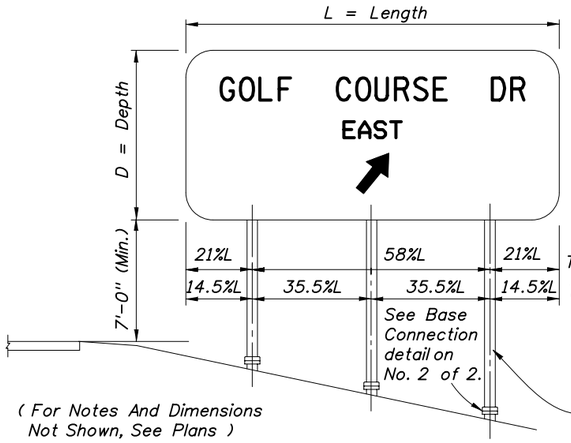
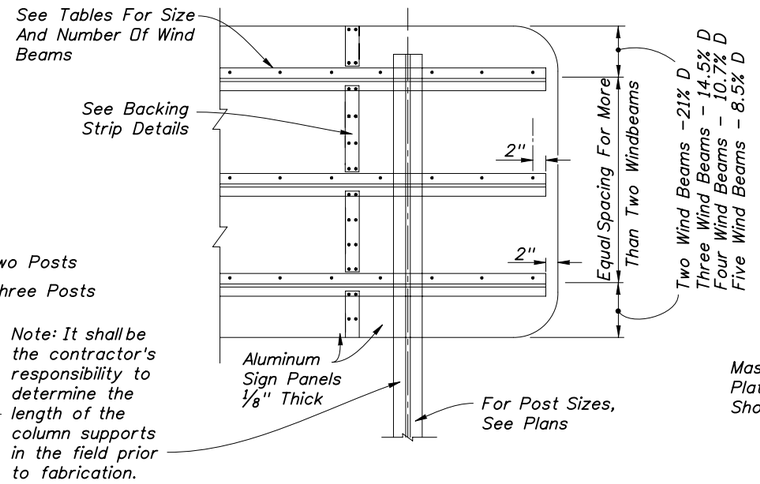
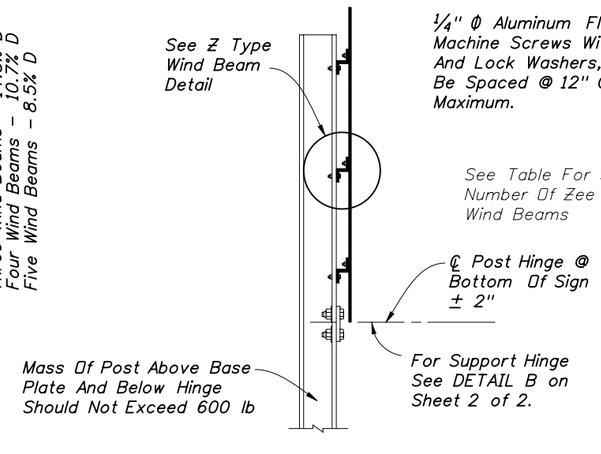


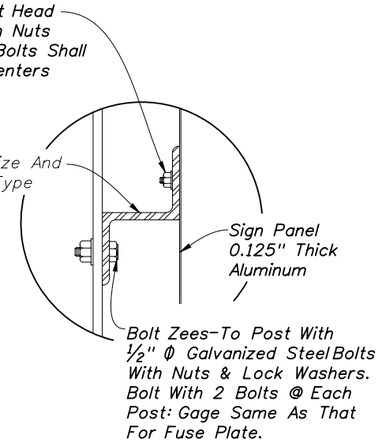
TYPICAL ELEVATION



PARTIAL REAR ELEVATION

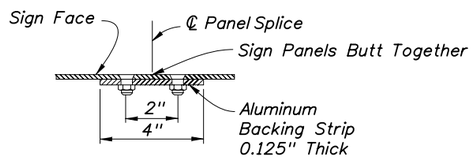


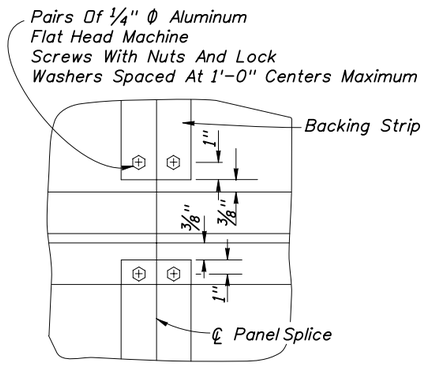
SIDE VIEW



Z TYPE WIND BEAM

Note: If the sign panels are deeper than 10', 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 DETAILS

