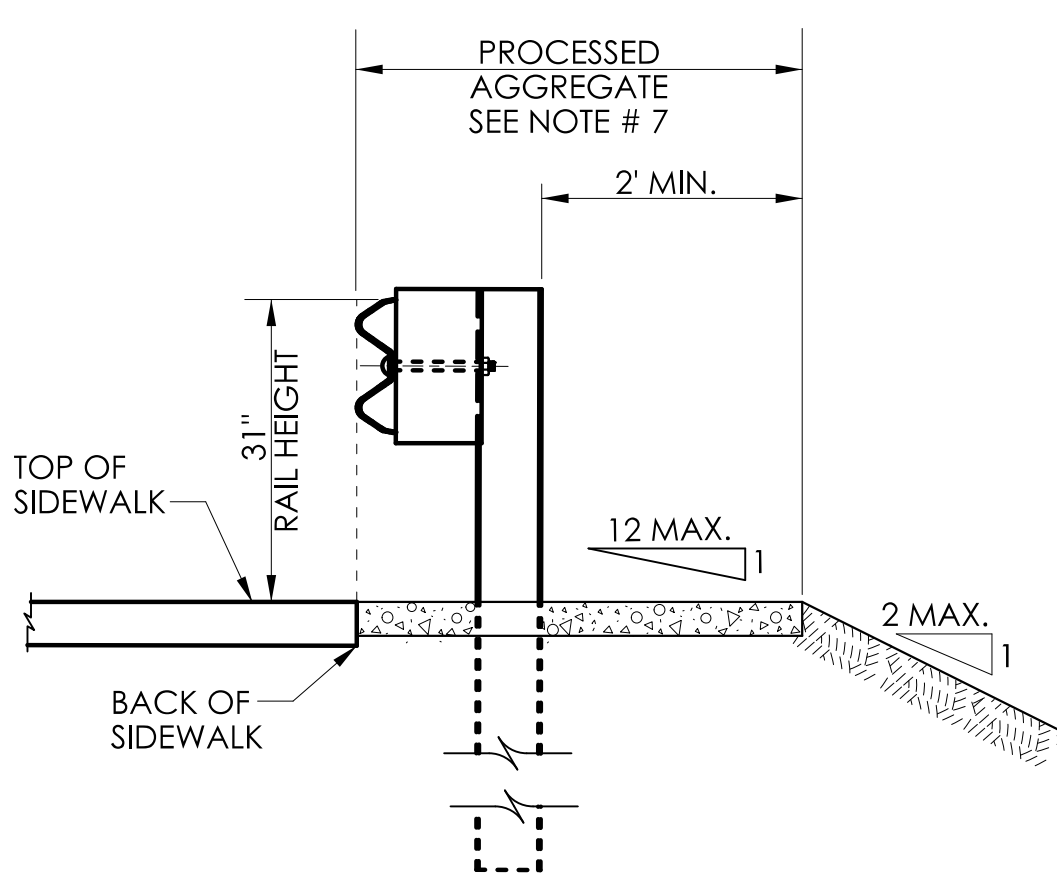
SECTION A

NO CURB APPLICATION



SECTION A

CURB APPLICATION



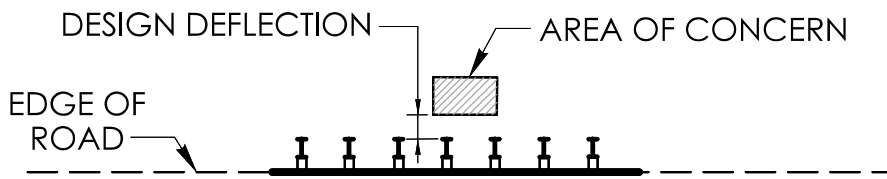
SECTION A

SIDEWALK APPLICATION

GENERAL NOTES:

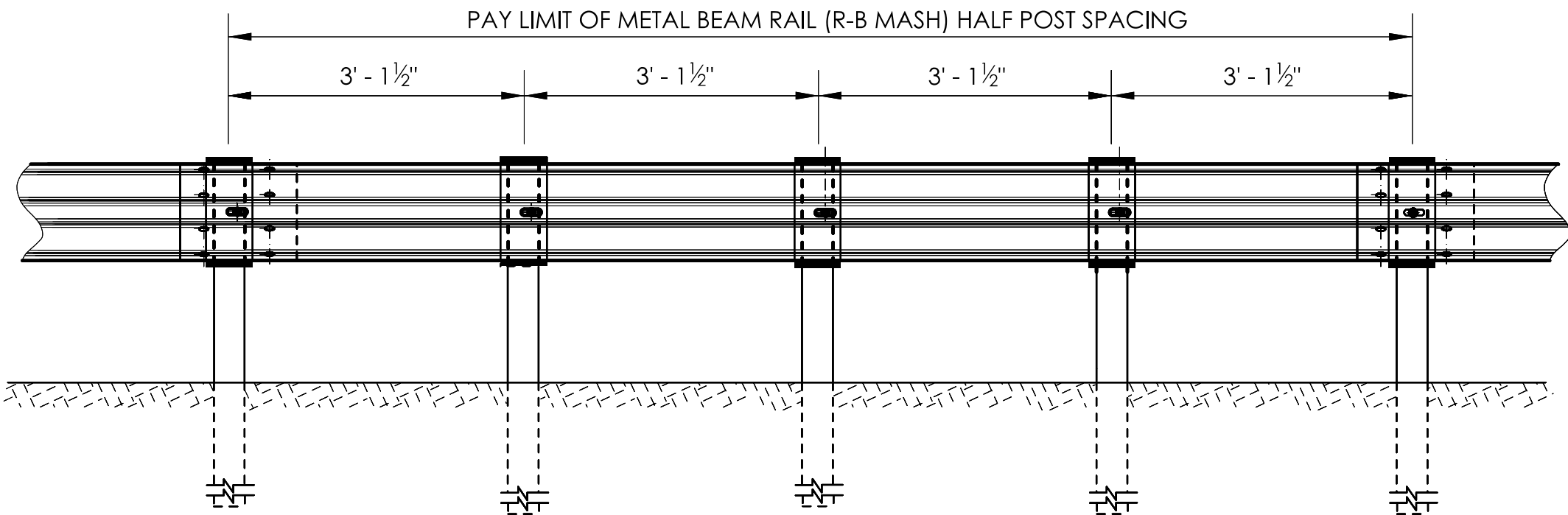
1. SEE SHEET HW-910_20 FOR MASH W-BEAM HARDWARE AND W-BEAM DELINEATOR DETAILS.
2. THREE BLOCKOUTS MAY BE USED FOR ONE POST ONLY. TWO BLOCKOUTS MAY BE USED FOR A SERIES OF POSTS. THE COST OF ADDITIONAL BLOCKOUTS AND LONGER BOLTS SHALL BE INCLUDED IN THE PRICE PER FOOT OF GUIDERAIL. EXTRA BLOCKOUTS AT TRANSITIONS TO BRIDGE PARAPETS SHOULD BE AVOIDED. DO NOT USE ADDITIONAL BLOCKS IF IT CAUSES THE POST TO BE DRIVEN BEYOND AN EMBANKMENT HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.
3. IF BLOCKOUTS DO NOT AVOID POST FROM OBSTRUCTION, ONE POST MAY BE OMITTED IF 50 FEET OF GUIDERAIL EXISTS ON BOTH SIDES OF LOCATION. USE METAL BEAM RAIL SPAN SECTION TYPE II OR III FOR MORE THAN ONE CONSECUTIVE OMITTED POST, SEE SHEET HW-910_24.
4. W-BEAM GUIDERAIL MAY BE PLACED 1' OR MORE FROM THE EDGE OF PAVEMENT ONLY ON SLOPES 10:1 OR FLATTER AND WITHOUT CURBING.
5. IF THE RAIL IS INSTALLED WITHIN 2' OF THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE SHOULDER SLOPE EXTENDED TO THE RAIL. IF THE RAIL IS INSTALLED BEYOND 2' FROM THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE GROUND DIRECTLY BELOW THE RAIL.
6. RAIL HEIGHT CONSTRUCTION TOLERANCE IS $\pm$ 1 INCH.
7. FOR NEW CONSTRUCTION, PLACE 6 INCH LAYER OF PROCESSED AGGREGATE. FOR CONSTRUCTION PROJECTS WITH GUIDERAIL UPGRADE, THE CONTRACT PLANS MAY CALL OUT PROCESSED AGGREGATE ONLY TO BE PLACED IN LOCATION(S) OF EXISTING VERTICAL PAVEMENT EDGE DROP OFF AS A LEVELING MATERIAL, FILLING IN DEPRESSED AREAS.

- GENERAL NOTES:**
- SEE SHEET HW-910_20 FOR HARDWARE AND W-BEAM DELINEATOR DETAILS.
 - W-BEAM DELINEATOR MAY BE INSTALLED AT POST BOLT CONNECTION TO MAINTAIN APPROPRIATE DELINEATOR SPACING.

