

09 - STRUCTURES - SIDE MOUNTED SIGN STRUCTURES			
INDEX OF DRAWINGS			
DRAWING NUMBER	DRAWING TITLE	DRAWING NUMBER	DRAWING TITLE
SMS-1	SIDE MOUNTED SIGN STRUCTURE INDEX OF DRAWINGS		
SMS-2	SIDE MOUNTED SIGN STRUCTURE CLEARANCES AND REQUIREMENTS		
SMS-3	SIDE MOUNTED SIGN STRUCTURE FOUNDATION DETAILS		
SMS-4	SIDE MOUNTED SIGN STRUCTURE BRACKET DETAILS		
SMS-5	SIDE MOUNTED SIGN STRUCTURE HINGE DETAILS AND GENERAL NOTES		
SMS-6	SIDE MOUNTED SIGN STRUCTURE POST SELECTION TABLE 1 (W ≤ 1.5 FT.)		
SMS-7	SIDE MOUNTED SIGN STRUCTURE POST SELECTION TABLE 2 (W > 1.5 FT.)		
SMS-8	SIDE MOUNTED SIGN STRUCTURE AS-BUILT INFORMATION TEMPLATE		

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SMS-5	SIDE MOUNTED SIGN STRUCTURE HINGE DETAILS AND GENERAL NOTES		
SMS-6	SIDE MOUNTED SIGN STRUCTURE POST SELECTION TABLE 1 (W ≤ 15 FT.)		
SMS-7	SIDE MOUNTED SIGN STRUCTURE POST SELECTION TABLE 2 (W > 15 FT.)		
SMS-8	SIDE MOUNTED SIGN STRUCTURE AS-BUILT INFORMATION TEMPLATE		

[illegible]

REV.	DATE	REVISION DESCRIPTION	

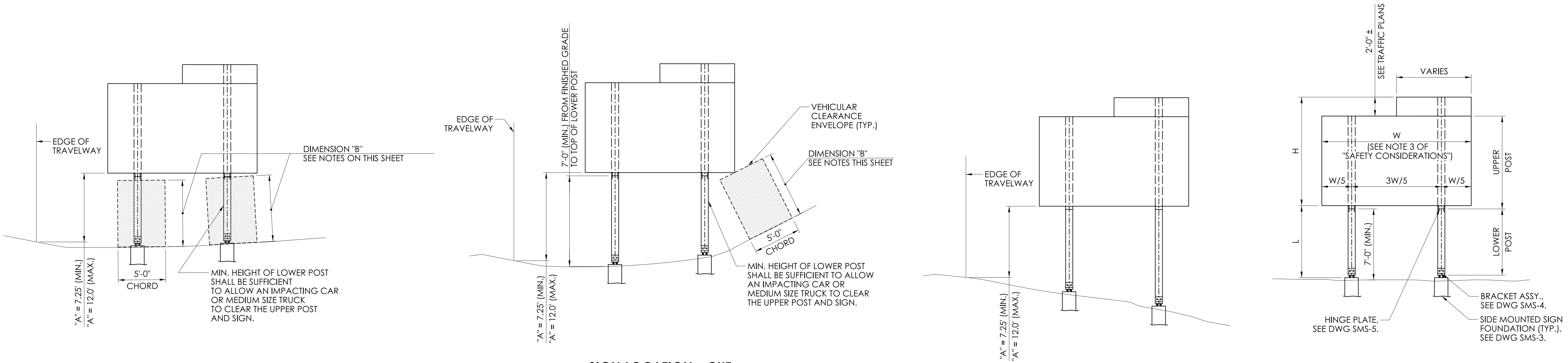
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PLOTTED DATE: 7/26/2023



PROJECT NUMBER: 0048-0200
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05585 - INTERSTATE 91 OVER GRAPE BROOK
TOWN(S): ENFIELD
DRAWING TITLE: SIDE MOUNTED SIGN STRUCTURE INDEX OF DRAWINGS

[illegible]



SIGN LOCATION - CUT
LEVEL TO SHALLOW SLOPES

SIGN LOCATION - CUT
STEEPER SLOPES

SIGN LOCATION - FILL

TYPICAL POST MOUNTED SIGN

NOTES FOR DETERMINING DIMENSION "B"

- DIMENSION "B" IS THE SMALLER OF:
 - THE CLEAR DISTANCE BETWEEN THE BOTTOM OF SIGN AND THE FINISHED GRADE.
 - THE CLEAR DISTANCE BETWEEN THE BOTTOM OF UPPER POST AND THE FINISHED GRADE.
- DIMENSION "B" SHALL TYPICALLY BE A MINIMUM OF 7'-0" TO CLEAR AN IMPACTING CAR OR MEDIUM SIZE TRUCK.
- WHEN DIMENSION "A" WOULD EXCEED 12'-0", CONSIDERATION MAY BE GIVEN TO REDUCING DIMENSION "B" IN ACCORDANCE WITH PROVISIONS OF NOTE 4.
- DIMENSION "B" MAY BE LESS THAN 7'-0":
 - IF THE POST IS OUT OF THE CLEAR ZONE.
 - IF THE POST IS WITHIN THE CLEAR ZONE BUT SHIELDED BY AN APPROPRIATE BARRIER SYSTEM.
 - IN NO CASE SHALL DIMENSION "B" BE LESS THAN 2'-6". WHERE CLEAR ZONE SHALL BE DEFINED BY THE HIGHWAY DESIGN ENGINEER.
- IF FIELD CONDITIONS EXCEED THESE REQUIREMENTS, CONTACT THE ENGINEER FOR DIRECTION.

NOTES ON TOTAL HEIGHT OF SIGN POSTS

- UPPER SIGN POSTS SHALL EXTEND TO THE TOP OF FULL WIDTH SIGN PANEL OR THE TOP OF CROWN, WHICHEVER IS HIGHER.
- FOR SIGN OR CROWN PANEL RETROFIT, THE EXISTING SIGN POSTS SHALL BE REPLACED WITH NEW POSTS OR EXTENDED WITH ADDITIONAL SECTIONS USING HINGE ASSEMBLIES. REFER TO TRAFFIC TYPICAL SHEETS "EXTRUDED SIGN PANEL - RETROFIT DETAIL".

SAFETY CONSIDERATIONS

- THE HINGE BETWEEN THE UPPER AND LOWER POSTS SHALL BE AT LEAST 7 FT. ABOVE THE GROUND UNLESS ALLOWED IN NOTE 4.
- NO SUPPLEMENTARY SIGNS SHALL BE ATTACHED BELOW THE HINGES.
- THE POST SPACING SHALL BE 3/5 W EXCEPT AS NOTED BELOW:

UNIT WEIGHT OF POST	POST SPACING REQUIREMENTS
LESS THAN 18 PLF	NO RESTRICTIONS ON POST SPACING **
FROM 18 PLF TO 45 PLF	PROVIDE AT LEAST 7 FT. CLEAR DISTANCE BETWEEN POSTS ***
EXCEEDS 45 PLF	RELOCATE SIGN OUTSIDE OF CLEAR ZONE OR SHIELD SIGN FROM VEHICULAR IMPACT AS DIRECTED BY THE ENGINEER

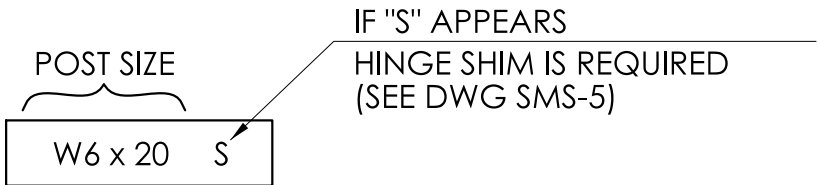
- ** IF THE TOTAL COMBINED WEIGHT OF ONE LOWER POST AND TWO BRACKETS EXCEEDS 600 LBS OR THE COMBINED WEIGHT OF TWO POSTS AND FOUR BRACKETS LOCATED WITHIN A CLEAR DISTANCE OF 7 FT OF EACH OTHER EXCEEDS 600 LBS, THE SIGN SHALL BE RELOCATED OUTSIDE OF THE CLEAR ZONE OR SHALL BE PROPERLY SHIELDED FROM VEHICULAR IMPACT AS DIRECTED BY THE ENGINEER. SEE "TABLE 1 - BRACKET DATA" ON SMS-4 FOR BRACKET WEIGHT.
- *** IF THE REQUIRED CLEAR DISTANCE CANNOT BE ATTAINED, THE ENGINEER MAY DIRECT THAT THE SIGN BE RELOCATED OUTSIDE THE CLEAR ZONE OR THAT IT BE PROPERLY SHIELDED FROM VEHICULAR IMPACT.

SELECTING A POST SIZE,
BRACKET NUMBER, AND HINGE TYPE

- DETERMINE THE REQUIRED SIGN DIMENSIONS AND POST HEIGHTS (SEE "TYPICAL POST MOUNTED SIGN" DETAIL, THIS SHEET).

W	=	SIGN WIDTH (HORIZONTAL DIMENSION)
H	=	SIGN HEIGHT (VERTICAL DIMENSION) (ADD CROWN HEIGHT WHEN APPLICABLE)
L	=	POST HEIGHT (THE DISTANCE BETWEEN THE TOP OF THE FOUNDATION AND THE BOTTOM OF THE SIGN MEASURED AT THE TALLER POST)
- ENTER "POST SELECTION TABLE 1 AND 2" ON DWG SMS-6 AND SMS-7 WITH THE DESIRED VALUES OF W, H, AND L. ROUND UP TO THE NEAREST VALUES IN THE TABLE. READ THE CORRESPONDING POST SIZE AND BRACKET NUMBER. REFER TO DWG SMS-4 FOR BRACKET TYPE AND SMS-5 FOR TYPICAL HINGE REQUIREMENTS.

EXAMPLE: W = 8', L = 10', H = 14'
ENTER "POST SELECTION TABLE 1" ON DWG SMS-6 SINCE TABLE 1 IS APPLICABLE FOR SIGN WIDTH ≤ 15'. LOCATE THE FOLLOWING CELL:

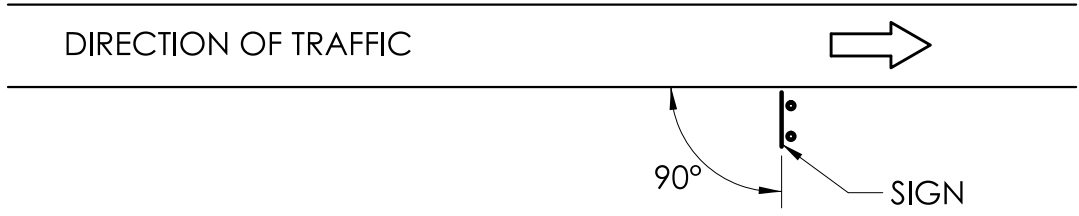


- AFTER INSTALLATION COMPLETED, THE CONTRACTOR SHALL SUBMIT INFORMATION TABLES OF EACH CONSTRUCTED SIGN SUPPORT STRUCTURE USING THE TEMPLATE ON DWG SMS-8 TO THE ENGINEER.

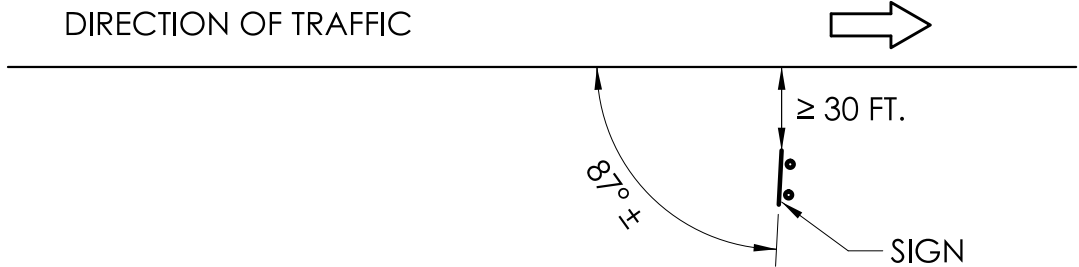
SIGN SUPPORT PLACEMENT

FOR MAXIMUM EFFECTIVENESS, POSITION SIDE MOUNTED SIGNS AS FOLLOWS:

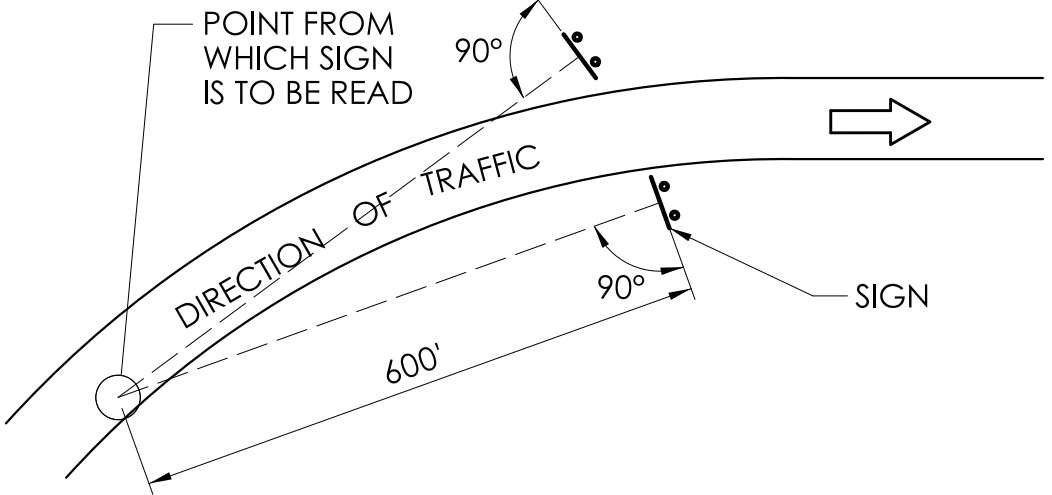
- FOR SIGNS LOCATED LESS THAN 30 FT. FROM EDGE OF ROAD ON TANGENT SECTION, POSITION THE SIGN SUCH THAT THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH THE TRAFFIC LANE THAT THE SIGN SERVES.



