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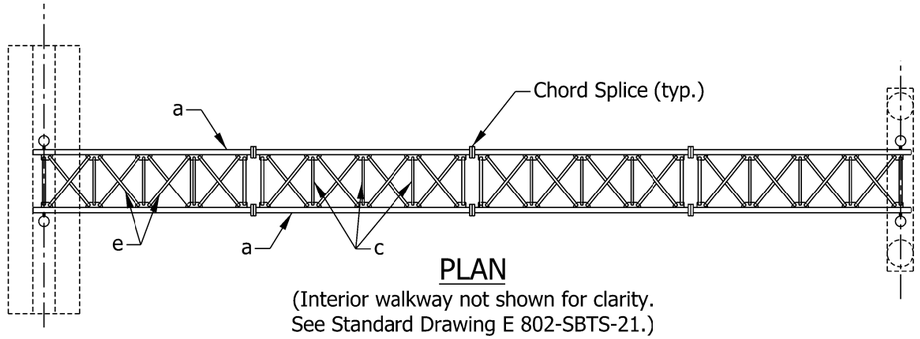
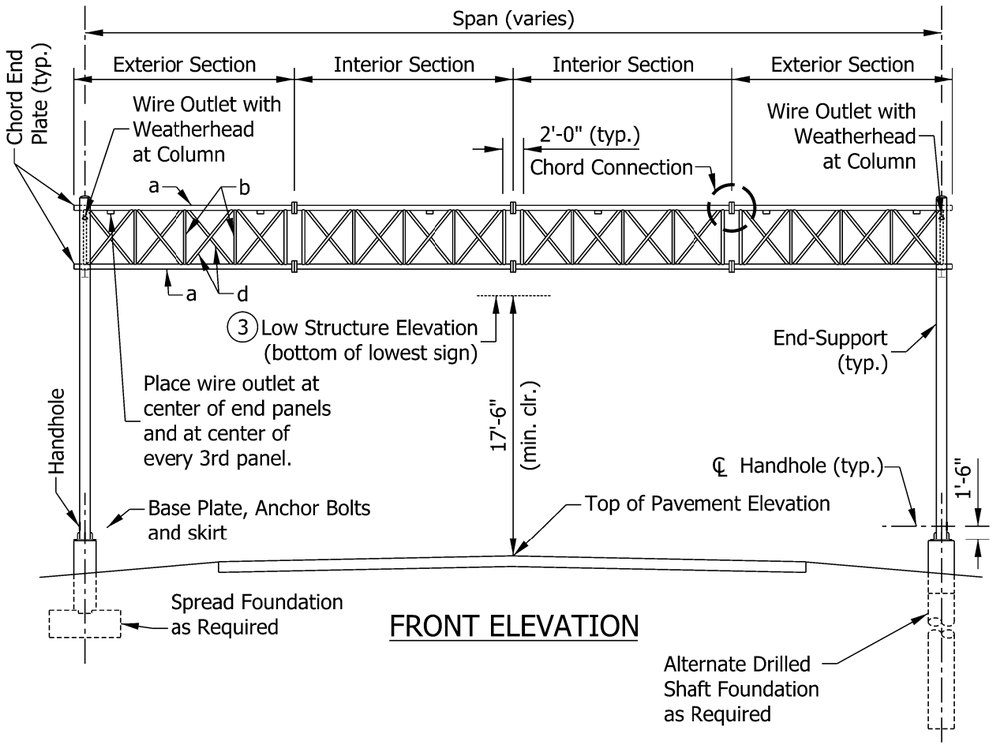
INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
INDEX

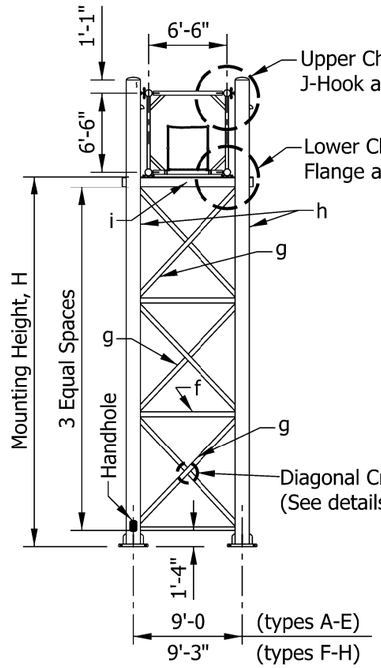


PLAN

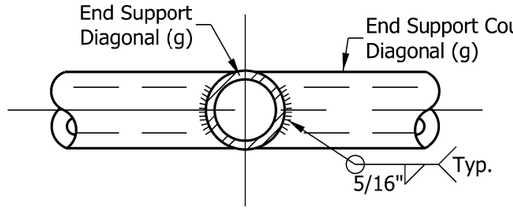
(Interior walkway not shown for clarity.
See Standard Drawing E 802-SBTS-21.)



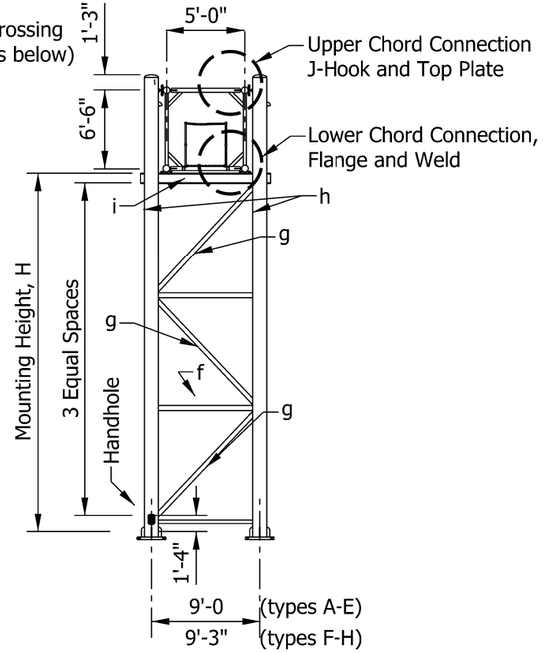
FRONT ELEVATION



END-SUPPORT
ALUMINUM TRUSS



END SUPPORT DIAGONAL
CROSSING DETAIL



END-SUPPORT
STEEL TRUSS

NOTES:

1. Truss members shall be all aluminum or all steel. End-support members shall be steel. Walkways, bearing elements, and wire outlet shall be either aluminum or steel.

2. Maximum deviation of any chord from a straight line in any section shall be ⅛ in. for box truss to be a maximum of ⅜ in. out of a straight line over the entire length of the structure in the vertical plane.

(3) The 17 ft - 6 in. minimum clearance shall be to the lighting walkway if provided.

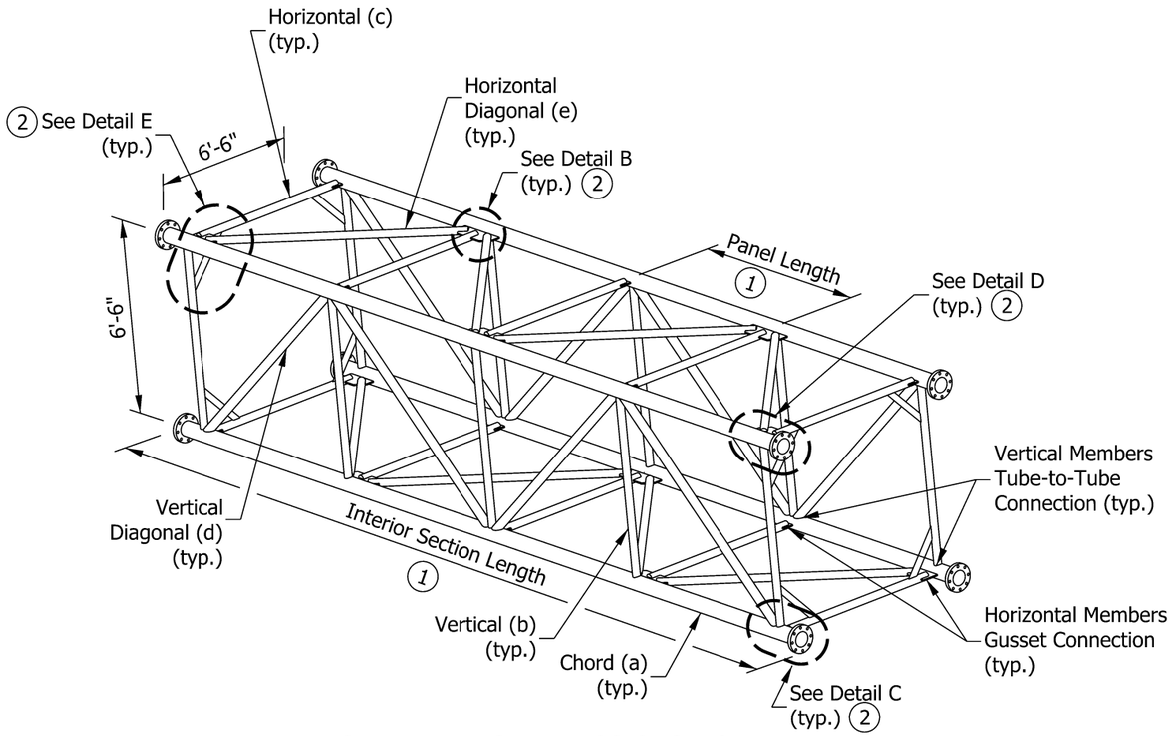
LEGEND

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

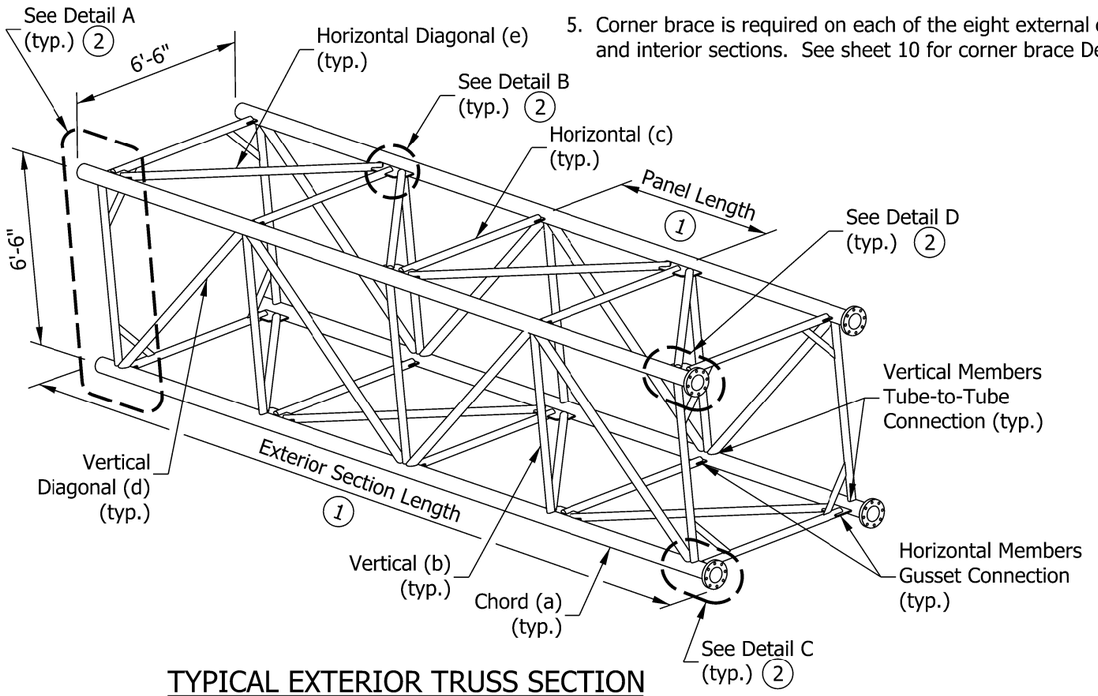
END-SUPPORT MEMBERS
- f - Horizontals
- g - Diagonals
- h - Columns
- i - Supporting Beam

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
PLAN, ELEVATION, & END SUPPORT



TYPICAL INTERIOR TRUSS SECTION



TYPICAL EXTERIOR TRUSS SECTION

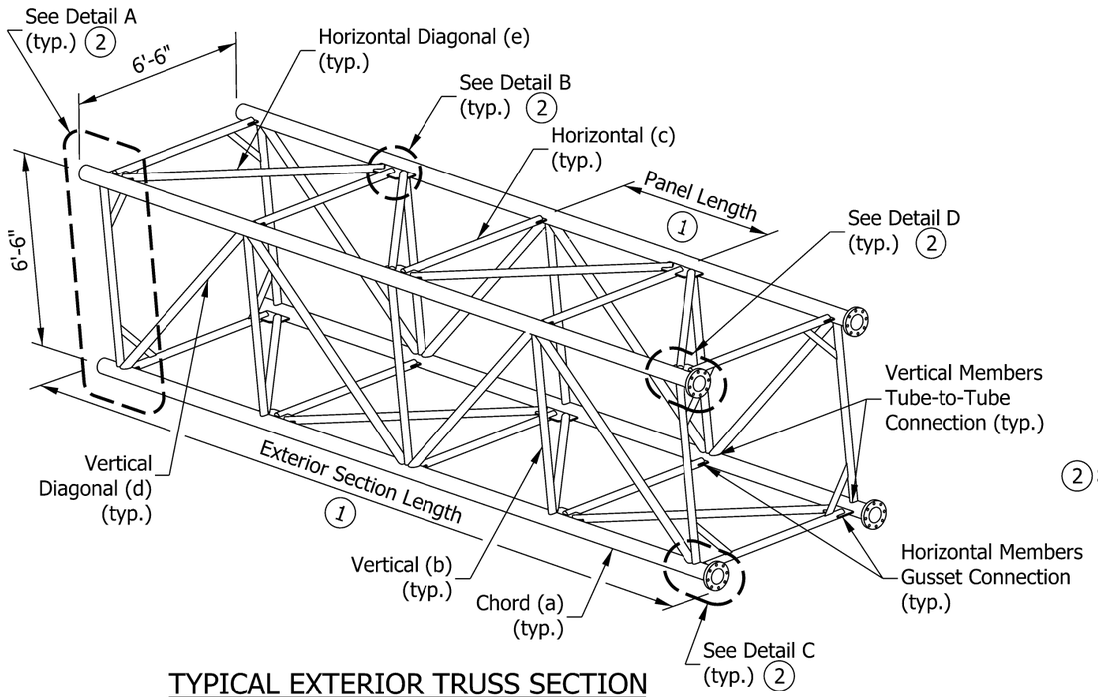
NOTES:

1. Number of panels and sections varies. See sheets 07 and 08 and 09 for recommended dimensions.
2. See sheet 10 for chord connection details.
3. See sheet 02 for Legend.
4. Truss members shall be aluminum. End support members shall be steel. Steel pipe diameters shown in table are nominal pipe size.
5. Corner brace is required on each of the eight external corners of exterior and interior sections. See sheet 10 for corner brace Detail E.