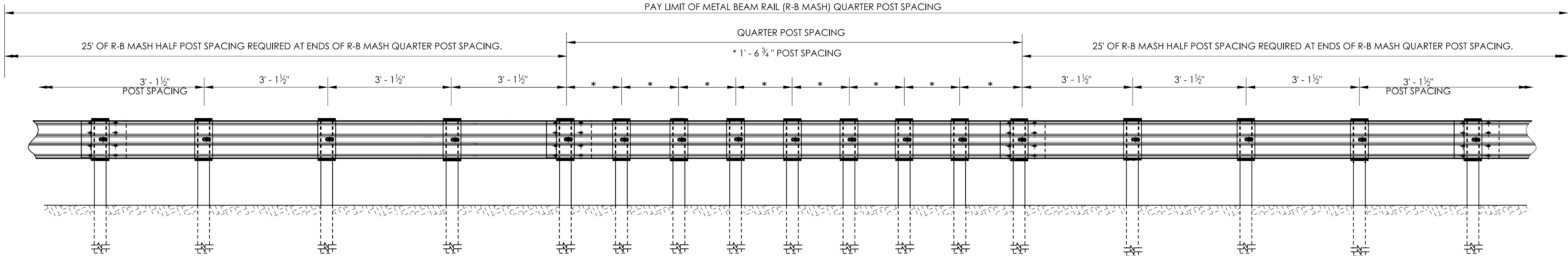


POST SPACING		DESIGN DEFLECTION
STANDARD	(6' - 3")	4' - 3"
HALF POST	(3' - 1½")	2' - 8"
QUARTER POST	(1' - 6¾")	1' - 10"