- FOR SIGNS LOCATED 30 FT. OR MORE FROM EDGE OF ROAD ON TANGENT SECTION, THE VERTICAL AXIS SHALL BE PLUMB AND THE SIGNS SHALL BE TURNED APPROXIMATELY 3° TOWARD THE ROAD (SEE DIAGRAM).



- WHERE THE SIGN IS POSITIONED ON THE OUTSIDE OR INSIDE OF THE HORIZONTAL CURVE, THE SIGN FACE SHOULD BE ORIENTED 90° TO THE STRAIGHT LINE BETWEEN THE SIGN AND THE POINT FROM WHICH THE SIGN IS TO BE READ AT THE DISTANCE SHOWN.



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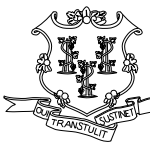
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PLOTTED DATE: 7/26/2023

SCALE AS NOTED

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STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION



PROJECT NUMBER: 0048-0200

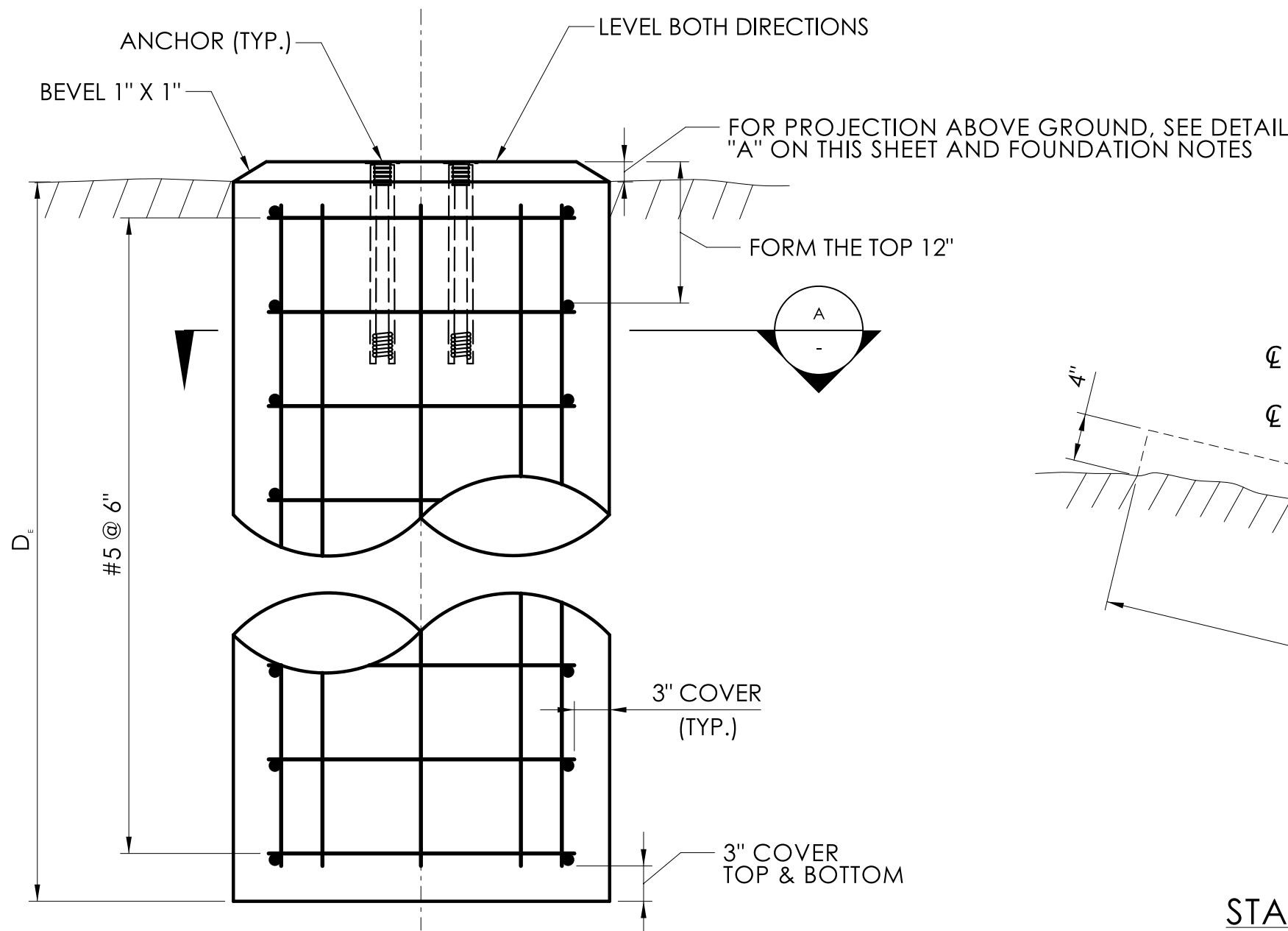
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05585 - INTERSTATE 91 OVER GRAPE BROOK

TOWN(S): ENFIELD

DRAWING TITLE: SIDE MOUNTED SIGN STRUCTURE CLEARANCES AND REQUIREMENTS

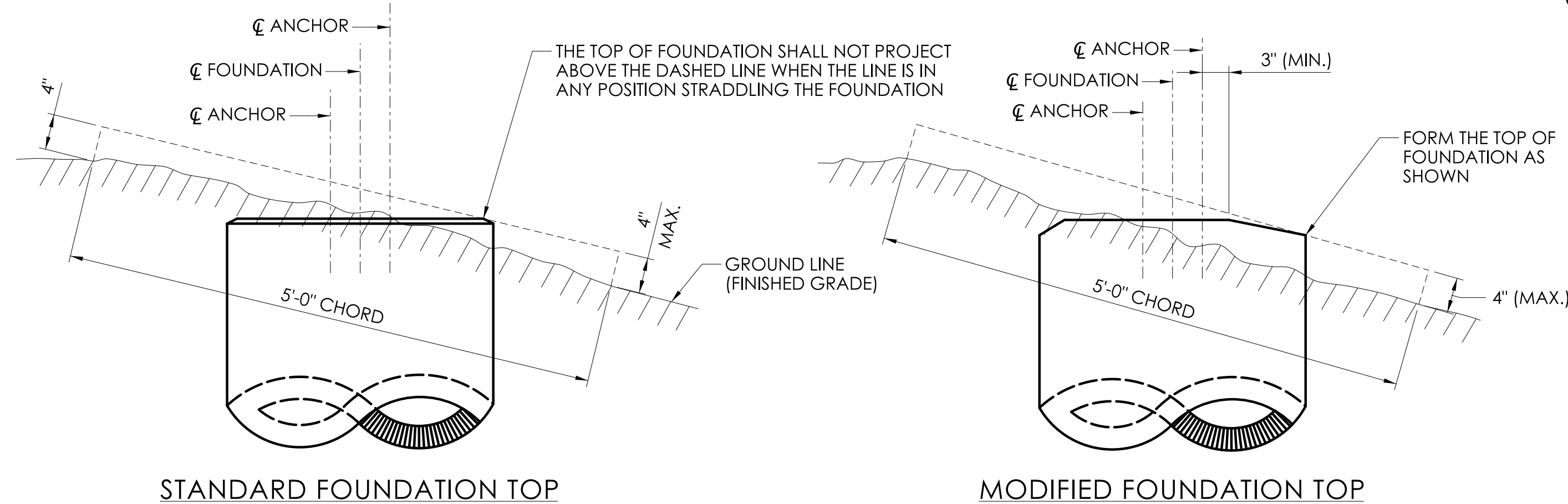
DRAWING NO.
SMS-2

SHEET NO.
09.02



TYPICAL SECTION - FOUNDATION IN EARTH

SCALE: 3/4"=1'-0"



DETAIL A - PROJECTION OF FOUNDATION ABOVE GROUND

SCALE: 1"=1'-0"

