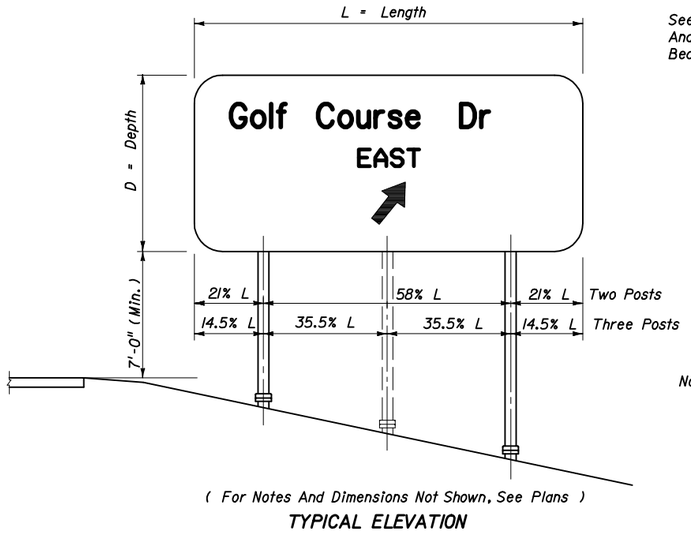
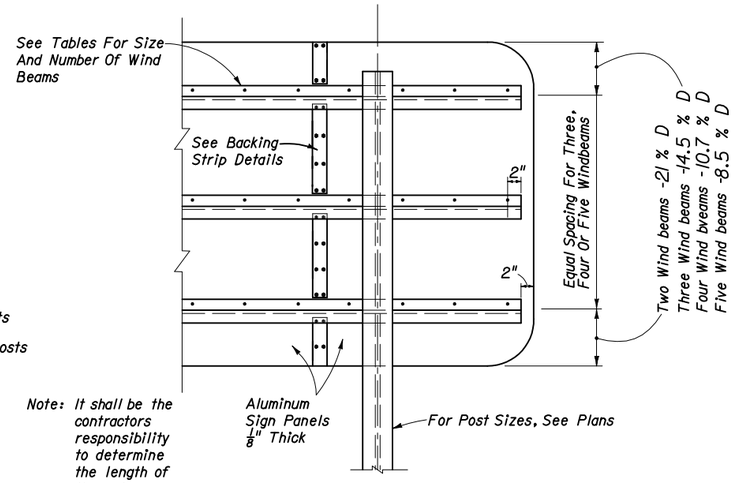


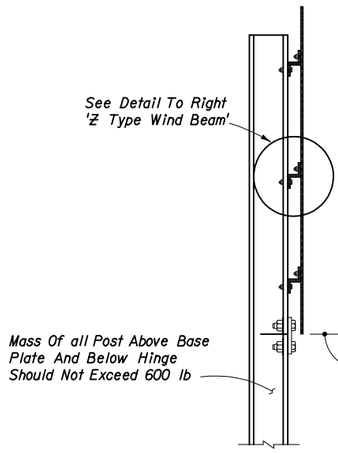
(For Notes And Dimensions Not Shown, See Plans)

TYPICAL ELEVATION

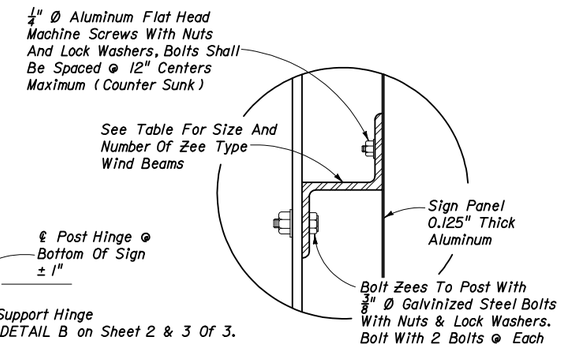


Note: It shall be the contractors responsibility to determine the length of the column supports in the field prior to fabrication.

