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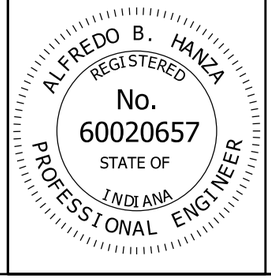
INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
DRAWING INDEX

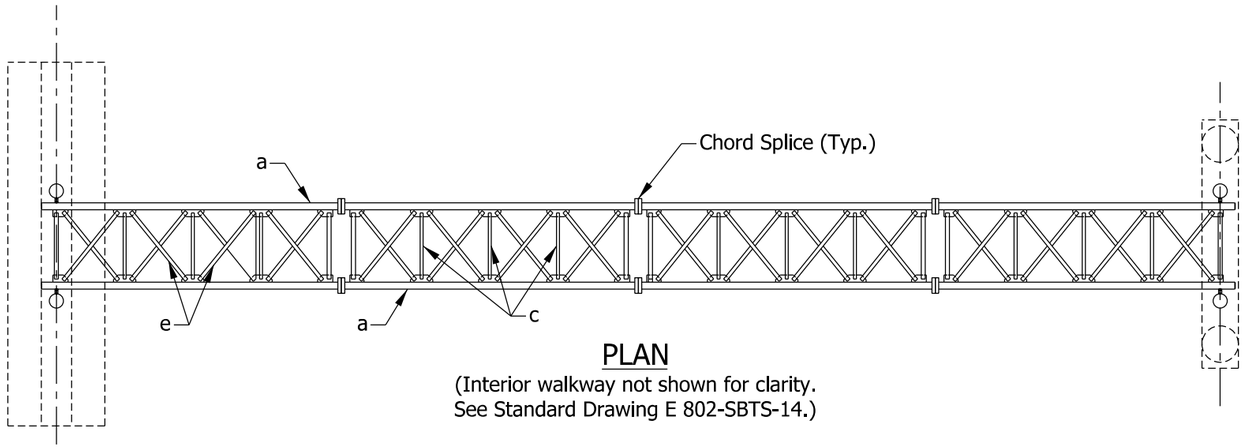
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-01



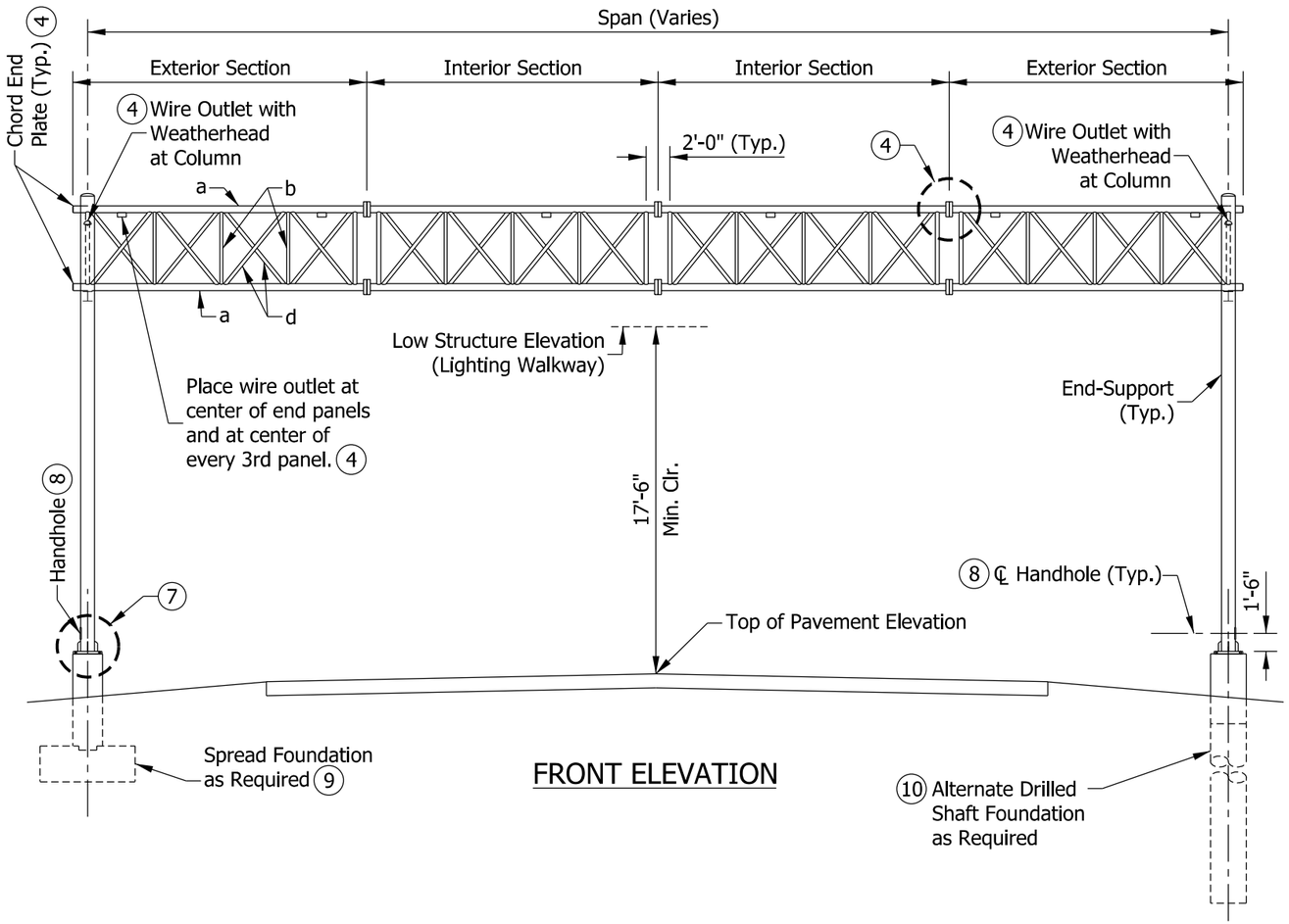
/s/ Alfredo B. Hanza *02/05/13*
DESIGN STANDARDS ENGINEER DATE

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

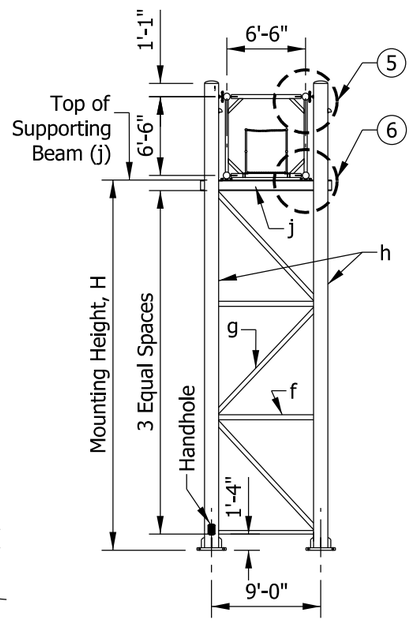


PLAN

(Interior walkway not shown for clarity.
See Standard Drawing E 802-SBTS-14.)



FRONT ELEVATION



END-SUPPORT

NOTES:

1. See Standard Drawing E 802-SBTS-03 for member sizes.
2. Maximum deviation of any chord from a straight line in any section shall be 1/8" for box truss to be a maximum of 3/8" out of a straight line over the entire length of the structure in the vertical plane.
3. All truss members are aluminum. End-support members are steel. Walkways, bearing elements, and wire outlet are aluminum.

(4) See Standard Drawing E 802-SBTS-07 for connection flange, chord end plate, and wire outlet details.

(5) See Standard Drawing E 802-SBTS-08 for upper chord connection details and E 802-SBTS-12 for top cap, handhole, and J-hook details.

(6) See Standard Drawing E 802-SBTS-09 for lower chord connection details. See Standard Drawing E 802-SBTS-10 for alternate HSS beam and saddle shim detail.

(7) See Standard Drawing E 802-SBTS-11 for base plate detail and E 802-SBTS-13 for anchor bolts and skirt details.

(8) See Standard Drawing E 802-SBTS-12 for handhole detail.

(9) See Standard Drawings E 802-SBTS-22 through -25 for spread foundations.

(10) See Standard Drawings E 802-SBTS-26 through -29 for alternate drilled shaft foundations.

LEGEND

TRUSS MEMBERS
- a - Chords
- b - Verticals
- c - Horizontals
- d - Vertical Diagonals
- e - Horizontal Diagonals

END-SUPPORT MEMBERS
- h - Columns
- f - Horizontals
- g - Diagonals
- j - Supporting Beam

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE PLAN & ELEVATION

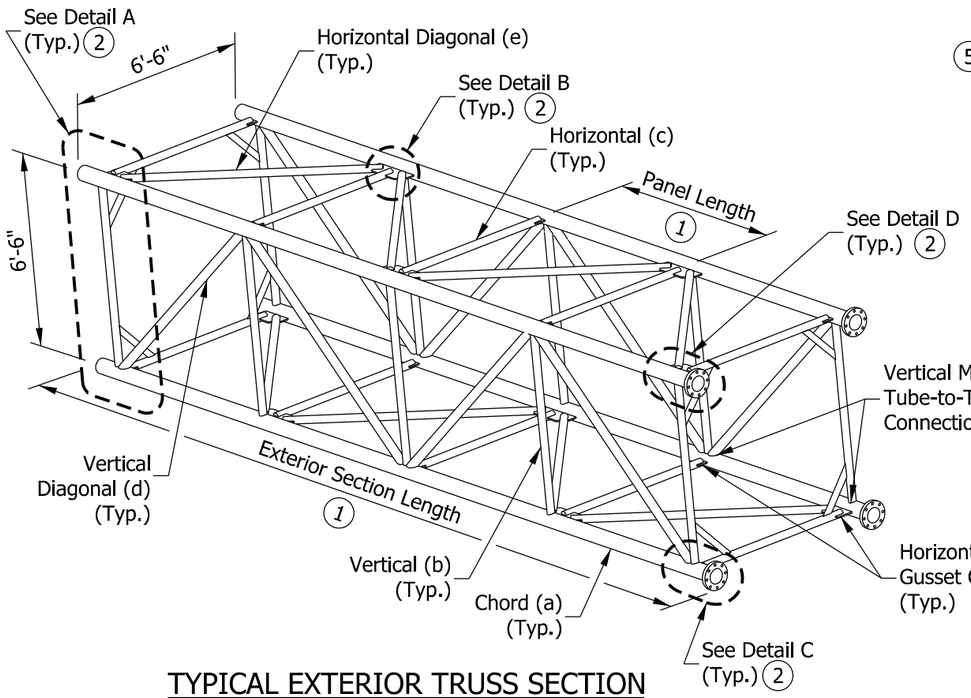
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-02

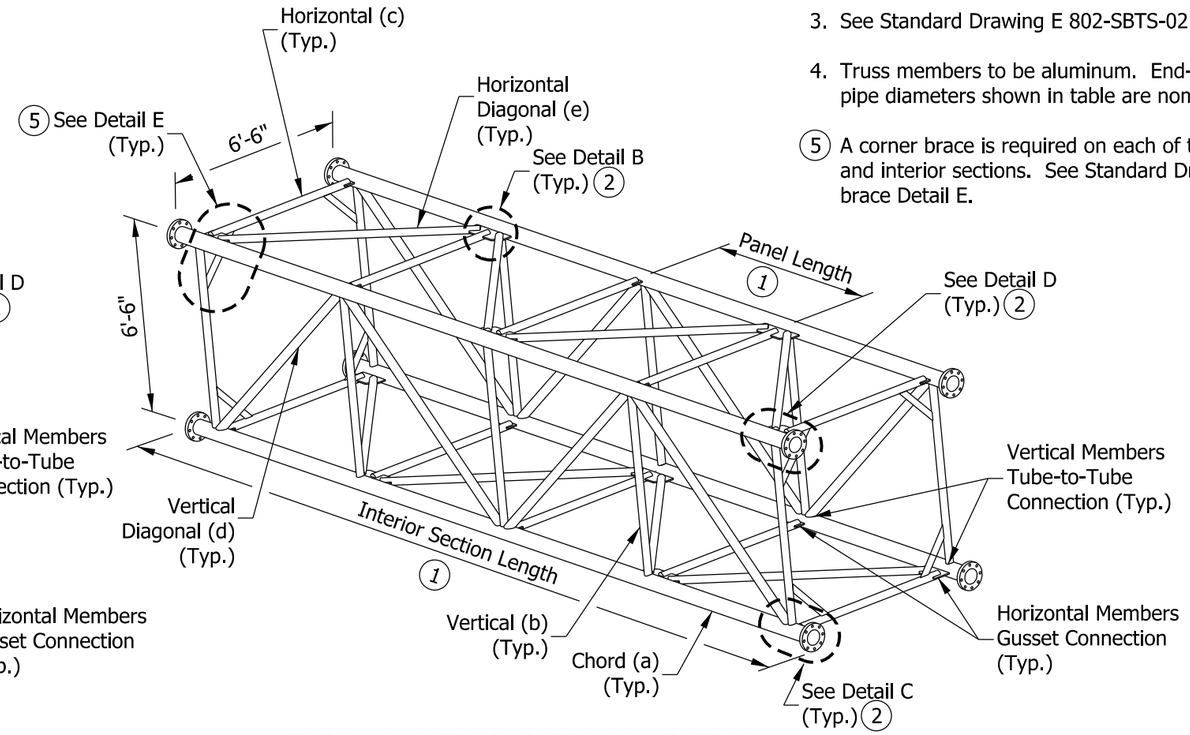
ALFREDO B. HANZA REGISTERED No. 60020657 STATE OF INDIANA PROFESSIONAL ENGINEER

/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

TRUSS TYPE	MAX. SIGN AREA	MAX. SPAN	MAX. MOUNTING HEIGHT	TRUSS MEMBERS, ALUMINUM										END-SUPPORT MEMBERS, STEEL						
				CHORD		VERTICAL		HORIZONTAL		VERTICAL DIAGONAL		HORIZONTAL DIAGONAL		HORIZONTAL		DIAGONAL		COLUMN		SUPPORTING BEAM
			H	a		b		c		d		e		f		g		h		j
				DIA.	THK	DIA.	THK	DIA.	THK	DIA.	THK	DIA.	THK	DIA.	THK	DIA.	THK	DIA.	THK	
	SQ. FT.	FT.	FT.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	
A	500	130	28'-6"	6.00	0.250	2.50	0.250	4.00	0.188	3.00	0.375	4.00	0.375	5.00	0.375	5.00	0.375	14.00	0.500	W 8 x 58 or HSS 8" x 8" x 1/2"
B	700	100	28'-6"	6.50	0.375	3.00	0.375	4.00	0.188	3.00	0.500	4.00	0.375	5.00	0.375	7.00	0.375	14.00	0.500	
C		130	28'-6"	7.00	0.375	3.00	0.375	4.00	0.188	3.00	0.500	4.00	0.500	5.00	0.375	8.00	0.500	14.00	0.593	
D	900	100	28'-6"	7.00	0.375	3.00	0.375	4.00	0.188	3.00	0.500	4.00	0.500	5.00	0.375	8.00	0.500	18.00	0.500	
E		130	28'-6"	7.00	0.500	3.00	0.375	4.00	0.250	3.00	0.500	4.00	0.500	5.00	0.375	8.00	0.593	18.00	0.562	W 10 x 68 or HSS 10" x 10" x 1/2"

NOTES:

(1) Number of panels and sections varies. See table on Standard Drawing E 802-SBTS-04 and -05 for recommended dimensions.

(2) See Standard Drawing E 802-SBTS-06 for welded connections and Details A through F.

3. See Standard Drawing E 802-SBTS-02 for Legend.

4. Truss members to be aluminum. End-support members to be steel. Steel pipe diameters shown in table are nominal pipe size.

(5) A corner brace is required on each of the eight external corners of exterior and interior sections. See Standard Drawing E 802-SBTS-06 for corner brace Detail E.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE TRUSS SECTIONS IN ISOMETRIC VIEWS, TABLE WITH MEMBER SIZES

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-03

ALFREDO B. HANZA
REGISTERED
No. 60020657
STATE OF INDIANA
PROFESSIONAL ENGINEER

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

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

DIMENSIONS FOR SIGN BOX TRUSSES (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	SECTION 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	6 1/4"	6'-4 3/4"	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"

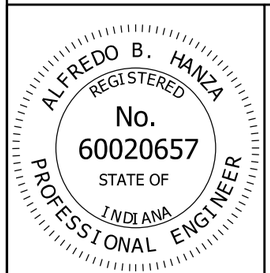
NOTES:

1. All panels on a truss shall be the same length. The minimum panel length is 5'-0" and the maximum is 6'-6".
2. A single interior section in a truss shall have an even number of panels to maintain the pattern of the vertical diagonals.
3. Use minimum number of sections for each box truss structure, while maintaining the maximum section length at 36'-6".
4. See Standard Drawing E 802-SBTS-05 for required camber.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
TABLE OF DIMENSIONS
SPANS 34' THRU 81'
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-04



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

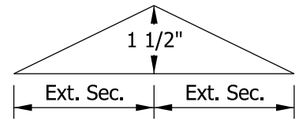
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE

DIMENSIONS FOR SIGN BOX TRUSSES (82' THRU 130')

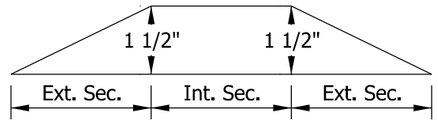
SPAN SPAN-TRUSS LENGTH, (FT)	EXTERIOR SECTIONS					INTERIOR SECTIONS			
	NO. OF EXT. SECTIONS	NO. OF PANELS PER SECTION	VARIABLE END DIMEN.	PANEL LENGTH	SECTION LENGTH	NO. OF INT. SECTIONS	NO. OF PANELS PER SECTION	PANEL LENGTH	SECTION LENGTH
82	2	4	6"	6'-5"	27'-11"	1	4	6'-5"	27'-8"
83	2	4	6"	6'-6"	28'-3"	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	6 3/4"	6'-0 3/4"	32'-7 1/2"	1	4	6'-0 3/4"	26'-3"
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'-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	7 1/2"	5'-5 1/4"	29'-6 3/4"	2	5	5'-5 1/4"	29'-2 1/4"
117	2	5	6"	5'-6"	29'-9"	2	5	5'-6"	29'-6"
118	2	5	7"	5'-6 1/2"	30'-0 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'-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	7 1/2"	5'-8 1/4"	30'-9 3/4"	2	5	5'-8 1/4"	30'-5 1/4"
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	7 1/2"	5'-11 1/4"	32' -0 3/4"	2	5	5'-11 1/4"	31'-8 1/4"
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'-1/4"	2	5	6'-1 3/4"	32'-8 3/4"

NOTES:

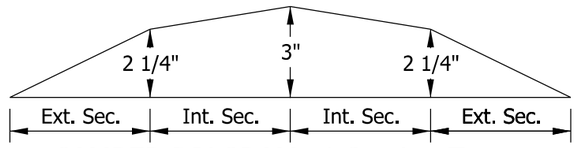
1. Camber diagrams for truss structures with 2 to 4 sections are shown. Cambers shown are for fabrication only and are measured with trusses fully supported at no-load conditions. Allowable camber tolerance for truss is 25% of specific camber value.
2. See Standard Drawing E 802-SBTS-04 for additional notes.