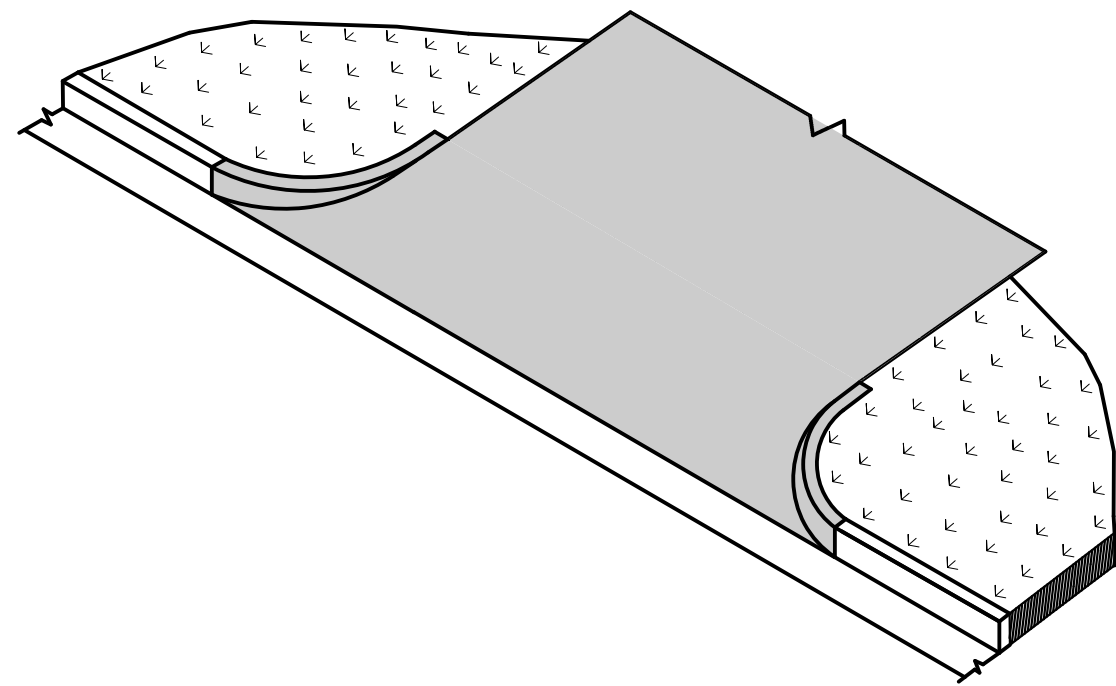
TABLE 1



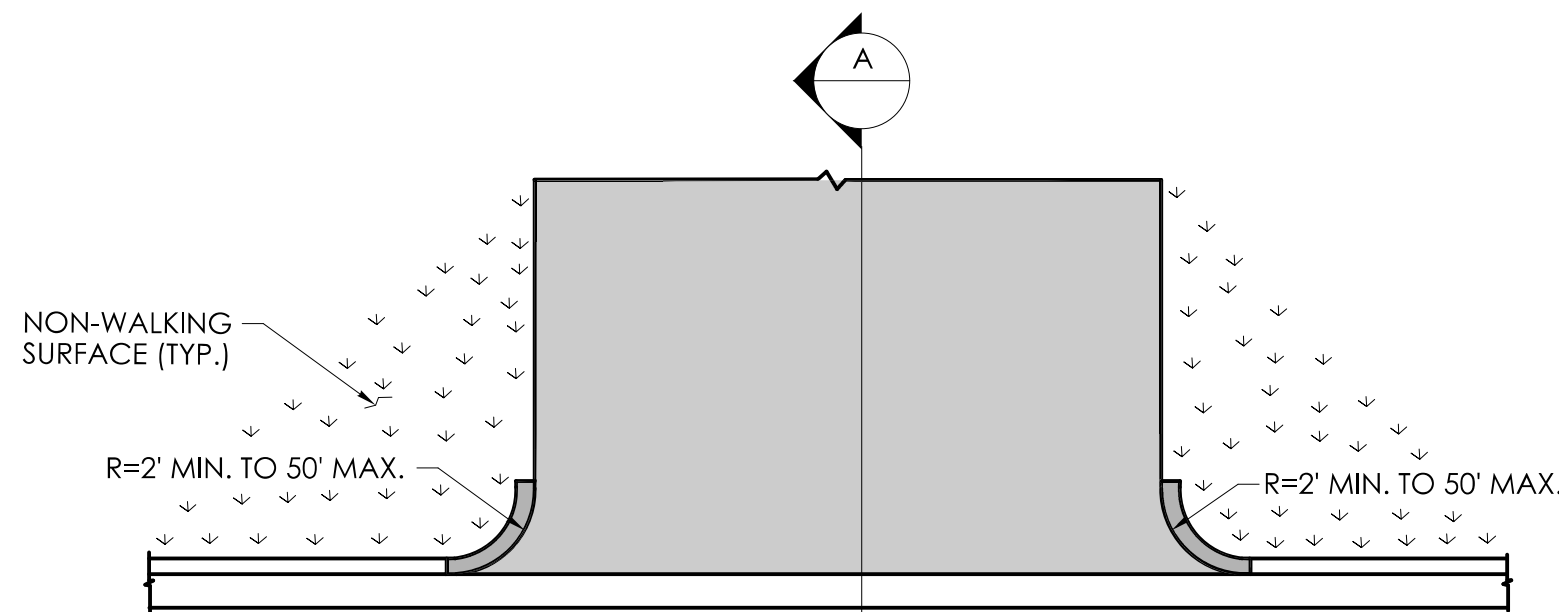
METAL BEAM RAIL (R-B MASH) HALF POST SPACING



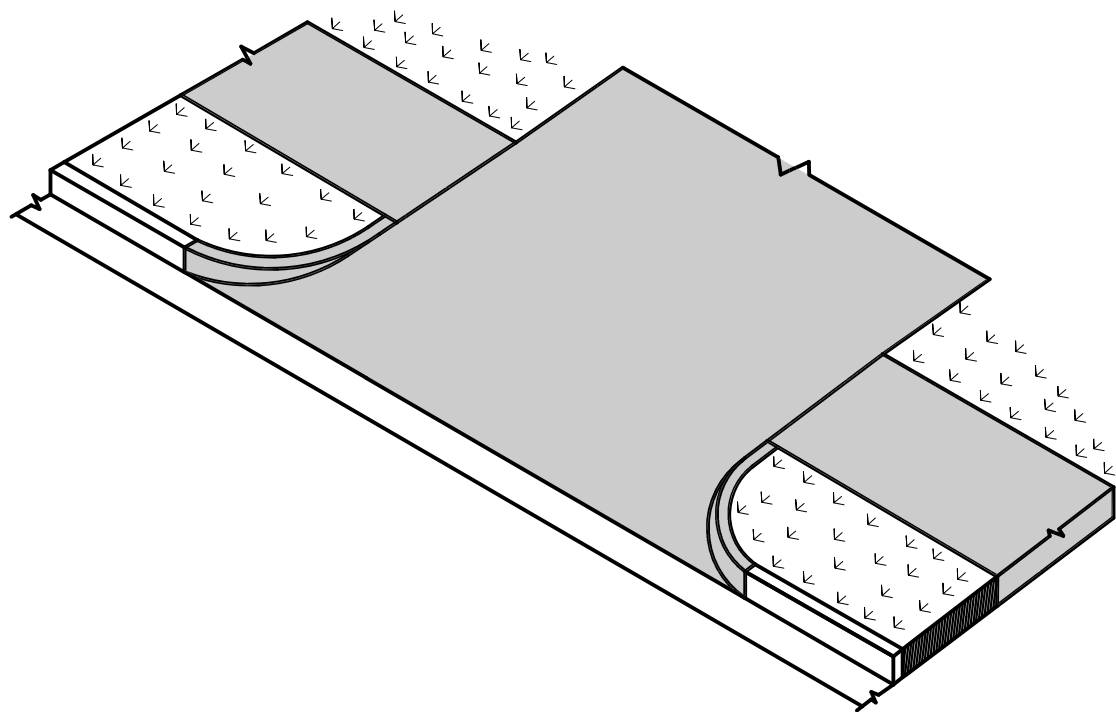
METAL BEAM RAIL (R-B MASH) QUARTER POST SPACING



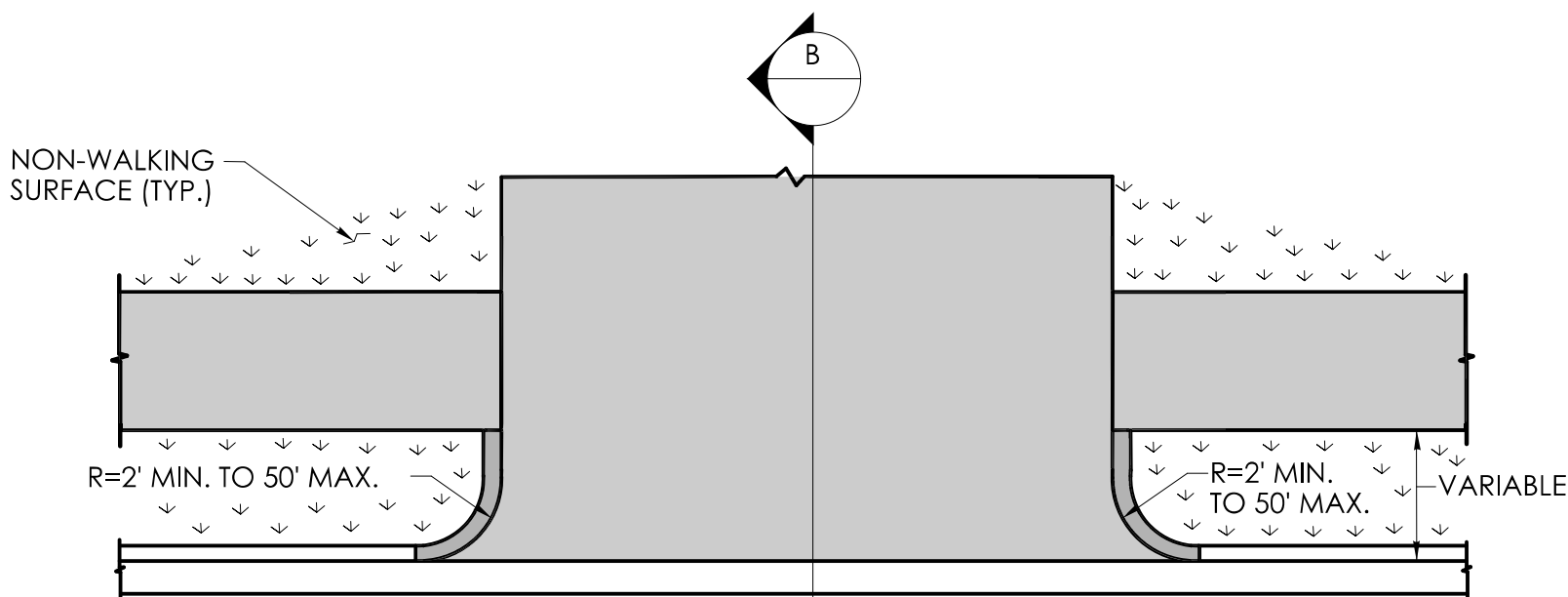
BITUMINOUS CONCRETE DRIVEWAY