PARTIAL REAR ELEVATION

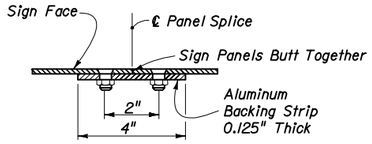


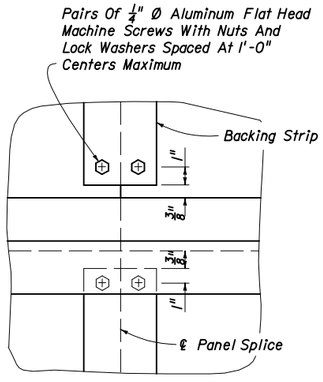
SIDE VIEW



Z TYPE WIND BEAM

Note: If the sign panels are deeper than 12', a Horizontal Panel Splice is allowed at an interior Z bar support, shop drawings shall be required. Minimum panel section width = 2'-6" .





BACKING STRIP DETAIL

DESIGN WIND SPEEDS BY COUNTY

ZONE NO. 1 (60 mph)
Alachua, Baker, Bradford, Calhoun, Clay, Columbia, Gadsden, Gilchrist, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Lake, Leon, Liberty, Madison, Marion, Putnam, Sumter, Suwannee, Union and Washington Counties.

ZONE NO. 2 (70 mph)
Bay, Citrus, Desoto, Dixie, Duval, Escambia, Flagler, Franklin, Glades, Gulf, Hardee, Hendry, Hernando, Highlands, Hillsborough, Levy, Nassau, Okaloosa, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Santa Rosa, Seminole, St. Johns, Taylor, Wakulla, and Walton Counties.

ZONE NO. 3 (80 mph)
Brevard, Charlotte, Collier, Indian River, Lee, Manatee, Martin, Palm Beach, Sarasota, St. Lucie, and Volusia Counties.

ZONE NO. 4 (90 mph)
Broward, Dade, and Monroe Counties

NUMBER OF WIND BEAMS FOR GIVEN DEPTH & WIND

Wind	No. Beams	Max. Depth	Wind	No. Beams	Max. Depth
60	2	8'-0"	80	2	6'-8"
60	3	13'-4"	80	3	11'-4"
60	4	18'-0"	80	4	15'-4"
60	5	22'-8"	80	5	19'-0"
70	2	7'-0"	90	2	6'-0"
70	3	12'-0"	90	3	10'-4"
70	4	16'-4"	90	4	14'-0"
70	5	20'-8"	90	5	17'-8"

SIZE OF WIND BEAMS

Size Of Zee*	Length Of Sign (Feet)	
	2 Posts	3 Posts
Z 1.75 x 1.75 x 1.08	0 - 11'-0"	0 - 17'-4"
Z 3 x 2.69 x 2.33	11'-1" - 19'-0"	17'-5" - 29'-6"
Z 3 x 2.69 x 3.38	19'-1" - 20'-8"	29'-7" - 31'-6"

*Note: Zees Are Aluminum - No Steel Equivalent Available
Designation Gives (Member Depth) x (Width) x (lb/ft)

GENERAL NOTES

DESIGN SPECIFICATION Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals, AASHTO 1994. For welding refer to the latest editions of the AWS Structural Welding Codes for Steel and Aluminum, the AASHTO Standard Specifications for Welding Structural Steel Highway Bridges.

DESIGN WIND LOAD See Design Wind Speeds By County for wind in miles per hour on flat sign area.

ALUMINUM MATERIALS All aluminum materials shall meet the requirements of the Aluminum Association's Alloy 6061-T6 and also the following ASTM specifications: Sheets and plates, B209; extruded tube, bars, rods & shapes, B221; and standard structural shapes, B308. Sheets are to be degreased, etched, neutralized and treated with Alodine 1200, Iridite 14-2, Bonderite 721, or equal. No stenciling permitted on sheets. Aluminum welding rods shall meet the requirements of Aluminum Association Alloy No. 5556 filler wire.

STRUCTURAL STEEL All structural steel shall meet the requirements of ASTM A36.

ALUMINUM BOLTS, NUTS, & LOCKWASHERS Aluminum bolts shall meet the requirements of Aluminum Association Alloy 2024-T4 (ASTM F468). The bolts shall have an anodic coating at least 0.0002" thick and be Chromate sealed. Lock washers shall meet the requirements of Aluminum Association Alloy 7075-T6 (ASTM B221). Nuts shall meet the requirements of Aluminum Association Alloy 6061-T6 or 6262-T9 (ASTM F467).