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"	6.50	0.375	3.00	0.375	4.00	0.188	3.00	0.500	4.00	0.375	5.00	0.375	8.00	0.500	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	8.00	0.322	14.00	0.500	
C	600	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	0.593	18.00	0.500	
E	800	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"

INDIANA DEPARTMENT OF TRANSPORTATION

ALUMINUM TRUSS STRUCTURE A-E
TRUSS SECTIONS IN ISOMETRIC VIEWS,
TABLE WITH MEMBER SIZES



TYPICAL EXTERIOR TRUSS SECTION

NOTES:

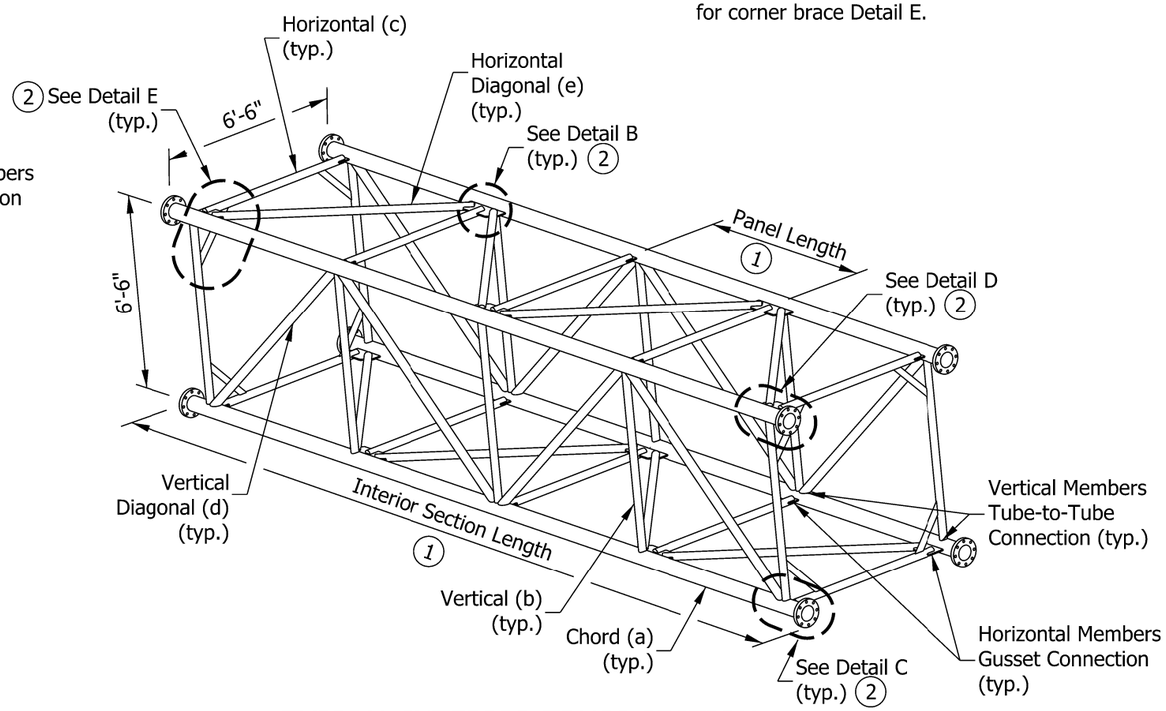
(1) Number of panels and sections varies. See table on sheets 07, 08, & 09 for recommended dimensions.

(2) See sheet 10 for chord connections and details.

3. See sheet 02 for Legend.

4. Truss members shall 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 sheet 10 for corner brace Detail E.

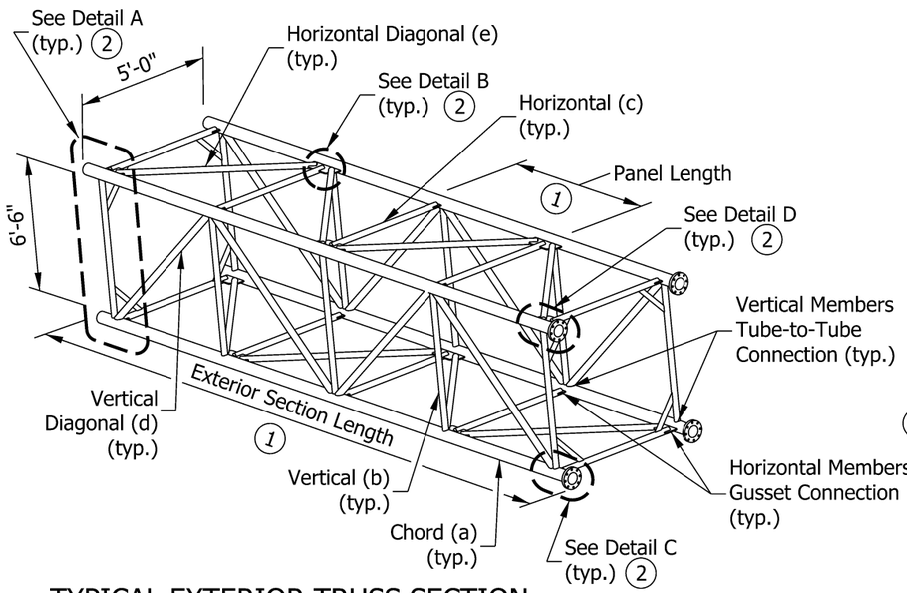


TYPICAL INTERIOR TRUSS SECTION

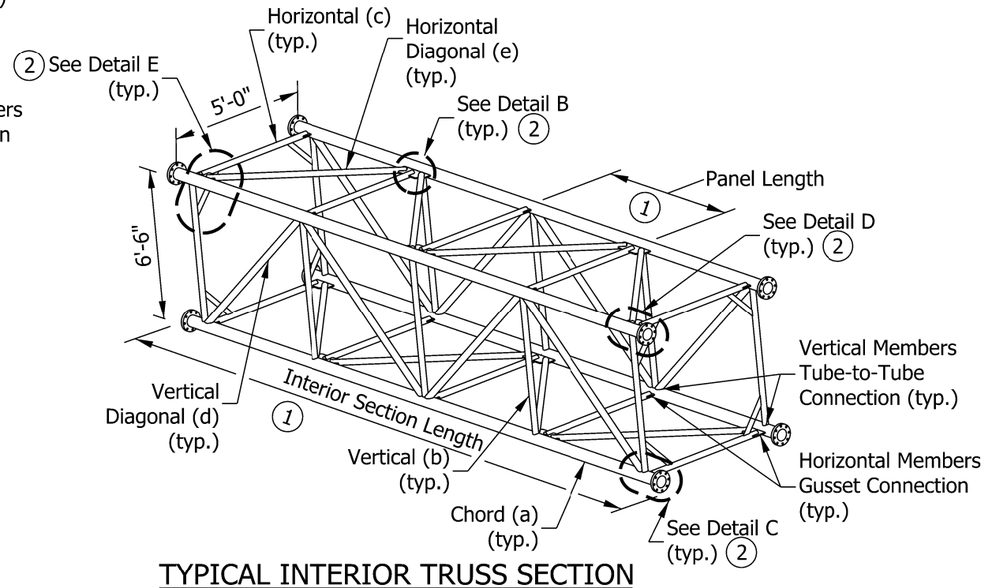
TRUSS TYPE	MAX. SIGN AREA	MAX. SPAN	MAX. MOUNTING HEIGHT	TRUSS MEMBERS, ALUMINUM										END-SUPPORT MEMBERS, STEEL						
				CHORD		VERTICAL		HORIZONTAL		VERTICAL DIAGONAL		HORIZONTAL DIAGONAL		HORIZONTAL		DIAGONAL		COLUMN		SUPPORTING BEAM
			H	a		b		c		d		e		f		g		h		j
				DIA.	THK	DIA.	THK	DIA.	THK	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.	
F	1200	130	28'-6"	7.50	0.500	3.00	0.375	4.00	0.375	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"
G	1200	142	28'-6"	9.00	0.500	4.00	0.375	4.00	0.375	4.00	0.500	4.00	0.500	5.00	0.375	8.00	0.593	18.00	0.562	
H	1200	154	28'-6"	10.00	0.500	4.00	0.500	4.00	0.375	4.00	0.500	4.00	0.500	8.00	0.322	8.00	0.593	18.00	0.562	

INDIANA DEPARTMENT OF TRANSPORTATION

ALUMIMUM TRUSS STRUCTURE F-H
TRUSS SECTIONS IN ISOMETRIC VIEWS,
TABLE WITH MEMBER SIZES



TYPICAL EXTERIOR TRUSS SECTION



TYPICAL INTERIOR TRUSS SECTION

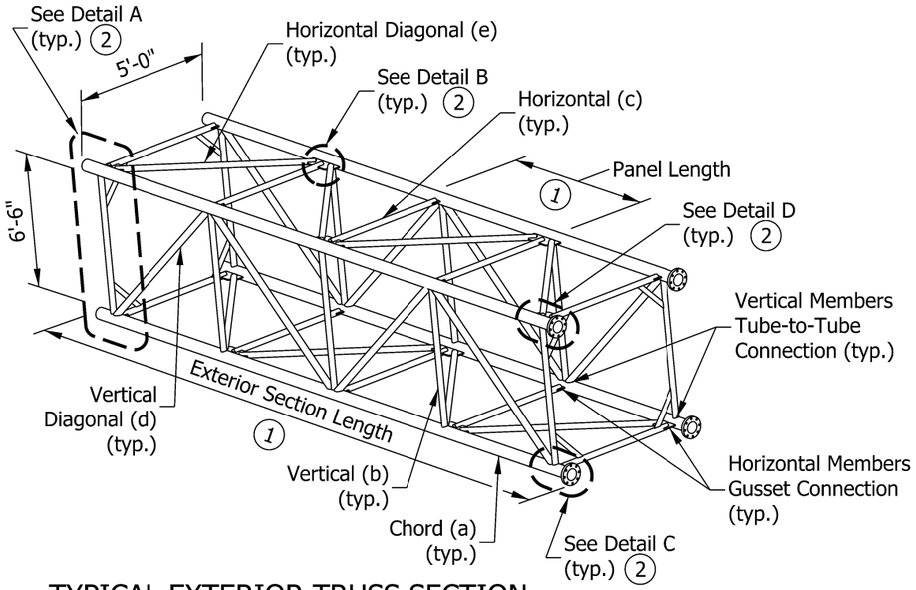
NOTES:

1. Number of panels and sections varies. See table on sheets 07 and 08 for recommended dimensions.
2. See sheet 10 for chord connection details.
3. See sheet 02 for Legend.
4. Truss members shall be steel. End support members shall be steel. Steel pipe diameters shown in table are nominal pipe size.
5. Corner brace is required on each of the eight external corners of exterior and interior sections. See sheet 10 for corner brace Detail E.

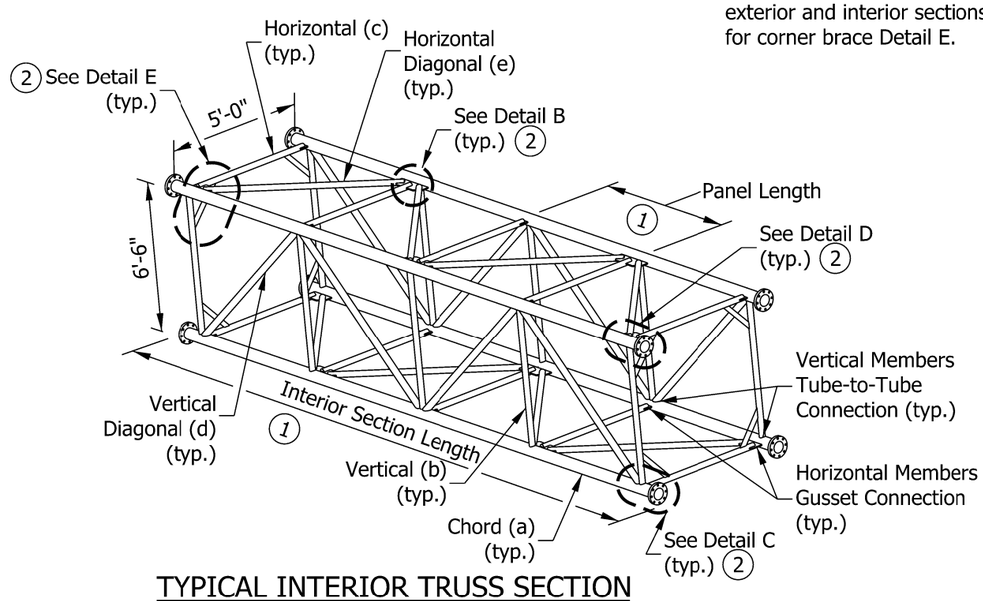
TRUSS TYPE	MAX. SIGN AREA	MAX. SPAN	MAX. MOUNTING HEIGHT	TRUSS MEMBERS, STEEL										END-SUPPORT MEMBERS, STEEL						
				CHORD		VERTICAL		HORIZONTAL		VERTICAL DIAGONAL		HORIZONTAL DIAGONAL		HORIZONTAL		DIAGONAL		COLUMN		SUPPORTING BEAM
			H	a		b		c		d		e		f		g		h		i
				DIA.	THK	DIA.	THK	DIA.	THK	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"	6.625	0.375	3.50	0.216	3.50	0.216	2.50	0.216	3.50	0.216	4.50	0.237	4.50	0.237	14.00	0.375	W8 x 24
B	700	100																		
C	700	130																		
D	900	100																		
E	900	130	28'-6"	6.625	0.375	3.50	0.216	3.50	0.216	2.50	0.216	3.50	0.216	4.50	0.337	4.50	0.337	14.00	0.375	W8 x 24

INDIANA DEPARTMENT OF TRANSPORTATION

STEEL TRUSS STRUCTURE A-E
TRUSS SECTIONS AND ISOMETRIC VIEWS, TABLE WITH MEMBER SIZES



TYPICAL EXTERIOR TRUSS SECTION



TYPICAL INTERIOR TRUSS SECTION

NOTES:

(1) Number of panels and sections varies. See table on sheets 07, 08, & 09 for recommended dimensions.