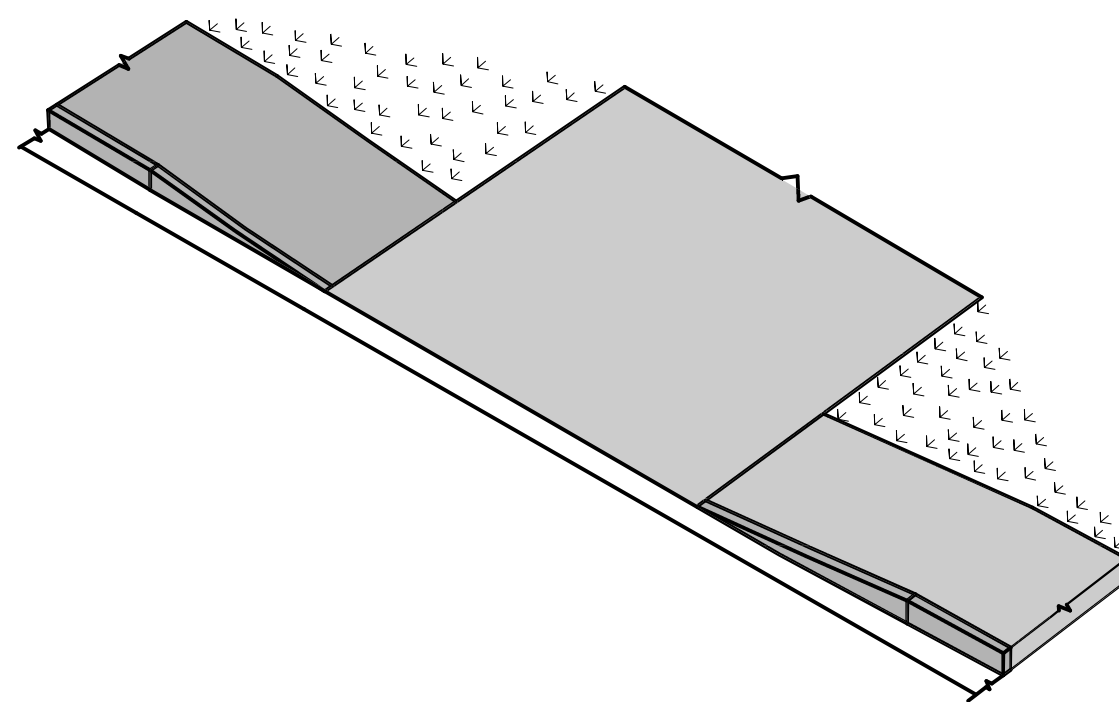
PLAN



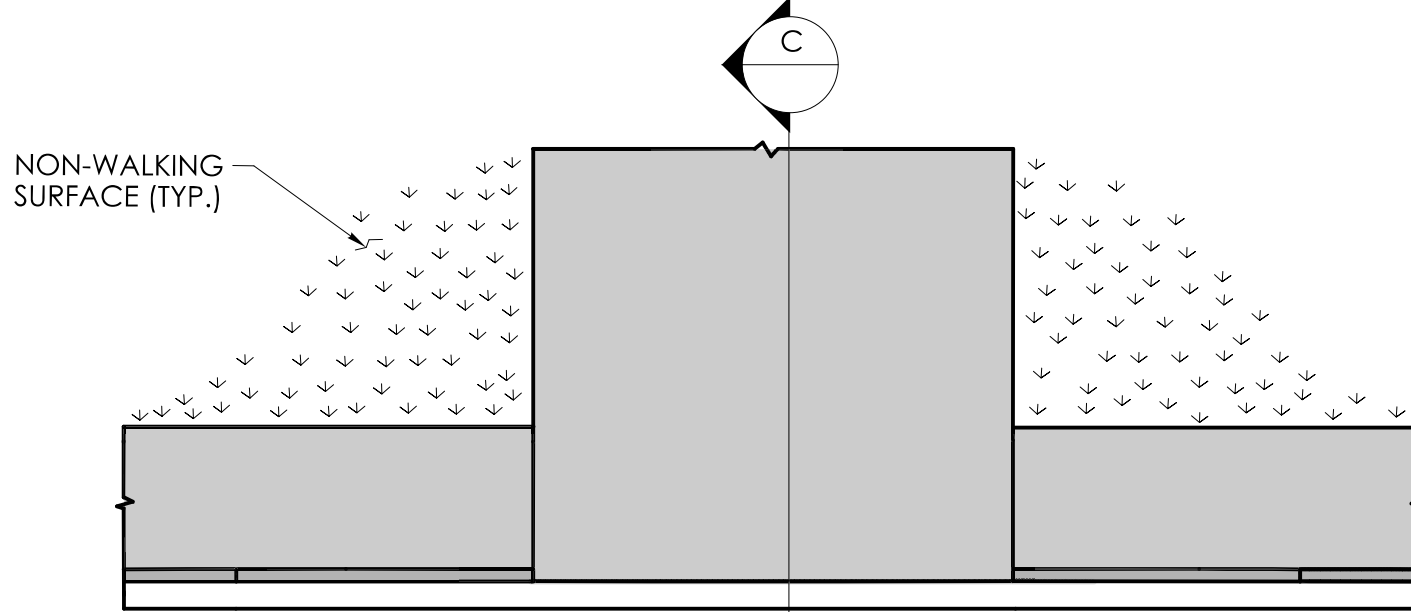
BITUMINOUS CONCRETE DRIVEWAY
WITH A PEDESTRIAN SIDEWALK SETBACK



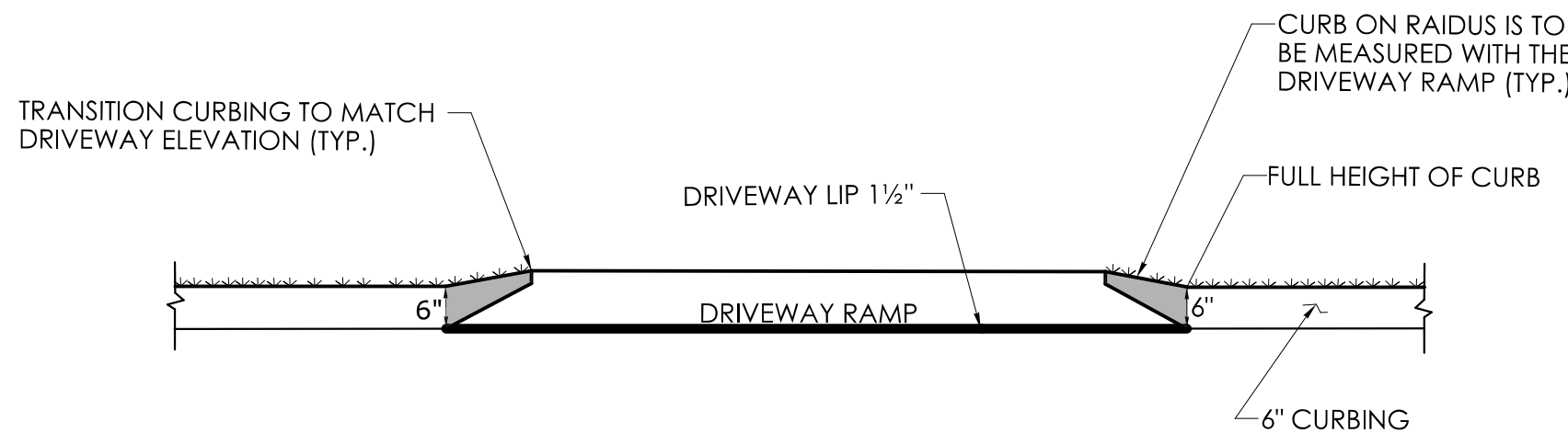
PLAN



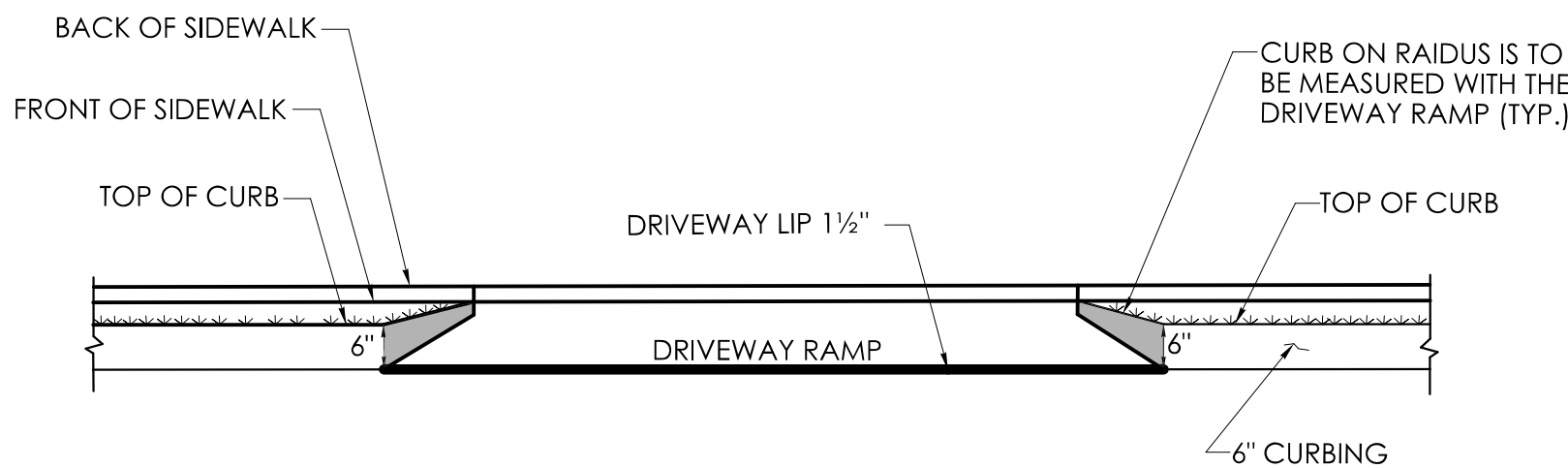
BITUMINOUS CONCRETE DRIVEWAY
WITH PEDESTRIAN SIDEWALK AT THE CURB



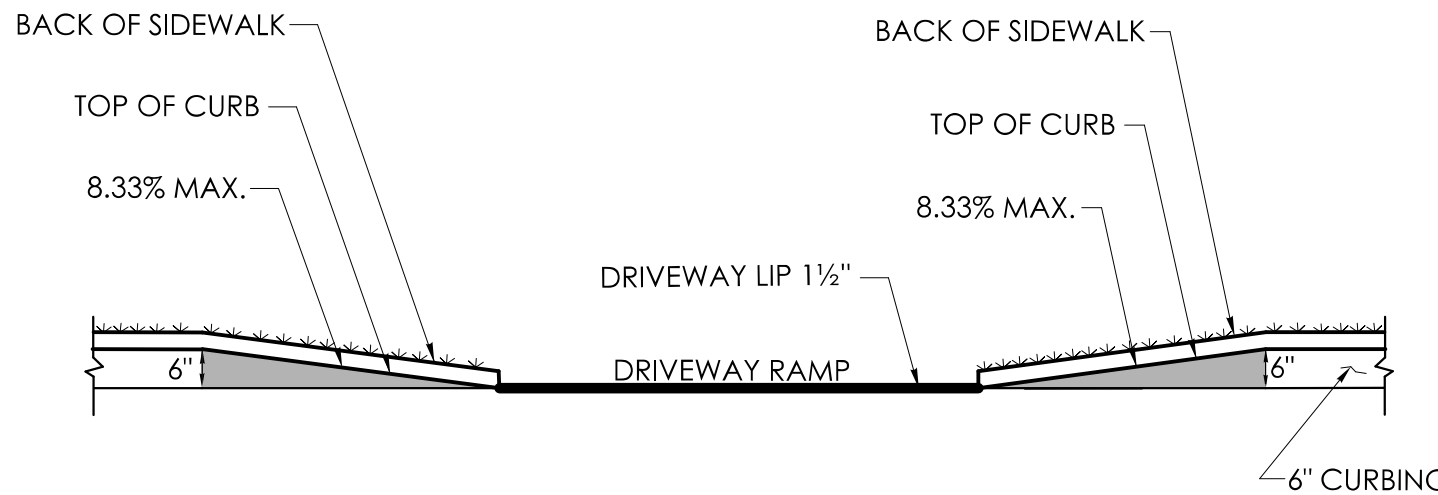
