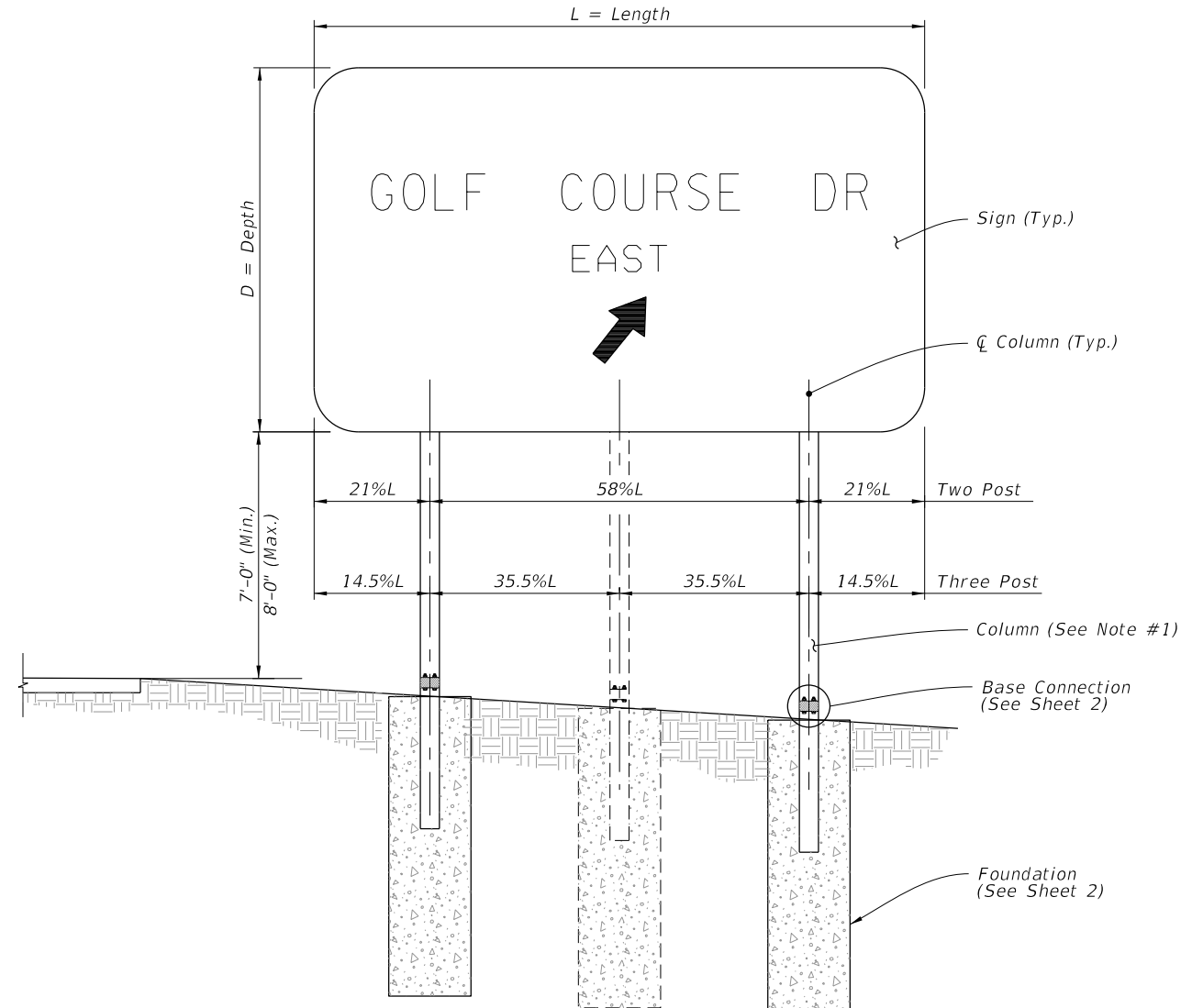
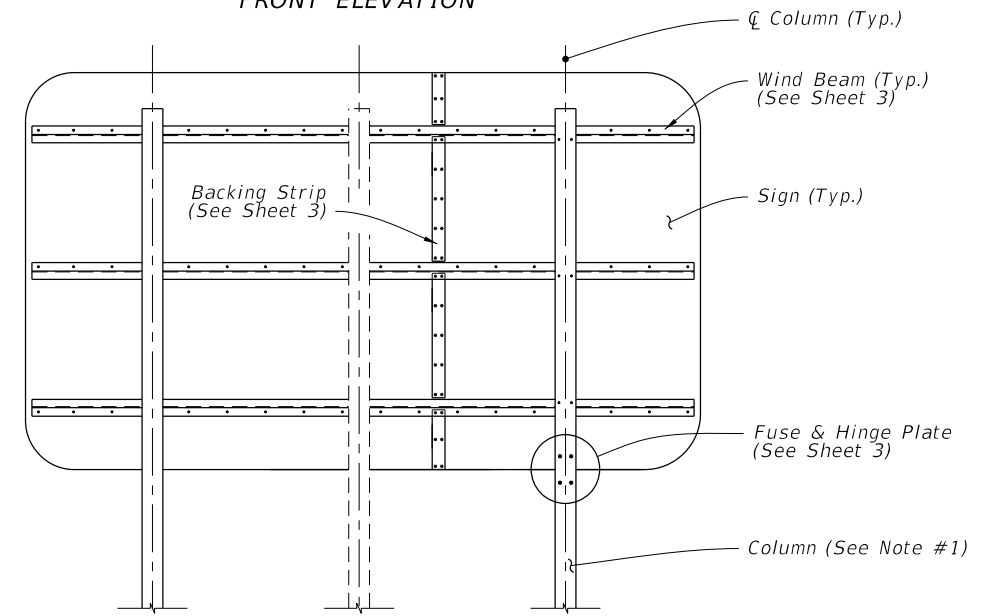