CAMBER DIAGRAM (2-Section Truss)



CAMBER DIAGRAM (3-Section Truss)



CAMBER DIAGRAM (4-Section Truss)

INDIANA DEPARTMENT OF TRANSPORTATION

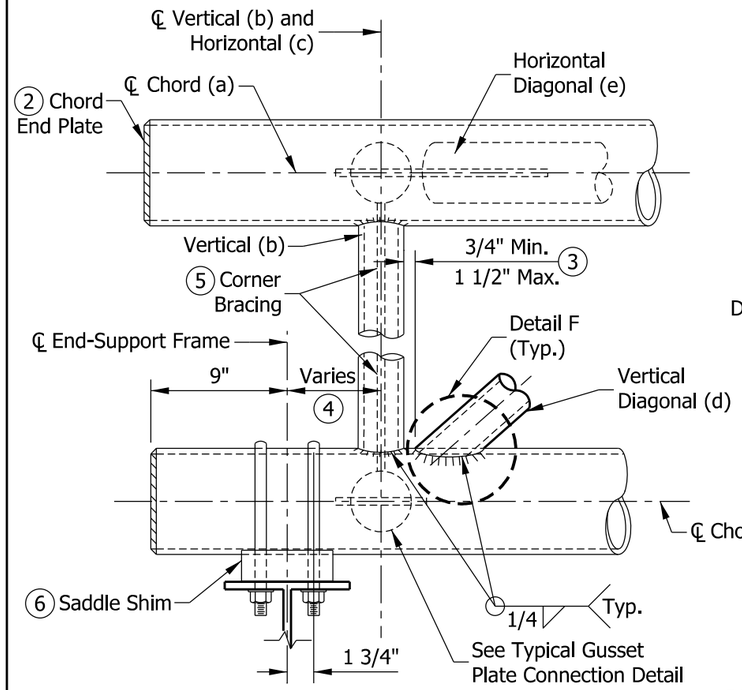
SIGN BOX TRUSS STRUCTURE
TABLE OF DIMENSIONS
SPANS 82' THRU 130' AND CAMBER
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-05

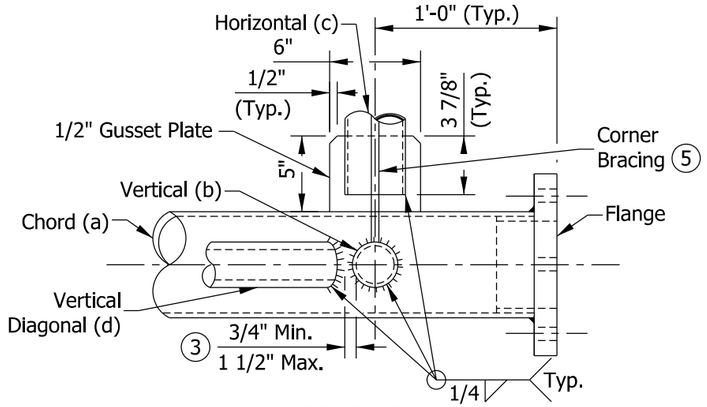
ALFREDO B. HANZA
REGISTERED
No. 60020657
STATE OF INDIANA
PROFESSIONAL ENGINEER

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

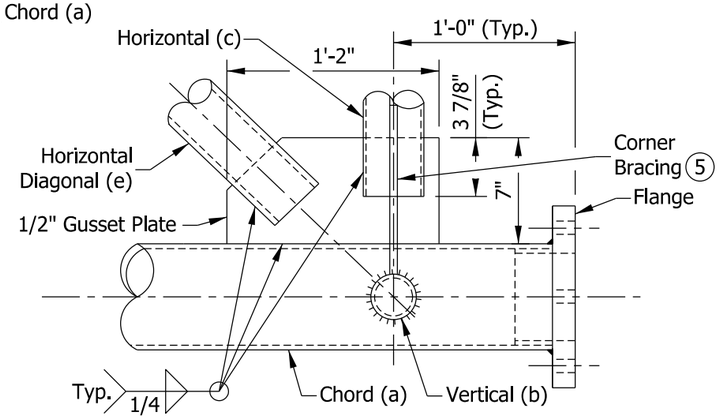
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



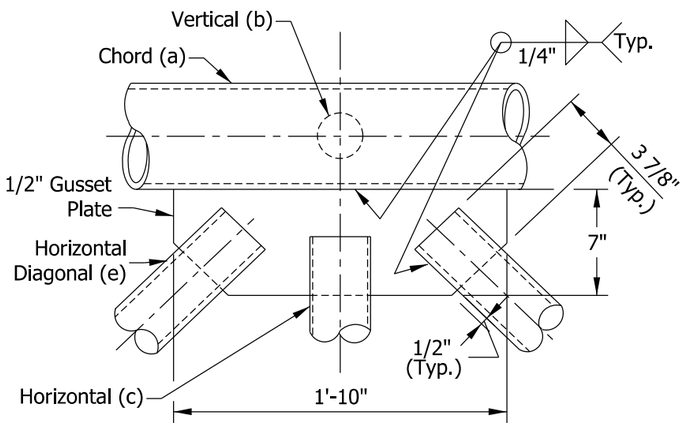
DETAIL A
EXTERIOR SECTION AT END SUPPORT



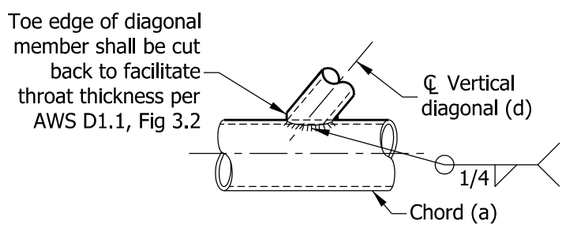
DETAIL C
CHORD AT FLANGE CONNECTION
PLAN VIEW



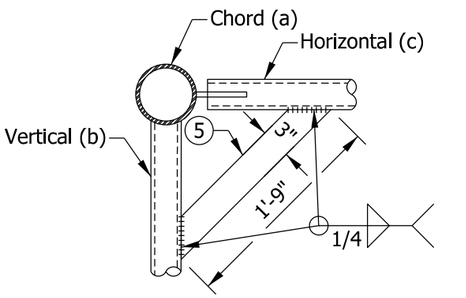
DETAIL D
CHORD AT FLANGE CONNECTION
PLAN VIEW



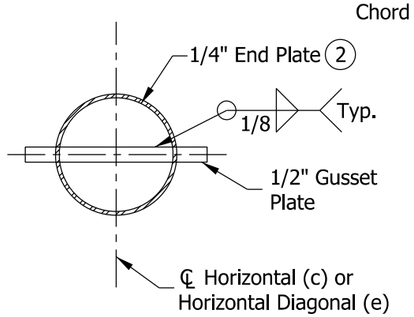
DETAIL B
TYPICAL PANEL CONNECTION
PLAN VIEW



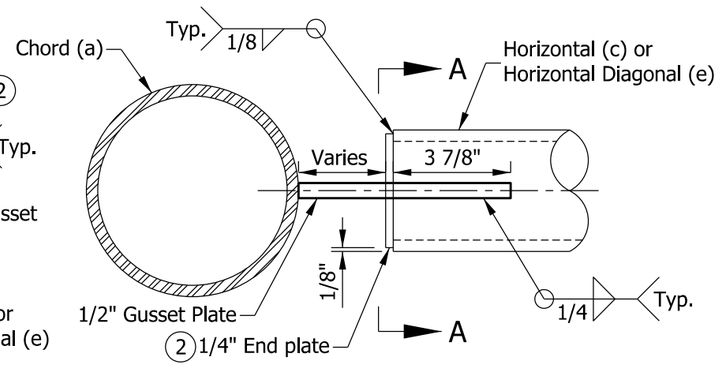
DETAIL F



DETAIL E
TYPICAL CORNER BRACING



SECTION A-A



TYPICAL GUSSET PLATE CONNECTION DETAIL
ELEVATION VIEW

NOTES:

1. All bracing members shall be machined to provide a snug fit to the chord along the entire edge of bracing member before welding. See Standard Drawing E 802-SBTS-02 and -03 for member locations.

(2) End plate at horizontal (c) and horizontal diagonal (e) may be welded as one piece and slotted or welded as two pieces after slotting the member. See Standard Drawing E 802-SBTS-07 for chord end plate details.

(3) Vertical and horizontal diagonals shall be fabricated for minimum offset from the panel point offset to provide a 3/4" minimum to 1 1/2" maximum clearance between any diagonal and any horizontal or vertical member.

(4) For variable end dimension, see Standard Drawings E 802-SBTS-04 and -05.

(5) See Standard Drawing E 802-SBTS-03 for corner bracing locations. Each brace member to be 3" x 1'-9" x 1/2" and placed at 45° to vertical.

(6) See Standard Drawing E 802-SBTS-09 or -10 for saddle shim detail.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
CHORD CONNECTIONS AND WELD DETAILS

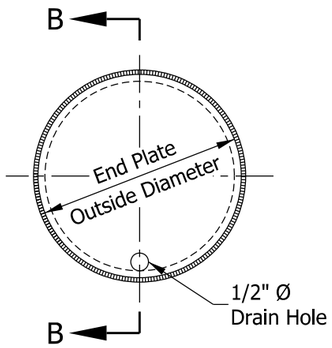
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-06

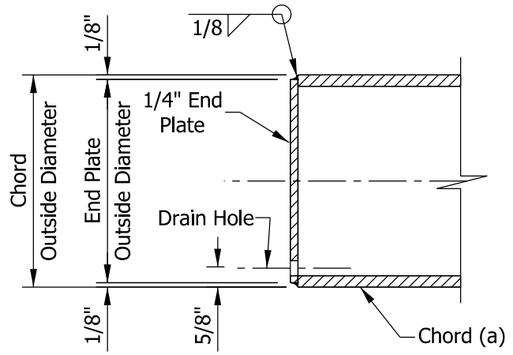
ALFREDO B. HANZA
REGISTERED
No. 60020657
STATE OF INDIANA
PROFESSIONAL ENGINEER

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

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

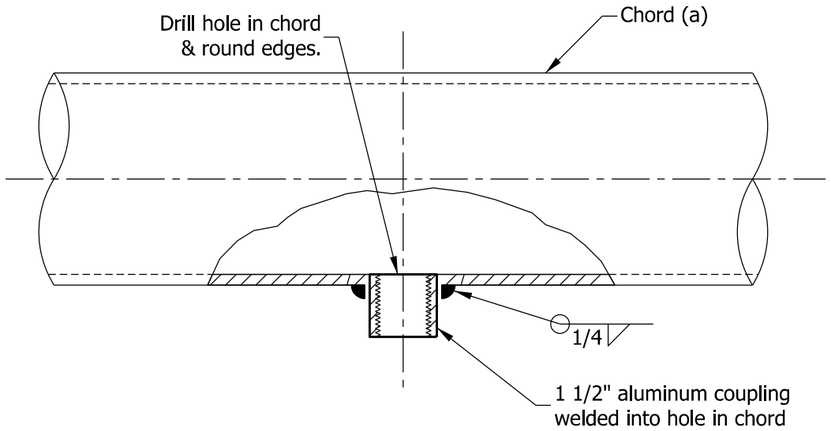


END VIEW

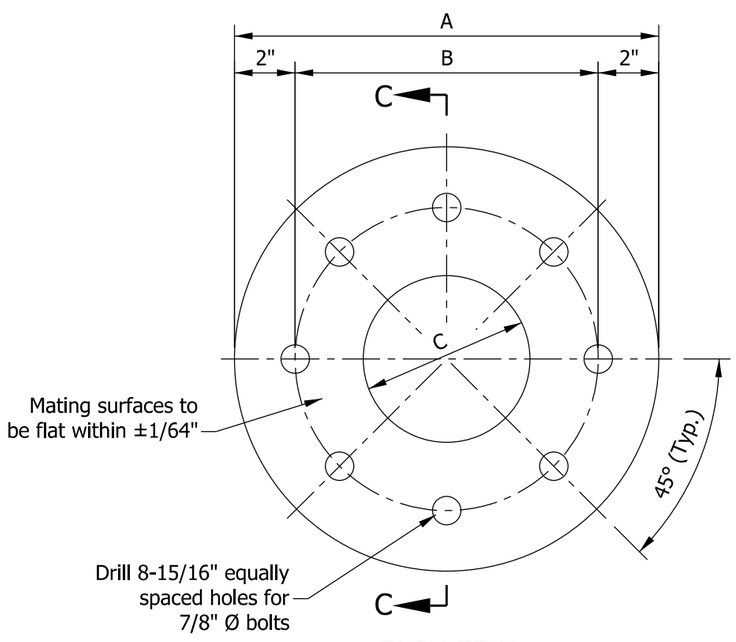


SECTION B-B

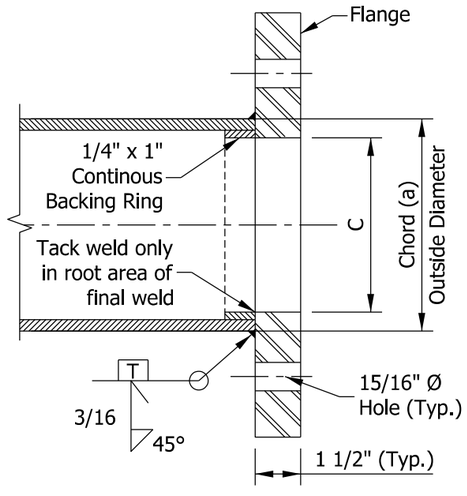
CHORD END PLATE DETAILS



WIRE OUTLET DETAIL



END VIEW



SECTION C-C

FLANGE DETAILS

TABLE OF FLANGE DIMENSIONS				
TRUSS CHORD O.D. x THK.	BOLT SIZE	DIMENSION		
		A	B	C
6" x 1/4"	7/8"	13"	9"	5"
6 1/2" x 3/8"	7/8"	14"	10"	5 1/4"
7" x 3/8"	7/8"	14"	10"	5 3/4"
7" x 1/2"	7/8"	14"	10"	5 1/2"

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
FLANGE, CHORD END PLATE, AND WIRE OUTLET DETAILS

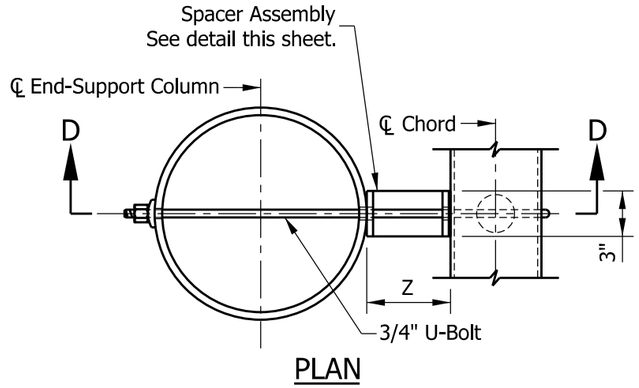
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-07

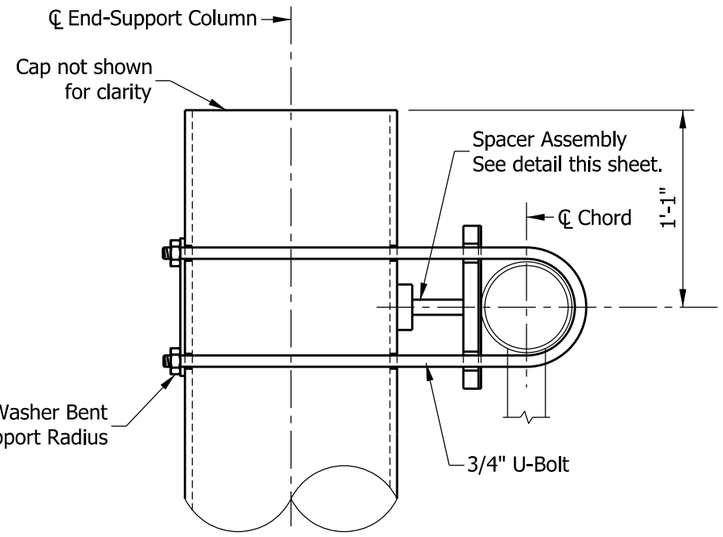
ALFREDO B. HANZA
REGISTERED
No. 60020657
STATE OF INDIANA
PROFESSIONAL ENGINEER

/s/ Alfredo B. Hanza 03/26/13
DESIGN STANDARDS ENGINEER DATE

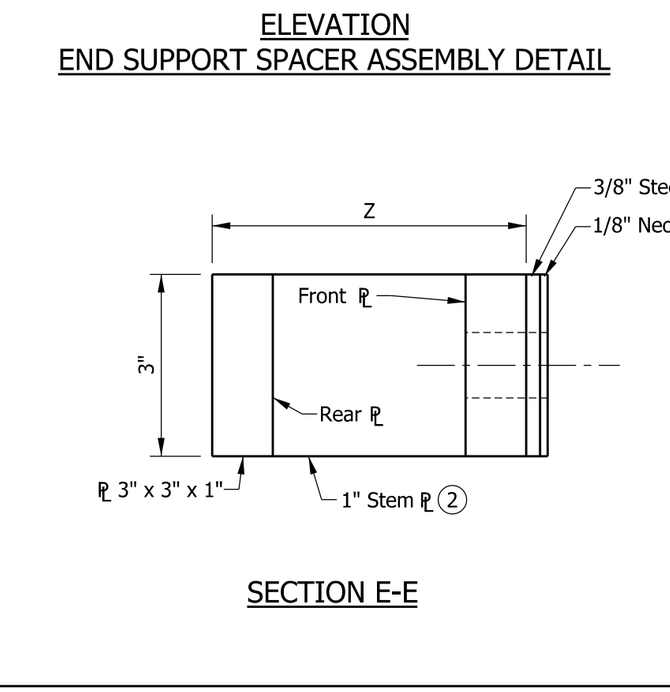
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



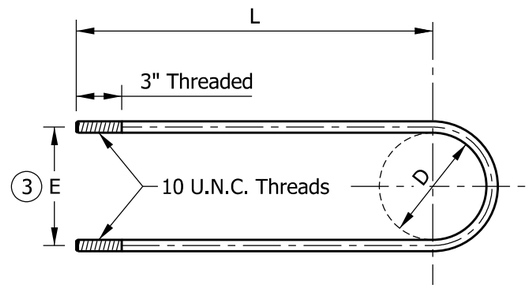
PLAN



SECTION D-D
UPPER CHORD CONNECTION DETAILS



ELEVATION
END SUPPORT SPACER ASSEMBLY DETAIL



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

SECTION E-E

NOTES:

(1) Provide isolation from steel-dissimilar metal as required.

(2) For trusses type D or E, the 1" stem plate is not required. Fillet weld front and rear plates together.

(3) Dimension E is equal to the diameter of chord (a) plus 1".

SPACER ASSEMBLY DIMENSIONS						
TRUSS TYPE	END-SUPPORT COLUMN SIZE (h)	CHORD (a)	Ø OF U-BOLT BEND	E	Z	L
	O.D. IN.	O.D. IN.	(D) IN.	IN.	IN.	IN.
A	14	6	6 1/16	7	4 1/2	24
B	14	6 1/2	6 9/16	7 1/2	4 1/4	24
C	14	7	7 1/16	8	4	24
D	18	7	7 1/16	8	2	26
E	18	7	7 1/16	8	2	26

INDIANA DEPARTMENT OF TRANSPORTATION

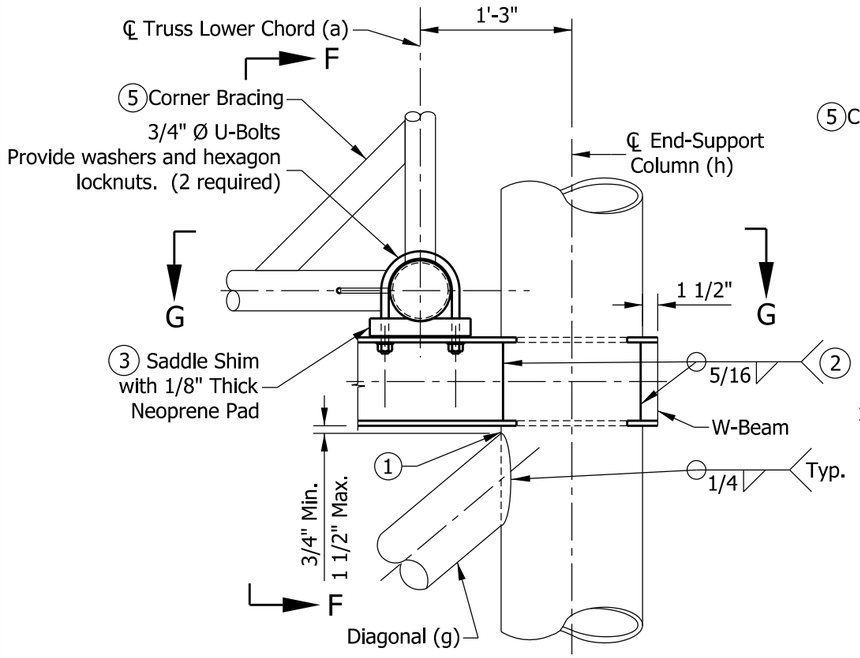
SIGN BOX TRUSS STRUCTURE
END-SUPPORT
UPPER CHORD CONNECTION DETAILS
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-08

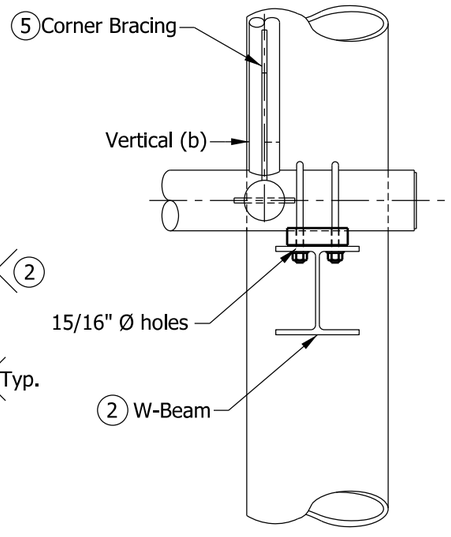
ALFREDO B. HANZA
REGISTERED
No. 60020657
STATE OF INDIANA
PROFESSIONAL ENGINEER

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

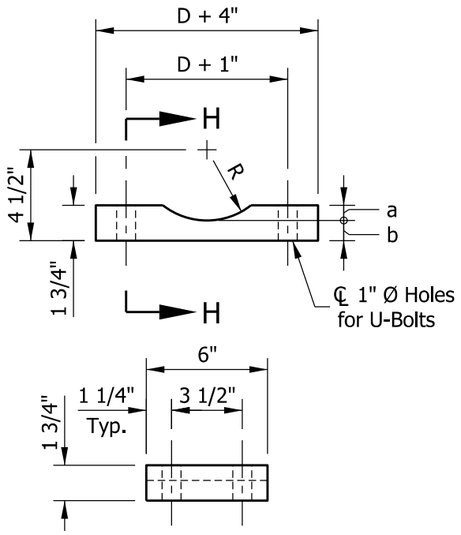
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



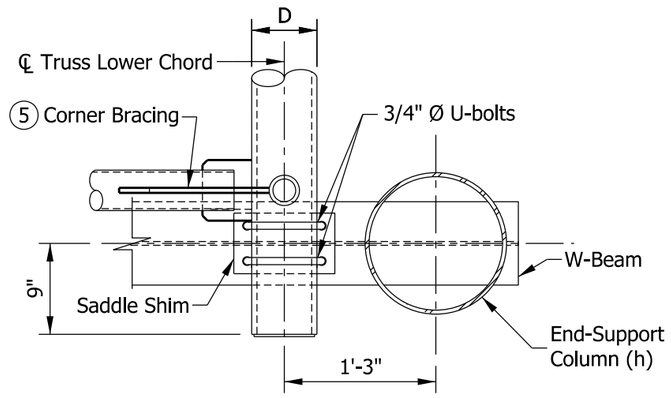
LOWER CHORD CONNECTION DETAIL



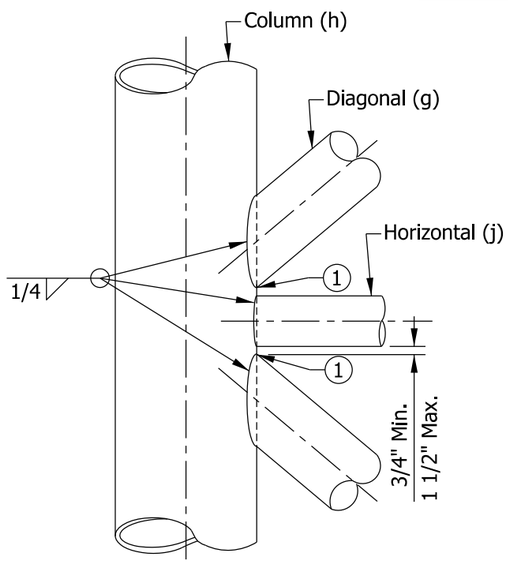
SECTION F-F



SECTION H-H
SADDLE SHIM DETAIL



SECTION G-G



ELEVATION (END-SUPPORT)
TYPICAL BRACING MEMBERS CONNECTION

NOTES:

1. Toe edge of diagonal member shall be cut back to facilitate throat thickness. See Standard Drawing E 802-SBTS-06 Detail F for toe-edge detail.
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-SBTS-03 for end-support member sizes.
5. A corner brace is required on each of the eight external corners of exterior and interior sections. Each brace shall be 1'-9" x 3" x 1/2". See Standard Drawing E 802-SBTS-06 for angle bracing Detail E.
6. See Standard Drawing E 802-SBTS-10 for HSS square-beam as an alternate to truss supporting W-beam.