STEEL BOLTS, NUTS, & WASHERS All steel bolts, nuts and washers shall meet the requirements of ASTM A325.

ALTERNATE MATERIAL Material meeting the requirements of ASTM B209 or Aluminum Association Alloys 5154-H38 or 5052-H38 may be used for sheet and plate. Material meeting the requirements of Aluminum Association Alloy 6351-T5 and ASTM B221 may be used for extruded bars, rods, shapes and tubes.

TOLERANCES All above materials shall be in accordance with the governing ASTM specifications.

GALVANIZING All steel shapes, angles, tees, plates, bolts, nuts and washers shall be galvanized in accordance with Standard Specifications 962-7.

BASE CONNECTION High strength bolts L_2 in the base connection shall be tightened only to the torque shown in the tables on sheets 2 & 3 of 3. Overtightened base connections will not be accepted.

FUSE PLATES All holes in fuse plates shall be drilled. All plate cuts shall, preferably, be saw cuts; however, flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face is not allowed.

SIGN FACE All sign face corners shall be rounded. See Sign Layout Sheet.

SHOP DRAWINGS When ground sign supports are fabricated in accordance with these plans no shop drawings are required. Shop drawings will be required for approval when the column length exceeds the length shown in the plans by more than 2'-0". However, shop drawings for sign panels, messages, lettering and quantities shall be submitted to traffic plans for approval.

FABRICATOR NOTE All bolted connections, except L_2 bolts and Zee to Post bolts, shall be high strength bolts. Bolts shall be tightened in the shop following a method approved by the engineer. Tightening shall be to such a degree so as to attain in each bolt the residual tension specified in the tabulation below:

FOUNDATION The holes shall be clean and without loose material. Temporary casing shall be required if the soil is unstable. Contractor may use precast foundations in pre-drilled holes a minimum of 12" larger than the foundation indicated on the plans in either wet or dry conditions. Fill the voids around precast concrete foundations with flowable fill meeting the requirements of Section 121 or clean sands placed using hydraulic methods to a level 6 inches below grade. The cost of flowable fill, sand, installing and removal of casing shall be included in the unit price of Sign Multi-Post.

HIGH STRENGTH BOLTS (A-325)
MINIMUM RESIDUAL TENSION

BOLT SIZE	TENSION (lb)
5/8"	19,200
3/4"	28,400
7/8"	39,250
1"	51,500
1 1/8"	56,450
1 1/4"	71,700

SIGN PANEL AND WIND BEAMS

REVISIONS

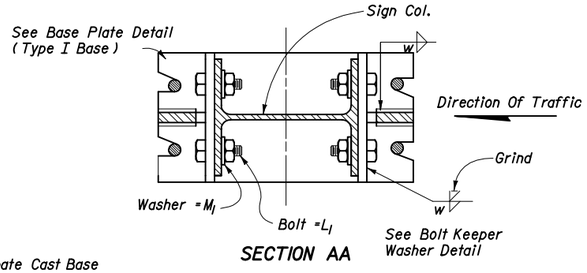
Date	By	Description	Date	By	Description
01/01/06	L.W.	Revise note on Side View detail, revise Design Wind Load note, revise Fuse Plates note, revise Foundations note.			