GENERAL NOTES:

1. Verify Column lengths in the field prior to fabrication.
2. Shop drawings:
 - A. Column/Sign Posts: Sign Support Shop drawings are not required when fabricated in accordance with this Index and support posts do not exceed the length shown in the plans by more than 2'-0".
 - B. Sign Panels: Horizontal panel splices are allowed at interior wind beams for sign panels with a depth ("D") greater than 10 feet. Shop drawings required for panel splice details.
 - C. When shop drawings are required; obtain approval prior to fabrication.
3. Materials:
 - A. Sign Panel Mounting Materials:
 - a. Aluminum Bars, and Extruded Shapes: ASTM B221, Alloy 6061-T6 or Alloy 6351-T5
 - b. Aluminum Structural Shapes: ASTM B308, Alloy 6061-T6
 - B. Sign Support Structure Materials:
 - a. Steel Plates and Structural Shapes: ASTM A36 or ASTM A709, Grade 36
 - b. Steel Weld Metal: E70XX
 - c. Brass Shims: ASTM B36
 - C. Aluminum Bolts, Nuts and Washers:
 - a. Flat Head Machine Screws (bolts): ASTM F 468, Alloy 2024-T4
 - b. Hex Nuts: ASTM F467, Alloy 6061-T6 or 6262-T9
 - c. Washers: ASTM B221, Alloy 7075-T6
 - D. Stainless Steel Bolts, Nuts and Washers Alloy Group 2, Condition A, may be substituted for the Aluminum bolts and screws as follows:
 - a. Bolts: ASTM F593, CW1 or SH1
 - b. Nuts: ASTM F594,
 - E. High Strength (H.S.) Steel Bolts, Nuts and Washers:
 - a. Galvanized Hex Head Bolts: ASTM A325, Type 1
 - b. Galvanized Nuts: ASTM A563 Hex, Grade DH
 - c. Galvanized Washers: ASTM F436
 - F. Concrete: Class I.
 - G. Reinforcing Bars or Welded Wire Reinforcement (WWR): Specification Section 415
4. Coatings:
 - A. Aluminum Fasteners: Anodic coating (0.0002 inches min.) and chromate sealed
 - B. Galvanize High Strength Steel Bolts Nuts and Washers: ASTM F2329
 - C. Galvanize all other steel items (excluding stainless steel): Hot-dip ASTM A123
 - D. Treat damaged galvanizing in accordance with Specification Section 562
5. Fabrication:
 - A. All Base Connections and Stub Column materials are steel unless otherwise specified.
 - B. Drill or sub-punch and ream holes in Fuse Plates and Hinge Plates
 - C. Weld Base Plate to Stub & Post or if using the Alternate Connection Detail weld Base Plate and Stiffeners to Post and Stub (Sheet 2)
 - D. Hot dip galvanize after fabrication; Remove all drips, runs or beads on baseplate within washer contact areas
6. Construction:
 - A. Install the Sign Structure foundation in accordance with Specification Section 455. Orient Stub Post according to direction of traffic (Sheet 2)
 - B. Tighten all high strength bolts except Base Bolts in accordance with Specification Section 700. Tighten Base Bolts in accordance with Instruction Notes on Sheet 2.
 - C. Assemble Post to Stub with Base Bolts and three flat washers per bolt (Base Connection Detail Sheet 2).