PLAN



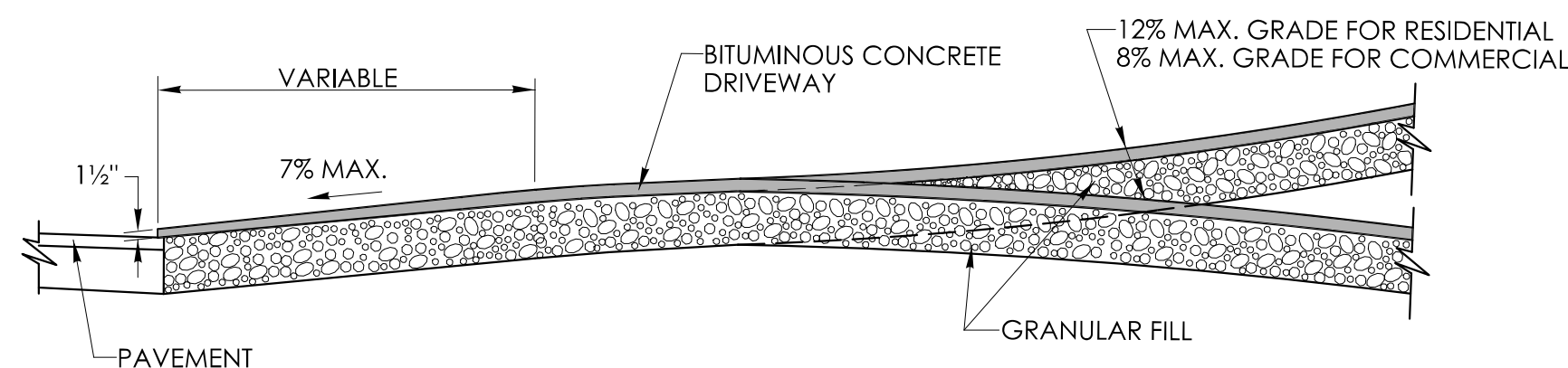
ELEVATION



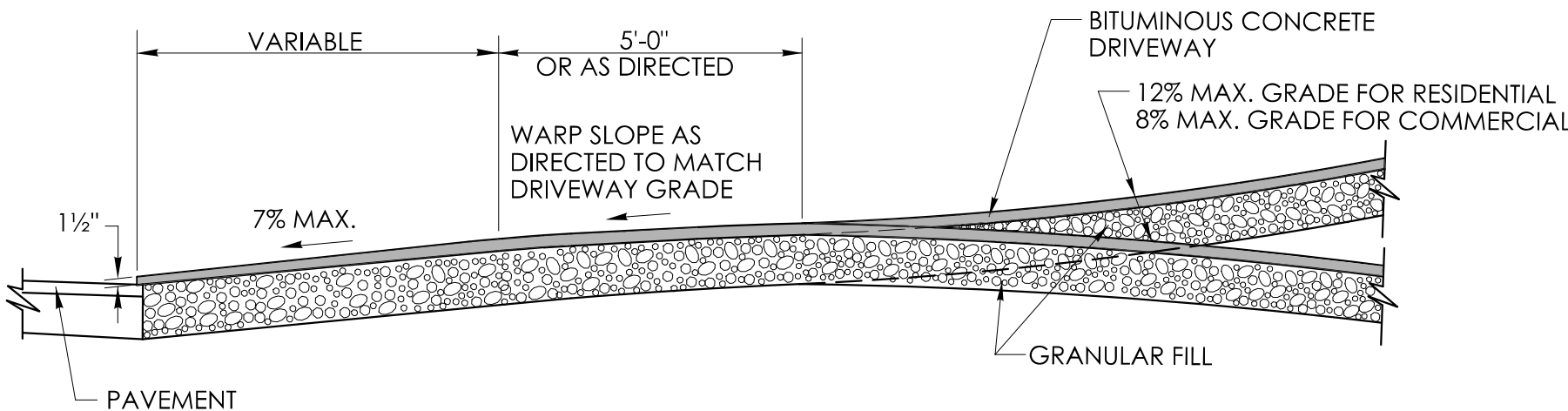
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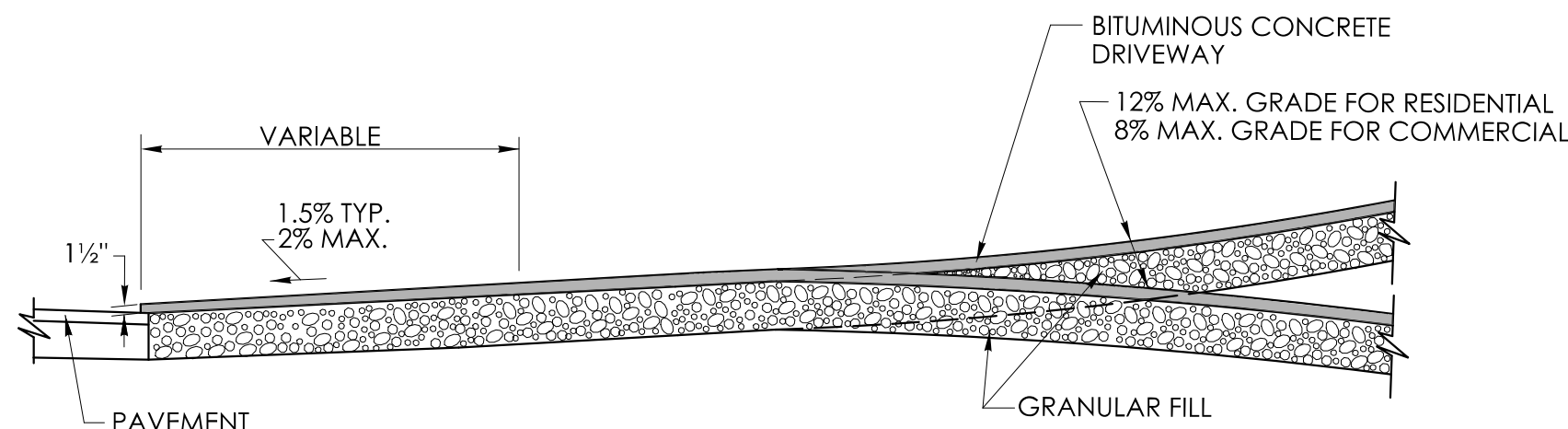
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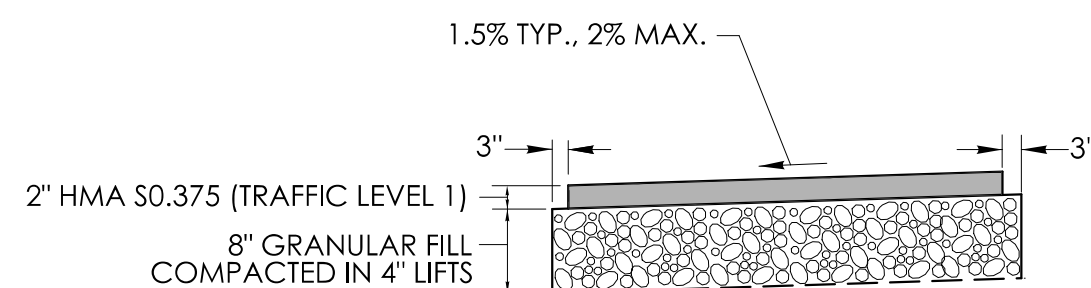
SECTION A



