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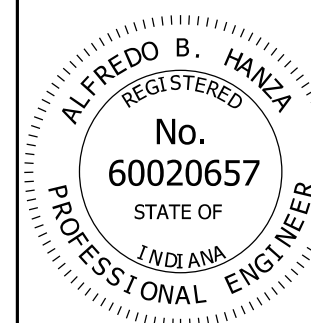
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3	Truss Sections, Member Size Table
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INDIANA DEPARTMENT OF TRANSPORTATION

**DYNAMIC MESSAGE SIGN STRUCTURE
DRAWING INDEX**

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-DMSS-01

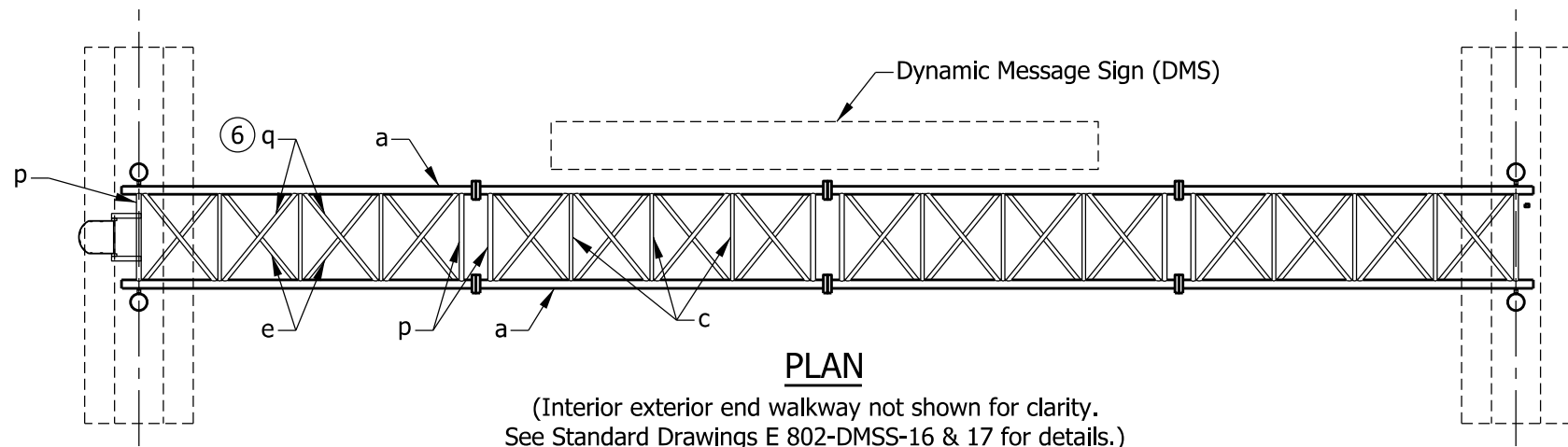


/s/ Alfredo B. Hanza 02/05/13

DESIGN STANDARDS ENGINEER DATE

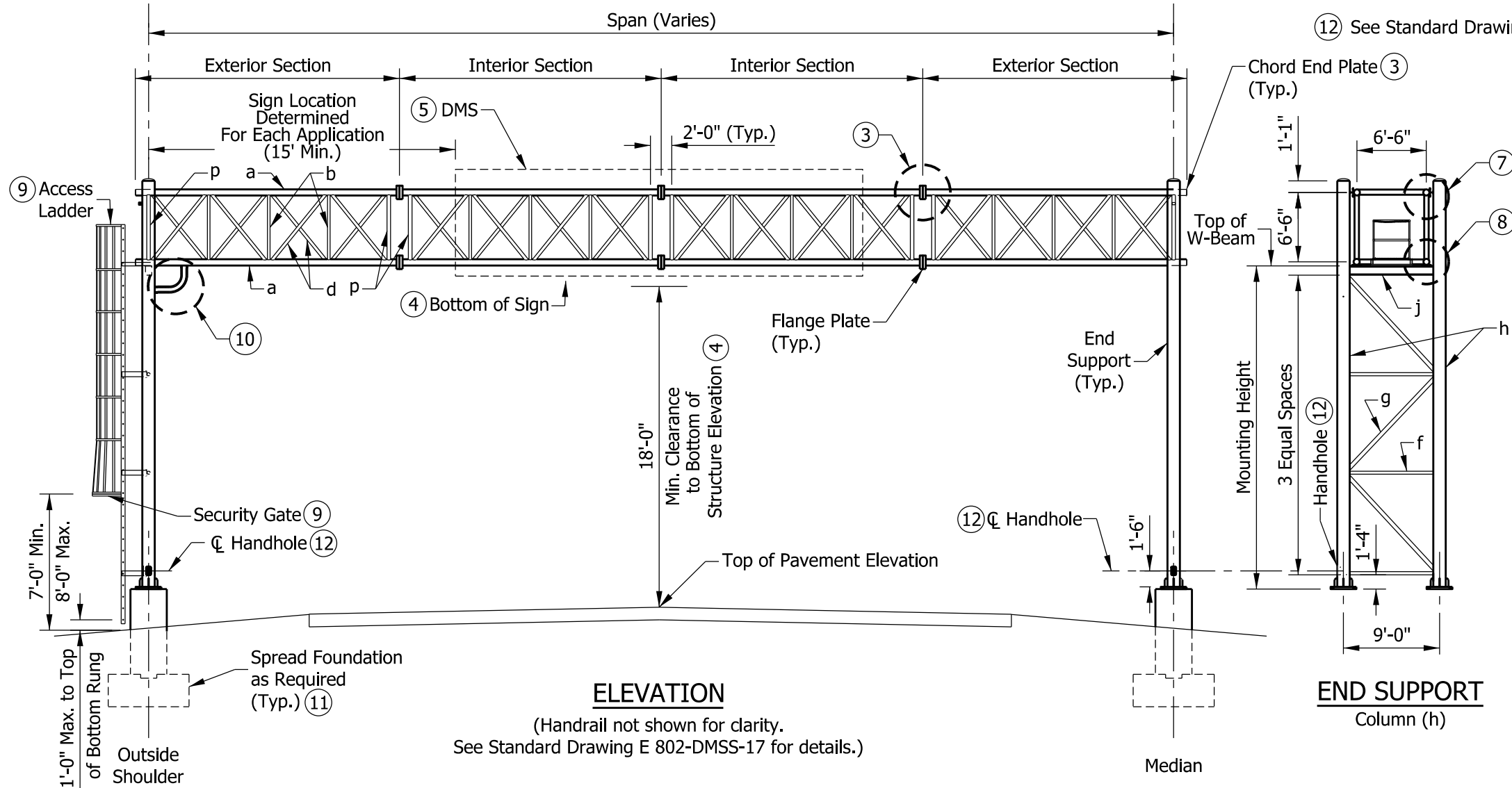
/s/ Mark A. Miller 03/27/13

CHIEF ENGINEER DATE



PLAN

(Interior exterior end walkway not shown for clarity. See Standard Drawings E 802-DMSS-16 & 17 for details.)



ELEVATION

(Handrail not shown for clarity. See Standard Drawing E 802-DMSS-17 for details.)

NOTES:

1. See Standard Drawings E 802-DMSS-03 for isometric view and table with member sizes.
2. Max. deviation of any chord from a straight line in any section shall be 1/8 in. Box truss to be max. of 3/8 in. out of a straight line over the entire length of the structure in the vertical plane.
3. See Standard Drawings E 802-DMSS-06 and -07 for chord connection welds, flange, and chord end plate details.
4. See Standard Drawing E 802-DMSS-16 for the bottom of structure elevation and grating details.
5. Maximum sign area is 300 sq. ft.
6. See Standard Drawing E 802-DMSS-03 for counter diagonals on exterior truss sections.
7. See Standard Drawing E 802-DMSS-08 for upper chord connections details.
8. See Standard Drawing E 802-DMSS-09 for lower chord connections details.
9. See Standard Drawing E 802-DMSS-13, -14, and -15 for access ladder and security gate details.
10. See Standard Drawing E 802-DMSS-19 for wiring layout and wire-outlet details.
11. See Standard Drawings E 802-DMSS-20 through -23 for spread foundation details.
12. See Standard Drawing E 802-DMSS-11 for handhole detail.

LEGEND

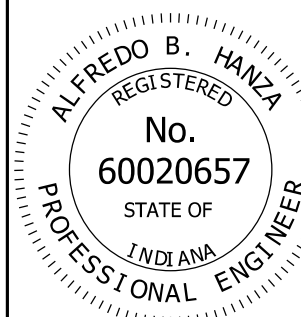
TRUSS MEMBERS (ALUMINUM)	END SUPPORT MEMBERS (STEEL)
a - Chords	f - Horizontals
b - Verticals	g - Diagonals
c - Horizontals	h - Columns
d - Vertical Diagonals	j - W-Beam
e - Horizontal Diagonals	
p - End Verticals and Horizontals	
q - Counter Diagonals (6)	

INDIANA DEPARTMENT OF TRANSPORTATION

DYNAMIC MESSAGE SIGN STRUCTURE
PLAN & ELEVATION

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-DMSS-02

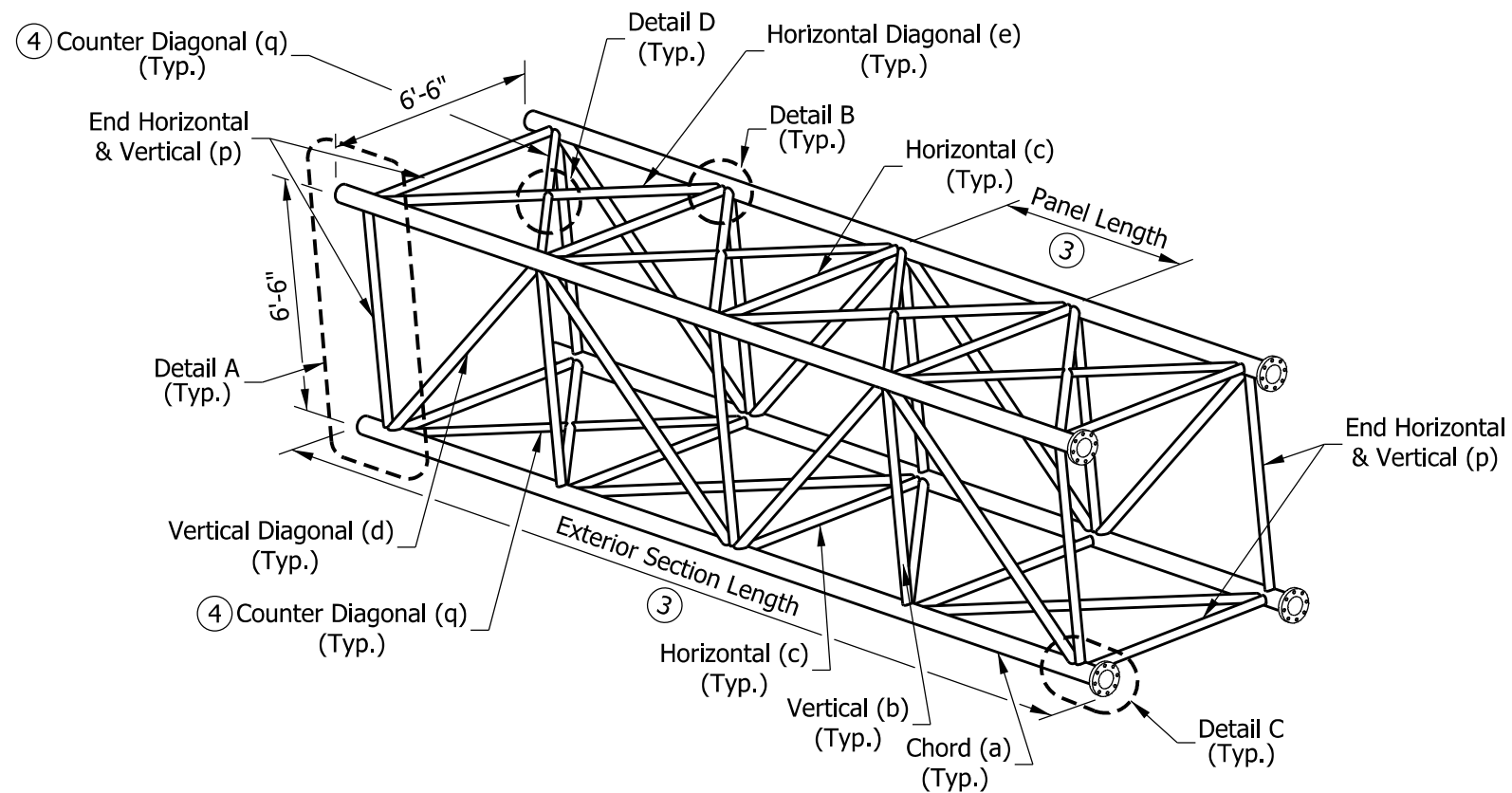


/s/ Alfredo B. Hanza 02/05/13

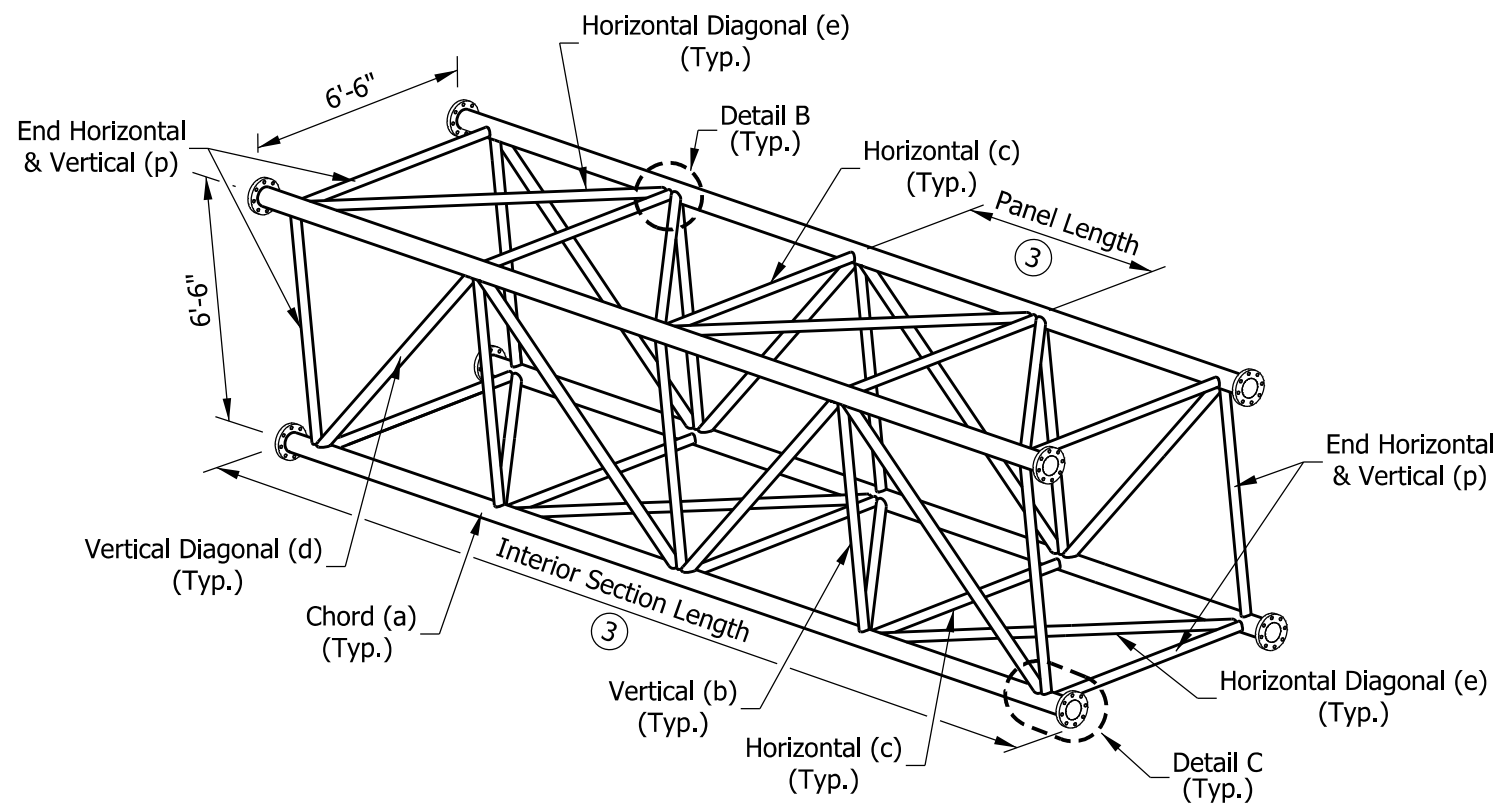
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/27/13

CHIEF ENGINEER DATE



TYPICAL EXTERIOR TRUSS SECTION



TYPICAL INTERIOR TRUSS SECTION

NOTES:

1. See Standard Drawing E 802-DMSS-06 for Details A through D.
2. Truss members to be aluminum. End support members to be steel. Steel pipe diameters shown in table are nominal pipe sizes.
3. Number of panels and sections varies. See Standard Drawing E 802-DMSS-04 and -05 for recommended dimensions.
4. Counter Diagonal (q) shall be provided in exterior sections at the top of each panel and at the bottom of end panel only as shown. It is not required in interior sections.
5. See Standard Drawing E 802-DMSS-02 for end support members.

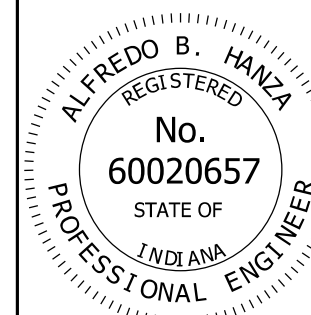
MAX. SPAN = 130 ft. MAX. SIGN AREA = 300 sq. ft. MAX. MOUNTING HEIGHT = 24'-6"		
ALUMINUM TRUSS MEMBERS		
MEMBER	MARK	O.D. (IN.) x WALL THK. (IN.)
CHORD	a	7 x 0.375
VERTICAL	b	3 x 0.250
HORIZONTAL	c	4 x 0.250
VERTICAL DIAGONAL	d	3.5 x 0.500
HORIZONTAL DIAGONAL	e	4 x 0.500
END VERTICAL and HORIZONTAL	p	4 x 0.375
COUNTER DIAGONAL (SEE NOTE 4)	q	2.5 x 0.500
STEEL END-SUPPORT MEMBERS		
COLUMN	h	14 x 0.375
HORIZONTAL	f	3.5 x 0.216
DIAGONAL	g	4.5 x 0.438
W-BEAM	j	W10 x 68

INDIANA DEPARTMENT OF TRANSPORTATION

DYNAMIC MESSAGE SIGN STRUCTURE TRUSS SECTIONS, MEMBER SIZE TABLE

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-DMSS-03



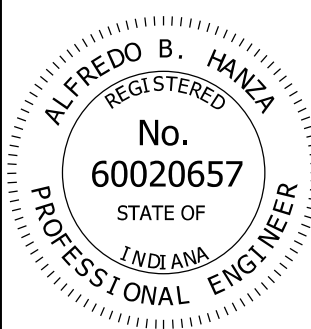
/s/ Alfredo B. Hanza	02/05/13
DESIGN STANDARDS ENGINEER	DATE
/s/ Mark A. Miller	03/27/13
CHIEF ENGINEER	DATE

DIMENSIONS FOR DYNAMIC MESSAGE SIGN STRUCTURES (34' THRU 81')

SPAN	EXTERIOR SECTIONS					INTERIOR SECTIONS			
	SPAN-TRUSS LENGTH, (FT)	NO. OF EXT. SECTIONS	NO. OF PANELS PER SECTION	VARIABLE END DIMEN.	PANEL LENGTH	SECTION LENGTH	NO. OF INT. SECTIONS	NO. OF PANELS PER SECTION	PANEL LENGTH
34	1	6	6"	5'-6"	35'-6"	0			
35	1	6	6"	5'-8"	36'-6"	0			
36	2	3	6"	5'-6"	18'-9"	0			
37	2	3	6"	5'-8"	19'-3"	0			
38	2	3	6"	5'-10"	19'-9"	0			
39	2	3	6"	6'-0"	20'-3"	0			
40	2	3	6"	6'-2"	20'-9"	0			
41	2	3	6"	6'-4"	21'-3"	0			
42	2	3	6"	6'-6"	21'-9"	0			
43	2	4	6"	5'-0"	22'-3"	0			
44	2	4	6"	5'-1 1/2"	22'-9"	0			
45	2	4	6"	5'-3"	23'-3"	0			
46	2	4	6"	5'-4 1/2"	23'-9"	0			
47	2	4	6"	5'-6"	24'-3"	0			
48	2	4	6"	5'-7 1/2"	24'-9"	0			
49	2	4	6"	5'-9"	25'-3"	0			
50	2	4	6"	5'-10 1/2"	25'-9"	0			
51	2	4	6"	6'-0"	26'-3"	0			
52	2	4	6"	6'-1 1/2"	26'-9"	0			
53	2	4	6"	6'-3"	27'-3"	0			
54	2	4	6"	6'-4 1/2"	27'-9"	0			
55	2	4	6"	6'-6"	28'-3"	0			
56	2	5	5 1/4"	5'-3 3/4"	28'-9"	0			
57	2	5	6 1/4"	5'-4 3/4"	29'-3"	0			
58	2	5	6"	5'-6"	29'-9"	0			
59	2	5	5 3/4"	5'-7 1/4"	30'-3"	0			
60	2	5	5 1/2"	5'-8 1/2"	30'-9"	0			
61	2	5	6 1/2"	5'-9 1/2"	31'-3"	0			
62	2	5	6 1/4"	5'-10 3/4"	31'-9"	0			
63	2	5	6"	6'-0"	32'-3"	0			
64	2	5	5 3/4"	6'-1 1/4"	32'-9"	0			
65	2	5	5 1/2"	6'-2 1/2"	33'-3"	0			
66	2	5	5 1/4"	6'-3 3/4"	33'-9"	0			
67	2	5	5"	6'-5"	34'-3"	0			
68	2	5	6"	6'-6"	34'-9"	0			
69	2	4	6"	5'-4"	23'-7"	1	4	5'-4"	23'-4"
70	2	4	6"	5'-5"	23'-11"	1	4	5'-5"	23'-8"
71	2	4	6"	5'-6"	24'-3"	1	4	5'-6"	24'-0"
72	2	4	6"	5'-7"	24'-7"	1	4	5'-7"	24'-4"
73	2	4	6"	5'-8"	24'-11"	1	4	5'-8"	24'-8"
74	2	4	6"	5'-9"	25'-3"	1	4	5'-9"	25'-0"
75	2	4	6"	5'-10"	25'-7"	1	4	5'-10"	25'-4"
76	2	4	6"	5'-11"	25'-11"	1	4	5'-11"	25'-8"
77	2	4	6"	6'-0"	26'-3"	1	4	6'-0"	26'-0"
78	2	4	6"	6'-1"	26'-7"	1	4	6'-1"	26'-4"
79	2	4	6"	6'-2"	26'-11"	1	4	6'-2"	26'-8"
80	2	4	6"	6'-3"	27'-3"	1	4	6'-3"	27'-0"
81	2	4	6"	6'-4"	27'-7"	1	4	6'-4"	27'-4"

NOTES:

1. The table of dimensions for a dynamic message sign structure is divided and put on two Standard Drawings E 802-DMSS-04 and -05. the table shows dimensions with all sections requirements accounted for.
2. All panels on a truss shall be the same length. The minimum panel length for all trusses is 5'-0" and the maximum is 6'-6".
3. A single interior section in a truss shall have an even number of panels to maintain the pattern of the vertical diagonals.
4. Use minimum number of sections for each truss, keeping the maximum section length at 35'-6".
5. See Standard Drawing E 802-DMSS-05 for required camber.