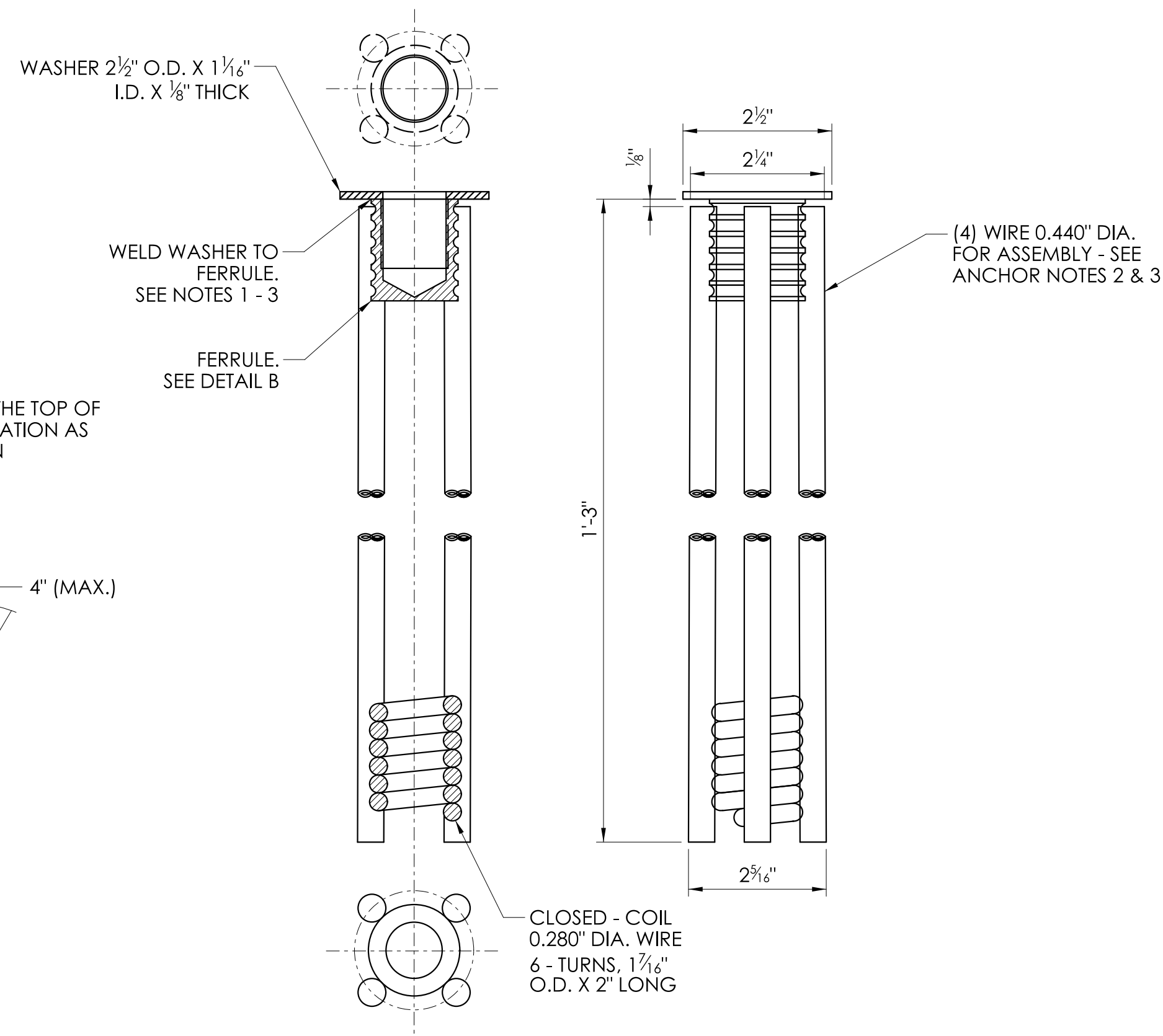
FOUNDATION NOTES

- DETAIL A ILLUSTRATES THE METHOD USED TO MEASURE THE PROJECTION OF THE FOUNDATION ABOVE FINISHED GRADE. IT IS IMPORTANT THAT THE TOP OF THE FOUNDATION BE PLACED IN ACCORDANCE WITH THIS DETAIL.
- THE TOP OF FOUNDATION SHALL BE CONSTRUCTED AS CLOSE TO THE FINISHED GRADE AS POSSIBLE, BUT SHOULD NOT BE COVERED BY SOIL.
- USE A MODIFIED TOP WHERE PROJECTION LIMITS CANNOT BE MET WITH THE STANDARD TOP.
- FOUNDATIONS SHALL BE PLACED AGAINST UNDISTURBED SOIL.
- IF UNSUITABLE SOIL IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER SHALL BE NOTIFIED. AN ALTERNATE FOUNDATION DESIGN MAY BE SUPPLIED BY THE ENGINEER, OR THE SIGN MAY BE RELOCATED.
- IF ROCK IS ENCOUNTERED DURING EXCAVATION FOR SIDE MOUNTED SIGN FOUNDATIONS, THE CONTRACTOR SHALL CREATE A ROCK SOCKET TO THE DEPTH REQUIRED TO ACHIEVE THE OVERALL FOUNDATION DEPTH SPECIFIED ON THIS SHEET FOR FOUNDATIONS CONSTRUCTED IN EARTH, OR RELOCATE THE SIGN AS DIRECTED BY THE ENGINEER.
- PLACEMENT OF FOUNDATIONS SHALL BE IN ACCORDANCE WITH "SIGN SUPPORT PLACEMENT" ON DWG SMS-2.
- WHERE FOUNDATIONS ARE PLACED ON SLOPES STEEPER THAN 1V : 6H, GRADE AROUND THE FOUNDATIONS IN CONFORMANCE WITH DETAIL A.
- LAP SPLICE SHALL BE ALTERNATED SO THAT SPLICES ARE NOT ADJACENT TO EACH OTHER VERTICALLY.

FOUNDATION SELECTION

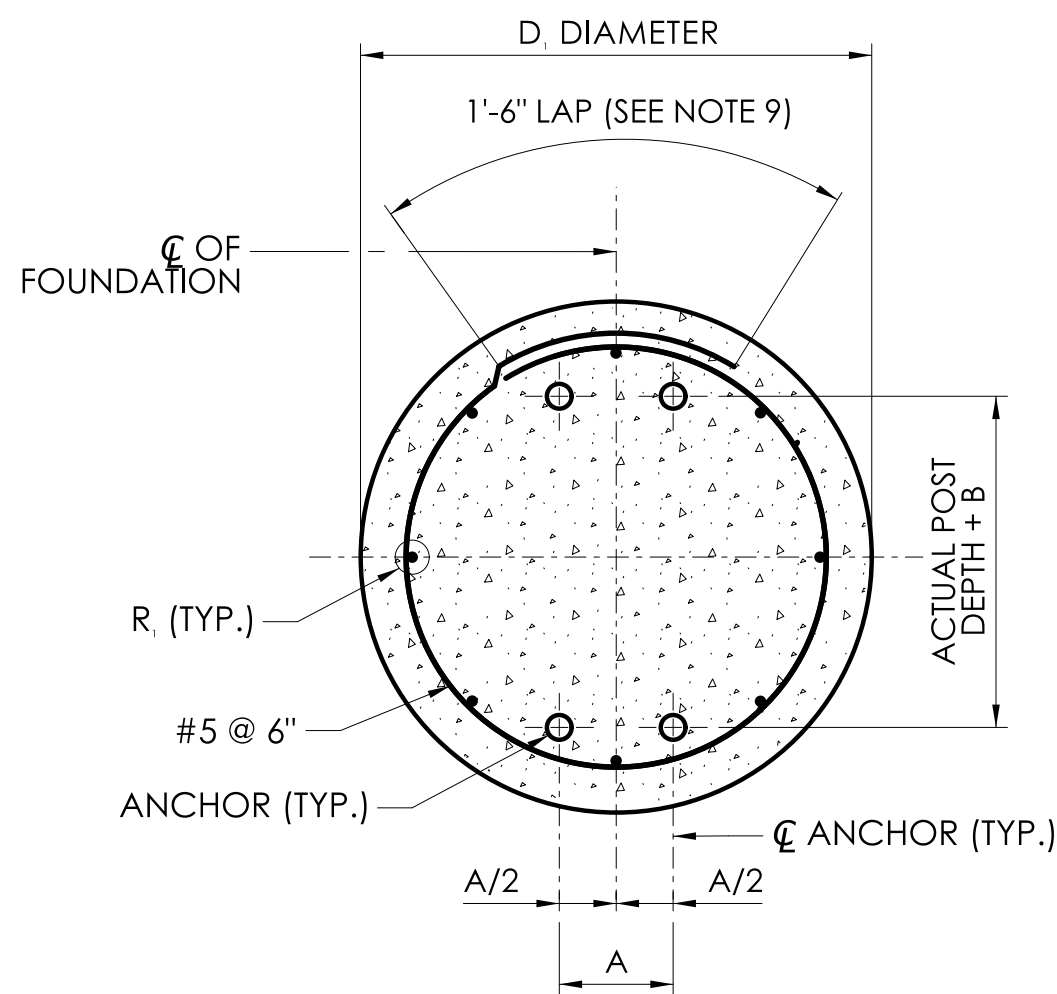
- ENTER THE "FOUNDATION SELECTION TABLE" WITH THE POST SIZE SELECTED FROM THE "POST SELECTION TABLE 1 OR 2" ON DWG SMS-6 OR DWG SMS-7.
- READ HORIZONTALLY ACROSS THE TABLE THE CORRESPONDING VALUES OF FOUNDATION DIAMETER, EMBEDMENT DEPTH, REINFORCING BAR SIZE, ANCHOR SPACING AND DIMENSION "B".

FOUNDATION SELECTION TABLE FOR BREAKAWAY SIGNS					
POST SIZE	DIAMETER D (FT.)	DEPTH D (FT.)	REINF. STEEL R	ANCHOR SPACING A (IN.)	B (IN.)
W6 W8	2.5	8	8 - #5	3	8
W10 W12	2.5	8	8 - #5	4	8
W14 W16 W18 W21	3.25	8	12 - #5	4	8



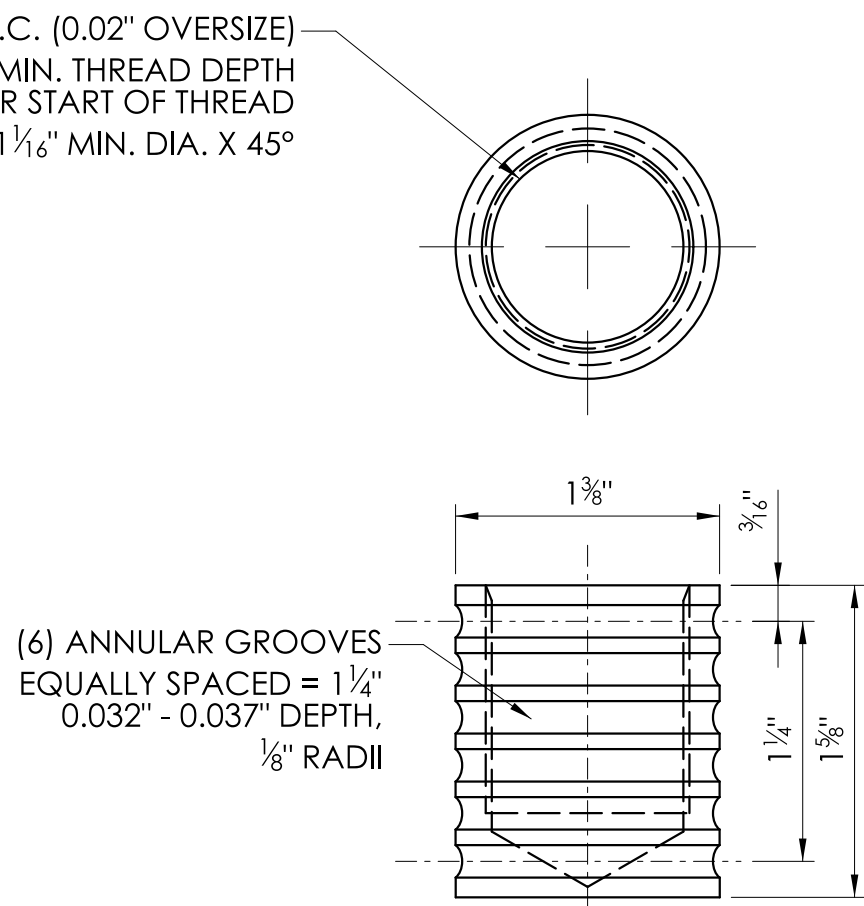
ANCHOR DETAIL

SCALE: 6"=1'-0"



SECTION - DRILLED FOUNDATION

SCALE: N.T.S.



DETAIL B

SCALE: Full Size 1 = 1

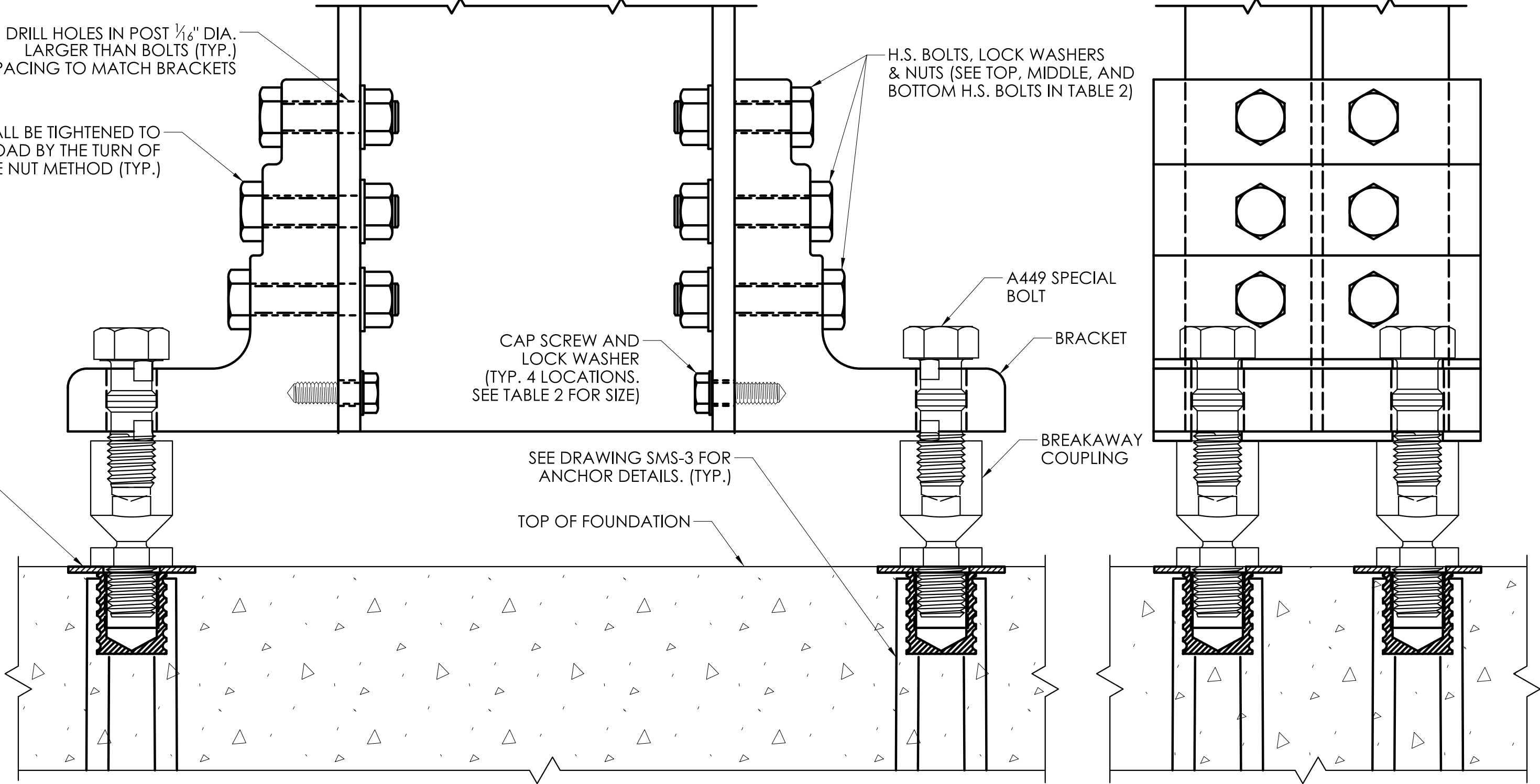
ANCHOR NOTES

- 1/8" FILLET WELD WASHER TO FERRULE AT 4 PLACES 90° APART. WELD MUST NOT PENETRATE THROUGH THE WASHER. WASHER MUST BE PERPENDICULAR TO THE FERRULE CENTER LINE.
- WIRES (4) TO BE PERCUSSION WELDED TO FERRULE AND TO THE CLOSED COIL.
- WELD MUST NOT PENETRATE TO FERRULE INTERIOR THREADS.
- WIRE TO BE DRAWN PER ASTM A510.
- CHEMICAL & PHYSICAL CERTIFICATION SHOULD ACCOMPANY THE MATERIAL.
- CERTIFICATION SHOULD EXPLICITLY INDICATE THE MATERIAL TO BE DOMESTIC.
- TOLERANCES ON DECIMAL DIMENSIONS SHALL BE ± 0.004". ALL OTHER TOLERANCES SHALL BE ± 0.04", EXCEPT AS NOTED.