NUMBER OF WIND BEAMS FOR GIVEN DEPTH & WIND					
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 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 (Flange=Width) x (lb/ft)

DESIGN WIND SPEEDS BY COUNTY

110 mph Alachua, Baker, Bradford, Clay, Columbia, Gadsden, Gilchrist, Hamilton, Hardee, Jackson, Jefferson, Lafayette, Lake, Leon, Madison, Marion, Polk, Putnam, Sumter, Suwannee, and Union Counties.

130 mph Bay, Brevard, Calhoun, Charlotte, Citrus, DeSoto, Dixie, Duval, Flagler, Franklin, Glades, Gulf, Hendry, Hernando, Highlands, Hillsborough, Holmes, Lee, Levy, Liberty, Manatee, Nassau, Okaloosa, Okeechobee, Orange, Osceola, Pasco, Pinellas, Sarasota, Seminole, St. Johns, Taylor, Volusia, Wakulla, Walton, and Washington Counties.

150 mph Broward, Collier, Escambia, Indian River, Martin, Miami-Dade, Monroe, Palm Beach, Santa Rosa, and St.Lucie Counties.

GENERAL NOTES

DESIGN SPECIFICATIONS: Design according to FDOT Structures Manual (current edition).
WELDING: 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.
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. No stenciling permitted on sheets. Aluminum welding rods shall meet the requirements of Aluminum Association Alloy No. 5556 filler wire.
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.
SIGN FACE: All sign face corners shall be rounded.
STRUCTURAL STEEL: All structural steel shall meet the requirements of ASTM A36.
ALUMINUM BOLTS, NUTS, & LOCK WASHERS: 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.
TOLERANCES: All above materials shall be in accordance with the governing ASTM specifications.
GALVANIZED: All steel shapes, angles, tees, plates, bolts, nuts and washers shall be galvanized in accordance with ASTM F2329.
BASE CONNECTION: High strength bolts L_2 in the base connection shall be tightened only to the torque shown in the table on sheet 2 of 2. Overtightened base connections will not be accepted.
FUSE PLATE: 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 round. Metal projecting beyond the plane of the plate face will not be allowed.
BRASS SHIM: Provide shim plate per ASTM B36.
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 the Engineer of Record for approval.
FABRICATOR NOTE: All bolts, except L_2 bolts and zee to post bolts, shall be tightened in accordance with Section 700 of the Specifications.
FOUNDATION: 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. The holes shall be clean and without loose material. Temporary casing shall be required if the soil is unstable. Fill the void around the precast foundation with flowable fill meeting the requirements of Section 121 or clean sand placed using hydraulic methods. The cost of flowable fill, installing and removal of casing shall be included in the unit price of Sign Multi-Post.

REVISIONS

DATE	BY	DESCRIPTION
07/01/07	L.W.	Delete High Strength Bolt Table A-325. Note revised to 10' instead of 12' in BACKING STRIP DETAIL.
07/01/08	DYW.	Provided Specifications reference for tightening. Changed bolt keeper plate, base connection and shim details. Index Completely revised changed from three sheets to two sheets.
06/03/09	DWY.	Under General Notes-GALVANIZED: Note Changed. Brass Shim note added. Sign Face note moved.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

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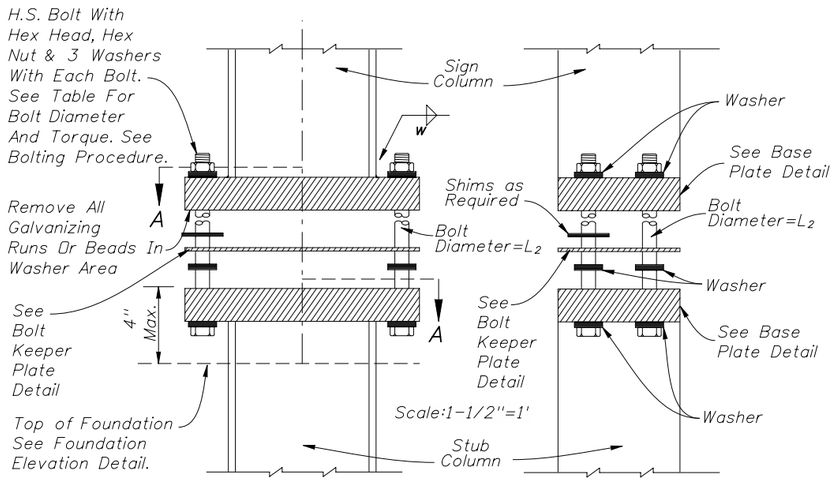
MULTI-COLUMN GROUND SIGN