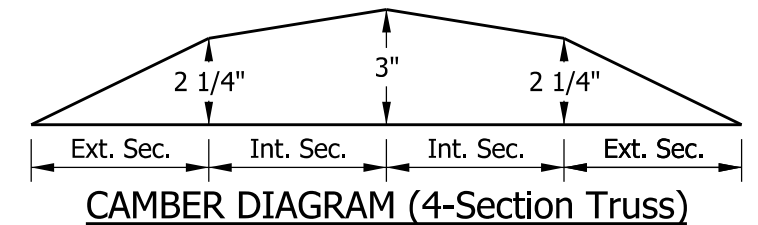
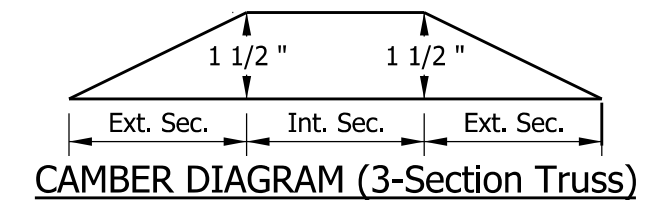
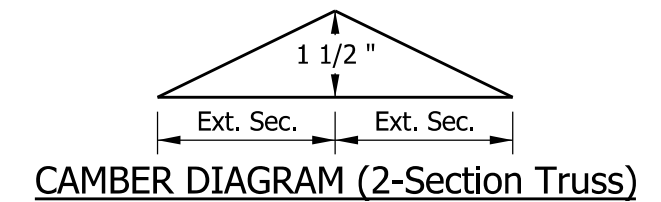
INDIANA DEPARTMENT OF TRANSPORTATION											
DYNAMIC MESSAGE SIGN STRUCTURE TABLE OF DIMENSIONS SPANS 34' THRU 81' SEPTEMBER 2013											
STANDARD DRAWING NO.	E 802-DMSS-04										
	<table border="0"> <tr> <td>/s/ <i>Alfredo B. Hanza</i></td> <td align="right">02/05/13</td> </tr> <tr> <td>DESIGN STANDARDS ENGINEER</td> <td align="right">DATE</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td>/s/ <i>Mark A. Miller</i></td> <td align="right">03/27/13</td> </tr> <tr> <td>CHIEF ENGINEER</td> <td align="right">DATE</td> </tr> </table>	/s/ <i>Alfredo B. Hanza</i>	02/05/13	DESIGN STANDARDS ENGINEER	DATE			/s/ <i>Mark A. Miller</i>	03/27/13	CHIEF ENGINEER	DATE
/s/ <i>Alfredo B. Hanza</i>	02/05/13										
DESIGN STANDARDS ENGINEER	DATE										
/s/ <i>Mark A. Miller</i>	03/27/13										
CHIEF ENGINEER	DATE										

DIMENSIONS FOR DYNAMIC MESSAGE SIGN STRUCTURES (82' THRU 130')

SPAN	EXTERIOR SECTIONS					INTERIOR SECTIONS			
	SPAN-TRUSS LENGTH, (FT)	NO. OF EXT. SECTIONS	NO. OF PANELS PER SECTION	VARIABLE END DIMEN.	PANEL LENGTH	SECTION LENGTH	NO. OF INT. SECTIONS	NO. OF PANELS PER SECTION	PANEL LENGTH
82	2	4	6"	6'-5"	27'-11"	1	4	6'-5"	27'-8"
83	2	4	6"	6'-6"	28'-3"	1	4	6'-6"	28'-0"
84	2	5	5 3/4"	5'-7 3/4"	30'-5 1/2"	1	4	5'-7 3/4"	24'-7"
85	2	5	6 1/2"	5'-8 1/2"	30'-10"	1	4	5'-8 1/2"	24'-10"
86	2	5	5 1/2"	5'-9 1/2"	31'-2"	1	4	5'-9 1/2"	25'-2"
87	2	5	6 1/4"	5'-10 1/4"	31'-6 1/2"	1	4	5'-10 1/4"	25'-5"
88	2	5	7"	5'-11"	31'-11"	1	4	5'-11"	25'-8"
89	2	5	6"	6'-0"	32'-3"	1	4	6'-0"	26'-0"
90	2	5	5"	6'-1"	32'-7"	1	4	6'-1"	26'-4"
91	2	5	5 3/4"	6'-1 3/4"	32'-11 1/2"	1	4	6'-1 3/4"	26'-7"
92	2	5	6 1/2"	6'-2 1/2"	33'-4"	1	4	6'-2 1/2"	26'-10"
93	2	5	5 1/2"	6'-3 1/2"	33'-8"	1	4	6'-3 1/2"	27'-2"
94	2	5	6 1/4"	6'-4 1/4"	34'-0 1/2"	1	4	6'-4 1/4"	27'-5"
95	2	5	5 1/4"	6'-5 1/4"	34'-4 1/2"	1	4	6'-5 1/4"	27'-9"
96	2	5	6"	6'-6"	34'-9"	1	4	6'-6"	28'-0"
97	2	4	6"	5'-7 1/2"	24'-9"	2	4	5'-7 1/2"	24'-6"
98	2	4	6"	5'-8 1/4"	25'-0"	2	4	5'-8 1/4"	24'-9"
99	2	4	6"	5'-9"	25'-3"	2	4	5'-9"	25'-0"
100	2	4	6"	5'-9 3/4"	25'-6"	2	4	5'-9 3/4"	25'-3"
101	2	4	6"	5'-10 1/2"	25'-9"	2	4	5'-10 1/2"	25'-6"
102	2	4	6"	5'-11 1/4"	26'-0"	2	4	5'-11 1/4"	25'-9"
103	2	4	6"	6'-0"	26'-3"	2	4	6'-0"	26'-0"
104	2	4	6"	6'-0 3/4"	26'-6"	2	4	6'-0 3/4"	26'-3"
105	2	4	6"	6'-1 1/2"	26'-9"	2	4	6'-1 1/2"	26'-6"
106	2	4	6"	6'-2 1/4"	27'-0"	2	4	6'-2 1/4"	26'-9"
107	2	4	6"	6'-3"	27'-3"	2	4	6'-3"	27'-0"
108	2	4	6"	6'-3 3/4"	27'-6"	2	4	6'-3 3/4"	27'-3"
109	2	4	6"	6'-4 1/2"	27'-9"	2	4	6'-4 1/2"	27'-6"
110	2	4	6"	6'-5 1/4"	28'-0"	2	4	6'-5 1/4"	27'-9"
111	2	4	6"	6'-6"	28'-3"	2	4	6'-6"	28'-0"
112	2	5	6"	5'-3"	28'-6"	2	5	5'-3"	28'-3"
113	2	5	7"	5'-3 1/2"	28'-9 1/2"	2	5	5'-3 1/2"	28'-5 1/2"
114	2	5	5 1/2"	5'-4 1/4"	28'-11 3/4"	2	5	5'-4 1/4"	28'-9 1/4"
115	2	5	6 1/2"	5'-4 3/4"	29'-3 1/4"	2	5	5'-4 3/4"	28'-11 3/4"
116	2	5	5"	5'-5 1/2"	29'-5 1/2"	2	5	5'-5 1/2"	29'-3 1/2"
117	2	5	6"	5'-6"	29'-9"	2	5	5'-6"	29'-6"
118	2	5	5"	5'-6 1/2"	29'-10 1/2"	2	5	5'-6 1/2"	29'-8 1/2"
119	2	5	5 1/2"	5'-7 1/4"	30'-2 3/4"	2	5	5'-7 1/4"	30'-0 1/4"
120	2	5	6 1/2"	5'-7 3/4"	30'-6 1/4"	2	5	5'-7 3/4"	30'-2 3/4"
121	2	5	5"	5'-8 1/2"	30'-8 1/2"	2	5	5'-8 1/2"	30'-6 1/2"
122	2	5	6"	5'-9"	31'-0"	2	5	5'-9"	30'-9"
123	2	5	7"	5'-9 1/2"	31'-3 1/2"	2	5	5'-9 1/2"	30'-11 1/2"
124	2	5	5 1/2"	5'-10 1/4"	31'-5 3/4"	2	5	5'-10 1/4"	31'-3 1/4"
125	2	5	6 1/2"	5'-10 3/4"	31'-9 1/4"	2	5	5'-10 3/4"	31'-5 3/4"
126	2	5	5"	5'-11 1/2"	31'-11 1/2"	2	5	5'-11 1/2"	31'-9 1/2"
127	2	5	6"	6'-0"	32'-3"	2	5	6'-0"	32'-0"
128	2	5	7"	6'-0 1/2"	32'-6 1/2"	2	5	6'-0 1/2"	32'-2 1/2"
129	2	5	5 1/2"	6'-1 1/4"	32'-8 3/4"	2	5	6'-1 1/4"	32'-6 1/4"
130	2	5	6 1/2"	6'-1 3/4"	33'-0 1/4"	2	5	6'-1 3/4"	32'-8 3/4"

NOTES:

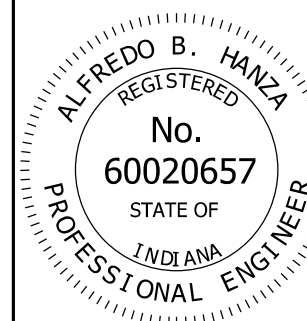
1. Camber diagrams to build truss structures with 2 to 4 sections are shown. Cambers shown are for fabrication only and are measured with trusses fully supported at no-load conditions. Allowable camber tolerance for truss is 25% of specific camber value.
2. See Standard Drawing E 805-DMSS-04 for additional notes.



INDIANA DEPARTMENT OF TRANSPORTATION

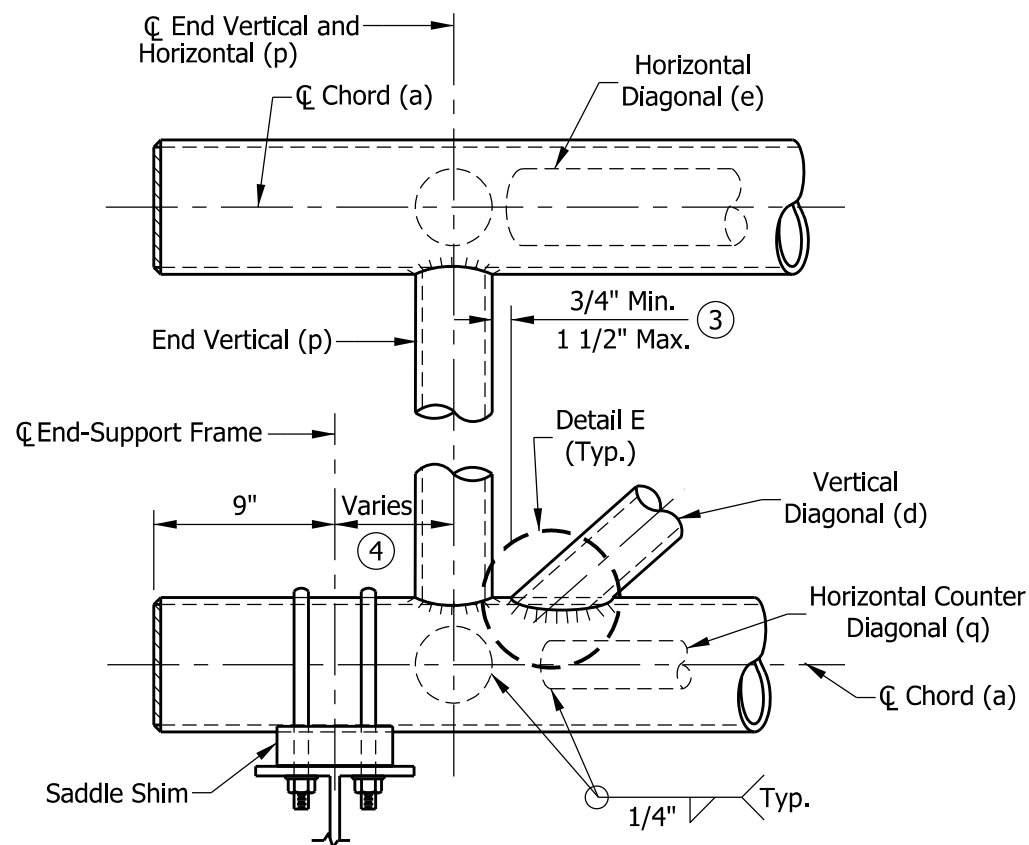
**DYNAMIC MESSAGE SIGN STRUCTURE
TABLE OF DIMENSIONS
SPANS 82' THRU 130' & CAMBER
SEPTEMBER 2013**

STANDARD DRAWING NO. E 802-DMSS-05

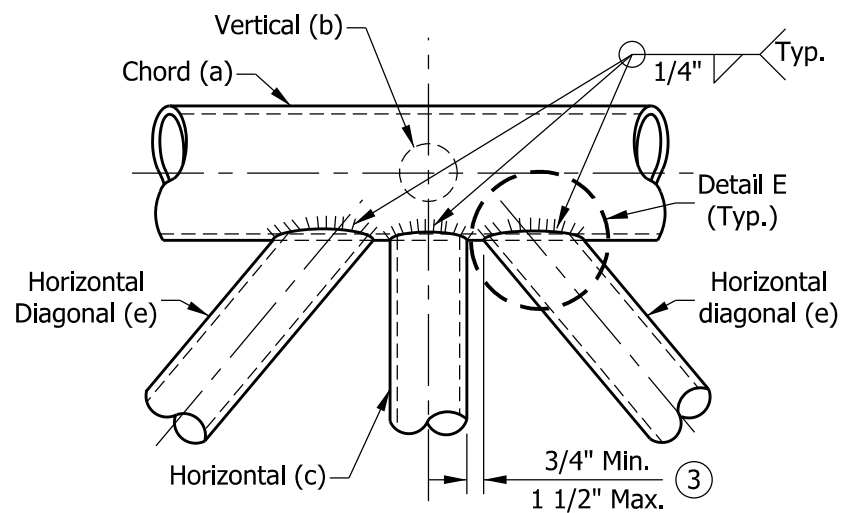


/s/ Alfredo B. Hanza 02/05/13
DESIGN STANDARDS ENGINEER DATE

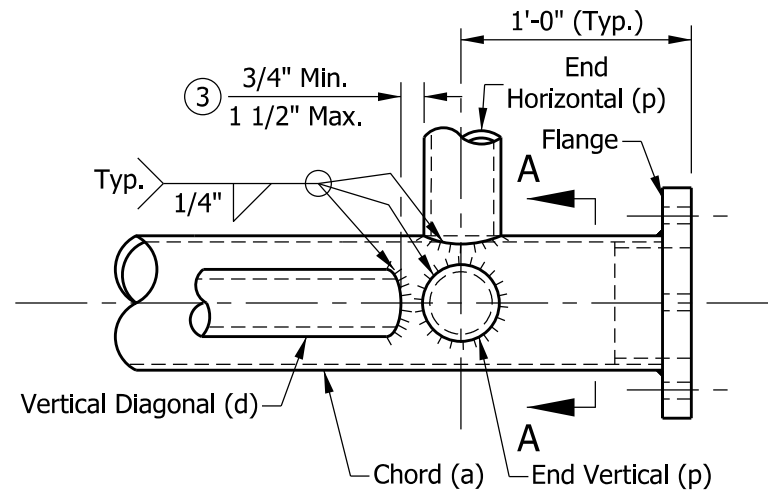
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



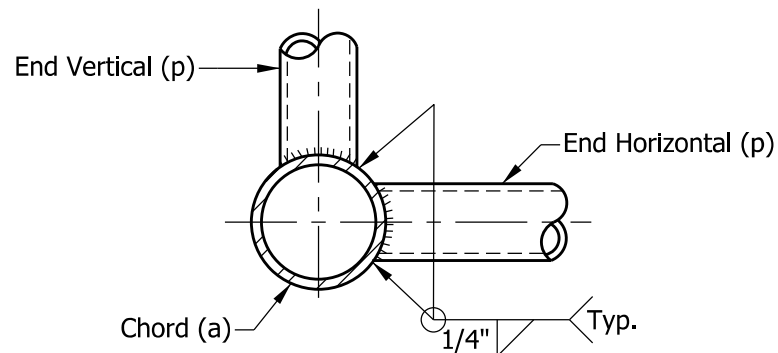
DETAIL A
EXTERIOR SECTION AT END-SUPPORT



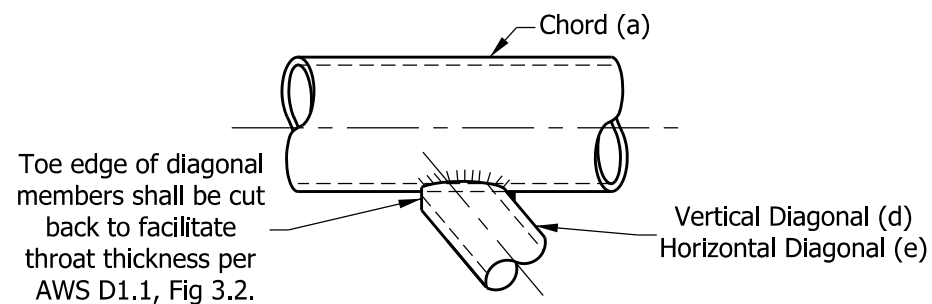
DETAIL B
TYPICAL PANEL CONNECTION
PLAN VIEW



DETAIL C
CHORD AT FLANGE CONNECTION
PLAN VIEW



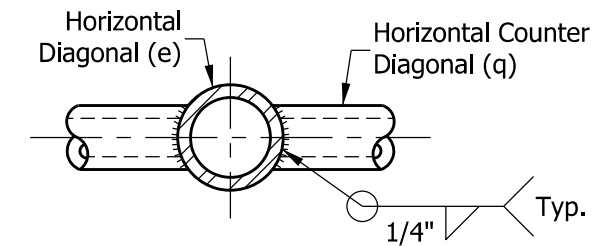
SECTION A-A
TYPICAL JOINT DETAILS



DETAIL E

NOTES:

1. All bracing members shall be machined to provide a snug fit to the chord along the entire edge of bracing members before welding.
2. See Standard Drawing E 802-DMSS-03 for member locations and sizes.
- ③ Vertical and horizontal diagonals shall be detailed for minimum offset from the panel point based on the following: offset shall be such as to provide a 3/4" minimum to 1 1/2" maximum clearance between any diagonal and any horizontal or vertical member; and provide clearance for U-bolt connection for signs.
- ④ For variable end dimension, Standard Drawings E 802-DMSS-04 and -05.



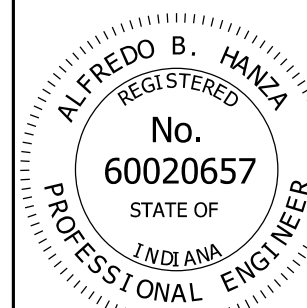
DETAIL D

INDIANA DEPARTMENT OF TRANSPORTATION

DYNAMIC MESSAGE SIGN STRUCTURE
CHORD CONNECTIONS AND WELD DETAILS

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-DMSS-06

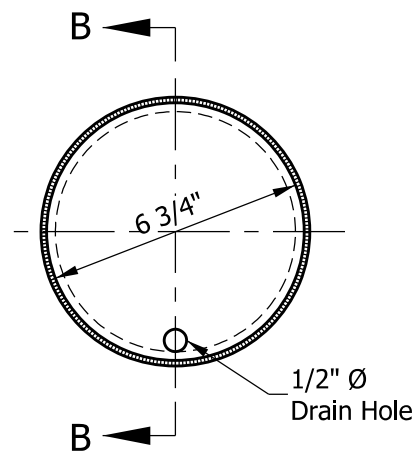


/s/ Alfredo B. Hanza 02/05/13

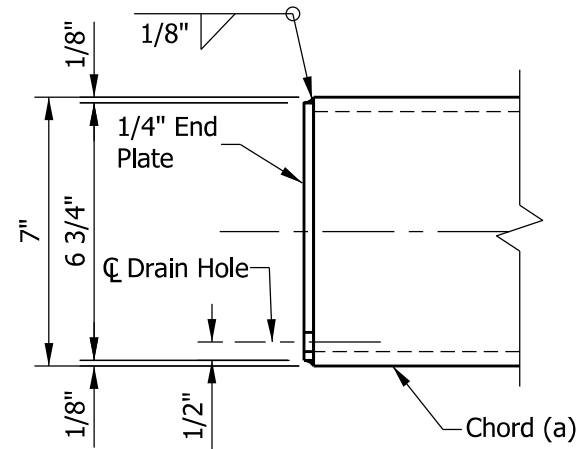
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/27/13

CHIEF ENGINEER DATE



END VIEW

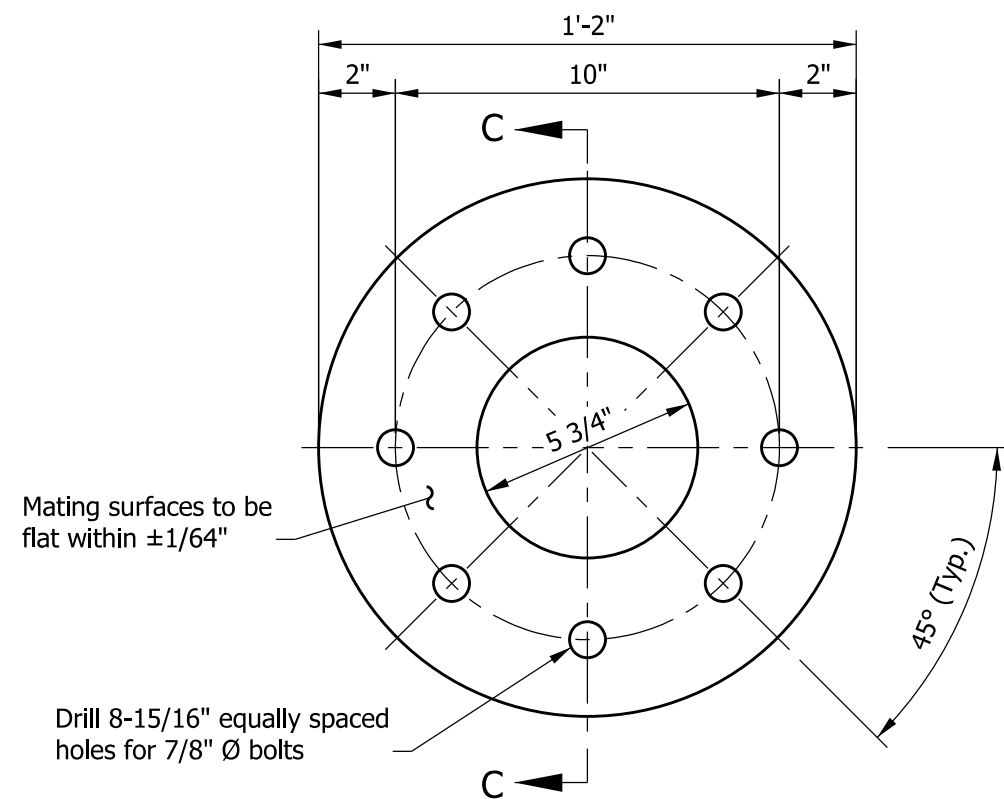


CHORD END PLATE DETAILS

SECTION B-B

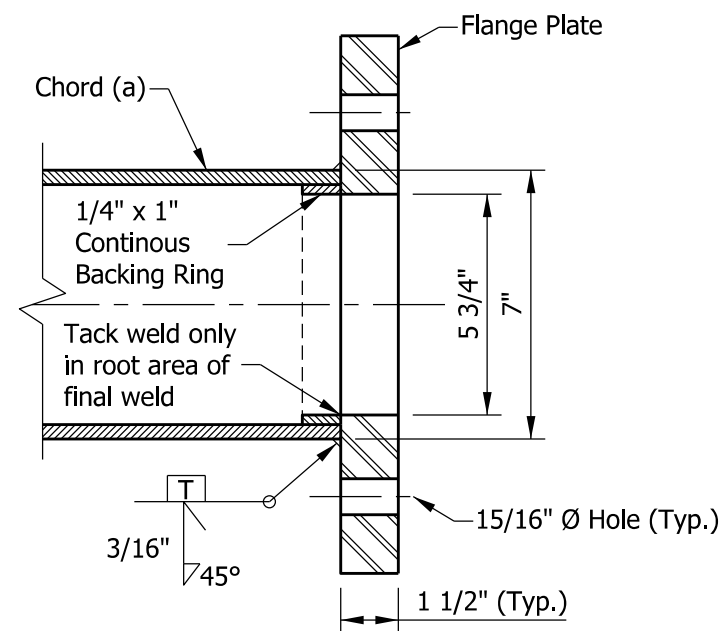
NOTE:

1. See Standard Drawing E 802-DMSS-02 for chord flange locations.



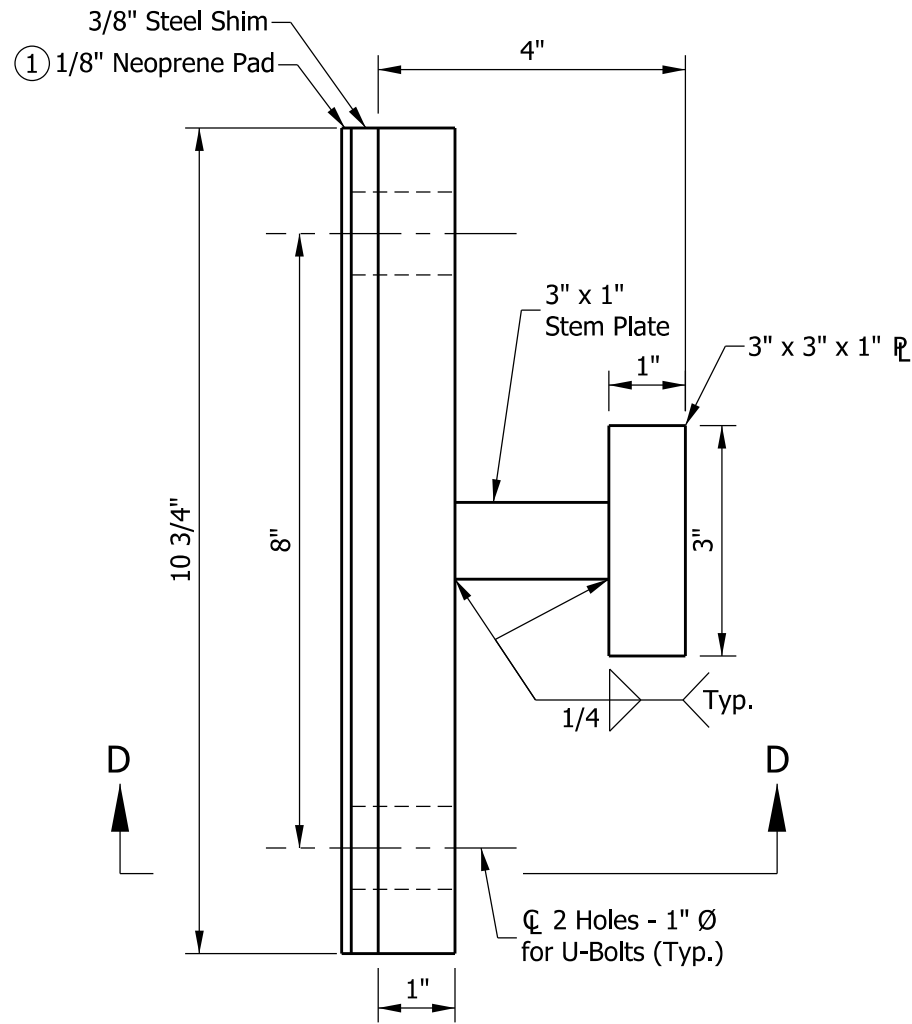
END VIEW

FLANGE PLATE DETAILS

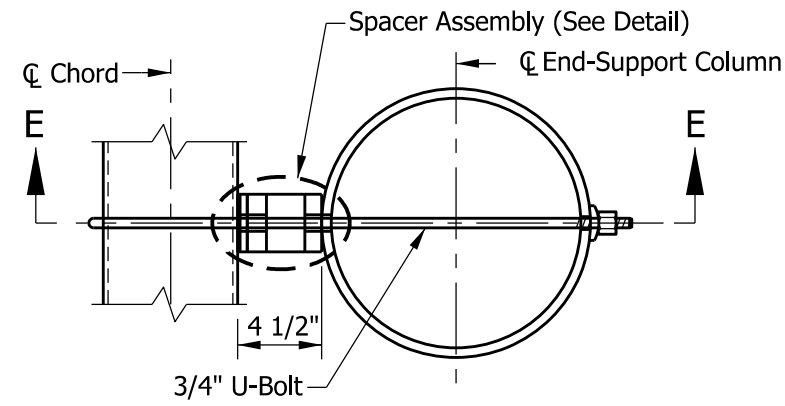


SECTION C-C

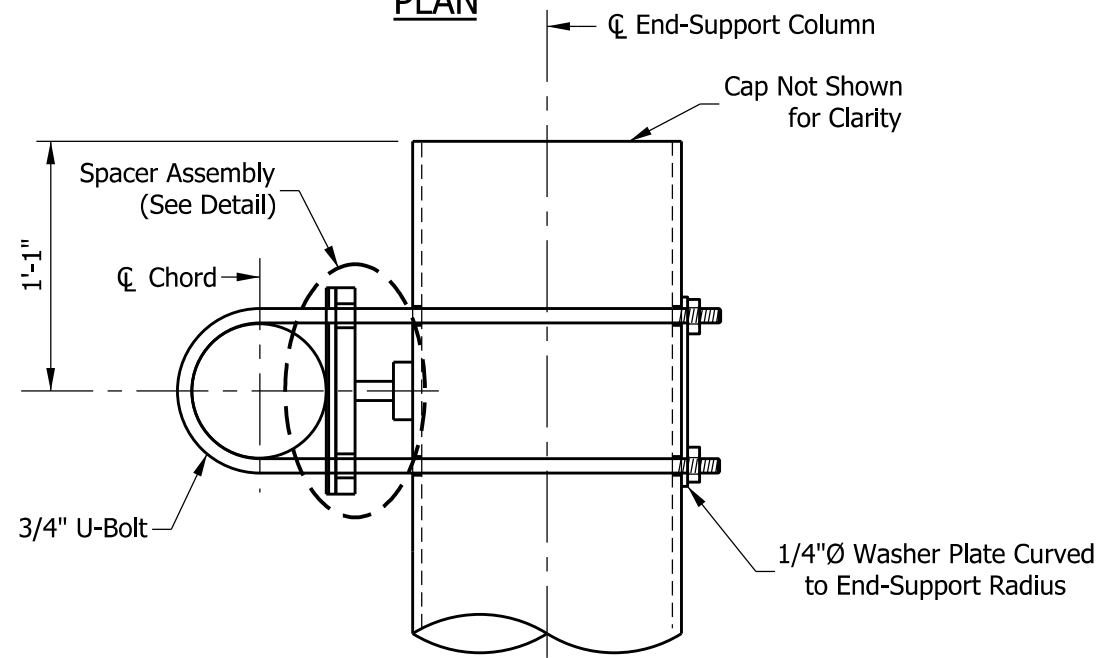
INDIANA DEPARTMENT OF TRANSPORTATION		
DYNAMIC MESSAGE SIGN STRUCTURE FLANGE & CHORD END PLATE DETAILS		
SEPTEMBER 2013		
STANDARD DRAWING NO. E 802-DMSS-07		
	/s/ Alfredo B. Hanza	02/05/13
	DESIGN STANDARDS ENGINEER	DATE
	/s/ Mark A. Miller	03/27/13
	CHIEF ENGINEER	DATE



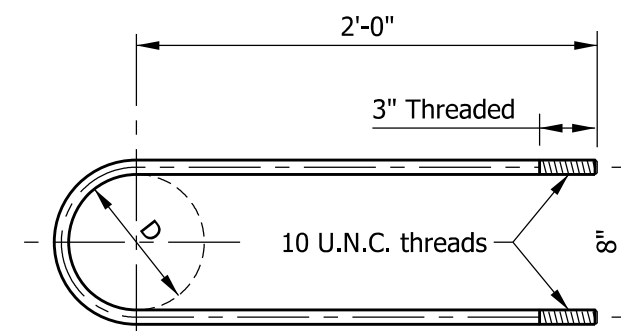
ELEVATION
END-SUPPORT SPACER ASSEMBLY DETAIL



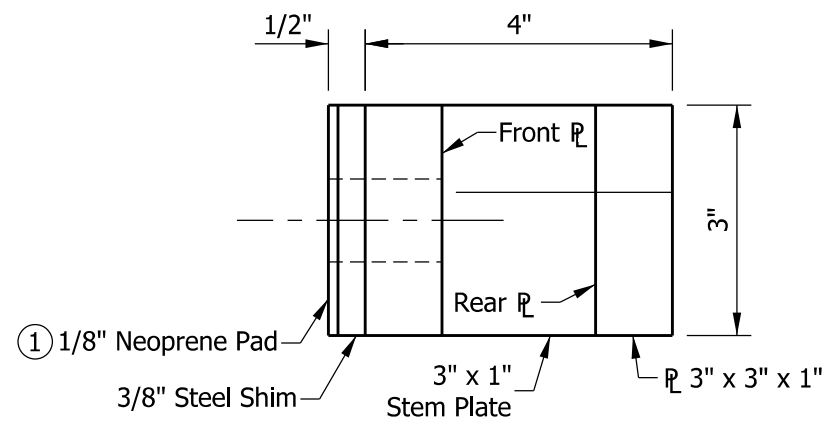
PLAN



SECTION E-E
UPPER CHORD CONNECTION DETAILS



3/4" DIA. STAINLESS STEEL U-BOLT DETAIL



SECTION D-D

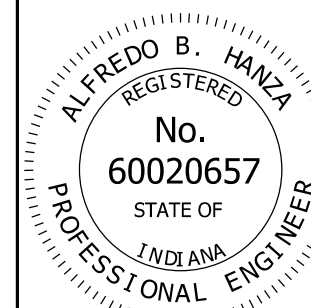
NOTES:

- ① Provide isolation from steel-dissimilar metal as required.
2. All spacer assembly material to be steel.

INDIANA DEPARTMENT OF TRANSPORTATION

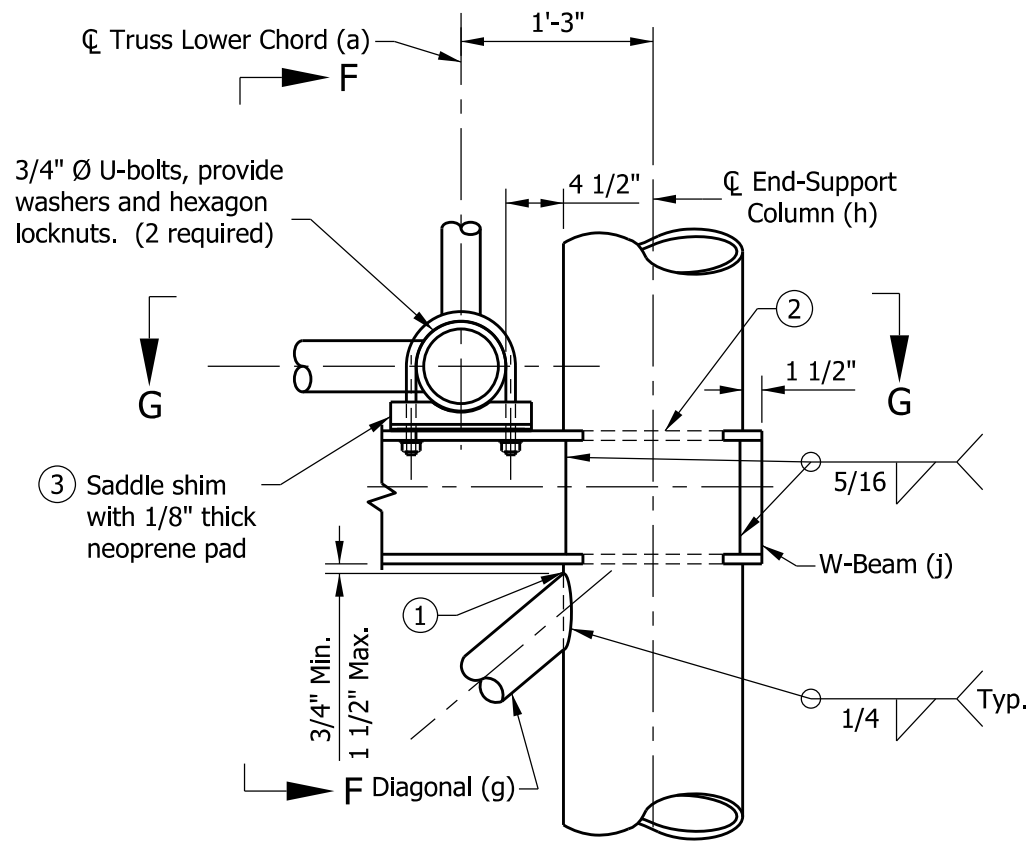
DYNAMIC MESSAGE SIGN STRUCTURE
END SUPPORT
UPPER CHORD CONNECTION DETAILS
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-DMSS-08

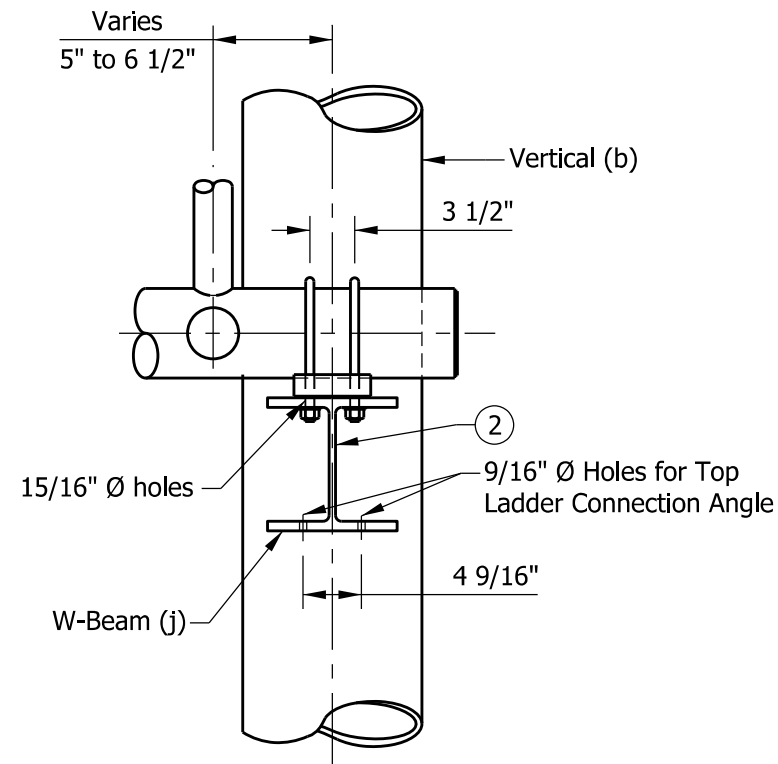


/s/ Alfredo B. Hanza 02/05/13
DESIGN STANDARDS ENGINEER DATE

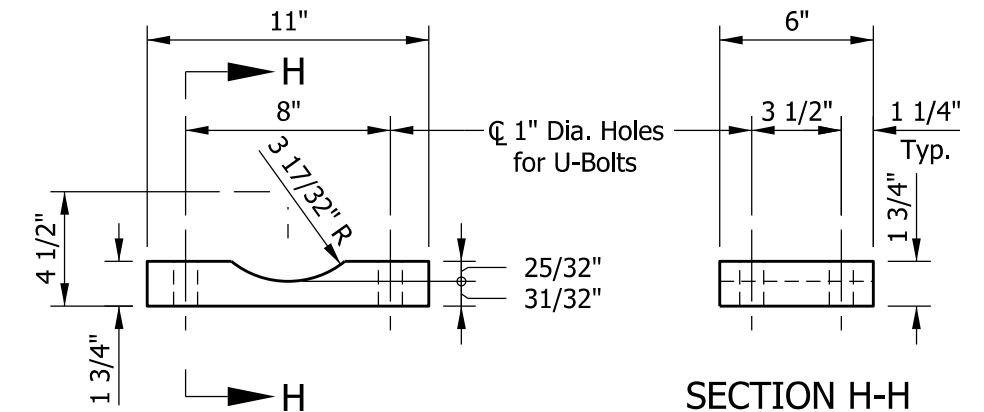
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



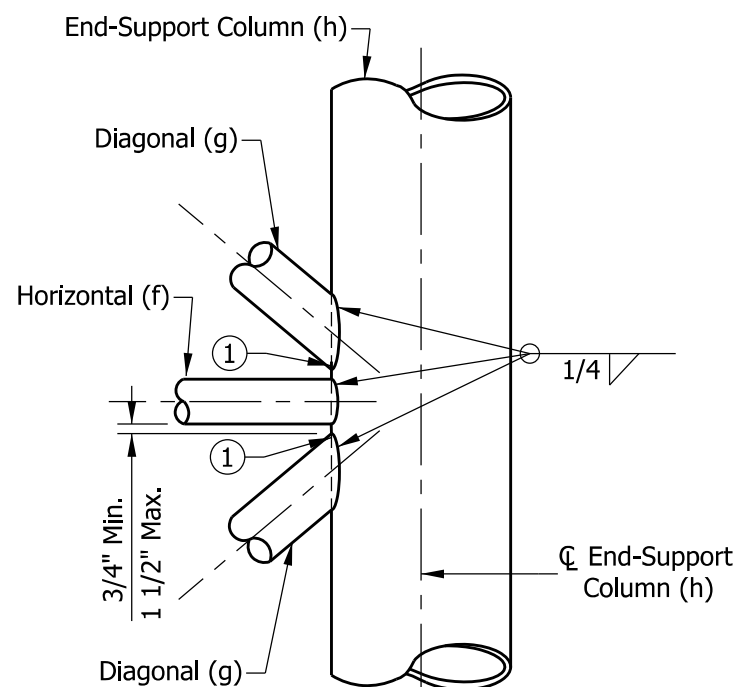
LOWER CHORD CONNECTION DETAIL



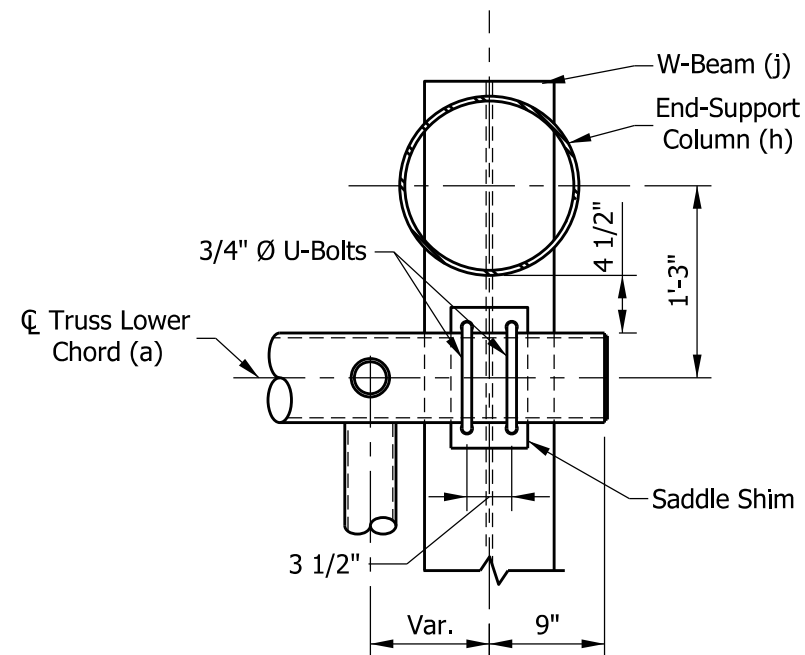
SECTION F-F



SADDLE SHIM DETAIL



**ELEVATION (END SUPPORT)
TYPICAL BRACING MEMBERS CONNECTION**

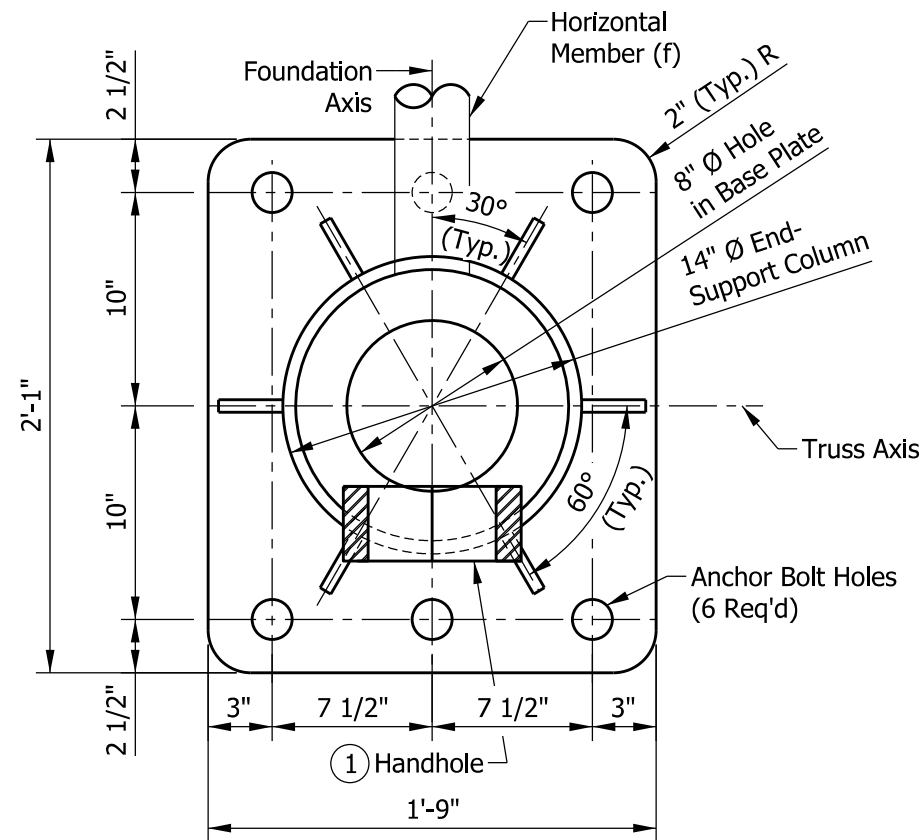


SECTION G-G

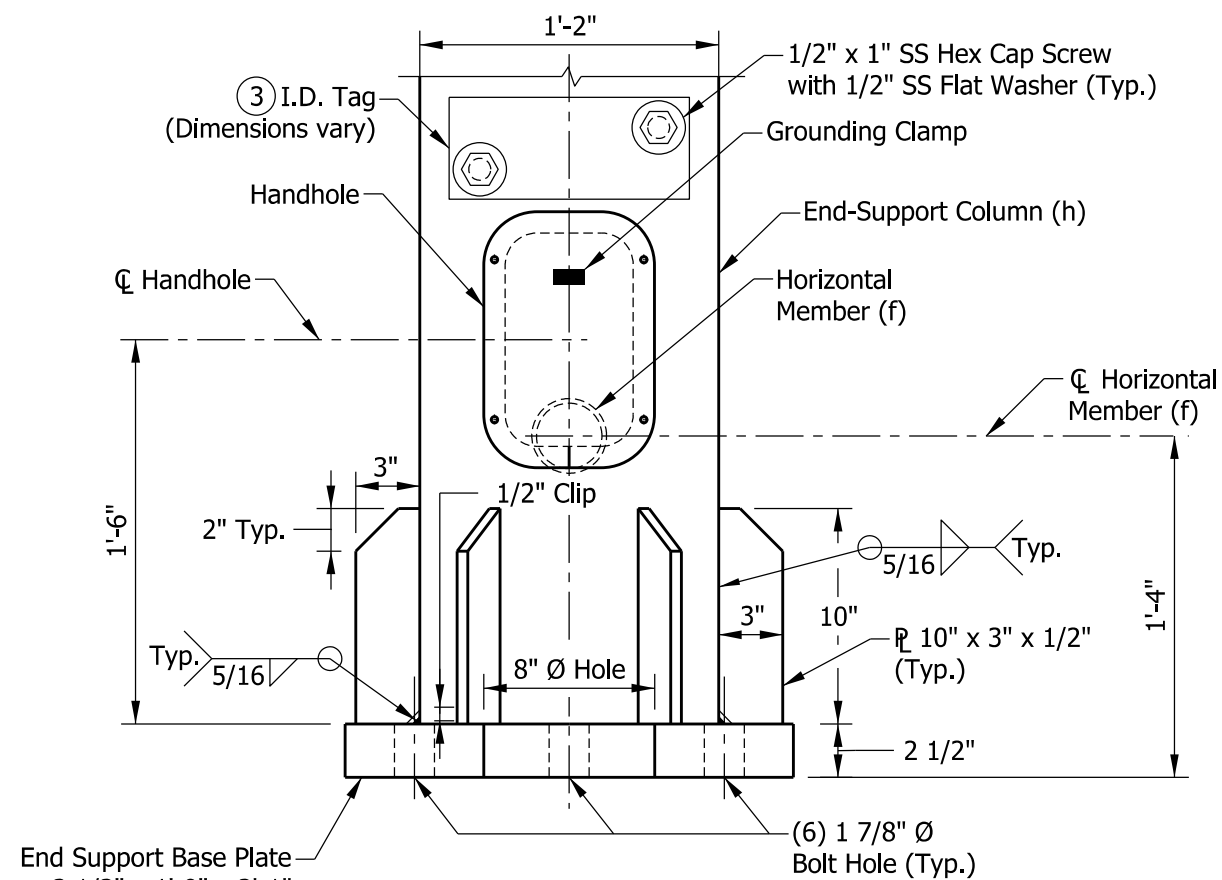
NOTES:

- ① Toe edge of diagonal member shall be cut back to facilitate throat thickness. See Standard Drawing E 802-DMSS-06 for toe-edge Detail E.
- ② Cut holes in end support columns for W-beams to pass through. Holes to have 1/8" maximum clearance to W-beam. Holes in opposite sides of column to be checked for proper alignment prior to cutting.
- ③ Provide neoprene pads at all chord-to-W-beam bearing surfaces.
4. See Standard Drawing E 802-DMSS-03 for end-support member sizes.

INDIANA DEPARTMENT OF TRANSPORTATION		
DYNAMIC MESSAGE SIGN STRUCTURE END-SUPPORT LOWER CHORD CONNECTION DETAILS SEPTEMBER 2013		
STANDARD DRAWING NO. E 802-DMSS-09		
	/s/ Alfredo B. Hanza	02/05/13
	DESIGN STANDARDS ENGINEER	DATE
	/s/ Mark A. Miller	03/27/13
	CHIEF ENGINEER	DATE



TYPE B-14 BASE PLATE



ELEVATION

NOTES:

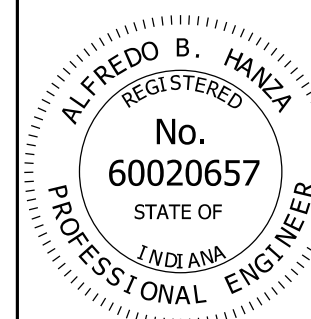
- ① See Standard Drawing E 802-DMSS-11 for handhole details.
2. See Standard Drawing E 802-DMSS-12 for anchor bolts and skirt details.
- ③ I.D. tag is a 1/8" stainless steel plate with the following information stamped in 1/2" black letters:

 Manufacturer _____, Drawing/Order # _____
 Contract # _____, Structure Type _____
 Fabrication Date _____, Structure Length _____
 End Support Mounting Height _____
4. Each end support requires one I.D. tag.