FRONT ELEVATION

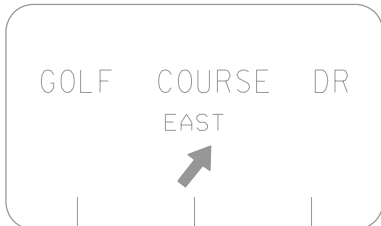


BACK ELEVATION

MULTI-COLUMN SIGN ASSEMBLY

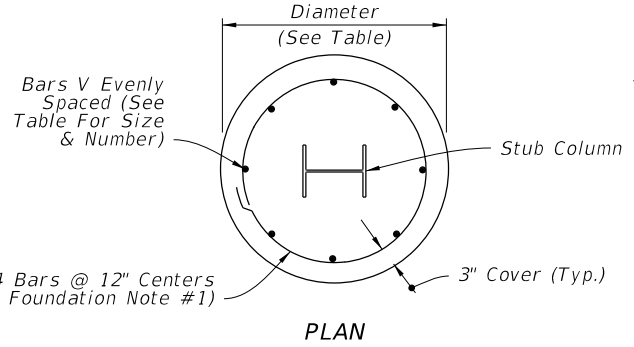
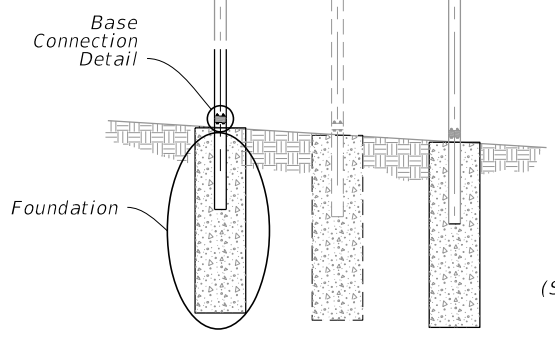
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LAST REVISION 01/01/16	REVISION	DESCRIPTION:	 FY 2016-17 DESIGN STANDARDS	MULTI-COLUMN GROUND SIGN	INDEX NO. 11200	SHEET NO. 1 of 3
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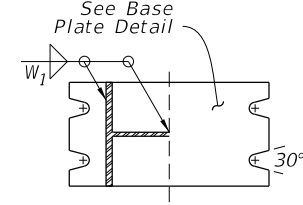
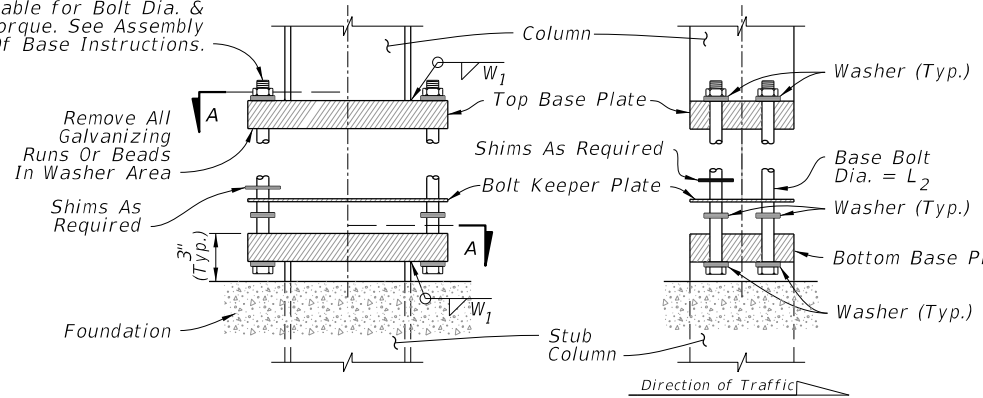


FOUNDATION DATA					BASE CONNECTION DATA								SHIM		
Section*	Dia.	Depth	Stub Column Length	Reinf. Bars V	A	B	C	D	R	t ₁	L ₂	W ₁	Torque (lbf*in)	L	M
S 3x5.7	2'-0"	4'-0"	3'-0"	10-#6	4"	7"	3/4"	2"	5/16"	1"	1/2"	1/4"	90 ± 20	1-1/4"	9/16"
W 6x12	2'-0"	6'-0"	3'-0"	10-#6	4"	10"	3/4"	2"	3/8"	1-5/8"	5/8"	1/4"	270 ± 45	1-3/8"	11/16"
W 8x18	2'-4"	7'-6"	4'-0"	8-#8	5-1/4"	12-1/2"	7/8"	2-3/4"	7/16"	1-3/4"	3/4"	3/8"	445 ± 75	1-3/4"	13/16"
W 8x24	2'-4"	8'-6"	4'-0"	8-#8	6-1/2"	12-1/2"	7/8"	3-1/4"	7/16"	1-3/4"	3/4"	3/8"	445 ± 75	2-1/8"	13/16"
W 10x33	2'-4"	10'-3"	4'-0"	8-#8	8"	16"	1-1/4"	4-3/4"	9/16"	2"	1"	1/2"	580 ± 90	2-3/8"	1-1/16"
W 12x45	2'-8"	11'-3"	5'-0"	10-#8	10"	18"	1-1/4"	6"	9/16"	2"	1"	1/2"	580 ± 90	2-3/4"	1-1/16"