REV.	DATE	REVISION DESCRIPTION

TABLE 1 - BRACKET DATA											
POST SIZE	BRACKET TYPE	SINGLE BRACKET WEIGHT (LBS)	DIMENSIONS (IN.)			HOLE DIAMETERS (IN.)			DIMENSIONS (IN.)		
			A	B	C	D1	D2	D3	E	F	G
W6, W8	B525	7.625	5¼	1⅞	1½	1⅜	¾	½"-13 UNC 1A	0.125	1⅞	½
ALL OTHERS	B650	9.500	6½	1⅞	2	2⅜	1⅜	¾"-11 UNC 1A	0.125	2⅞	½

TABLE 2 - BRACKET BOLTS								
POST SIZE	BRACKET TYPE	BOLT AND CAP SCREW DIAMETER (IN.)	BOLT LENGTH (IN.)			CAP SCREW LENGTH (IN.)	THREAD DESIGNATION (U.S. CUSTOMARY UNITS)	
			TOP	MIDDLE	BOTTOM		BOLT	CAP SCREW
W6, W8	B525	½	2½	2¾	3	1¼	13 UNC	13 UNC
ALL OTHERS	B650	¾	2¾	3	3¼	1¼	11 UNC	11 UNC

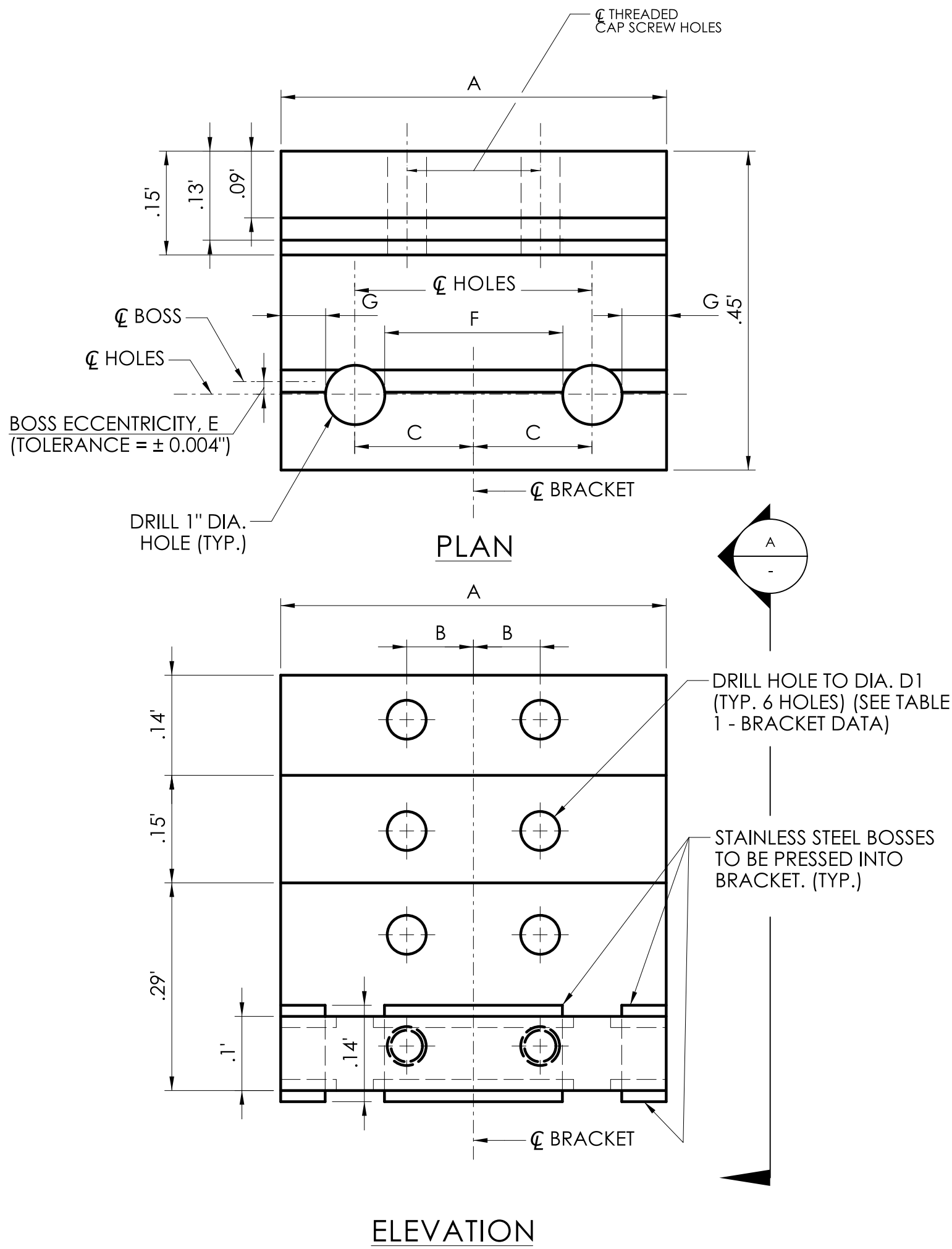


SIDE ELEVATION

FRONT ELEVATION

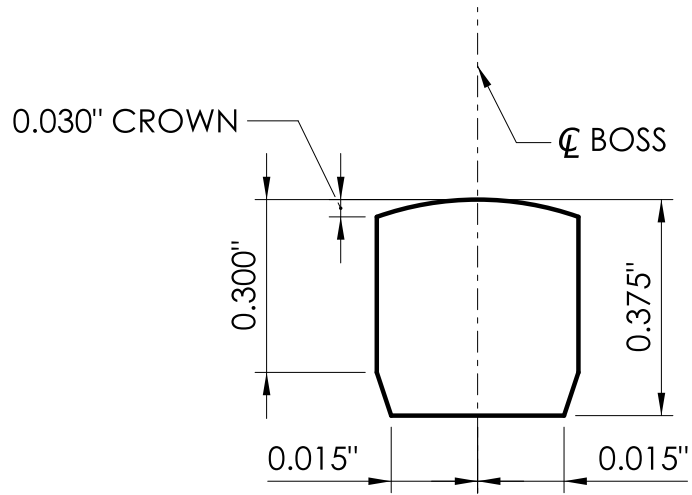
BRACKET ASSEMBLY DETAILS

SCALE: N.T.S.



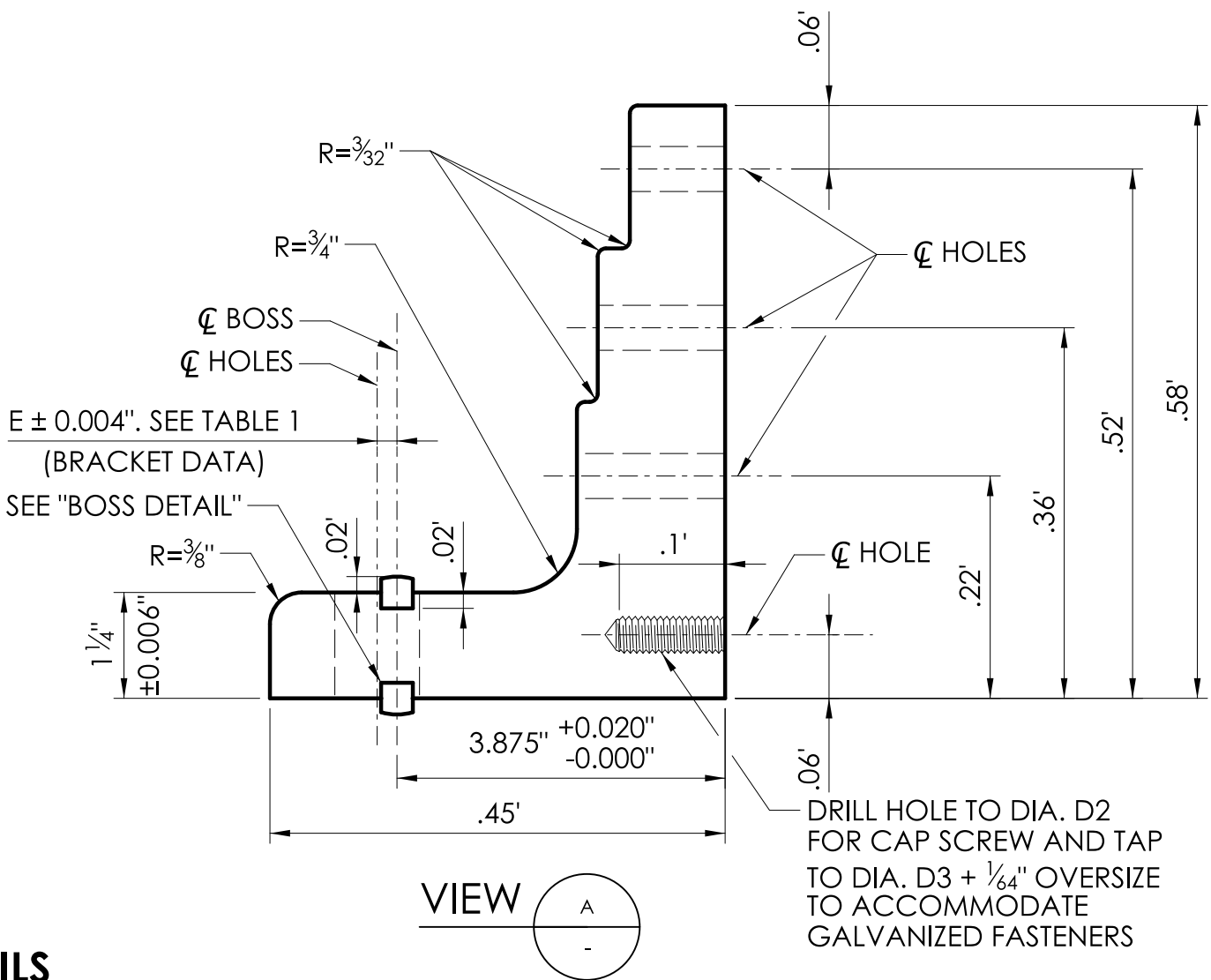
BRACKET DETAILS

SCALE: 6"=1'-0"