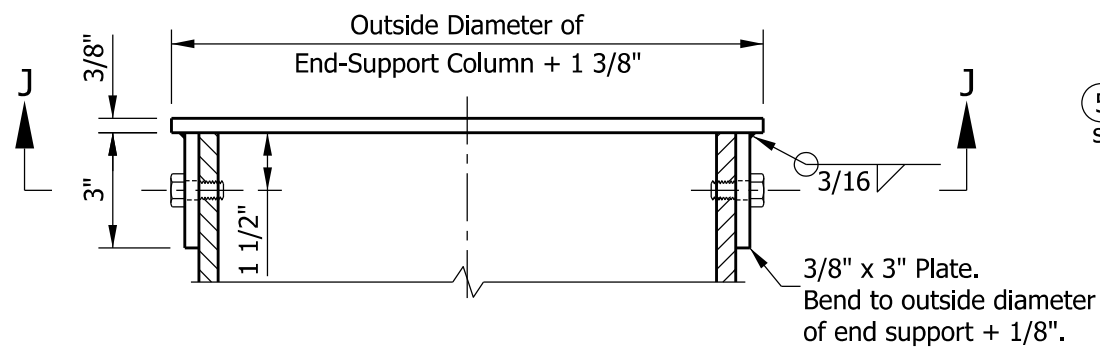
INDIANA DEPARTMENT OF TRANSPORTATION

DYNAMIC MESSAGE SIGN STRUCTURE
 END SUPPORT
 BASE PLATE AND I.D. TAG DETAILS
 SEPTEMBER 2013

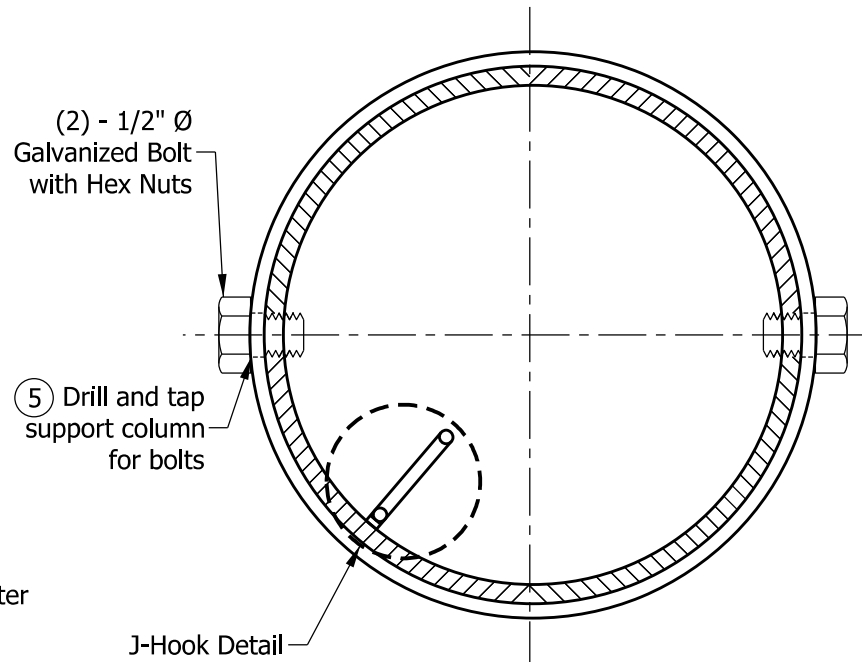
STANDARD DRAWING NO. E 802-DMSS-10



/s/ Alfredo B. Hanza	02/05/13
DESIGN STANDARDS ENGINEER	DATE
/s/ Mark A. Miller	03/27/13
CHIEF ENGINEER	DATE



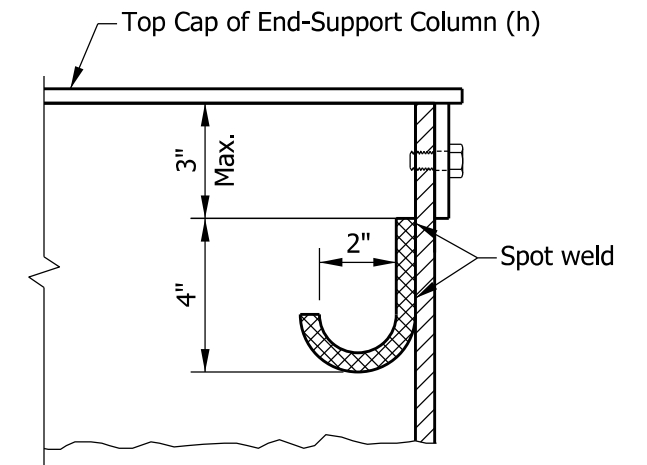
**TOP CAP
ELEVATION VIEW**



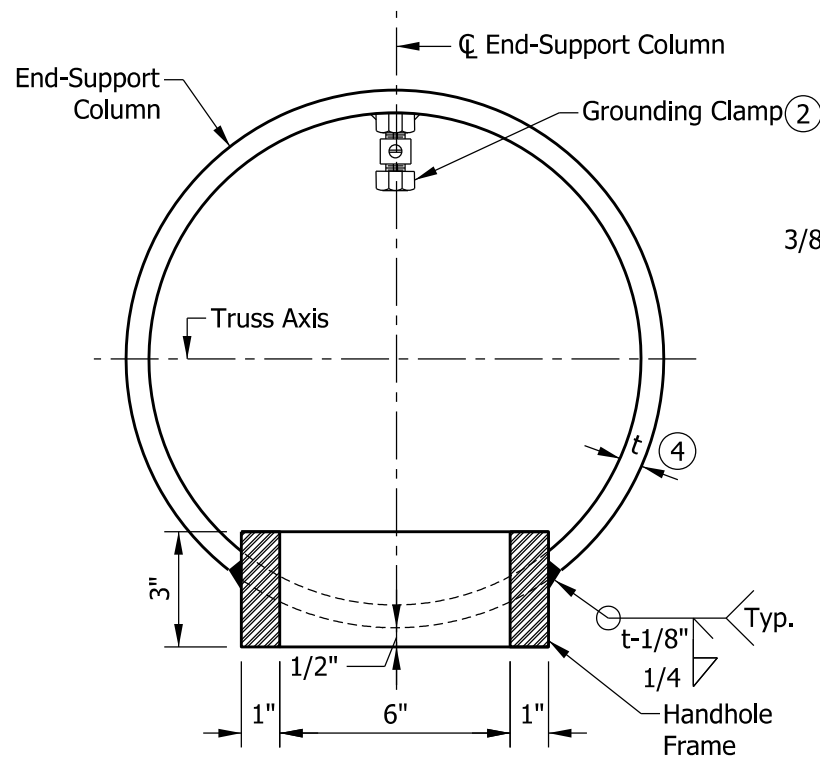
SECTION J-J

NOTES:

1. In lieu of fabricated handhole frame as shown, frame may be cut from 3" plate (rolling direction vertical).
2. See Standard Drawing E 802-SNWR-03 for grounding post details. Grounding post to be placed on far side of support directly opposite center of handhole.
3. See Standard Drawing E 802-DMSS-10 for handhole locations.
4. See Standard Drawing E 802-DMSS-03 for thicknesses of end-support column.
5. Bolts shall be located to miss J-hook.
6. One handhole required on each end support.

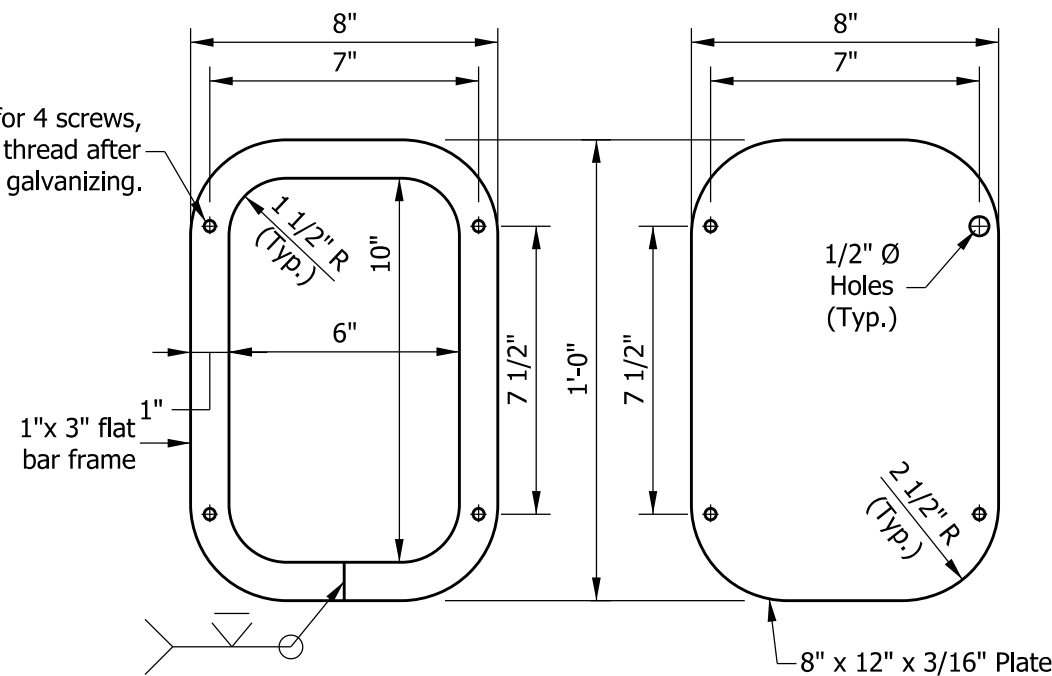


J-HOOK DETAIL



**HANDHOLE
SECTION ACROSS COLUMN**

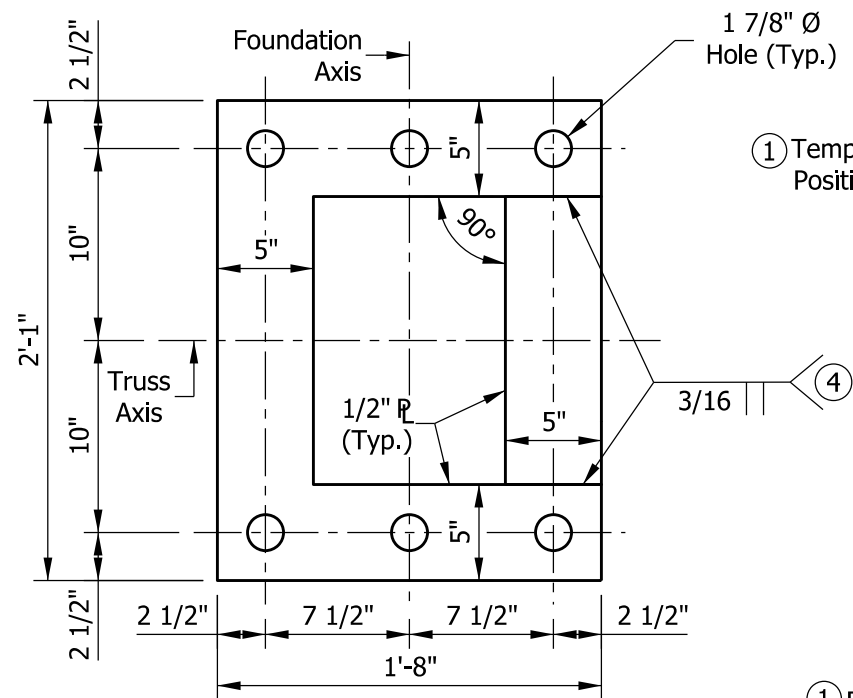
Drill and tap for 4 screws, 3/8" - 20. Chase thread after galvanizing.



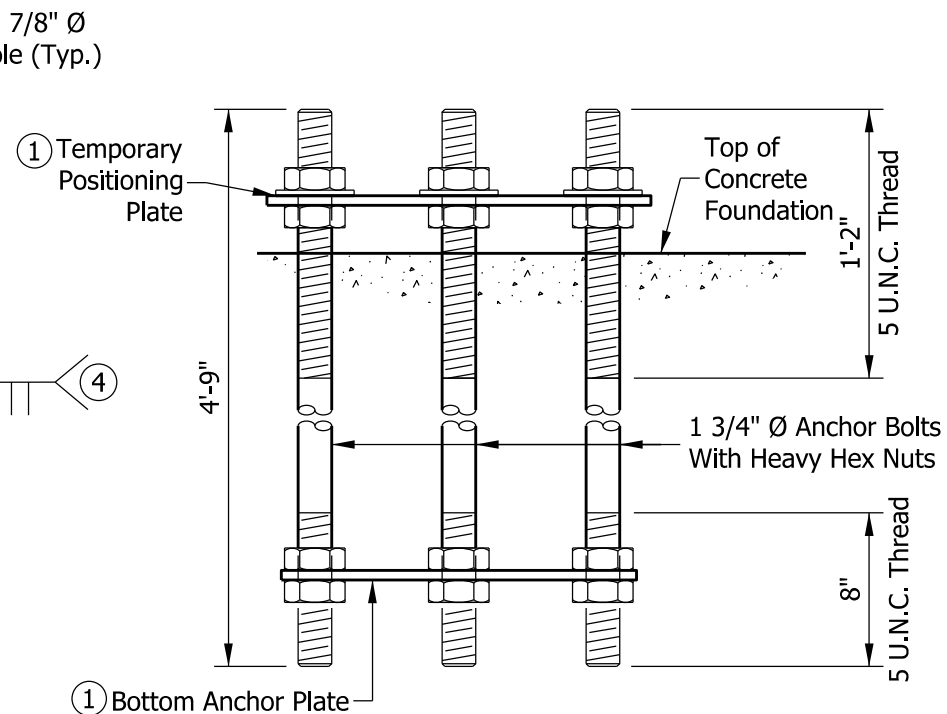
HANDHOLE FRAME DETAIL

HANDHOLE COVER

INDIANA DEPARTMENT OF TRANSPORTATION		
DYNAMIC MESSAGE SIGN STRUCTURE END SUPPORT HANDHOLE, TOP CAP, AND J-HOOK DETAILS		
SEPTEMBER 2013		
STANDARD DRAWING NO. E 802-DMSS-11		
	/s/ Alfredo B. Hanza	02/05/13
	DESIGN STANDARDS ENGINEER	DATE
	/s/ Mark A. Miller	03/27/13
	CHIEF ENGINEER	DATE



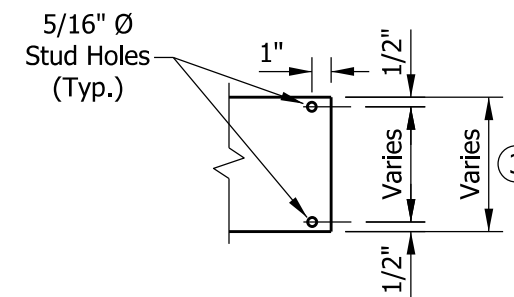
TEMPORARY POSITIONING PLATE



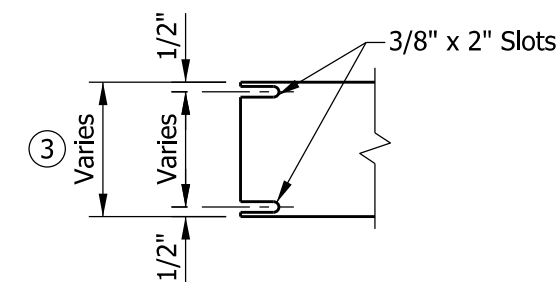
ANCHOR BOLT DETAILS BEFORE CONCRETE PLACEMENT

NOTES:

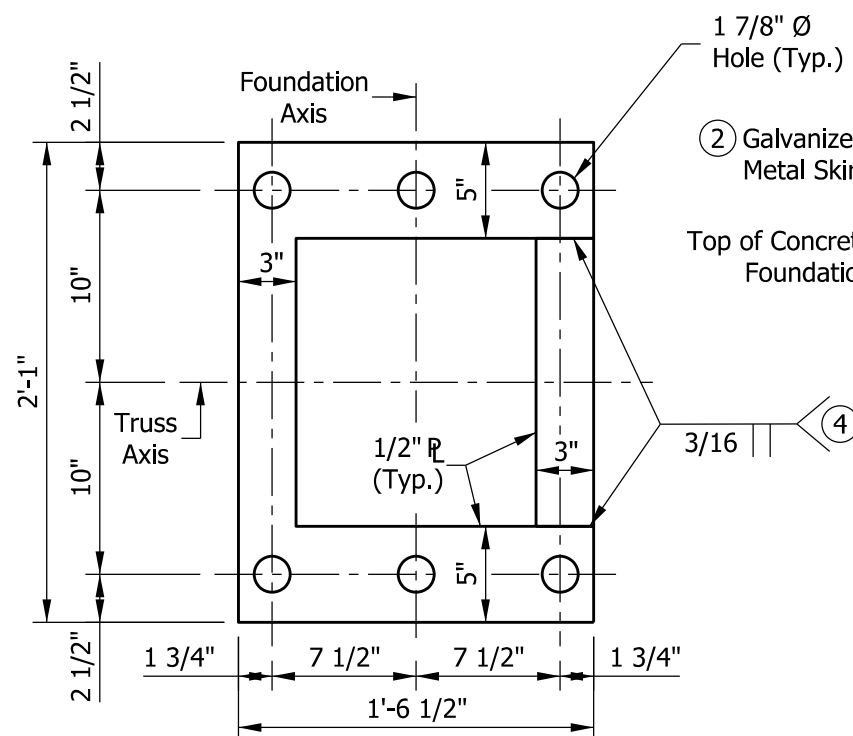
- ① Use temporary positioning plate and bottom anchor plate for all foundations. Temporary positioning plate should be removed after placing concrete.
- ② Secure galvanized metal skirt to base plate after erection as shown in skirt detail.
- ③ Minimum base plate gap is 2 1/2" and can be increased up to 5 1/2". Metal skirt width shall be at least 1 1/2" more than the actual gap.
- ④ Contractor has the option to use four separate bars. Weld to maintain angles and shapes as shown.
- ⑤ For base plate of end-support, see Standard Drawing E 802-DMSS-10.



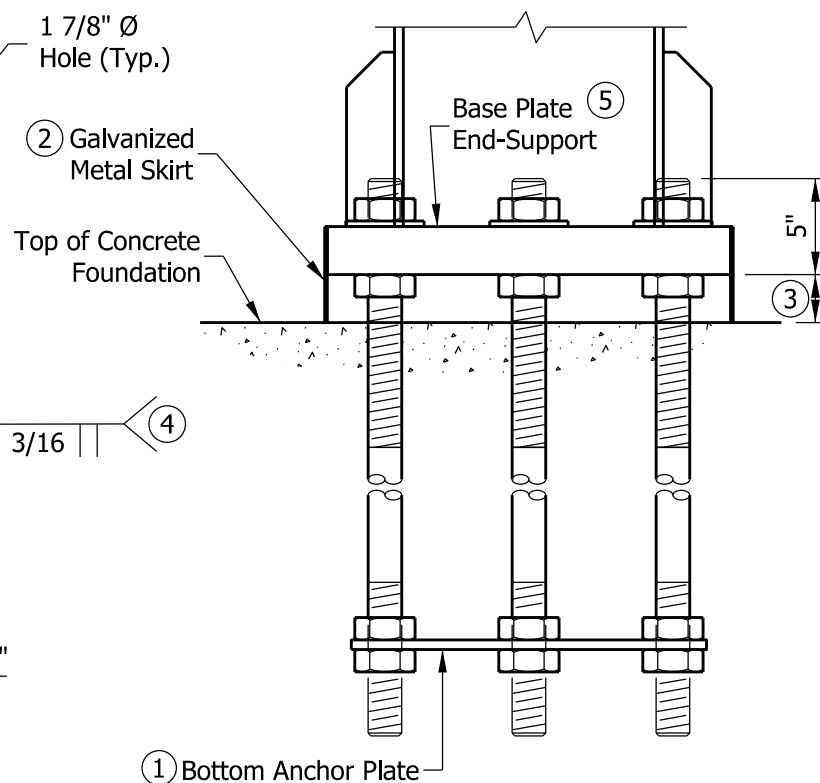
DETAIL G



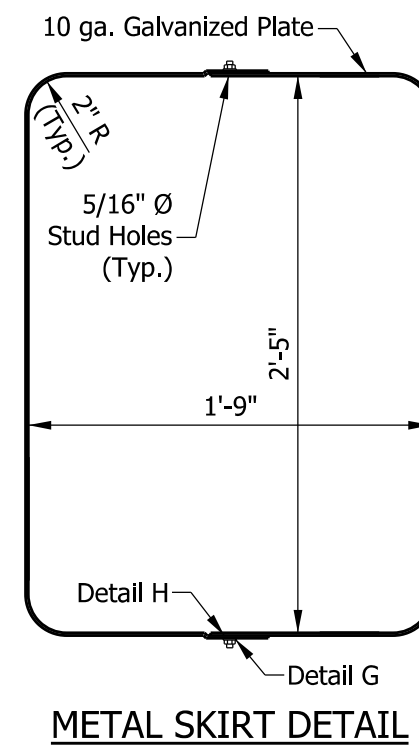
DETAIL H



BOTTOM ANCHOR PLATE

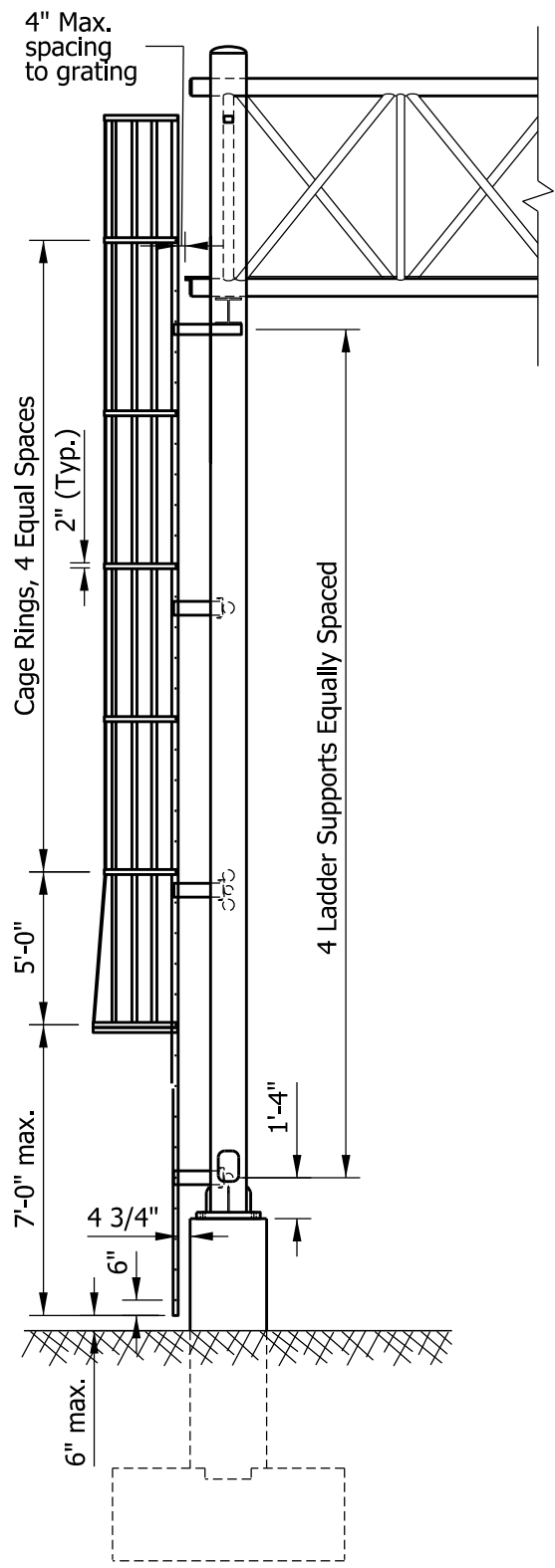


ANCHOR BOLT DETAILS AFTER CONCRETE PLACEMENT

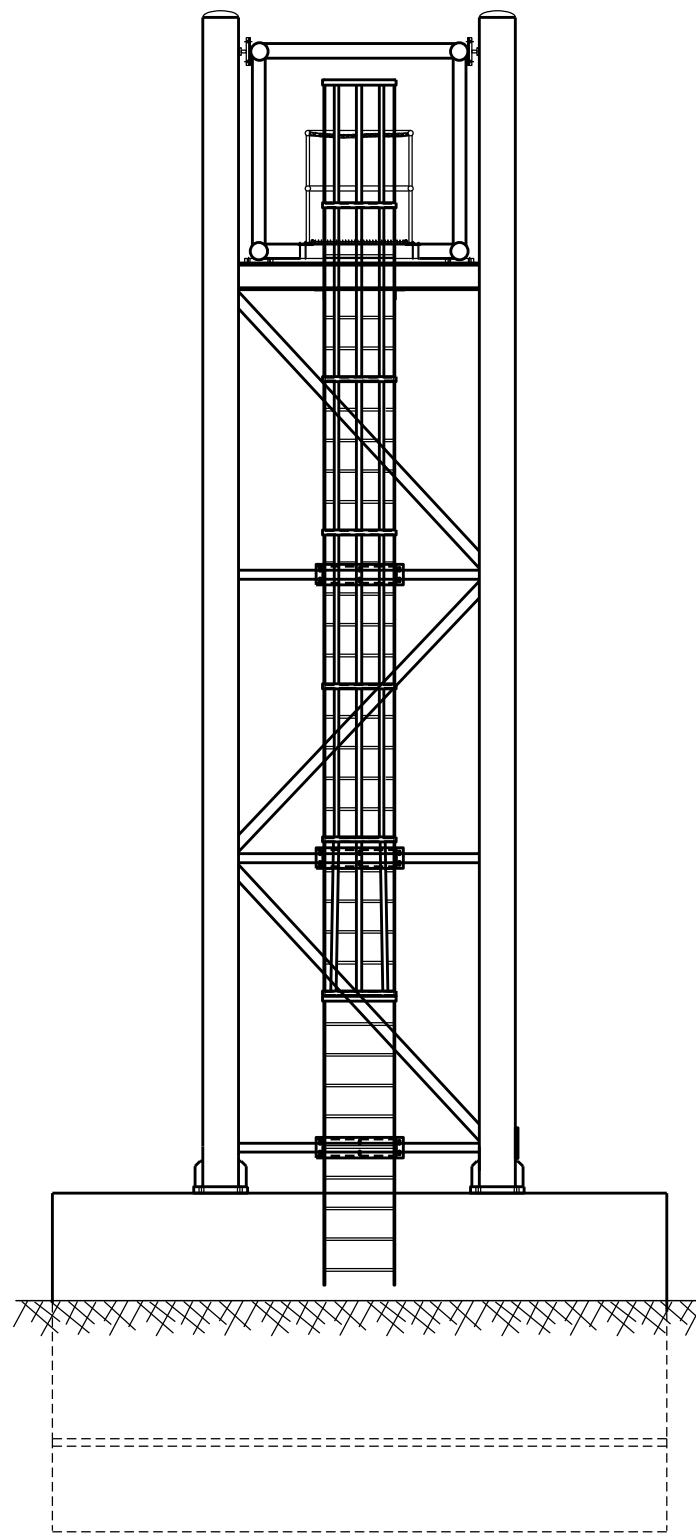


METAL SKIRT DETAIL

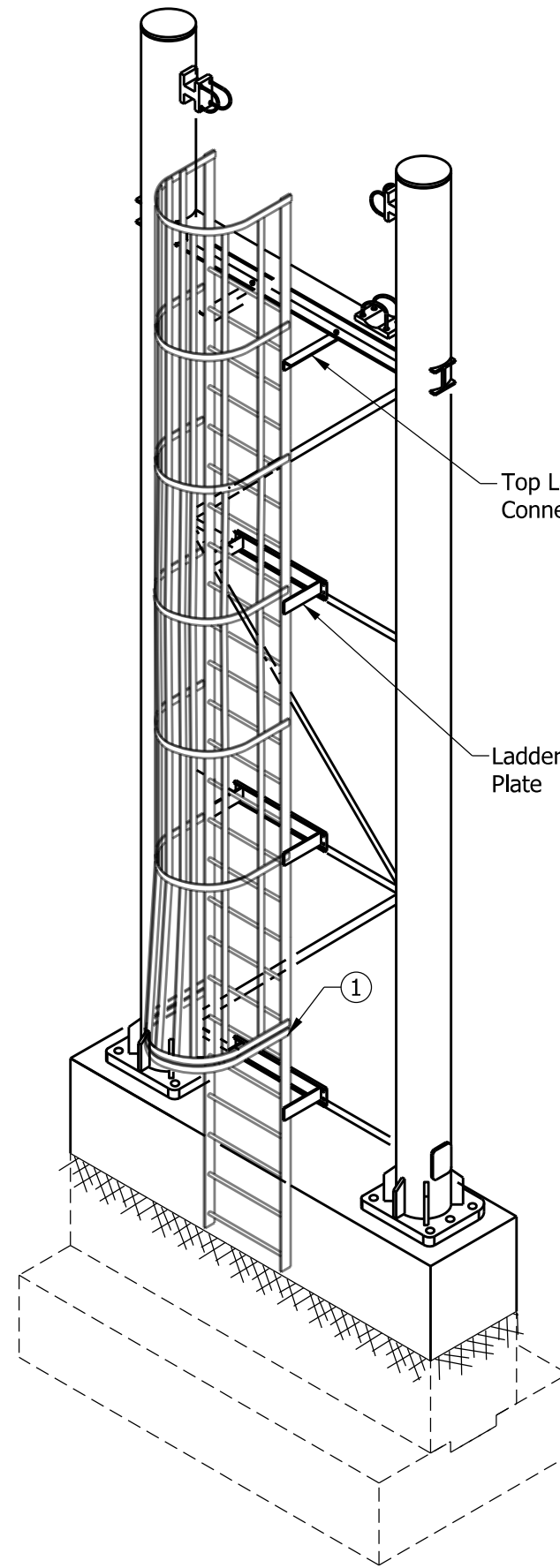
INDIANA DEPARTMENT OF TRANSPORTATION		
DYNAMIC MESSAGE SIGN STRUCTURE ANCHOR PLATES, ANCHOR BOLTS, AND METAL SKIRT DETAILS SEPTEMBER 2013		
STANDARD DRAWING NO.		E 802-DMSS-12
	/s/ Alfredo B. Hanza	02/05/13
	DESIGN STANDARDS ENGINEER	DATE
	/s/ Mark A. Miller	03/27/13
	CHIEF ENGINEER	DATE