2006 Interim Design Standard

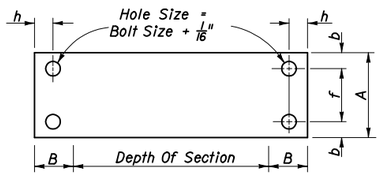
STANDARD ROADSIDE SIGN

Interim Date 01/01/06 | Sheet No. 1 of 3

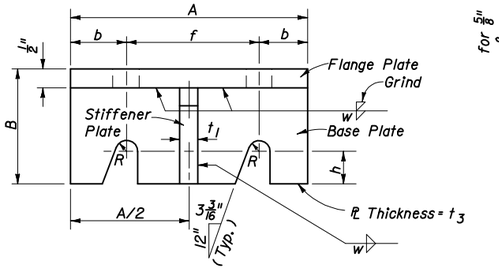
Index No. 11200



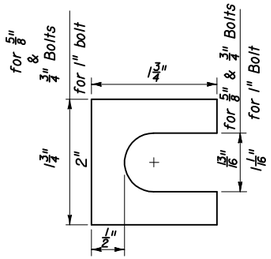
SECTION AA



BOLT KEEPER WASHER DETAIL

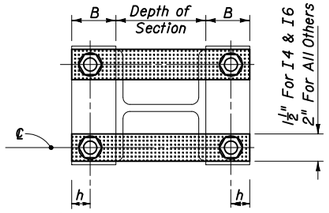


BASE PLATE



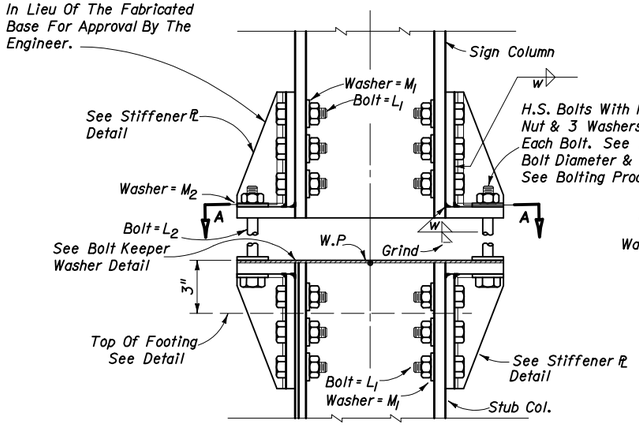
SHIM DETAIL

Provide 2 - 0.012" Thick
and 2 - 0.031" Thick
Brass Shims Per Post (ASTM B36)

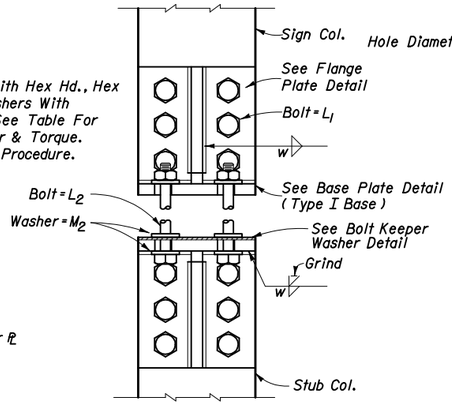


ALTERNATE BOLT KEEPER WASHER

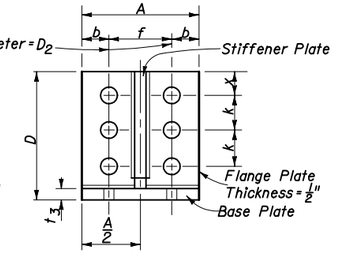
An Alternate Cast Base Of Alloy 356 And T6 May Be Submitted For Consideration In Lieu Of The Fabricated Base For Approval By The Engineer.



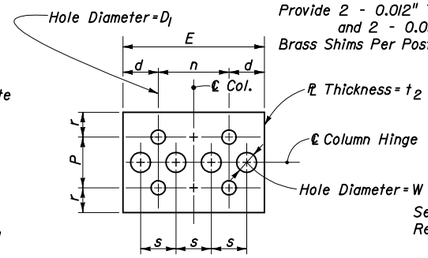
SIGN COL. & STUB COL. ELEVATION



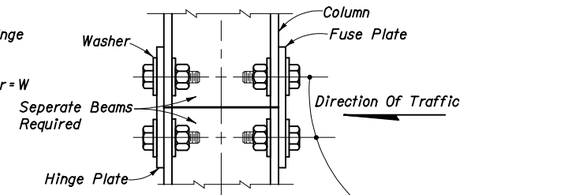
SIGN COL. & STUB COL.
SIDE ELEVATION
TYPE I BASE



FLANGE PLATE

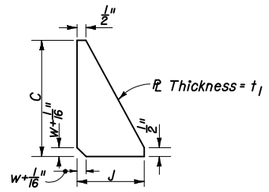


FUSE PLATE

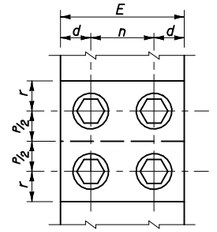


SIDE VIEW OPTIONAL HINGE

Flange Holes For Fuse And Hinge Plates Shall Be Drilled Or Sub-Punched and Reamed. See Table For Bolt Size. For Bolt Tension see Table, Sheet 1 of 3.