(2) See sheet 10 for chord connections and details.

3. See sheet 02 for Legend.

4. Truss members shall be steel. 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 sheet 10 for corner brace Detail E.

TRUSS TYPE	MAX. SIGN AREA	MAX. SPAN	MAX. MOUNTING HEIGHT H	TRUSS MEMBERS, STEEL										END-SUPPORT MEMBERS, STEEL						
				CHORD a		VERTICAL b		HORIZONTAL c		VERTICAL DIAGONAL d		HORIZONTAL DIAGONAL e		HORIZONTAL f		DIAGONAL g		COLUMN h		SUPPORTING BEAM i
				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.	
F	1200	130	28'-6"	6.625	0.500	3.50	0.300	3.50	0.300	3.50	0.300	3.50	0.300	4.50	0.337	4.50	0.337	16.00	0.375	W8 x 24
G	1200	142	28'-6"	6.625	0.500	3.50	0.300	3.50	0.300	3.50	0.300	3.50	0.300	5.563	0.375	5.563	0.375	16.00	0.375	W8 x 24
H	1200	154	28'-6"																	

INDIANA DEPARTMENT OF TRANSPORTATION

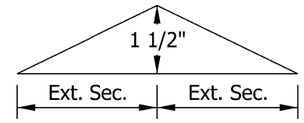
STEEL TRUSS STRUCTURE F-H
TRUSS SECTIONS AND ISOMETRIC VIEWS, TABLE WITH MEMBER SIZES

DIMENSIONS FOR SIGN BOX TRUSSES (34' THRU 81')

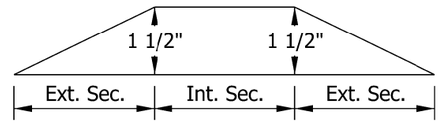
SPAN	EXTERIOR SECTIONS					INTERIOR SECTIONS			
SPAN-TRUSS LENGTH, (FT)	NO. OF EXT. SECTIONS	NO. OF PANELS PER SECTION	VARIABLE END DIMEN.	PANEL LENGTH	SECTION LENGTH	NO. OF INT. SECTIONS	NO. OF PANELS PER SECTION	PANEL LENGTH	SECTION LENGTH
34	1	6	6"	5'-6"	35'-6"	0			
35	1	6	6"	5'-8"	36'-6"	0			
36	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 ft - 0 in. and the maximum is 6 ft - 6 in.
2. Camber diagrams 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.
3. Single interior section in a truss shall have an even number of panels to maintain the pattern of the vertical diagonals.
4. The minimum number of sections for each box truss structure shall be used, while maintaining the maximum section length at 36 ft - 6 in.



CAMBER DIAGRAM (2-Section Truss)



CAMBER DIAGRAM (3-Section Truss)

INDIANA DEPARTMENT OF TRANSPORTATION

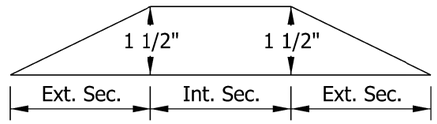
SIGN BOX TRUSS STRUCTURE
TABLE OF DIMENSIONS
SPANS 34' THRU 81'

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

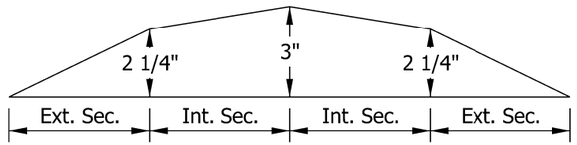
SPAN	EXTERIOR SECTIONS					INTERIOR SECTIONS			
SPAN-TRUSS LENGTH, (FT)	NO. OF EXT. SECTIONS	NO. OF PANELS PER SECTION	VARIABLE END DIMEN.	PANEL LENGTH	SECTION LENGTH	NO. OF INT. SECTIONS	NO. OF PANELS PER SECTION	PANEL LENGTH	SECTION LENGTH
82	2	4	6"	6'-5"	27'-11"	1	4	6'-5"	27'-8"
83	2	4	6"	6'-6"	28'-3"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

NOTES:

1. All panels on a truss shall be the same length. The minimum panel length is 5 ft - 0 in. and the maximum is 6 ft - 6 in.
2. Camber diagrams 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.
3. Single interior section in a truss shall have an even number of panels to maintain the pattern of the vertical diagonals.
4. The minimum number of sections for each box truss structure shall be used, while maintaining the maximum section length at 36 ft - 6 in.



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

DIMENSIONS FOR SIGN BOX TRUSSES (131' THRU 154')

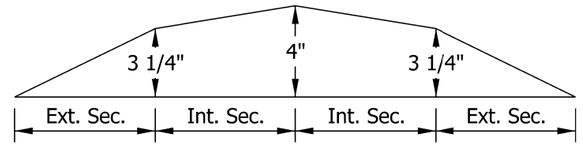
SPAN	EXTERIOR SECTIONS					INTERIOR SECTIONS			
SPAN-TRUSS LENGTH, (FT)	NO. OF EXT. SECTIONS	NO. OF PANELS PER SECTION	VARIABLE END DIMEN.	PANEL LENGTH	SECTION LENGTH	NO. OF INT. SECTIONS	NO. OF PANELS PER SECTION	PANEL LENGTH	SECTION LENGTH
131	2	5	6 1/4"	6'-2 3/8"	33'-3 1/8"	2	5	6'-2 3/8"	32'-11 7/8"
132	2	5	6"	6'-3"	33'-6"	2	5	6'-3"	33'-3"
133	2	5	7"	6'-3 1/2"	33'-9 1/2"	2	5	6'-3 1/2"	33'-5 1/2"
134	2	5	6 3/4"	6'-4 1/8"	34'-0 3/8"	2	5	6'-4 1/8"	33'-8 5/8"
135	2	5	6 1/2"	6'-4 3/4"	34'-3 1/4"	2	5	6'-4 3/4"	33'-11 3/4"
136	2	5	6 1/4"	6'-5 3/8"	34'-6 1/8"	2	5	6'-5 3/8"	34'-2 7/8"
137	2	5	6"	6'-6"	34'-9"	2	5	6'-6"	34'-6"
138	2	6	6 7/8"	5'-11 3/8"	38'-0 1/8"	2	5	5'-11 3/8"	31'-8 7/8"
139	2	6	7 3/8"	5'-11 7/8"	38'-3 5/8"	2	5	5'-11 7/8"	31'-11 3/8"
140	2	6	6 1/2"	6'-0 1/2"	38'-6 1/2"	2	5	6'-0 1/2"	32'-2 1/2"
141	2	6	7"	6'-1"	38'-10"	2	5	6'-1"	32'-5"
142	2	6	6 1/8"	6'-1 5/8"	39'-0 7/8"	2	5	6'-1 5/8"	32'-8 1/8"
143	2	6	6 5/8"	6'-2 1/8"	39'-4 3/8"	2	5	6'-2 1/8"	32'-10 5/8"
144	2	6	7 1/8"	6'-2 5/8"	39'-7 7/8"	2	5	6'-2 5/8"	33'-1 1/8"
145	2	6	6 1/4"	6'-3 1/4"	39'-10 3/4"	2	5	6'-3 1/4"	33'-4 1/4"
146	2	6	6 3/4"	6'-3 3/4"	40'-2 1/4"	2	5	6'-3 3/4"	33'-6 3/4"
147	2	6	5 7/8"	6'-4 3/8"	40'-5 1/8"	2	5	6'-4 3/8"	33'-9 7/8"
148	2	6	6 3/8"	6'-4 7/8"	40'-8 5/8"	2	5	6'-4 7/8"	34'-0 3/8"
149	2	6	6 7/8"	6'-5 3/8"	41'-0 1/8"	2	5	6'-5 3/8"	34'-2 7/8"
150	2	6	7 1/2"	5'-11 3/8"	38'-0 3/4"	2	6	5'-11 3/8"	37'-8 1/4"
151	2	6	7 1/2"	5'-11 7/8"	38'-3 3/4"	2	6	5'-11 7/8"	37'-11 1/4"
152	2	6	6"	6'-0 1/2"	38'-6"	2	6	6'-0 1/2"	38'-3"
153	2	6	6"	6'-1"	38'-9"	2	6	6'-1"	38'-6"
154	2	6	6"	6'-1 1/2"	39'-0"	2	6	6'-1 1/2"	38'-9"

NOTES:

1. All panels on a truss shall be the same length. The minimum panel length is 5 ft - 11 3/8 in. and the maximum is 6 ft - 6 in.

2. Camber diagram is for fabrication only and is measured with trusses fully supported at no-load conditions. Allowable camber tolerance for truss is 25% of specific camber value.

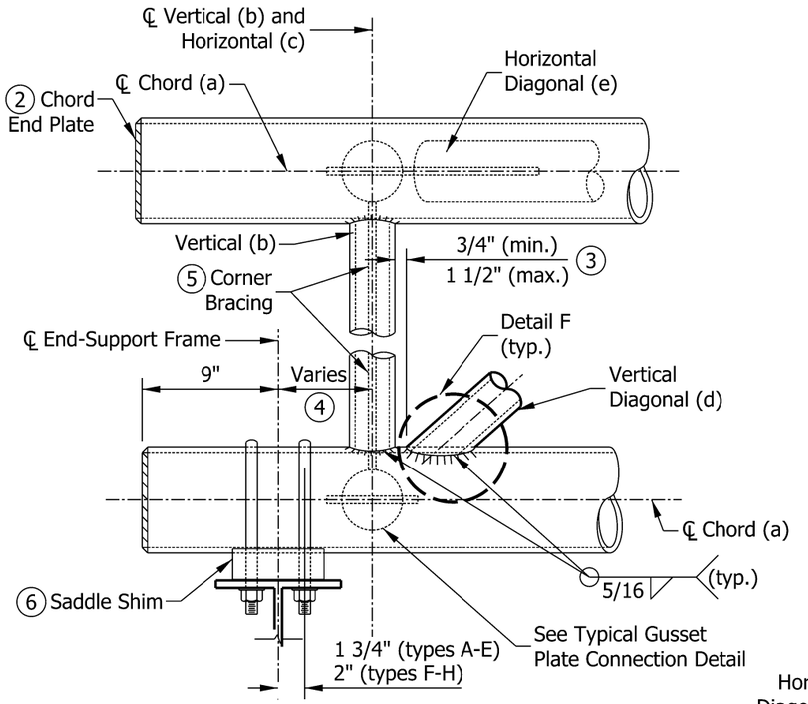
3 The minimum number of sections for each box truss structure shall be used, while maintaining the maximum section length at 36 ft - 6 in.



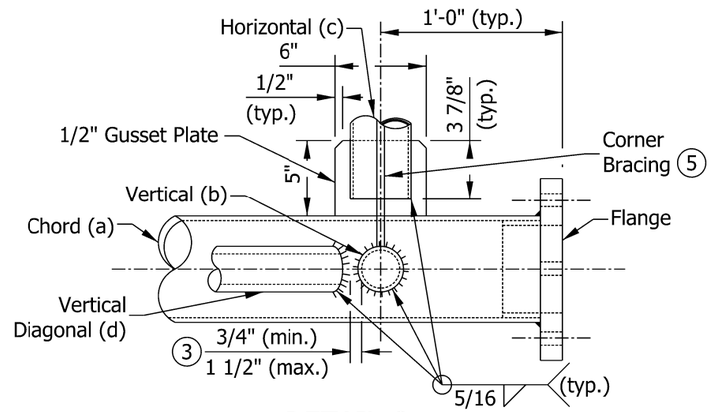
CAMBER DIAGRAM (4-Section Truss)

INDIANA DEPARTMENT OF TRANSPORTATION

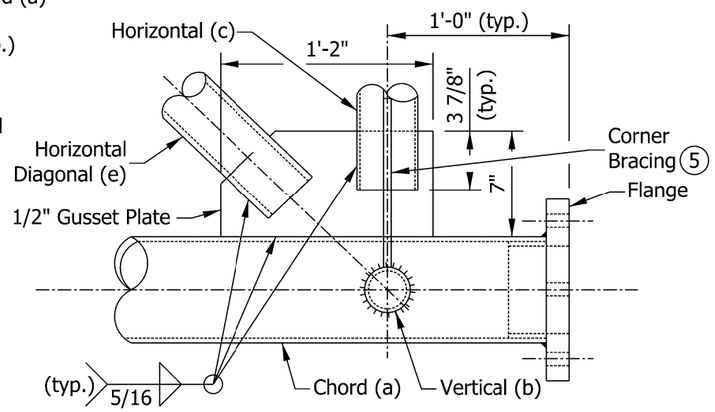
SIGN BOX TRUSS STRUCTURE
TABLE OF DIMENSIONS
SPANS 131' THRU 154' AND CAMBER



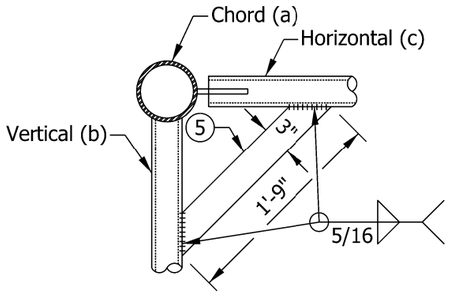
DETAIL A
EXTERIOR SECTION AT END SUPPORT



DETAIL C
CHORD AT FLANGE CONNECTION
PLAN VIEW



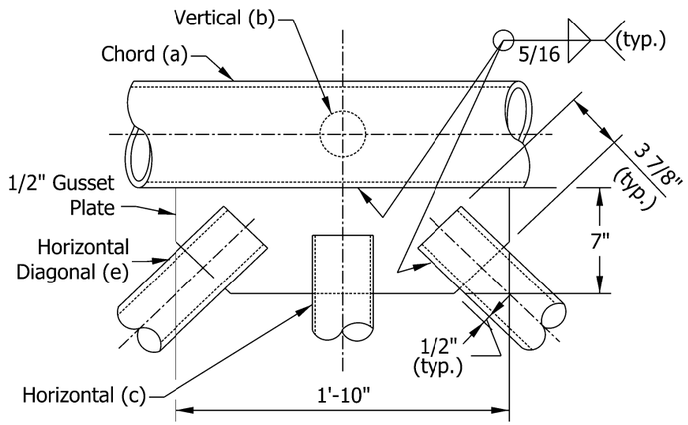
DETAIL D
CHORD AT FLANGE CONNECTION
PLAN VIEW



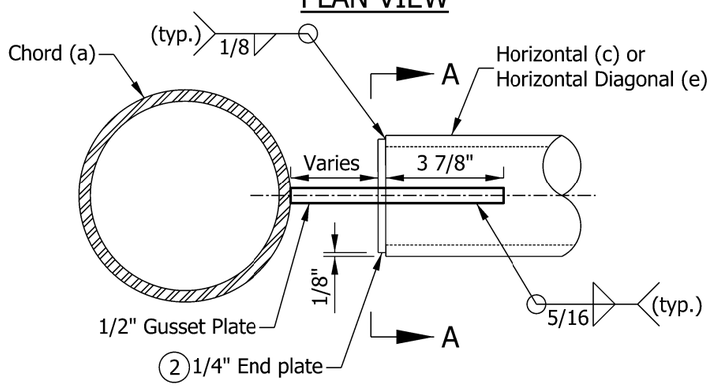
DETAIL E
TYPICAL CORNER BRACING

NOTES:

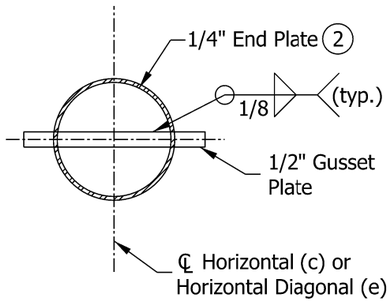
1. All bracing members shall be machined to provide a snug fit to the chord along the entire edge of bracing member before welding. See sheets 02 thru 06 for member locations.
2. End plate at horizontal (c) and horizontal diagonal (e) may be welded as one piece and slotted or welded as two pieces after slotting the member. See sheet 11 for chord end plate details.
3. Vertical and horizontal diagonals shall be fabricated for minimum offset from the panel point offset to provide a ¾ in. minimum to 1½ in. maximum clearance between any diagonal and any horizontal or vertical member.
4. For variable end dimension, see sheets E 802-SBTS-07, 08 and 09.
5. See sheets 03 thru 06 for corner brace locations. Each brace member shall be 3 in. x 1 ft - 9 in. x ½ in. and placed at 45° to vertical.
6. See sheets 13 or 14 for saddle shim detail.



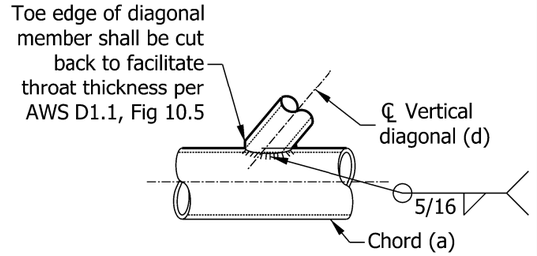
DETAIL B
TYPICAL PANEL CONNECTION
PLAN VIEW



TYPICAL GUSSET PLATE CONNECTION DETAIL
ELEVATION VIEW



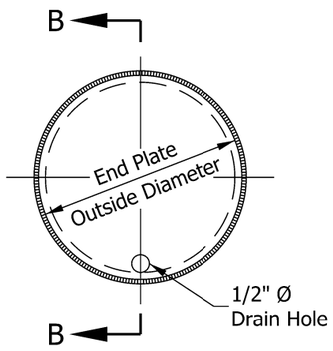
SECTION A-A



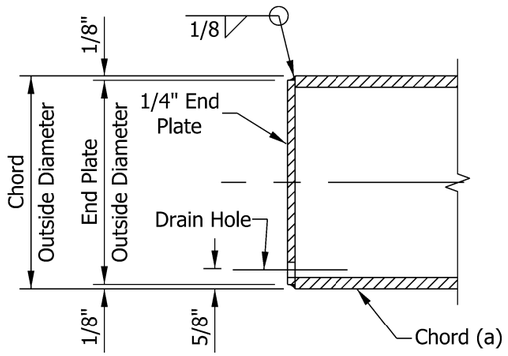
DETAIL F

INDIANA DEPARTMENT OF TRANSPORTATION

ALUMINUM TRUSS
CHORD CONNECTIONS
AND WELD DETAILS

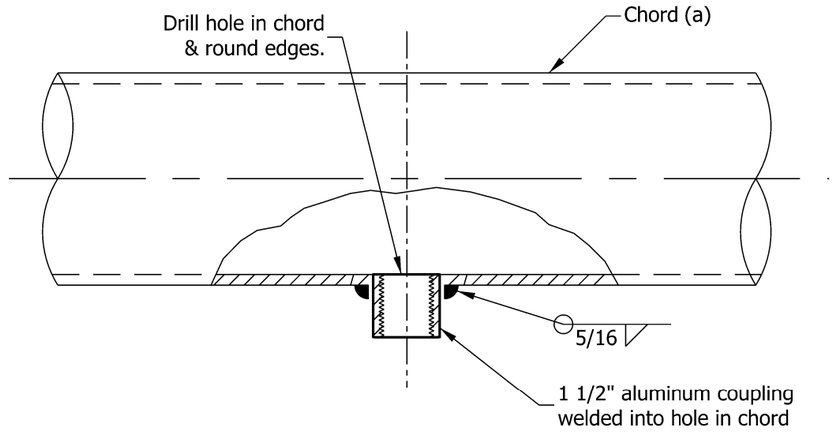


END VIEW

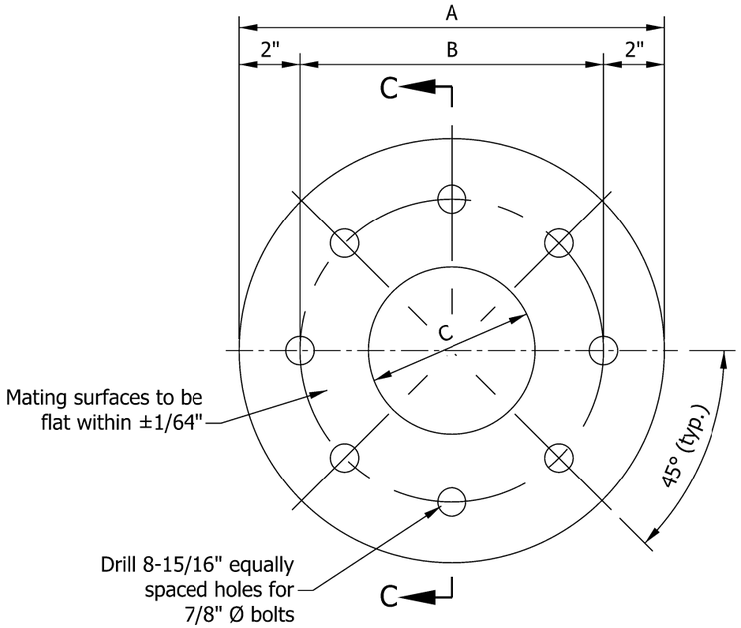


SECTION B-B

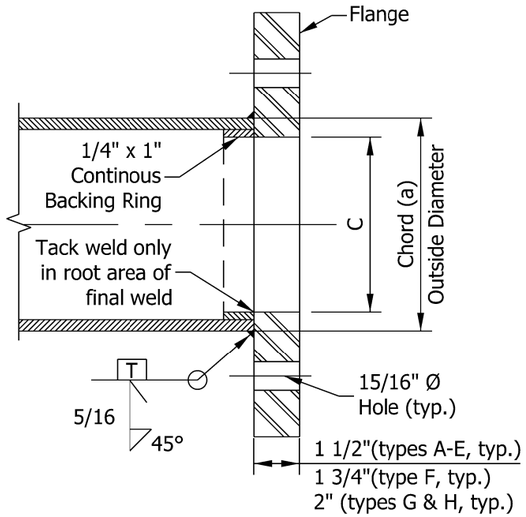
CHORD END PLATE DETAIL



WIRE OUTLET DETAIL



END VIEW



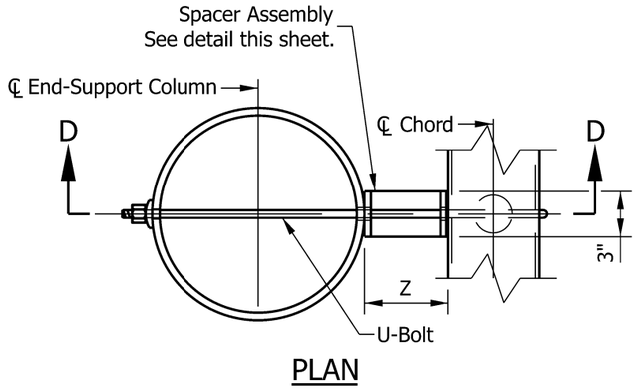
SECTION C-C

FLANGE DETAIL

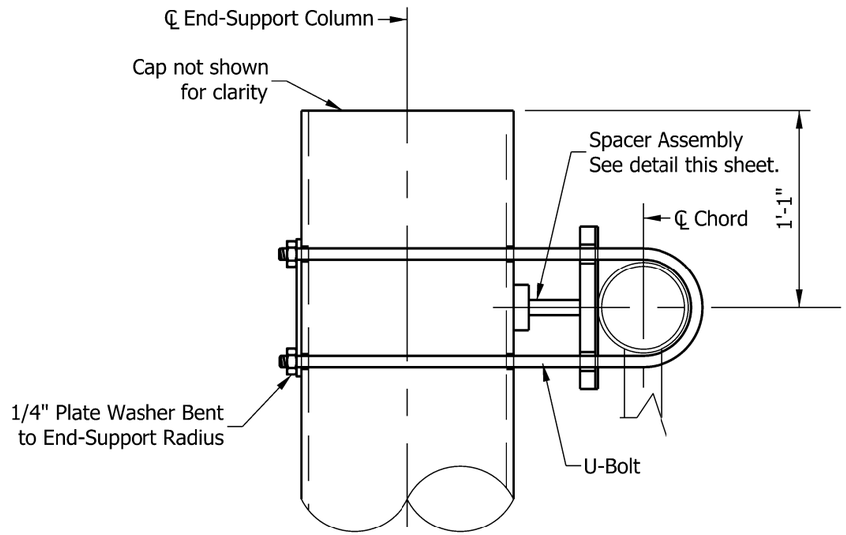
TABLE OF FLANGE DIMENSIONS					
TRUSS TYPE	TRUSS CHORD O.D. x THK.	BOLT SIZE	DIMENSION		
			A	B	C
A & B	6 1/2" x 3/8"	7/8"	14"	10"	5 1/4"
C & D	7" x 3/8"	7/8"	14"	10"	5 3/4"
E	7" x 1/2"	7/8"	14"	10"	5 1/2"
F	7 1/2" x 1/2"	7/8"	14 1/2"	10 1/2"	6"
G	9" x 1/2"	7/8"	16"	12"	7 1/2"
H	10" x 1/2"	7/8"	17"	13"	8 1/2"

INDIANA DEPARTMENT OF TRANSPORTATION

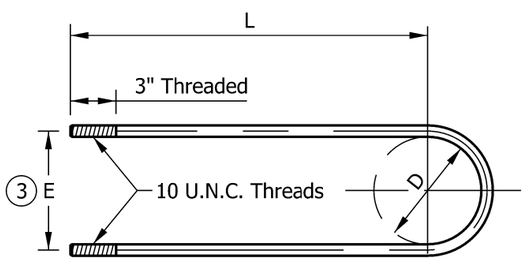
ALUMINUM TRUSS
FLANGE, CHORD END PLATE, AND WIRE
OUTLET DETAILS



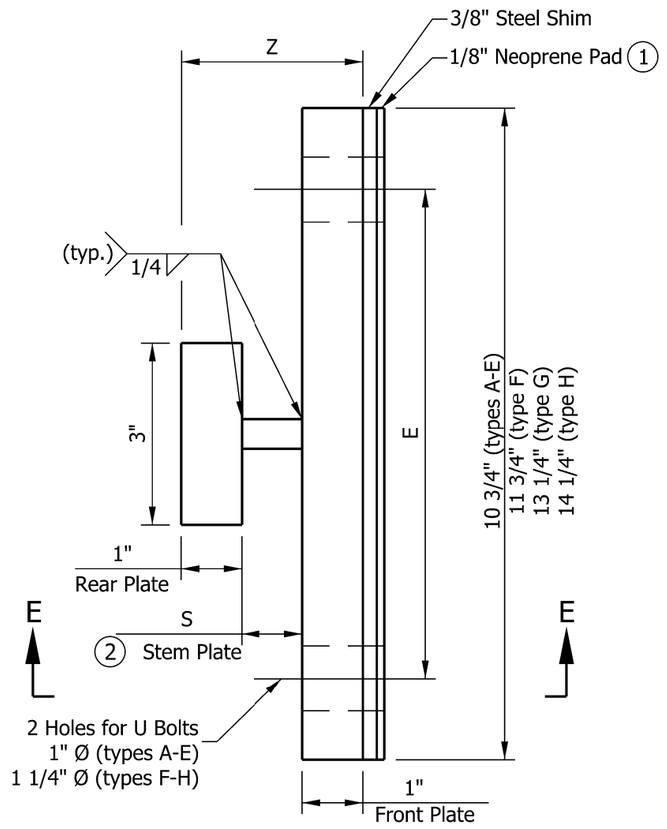
PLAN



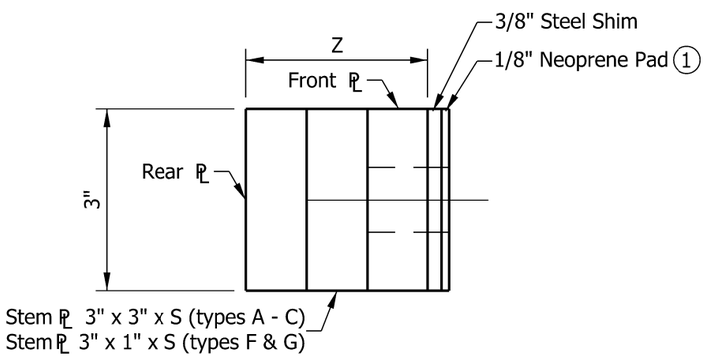
SECTION D-D
UPPER CHORD CONNECTION DETAILS



STAINLESS STEEL U-BOLT DETAIL
3/4" (dia.) for Truss Types A-E
1" (dia.) for Truss Types F-H