SIDE VIEW

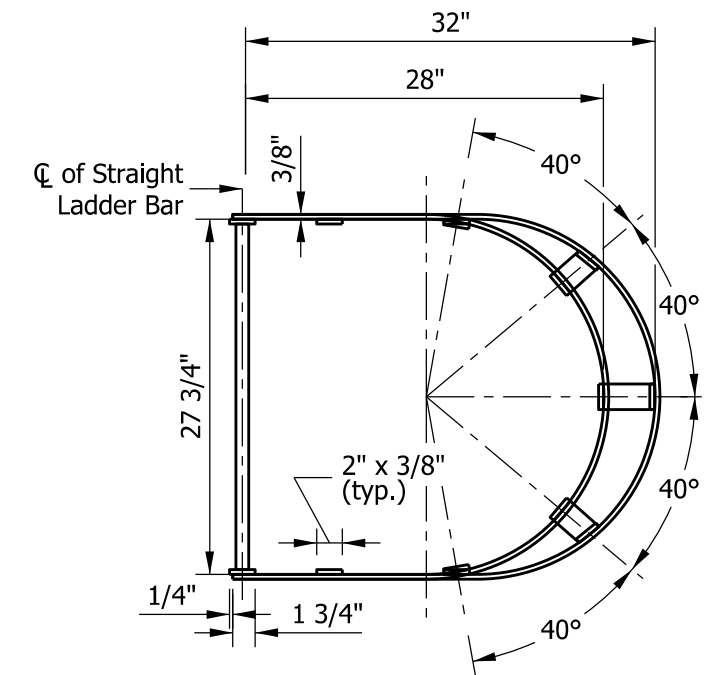


FRONT VIEW OF LADDER AND CAGE



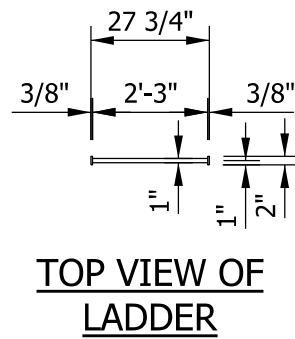
NOTES:

- ① See Standard Drawing E 802-DMSS-15 for security gate details.
- ② See Standard Drawing E 802-DMSS-14 for ladder details.

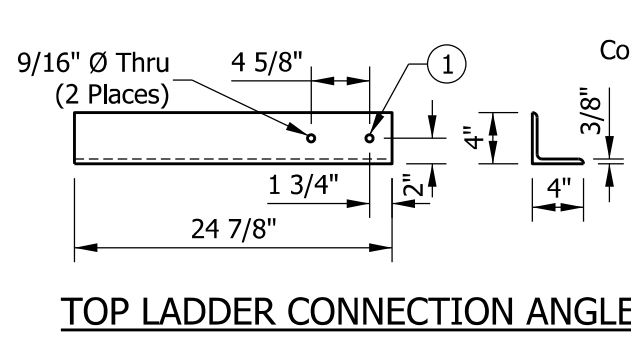


TOP VIEW OF LADDER AND CAGE

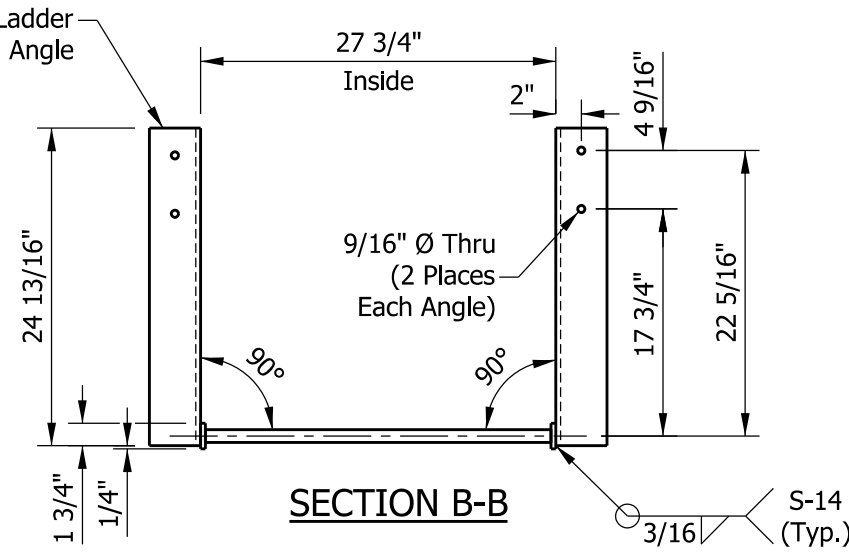
INDIANA DEPARTMENT OF TRANSPORTATION									
DYNAMIC MESSAGE SIGN STRUCTURE LADDER DETAILS									
SEPTEMBER 2013									
STANDARD DRAWING NO.	E 802-DMSS-13								
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%; border-bottom: 1px solid black;">/s/ Alfredo B. Hanza</td> <td style="width: 30%; border-bottom: 1px solid black;">02/05/13</td> </tr> <tr> <td style="font-size: small;">DESIGN STANDARDS ENGINEER</td> <td style="font-size: small;">DATE</td> </tr> <tr> <td style="border-bottom: 1px solid black;">/s/ Mark A. Miller</td> <td style="border-bottom: 1px solid black;">03/27/13</td> </tr> <tr> <td style="font-size: small;">CHIEF ENGINEER</td> <td style="font-size: small;">DATE</td> </tr> </table>	/s/ Alfredo B. Hanza	02/05/13	DESIGN STANDARDS ENGINEER	DATE	/s/ Mark A. Miller	03/27/13	CHIEF ENGINEER	DATE
/s/ Alfredo B. Hanza	02/05/13								
DESIGN STANDARDS ENGINEER	DATE								
/s/ Mark A. Miller	03/27/13								
CHIEF ENGINEER	DATE								



TOP VIEW OF LADDER



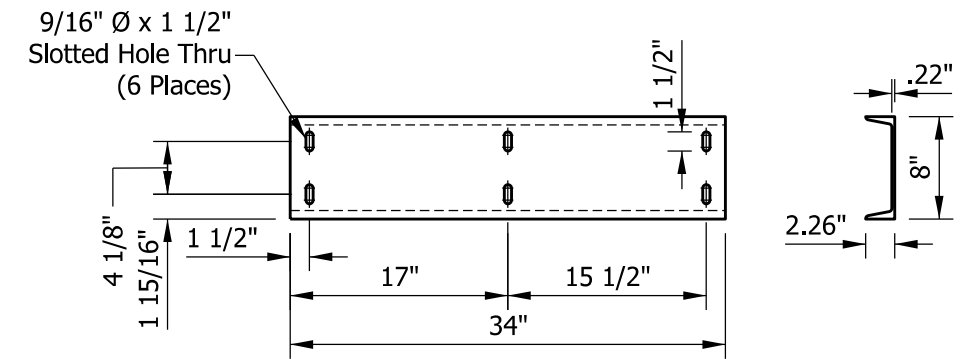
TOP LADDER CONNECTION ANGLE



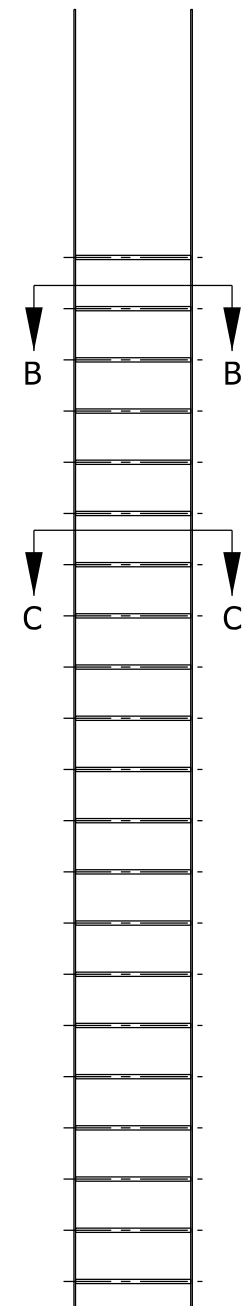
SECTION B-B

NOTE:

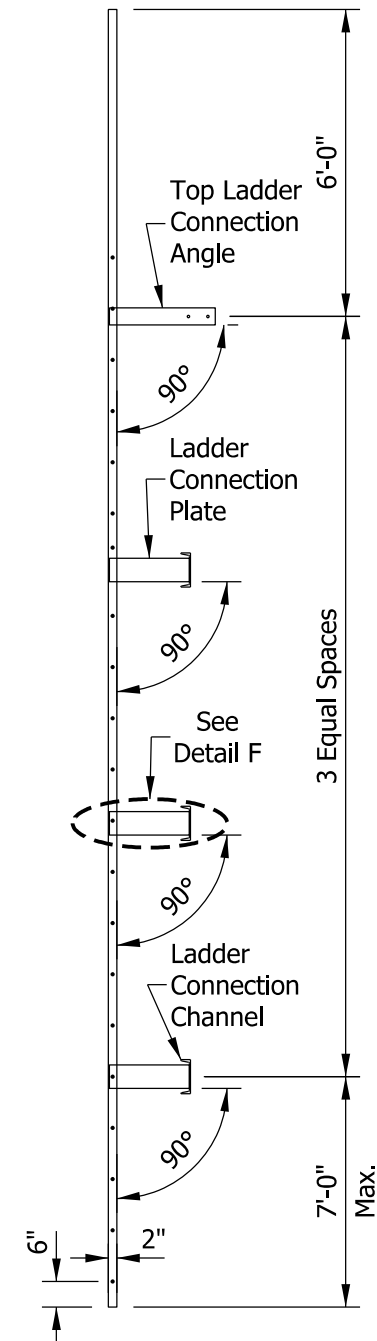
① (1) A-325 bolts 1/2" x 2" on each side of the W-beam with (1) flat washer and (1) lock nut.



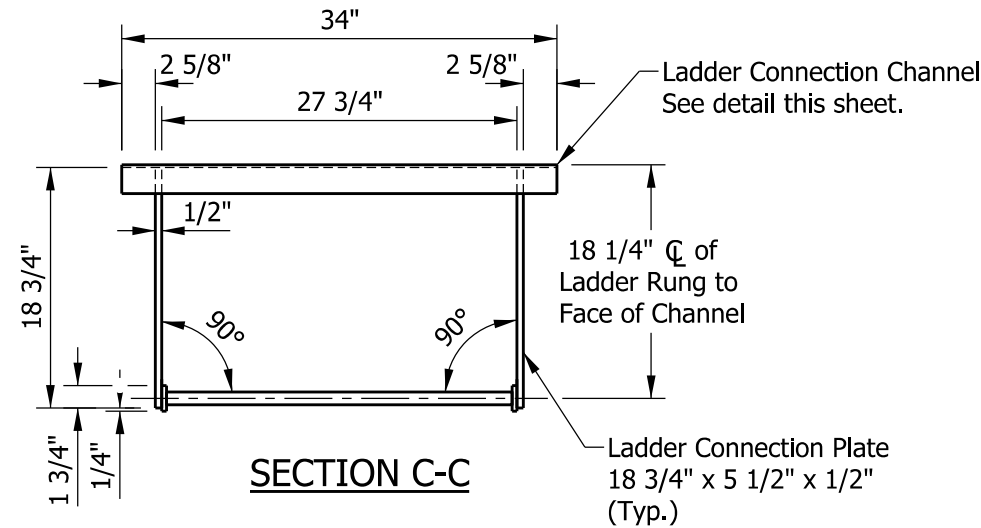
LADDER CONNECTION CHANNEL



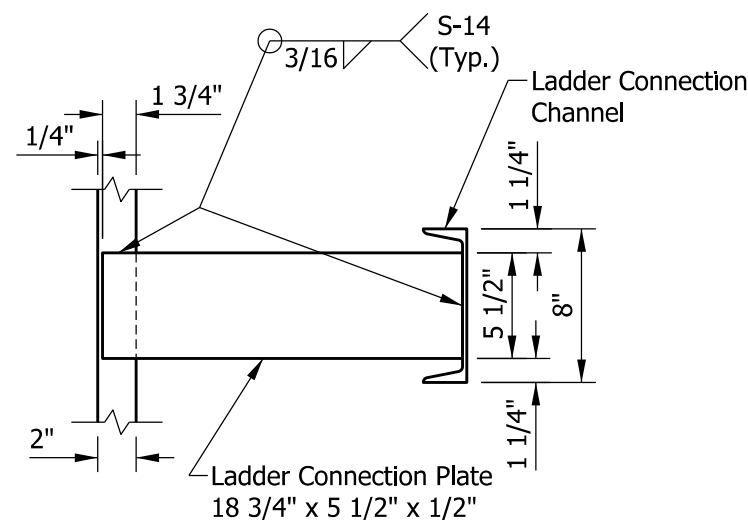
FRONT VIEW OF LADDER



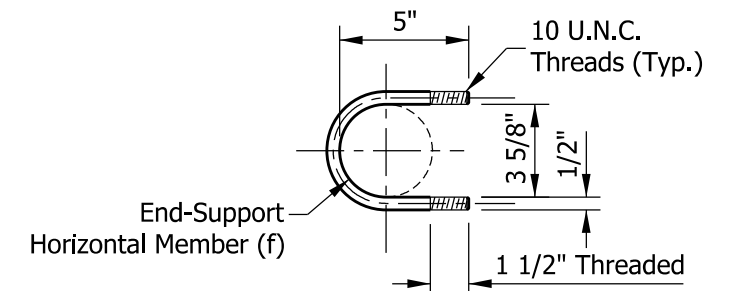
SIDE VIEW OF LADDER AND CAGE



SECTION C-C

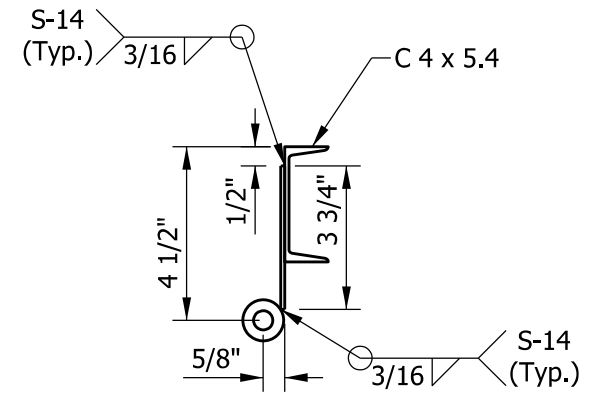
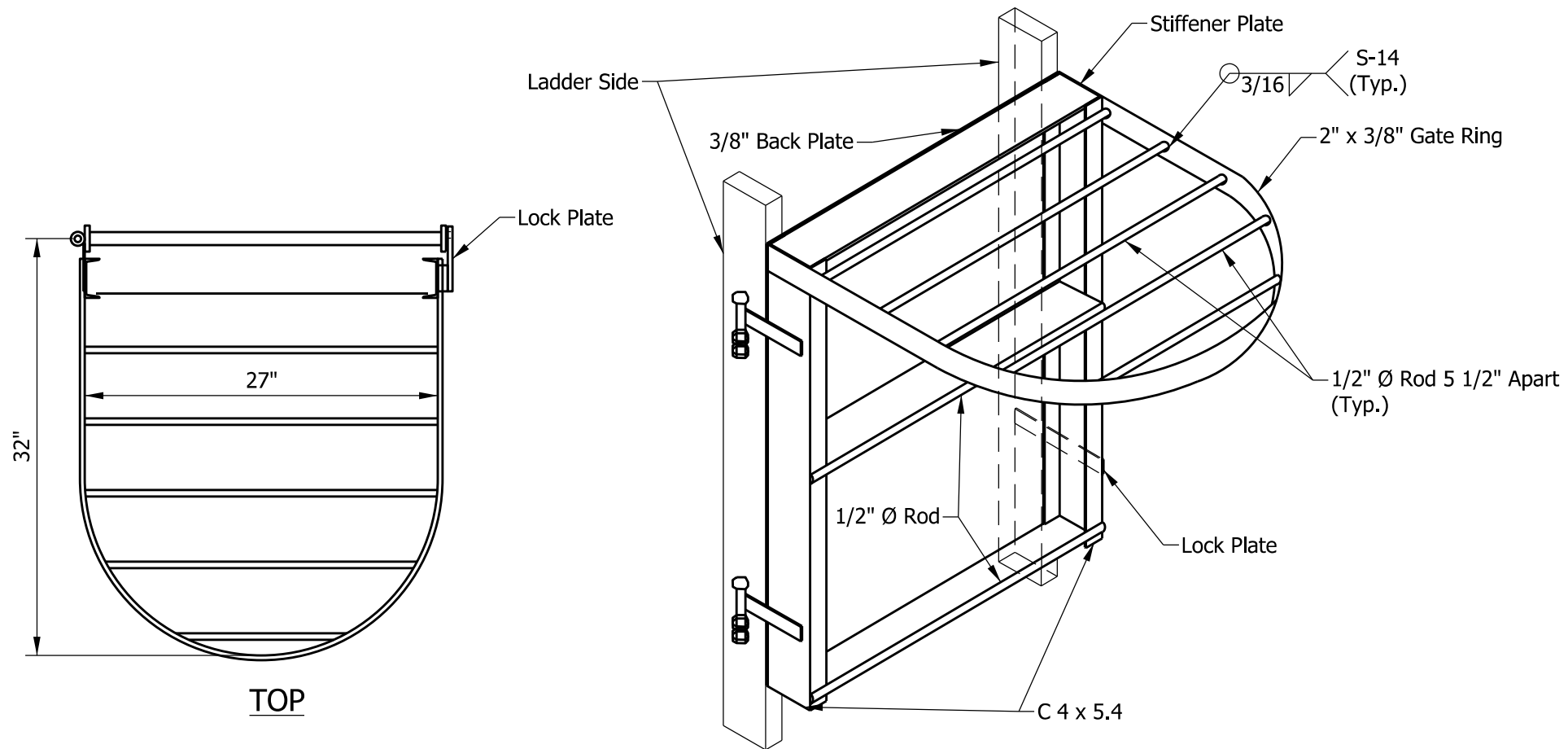


DETAIL F

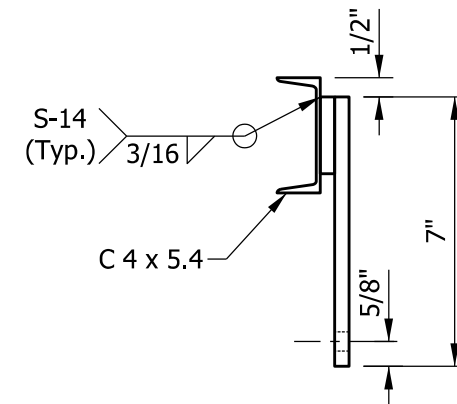


1/2" DIA. STAINLESS STEEL U-BOLT DETAIL (Used for ladder connection channel)

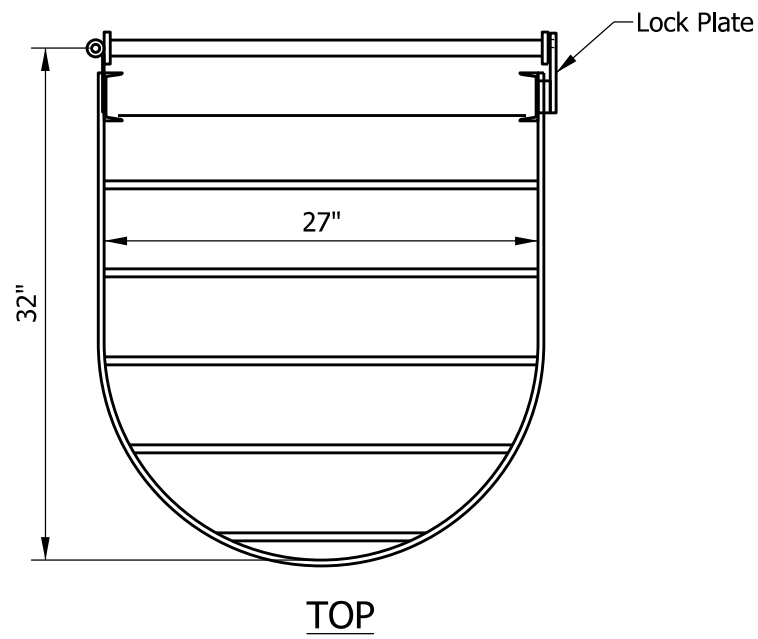
INDIANA DEPARTMENT OF TRANSPORTATION	
DYNAMIC MESSAGE SIGN STRUCTURE LADDER DETAILS	
SEPTEMBER 2013	
STANDARD DRAWING NO.	E 802-DMSS-14
	/s/ Alfredo B. Hanza 02/05/13 DESIGN STANDARDS ENGINEER DATE
	/s/ Mark A. Miller 03/27/13 CHIEF ENGINEER DATE