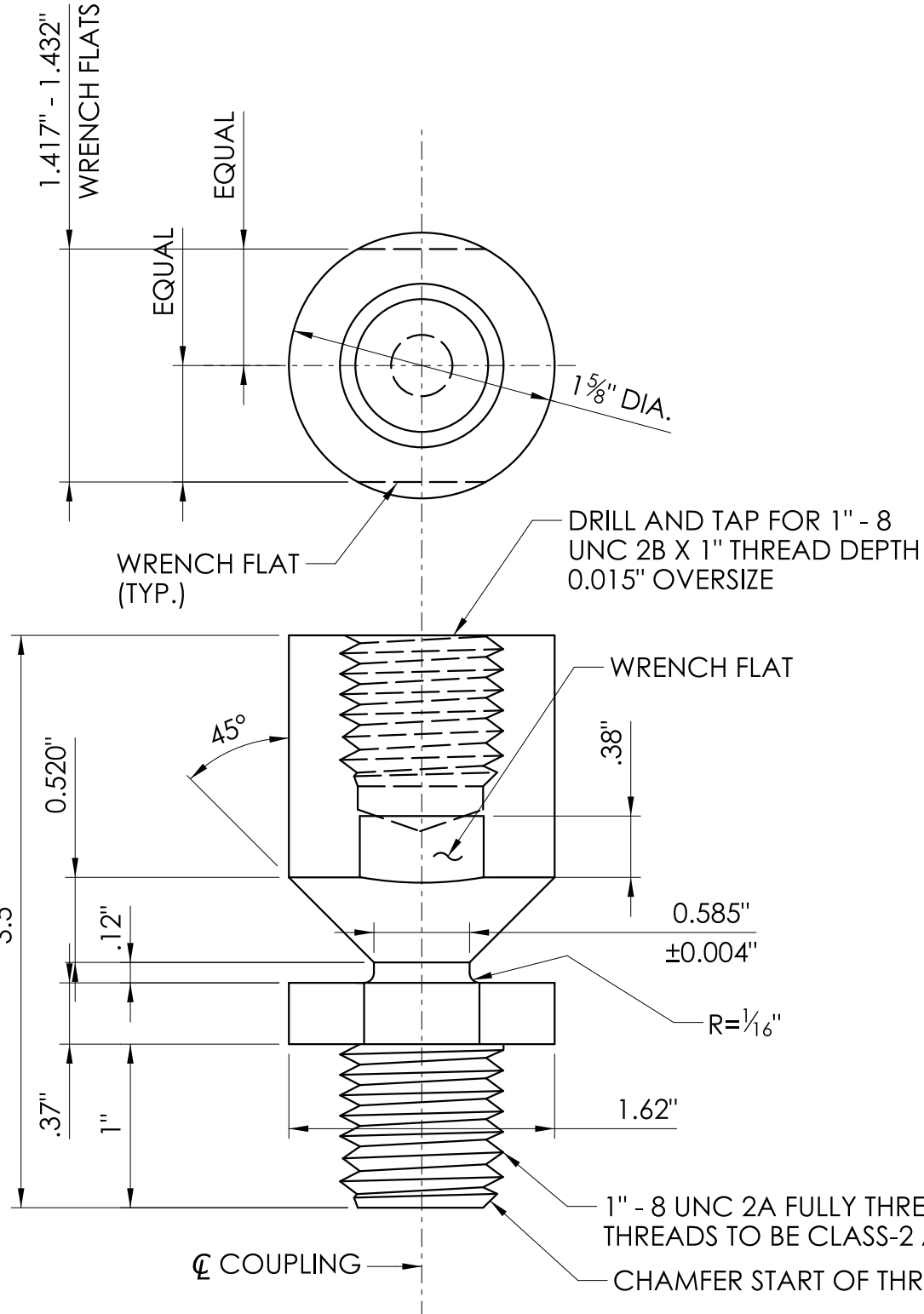
BOSS DETAIL

SCALE: N.T.S.



VIEW

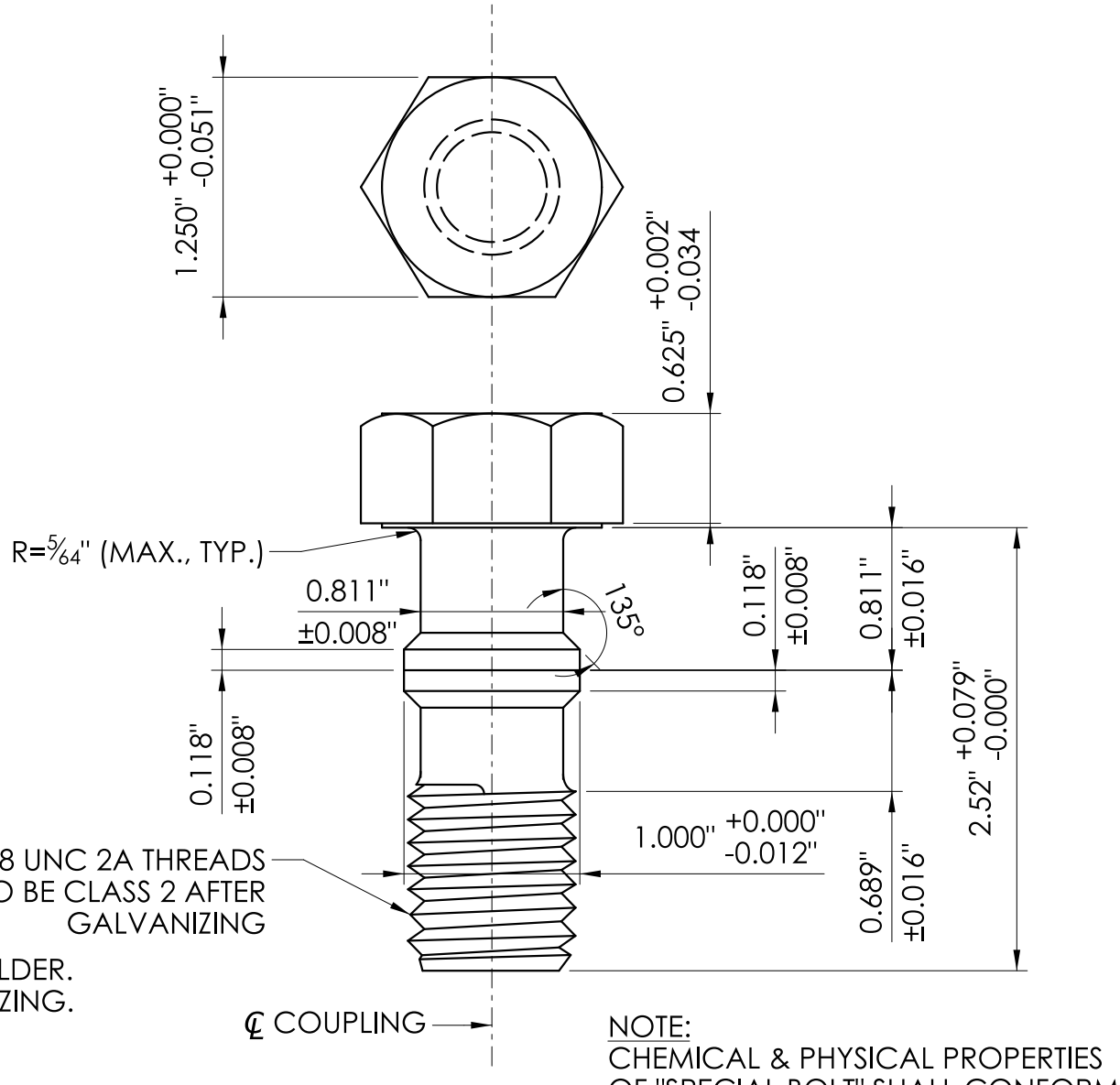
SCALE: 6"=1'-0"



NOTE: TOLERANCES TO 1/32" EXCEPT AS NOTED

BREAKAWAY COUPLING

SCALE: Full Size 1 = 1



NOTE: CHEMICAL & PHYSICAL PROPERTIES OF "SPECIAL BOLT" SHALL CONFORM TO ASTM A449

SPECIAL BOLT

SCALE: Full Size 1 = 1

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STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION



PROJECT NUMBER: 0048-0200
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05585 - INTERSTATE 91 OVER GRAPE BROOK
TOWN(S): ENFIELD
DRAWING TITLE: SIDE MOUNTED SIGN STRUCTURE BRACKET DETAILS

DRAWING NO.
SMS-4
SHEET NO.
09.04

GENERAL NOTES

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 819 (2024), WITH LATEST SUPPLEMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 17TH EDITION (2002) AND AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS 6TH EDITION (2013).

DESIGN LOADS: THE DESIGN WIND SPEED IS 100 MPH, BASED ON A 10-YEAR MEAN RECURRENCE INTERVAL.

FOUNDATIONS: CONCRETE FOR FOUNDATIONS SHALL BE CLASS PCC03340.

REINFORCEMENT: REINFORCING STEEL SHALL BE UNCOATED AND MEET THE REQUIREMENTS OF ASTM A615, GRADE 60.

SIGN POSTS: STEEL FOR SIGN POSTS SHALL MEET THE REQUIREMENTS OF ASTM A992, GRADE 50, AND SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. THE POST SHALL BE PERMANENTLY LABELED BY PERMANENT PAINT MARKING WITH THE POST SIZE ON THE WEB AT THE BOTTOM OF THE LOWER POST. UPPER AND LOWER POSTS HAVE 1/4" VERTICAL GAP BETWEEN THEM. THEREFORE, BOLT HOLES SHALL BE DRILLED WITH CONSIDERATION OF 1/32" VERTICAL GAP BETWEEN $\varnothing$ JOINT AND POST END.

BREAKAWAY HARDWARE: BREAKAWAY SIDE MOUNTED SIGN SUPPORTS SHALL BE CONSTRUCTED WITH A HARDWARE SYSTEM (ANCHORS, COUPLINGS BRACKETS AND HINGE PLATES) THAT BREAKS AWAY UPON IMPACT FROM AN ERRANT VEHICLE. ONLY BREAKAWAY HARDWARE SYSTEMS APPROVED BY CTDOT AND REFERENCED BY CTDOT QUALIFIED PRODUCT LIST UNDER NON-PROPRIETARY ROADSIDE SAFETY HARDWARE IS PERMITTED TO BE USED.

ANCHORS: THREADED FERRULES SHALL BE FABRICATED FROM TYPE 304 STAINLESS STEEL. RODS SHALL BE FABRICATED FROM STEEL CONFORMING TO AISI 1038. STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AISI 1008. MINIMUM TENSILE STRENGTH OF 60,000 LBS.

ANCHOR SHIMS: HORSESHOE SHIMS SHALL BE FABRICATED FROM 14 OR 18 GAUGE SHEET STEEL AND GALVANIZED IN ACCORDANCE WITH ASTM A123.

BREAKAWAY COUPLINGS: BREAKAWAY COUPLINGS SHALL BE MADE FROM ALLOY STEEL CONFORMING TO AMS 6378D WITH EXCEPTIONS TO DECARBURIZATION AND MACROSTRUCTURE CLAUSES OR AN EQUIVALENT MATERIAL, AND SHALL HAVE A MINIMUM TENSILE YIELD STRENGTH OF 130,000 PSI. THE COUPLING SHALL HAVE A MINIMUM TENSILE ULTIMATE STRENGTH OF 40,400 LBS. THE ROCKWELL HARDNESS SHALL BE C32 MINIMUM. COUPLINGS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A153. CLEANED AND PHOSPHATED PER FEDERAL SPECIFICATION TT-C-490C, COATED, 0.002" - 0.004" THICK, USING MORTON POWDER COATINGS' 20-7037 BLACK POLYESTER POWDER OR EQUIVALENT. CHIPPED AREAS OF THE COATED SURFACE SHALL BE REPAIRED. ALL THREADED SURFACES, AFTER COATING, SHALL BE CLEANED TO ALLOW THEM TO FUNCTION PROPERLY.

BRACKETS: BRACKETS SHALL BE MADE FROM ALUMINUM ALLOY 6061-T6 OR AN EQUIVALENT MATERIAL. THE LOAD CONCENTRATING MEMBER (BOSS) SHALL BE MADE FROM STAINLESS STEEL CONFORMING TO ASTM A582, TYPE 416 WITH ROCKWELL HARDNESS OF C33 - C45. LOCATION OF HOLES FOR THE BREAKAWAY COUPLING SHALL BE ACCURATELY POSITIONED RELATIVE TO THE LOAD CONCENTRATING MEMBER AND BRACKETS SHALL BE PERMANENTLY LABELED WITH THE BRACKET NUMBER TO REFLECT THE HOLE POSITIONING. SEE DWG SMS-4 FOR IDENTIFICATION OF BRACKETS BY NUMBER.