D	a	b
6"	9/32"	1 15/32"
6 1/2"	17/32"	1 7/32"
7"	25/32"	31/32"

R = D/2 + 1/32"

R + b = 4 1/2"

D = Outside Diameter of Chord(a).

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE END-SUPPORT LOWER CHORD CONNECTION DETAILS

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-09

ALFREDO B. HANZA
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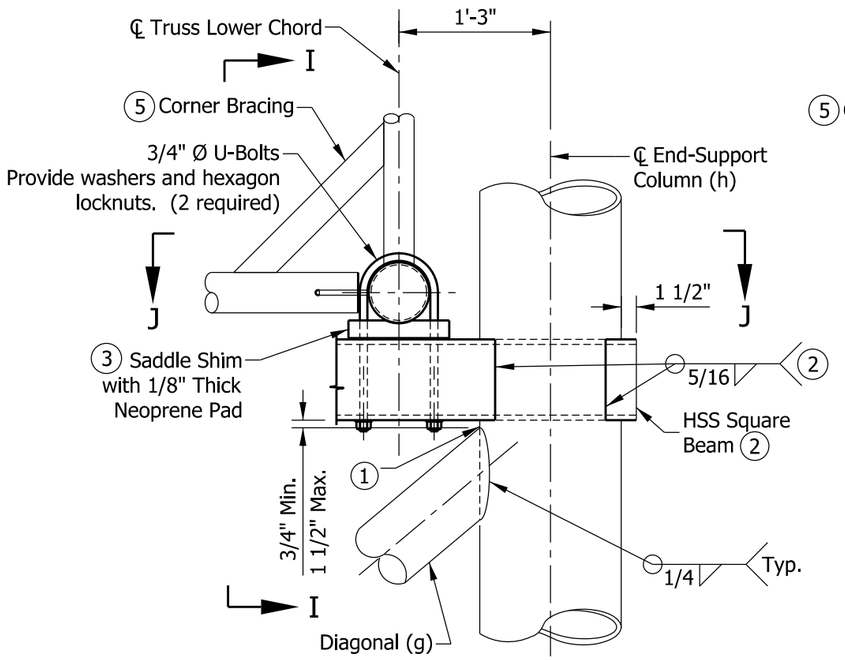
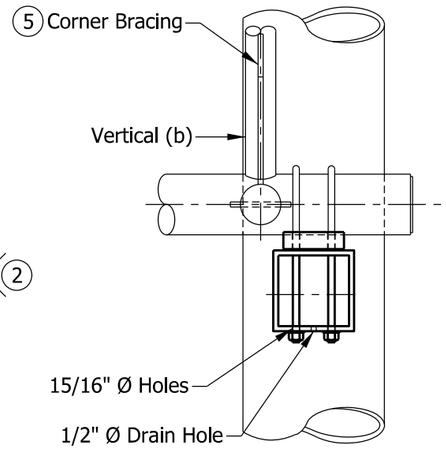
No. 60020657
STATE OF INDIANA
PROFESSIONAL ENGINEER

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

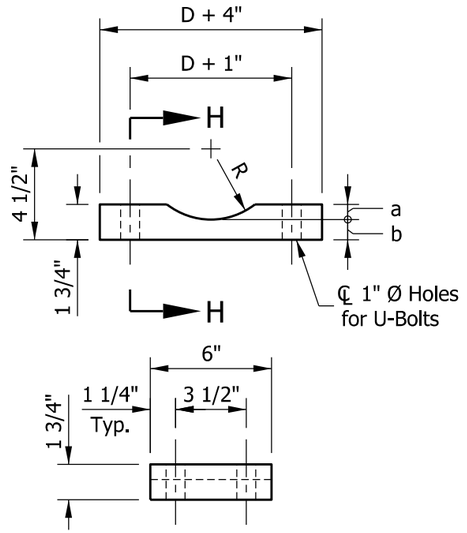
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



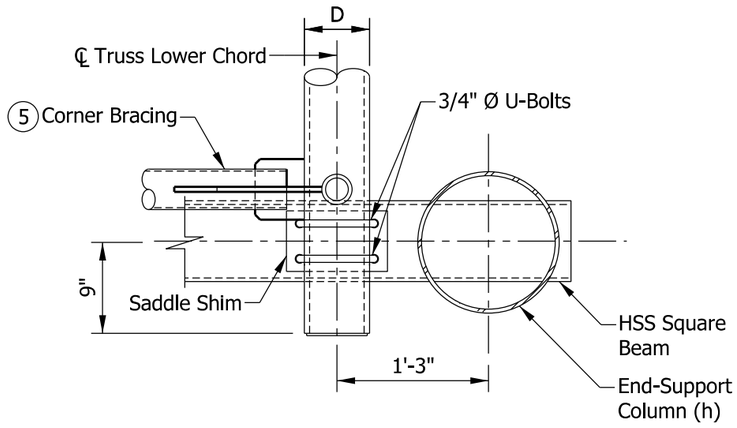
LOWER CHORD CONNECTION DETAIL



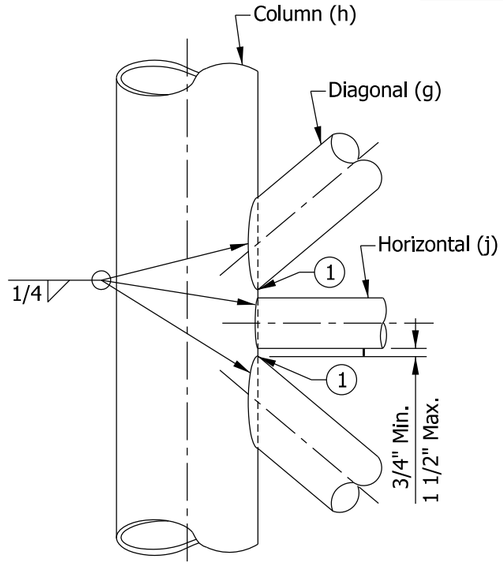
SECTION I-I



SECTION H-H
SADDLE SHIM DETAIL



SECTION J-J



ELEVATION (END-SUPPORT)
TYPICAL BRACING MEMBERS CONNECTION

NOTES:

1. Toe edge of diagonal member shall be cut back to facilitate throat thickness. See Standard Drawing E 802-SBTS-06 Detail F for toe-edge detail.
2. Cut holes in end support columns for square beams to pass through. Holes to have 1/8" maximum clearance to square beam. Holes in opposite sides of column to be checked for proper alignment prior to cutting.
3. Provide neoprene pads at all chord-to-square-beam bearing surfaces.
4. See Standard Drawing E 802-SBTS-03 for end support member sizes.
5. A corner brace is required on each of the eight external corners of exterior and interior sections. Each brace shall be 1'-9" x 3" x 1/2". See Standard Drawing E 802-SBTS-06 for angle bracing Detail E.

D	a	b
6"	9/32"	1 15/32"
6 1/2"	17/32"	1 7/32"
7"	25/32"	31/32"

R = D/2 + 1/32"

R + b = 4 1/2"

D = Outside Diameter of Chord(a).

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE END SUPPORT LOWER CHORD CONNECTION DETAILS, ALTERNATE HSS BEAM

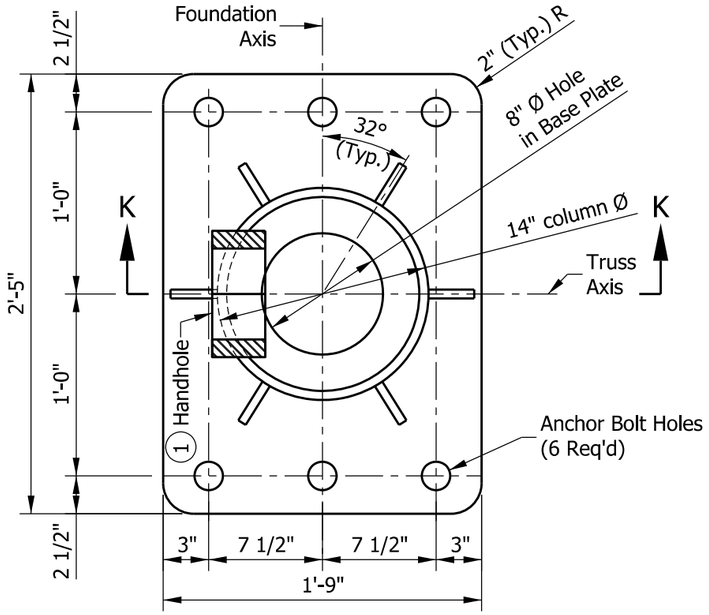
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-10

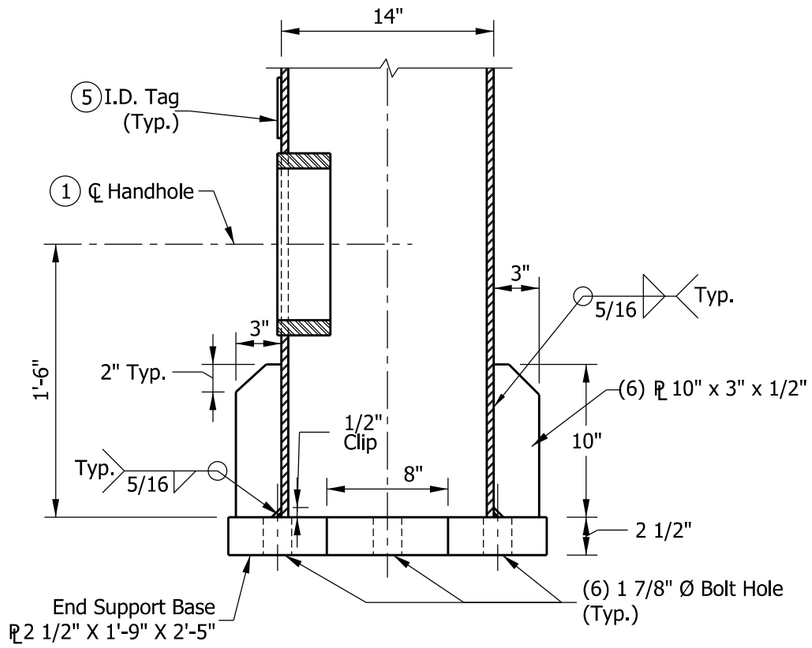
ALFREDO B. HANZA REGISTERED No. 60020657 STATE OF INDIANA PROFESSIONAL ENGINEER

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

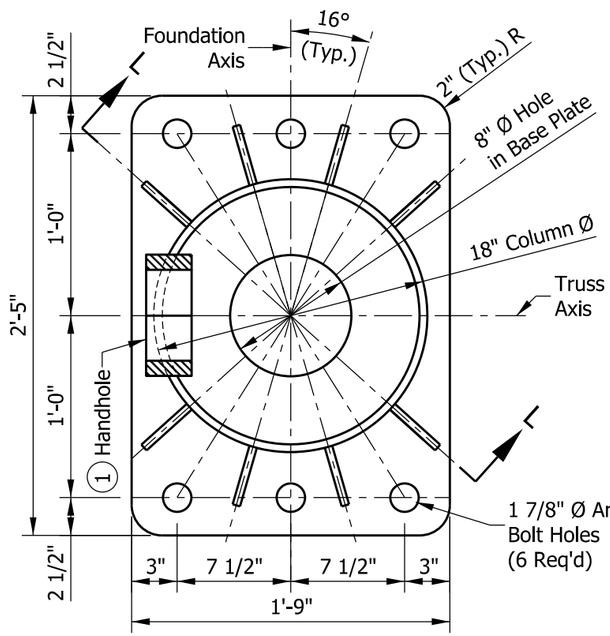
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



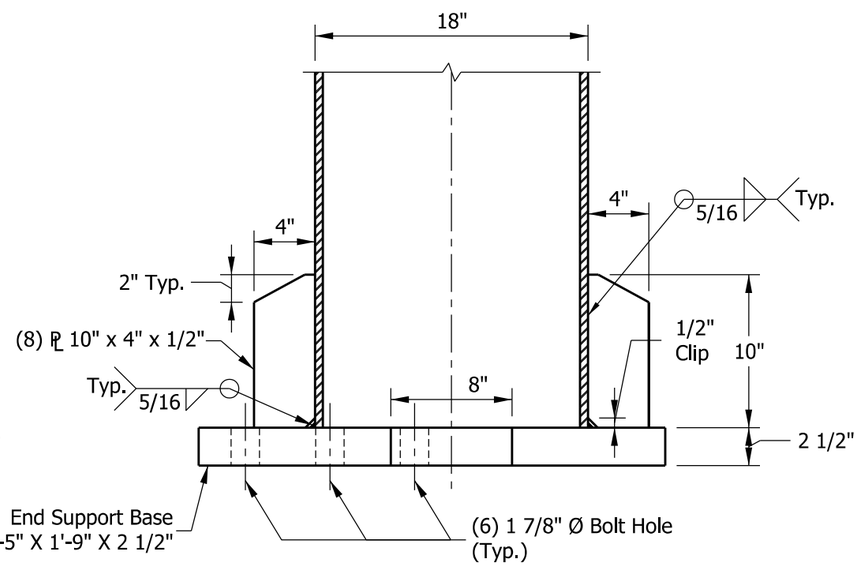
TYPE B-14 BASE PLATE



SECTION K-K



TYPE B-18 BASE PLATE

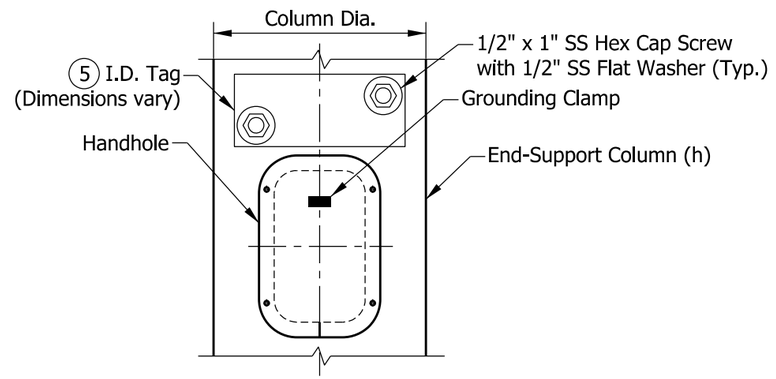


SECTION L-L

NOTES:

1. See Standard Drawing E 802-SBTS-12 for handhole details.
2. Use Type B-14 base plate for end-support column having diameter of 14". Use Type B-18 base plate for end-support column having diameter of 18".
3. See Standard Drawing E 802-SBTS-13 for anchor bolt and metal skirt details.
4. Each end support shall have one handhole at the column base (h). Handhole shall be placed on the column nearest to the sign.
5. I.D. tag is required on each end-support column. 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 _____



ELEVATION
VIEW FROM HANDHOLE SIDE

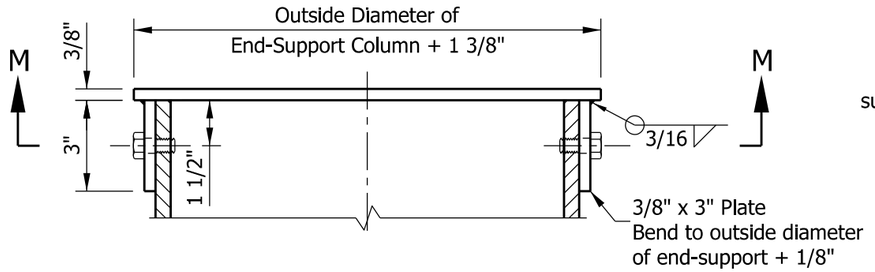
INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
END SUPPORT
BASE PLATE AND I.D. TAG DETAILS
SEPTEMBER 2013

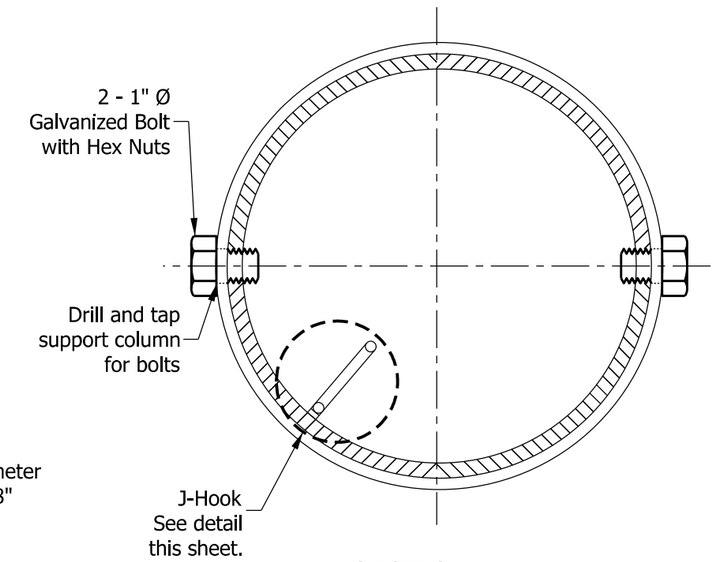
STANDARD DRAWING NO. E 802-SBTS-11

ALFREDO B. HANZA REGISTERED No. 60020657 STATE OF INDIANA PROFESSIONAL ENGINEER

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



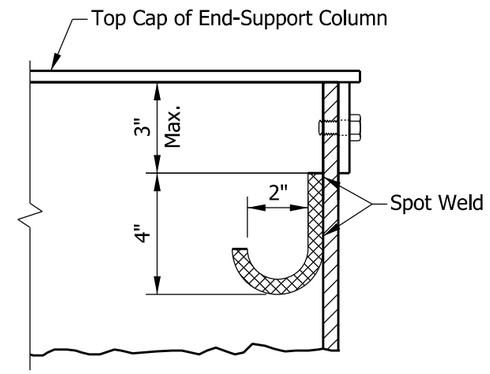
TOP CAP
ELEVATION VIEW



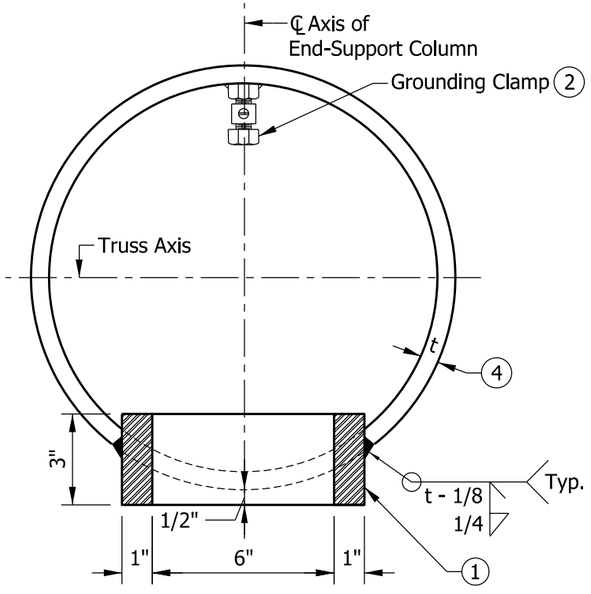
SECTION M-M

NOTES:

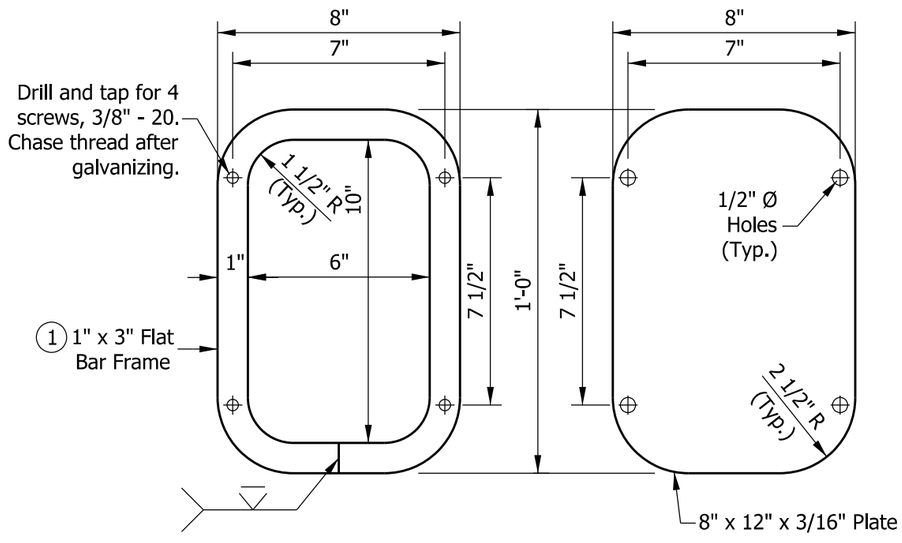
1. In lieu of fabricated handhole frame as shown, frame may be cut from 3" plate (rolling direction vertical).
2. See Standard Drawing E 802-SNWR-03 for grounding post details. Grounding post to be placed on far side of support directly opposite center of handhole.
3. See Standard Drawing E 802-SBTS-02 and 10 for handhole locations.
4. See Standard Drawing E 802-SBTS-03 for thicknesses of end-support columns (h).