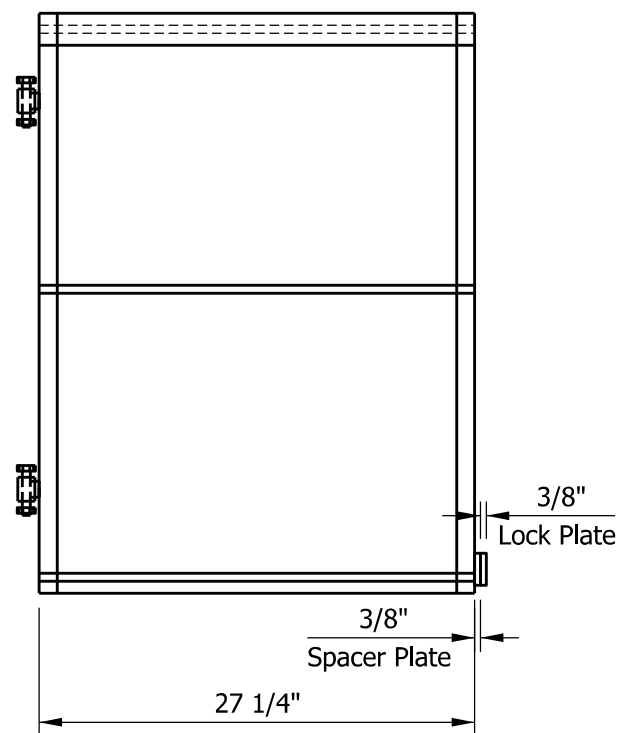
HINGE



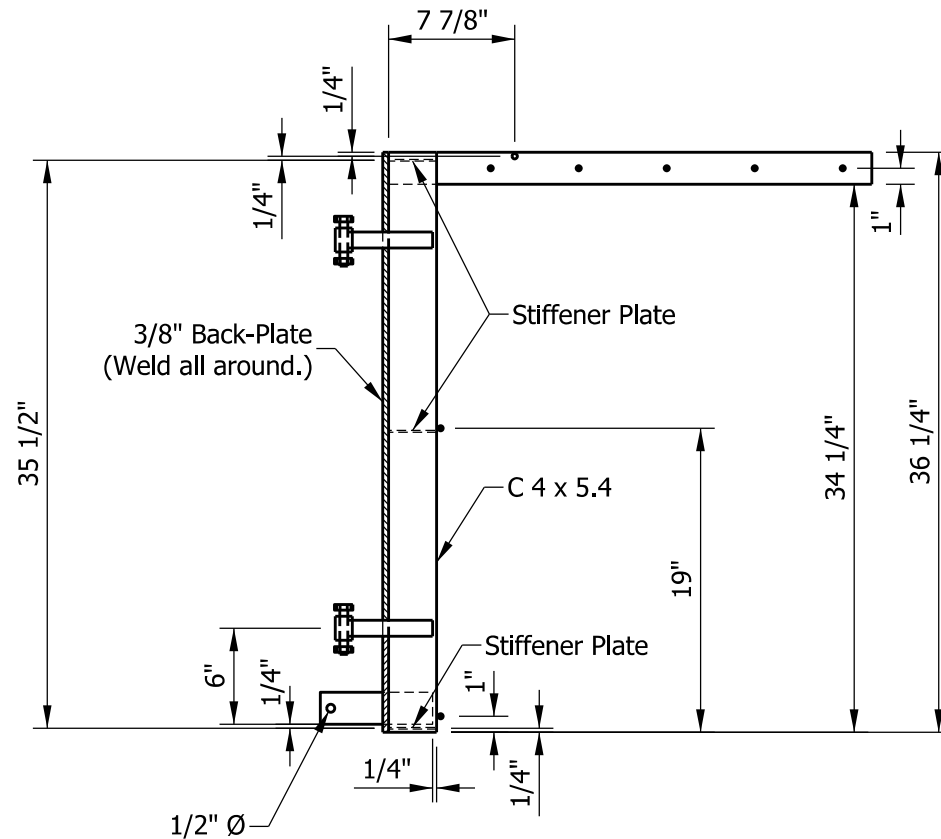
GATE LOCK



TOP

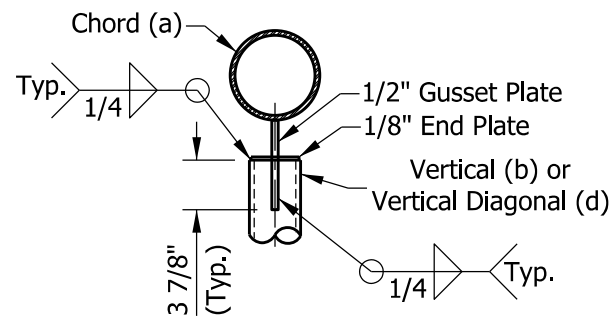
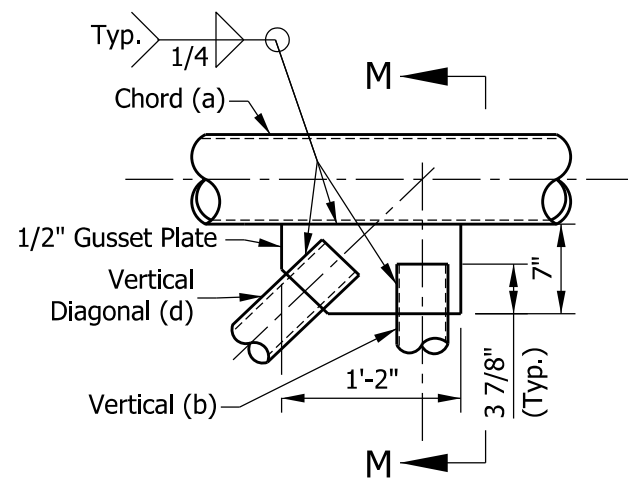
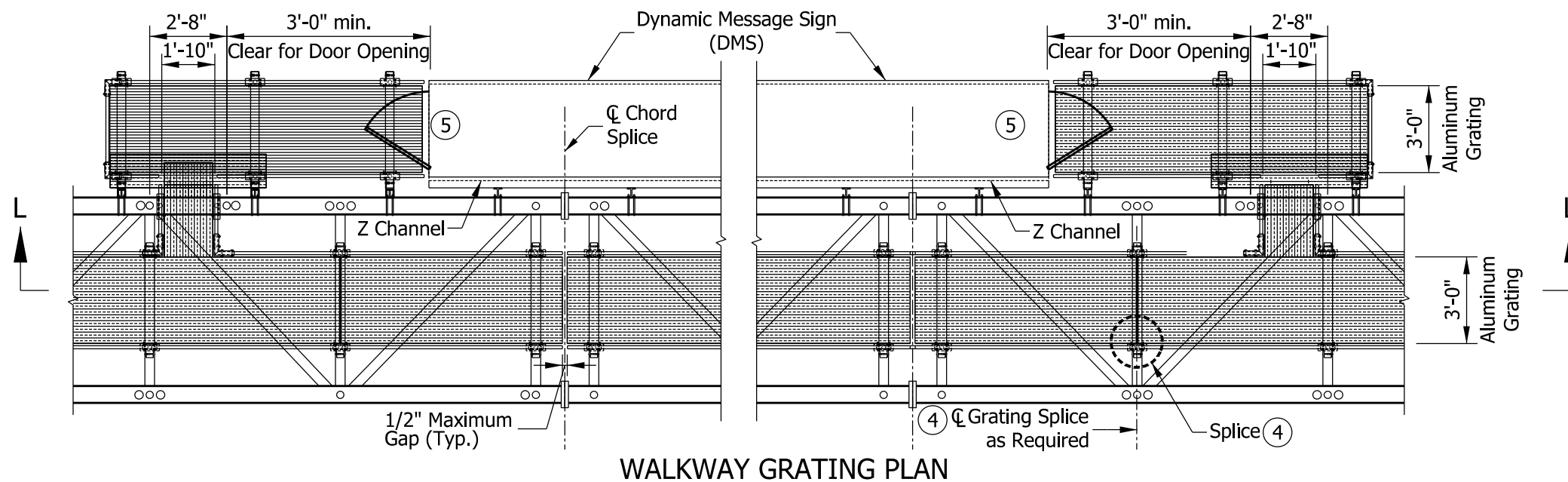
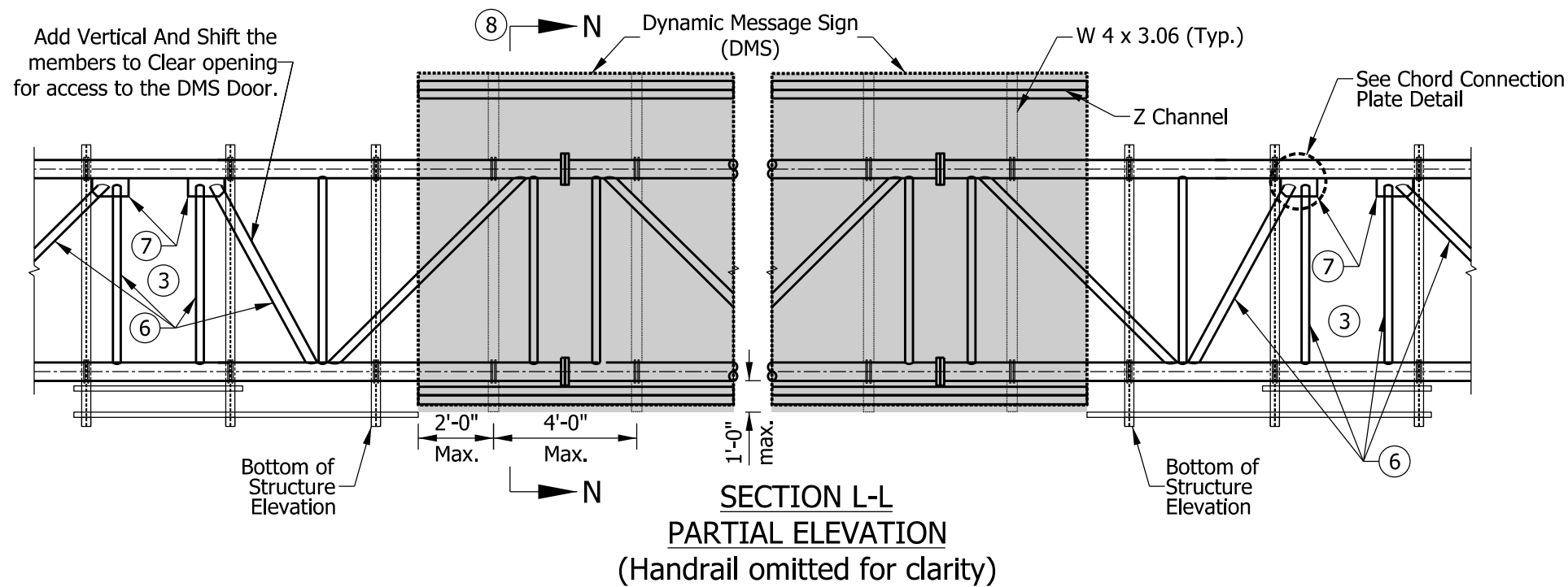


FRONT



SIDE

INDIANA DEPARTMENT OF TRANSPORTATION		
DYNAMIC MESSAGE SIGN STRUCTURE SECURITY GATE DETAILS		
SEPTEMBER 2013		
STANDARD DRAWING NO. E 802-DMSS-15		
	/s/ Alfredo B. Hanza	02/05/13
	DESIGN STANDARDS ENGINEER	DATE
	/s/ Mark A. Miller	03/27/13
	CHIEF ENGINEER	DATE



NOTES:

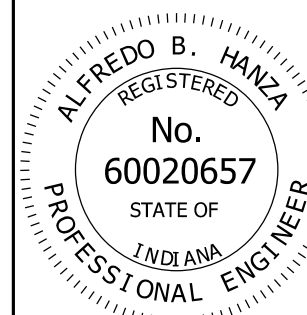
1. Interior walkway gratings are extruded I-bars 2" x 1/4" at 1 3/16" center-to-center. Crossbar shall have a maximum gap of 4". Moment of inertia $I_x = 1.382 \text{ in}^4$. A different grating of equal strength may be used upon approval.
2. Interior walkway grating shall run the full length center to center of end support truss members plus 9" at each end.
3. The contractor shall coordinate with the fabricator to determine which truss panel is to be modified to allow opening for access to the DMS door.
4. Interior walkway gratings can be spliced on center of any horizontal truss members as needed. See Standard Drawing E 802-DMSS-18 for typical grating splice detail.
5. The contractor shall coordinate with sign manufacturer so floor inside DMS is one comfortable step to the exterior grating.
6. Truss vertical and diagonal members on each side of the DMS access door shall be aluminum with 4.0" diameter and a minimum wall thickness of 0.500".
7. Install gusset plates at vertical and diagonal intersection on each side of the opening for access to DMS door.
8. See Standard Drawing E 802-DMSS-17 for Section N-N.

INDIANA DEPARTMENT OF TRANSPORTATION

DYNAMIC MESSAGE SIGN STRUCTURE
WALKWAY GRATING DETAILS

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-DMSS-16

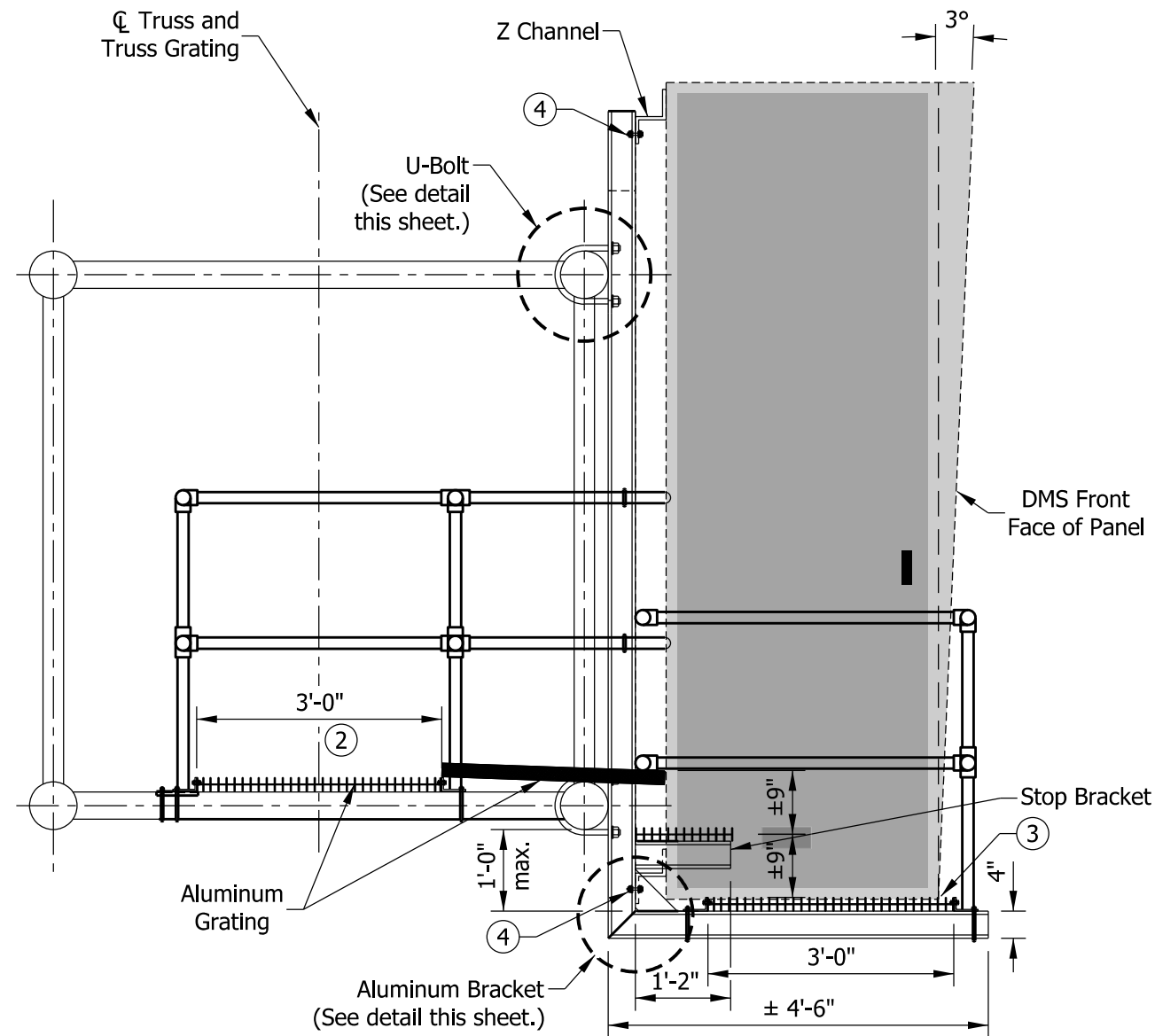


/s/ Alfredo B. Hanza 02/05/13

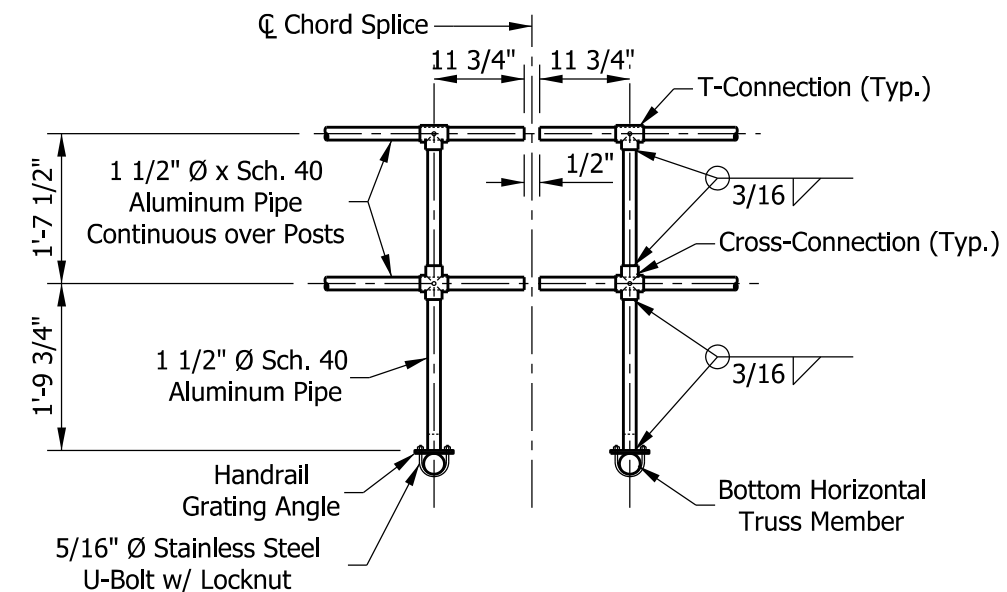
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/27/13

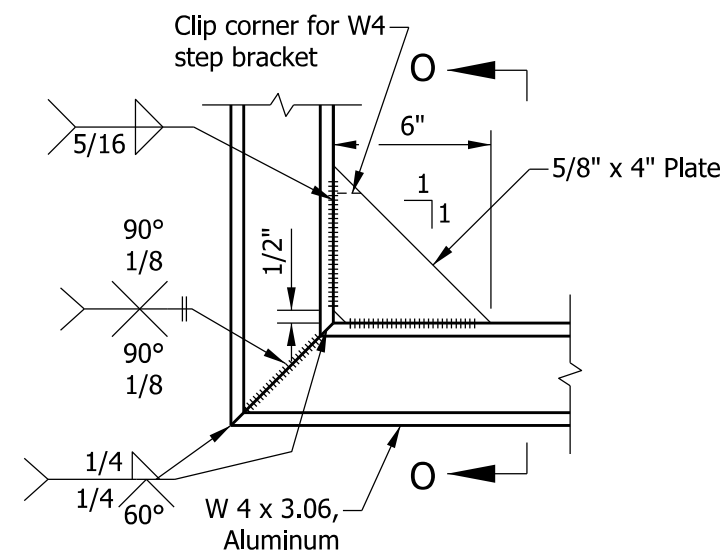
CHIEF ENGINEER DATE



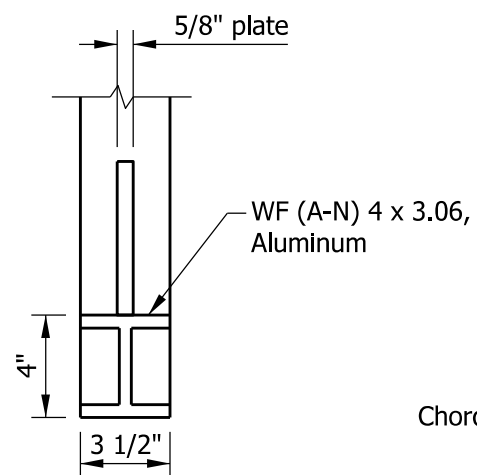
SECTION N-N



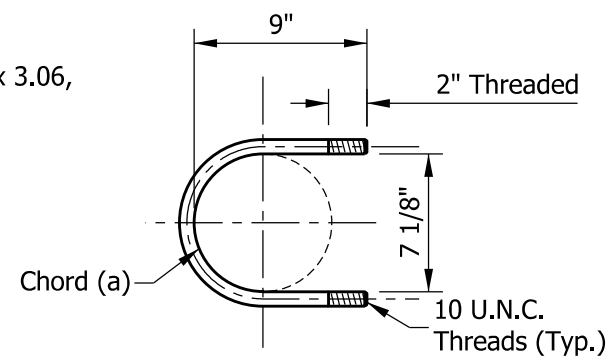
TYPICAL HANDRAIL DETAIL



ALUMINUM BRACKET DETAIL



SECTION O-O



1/2" DIA. STAINLESS STEEL U-BOLT DETAIL

NOTES:

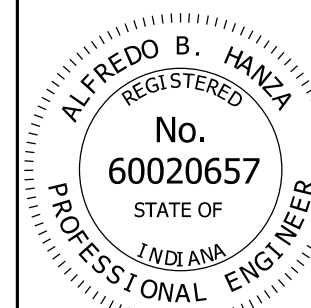
1. The front face of the DMS shall be tilted at 3° toward approaching traffic. If the DMS is not built with the front face tilted appropriately, a block shall be placed on the top of the back face to obtain the 3° tilt.
- ② The walkway grating width is nominal and may vary ±1/2" based on available standard widths.
- ③ The bottom of the DMS door shall open without obstruction from the grating.
- ④ (1) A-325 bolt 1/2" x 2" on each side of the WF (A-N) 4 x 3.06 aluminum bracket web with (1) flat washer and (1) lock nut.
5. (2) flat washers, (2) lock washers, and (2) lock nuts per U-bolt; 4 required per bracket.

INDIANA DEPARTMENT OF TRANSPORTATION

DYNAMIC MESSAGE SIGN STRUCTURE
WALKWAY GRATING DETAILS

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-DMSS-17

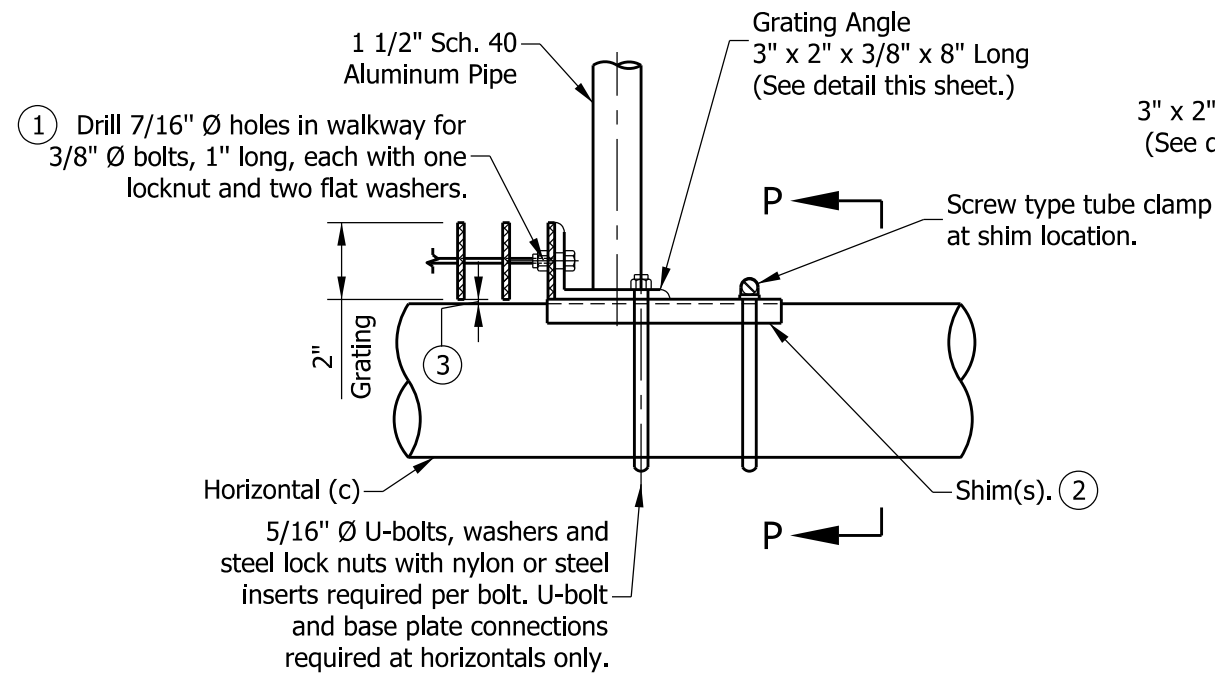


/s/ Alfredo B. Hanza 02/05/13

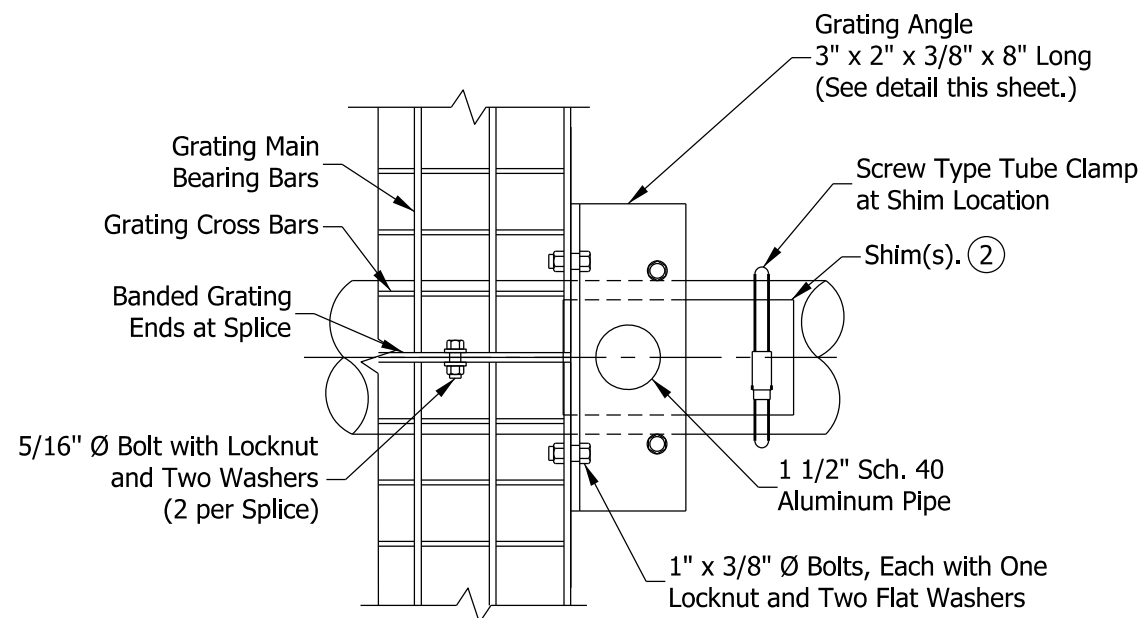
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/27/13