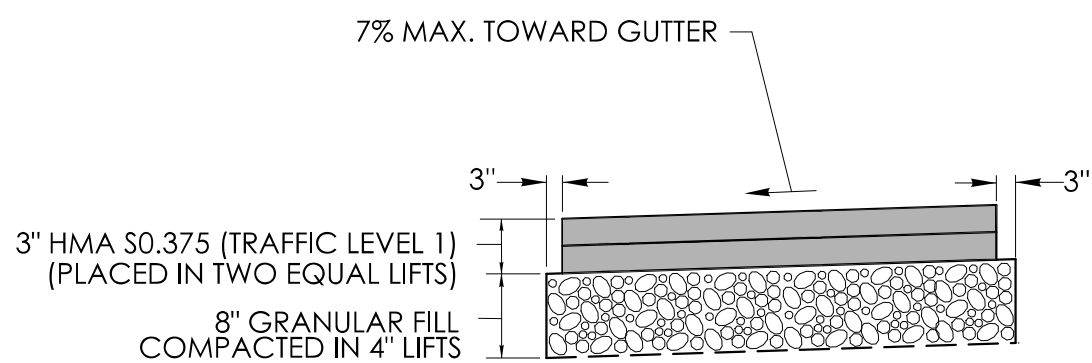
SECTION B



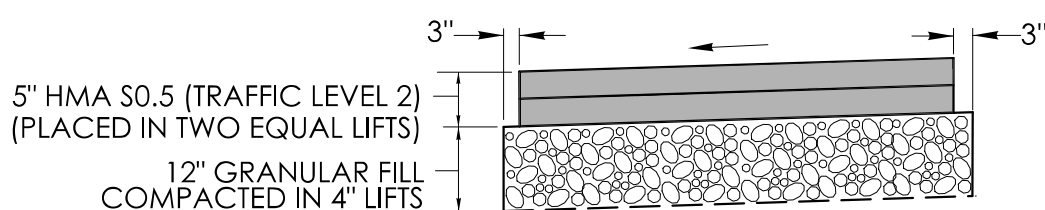
SECTION C



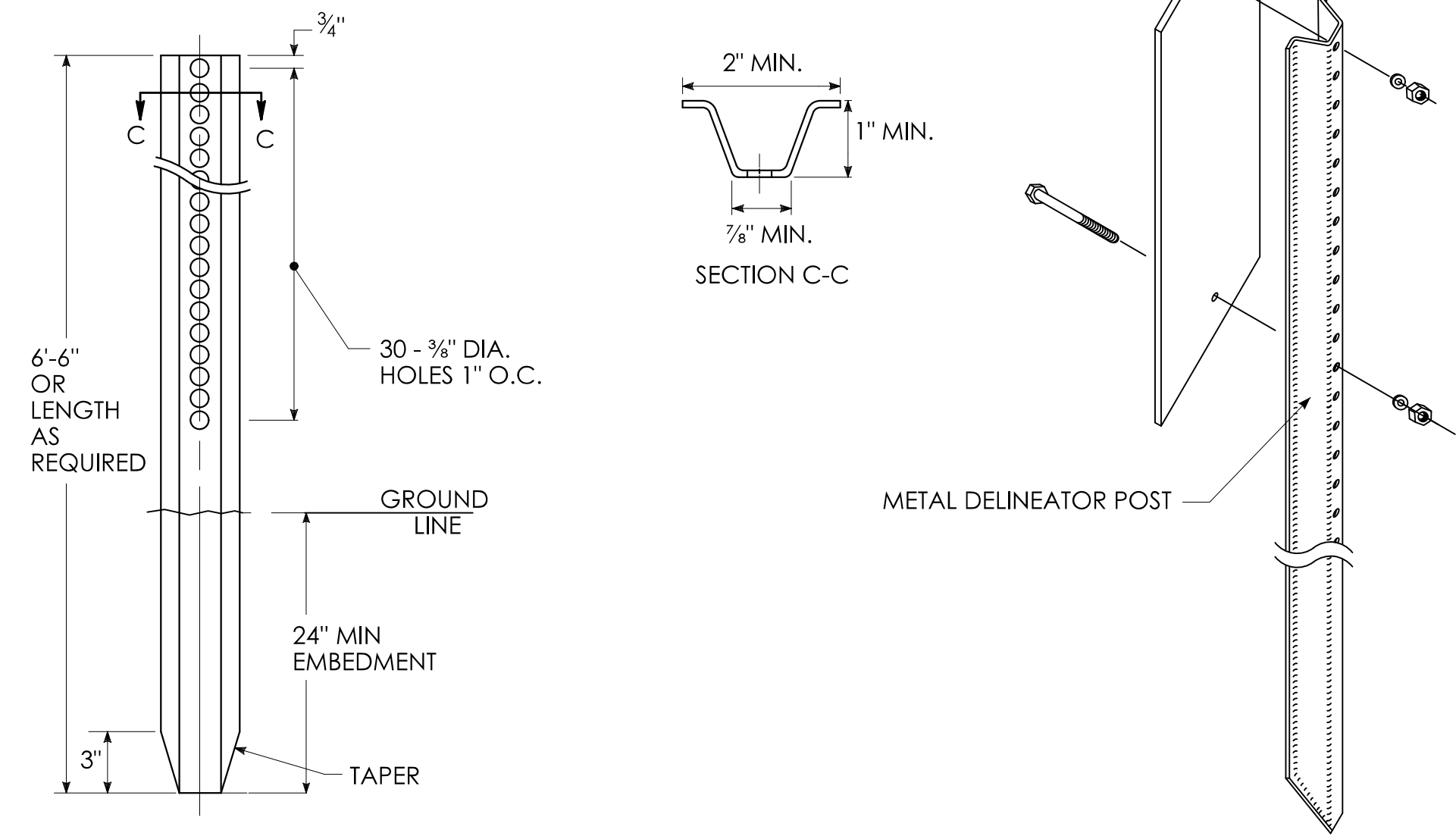
BITUMINOUS CONCRETE SIDEWALK



BITUMINOUS CONCRETE DRIVEWAY

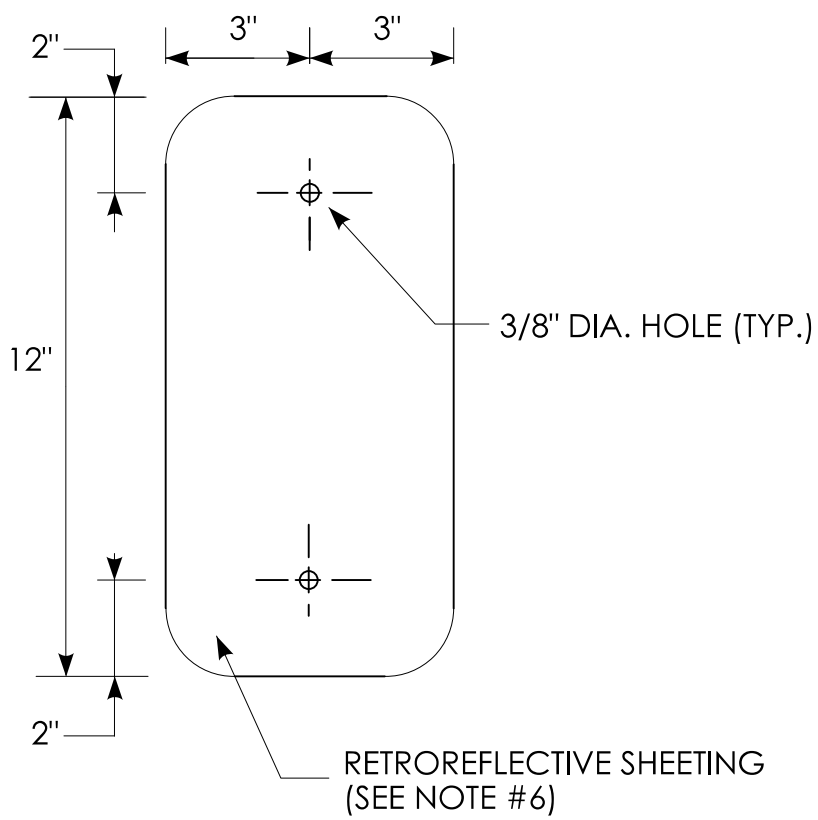


COMMERCIAL
BITUMINOUS CONCRETE DRIVEWAY



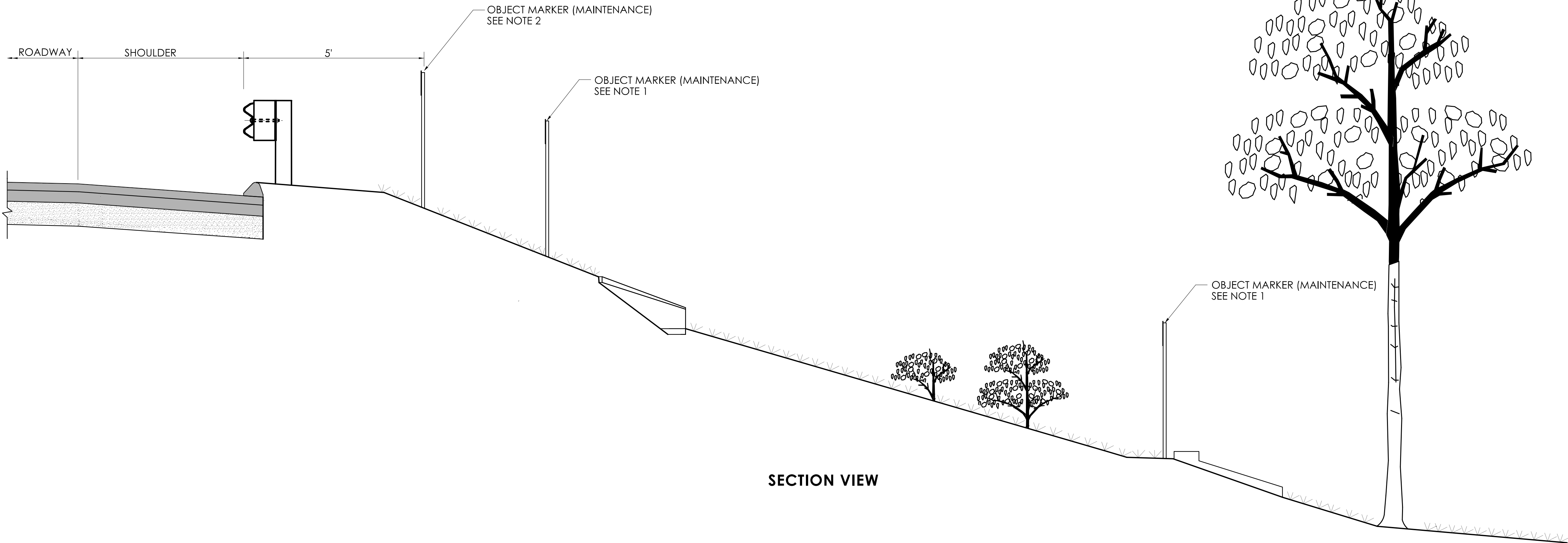
METAL DELINEATOR POST

INSTALLATION ON DELINEATOR POSTS



OBJECT MARKER DETAIL

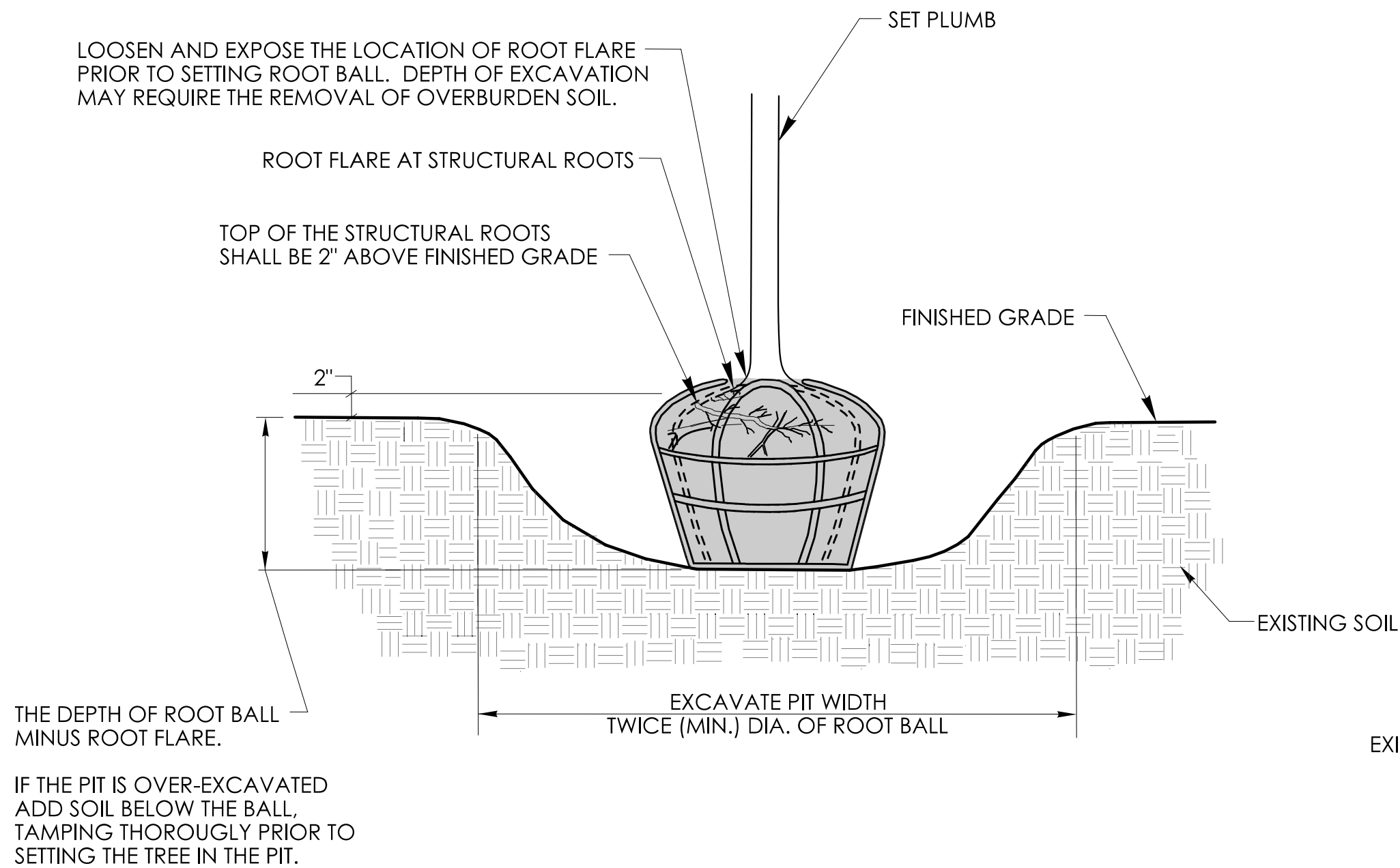
- GENERAL NOTES:**
1. OBJECT MARKER (MAINTENANCE) SHALL BE INSTALLED ADJACENT TO; END WALLS, DRAINAGE PIPE ENDS, UNDERDRAIN OUTLETS AND PAVED APRONS WITH THE MARKER FACING PARALLEL TO THE DIRECTION OF TRAFFIC.
 2. SECOND OBJECT MARKER (MAINTENANCE) SHALL ONLY BE INSTALLED 5 FEET FROM THE EDGE OF ROADWAY WHEN THE OBJECT MARKER ADJACENT TO STRUCTURE IS GREATER THAN 15 FEET FROM THE EDGE OF THE ROADWAY.