J-HOOK DETAIL



HANDHOLE
SECTION ACROSS COLUMN



HANDHOLE FRAME DETAIL

HANDHOLE COVER

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
END-SUPPORT
TOP-CAP, HANDHOLE, AND J-HOOK DETAILS
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-12

ALFREDO B. HANZA
REGISTERED
No.
60020657
STATE OF
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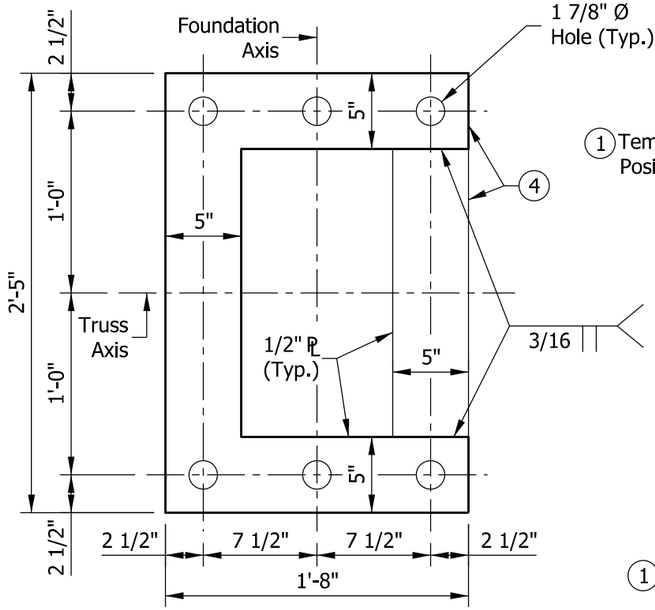
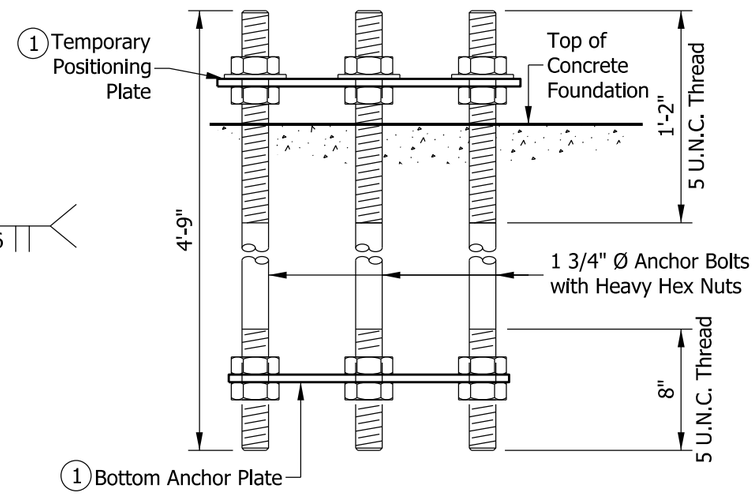
PROFESSIONAL ENGINEER

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

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



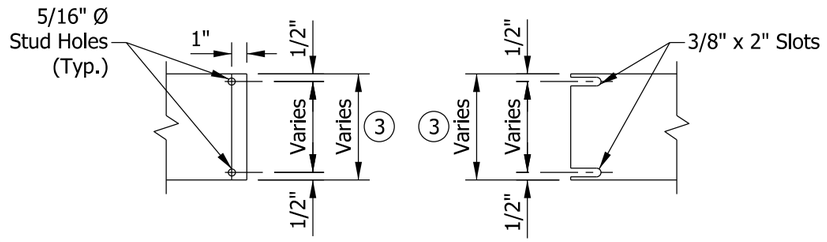
TEMPORARY POSITIONING PLATE



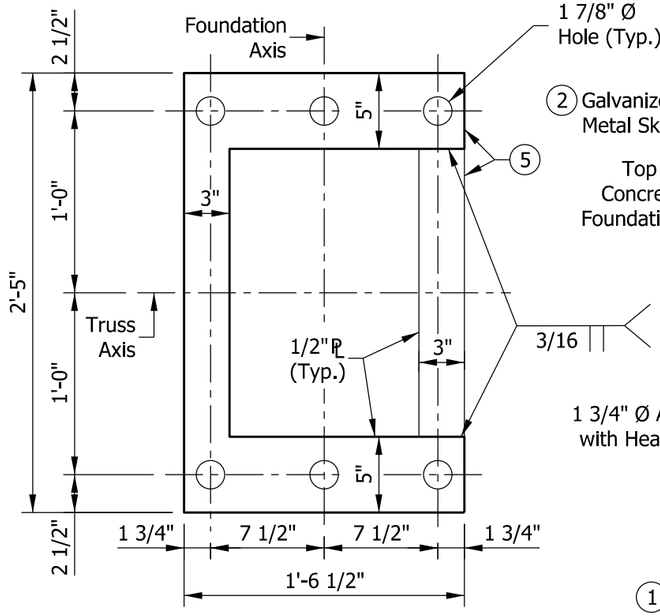
ANCHOR BOLT DETAILS
BEFORE CONCRETE PLACEMENT

NOTES:

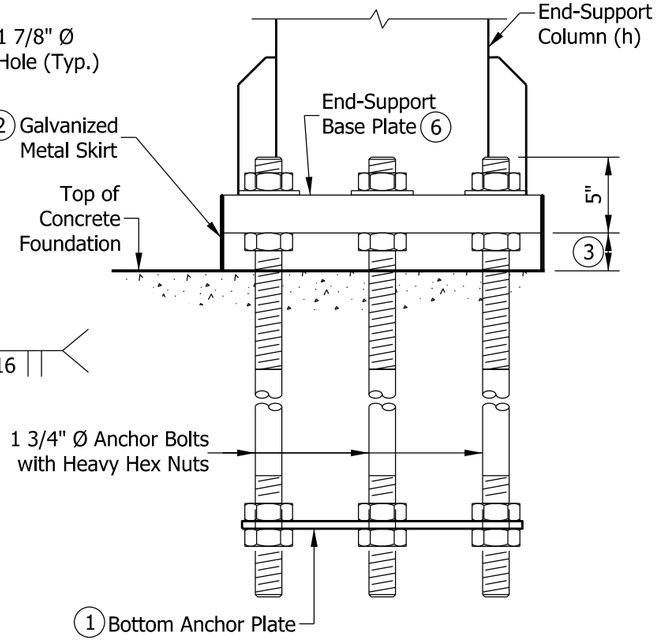
1. Use temporary positioning plate and bottom anchor plate for all foundations. Temporary positioning plate should be removed after placing concrete.
2. Secure galvanized metal skirt to base plate after erection as shown in skirt detail.
3. Minimum base plate gap is 2 1/2" and can be increased up to 5 1/2". Metal skirt width shall be at least 1 1/2" more than the actual gap.
4. May use four separate 5" plates welded together to maintain angles and shape as shown.
5. May use two separate 3" and two separate 5" plates welded together to maintain angles and shape as shown.
6. See Standard Drawing E 802-SBTS-11 for end-support base plate details.



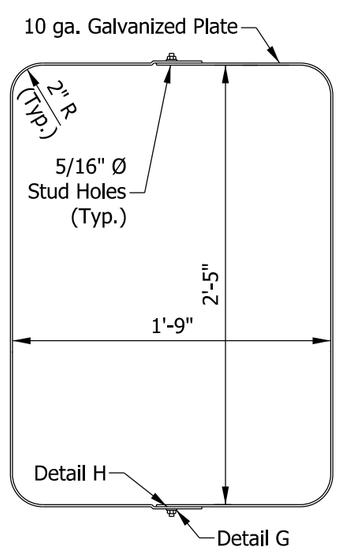
DETAIL G DETAIL H



BOTTOM ANCHOR PLATE



ANCHOR BOLT DETAILS
AFTER CONCRETE PLACEMENT



METAL SKIRT DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

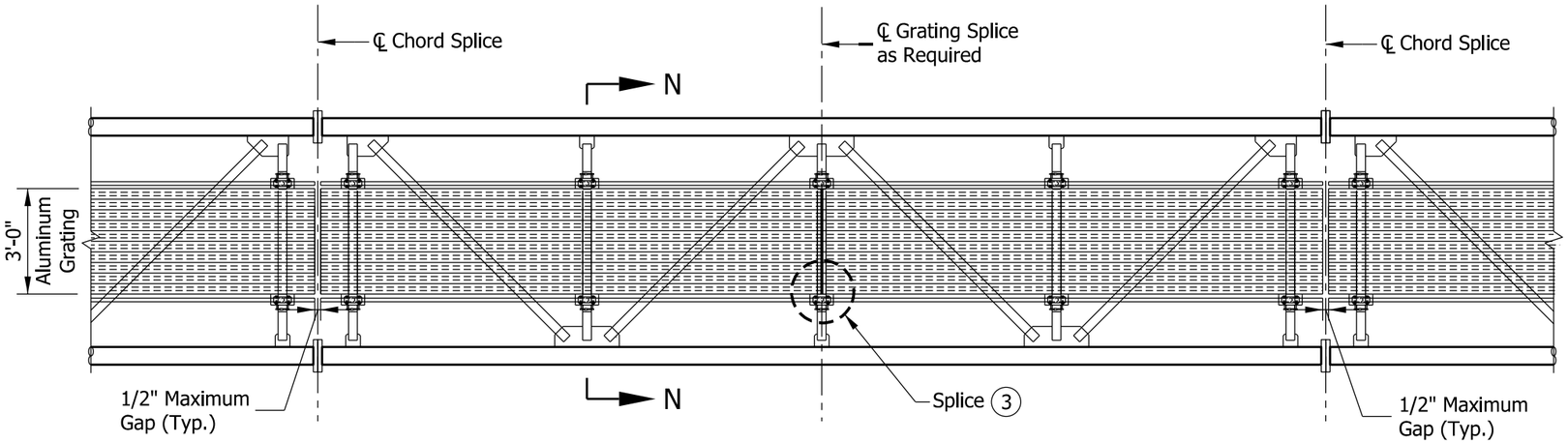
SIGN BOX TRUSS STRUCTURE
END-SUPPORT
ANCHOR BOLT AND METAL SKIRT DETAILS
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-13

ALFREDO B. HANZA REGISTERED No. 60020657 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Alfredo B. Hanza 03/26/13
DESIGN STANDARDS ENGINEER DATE

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



WALKWAY GRATING PLAN

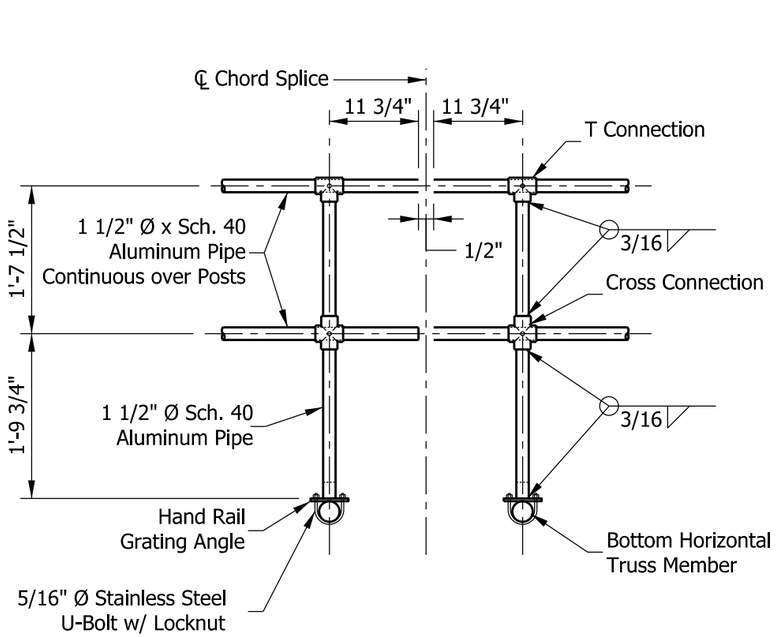
NOTES:

1. Interior walkway gratings shall be extruded I-bars 2" x 1/4" x 1 3/16" center-to-center. Cross bars shall have a maximum gap of 4". Moment of Inertia, I_x = 1.382 in^4. A different grating of equal strength may be used upon approval.

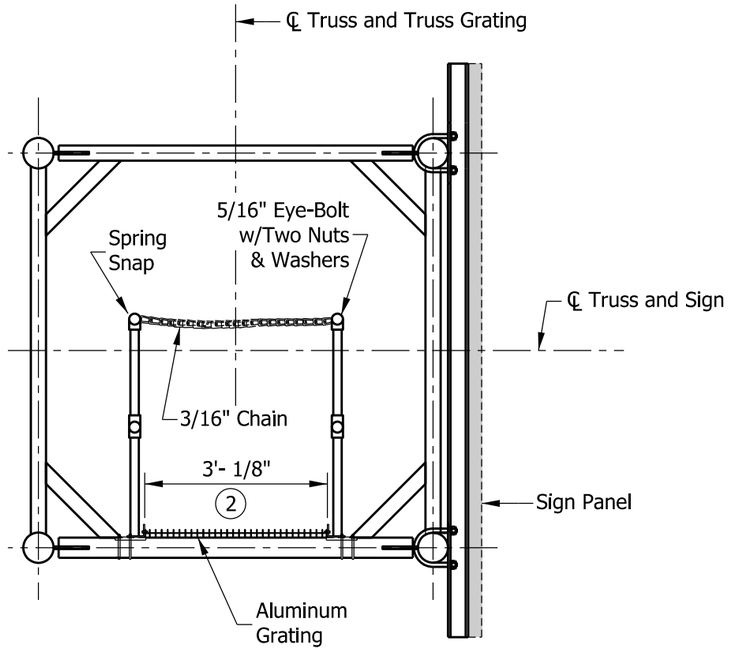
(2) Walkway grating width is nominal and may vary ±1/2" based on available standard widths.

(3) Interior walkway gratings can be spliced on center of any horizontal truss member as needed. See Standard Drawing E 802-SBTS-15 for typical interior walkway grating splice detail.

4. Interior walkway grating shall run the full length, center-to-center, of end-support truss members plus 9" at each end.



TYPICAL HANDRAIL DETAIL



SECTION N-N

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
INTERIOR WALKWAY GRATING DETAILS

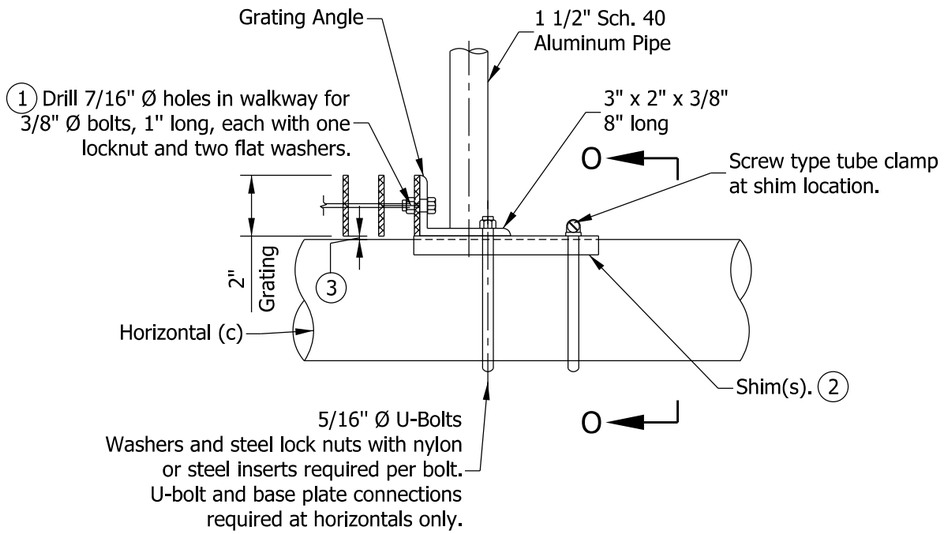
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-14

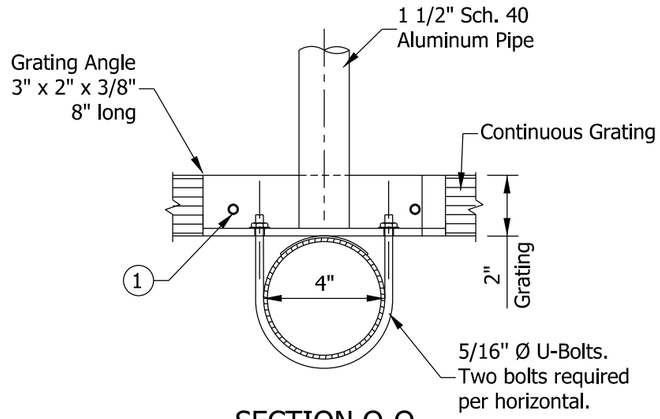
ALFREDO B. HANZA
REGISTERED
No.
60020657
STATE OF
INDIANA
PROFESSIONAL ENGINEER

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

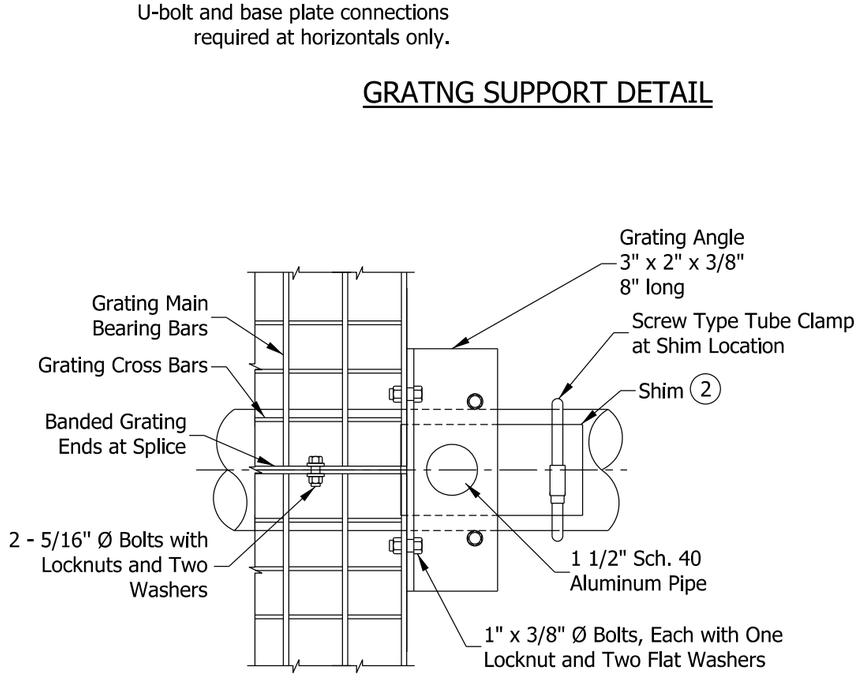
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



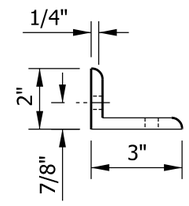
GRATNG SUPPORT DETAIL

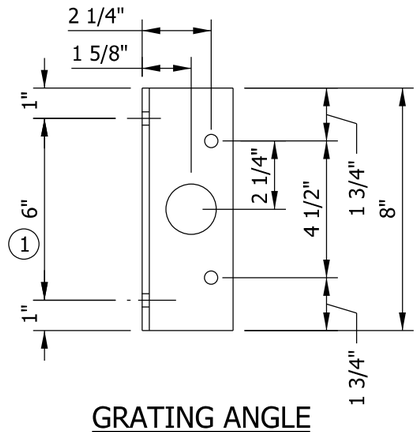


SECTION O-O



GRATING SPLICE DETAIL

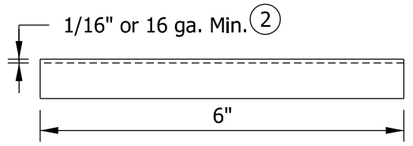




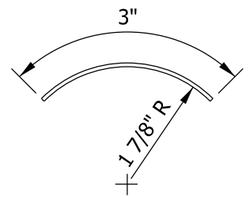
GRATING ANGLE

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, allow for camber.