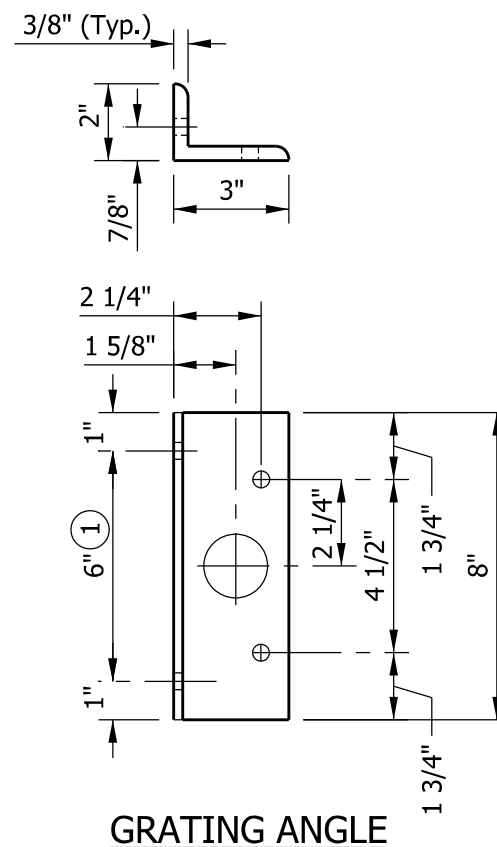
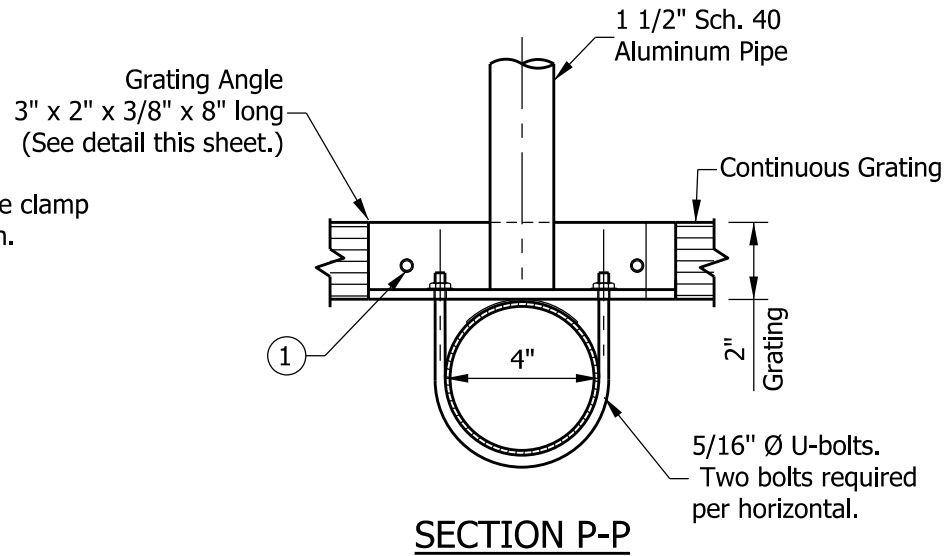
CHIEF ENGINEER DATE



GRATING SUPPORT DETAIL

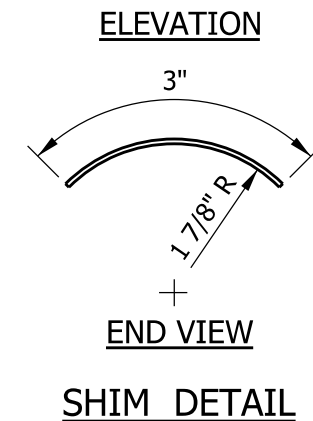
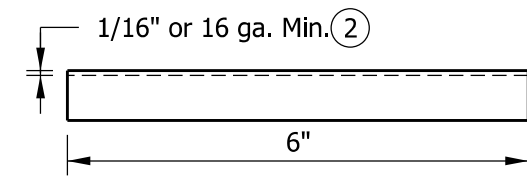


GRATING SPLICE DETAIL

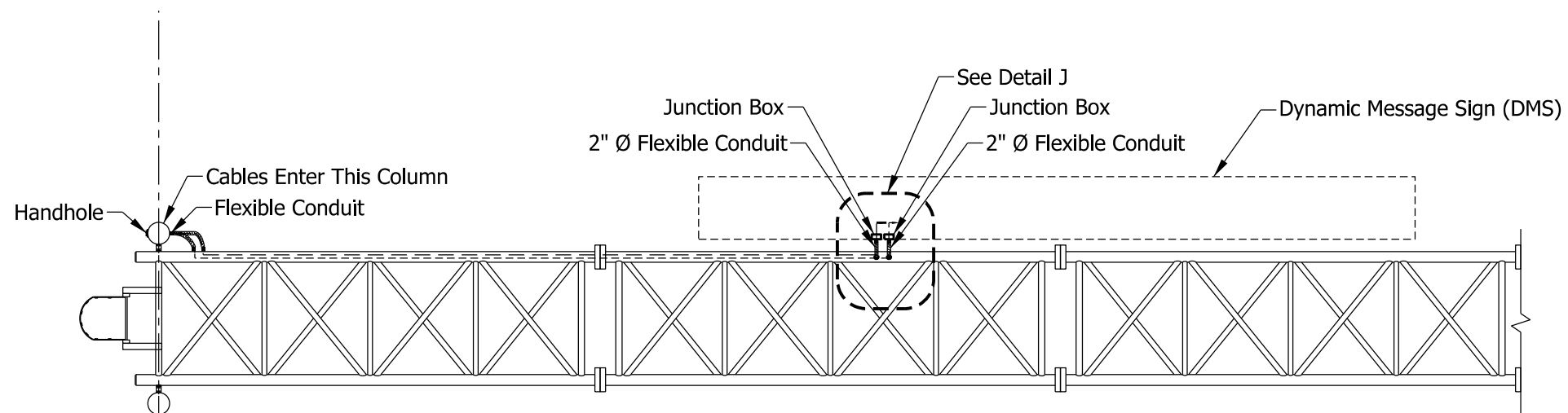


NOTES:

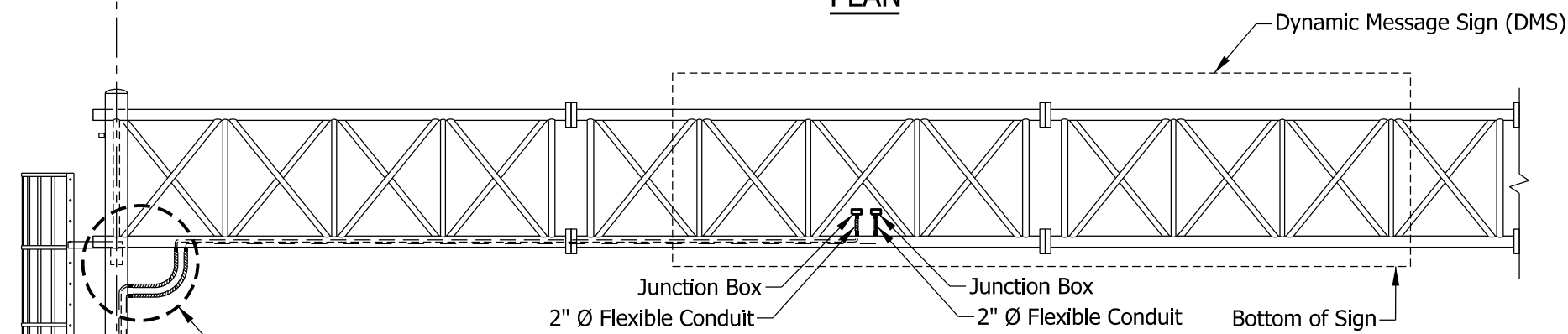
- ① Drilling of holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- ② Shims may be placed as shown if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- ③ Tube-to-grating gap may vary from 0" to 1/2" max. to align walkway and to allow for camber.



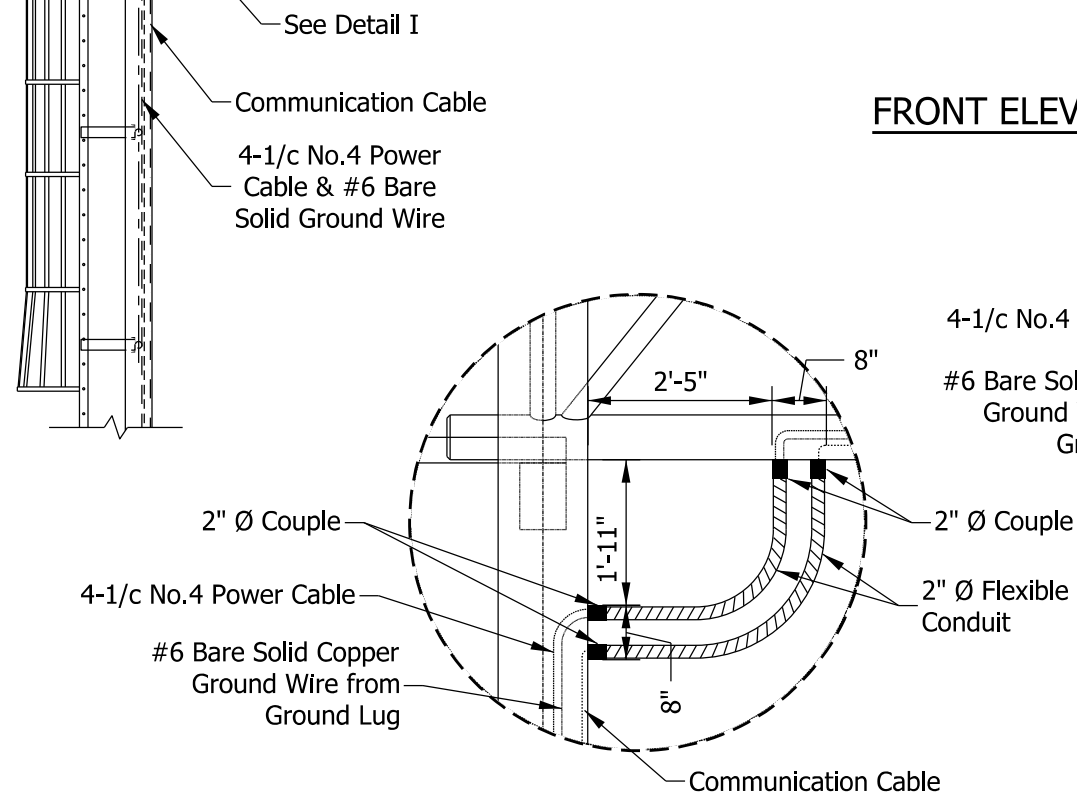
INDIANA DEPARTMENT OF TRANSPORTATION	
DYNAMIC MESSAGE SIGN STRUCTURE WALKWAY GRATING DETAILS	
SEPTEMBER 2013	
STANDARD DRAWING NO.	E 802-DMSS-18
	/s/ Alfredo B. Hanza 02/05/13 DESIGN STANDARDS ENGINEER DATE
	/s/ Mark A. Miller 03/27/13 CHIEF ENGINEER DATE



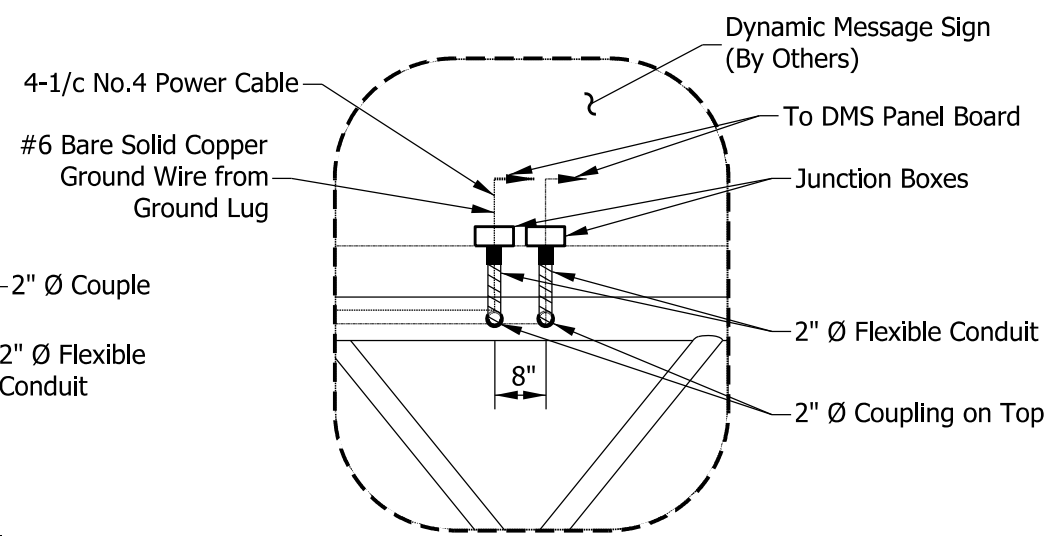
PLAN



FRONT ELEVATION



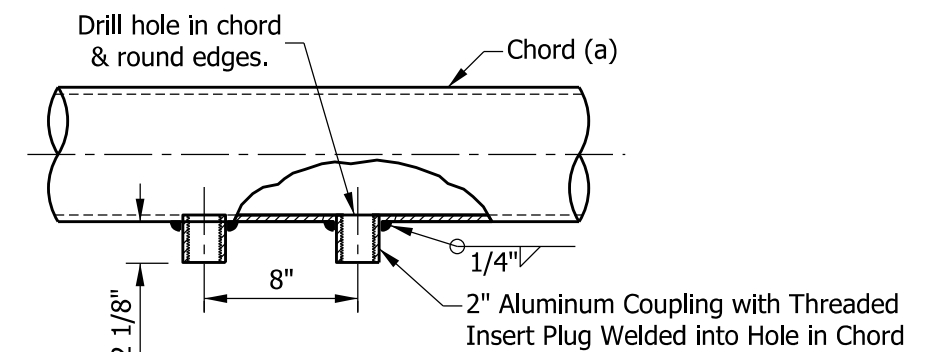
DETAIL I



DETAIL J

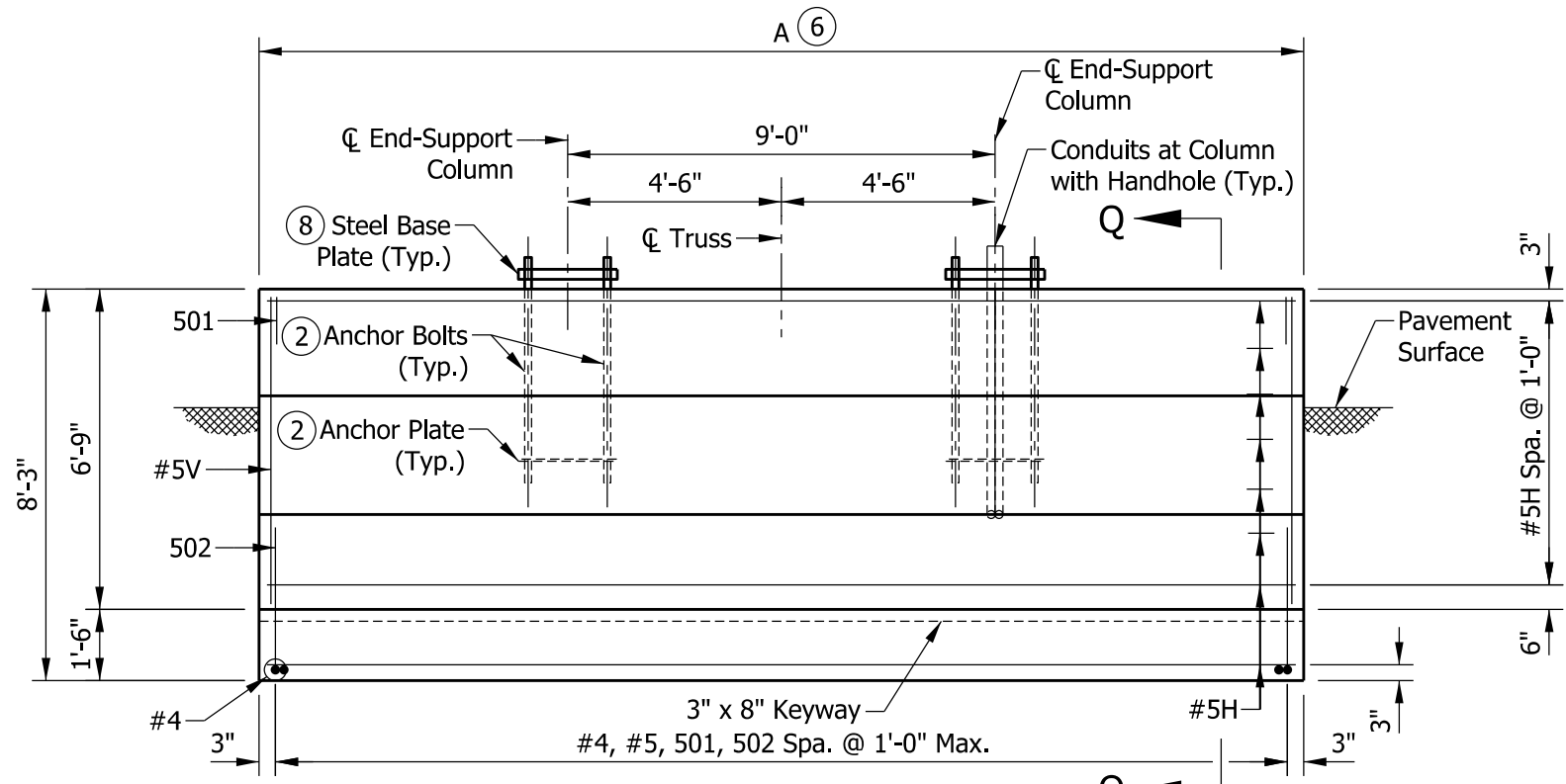
NOTES:

1. Cables shall be laid out as shown or as otherwise directed.
2. It is the Contractor's responsibility to coordinate locations of cable access with manufacturers.
3. Wire outlets shall be composed of aluminum on the chord and steel on the end support and shall have threaded-insert plug.

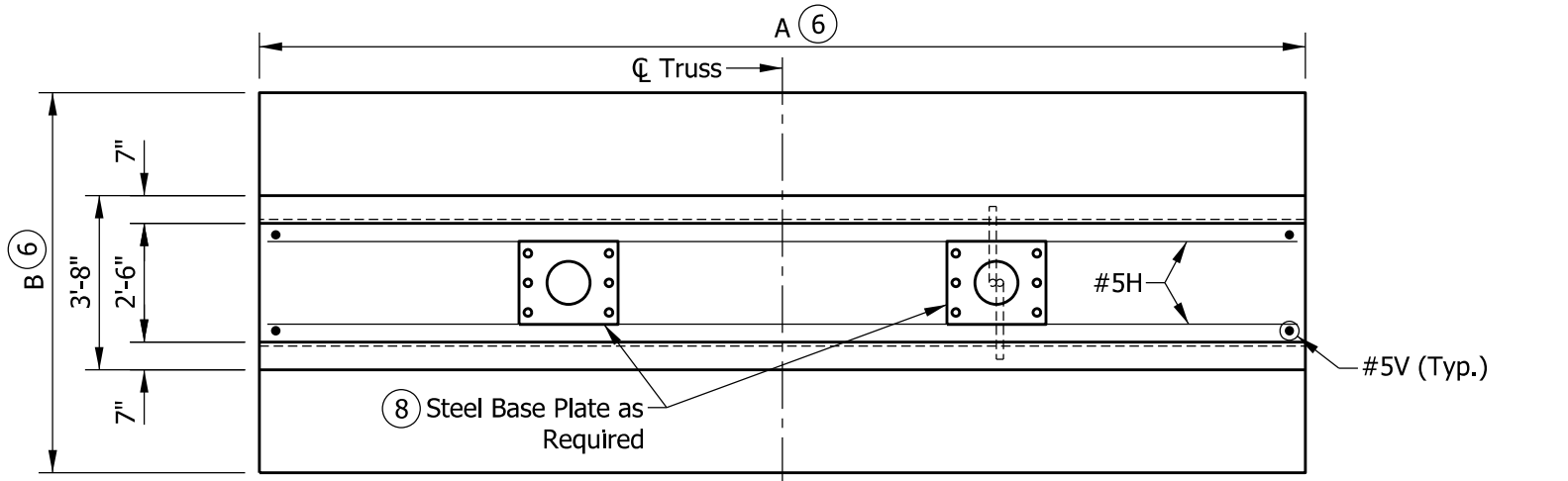


**WIRE OUTLET DETAIL
PLAN VIEW**

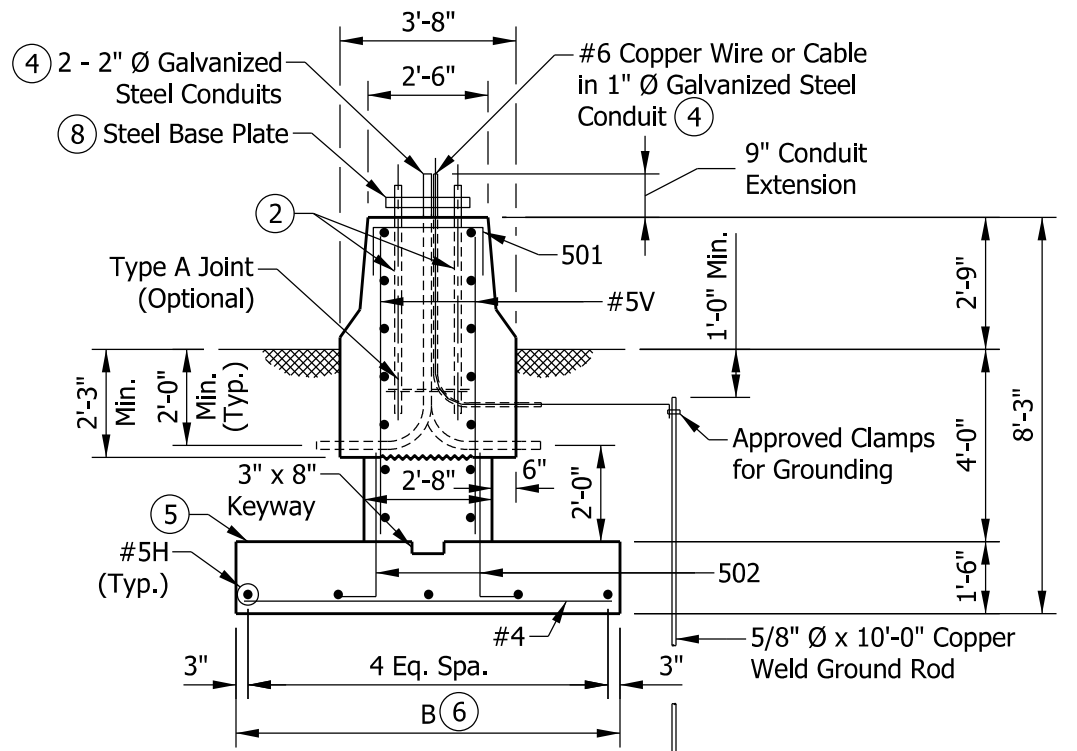
INDIANA DEPARTMENT OF TRANSPORTATION		
DYNAMIC MESSAGE SIGN STRUCTURE WIRING LAYOUT DETAILS		
SEPTEMBER 2013		
STANDARD DRAWING NO.	E 802-DMSS-19	
	/s/ Alfredo B. Hanza	02/05/13
	DESIGN STANDARDS ENGINEER	DATE
	/s/ Mark A. Miller	03/27/13
	CHIEF ENGINEER	DATE



ELEVATION



PLAN



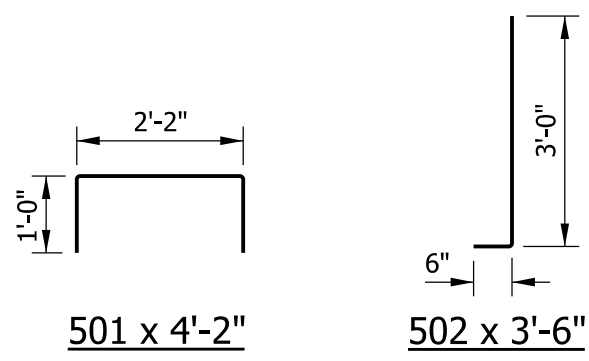
SECTION Q-Q

LEGEND:

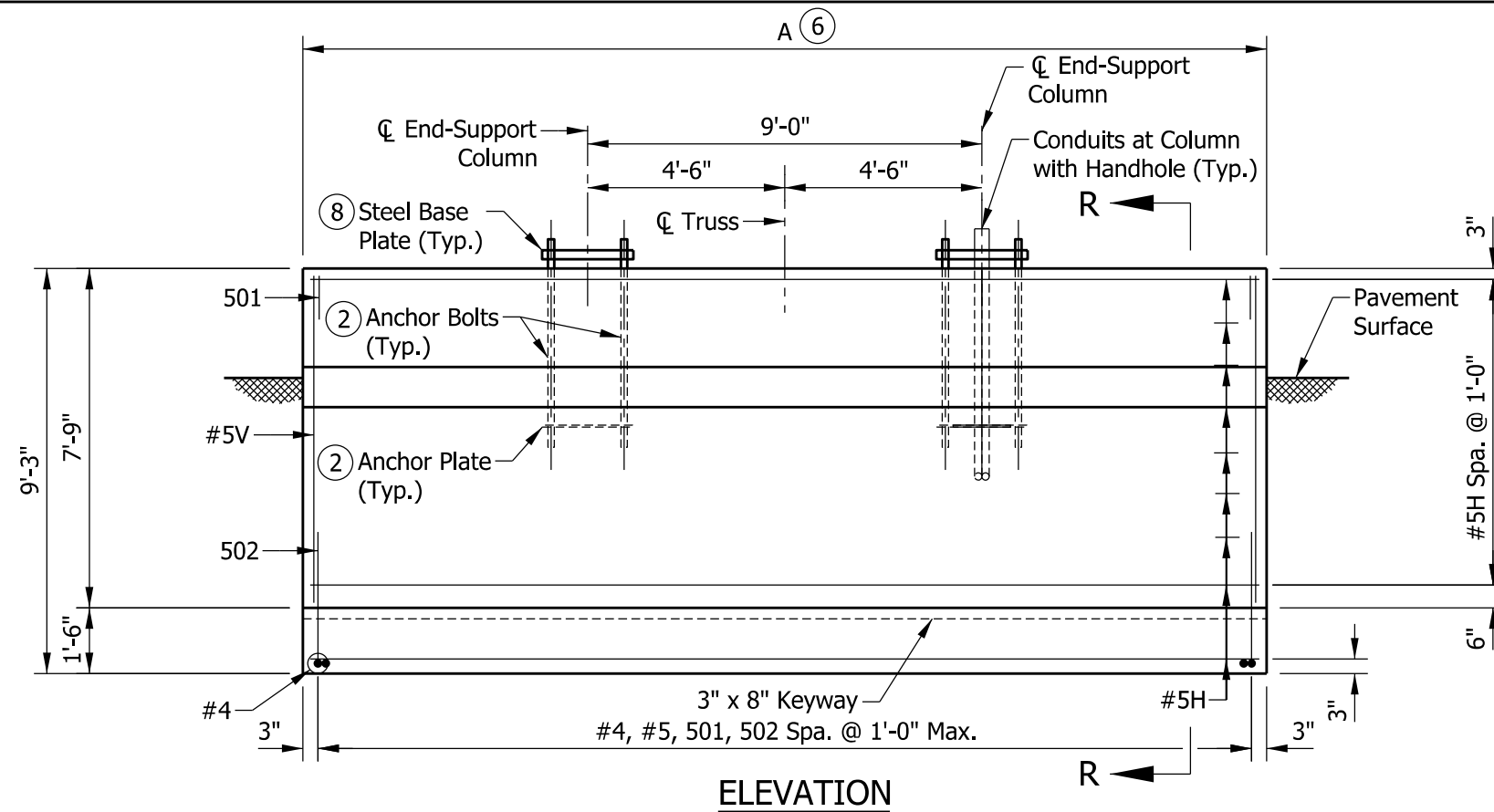
- H = Horizontal
- V = Vertical

NOTES:

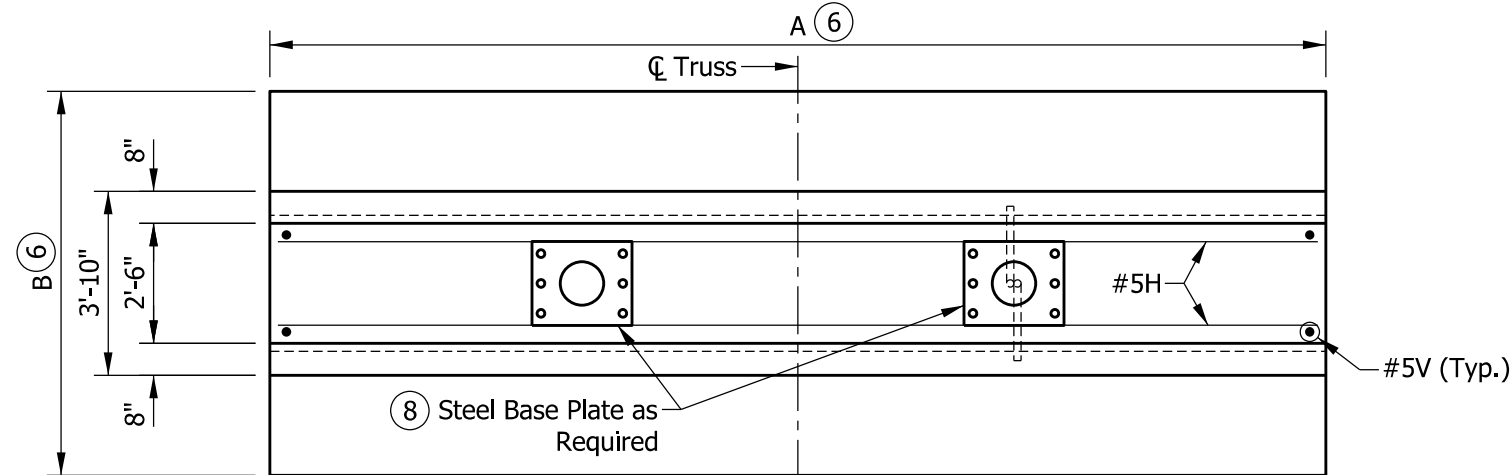
1. See Standard Drawing E 602-CCMB-03 for barrier wall width transition.
- ② See Standard Drawing E 802-DMSS-12 for anchor bolt and anchor plate details.
3. Surface seal top and sides of barrier railing to the pavement surface.
- ④ Thread and cap both ends of steel conduit.
- ⑤ Top of foundation shall be level.
- ⑥ For variable dimensions, reinforcing schedule, and estimated quantities, see Standard Drawing E 802-DMSS-23.
7. Top of the footing shall be a minimum of 4'-0" below the pavement or ground surface.
- ⑧ See Standard Drawing E 802-DMSS-10 for base plate details.



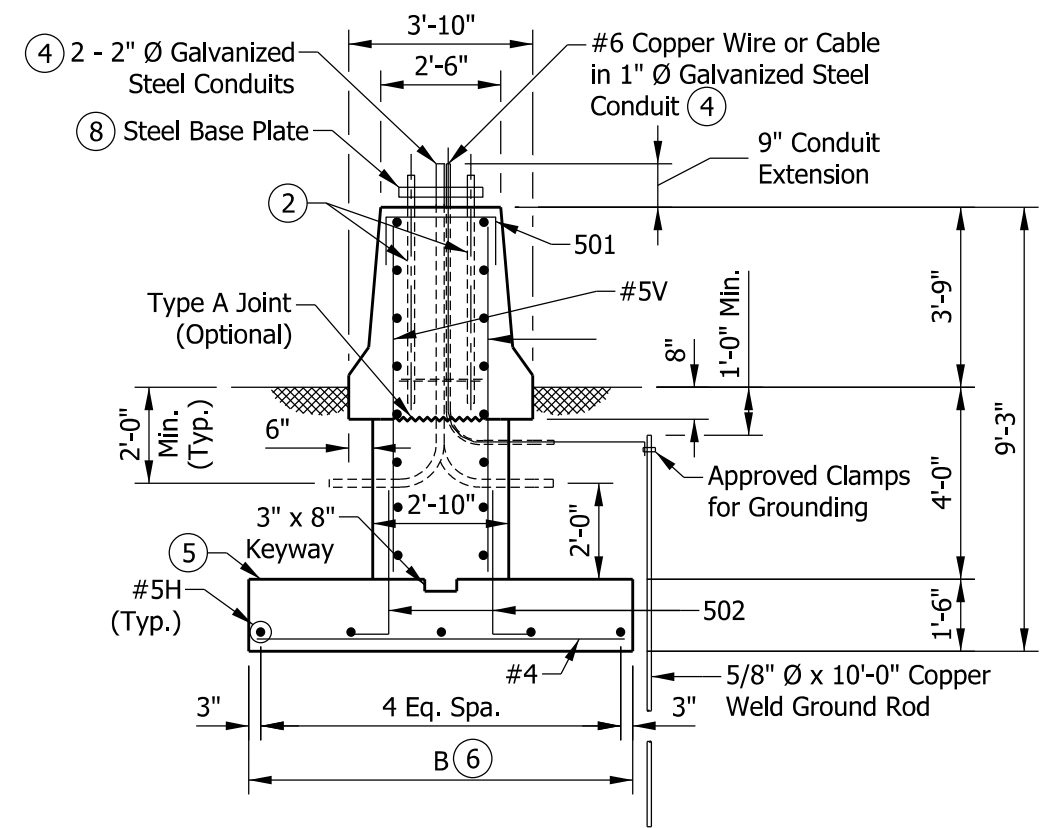
INDIANA DEPARTMENT OF TRANSPORTATION		
DYNAMIC MESSAGE SIGN STRUCTURE SPREAD FOUNDATION AT 33" CONCRETE BARRIER WALL SEPTEMBER 2013		
STANDARD DRAWING NO. E 802-DMSS-20		
	/s/ <i>Alfredo B. Hanza</i>	02/05/13
	DESIGN STANDARDS ENGINEER	DATE
	/s/ <i>Mark A. Miller</i>	03/27/13
	CHIEF ENGINEER	DATE



ELEVATION



PLAN



SECTION R-R

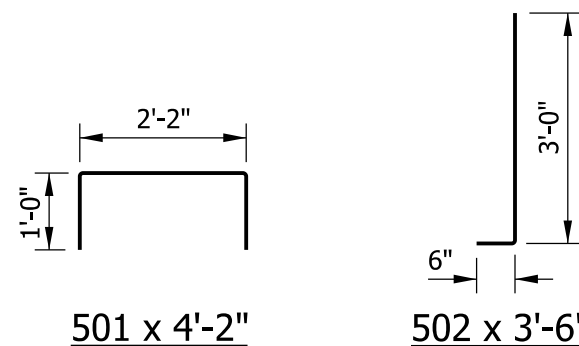
LEGEND:

H = Horizontal

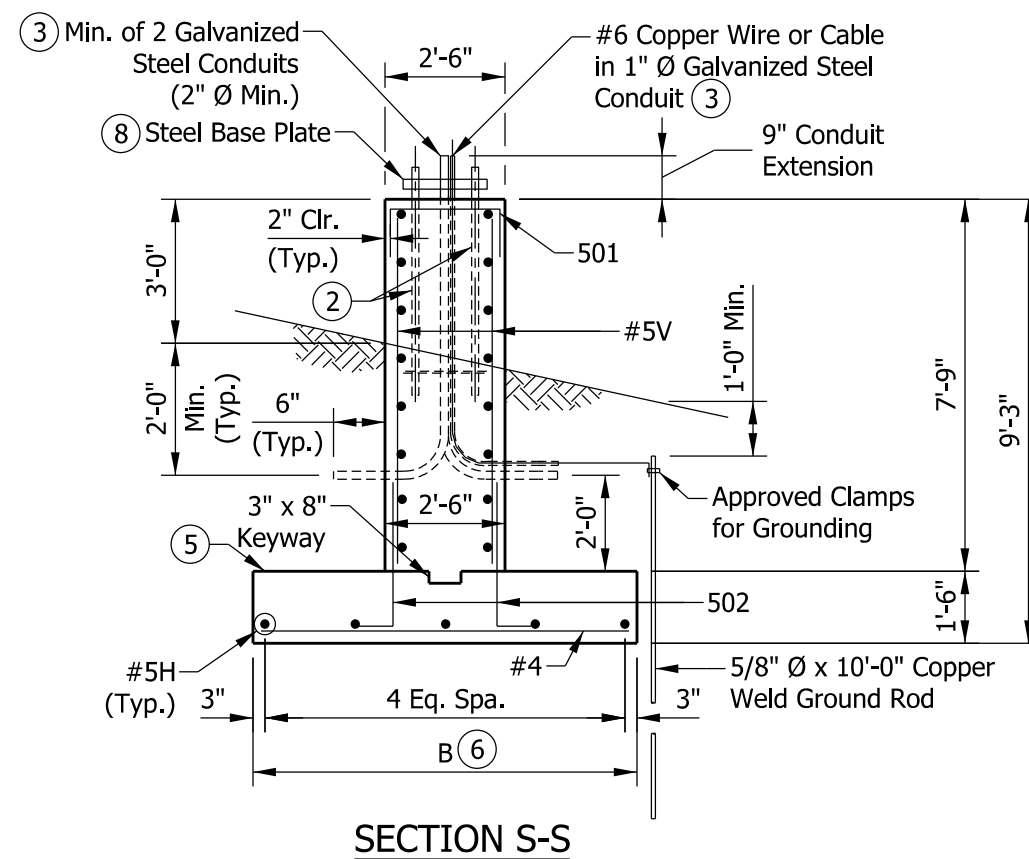
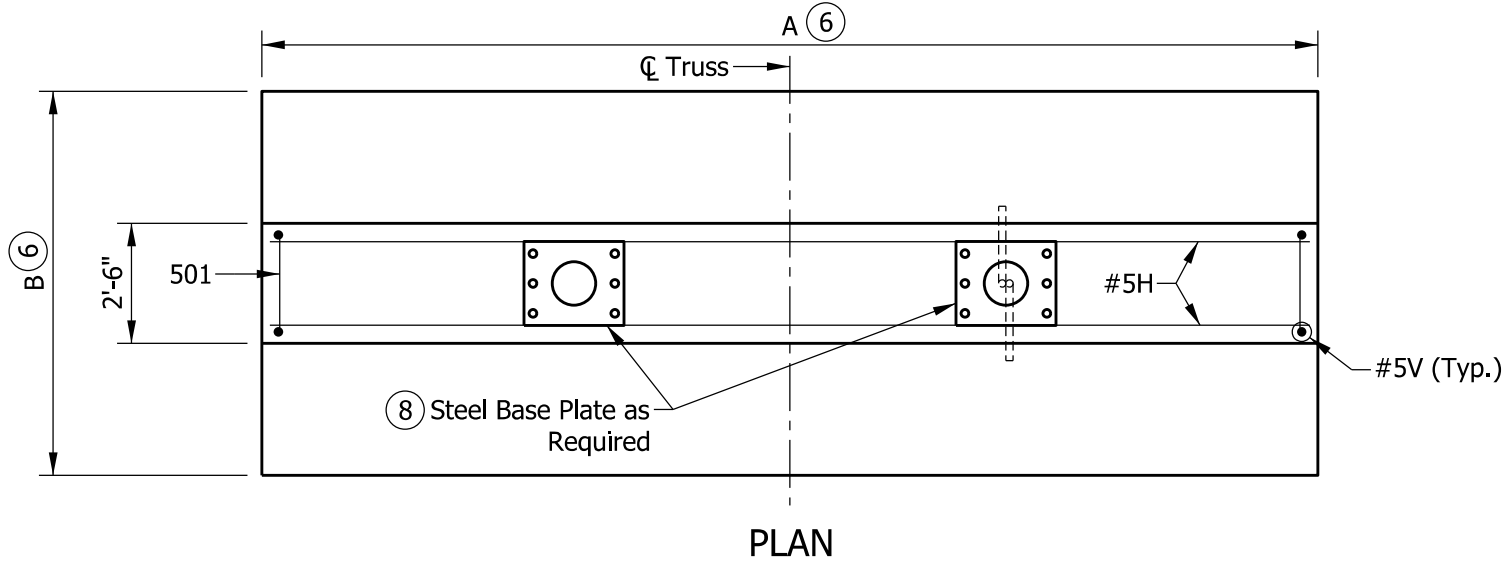
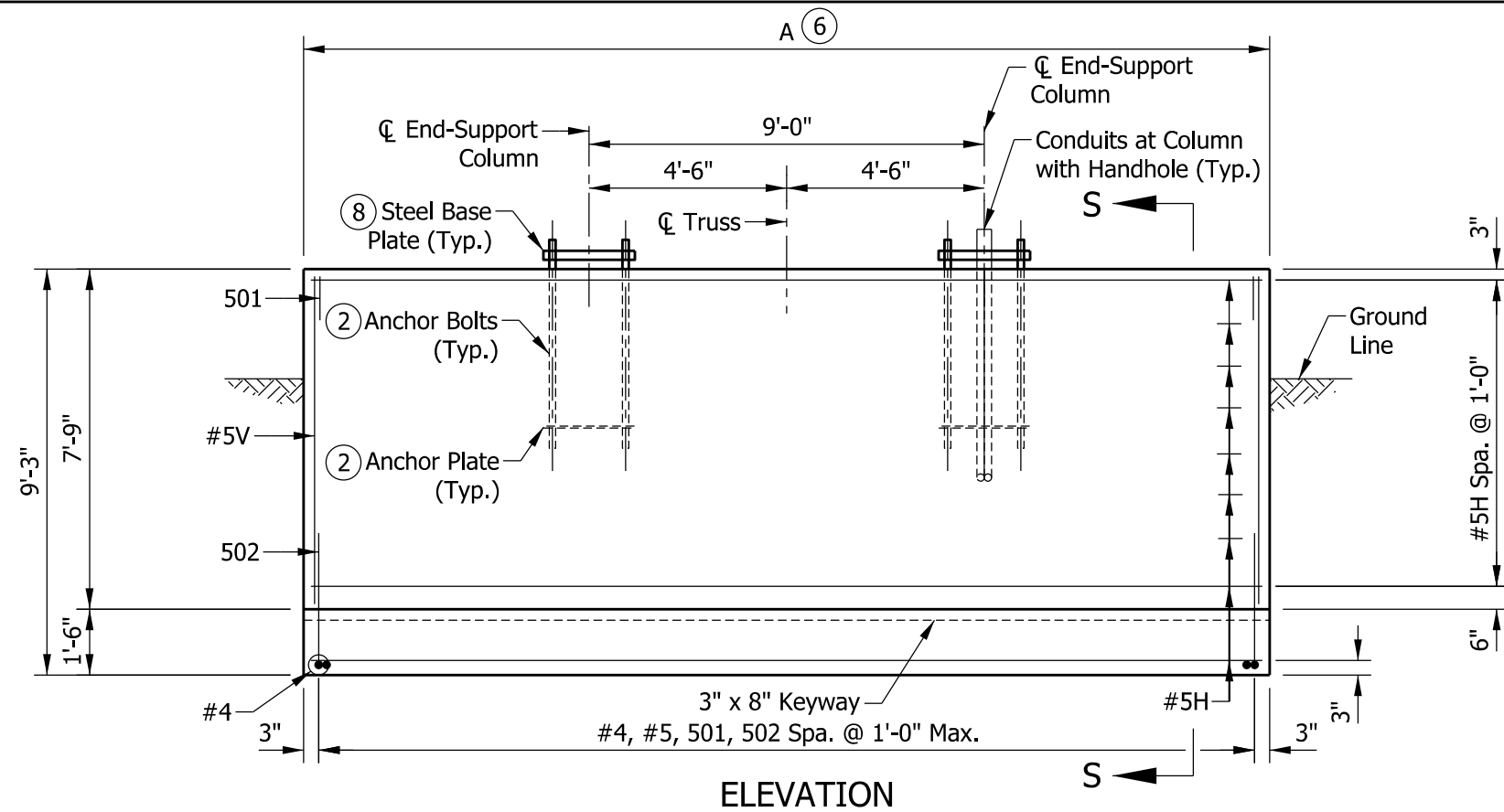
V = Vertical

NOTES:

1. See Standard Drawing E 602-CCMB-03 for barrier wall width transition.
2. See Standard Drawing E 802-DMSS-12 for anchor bolt and anchor plate details.
3. Surface seal top and sides of barrier railing to the pavement surface.
4. Thread and cap both ends of steel conduit.
5. Top of foundation shall be level.
6. For variable dimensions, reinforcing schedule, and estimated quantities, see Standard Drawing E 802-DMSS-23.
7. Top of the footing shall be a minimum of 4'-0" below the pavement or ground surface.
8. See Standard Drawing E 802-DMSS-10 for base plate details.



INDIANA DEPARTMENT OF TRANSPORTATION		
DYNAMIC MESSAGE SIGN STRUCTURE SPREAD FOUNDATION AT 45" CONCRETE BARRIER WALL SEPTEMBER 2013		
STANDARD DRAWING NO. E 802-DMSS-21		
	<i>/s/ Alfredo B. Hanza</i>	02/05/13
	DESIGN STANDARDS ENGINEER	DATE
	<i>/s/ Mark A. Miller</i>	03/27/13
	CHIEF ENGINEER	DATE

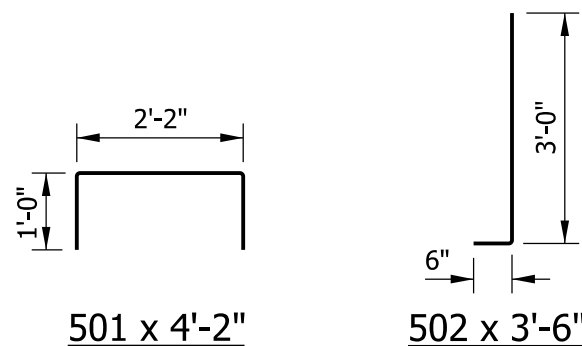


LEGEND:

- H = Horizontal
- V = Vertical

NOTES:

1. See Standard Drawing E 602-CCMB-03 for barrier wall width transition.
2. See Standard Drawing E 802-DMSS-12 for anchor bolt and anchor plate details.
3. Surface seal top and sides of barrier railing to the pavement surface.
4. Thread and cap both ends of steel conduit.
5. Top of foundation shall be level.
6. For variable dimensions, reinforcing schedule, and estimated quantities, see Standard Drawing E 802-DMSS-23.
7. Top of the footing shall be a minimum of 4'-0" below the pavement or ground surface.
8. See Standard Drawing E 802-DMSS-10 for base plate details.



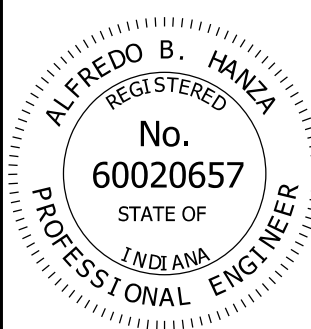
INDIANA DEPARTMENT OF TRANSPORTATION		
DYNAMIC MESSAGE SIGN STRUCTURE SPREAD FOUNDATION AT MEDIAN OR SHOULDER, 36" HEIGHT SEPTEMBER 2013		
STANDARD DRAWING NO. E 802-DMSS-22		
	/s/ <i>Alfredo B. Hanza</i>	02/05/13
	DESIGN STANDARDS ENGINEER	DATE
	/s/ <i>Mark A. Miller</i>	03/27/13
	CHIEF ENGINEER	DATE

MAX. SIGN AREA (SFT)	ALLOWABLE GROSS SOIL BEARING PRESSURE (PSF)	FOOTING DIMENSION		TYPE OF BARRIER
		LENGTH, A (FT)	WIDTH, B (FT)	
300	1500 - 2499	26'	7'	33", 45" or 36" Median/Shoulder
	2500 - 3499	22'	5'	33", 45" or 36" Median/Shoulder
	> 3499	20'	5'	33", 45" or 36" Median/Shoulder

FOOTING DIMENSION		TYPE OF BARRIER	#4		#5H		#5V		501		502		TOTAL EPOXY COATED REINFORCING BARS (LBS)	CONCRETE CLASS A (CYS)	SURFACE SEAL (SYS)
A (FT)	B (FT)		NO. BARS	LENGTH	NO. BARS	LENGTH	NO. BARS	LENGTH	NO. BARS	LENGTH	NO. BARS	LENGTH			
26'	7'	33" Concrete Barrier	27	6'-8"	19	25'-8"	54	6'-6"	27	4'-2"	54	3'-6"	1309	27.9	23.9
		45" Concrete Barrier	27	6'-8"	21	25'-8"	54	7'-6"	27	4'-2"	54	3'-6"	1418	30.9	29.7
		36" Median or Shoulder Barrier	27	6'-8"	21	25'-8"	54	7'-6"	27	4'-2"	54	3'-6"	1418	28.8	24.6
22'	5'	33" Concrete Barrier	23	4'-8"	19	21'-8"	46	6'-6"	23	4'-2"	46	3'-6"	1081	21.2	20.2
		45" Concrete Barrier	23	4'-8"	21	21'-8"	46	7'-6"	23	4'-2"	46	3'-6"	1175	23.7	25.1
		36" Median or Shoulder Barrier	23	4'-8"	21	21'-8"	46	7'-6"	23	4'-2"	46	3'-6"	1175	21.9	20.8
20'	5'	33" Concrete Barrier	21	4'-8"	19	19'-8"	42	6'-6"	21	4'-2"	42	3'-6"	984	19.3	18.4
		45" Concrete Barrier	21	4'-8"	21	19'-8"	42	7'-6"	21	4'-2"	42	3'-6"	1069	21.6	22.9
		36" Median or Shoulder Barrier	21	4'-8"	21	19'-8"	42	7'-6"	21	4'-2"	42	3'-6"	1069	19.9	18.9

NOTES:

1. Geotechnical recommendations for Allowable Gross Soil Bearing Pressure shall be obtained to determine footing size and reinforcement shown in Tables 1 and 2.
2. If Allowable Gross Soil Bearing Pressure is less than 1500 psf, a drilled shaft or other special foundation shall be used.
3. See Standard Drawings E 802-DMSS-20 through -22 for locations of dimensions and reinforcing bars.

INDIANA DEPARTMENT OF TRANSPORTATION	
DYNAMIC MESSAGE SIGN STRUCTURE SPREAD FOUNDATIONS QUANTITIES	
SEPTEMBER 2013	
STANDARD DRAWING NO.	E 802-DMSS-23
	<i>/s/ Alfredo B. Hanza</i> 02/05/13 DESIGN STANDARDS ENGINEER DATE
	<i>/s/ Mark A. Miller</i> 03/27/13 CHIEF ENGINEER DATE