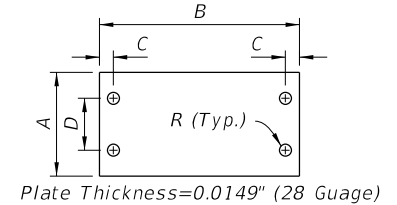
* Designations: (Normal Depth in inches) x (weight in pounds per linear foot).



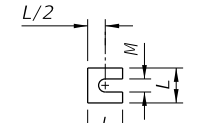
H.S. Base Bolt With 3 Washers & Hex Nut on Each Bolt. See Table for Bolt Dia. & Torque. See Assembly Of Base Instructions.



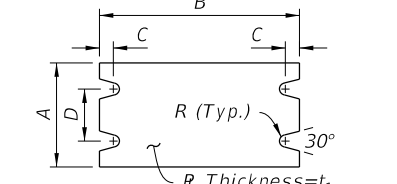
SECTION A-A



BOLT KEEPER PLATE DETAIL



SHIM DETAIL (Brass)



BASE PLATE DETAIL

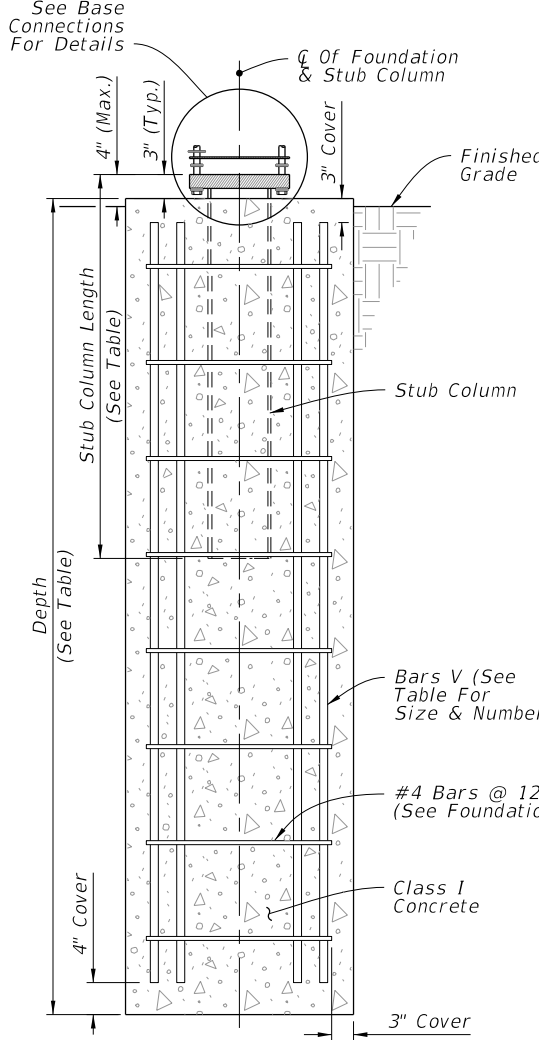
MULTI-COLUMN SIGN ASSEMBLY

FOUNDATION NOTES:

- At the Contractors option, the #4 tie bars at 12" o.c. may be replaced by D10 Spiral Wire @ 6" pitch, with three flat turns at the top and one flat turn at the bottom in accordance with Specification Section 415.
- The Contractor may use Welded Wire Reinforcement (WWR) for foundation reinforcing.

INSTRUCTIONS NOTES:

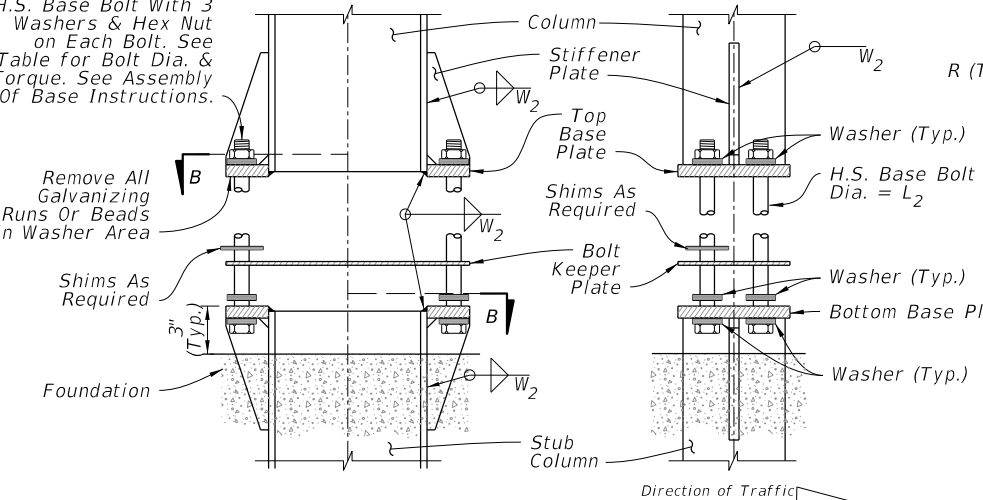
- Assembly of Base Instructions:
 - Place one washer on each Base Bolt between the Bottom Base Plate and the head of high strength Base Bolt; place the next washer between the Bottom Base Plate and the Bolt Keeper Plate; add the Top Base Plate section and place the third washer between the Top Base Plate and the Nut.
 - Shim as required to plumb column. Provide 2-0.0149" thick (28 gauge) and 2-0.0329" thick (21 gauge) brass shims per column.
- H.S. Base Bolt L₂ Tightening Instructions:
 - Tighten Base Bolts to the maximum possible with a 12" to 15" wrench (this will bed the washers and shims and clear the bolt threads).
 - Loosen each Base Bolt one turn.
 - Under the supervision of the Engineer, use a calibrated wrench to tighten bolts to the torque prescribed in the Table. Over tightened Base Bolts will not be permitted.
 - Burr threads at junction with nut to prevent nut loosening. Treat damaged galvanizing.



ELEVATION

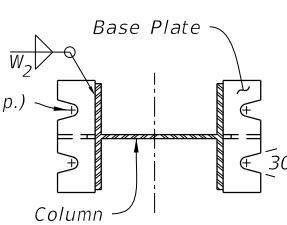
FOUNDATION

H.S. Base Bolt With 3 Washers & Hex Nut on Each Bolt. See Table for Bolt Dia. & Torque. See Assembly Of Base Instructions.

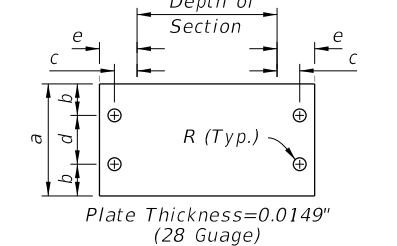


SIDE ELEVATION

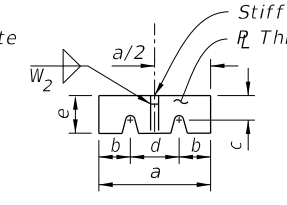
FRONT ELEVATION



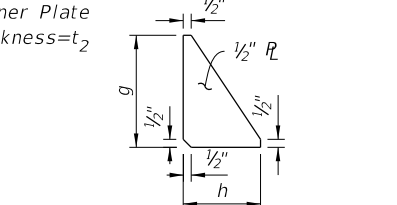
SECTION B-B



BOLT KEEPER PLATE DETAIL



BASE PLATE DETAIL



STIFFENER PLATE DETAIL

ALTERNATIVE BASE CONNECTION DATA												
Section*	a	b	c	d	e	t ₂	L ₂	Torque (lbf*in)	R	g	h	W ₂
W 6x12	4-3/4"	1-1/8"	1-3/16"	2-1/2"	2"	1/2"	5/8"	270±45	3/8"	5-1/8"	2"	1/4"
W 8x18	5-3/4"	1-1/2"	1-3/8"	2-3/4"	2-3/16"	5/8"	3/4"	445±75	7/16"	6-1/4"	2-3/16"	1/4"
W 8x24	7"	1-3/4"	1-3/8"	3-1/2"	2-3/8"	3/4"	3/4"	445±75	7/16"	8"	2-3/8"	5/16"
W 10x33	8"	2"	1-9/16"	4"	2-3/4"	3/4"	1"	580±90	9/16"	8"	2-3/4"	5/16"
W 12x45	8"	2"	1-9/16"	4"	3"	3/4"	1"	580±90	9/16"	8"	3"	5/16"