ELEVATION



END VIEW

SHIM DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
INTERIOR WALKWAY GRATING DETAILS

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-15

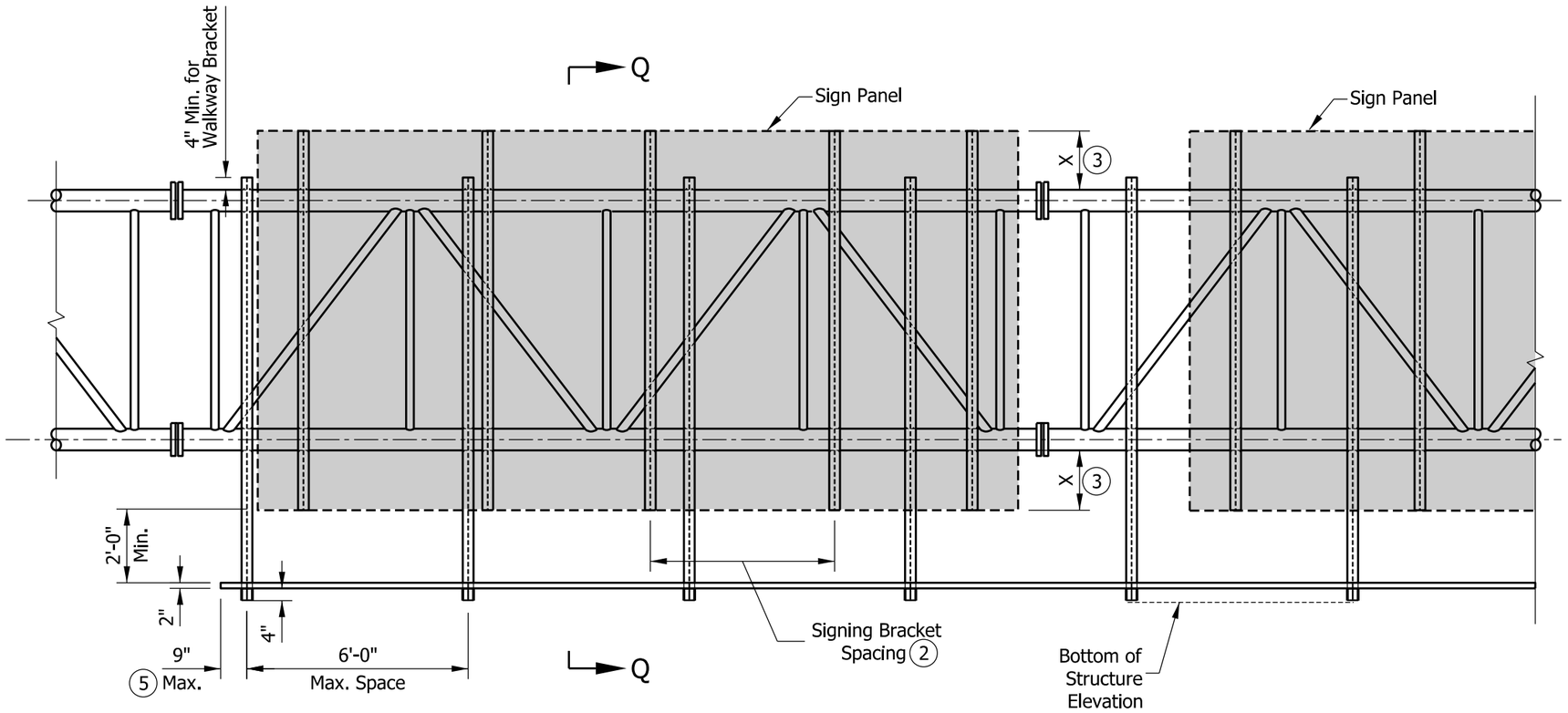
ALFREDO B. HANZA
REGISTERED
No.
60020657
STATE OF
INDIANA
PROFESSIONAL ENGINEER

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

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

NOTES:

1. For location and data for sign panels, see plan details cross section.
2. Signs > 7' in height, bracket spacing 5' max.
   Signs ≤ 7' in height, bracket spacing 7' max.
3. Dimension X depends on the height of the sign. Sign is to be centered vertically on truss.
4. See Standard Drawing E 802-SBTS-17 for Plan, and E 802-SBTS-18 for Section Q-Q.
5. Sign shall be installed on truss with independent brackets WF (A-N) 4 x 3.06. Lighting walkway may be extended to comply with the 9" maximum unsupported grating.



TYPICAL FRONT ELEVATION
(Lights & handrail omitted for clarity)

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY

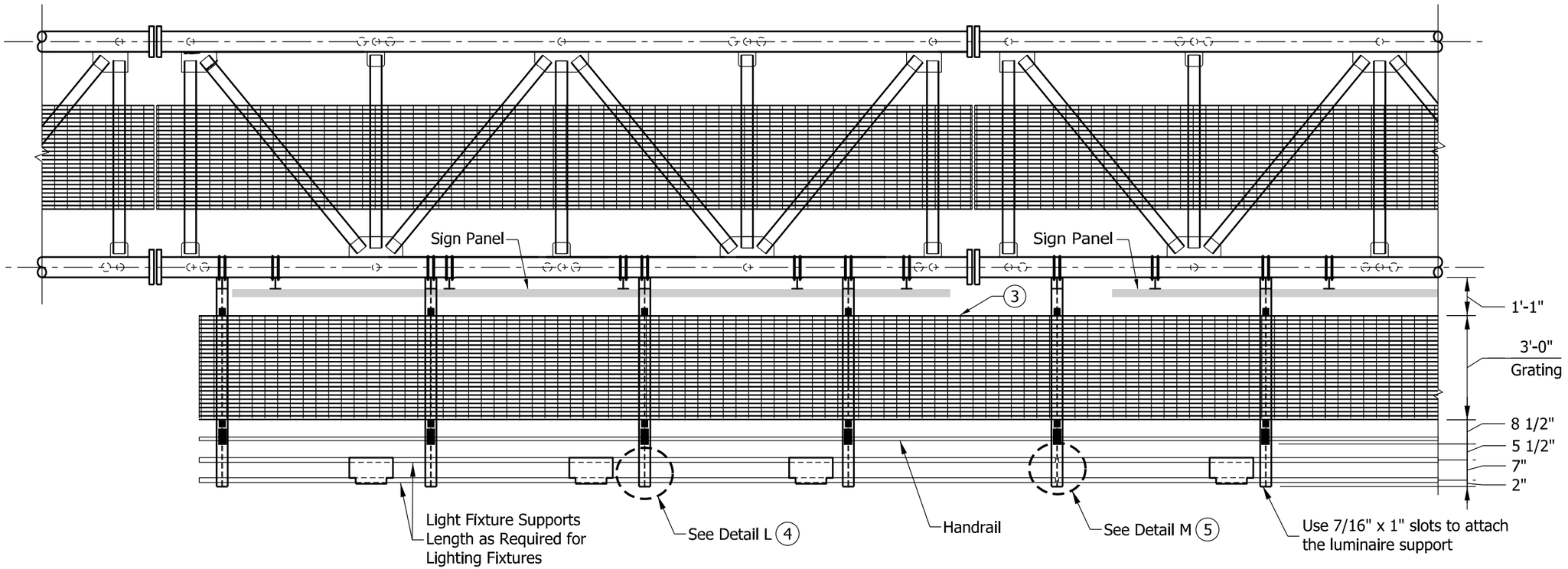
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-16

ALFREDO B. HANZA
REGISTERED
No. 60020657
STATE OF INDIANA
PROFESSIONAL ENGINEER

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

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



PLAN

NOTES:

1. Handrail and grating shall span a minimum of 3 brackets.

2. Grating splice located on center of L-bracket only. See Standard Drawing E 802-SBTS-21, Detail M.

(3) Lighting walkway gratings are extruded I-bars 2" x 1/4" spaced at 1 3/16" center-to-center. Cross bars shall have a maximum gap of 4". Moment of Inertia, I_x = 1.382 in^4. A different grating of equal strength may be used upon approval.

(4) See Standard Drawing E 802-SBTS-21, Detail L.

(5) See Standard Drawing E 802-SBTS-21, Detail M.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY

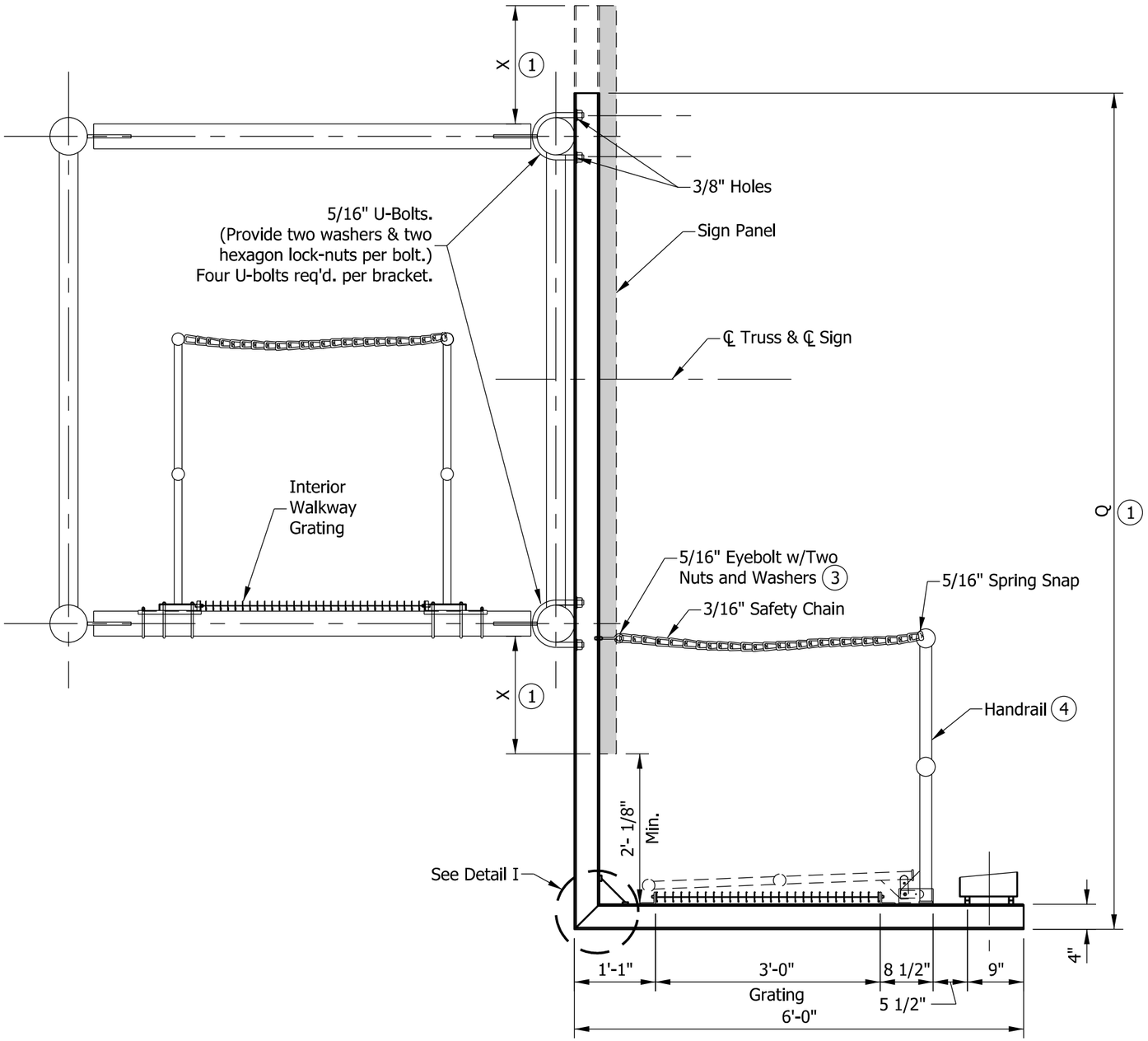
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-17

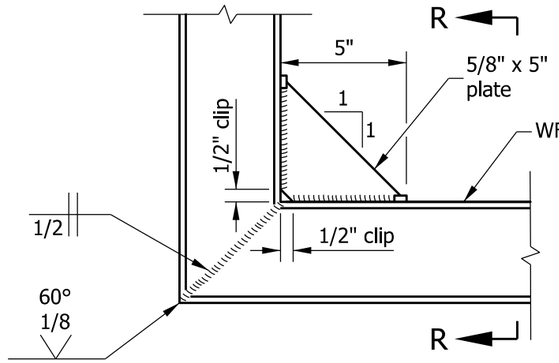
ALFREDO B. HANZA
REGISTERED
No.
60020657
STATE OF
INDIANA
PROFESSIONAL ENGINEER

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

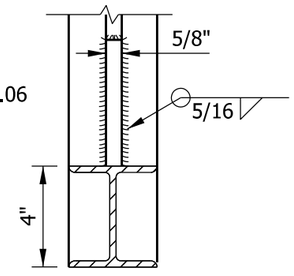
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



SECTION Q-Q



DETAIL I



SECTION R-R

NOTES:

1. Dimensions X and Q to be determined by Contractor to fit signs.
2. Sign panel shall be placed symmetrically about centerline of truss.
3. (3) Eyebolt shall be attached to web of bracket at approximate elevation of upper handrail pipe.
4. (4) See Standard Drawing E 802-SBTS-19 for handrail details.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY PROFILE

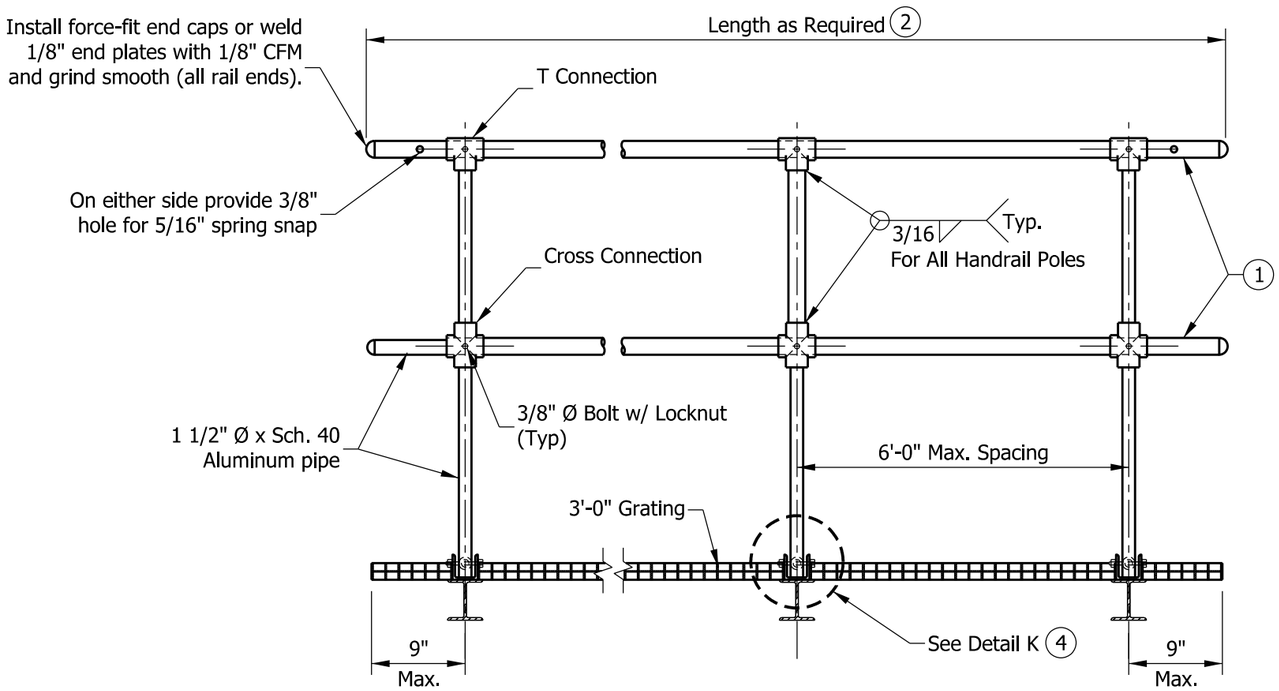
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-18

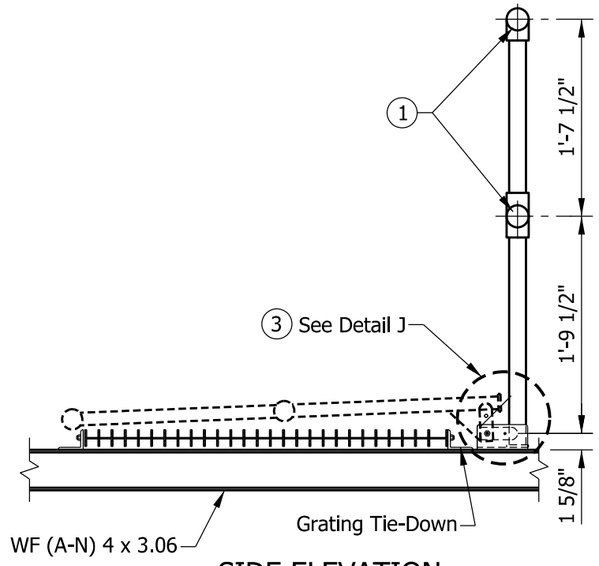
ALFREDO B. HANZA
REGISTERED
No.
60020657
STATE OF
INDIANA
PROFESSIONAL ENGINEER

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

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



FRONT ELEVATION



SIDE ELEVATION

NOTES:

(1) Horizontal rail member shall be continuous through fitting. Manufacturer shall provide 7/16" holes for fitting 3/8" bolt. Field drill 7/16" hole in horizontal rail member. Attach handrail with 3/8" bolt, washer, and locknut.

(2) Rail and grating shall span a minimum of three brackets.

(3) See Standard Drawing E 802-SBTS-20 for Detail J.