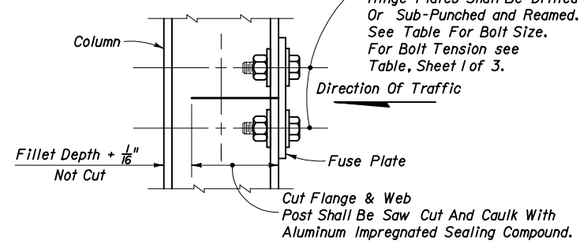


STIFFENER PLATE



HINGE PLATE

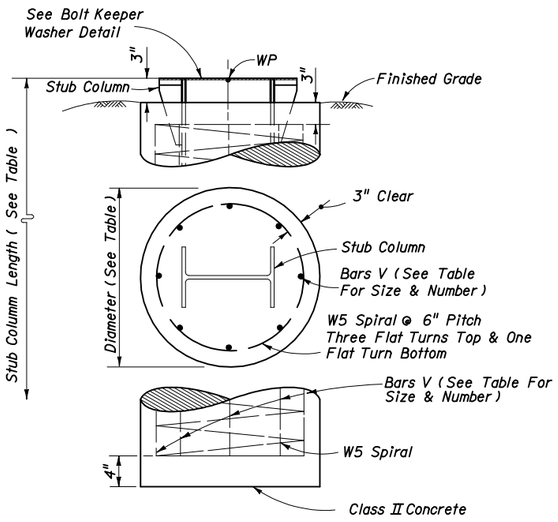
(Match Post Flange Thickness)



(See Fabricator Note On Sheet 1 of 3)

SIDE VIEW TYPICAL HINGE

FUSE & HINGE PLATE
DETAIL B



FOUNDATION DETAIL

NOTES: To prevent galvanic corrosion, reinforcing steel shall not be in contact with the aluminum stud column.
Reinforcing Steel-ASTM A615, Grade 60.

BASE CONNECTION DATA TABLE																						FUSE (HINGE) PLATE DATA TABLE										FOUNDATION DATA TABLE			
Section*	A	B	C	D	J	L_1 (Dia.)	Bolt Size (Dia.) & Torque (L_2)(in-lb)	M_1	M_2	D_2	R	x	b	f	h	k	t_1	t_3	w	Bolt Size	E	P	D_1	d	n	r	s	t_2	W	Dia.	Depth	Stub Length	Reinforcing Bars "V"
I 4x2.79	3 5/8"	2 13/16"	5 11/16"	6 5/16"	2 1/4"	5/8"	5/8" Ø 345	1 5/16"	1 5/16"	11/16"	3/8"	1 1/4"	1 5/16"	1 3/4"	1/8"	1 1/4"	1/16"	3/8"	5/16"	5/8"	3 5/8"	2 3/4"	11/16"	1/16"	1 1/4"	1 3/4"	1/8"	5/16"	5/8"	1'-8"	4'-6"	1'-8"	10-#5
I 6x4.03	4 1/8"	2 13/16"	5 11/16"	6 5/16"	2 1/4"	5/8"	5/8" Ø 345	1 5/16"	1 5/16"	11/16"	3/8"	1 1/4"	1"	2 1/8"	1/8"	1 3/16"	3/8"	5/8"	5/16"	5/8"	4 1/8"	2 13/16"	11/16"	1"	2 1/8"	1 3/8"	1"	5/16"	3/4"	2'-0"	5'-9"	2'-2"	10-#6
I 8x6.18	5 5/8"	2 15/16"	7 1/16"	7 11/16"	2 3/4"	3/4"	5/8" Ø 345	1 5/16"	1 5/16"	13/16"	3/8"	1 3/16"	1 1/4"	2 3/8"	1/8"	2"	9/16"	5/8"	5/16"	3/4"	5 5/8"	2 15/16"	13/16"	1 1/4"	2 3/8"	1 3/8"	1 1/16"	3/8"	7/8"	2'-0"	7'-6"	2'-8"	10-#6
I 9x8.36	5 5/8"	3 5/16"	7 13/16"	8 7/16"	2 3/4"	7/8"	3/4" Ø 550	1 3/4"	1 5/16"	1 7/16"	3/8"	1 3/4"	1 5/16"	2 3/4"	1/8"	2 3/16"	9/16"	5/8"	5/16"	1"	7/8"	5 5/8"	3 7/16"	1 5/16"	1 1/4"	2 3/4"	1 5/8"	1 5/16"	3/8"	1 5/16"	2'-4"	8'-0"	2'-8"	8-#8
I 10x10.3	6"	3 3/8"	8 1/2"	9 1/8"	2 3/4"	1"	3/4" Ø 550	2"	1 1/2"	1 1/16"	7/16"	1 3/4"	1 5/16"	3 1/8"	1/8"	2 3/16"	9/16"	5/8"	5/16"	1"	1"	6"	4 1/4"	1 1/16"	1 1/4"	3 1/4"	2 3/16"	1 5/16"	1/2"	1 1/16"	2'-4"	9'-6"	3'-3"	8-#8
I 12x14.3	7 1/16"	3 5/8"	9 3/8"	10 1/8"	3"	1 1/8"	1" Ø 690	2 1/4"	2"	1 3/16"	1/2"	2 1/4"	1 3/4"	3 5/16"	1/8"	2 1/16"	5/8"	3/4"	3/8"	1 1/8"	1 1/16"	7 1/16"	5 1/16"	1 3/16"	1 3/4"	3 5/16"	2 5/16"	1 5/8"	1/2"	1 1/4"	2'-8"	11'-0"	3'-9"	10-#8