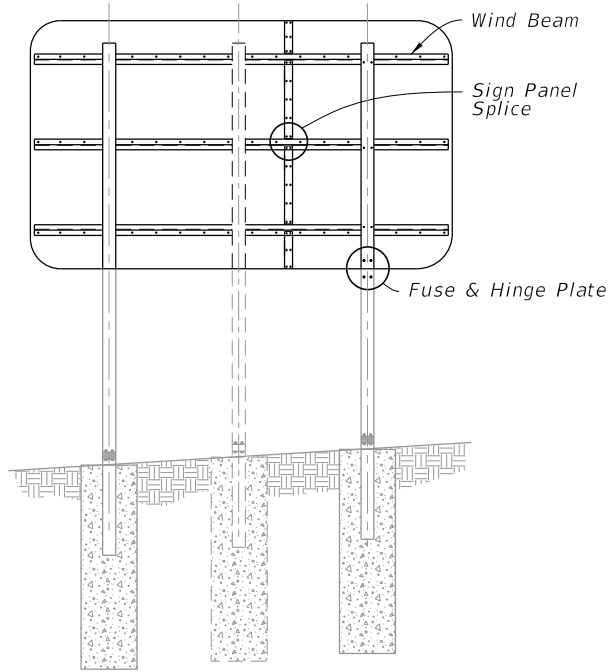
* Designations: (Normal Depth in inches) x (weight in pounds per linear foot).

ALTERNATIVE BASE CONNECTION

FOUNDATION AND BASE CONNECTION DETAILS

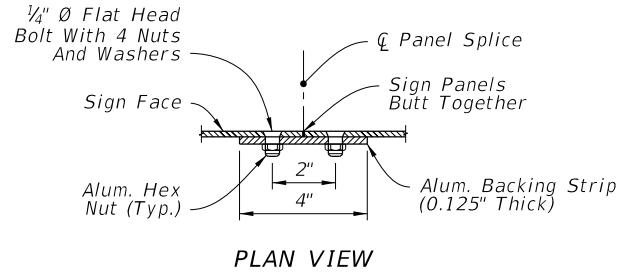
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LAST REVISION 01/01/16	DESCRIPTION:		FY 2016-17 DESIGN STANDARDS	MULTI-COLUMN GROUND SIGN	INDEX NO. 11200	SHEET NO. 2 of 3
REVISION						