ELEVATION
END SUPPORT SPACER ASSEMBLY DETAIL



SECTION E-E

NOTES:

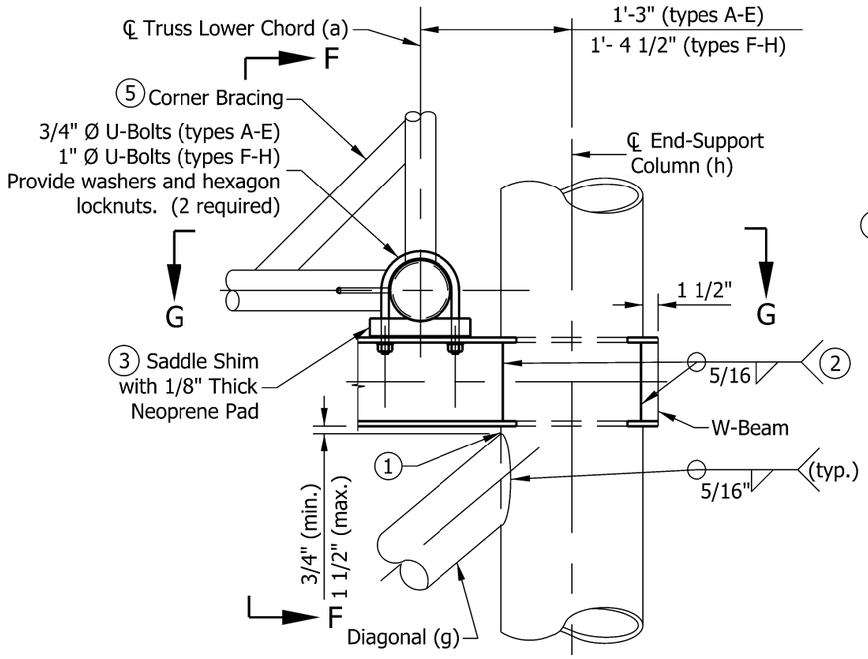
1. Provide isolation from steel-dissimilar metal.
2. For aluminum truss types D, E, and H Stem plate is not required. Fillet weld front and rear plates together.
3. Dimension E is equal to the diameter of chord (a) plus 1 ¼ in for aluminum, 1" for steel.

SPACER ASSEMBLY DIMENSIONS

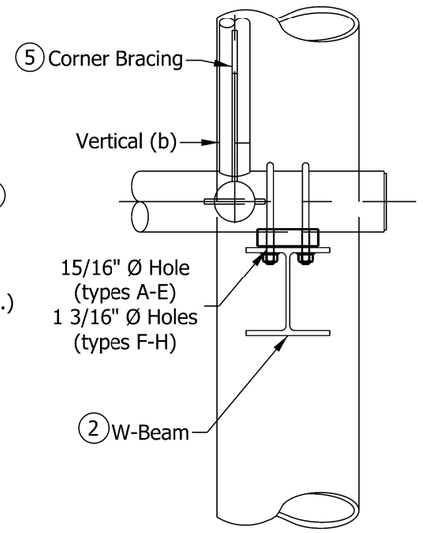
TRUSS TYPE	END-SUPPORT COLUMN SIZE (h)	CHORD (a)	Ø OF U-BOLT BEND	E	Z	L	S
	O.D. IN.	O.D. IN.	(D) IN.	IN.	IN.	IN.	IN.
A	14	6 1/2	6 9/16	7 1/2	4 1/4	24	2 1/4"
B	14	6 1/2	6 9/16	7 1/2	4 1/4	24	2 1/4"
C	14	7	7 1/16	8	4	24	2"
D	18	7	7 1/16	8	2	26	-
E	18	7	7 1/16	8	2	26	-
F	18	7 1/2	7 9/16	8 3/4	3 1/4	27 1/2	1 1/4
G	18	9	9 1/16	10 1/4	2 1/2	27 1/2	1/2
H	18	10	10 1/16	11 1/4	2	27 1/2	-

INDIANA DEPARTMENT OF TRANSPORTATION

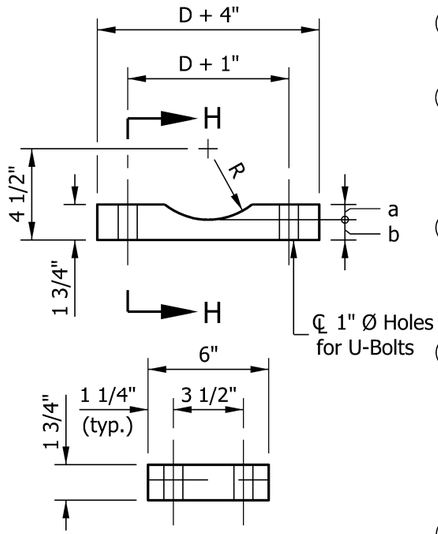
ALUMINUM TRUSS
END-SUPPORT UPPER CHORD
CONNECTION DETAILS



LOWER CHORD CONNECTION DETAIL



SECTION F-F



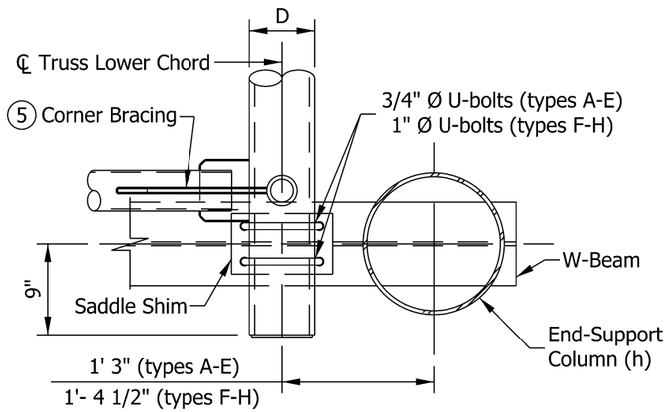
SECTION H-H (TYPES A-E)
SADDLE SHIM DETAIL

NOTES:

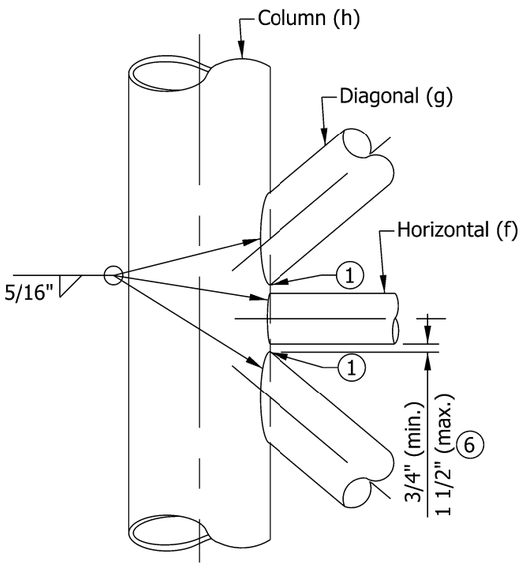
1. Toe edge of diagonal member shall be cut back to facilitate throat thickness. See sheet 08 Detail F for toe edge detail.
2. Holes shall be cut in end support columns for W-beams to pass through. Holes shall have a ⅛ in. maximum clearance to W-beam. Holes in opposite sides of column shall be checked for proper alignment prior to cutting.
3. Neoprene pads shall be provided at all chord-to-W-beam bearing surfaces.
4. See sheets 03 thru 06 for end support member sizes.
5. A corner brace shall be required on each of the eight external corners of exterior and interior sections. Each brace shall be 1 ft - 9 in. x 3 in. x ½ in. See sheet 08 for corner bracing Detail E.
6. For truss type H, Horizontal (f) will overlap Diagonals (g). Trim Horizontal (f) shall be trimmed for welding to Diagonals (g)
7. See sheet 12 for HSS square-beam as an alternate to truss supporting W-beam (g).

TRUSS TYPE	D	a	b
A & B	6 1/2"	17/32"	1 7/32"
C - E	7"	25/32"	31/32"
F	7 1/2"	25/32"	31/32"
G	9"	25/32"	31/32"
H	10"	25/32"	31/32"

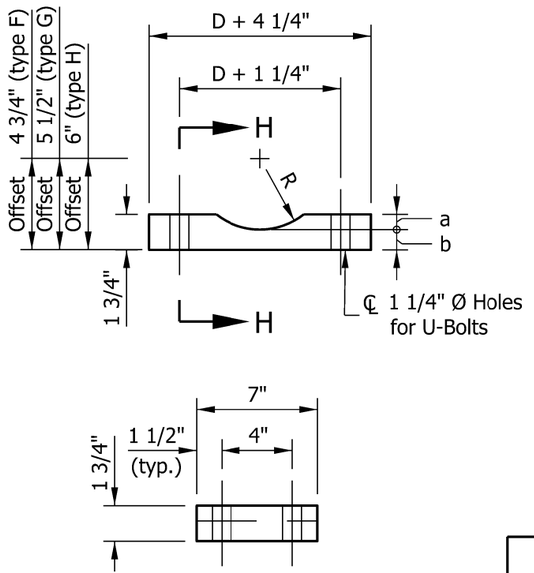
R = D/2 + 1/32"
D = Outside Diameter of Chord(a).
R + b = 4 1/2" (types A-E)
R + b = Offset (types F-H)



SECTION G-G



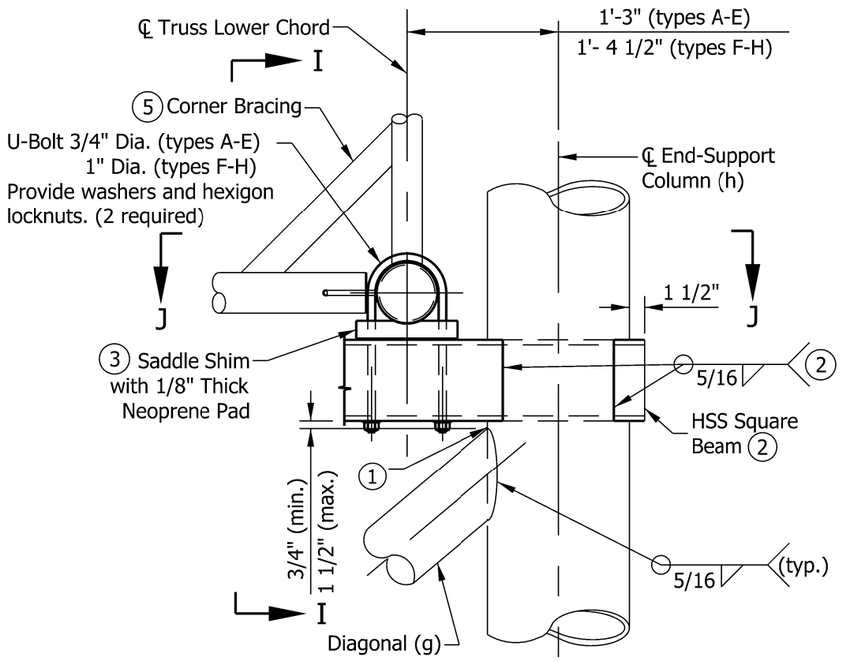
ELEVATION (END-SUPPORT)
TYPICAL BRACING MEMBERS CONNECTION



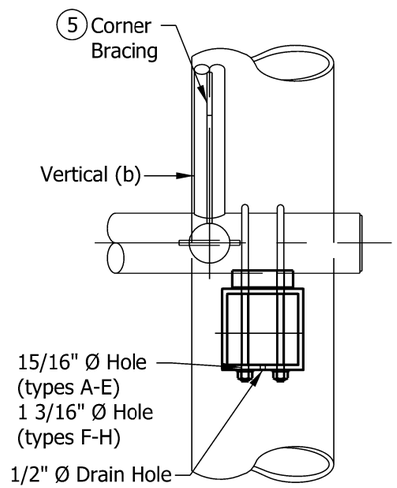
SECTION H-H (TYPES F-H)
SADDLE SHIM DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

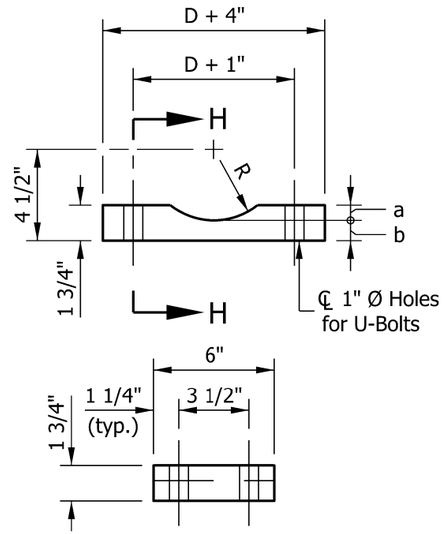
ALUMINUM TRUSS
END-SUPPORT LOWER CHORD
CONNECTION DETAILS



LOWER CHORD CONNECTION DETAIL



SECTION I-I



SECTION H-H (TYPES A-E)
SADDLE SHIM DETAIL

NOTES:

1. Toe edge of diagonal member shall be cut back to facilitate throat thickness. See sheet 08 Detail F for toe edge detail.
2. Holes shall be cut in end support columns for square beams to pass through. Holes shall have a ⅛ in. maximum clearance to square beam. Holes in opposite sides of column shall be checked for proper alignment prior to cutting.
3. Neoprene pads shall be at all chord-to-square-beam bearing surfaces.
4. See sheets 03 and 04 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 ft - 9 in. x 3 in. x ½ in. See sheet 08 for corner bracing Detail E.
6. For aluminum Truss type H, Horizontal (f) will overlap Diagonals (g). Trim Horizontal (f) shall be trimmed for welding to Diagonals (g).