(4) See Standard Drawing E 802-SBTS-20 for Detail K.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY AND
HANDRAIL ASSEMBLY

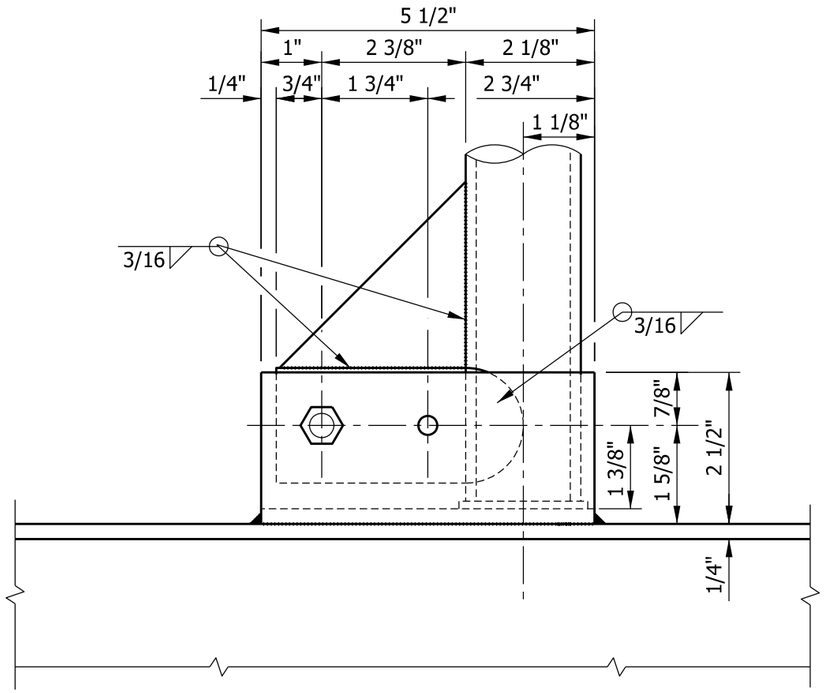
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-19

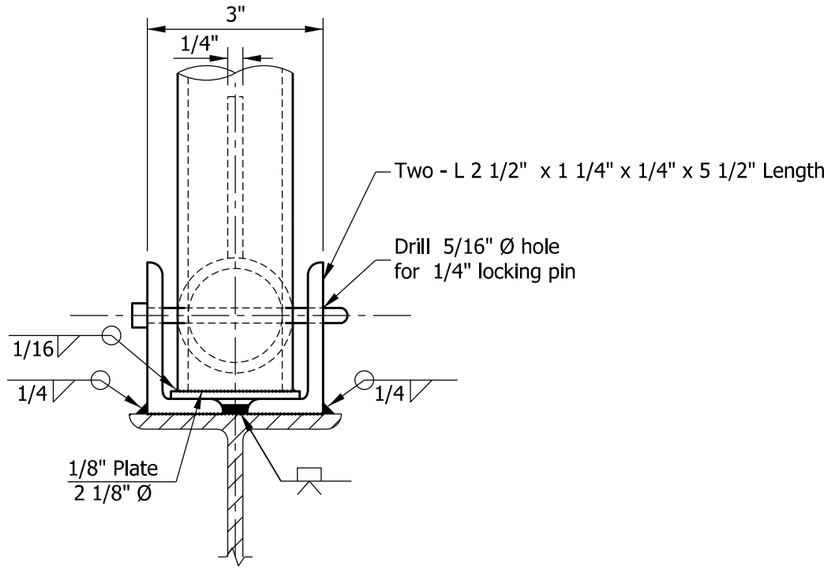
ALFREDO B. HANZA
REGISTERED
No. 60020657
STATE OF INDIANA
PROFESSIONAL ENGINEER

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

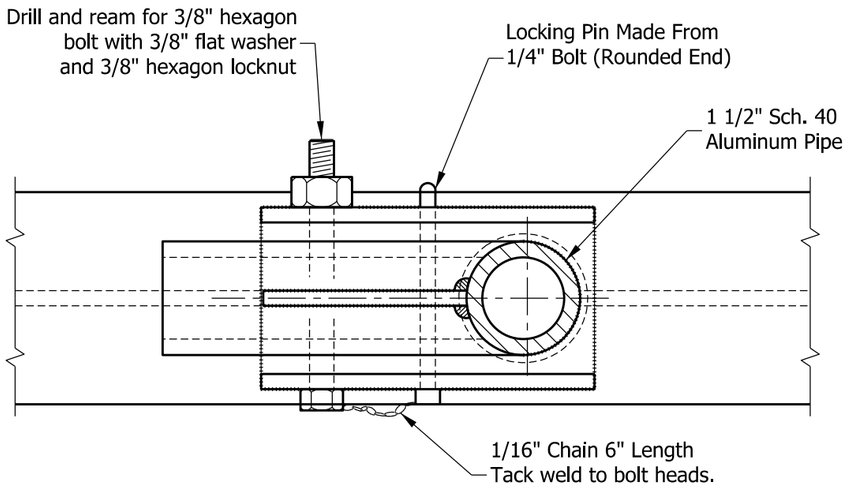
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



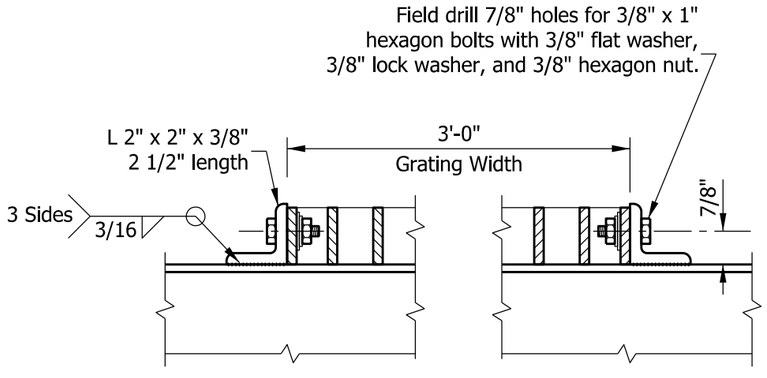
DETAIL J
SIDE ELEVATION



DETAIL K
FRONT ELEVATION



PLAN
DETAILS OF HANDRAIL HINGE



GRATING TIE DOWN
(Two req'd per walkway bracket)

INDIANA DEPARTMENT OF TRANSPORTATION

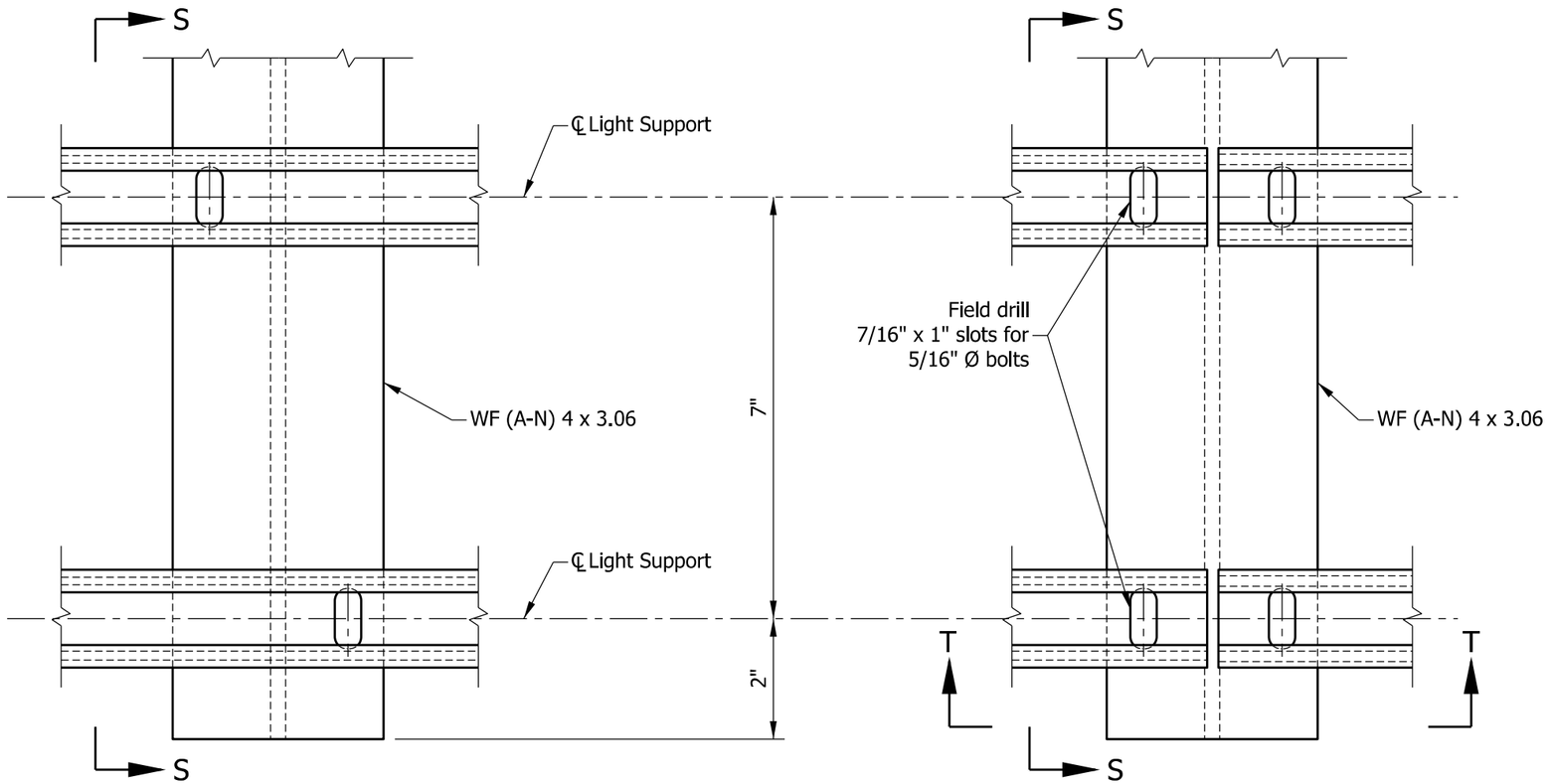
SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY, HANDRAIL HINGE, AND GRATING DETAILS
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-20

ALFREDO B. HANZA
REGISTERED
No. 60020657
STATE OF INDIANA
PROFESSIONAL ENGINEER

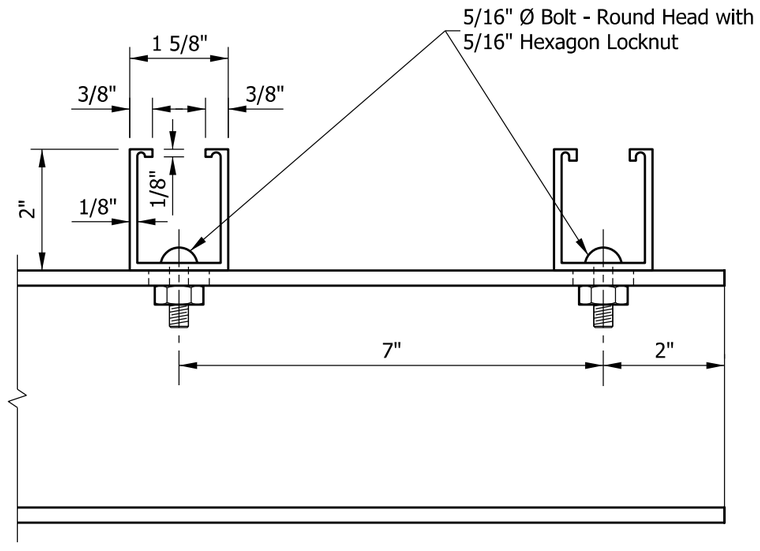
/s/ Alfredo B. Hanza 03/26/13
DESIGN STANDARDS ENGINEER DATE

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

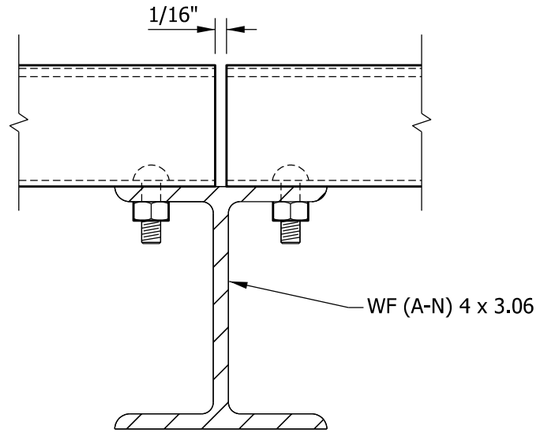


DETAIL L

DETAIL M



SECTION S-S



SECTION T-T

INDIANA DEPARTMENT OF TRANSPORTATION

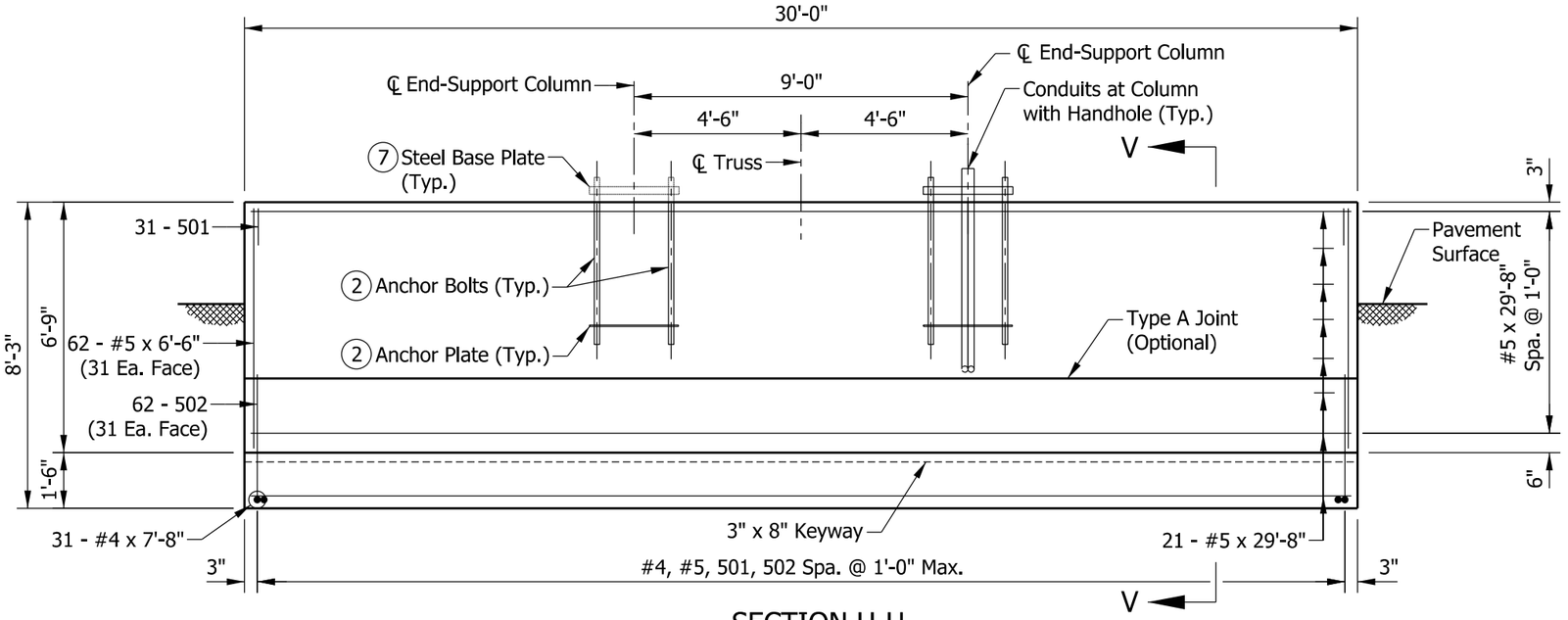
SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY
FIXTURE MOUNT DETAILS
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-21

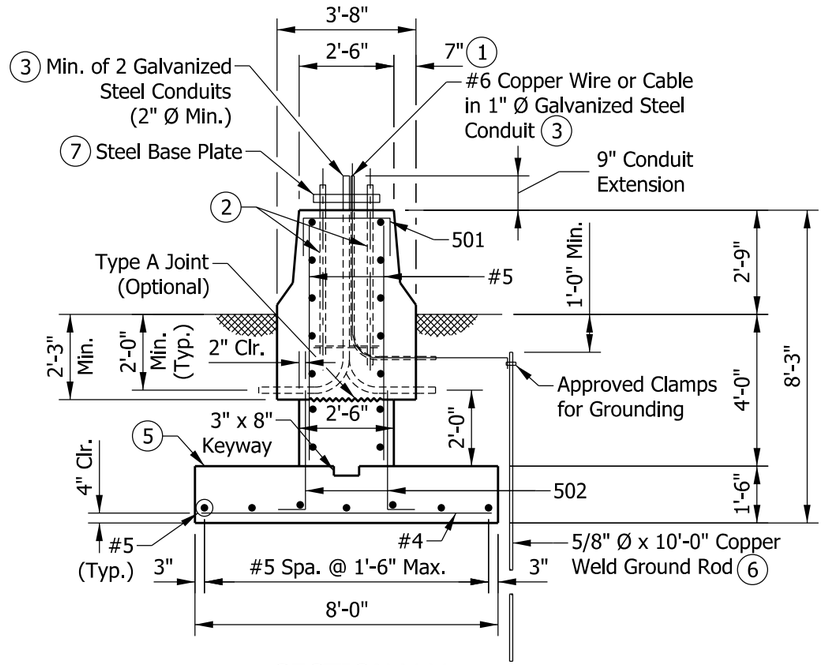
ALFREDO B. HANZA
REGISTERED
No.
60020657
STATE OF
INDIANA
PROFESSIONAL ENGINEER

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

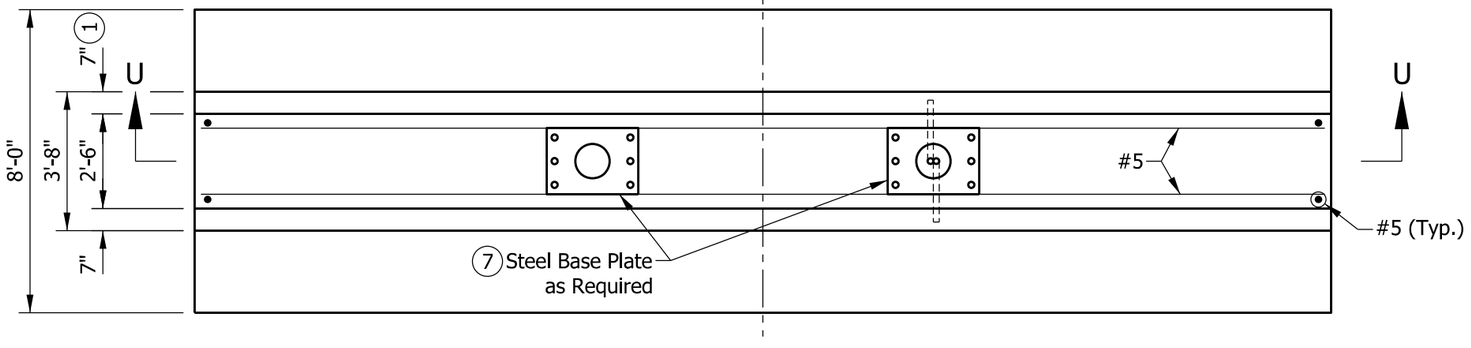
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



SECTION U-U



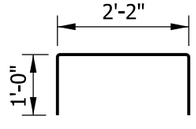
SECTION V-V



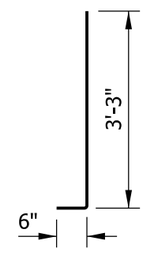
PLAN

NOTES:

1. See Standard Drawing E 602-CCMB-03 for barrier wall width transition.
2. See Standard Drawing E 802-SBTS-13 for anchor bolt and anchor plate details.
3. Thread and cap both ends of steel conduit.
4. See Standard Drawing E 802-SBTS-25 for quantities.
5. Top of the footing shall be a minimum of 4'-0" below the pavement or ground surface.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-11 for base plate detail.