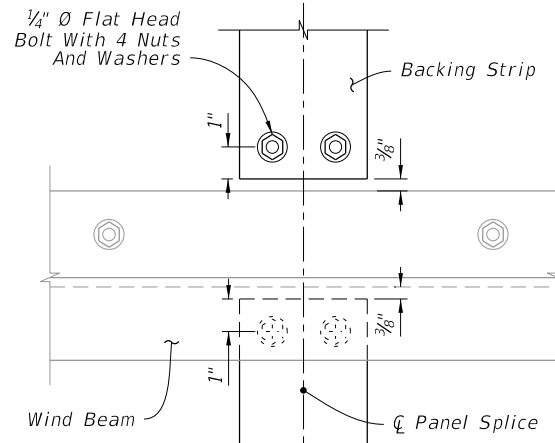


BACK ELEVATION

MULTI-COLUMN SIGN ASSEMBLY



PLAN VIEW

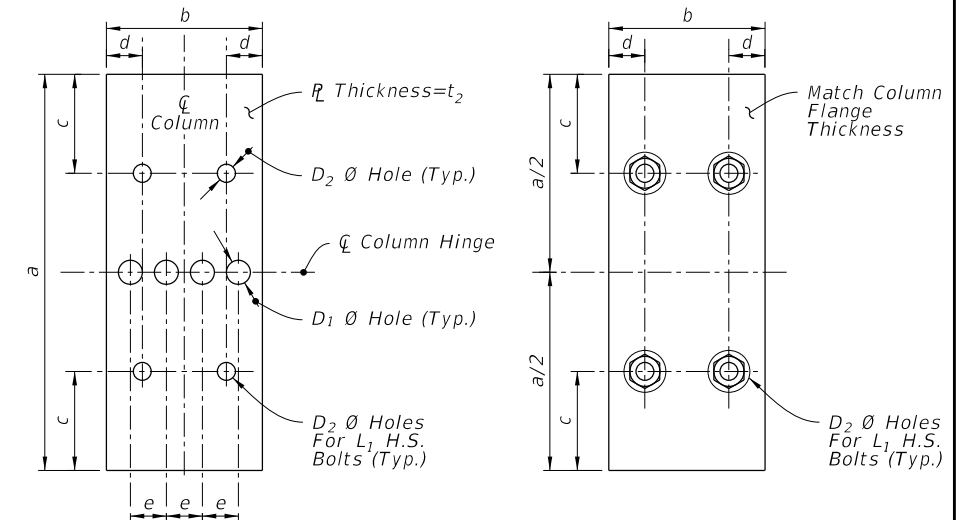


ELEVATION

SIGN PANEL SPLICE

FUSE (HINGE) PLATE DATA									
Section*	a	b	c	d	e	t ₂	D ₁	D ₂	L ₁
S 3x5.7	7-1/4"	2-3/8"	1-1/4"	1/2"	9/16"	3/8"	7/16"	9/16"	1/2"
W 6x12	7-1/4"	4"	1-1/4"	7/8"	15/16"	3/8"	13/16"	11/16"	5/8"
W 8x18	8-1/4"	5-1/4"	1-3/8"	1-1/8"	1-1/4"	3/8"	1"	13/16"	3/4"
W 8x24	8-1/4"	6-1/2"	1-3/8"	1-1/2"	1-1/2"	1/2"	1"	13/16"	3/4"
W 10x33	9-1/4"	8"	2"	1-3/4"	1-3/4"	5/8"	1-1/8"	1-1/16"	1"
W 12x45	11"	8"	2"	1-3/4"	1-3/4"	3/4"	1-5/16"	1-1/16"	1"

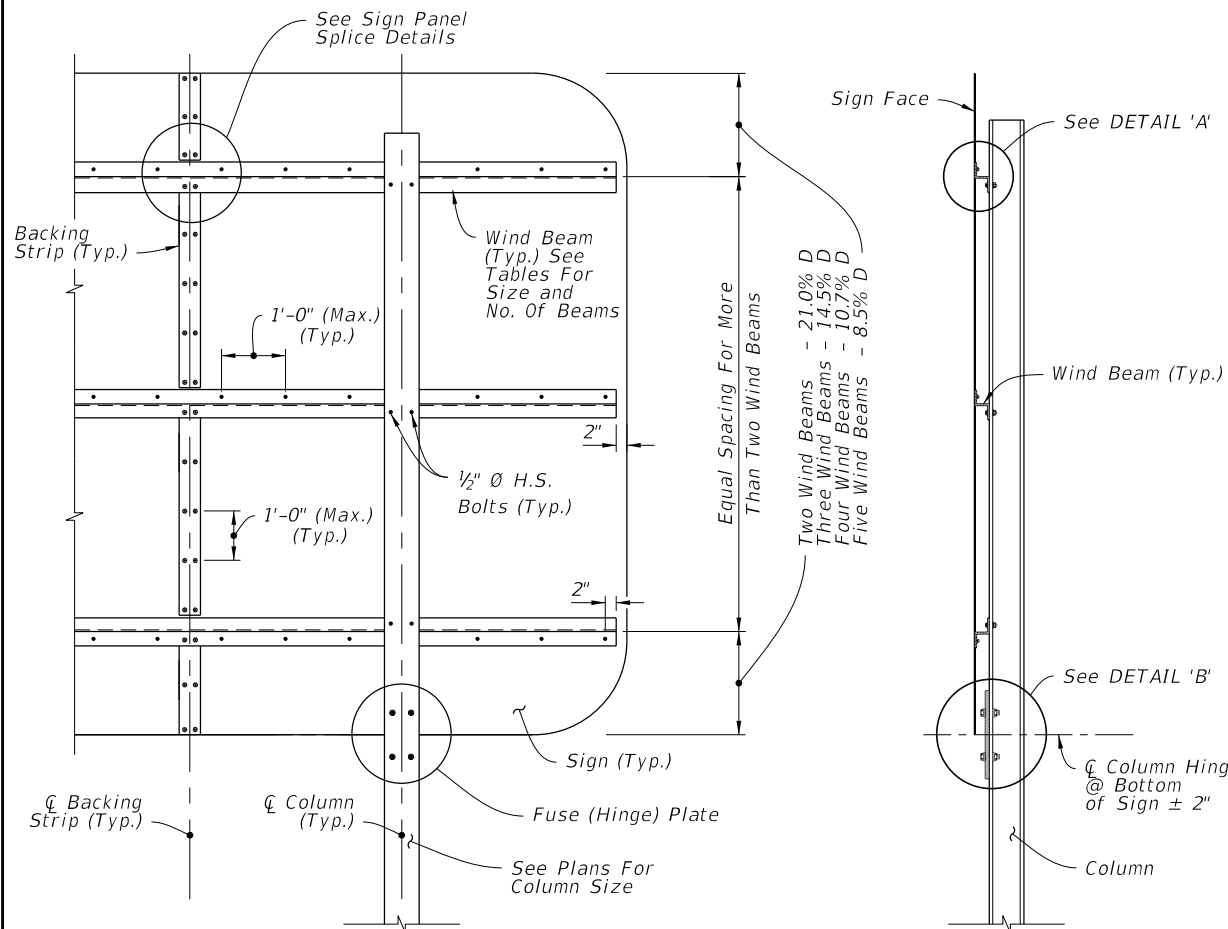
* Designations: Normal Depth in inches.