* All Shapes Listed are Aluminum Association I Beams.
Designation Gives (Member Depth) x (lb/ft).

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION: FOR BOLTS L_2

1. Assemble post to stub with bolts and with one flat washer on each bolt between plates.
2. Shim as required to plumb post (See Shim Detail).
3. Tighten all bolts the maximum possible with 1'-0" to 1'-3" wrench to bed washers and shims and to clean bolt threads then loosen each bolt in turn and retighten in a Systematic order to the prescribed torque (See Table).
4. Burr threads at junction with nut using a center punch to prevent nut loosening.

NOTE:
Sections shown are for installation on right shoulder.
For left shoulder plate slot bevels are opposite hand from that shown.

ALUMINUM POST, BASE, FOUNDATION & FUSE ℄ DETAILS

REVISIONS					
Date	By	Description	Date	By	Description
01/01/06	L.W.	Revised Shim Detail notes, revise Foundation Detail notes.			

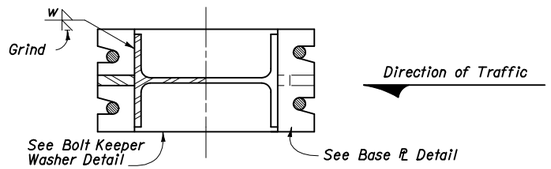
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

2006 Interim Design Standard

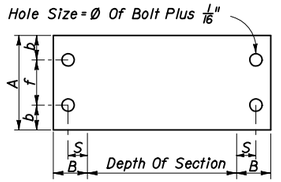
STANDARD ROADSIDE SIGN

Interim Date 01/01/06 | Sheet No. 2 of 3

Index No. 11200

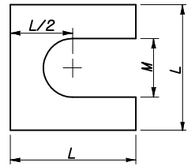


SECTION AA



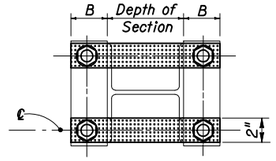
(0.0149" Thick Aluminum 6061-T6)

