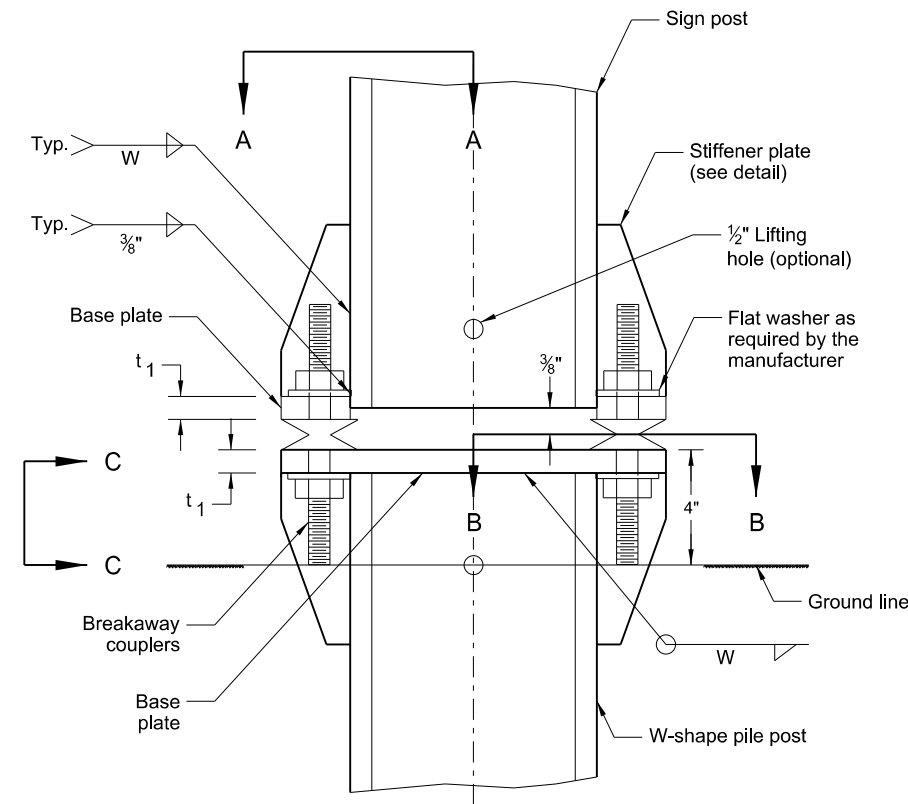
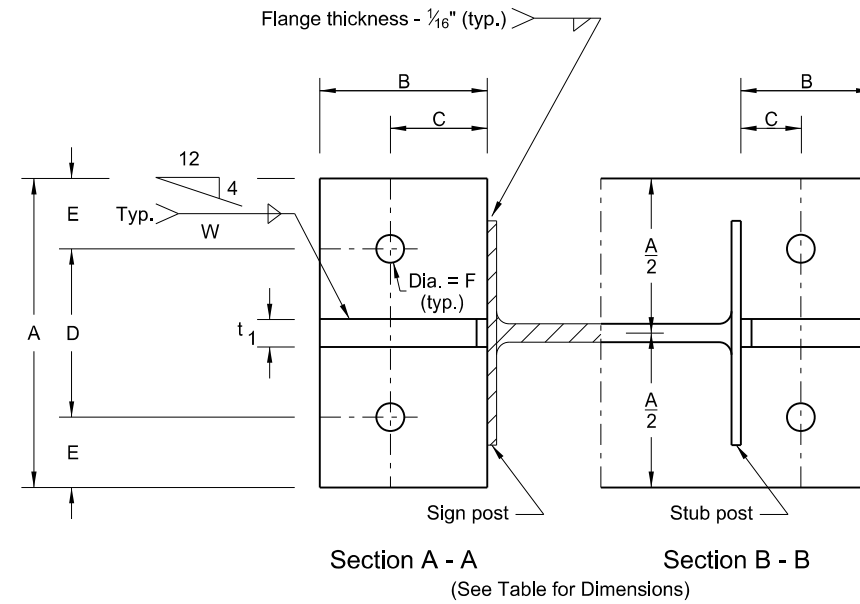