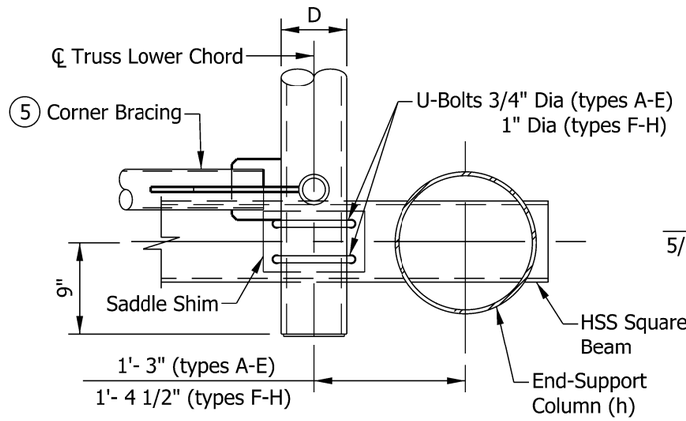
TRUSS TYPE	D	a	b
A & B	6 1/2"	17/32"	1 7/32"
C - E	7"	25/32"	31/32"
F	7 1/2"	25/32"	31/32"
G	9"	25/32"	31/32"
H	10"	25/32"	31/32"

R = D/2 + 1/32"

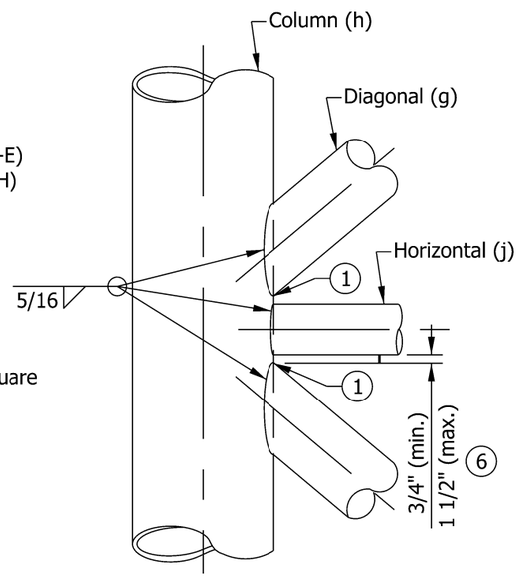
D = Outside Diameter of Chord(a).

R + b = 4 1/2" (types A-E)

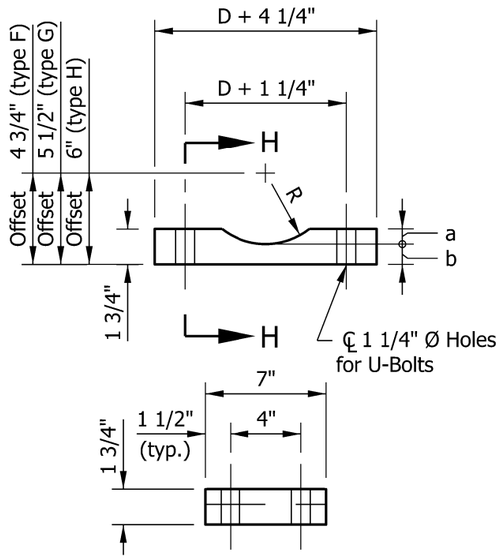
R + b = Offset (types F-H)



SECTION J-J



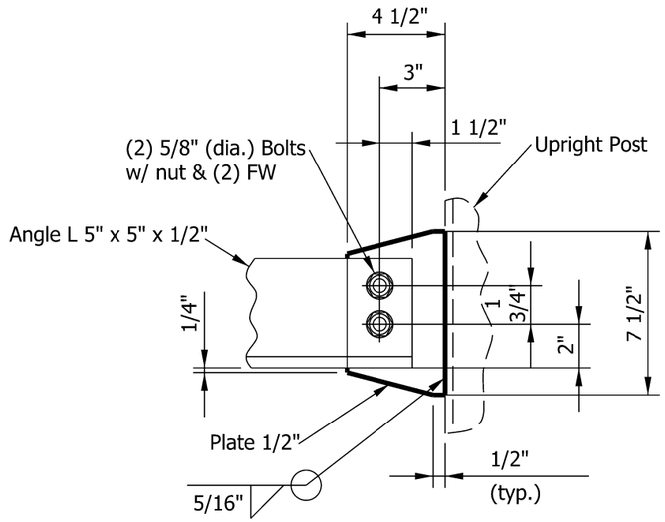
ELEVATION (END-SUPPORT)
TYPICAL BRACING MEMBERS CONNECTION



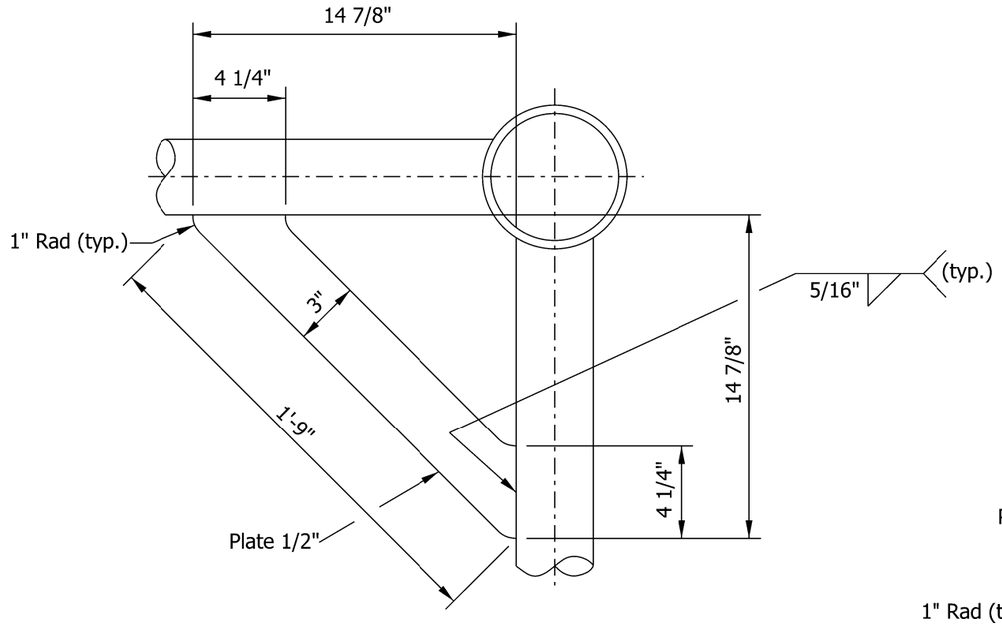
SECTION H-H (TYPES F-H)
SADDLE SHIM DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

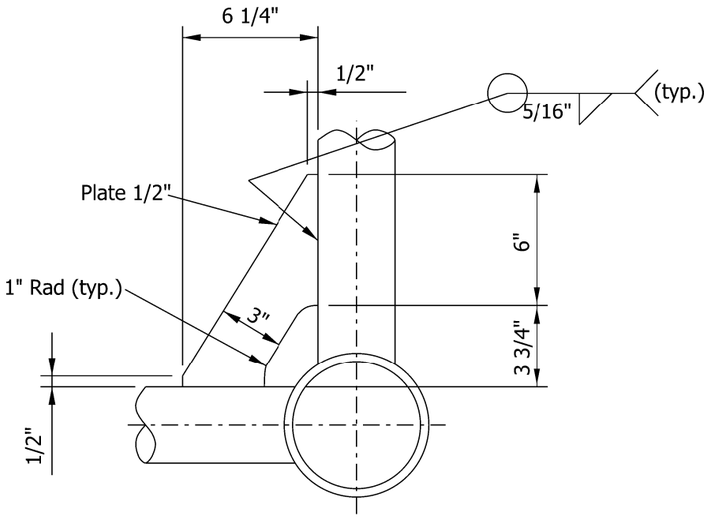
ALUMINUM TRUSS
END SUPPORT LOWER CHORD CONNECTION
DETAILS, ALTERNATE HSS BEAM



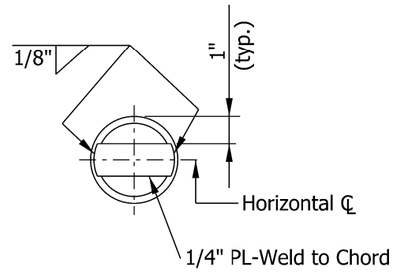
TOP TRUSS CONNECTION DETAIL



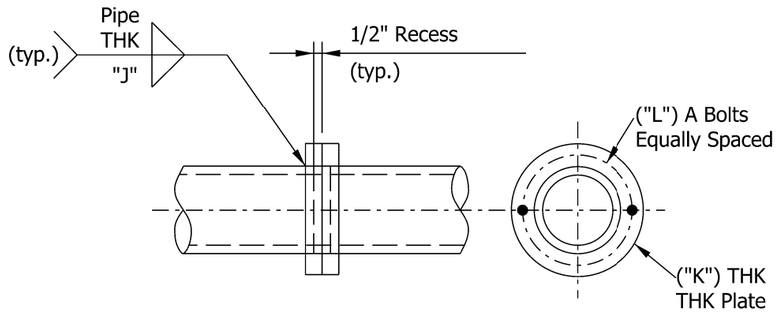
TOP CORNER BRACE DETAIL



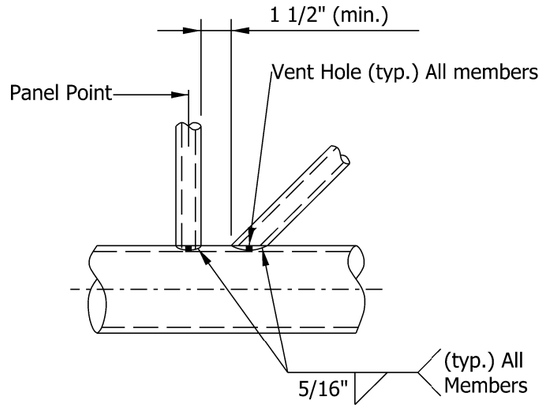
BTM CORNER BRACE DETAIL



END CAP DETAIL



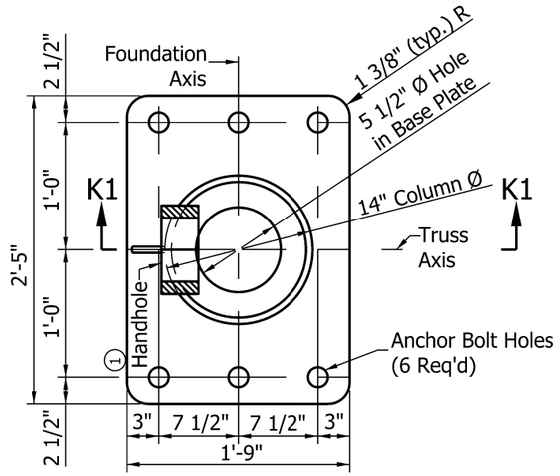
TYPICAL SPLICE DETAIL



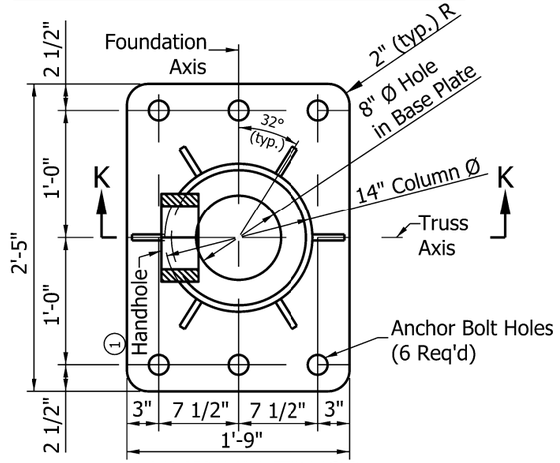
TYPICAL DETAIL AT PANEL POINT

INDIANA DEPARTMENT OF TRANSPORTATION

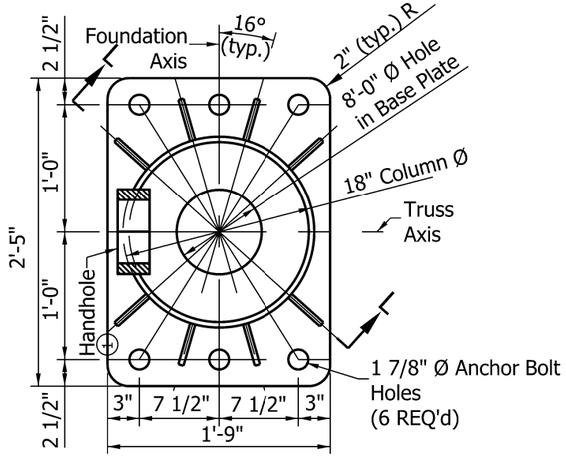
STEEL TRUSS STRUCTURE
CHORD CONNECTION, FLANGE,
AND WELD DETAILS



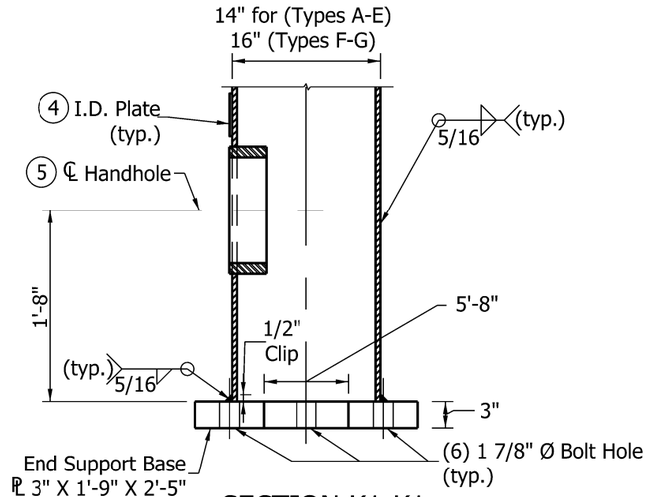
STEEL TRUSS BASE PLATE DETAIL



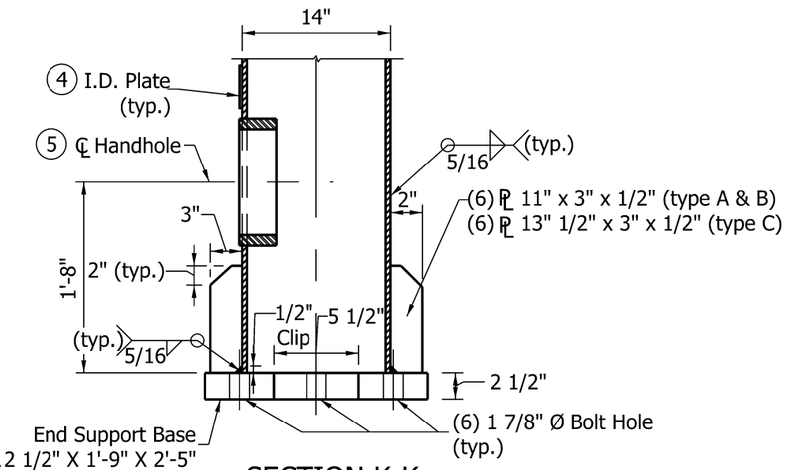
ALUMINUM TRUSS
TYPE B-14 BASE PLATE DETAIL (TYPE A-C)



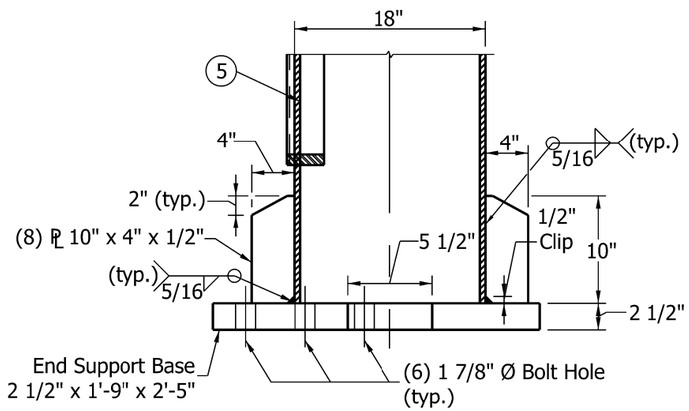
ALUMINUM TRUSS
TYPE B-18 BASE PLATE DETAIL (TYPE D-H)



SECTION K1-K1



SECTION K-K



SECTION L-L

NOTES:

1. See sheet 18 for handhole details.
2. See sheet 19 for anchor bolt and metal skirt details.
3. Each end support shall have one handhole at the column base (h). Handhole shall be placed on the column nearest to the sign.