FUSE PLATE

HINGE PLATE

FUSE & HINGE PLATE



BACK ELEVATION

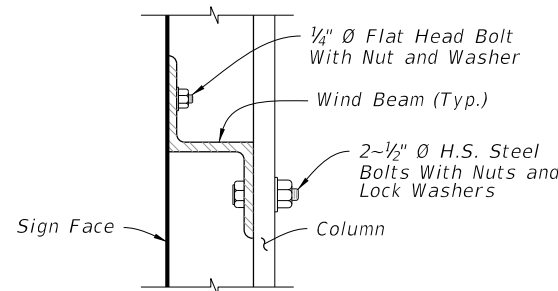
SIDE ELEVATION

MULTI-COLUMN SIGN BACK PANEL

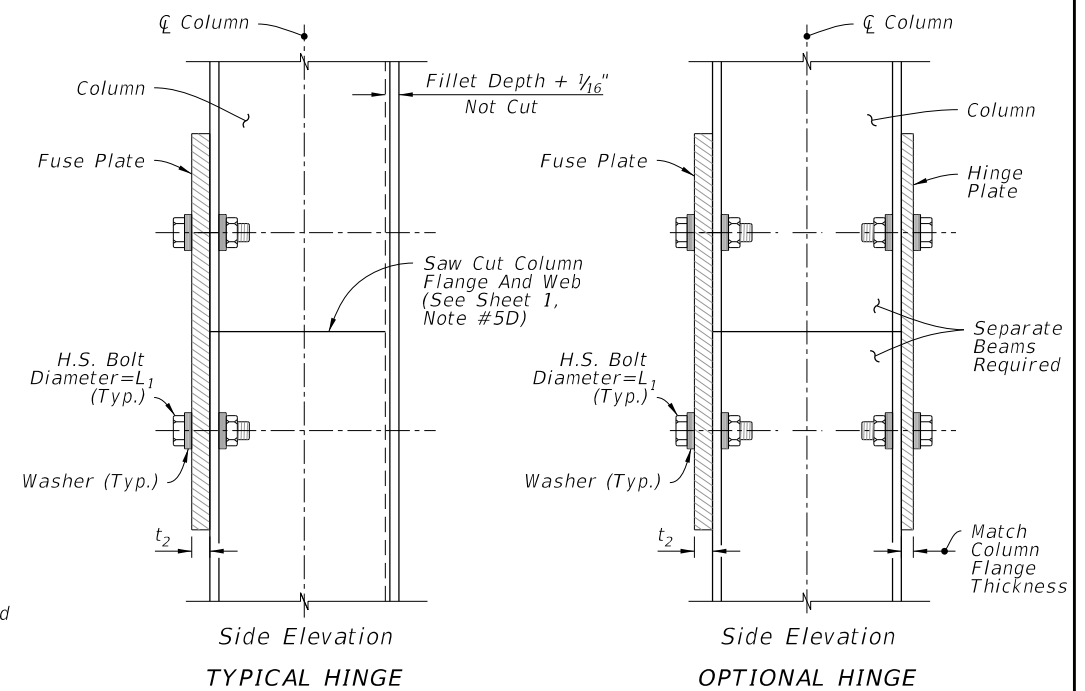
NUMBER OF WIND BEAMS FOR GIVEN DEPTH & WIND SPEED					
Wind	No. Beams	Max. Depth	Wind	No. Beams	Max. Depth
110	2	7'-0"	150	2	6'-0"
110	3	12'-0"	150	3	10'-4"
110	4	16'-4"	150	4	14'-0"
110	5	20'-8"	150	5	17'-8"
130	2	6'-8"			
130	3	11'-4"			
130	4	15'-4"			
130	5	19'-0"			

Size Of Zee**	Length Of Sign (Feet)	
	2 Posts	3 Posts
Zee 1 3/4" x 1 3/4" x 1.09	0 to 11'-0"	0 to 17'-4"
Zee 3 x 2 1/16" x 2.33	11'-1" to 19'-0"	17'-5" to 29'-6"
Zee 3 x 2 1/16" x 3.38	19'-1" to 20'-8"	29'-7" to 31'-6"

** Zee Beams are aluminum. No steel equivalent available. Designation gives (Member Depth) x (Flange Width) x (lb/ft)



DETAIL 'A'



SIDE ELEVATION
TYPICAL HINGE

SIDE ELEVATION
OPTIONAL HINGE

(See Fabrication Notes on Sheet 1)

DETAIL 'B'

WIND BEAM, BACKING STRIP & FUSE/HINGE PLATE DETAILS

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LAST REVISION	DESCRIPTION:
01/01/16	