 3. OBJECT MARKER (MAINTENANCE) SHALL BE INSTALLED AT METAL BEAM GUIDERAIL ANCHORS AS SHOWN ON;
HW-911_01 R-B END ANCHORAGE TYPE I AND II,
HW-911_02 MD-B END ANCHORAGE TYPE I.
 4. OBJECT MARKERS SHALL BE FASTENED WITH 3/4" STAINLESS STEEL HEX HEAD BOLTS (LENGTH AS REQUIRED), WASHER AND FIBER INSERT SELF LOCKING NUT, ON STANDARD METAL DELINEATOR POST.
 5. METAL DELINEATOR POST SHALL BE 1.12 LBS/FT. ASTM A36 STEEL
 6. OBJECT MARKER COMPOSITION SHALL BE 14 GA. (0.080") THICK SHEET ALUMINUM WITH YELLOW TYPE XI RETROREFLECTIVE SHEETING.
 7. ALL OBJECT MARKERS (MAINTENANCE) SHALL BE INSTALLED WITH THE BOTTOM OF THE OBJECT MARKER 4 FT ABOVE THE GROUND.



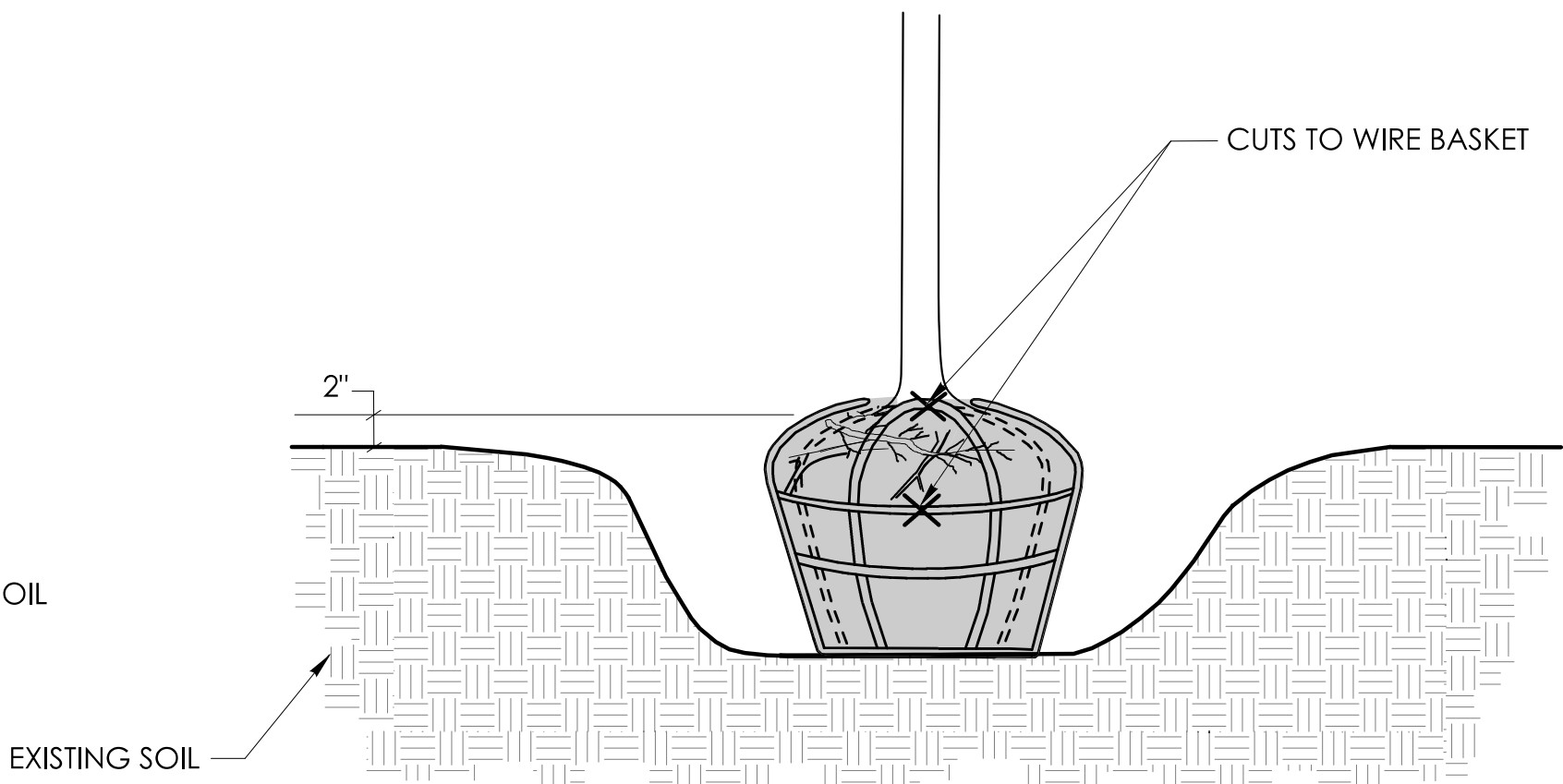
SECTION VIEW

GENERAL NOTES:

- 1. ALL EXTERIOR PACKAGING MATERIAL APPLIED TO PLANTS SHALL BE REMOVED AFTER THE PLANT IS LOCATED IN THE PIT EXCAVATION. CUT AND REMOVE TWINE, BURLAP OR WIRE BASKETS FROM THE TOP TWO-THIRDS OF THE ROOT BALL.
- 2. PLANT MALUS SPECIES (DECIDUOUS APPLE TREES OR SHRUBS) DEEP ENOUGH IN PIT TO COVER THE GRAFT TO PREVENT SPROUTING FROM THE ROOT STOCK.

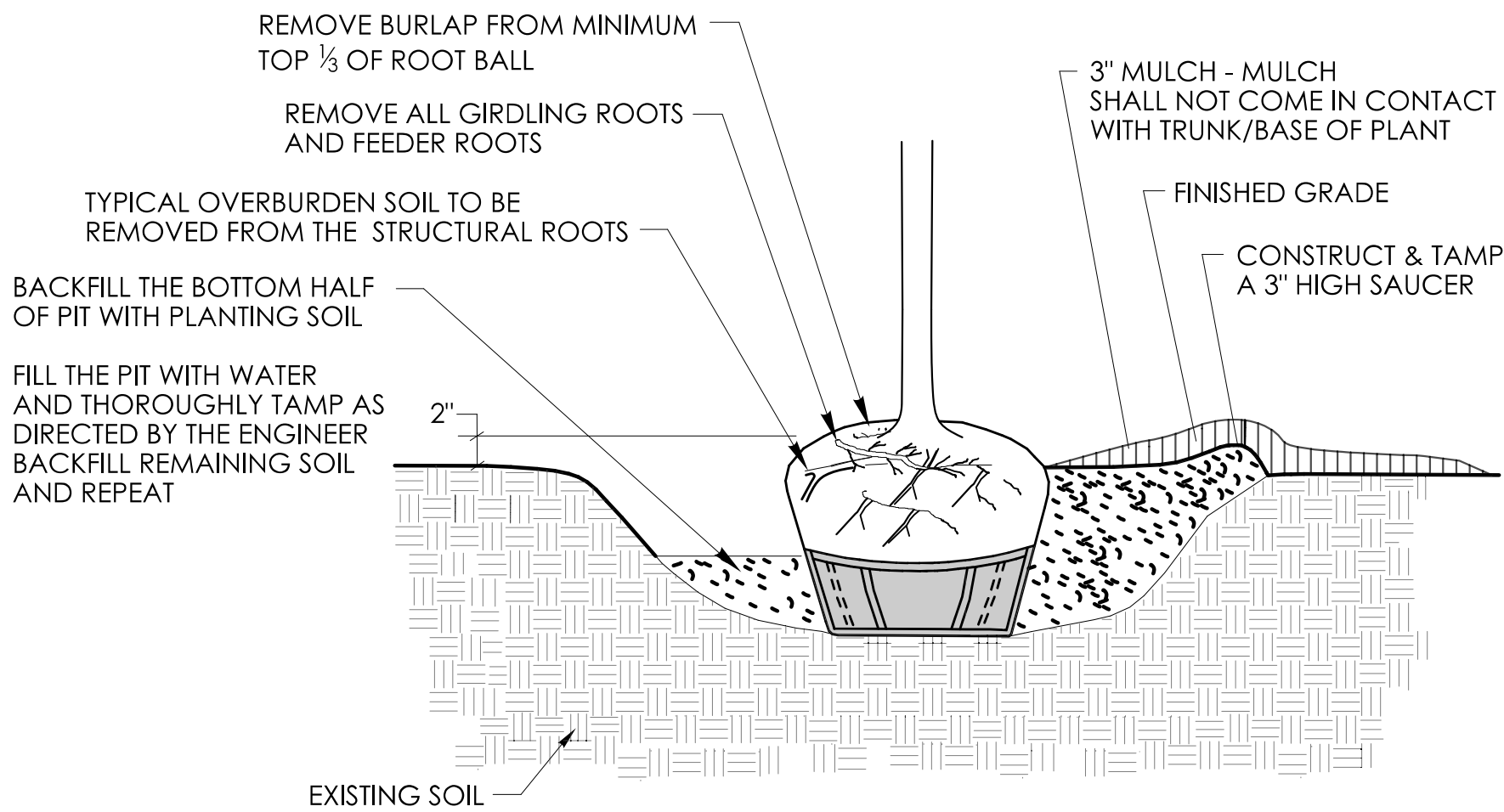


PIT EXCAVATION AND SETTING OF PLANTING

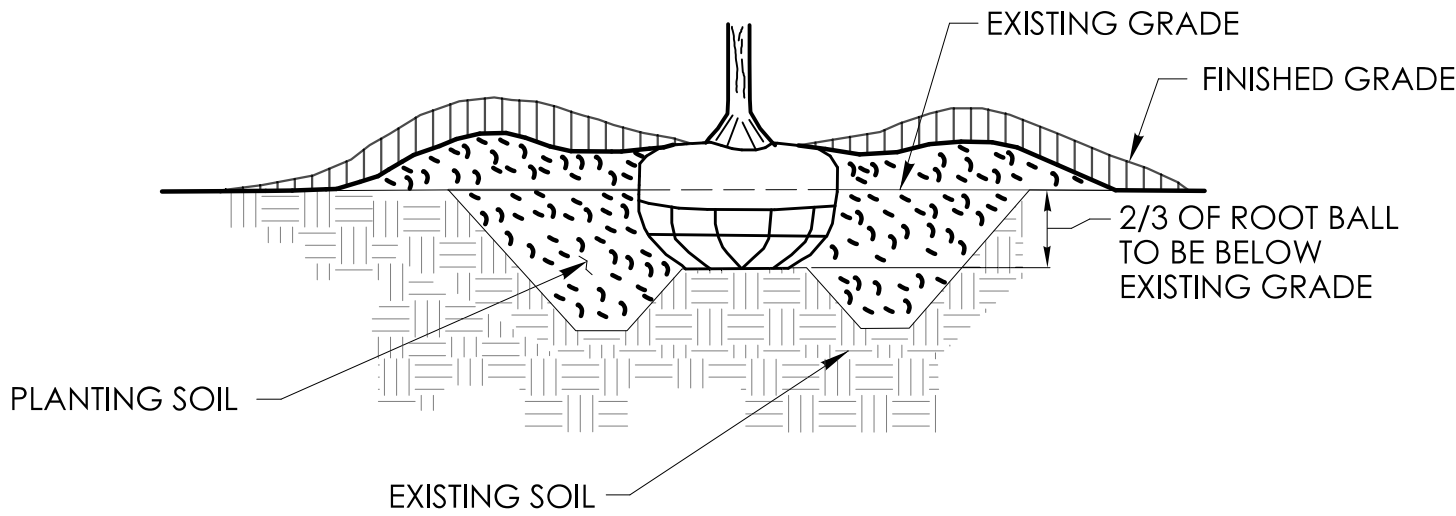


WIRE BASKET REMOVAL

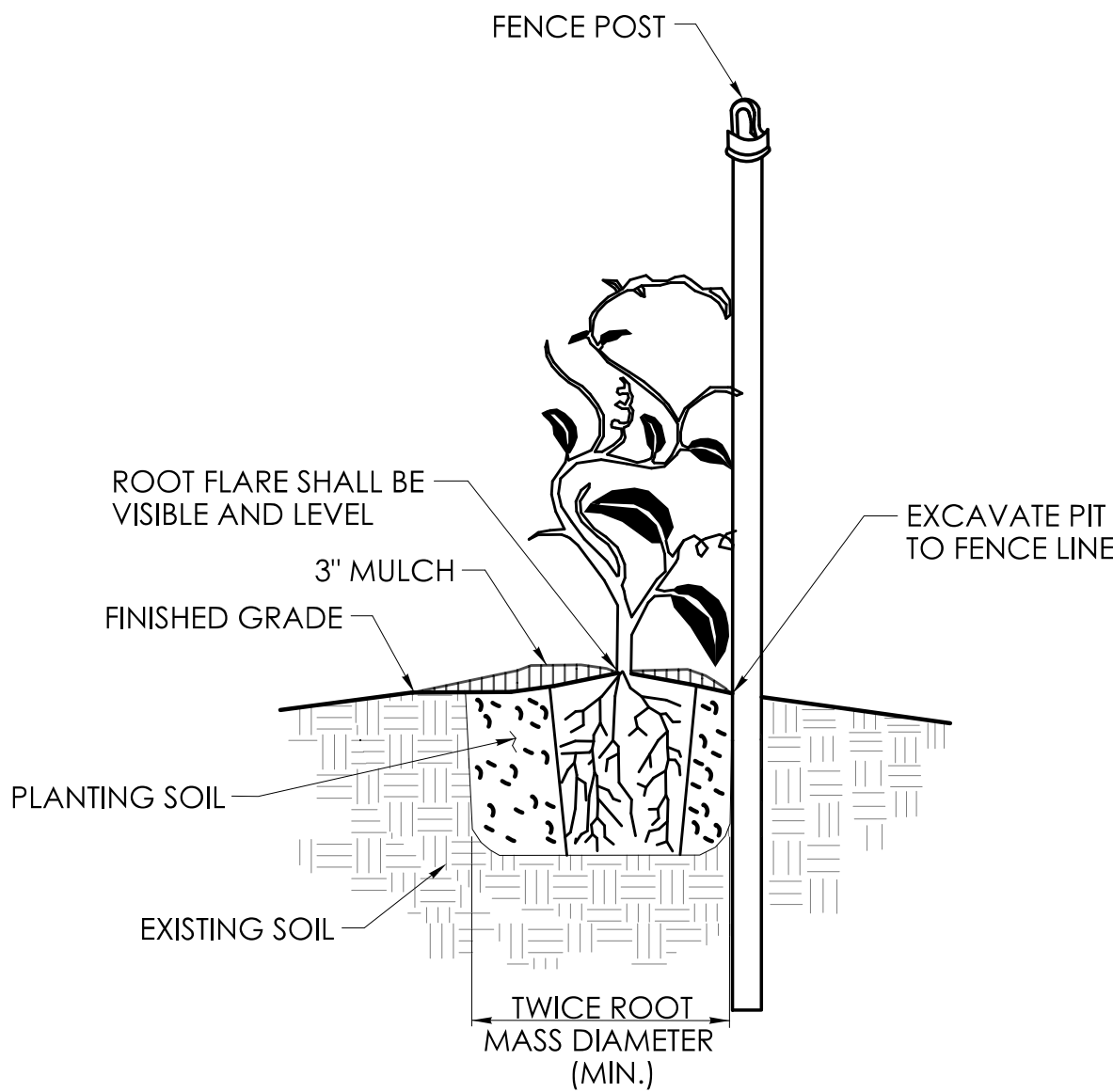
NOTE: IF WIRE BASKETS ARE USED, THE CONTRACTOR SHALL CUT ALL OF THE HORIZONTAL WIRES IN THE TOP 2/3 OF THE ROOT BALL AND BEND DOWN OR REMOVE THE TOP 1/3 OF THE WIRE BASKET



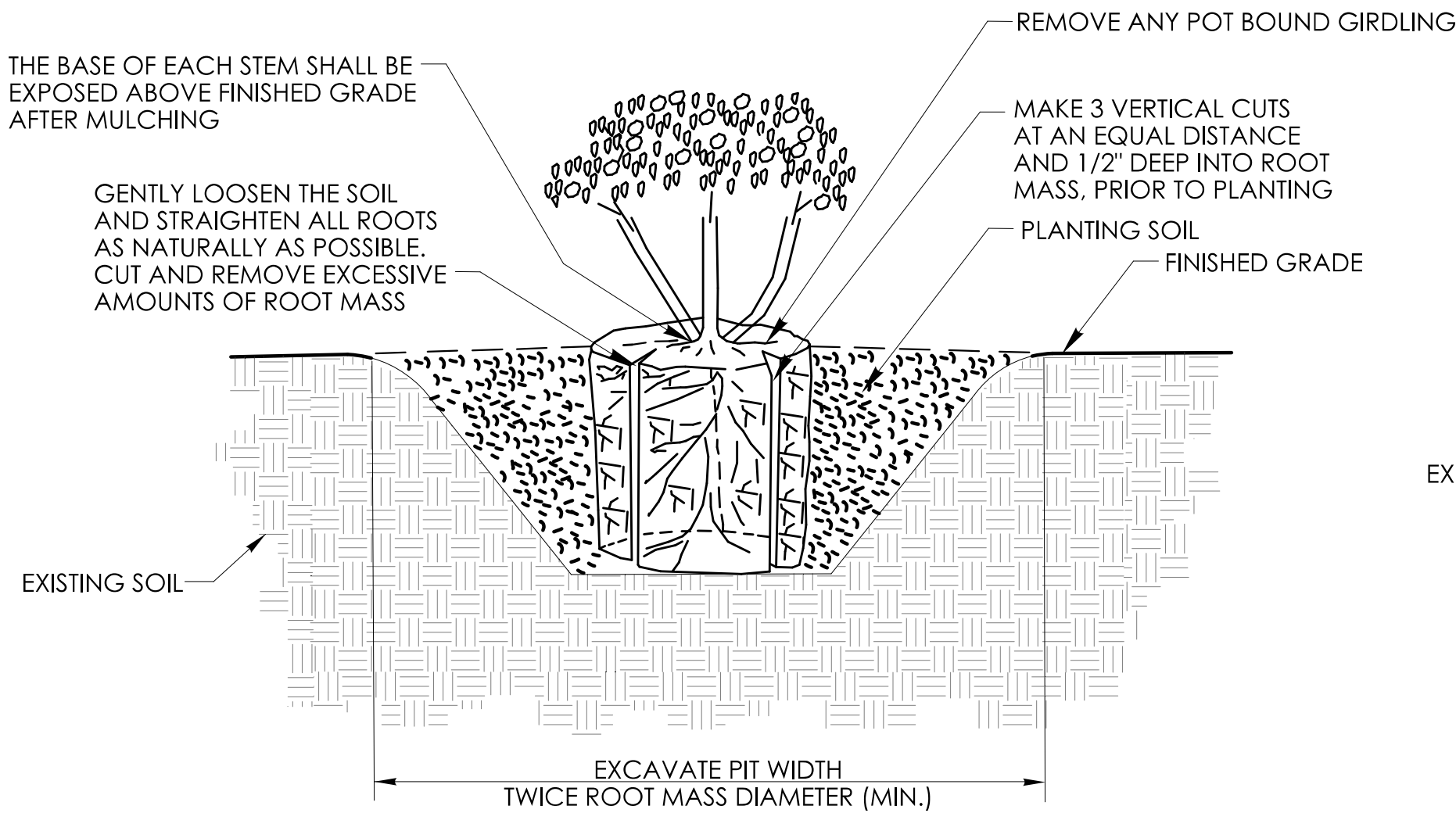
BACKFILL AND MULCH FOR PLANTING



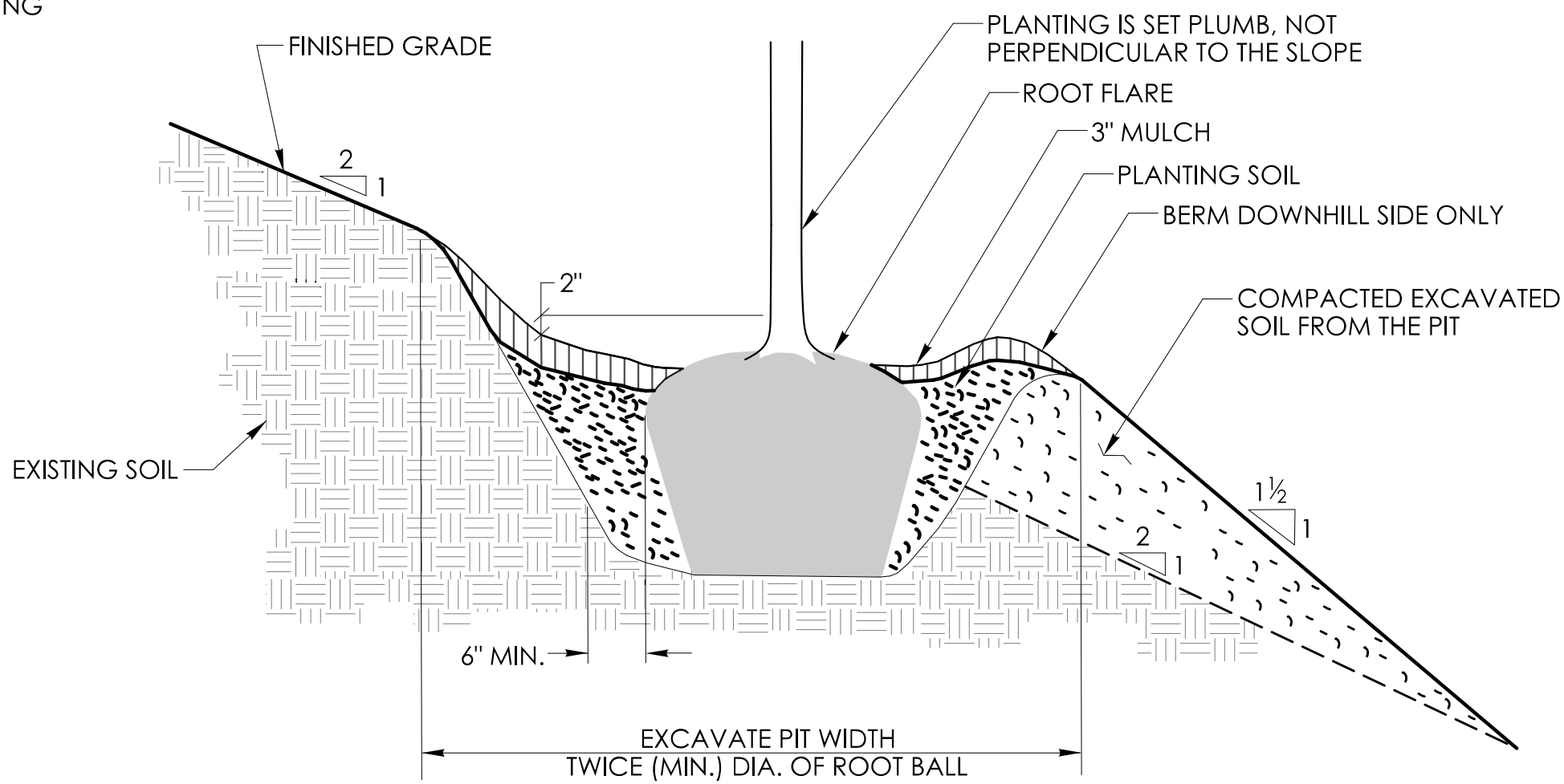
HEAVY CLAY PLANTINGS



VINE PLANTING



CONTAINER GROWN PLANTING



SLOPE PLANTING