(4) See sheet 17 for I.D. Plate Details.

(5) The centerline of the handhole shall be 2 ft - 0 in. from the top of the base plate.

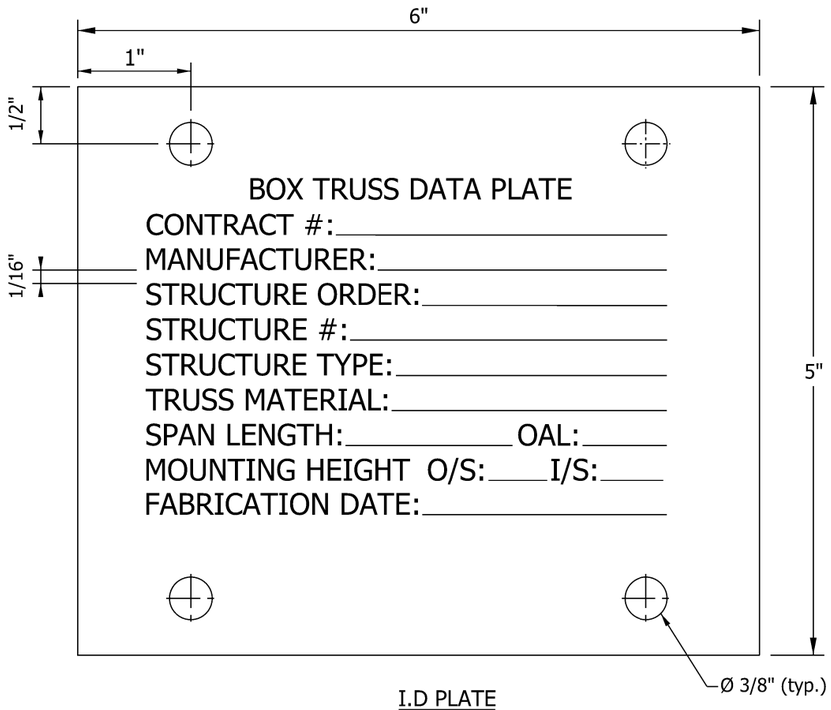
6. Stiffener plates are not required for steel trusses.

INDIANA DEPARTMENT OF TRANSPORTATION

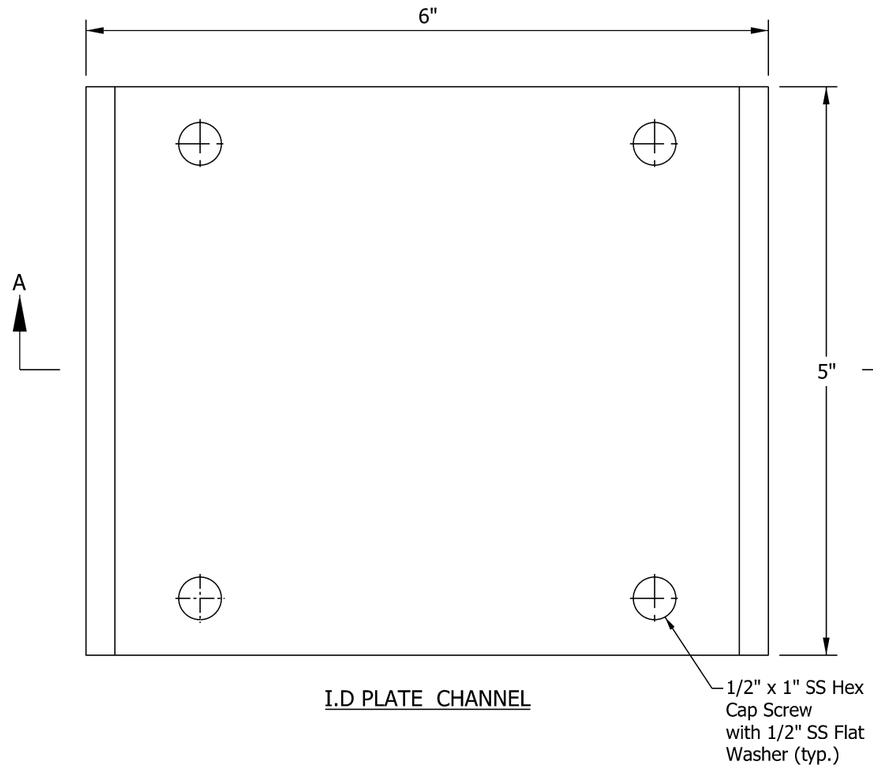
SIGN BOX TRUSS STRUCTURE
END SUPPORT AND
BASE PLATE

NOTE:

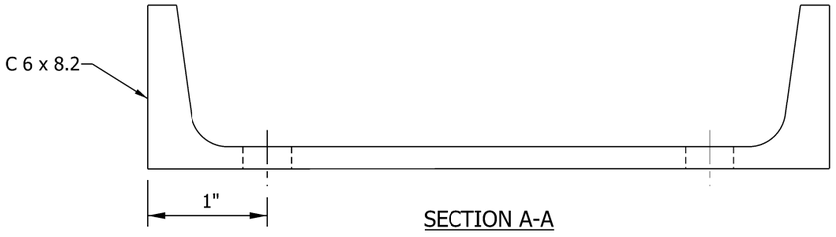
1. I.D. plate shall be provided on each end-support column.
2. I.D. plate shall be ⅛ in. stainless steel plate with the information stamped in ¼ in. black letters.



I.D PLATE



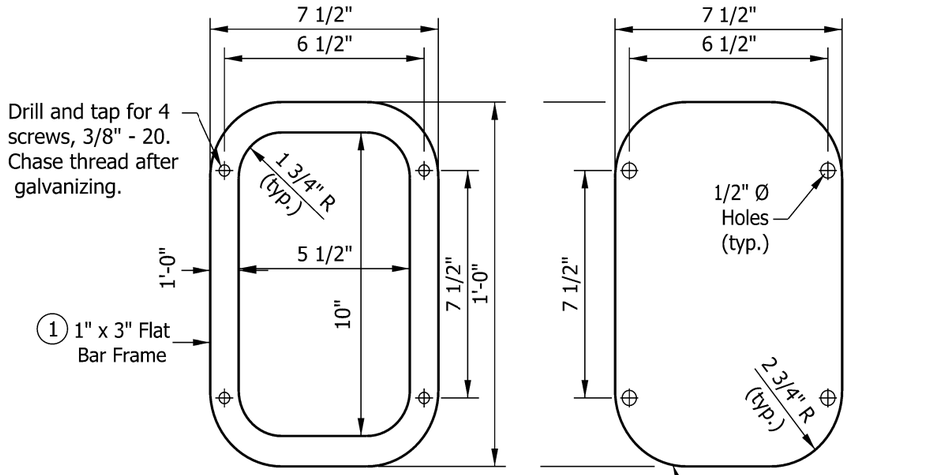
I.D PLATE CHANNEL



SECTION A-A

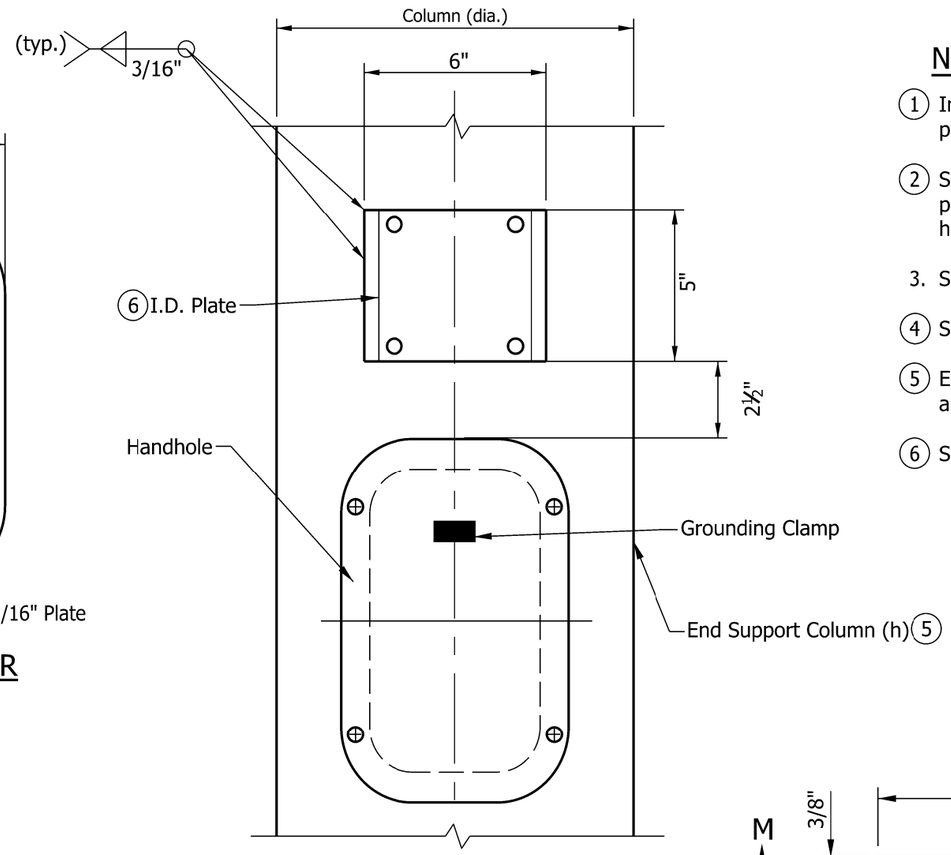
INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
I.D. PLATE DETAILS



HANDHOLE FRAME DETAIL

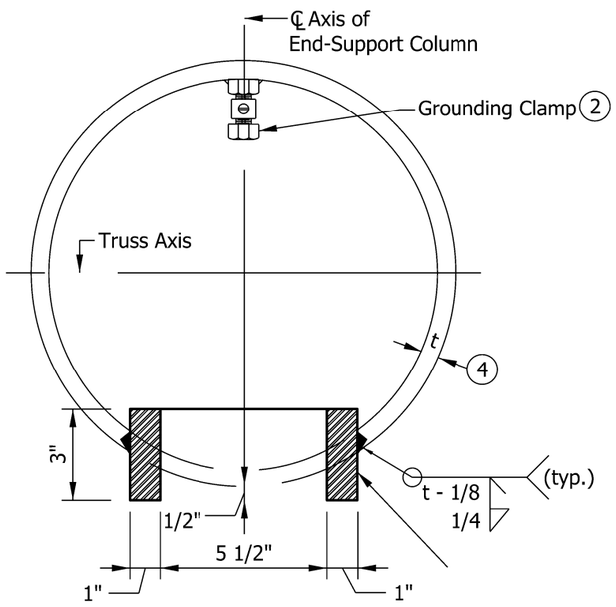
HANDHOLE COVER



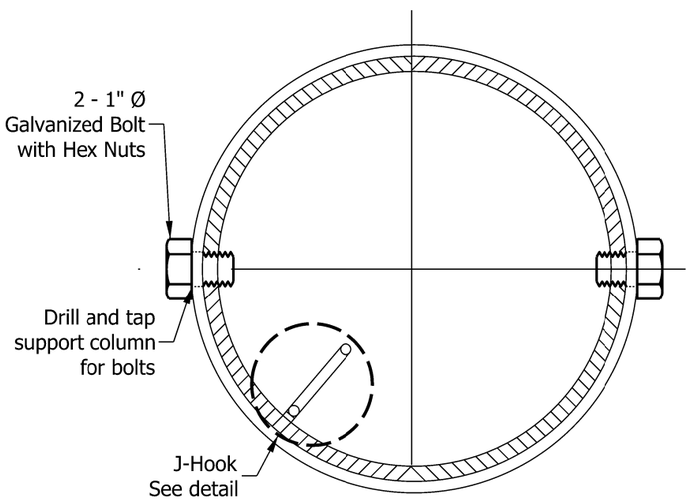
ELEVATION
VIEW FROM HANDHOLE SIDE

NOTES:

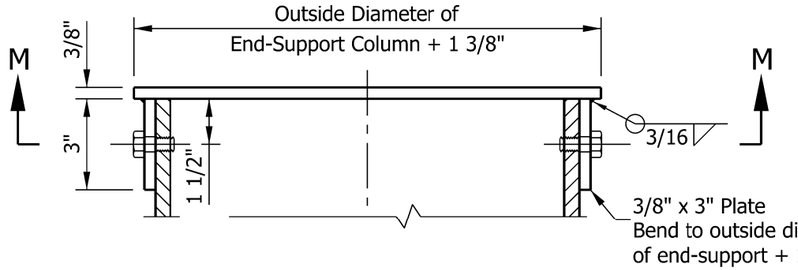
1. In lieu of fabricated handhole frame as shown, frame may be cut from 3 in. plate (rolling direction vertical).
2. See Standard Drawing E 802-SNWR Series for grounding details. Grounding post shall be placed on far side of support directly opposite center of handhole.
3. See sheets 02 and 15 for handhole locations.
4. See sheets 03 thru 06 for thicknesses of end-support columns (h).
5. Each end support shall have one hand hole placed at the column (h) base and shall be placed nearest to the sign.
6. See sheet 17 for I.D. plate details.