HINGE PLATES: HINGE PLATES SHALL BE MADE FROM ALLOY STEEL CONFORMING TO AISI 4140 OR AN EQUIVALENT MATERIAL AND SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. THE HINGE PLATE SHALL HAVE A MINIMUM TENSILE YIELD STRENGTH OF 80,000 PSI AND MINIMUM TENSILE ULTIMATE STRENGTH AS FOLLOWS:
TYPE A 7,100 LBS
TYPE B525 11,300 LBS
TYPE B650 17,000 LBS

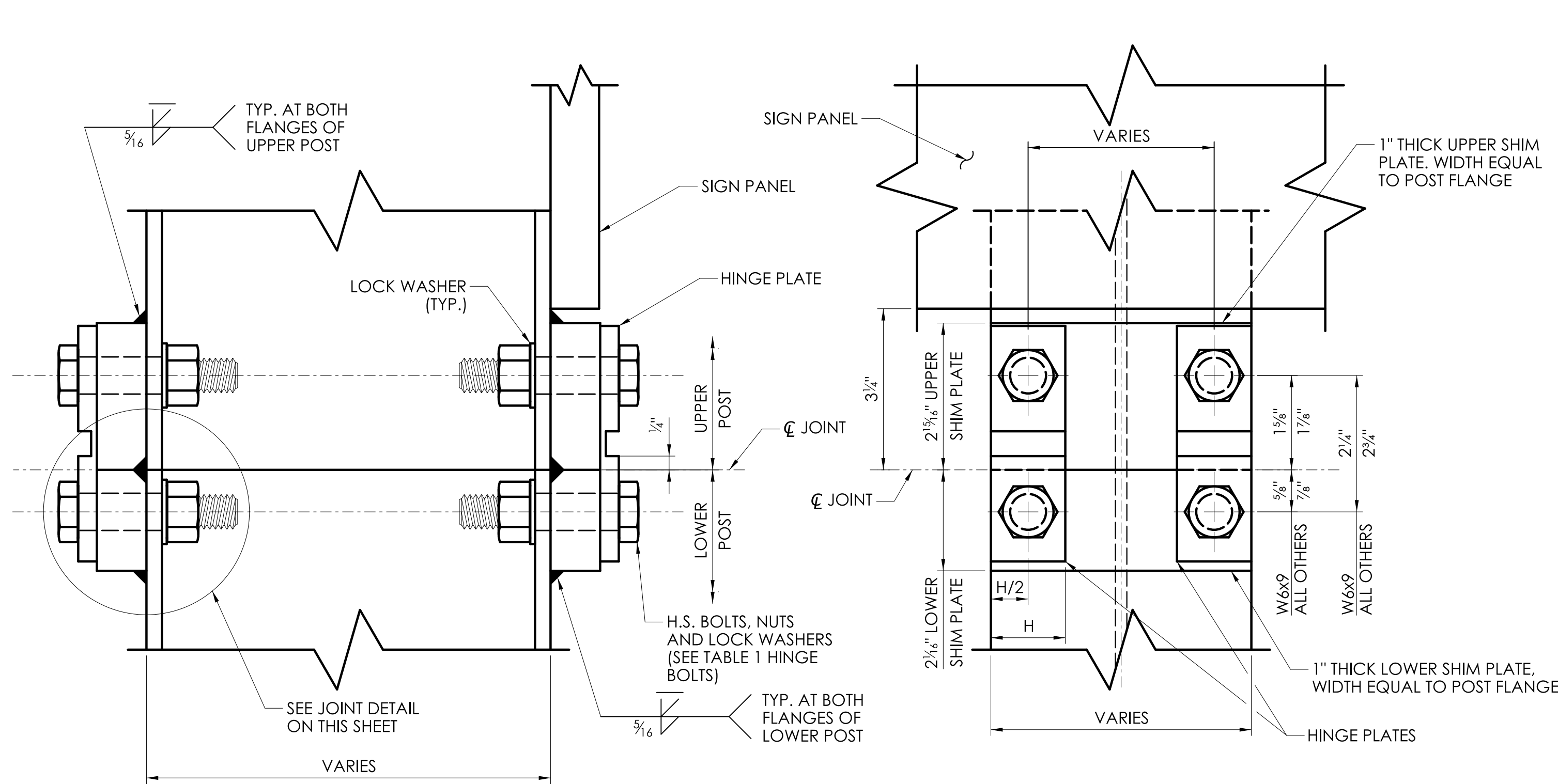
HINGE SHIM PLATES: 1" THICK SHIM PLATES SHALL MEET ASTM A572, GRADE 50.

BOLTS, NUTS AND WASHERS: UNLESS NOTED OTHERWISE, ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F3125 GRADE A325, TYPE 1. SPECIAL BOLTS SHALL CONFORM TO ASTM A449. NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A563, GRADE DH. LOCKWASHERS SHALL CONFORM TO THE REQUIREMENTS OF ANSI B18-21-1. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM F2329 OR ASTM B695, CLASS 55. SPECIAL BOLTS MAY BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM B695, CLASS 50.

CAP SCREWS: CAP SCREWS ATTACHING BRACKETS TO POSTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR ASTM B695, CLASS 55.

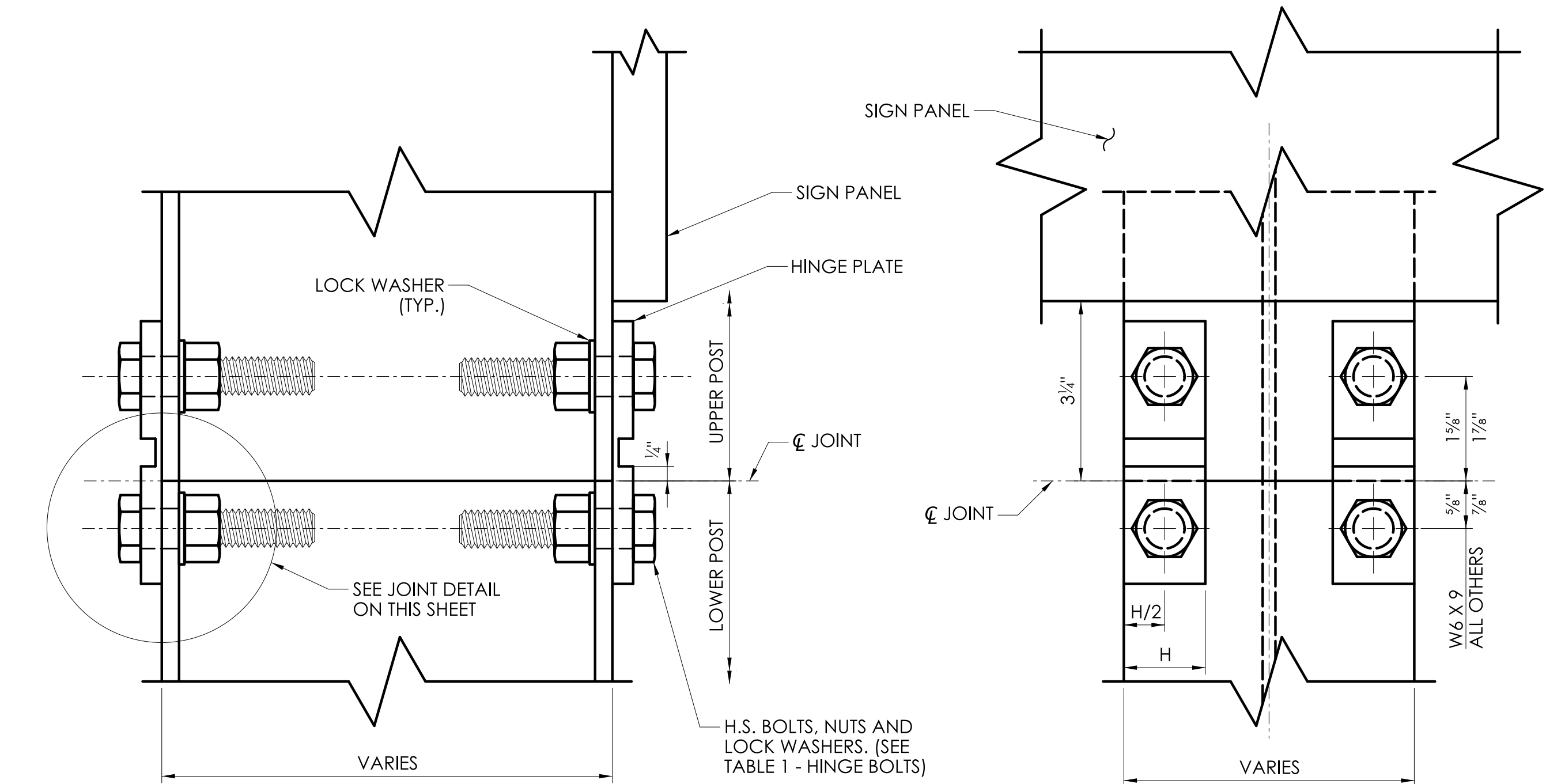
INSTALLATION: INSTALLATION OF THE BREAKAWAY HARDWARE SYSTEM SHALL BE IN ACCORDANCE WITH THE RECOMMENDED PRACTICES OF THE SUPPLIER. NO CHANGES IN MATERIALS OR DETAILS WILL BE PERMITTED WITHOUT PRIOR APPROVAL BY THE ENGINEER. ENLARGING OR INCREASING THE SIZE OF THE HOLES IN THE BRACKETS IS NOT PERMITTED.

BASIS OF PAYMENT: THE COST OF THE GALVANIZED STEEL POSTS, INCLUDING THE ANCHORS, COUPLINGS, BRACKETS, BOLTS, HINGE PLATES, AND HORSESHOE SHIMS WILL BE INCLUDED IN THE ITEM "STRUCTURAL STEEL". THE COST OF THE FOUNDATION, INCLUDING THE EXCAVATION, FORMING, REINFORCEMENT, AND CONCRETE WILL BE INCLUDED IN THE ITEM "SIDE MOUNTED SIGN FOUNDATION". WHEN ROCK IS ENCOUNTERED WITHIN THE LIMITS OF EXCAVATION, ITS REMOVAL WILL BE INCLUDED FOR PAYMENT UNDER "ROCK IN FOUNDATION EXCAVATION".



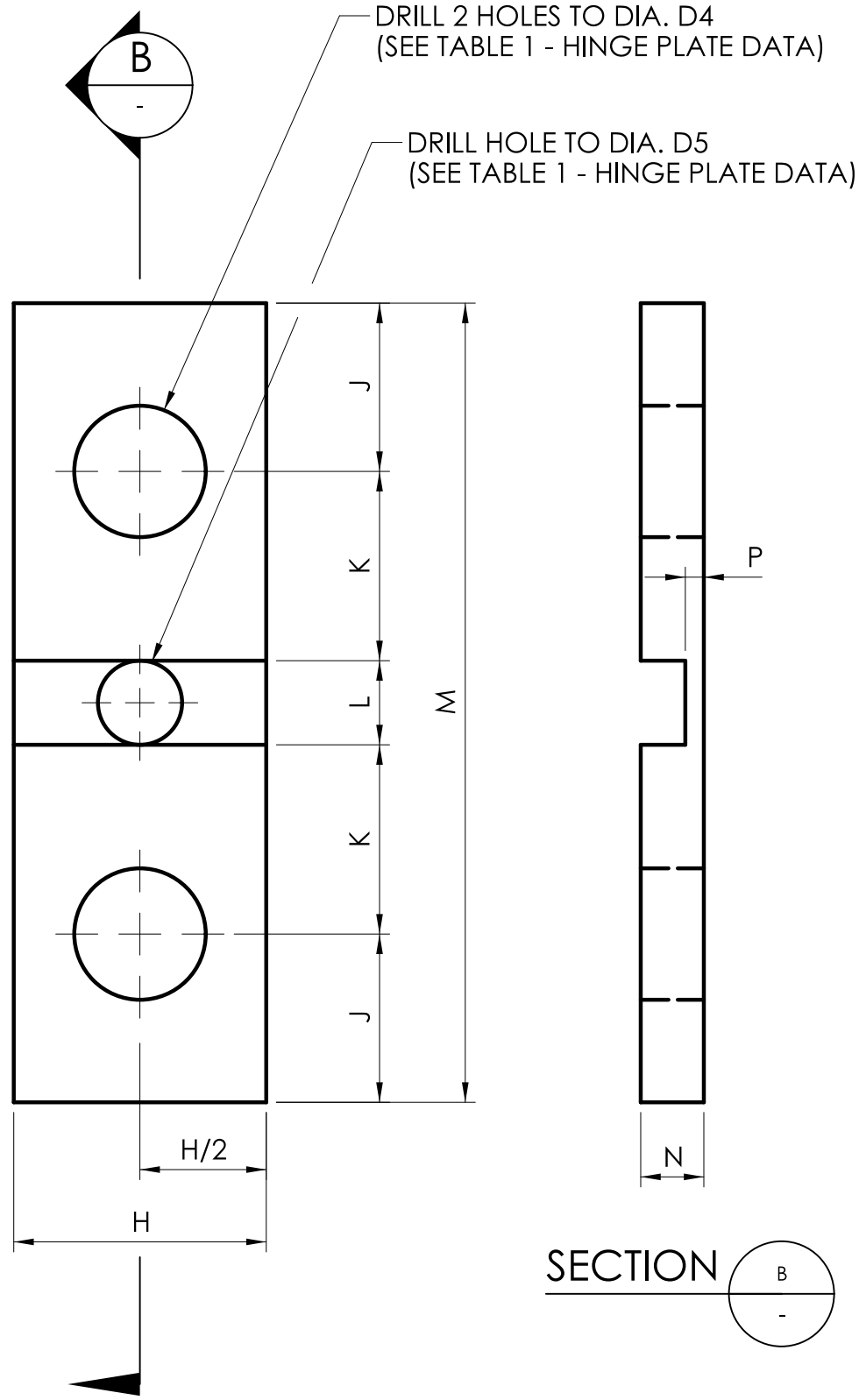
WITH SHIM PLATE

SCALE: 6"=1'-0"