Interim Date 01/01/10

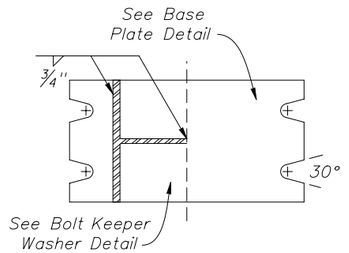
Sheet No. 1 of 2

Index No. 11200



SIGN COLUMN & STUB COLUMN ELEVATION

BASE CONNECTION



SECTION A-A

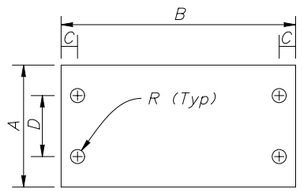
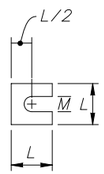


Plate Thickness=0.0149" (28 GUAGE)

BOLT KEEPER PLATE

Provide 2- 0.0149" Thick (28 guage) and 2- 0.0329" Thick (21 guage) Per Post.



SHIM DETAIL

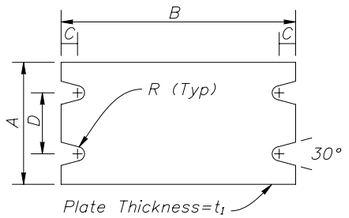
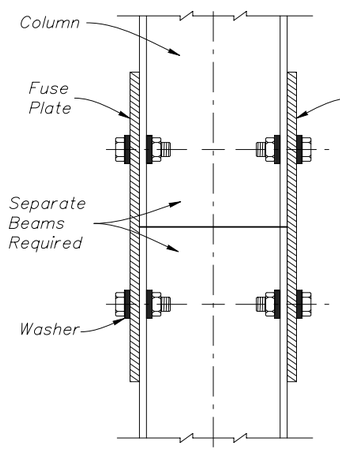


Plate Thickness=t_1

BASE PLATE

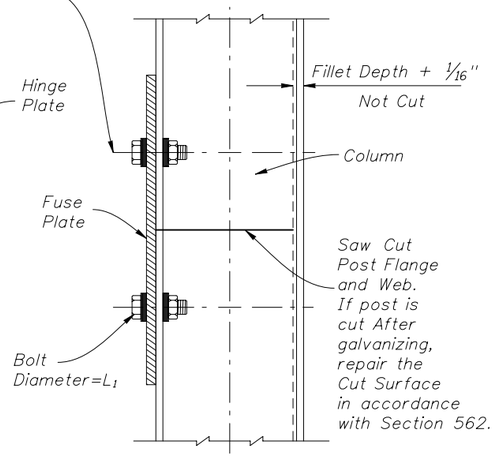
Direction of Traffic

Flange Holes For Fuse And Hinge Plate Shall Be Drilled Or Sub-Punched and Reamed. H.S. Bolts (See Table For Size), For Bolt Tension See the Specification. Flat Washers (Typ.)



Elevation View

OPTIONAL HINGE



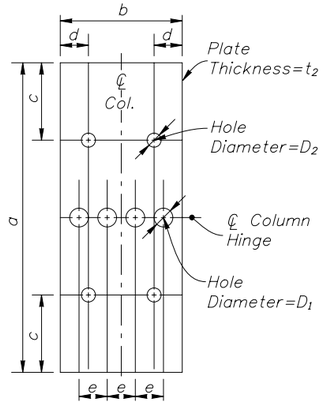
Side View

TYPICAL HINGE

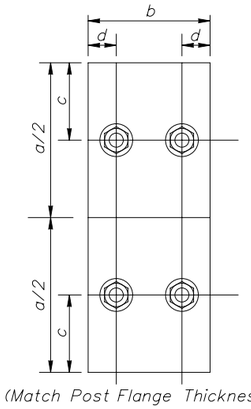
FUSE & HINGE PLATES

(See Fabricator Note on Sheet 1 of 2)