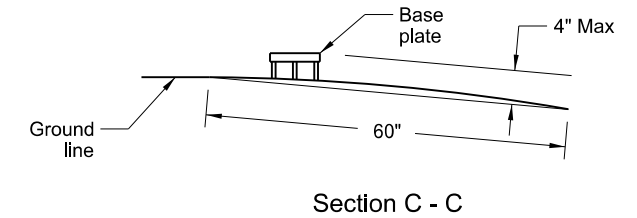
Breakaway Coupler System Structural Details for W-Shape Supports



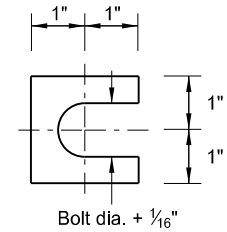
Sign Post and Stub Post
Elevation



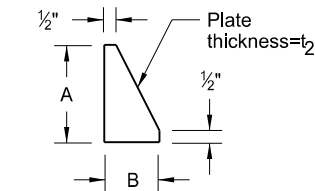
Section A - A Section B - B
(See Table for Dimensions)



Max. protection of the stub post is 4" above a 60" chord aligned radially to the center line of the highway and connecting any point, within the length of the chord, on the ground surface on one side of the support to a point in the ground surface on the other side.

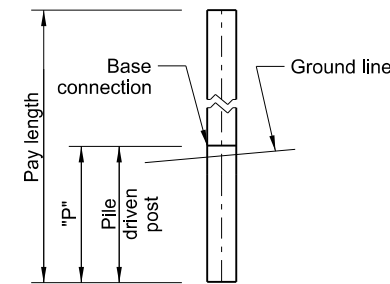


Shim Detail



Stiffener Plate Detail
(See Table for Dimensions)

Sections shown are for installations on right shoulder and in gore. Plate slot bevels are opposite hand from that shown for installations on left shoulder.



W-Shape - Pile Footing

Notes:

1. Use either the breakaway base system shown on standard D-754-13 or a breakaway coupling system manufactured from material meeting the requirements of ASTM A325 fasteners with the special requirements as specified by DENT BREAKAWAY IND., INC. which meets the requirements of NCHRP Report 350.
2. Use structural steel conforming to Sec. 894.03 B.6 and high strength bolts conforming to ASTM - A325. Refer to "Sign Summary" sheet for specific data on each individual sign installation.
3. Use manufacturer's recommendations for assembly procedures.

Furnish 2 - .012"± thick and 2 - .032"± thick shims per post. Fabricate shims from brass shim stock or strip conforming to ASTM B36.

W-Shape Post & Pile Size	Base Connection Data										Footing Data W-Shape Pile Post "P"
	Bolt Size	A	B	C	D	E	t ₁	t ₂	W	F	
W4X13	3/4" x 5 1/4"	6"	2 1/2"	1 1/2"	3 1/2"	1 1/4"	1"	1/2"	1/4"	13/16"	14'
W5X16		14'									
W6X20	7/8" x 5 1/4"	8"	3"	1 3/4"	4"	2"	1 1/4"	1/2"	1/4"	15/16"	14'
W8X24		14'									
W8X28	1" x 5 1/4"	8"	3"	2"	4"	2"	1 1/2"	3/4"	5/16"	1 1/16"	14'

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION		This document was originally issued and sealed by Kirk J Hoff, Registration Number PE- 4683, on 8/29/19 and the original document is stored at the North Dakota Department of Transportation
10-4-2013		
REVISIONS		
DATE	CHANGE	
7-8-14	Revised notes 2 and 3.	
8-30-18	Updated notes to active voice.	
8-29-19	New Design Engineer PE Stamp.	