501 x 4'-2"



502 x 3'-9"

INDIANA DEPARTMENT OF TRANSPORTATION

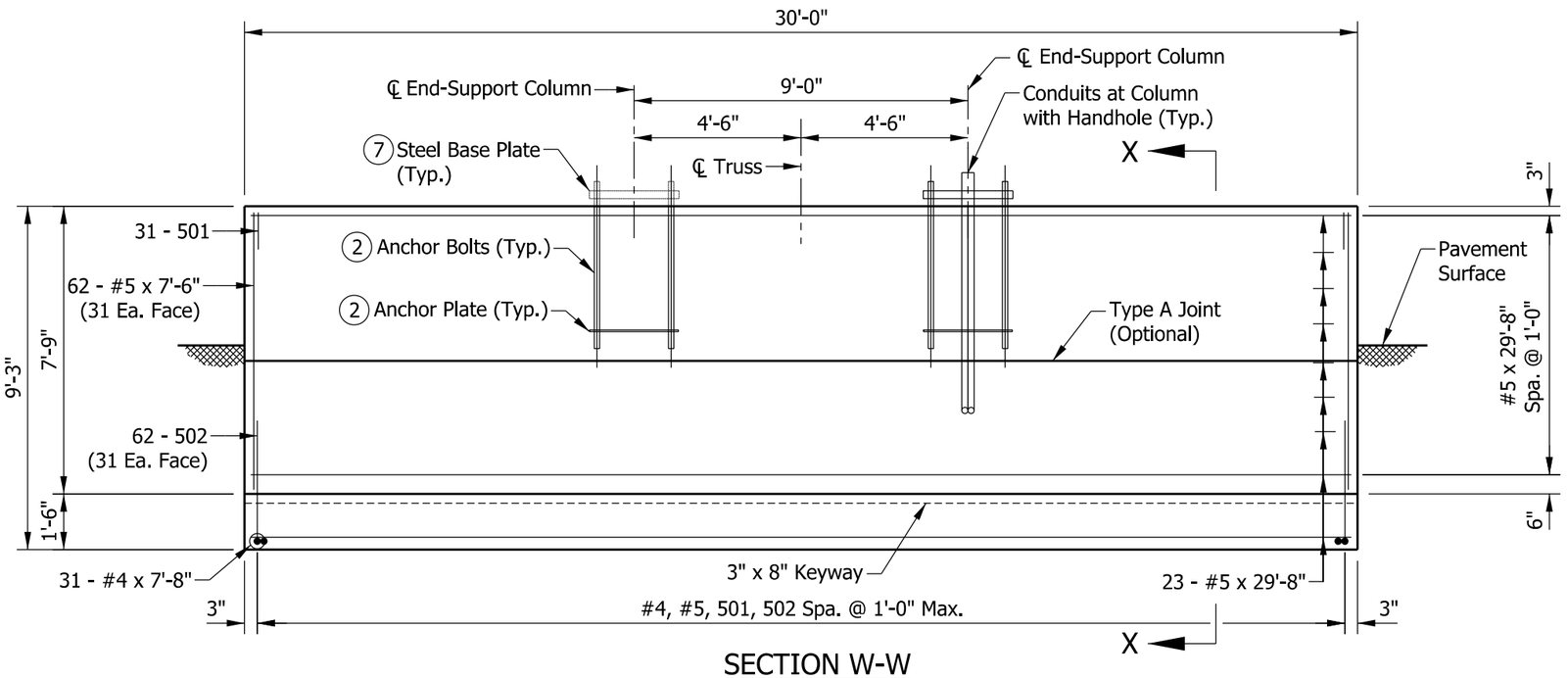
SIGN BOX TRUSS STRUCTURE
SPREAD FOUNDATION
AT 33" CONCRETE BARRIER WALL
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-22

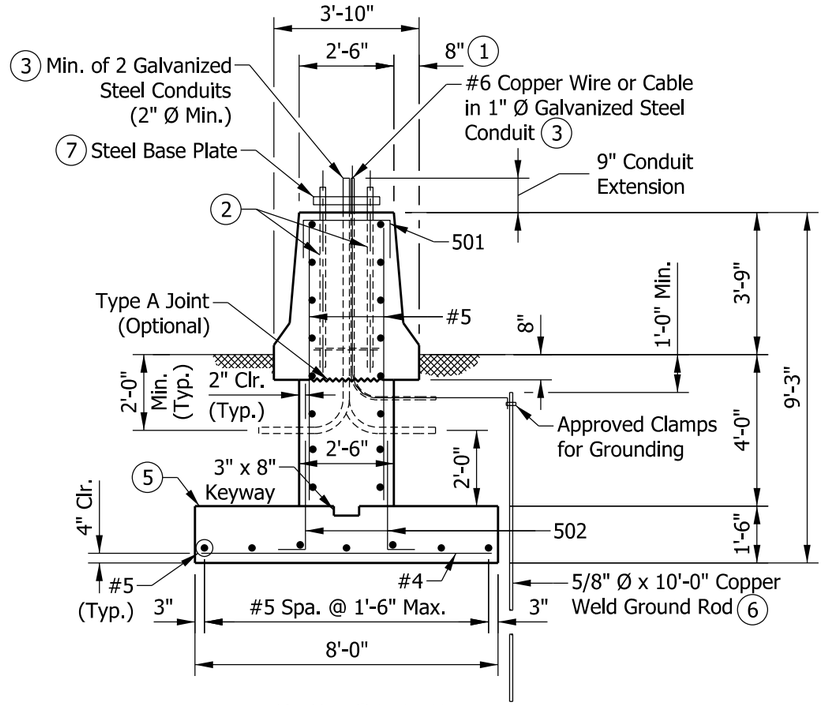
ALFREDO B. HANZA REGISTERED No. 60020657 STATE OF INDIANA PROFESSIONAL ENGINEER

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

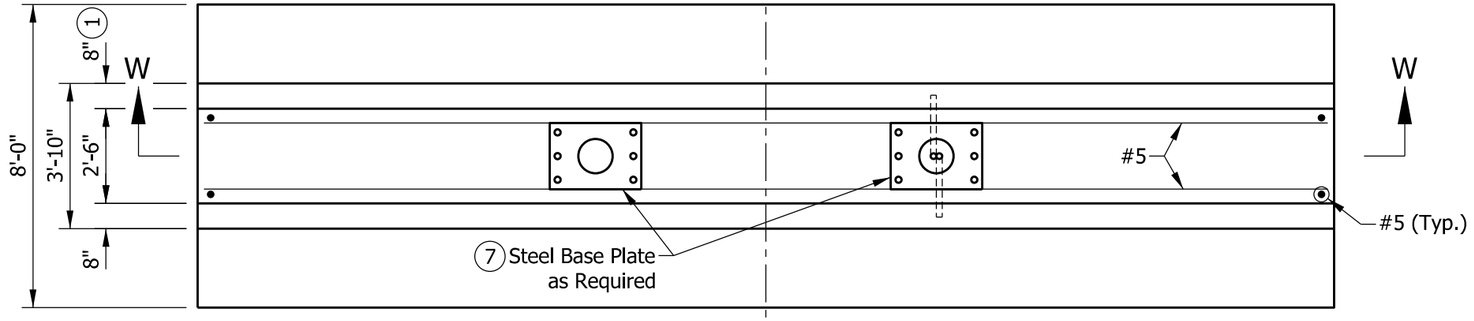
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



SECTION W-W



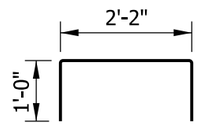
SECTION X-X



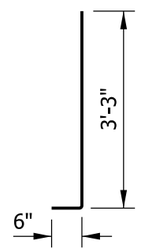
PLAN

NOTES:

1. See Standard Drawing E 602-CCMB-03 for barrier wall width transition.
2. See Standard Drawing E 802-SBTS-13 for anchor bolt and anchor plate details.
3. Thread and cap both ends of steel conduit.
4. See Standard Drawing E 802-SBTS-25 for quantities.
5. Top of the footing shall be a minimum of 4'-0" below the pavement or ground surface.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-11 for base plate details.



501 x 4'-2"



502 x 3'-9"

INDIANA DEPARTMENT OF TRANSPORTATION

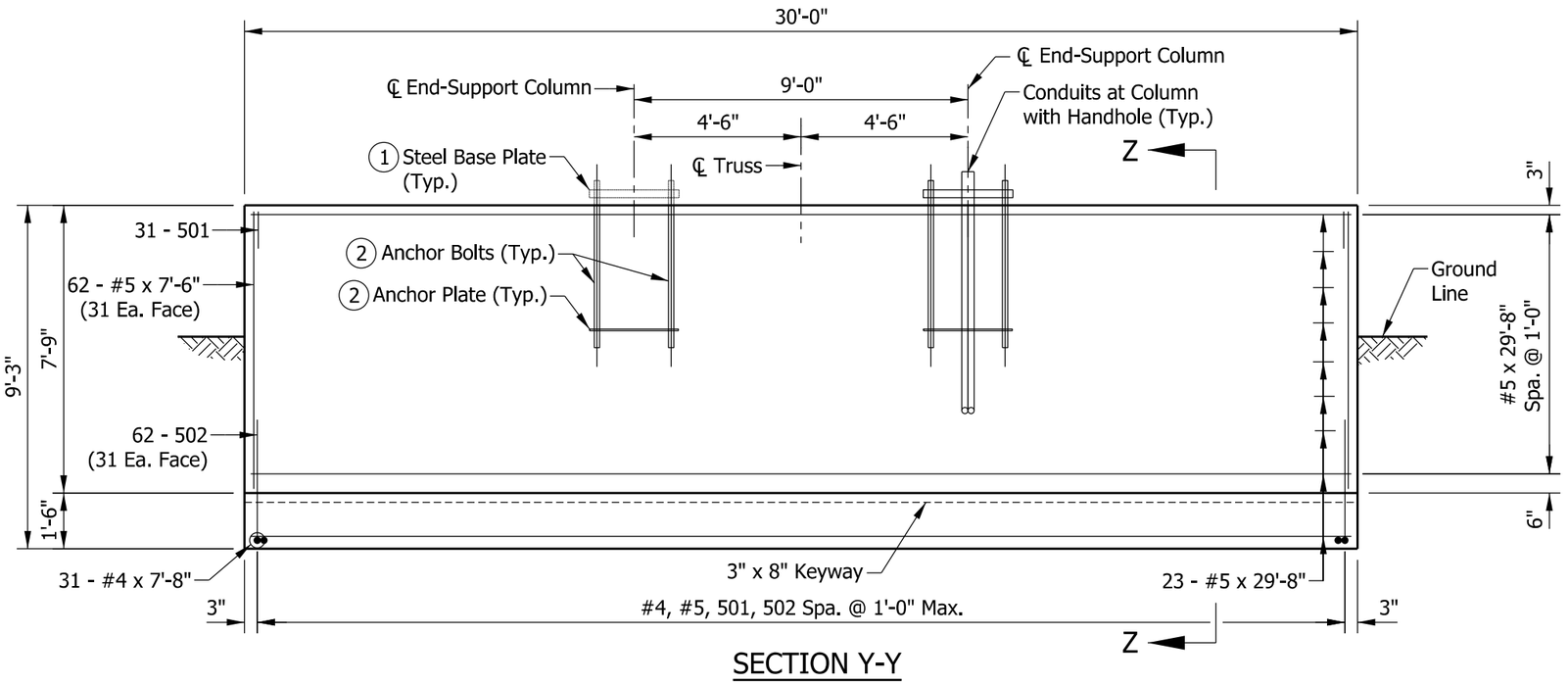
SIGN BOX TRUSS STRUCTURE
SPREAD FOUNDATION
AT 45" CONCRETE BARRIER WALL
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-23

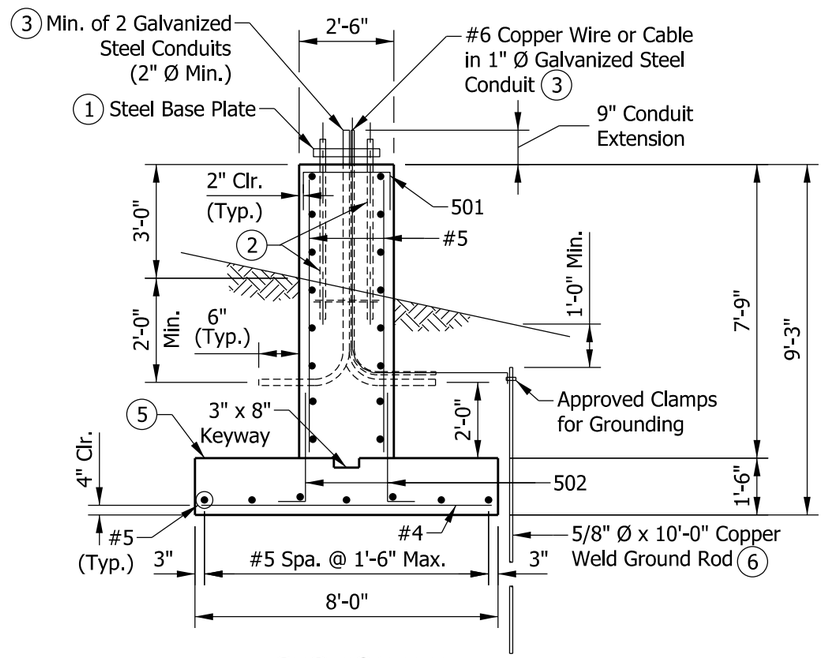
ALFREDO B. HANZA REGISTERED No. 60020657 STATE OF INDIANA PROFESSIONAL ENGINEER

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

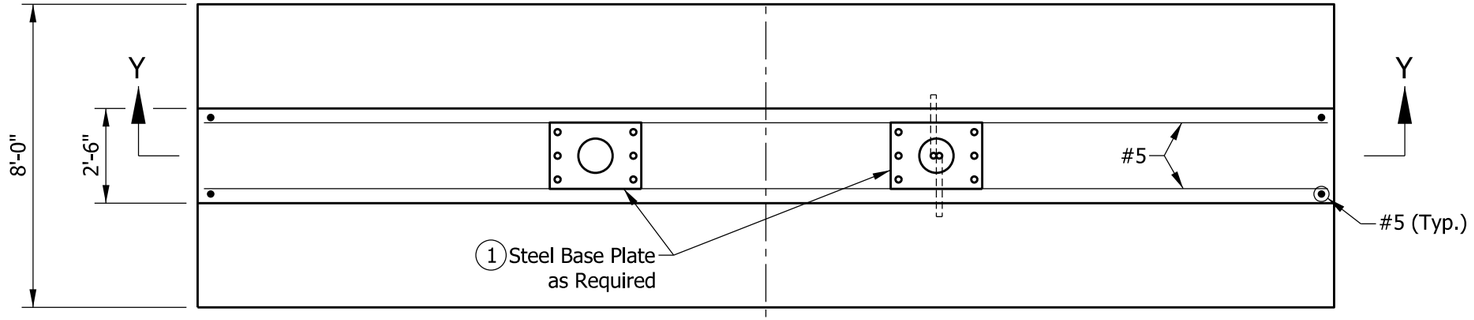
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



SECTION Y-Y



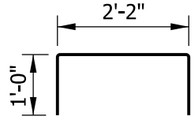
SECTION Z-Z



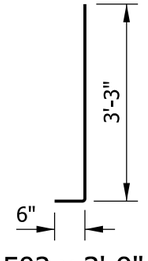
PLAN

NOTES:

1. See Standard Drawing E 802-SBTS-11 for base plate details.
2. See Standard Drawing E 802-SBTS-13 for anchor bolt and anchor plate details.
3. Thread and cap both ends of steel conduit.
4. See Standard Drawing E 802-SBTS-25 for quantities.
5. Top of the footing shall be a minimum of 4'-0" below the pavement or ground surface.
6. Only one ground rod per structure is required.



501 x 4'-2"



502 x 3'-9"

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
SPREAD FOUNDATION
FOR MEDIAN OR SHOULDER, 36" HEIGHT
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-24

ALFREDO B. HANZA REGISTERED No. 60020657 STATE OF INDIANA PROFESSIONAL ENGINEER

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

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

SPREAD FOUNDATION AT 33" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
501	31	4'-2"	
502	62	3'-9"	
#5	62	6'-6"	
#5	21	29'-8"	
Total #5			1447 LBS
#4	31	7'-8"	
Total #4			159 LBS
Total Epoxy-Coated Reinforcing Bars			1606 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			35.8 CYS
MISCELLANEOUS			
Surface Seal			27.6 SYS

SPREAD FOUNDATION AT 45" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
501	31	4'-2"	
502	62	3'-9"	
#5	62	7'-6"	
#5	23	29'-8"	
Total #5			1574 LBS
#4	31	7'-8"	
Total #4			159 LBS
Total Epoxy-Coated Reinforcing Bars			1733 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			37.6 CYS
MISCELLANEOUS			
Surface Seal			34.3 SYS

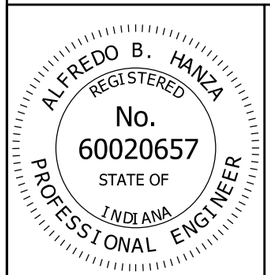
SPREAD FOUNDATION FOR MEDIAN OR SHOULDER, 36" HEIGHT			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
501	31	4'-2"	
502	62	3'-9"	
#5	62	7'-6"	
#5	23	29'-8"	
Total #5			1574 LBS
#4	31	7'-8"	
Total #4			159 LBS
Total Epoxy-Coated Reinforcing Bars			1733 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			34.9 CYS
MISCELLANEOUS			
Surface Seal			28.3 SYS

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE SPREAD FOUNDATIONS QUANTITIES

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-25

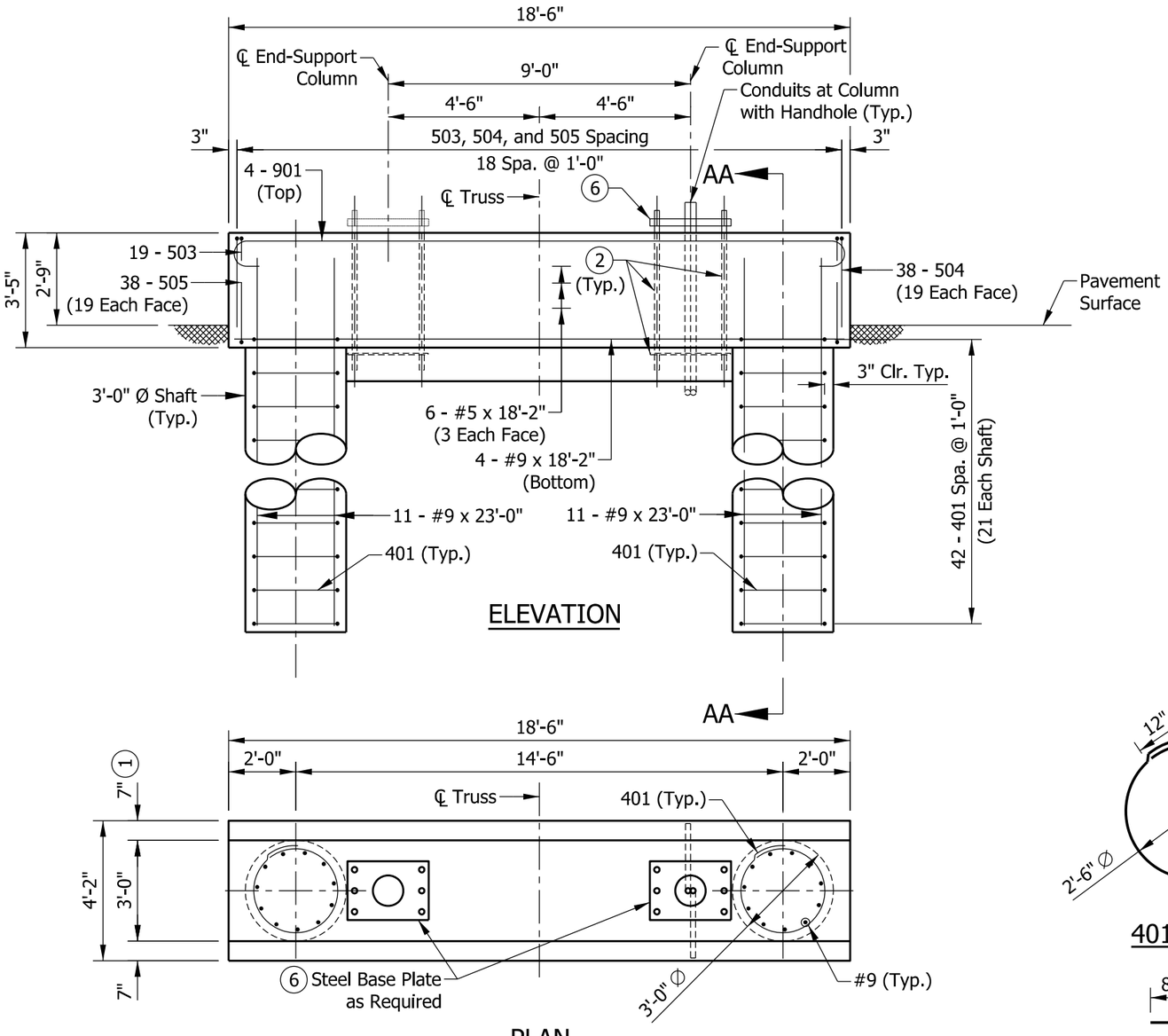


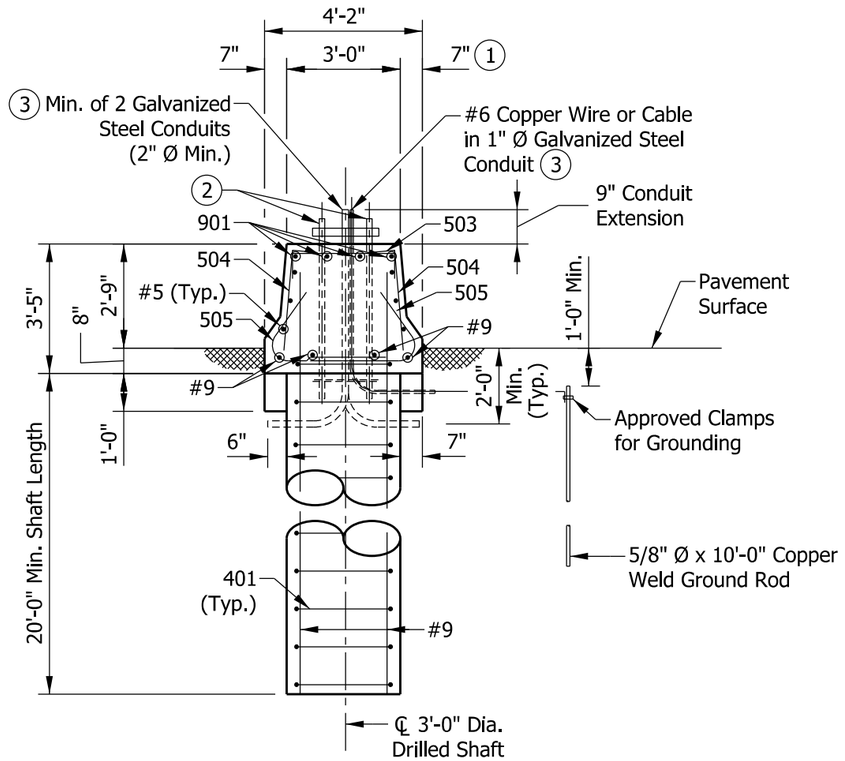
/s/ Alfredo B. Hanza *02/05/13*

DESIGN STANDARDS ENGINEER DATE

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

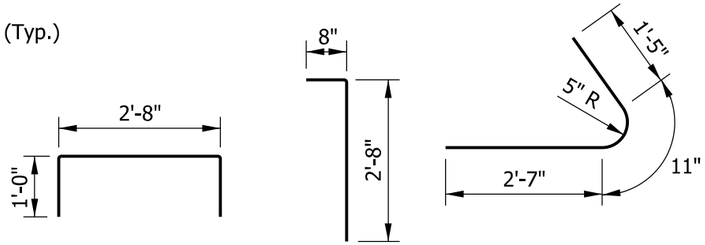
CHIEF ENGINEER DATE





SECTION AA-AA

401 x 8'-10"