BOLT KEEPER WASHER



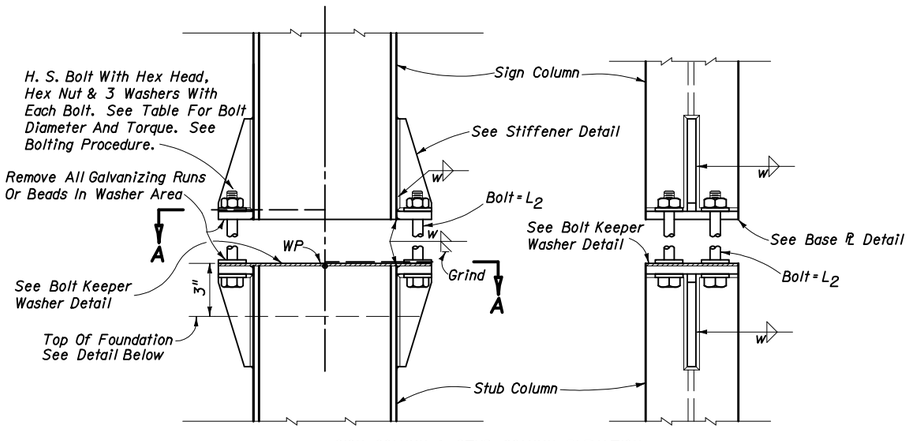
SHIM DETAIL

Provide 2 - 0.012" Thick and 2 - 0.031" Thick Brass Shims Per Post (ASTM B36)



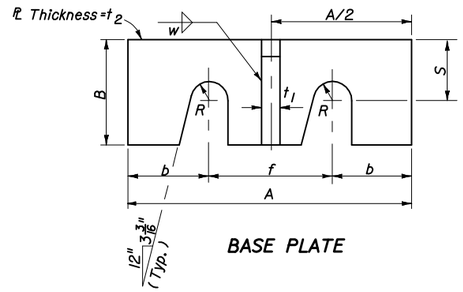
0.0149" Thick Aluminum (6061 -T6) Strips

ALTERNATE BOLT KEEPER WASHER

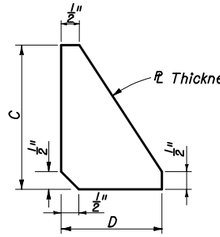


SIGN COLUMN & STUB COLUMN ELEVATION

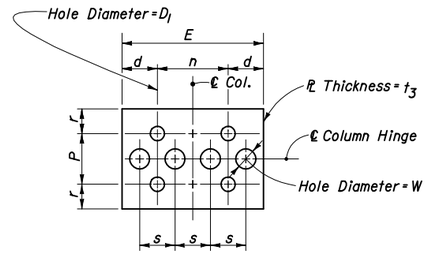
BASE CONNECTION



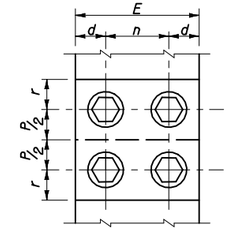
BASE PLATE



STIFFENER PLATE

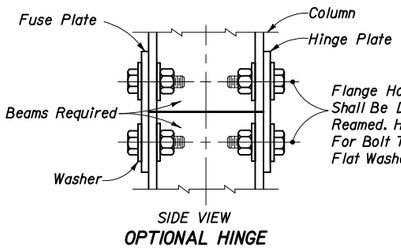


FUSE PLATE



HINGE PLATE

(Match Post Flange Thickness)

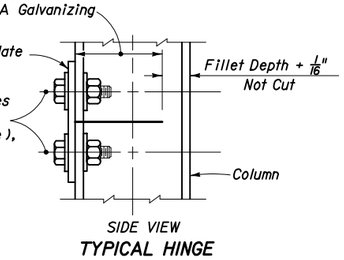


SIDE VIEW

OPTIONAL HINGE

Cut Flange And Web, Post Shall Be Saw Cut After Galvanizing And The Cut Surface Treated With A Galvanizing Compound Code G-C

Flange Holes For Fuse And Hinge Plates Shall Be Drilled Or Sub-Punched and Reamed. H.S. Bolts (See Table For Size), For Bolt Tension See Sheet 1 Of 3. Flat Washers (Typ.)



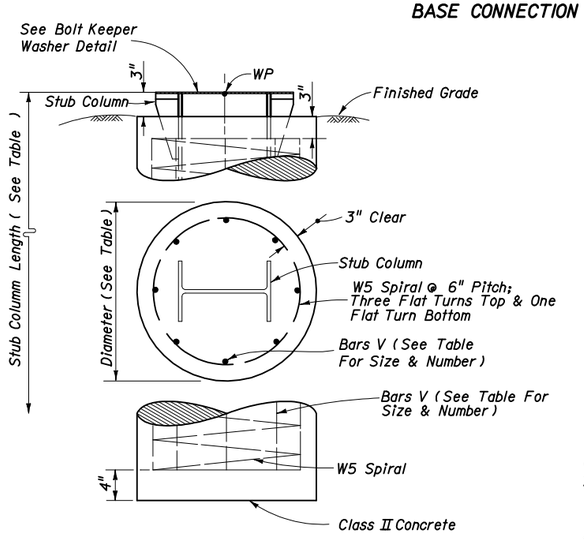
SIDE VIEW

TYPICAL HINGE

Direction of Traffic

(See Fabricator Note On Sheet 1 of 3)