DETAIL B

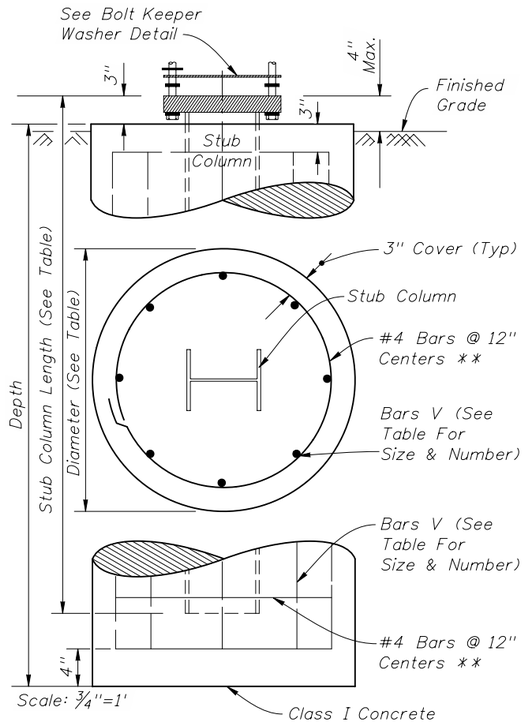


FUSE PLATE



(Match Post Flange Thickness)

HINGE PLATE



FOUNDATION ELEVATION

NOTE: All Reinforcing To Be Grade 60.

** At the Option of the Contractor, D10 Spiral Wire @ 6" Pitch, Three Flat Turns Top and One Flat Turn Bottom may be Utilized in Lieu of Specified.

Shop-weld assemblies of foundation stirrup reinforcing bars are permitted in reinforced concrete foundation provided that:

1. The reinforcing bars conform to ASTM Specification A706/706M.
2. The holding wires conform to ASTM Specification A82 or A496.
3. The Shop welding is performed by machines under a continuous, controlled process, approved by the Engineer.
4. Quality control test are preformed on shop-welded specimens and the test results are available, upon request, to the Engineer.

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION

1. Assemble post to stub with bolts and flat washers as shown.
2. Shim as required to plumb post (see shim detail).
3. Tighten all L_2 bolts the maximum possible with 1'-0" to 1'-3" wrench to bed washers and shims and to clean bolt threads.
4. Burr threads at junction with nut using a center punch to prevent nut loosening.

BASE CONNECTION DATA									FUSE (HINGE) PLATE DATA									SHIM		FOUNDATION DATA			
Section *	A	B	C	D	R	t_1	L_2	Torque (lbf*in)	a	b	c	d	e	t_2	D_1	D_2	L_1	L	M	Dia.	Depth	Stub Length	Reinf. Bars V
S 3x5.7	4"	7"	3/4"	2"	5/16"	1"	1/2"	90±20	14 1/2"	2 3/8"	3 5/8"	7/16"	9/16"	7/16"	7/16"	9/16"	1/2"	1 9/16"	9/16"	2'-0"	5'-6"	3'-3"	10-#6
W 6x12	4"	10"	3/4"	2"	3/8"	1 5/8"	5/8"	270±45	14 1/2"	4"	3 5/8"	7/8"	15/16"	7/16"	13/16"	11/16"	5/8"	1 13/16"	11/16"	2'-0"	7'-6"	4'-3"	10-#6
W 8x24	6 1/2"	12 1/2"	7/8"	3 1/4"	7/16"	1 3/4"	3/4"	445±75	16 1/2"	6 1/2"	4 1/8"	1 1/2"	1 1/2"	1/2"	1"	13/16"	3/4"	2 3/16"	13/16"	2'-4"	8'-6"	6'-3"	8-#8
W 10x33	8"	16"	1 1/4"	4 3/4"	9/16"	2"	1"	580±90	18 1/2"	8"	4 5/8"	1 1/4"	1 3/4"	5/8"	1 1/8"	1 1/16"	1"	2 3/8"	1 1/16"	2'-4"	10'-3"	8'-3"	8-#8
W 12x45	10"	18"	1 1/4"	6"	9/16"	2"	1"	580±90	22"	10"	5 1/2"	2 1/4"	2 1/4"	3/4"	1 5/16"	1 1/16"	1"	2 3/4"	1 1/16"	2'-8"	11'-3"	8'-3"	10-#8

* Designations: Normal Depth in inches and weight in pounds per linear foot.

STEEL POST, BASE, FOUNDATION & FUSE PLATE DETAILS

REVISIONS

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