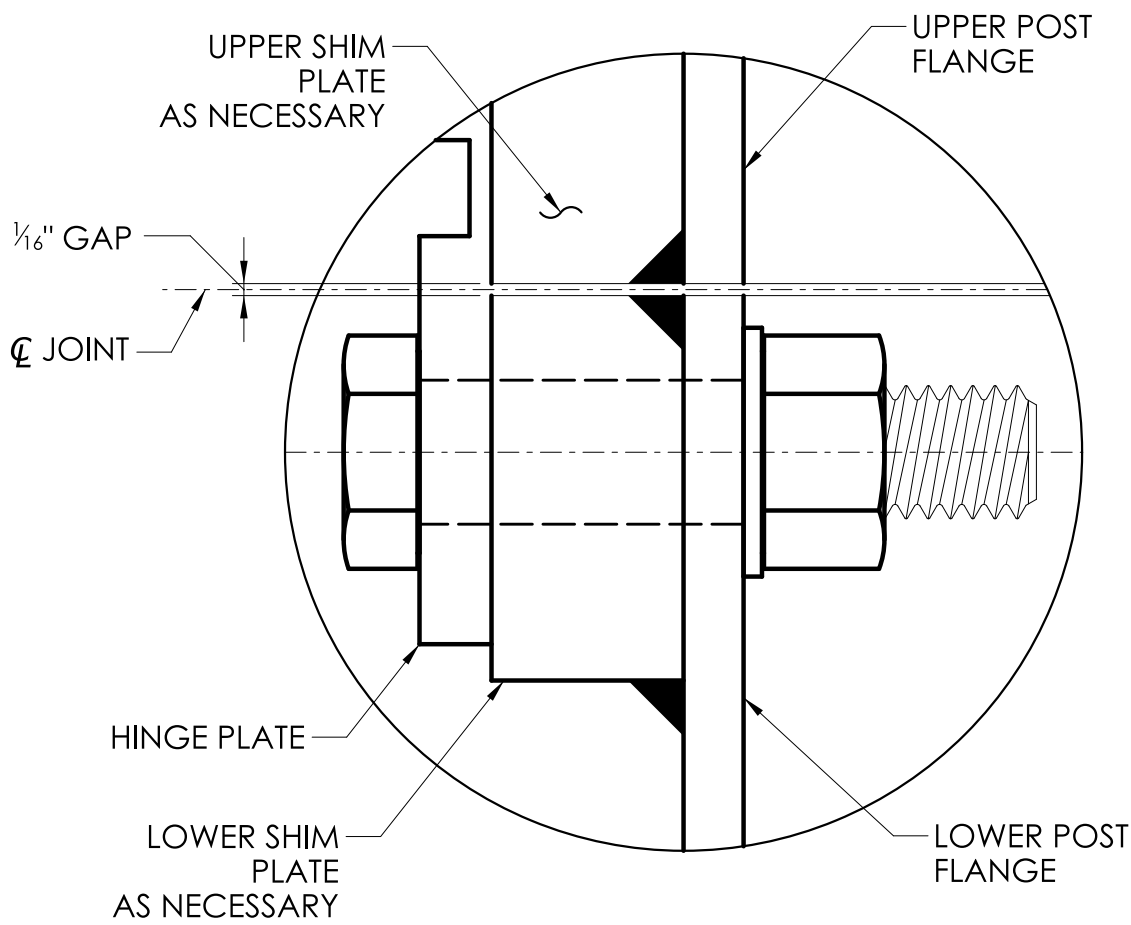
WITHOUT SHIM PLATE

SCALE: 6"=1'-0"



HINGE PLATE DETAILS

SCALE: Full Size 1 = 1



JOINT DETAILS

SCALE: Full Size 1 = 1

TABLE 1 - HINGE PLATE DATA

POST SIZE	HINGE TYPE	DIMENSIONS (IN.)							HOLE DIA. (IN.)		BOLT DIMENSIONS (IN.)		THREAD SERIES
		H	J	K	L	M	N	P	D4	D5	DIAMETER	LENGTH	
W6x9	A	1	3/4	7/8	1/2	3 3/4	1 5/8	0.071 ± 0.004	1 1/32	NONE	1/2	1 1/2	13 UNC (COARSE)
W6* AND W8	B525	1 1/2	1	1 1/8	1/2	4 3/4	3/8	0.113 ± 0.004	2 5/32	1/2	3/4	2 1/4	10 UNC (COARSE)
ALL OTHERS	B650	1 1/2	1	1 1/8	1/2	4 3/4	3/8	0.113 ± 0.004	2 5/32	NONE	3/4	2 1/4	10 UNC (COARSE)

* EXCLUDING W6x9

REV	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: CHECKED BY: FILE NAME: LASTED SAVED BY: PLOTTED DATE: 7/26/2023

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STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION



PROJECT NUMBER: 0048-0200
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05585 - INTERSTATE 91 OVER GRAPE BROOK
TOWN(S): ENFIELD
DRAWING TITLE: SIDE MOUNTED SIGN STRUCTURE HINGE DETAILS

DRAWING NO.
SMS-5
SHEET NO.
09.05

POST SELECTION TABLE 1

W	L	H (Sign Height + Crown Height)																			
		4 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	14 ft	15 ft	16 ft	17 ft	18 ft	19 ft	20 ft	21 ft	22 ft	
8 ft	7 ft	W6 x 9	W6 x 9	W6 x 9	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15 S	W6 x 15 S	W8 x 18 S	W8 x 18 S	W10 x 22	W10 x 22	W10 x 22	W10 x 26 S	W10 x 26 S	W12 x 26 S	W12 x 26 S
	8 ft	W6 x 9	W6 x 9	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15 S	W8 x 18	W8 x 18 S	W8 x 21 S	W10 x 22	W10 x 22	W10 x 22	W10 x 26 S	W10 x 26 S	W10 x 26 S	W14 x 30
	9 ft	W6 x 9	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 18	W8 x 21 S	W8 x 21 S	W10 x 22	W10 x 26	W10 x 26	W10 x 26 S	W14 x 30	-
	10 ft	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 21	W8 x 21 S	W8 x 21 S	W10 x 26	W10 x 26	W10 x 26	-	-	-
	11 ft	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 21	W8 x 21	W8 x 21 S	-	-	-	-	-	-
	12 ft	W6 x 9	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 21	W8 x 18	W8 x 21	W8 x 21	-	-	-	-	-	-	-
	13 ft	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 18	W8 x 21	W8 x 21	-	-	-	-	-	-	-	-	-
	14 ft	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 18	-	-	-	-	-	-	-	-	-	-	-	-	-
9 ft	7 ft	W6 x 9	W6 x 9	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15 S	W8 x 18 S	W8 x 18 S	W10 x 22	W10 x 22	W10 x 22	W10 x 26 S	W10 x 26 S	W12 x 26 S	W14 x 30 S	W14 x 30 S
	8 ft	W6 x 9	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15 S	W6 x 15 S	W8 x 18 S	W8 x 21 S	W10 x 22	W10 x 22	W10 x 26	W10 x 26 S	W10 x 26 S	W14 x 30	W14 x 30	W14 x 30 S
	9 ft	W6 x 9	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 21 S	W8 x 21 S	W10 x 22	W10 x 26	W10 x 26	W10 x 26 S	W14 x 30	-	-
	10 ft	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 21	W8 x 21 S	W8 x 21 S	W10 x 26	W10 x 26	W10 x 26	-	-	-	-
	11 ft	W6 x 9	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 21	W8 x 21	W8 x 21 S	-	-	-	-	-	-	-	-
	12 ft	W6 x 9	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 18	W8 x 21	W8 x 21	W8 x 21	-	-	-	-	-	-	-	-	-
	13 ft	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 18	W8 x 21	W8 x 21	-	-	-	-	-	-	-	-	-	-	-
	14 ft	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W8 x 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10 ft	7 ft	W6 x 9	W6 x 9	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15 S	W6 x 15 S	W8 x 18 S	W8 x 21 S	W10 x 22	W10 x 22	W10 x 26 S	W10 x 26 S	W12 x 26 S	W14 x 30 S	W14 x 30 S	W18 x 35
	8 ft	W6 x 9	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15 S	W6 x 15 S	W8 x 18	W8 x 18 S	W10 x 22	W10 x 22	W10 x 26	W10 x 26 S	W10 x 26 S	W14 x 30	W14 x 30 S	-
	9 ft	W6 x 9	W6 x 9	W6 x 12	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 21 S	W10 x 22	W1						

[illegible]

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STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION



PROJECT NUMBER: 0048-020C

PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05585 - INTERSTATE 91 OVER GRAPE BROOK
TOWN(S): ENFIELD

DRAWING TITLE: SIDE MOUNTED SIGN STRUCTURE POST SELECTION TABLE 1 (W<=15FT.)

DRAWING NO.

SHEET NO.

09.06

POST SELECTION TABLE 2

W	L	H (Sign Height + Crown Height)																			
		4 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	14 ft	15 ft	16 ft	17 ft	18 ft	19 ft	20 ft	21 ft	22 ft	
16 ft	7 ft	-	W6 x 9	W6 x 12	W6 x 12	W6 x 15	W6 x 15 S	W6 x 15 S	W8 x 18 S	W8 x 18 S	W10 x 22	W10 x 22	W10 x 26 S	W10 x 26 S	W12 x 26 S	W18 x 35	W18 x 35 S	W21 x 44	-	-	
	8 ft	-	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15 S	W8 x 18	W8 x 18 S	W10 x 22	W10 x 22	W10 x 26	W10 x 26 S	W12 x 26 S	W14 x 30 S	W18 x 35	W21 x 44	-	-		
	9 ft	-	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 21 S	W10 x 22	W10 x 26	W10 x 26	W10 x 26	W14 x 30	W18 x 35	W18 x 40	W21 x 44	-	-		
	10 ft	-	W6 x 12	W6 x 15	W6 x 15	W8 x 18	W8 x 18	W8 x 21	W8 x 21 S	W10 x 26	W10 x 26	W12 x 26	W14 x 30	W18 x 40	W18 x 40	W21 x 44	-	-	-		
	11 ft	-	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 21	W8 x 21	W10 x 26	W10 x 26	W10 x 26	W14 x 30	W18 x 40	W18 x 40	W21 x 44	-	-	-	-		
	12 ft	-	W6 x 15	W6 x 15	W8 x 18	W8 x 21	W8 x 21	W10 x 26	W10 x 26	W10 x 26	W14 x 30	W18 x 40	W18 x 40	W18 x 40	-	-	-	-	-		
	13 ft	-	W6 x 15	W8 x 18	W8 x 21	W8 x 21	W10 x 22	W10 x 26	W10 x 26	W14 x 30	W18 x 40	W18 x 40	W18 x 40	-	-	-	-	-	-		
	14 ft	-	W6 x 15	W8 x 18	W8 x 21	W8 x 21	W10 x 26	W10 x 26	W14 x 30	W18 x 35	W18 x 40	W18 x 40	-	-	-	-	-	-	-		
	15 ft	-	W8 x 18	W8 x 21	W8 x 21	W10 x 26	W10 x 26	W14 x 30	W18 x 35	-	-	-	-	-	-	-	-	-	-		
16 ft	-	W8 x 18	W8 x 21	W10 x 26	W10 x 26	W10 x 26	W14 x 30	-	-	-	-	-	-	-	-	-	-	-	-		
17 ft	7 ft	-	W6 x 9	W6 x 12	W6 x 12	W6 x 15	W6 x 15 S	W6 x 15 S	W8 x 18 S	W10 x 22	W10 x 22	W10 x 22 S	W10 x 26 S	W12 x 26 S	W14 x 30 S	W18 x 35	W21 x 44	-	-	-	
	8 ft	-	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15 S	W8 x 18	W8 x 21 S	W10 x 22	W10 x 22	W10 x 26 S	W12 x 26	W14 x 30	W18 x 35	W18 x 40	W21 x 44	-	-	-	
	9 ft	-	W6 x 12	W6 x 15	W6 x 15	W6 x 15	W8 x 18	W8 x 21	W8 x 21 S	W10 x 22	W10 x 26	W10 x 26 S	W12 x 26	W14 x 35	W18 x 40	W18 x 40	W21 x 44	-	-	-	
	10 ft	-	W6 x 12	W6 x 15	W6 x 15	W8 x 18	W8 x 21	W8 x 21	W10 x 22	W10 x 26	W10 x 26	W14 x 30	W18 x 35	W18 x 40	W21 x 44	-	-	-	-		
	11 ft	-	W6 x 15	W6 x 15	W8 x 18	W8 x 18	W8 x 21	W10 x 22	W10 x 26	W14 x 30	W10 x 26	W14 x 30	W18 x 40	W18 x 40	W21 x 44	-	-	-	-		
	12 ft	-	W6 x 15	W6 x 15	W8 x 18	W8 x 21	W8 x 21	W10 x 26	W10 x 26	W14 x 30	W14 x 30	W18 x 40	W18 x 40	W21 x 44	-	-	-	-	-		
	13 ft	-	W6 x 15	W8 x 18	W8 x 21	W8 x 21	W10 x 26	W10 x 26	W10 x 26	W14 x 30	W18 x 40	W18 x 40	W21 x 44	-	-	-	-	-	-		
	14 ft	-	W6 x 15	W8 x 18	W8 x 21	W10 x 26	W10 x 26	W10 x 26	W14 x 30	W18 x 40	W18 x 40	W18 x 40	-	-	-	-	-	-	-		
	15 ft	-	W8 x 18	W8 x 21	W8 x 21	W10 x 26	W10 x 26	W14 x 30	-	-	-	-	-	-	-	-	-	-	-		
16 ft	-	W8 x 21	W8 x 21	W10 x 26	W10 x 26	W14 x 30	-	-	-	-	-	-	-	-	-	-	-	-	-		
18 ft	7 ft	-	W6 x 12	W6 x 12	W6 x 15	W6 x 15	W6 x 15 S	W6 x 15 S	W8 x 18 S	W10 x 22	W10 x 22	W10 x 26 S	W12 x 26 S	W14 x 30 S	W18 x 35	W18 x 35 S	W21 x 44	-	-	-	
	8 ft	-	W6 x 12	W6 x 12																	