FUSE & HINGE PLATES DETAIL B



FOUNDATION DETAIL

NOTE; Reinforcing Steel-ASTM A615, Grade 60.

BASE CONNECTION DATA													FUSE (HINGE) PLATE DATA									FOUNDATION DATA				SHIM	
Section*	A	B	C	D	Bolt Size(L2) &Torque(in-lb)	R	b	f	S	t_1	t_2	w	Bolt Size	E	P	D_1	d	n	r	s	t_3	W	Dia.	Depth	Stub Length	Reinf. Bars V	L	M
W 6x12	4 3/4"	2"	5 1/8"	2"	5/8" Ø 345	3/8"	1 1/8"	2 1/2"	1 15/16"	1/2"	1/2"	1/4"	5/8"	4 1/4"	3"	11/16"	1 1/8"	2"	1 3/16"	1"	1/4"	15/16"	2'-0"	5'-6"	2'-4"	10-#6	1 3/8"	11/16"
W 8x18	5 3/4"	2 3/16"	6 1/4"	2 3/16"	3/4" Ø 550	7/16"	1 1/2"	2 1/4"	1 3/8"	1/2"	5/8"	1/4"	1"	5 1/2"	3 3/4"	15/16"	1 1/2"	2 1/2"	1 3/8"	1 5/16"	3/8"	1 1/16"	2'-0"	7'-6"	2'-10"	10-#6	1 1/4"	15/16"
W 10x22	6 1/8"	2 3/4"	8"	2 3/8"	7/8" Ø 640	1/2"	1 13/16"	3"	1 3/8"	5/8"	3/4"	5/16"	1"	6 3/8"	4 5/16"	1 1/16"	1 3/4"	2 7/8"	1 3/4"	1 1/2"	3/8"	1 1/16"	2'-4"	8'-6"	3'-4"	8-#8	2"	1 15/16"
W 10x33	8"	2 3/4"	8"	2 3/4"	1 1/8" Ø 780	5/8"	2"	4"	1 9/16"	1/2"	3/4"	5/16"	1 1/8"	7 1/8"	5 5/16"	1 1/16"	2 1/4"	3 3/8"	2"	1 1/8"	1/2"	1 3/16"	2'-4"	10'-3"	4'-0"	8-#8	2 3/8"	1 3/16"
W 12x40	8"	3"	8"	3"	1 1/8" Ø 780	5/8"	2"	4"	1 9/16"	1/2"	3/4"	5/16"	1 1/4"	8 3/8"	5 3/4"	1 5/16"	2 1/4"	3 3/8"	2 3/16"	2"	1/2"	1 1/16"	2'-8"	11'-3"	4'-8"	10-#8	2 3/8"	1 3/4"

* Designations Give (Nominal Depth) x (lb/ft)

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION

1. Assemble post to stub with bolts and with one flat washer on each end bolt between plates.
2. Shim as required to plumb post (see shim detail).
3. Tighten all bolts the maximum possible with 1'-0" to 1'-3" wrench to bed washers and shims and to clean bolt threads then loosen each bolt in turn and retighten in a systematic order to the prescribed torque (see table).
4. Burr threads at junction with nut using a center punch to prevent nut loosening.

NOTE:

Sections shown are for installation on right shoulder.
For left shoulder plate slot bevels are opposite hand from that shown.

STEEL POST, BASE, FOUNDATION & FUSE ℄ DETAILS

REVISIONS					
Date	By	Description	Date	By	Description
01/01/06	L.W.	Revised Shim Detail notes, revised Foundation Detail notes.			

2006 Interim Design Standard

STANDARD ROADSIDE SIGN

Interim Date 01/01/06 | Sheet No. 3 of 3

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