NOTES:

1. See Standard Drawing E 602-CCMB-03 for barrier wall width transition.
2. See Standard Drawing E 802-SBTS-13 for anchor bolt and anchor plate details.
3. Thread and cap both ends of steel conduit.
4. See Standard Drawing E 802-SBTS-29 for quantities.
5. See Standard Drawing E 703-BRST-01 for reinforcing-bar bending details and notes.
6. See Standard Drawing E 802-SBTS-11 for base plate details.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE ALTERNATE DRILLED SHAFT FOUNDATION AT 33" CONCRETE BARRIER WALL

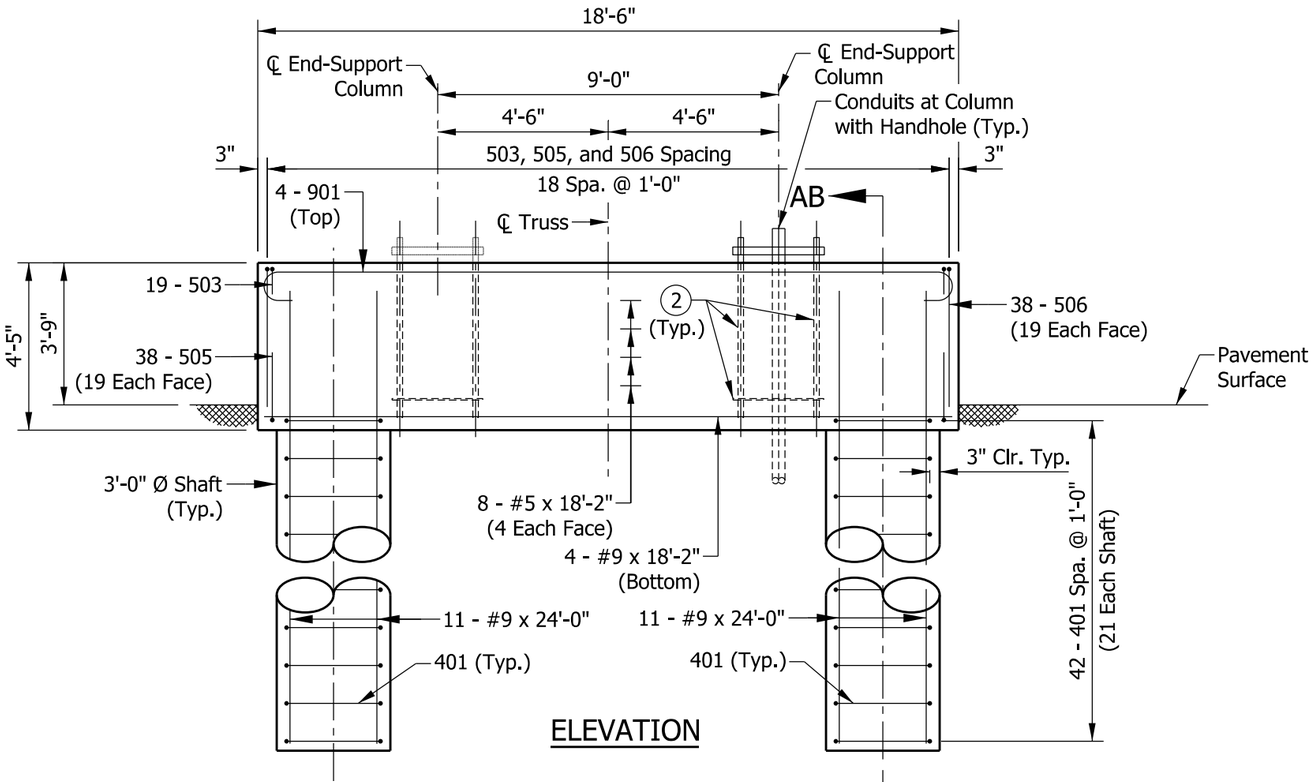
SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-26

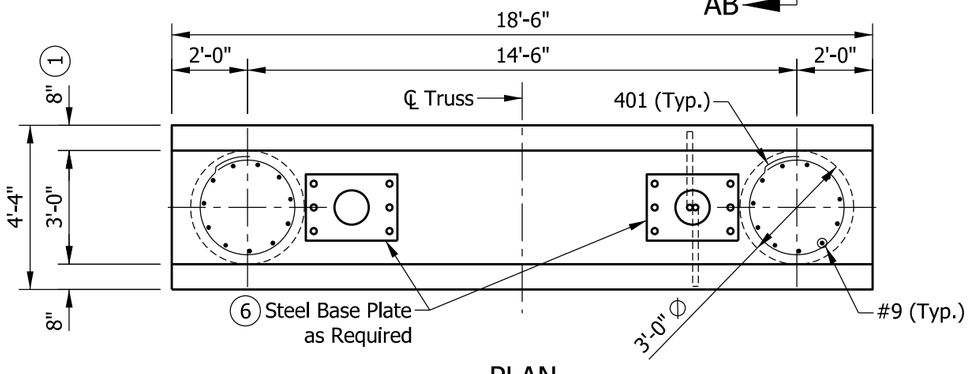
ALFREDO B. HANZA REGISTERED No. 60020657 STATE OF INDIANA PROFESSIONAL ENGINEER

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

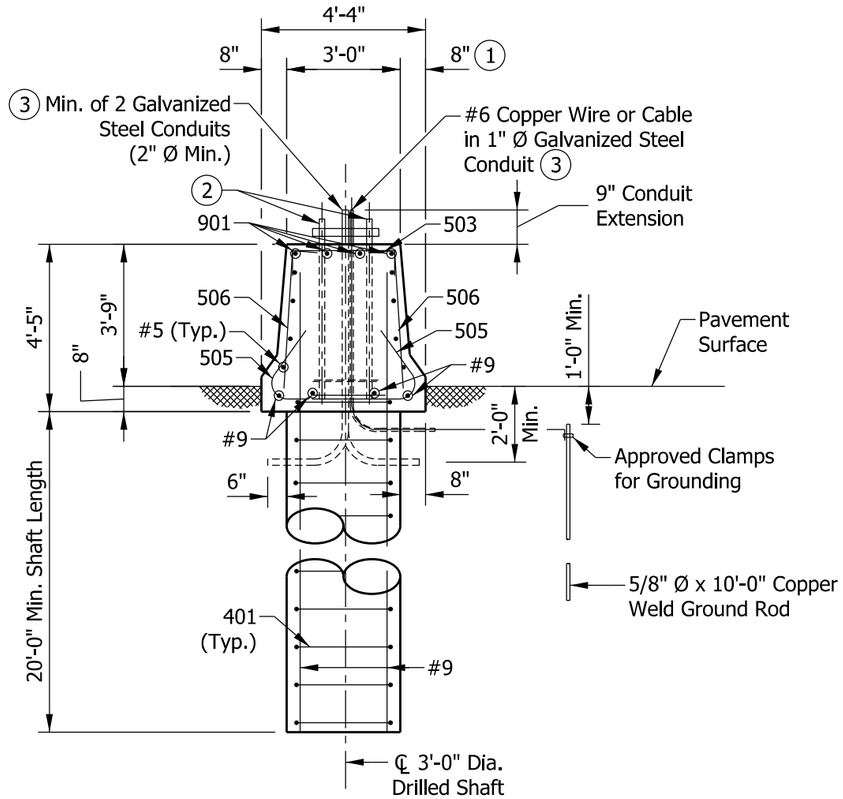
/s/ Mark A. Miller — 03/27/13
CHIEF ENGINEER — DATE



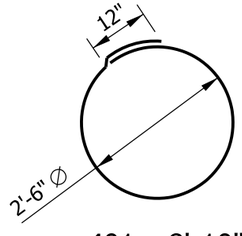
ELEVATION



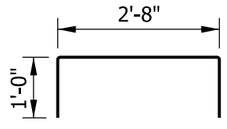
PLAN



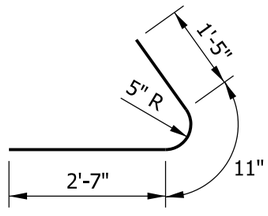
SECTION AB-AB



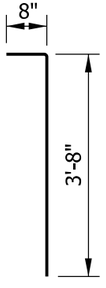
401 x 8'-10"



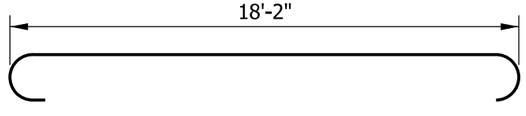
503 x 4'-8"



505 x 4'-11"



506 x 4'-4"



901 x 20'-8"

NOTES:

1. See Standard Drawing E 602-CCMB-03 for barrier wall width transition.
2. See Standard Drawing E 802-SBTS-13 for anchor bolt and anchor plate details.
3. Thread and cap both ends of steel conduit.
4. See Standard Drawing E 802-SBTS-29 for quantities.
5. See Standard Drawing E 703-BRST-01 for reinforcing-bar bending details and notes.
6. See Standard Drawing E 802-SBTS-11 for base plate details.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE ALTERNATE DRILLED SHAFT FOUNDATION AT 45" CONCRETE BARRIER WALL

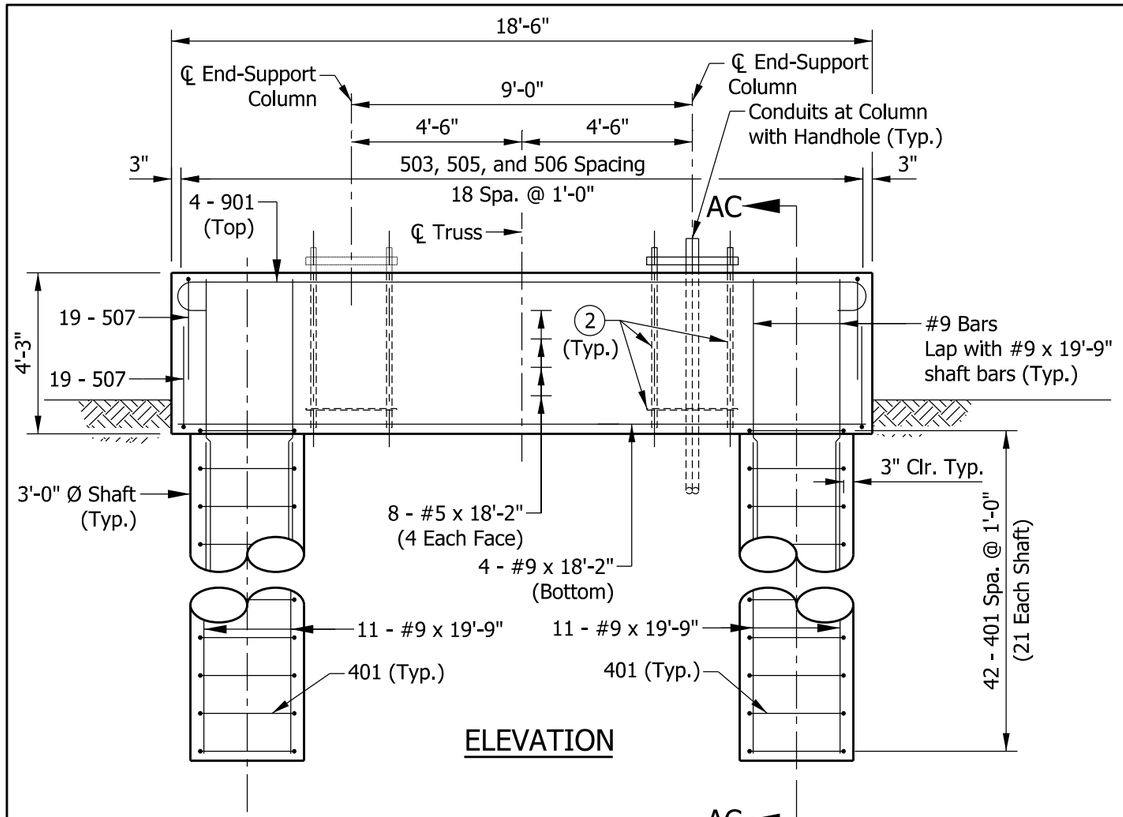
SEPTEMBER 2013

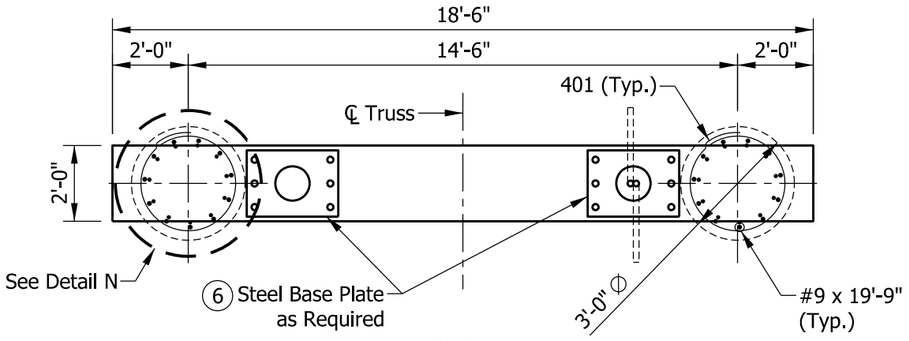
STANDARD DRAWING NO. E 802-SBTS-27

ALFREDO B. HANZA REGISTERED No. 60020657 STATE OF INDIANA PROFESSIONAL ENGINEER

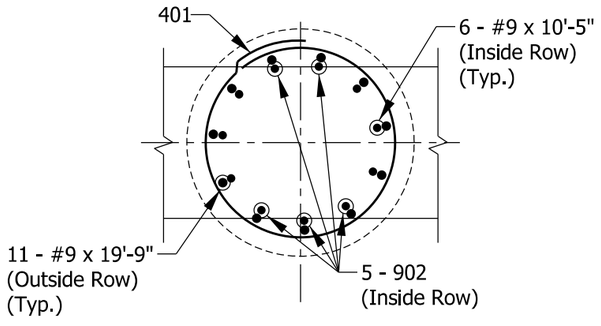
/s/ Alfredo B. Hanza 02/05/13
DESIGN STANDARDS ENGINEER DATE

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

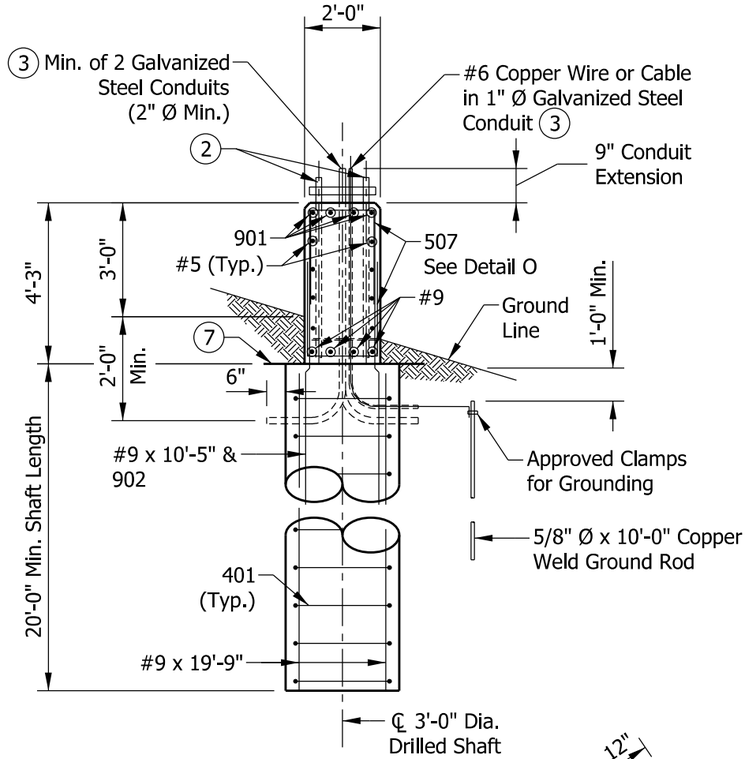




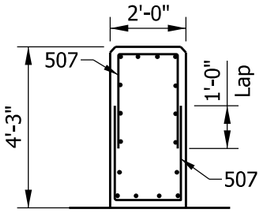
PLAN



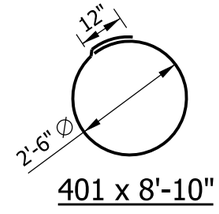
DETAIL N



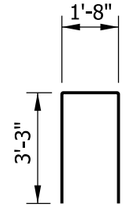
SECTION AC-AC



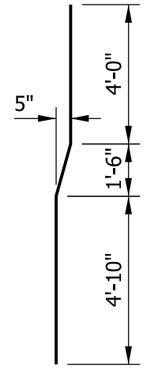
DETAIL O



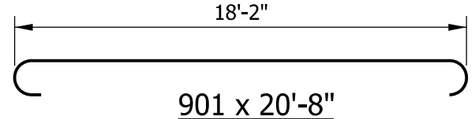
401 x 8'-10"



507 x 8'-2"



902 x 10'-5"



901 x 20'-8"

NOTES:

1. See Standard Drawing E 602-CCMB-03 for barrier wall width transition.
2. See Standard Drawing E 802-SBTS-13 for anchor bolt and anchor plate details.
3. Thread and cap both ends of steel conduit.
4. See Standard Drawing E 802-SBTS-29 for quantities.
5. See Standard Drawing E 703-BRST-01 for reinforcing-bar bending details and notes.
6. See Standard Drawing E 802-SBTS-11 for base plate details.
7. Top of foundation shall be level.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE ALTERNATE DRILLED SHAFT FOUNDATION FOR MEDIAN OR SHOULDER, 36" HEIGHT

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-28

ALFREDO B. HANZA REGISTERED No. 60020657 STATE OF INDIANA PROFESSIONAL ENGINEER

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

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

ALTERNATE DRILLED SHAFT FOUNDATION AT 33" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
901	4	20'-8"	
#9	4	18'-2"	
#9	22	23'-0"	
Total #9			2249 LBS
503	19	4'-8"	
504	38	3'-4"	
505	38	4'-11"	
#5	6	18'-2"	
Total #5			533 LBS
401	42	8'-10"	
Total #4			248 LBS
Total Epoxy-Coated Reinforcing Bars			3030 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			20.0 CYS
MISCELLANEOUS			
Surface Seal			17.6 SYS

ALTERNATE DRILLED SHAFT FOUNDATION AT 45" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
901	4	20'-8"	
#9	4	18'-2"	
#9	22	24'-0"	
Total #9			2323 LBS
503	19	4'-8"	
505	38	4'-11"	
506	38	4'-4"	
#5	8	18'-2"	
Total #5			611 LBS
401	42	8'-10"	
Total #4			248 LBS
Total Epoxy-Coated Reinforcing Bars			3182 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			20.8 CYS
MISCELLANEOUS			
Surface Seal			21.7 SYS

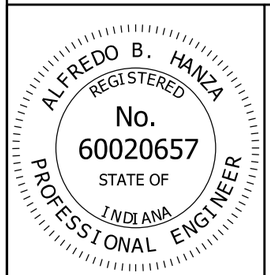
ALTERNATE DRILLED SHAFT FOUNDATION FOR MEDIAN OR SHOULDER, 36" HEIGHT			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
901	4	20'-8"	
902	10	10'-5"	
#9	4	18'-2"	
#9	12	10'-5"	
#9	22	19'-9"	
Total #9			2785 LBS
507	38	8'-2"	
#5	8	18'-2"	
Total #5			475 LBS
401	42	8'-10"	
Total #4			248 LBS
Total Epoxy-Coated Reinforcing Bars			3508 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			16.3 CYS
MISCELLANEOUS			
Surface Seal			21.6 SYS

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE ALTERNATE DRILLED SHAFT FOUNDATIONS QUANTITIES

SEPTEMBER 2013

STANDARD DRAWING NO. E 802-SBTS-29



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

DESIGN STANDARDS ENGINEER DATE

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

CHIEF ENGINEER DATE