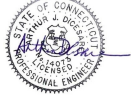
REV.	DATE	REVISION DESCRIPTION	

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STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION



PROJECT NUMBER: 0048-0200

PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05585 - INTERSTATE 91 OVER GRAPE BROOK

TOWN(S): ENFIELD

DRAWING TITLE: SIDE MOUNTED SIGN STRUCTURE POST SELECTION TABLE 2 (W>15FT.)

DRAWING NO.

SMS-7

SHEET NO. 22 of 27

09.07

SIDE MOUNTED SIGN SUPPORT - AS-BUILT INFORMATION

SIGN SUPPORT LOCATION		POST 1 DIMENSIONS				POST 2 DIMENSIONS			
		DIMENSION		VALUE		DIMENSION		VALUE	
SIGN SUPPORT #		POST W-SHAPE	W	X		POST W-SHAPE	W	X	
		P1 _L				P2 _L			
		P1 _U				P2 _U			
STRUCTURE DIMENSIONS		TYPE OF GUIDE RAIL				BREAKAWAY ASSEMBLY DIMENSIONS			
DIMENSION		VALUE				DIMENSION		VALUE	
E						*S			
G						*F			
C						*RECORD DIMENSIONS FOR "S" AND "F" FOR BOTH BREAKAWAY AND NON-BREAKAWAY SCENARIOS			
W									
H									
CROWN 1 W									
CROWN 1 H									
CROWN 2 W									
CROWN 2 H									
DF1									
DF2									
LF1									
LF2									

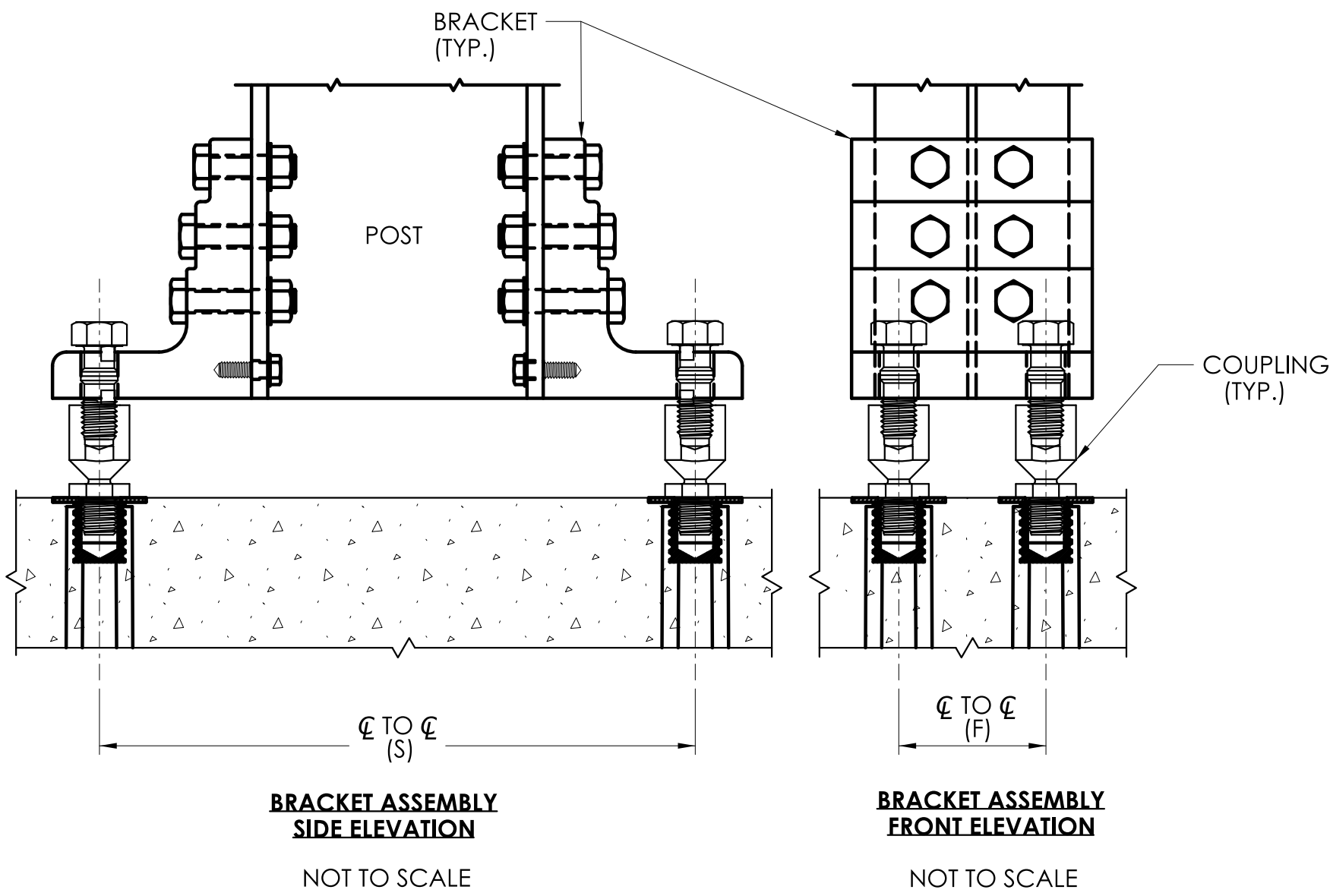
MIN. CLEAR HEIGHT FROM TOP OF LOWER POSTS TO EXISTING GRADE		
H _G		

☐ *CHECK BOX IF NON-BREAKAWAY AND PROVIDE DIMENSIONS:

BASE PLATE WIDTH	BASE PLATE LENGTH	BASE PLATE THICKNESS

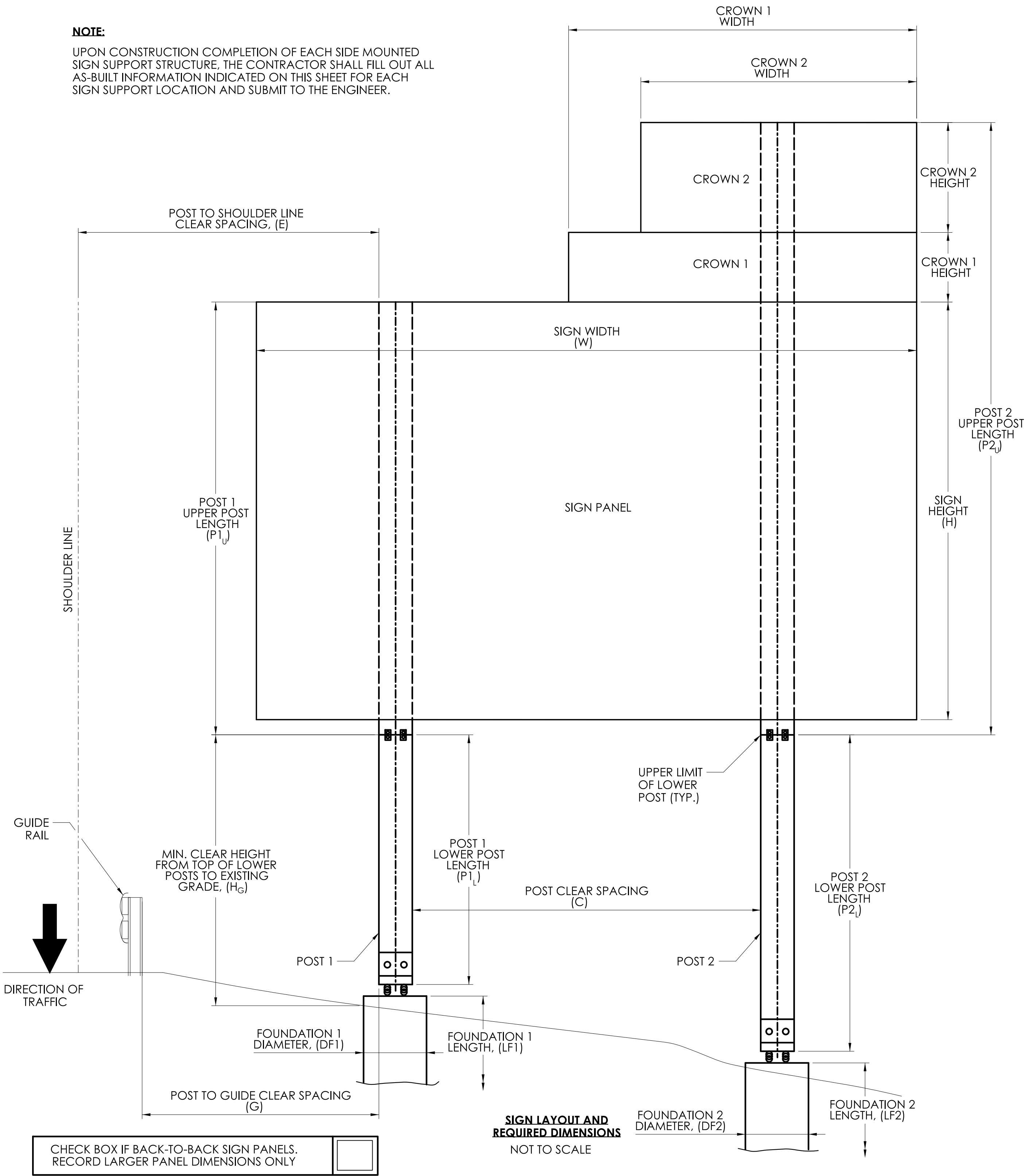
☐ CHECK BOX IF HINGE SHIM PLATES USED:

NOTE CONDITION OF AS-BUILT SUPPORTS AND FOUNDATION



NOTE:

UPON CONSTRUCTION COMPLETION OF EACH SIDE MOUNTED SIGN SUPPORT STRUCTURE, THE CONTRACTOR SHALL FILL OUT ALL AS-BUILT INFORMATION INDICATED ON THIS SHEET FOR EACH SIGN SUPPORT LOCATION AND SUBMIT TO THE ENGINEER.



REV	DATE	REVISION DESCRIPTION

DESIGNER/DRAFTER: _____ CHECKED BY: _____
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STATE OF CONNECTICUT
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PROJECT NUMBER: 0048-0200

PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 05585 - INTERSTATE 91 OVER GRAPE BROOK

TOWN(S): ENFIELD

DRAWING TITLE: SIDE MOUNTED SIGN STRUCTURE AS-BUILT INFORMATION TEMPLATE

DRAWING NO.

SMS-8

SHEET NO.

09.08