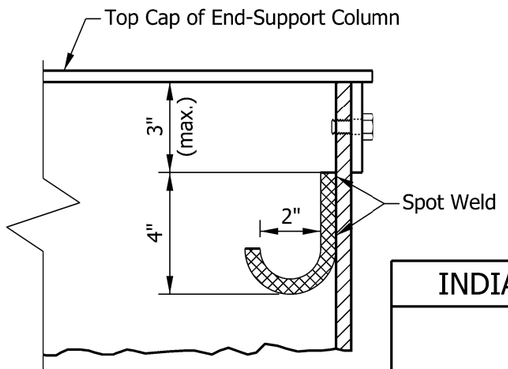
HANDHOLE
SECTION ACROSS COLUMN



SECTION M-M



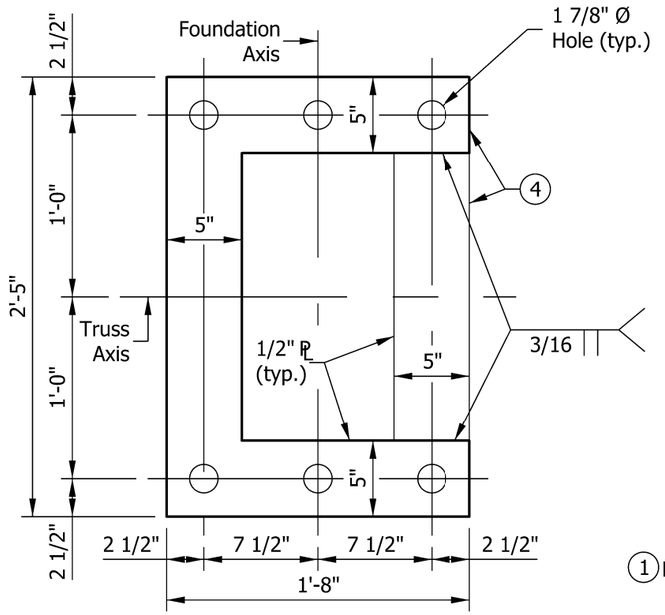
TOP CAP
ELEVATION VIEW



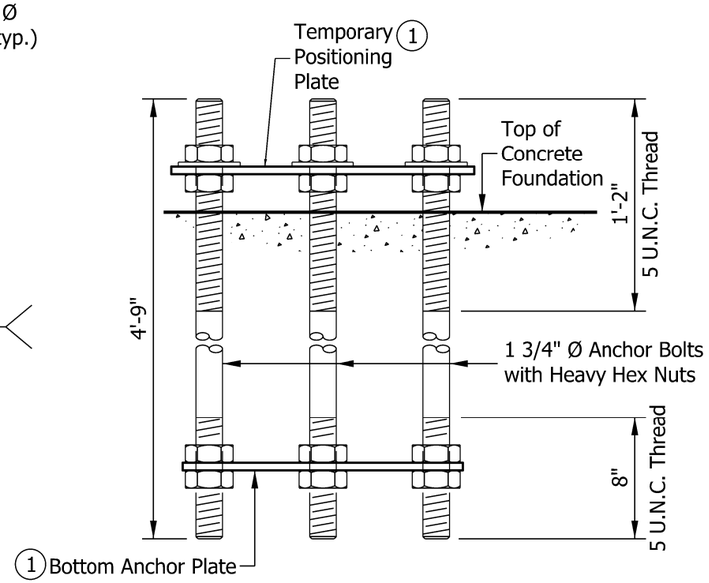
J-HOOK DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

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



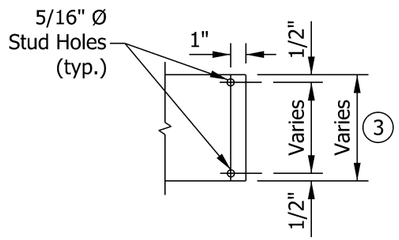
TEMPORARY POSITIONING PLATE



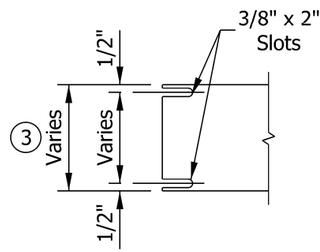
ANCHOR BOLT DETAILS
BEFORE CONCRETE PLACEMENT

NOTES:

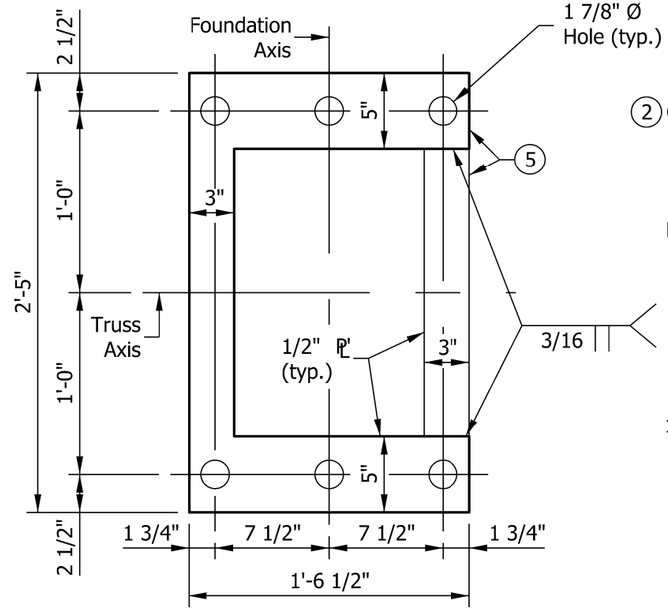
1. Temporary positioning plate and bottom anchor plate shall be used for all foundations. Temporary positioning plate shall be removed after placing concrete.
2. Secure galvanized metal skirt shall be secured to base plate after erection as shown in skirt detail.
3. Minimum base plate gap shall be 2 ½ in. and can be increased up to 5 ½ in. Metal skirt width shall be at least 1 ½ in. more than the actual gap.
4. May use four separate 5 in. plates welded together to maintain angles and shape as shown.
5. May use two separate 3 in. and two separate 5 in. plates welded together to maintain angles and shape as shown.
6. See Standard Drawings E 802-SBTS-16 for end support base plate details.
7. See Standard Drawing E 802-SBTS-20 for anchor bolt hardware tightening requirements.



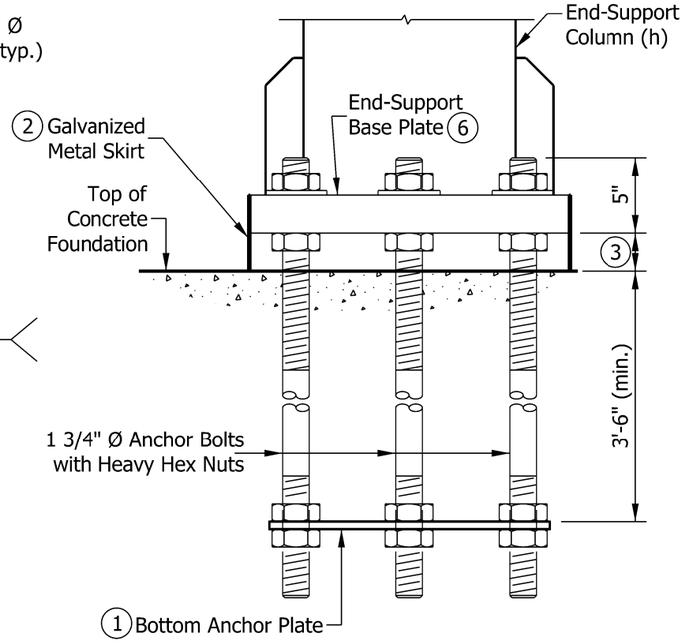
DETAIL G



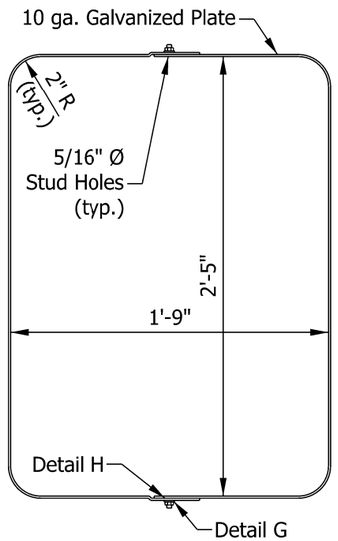
DETAIL H



BOTTOM ANCHOR PLATE



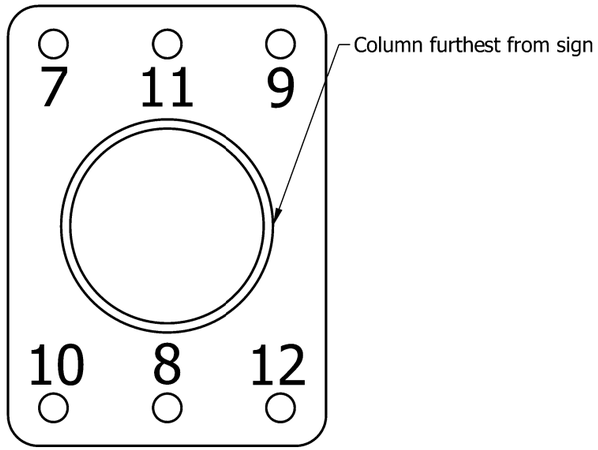
ANCHOR BOLT DETAILS
AFTER CONCRETE PLACEMENT

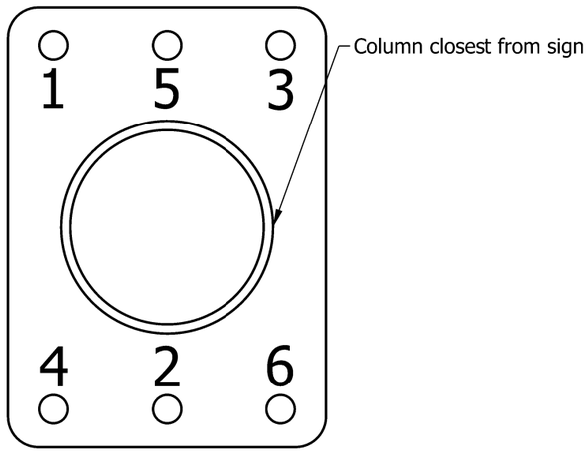


METAL SKIRT DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

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





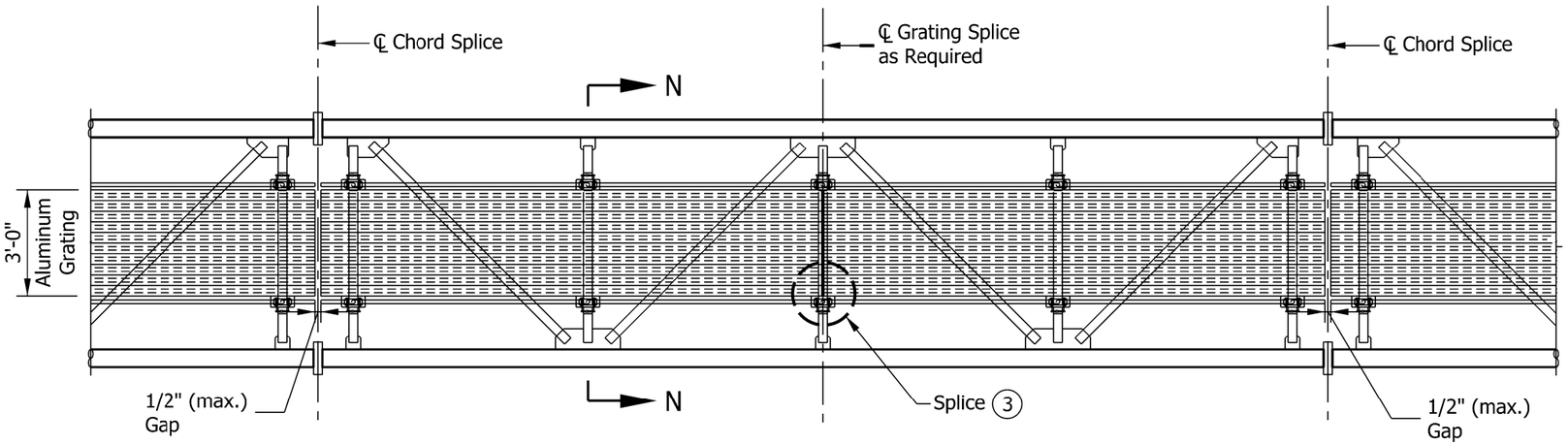
STAR PATTERN
TIGHTENING SEQUENCE

NOTES:

1. Anchor bolts shall be clean and not damaged or out of plumb.
2. Threaded portion of anchor bolts shall be lubricated within 24 hours of tightening; approved lubricant shall be used and shall be applied in accordance with lubricant manufacturers recommendations.
3. The bottom of leveling nuts shall be less than 1 ¾ in. from the foundation (unless stated otherwise on the plans).
4. While holding the leveling nuts with a wrench, the top nuts shall be snug tightened (brought into full contact with the base plate). Then the leveling nuts shall be snug-tightened. Then the top nuts and base plate shall be marked and the nuts further tightened (pre-tensioned) by a minimum 1/6 turn.
5. No sooner than 10 minutes after the installation of the truss on the end bents, top and leveling nuts shall be retightened as needed.
6. All tightening shall be done in the order shown.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
END SUPPORT ANCHOR BOLT
HARDWARE TIGHTENING



INTERIOR WALKWAY GRATING PLAN

NOTES:

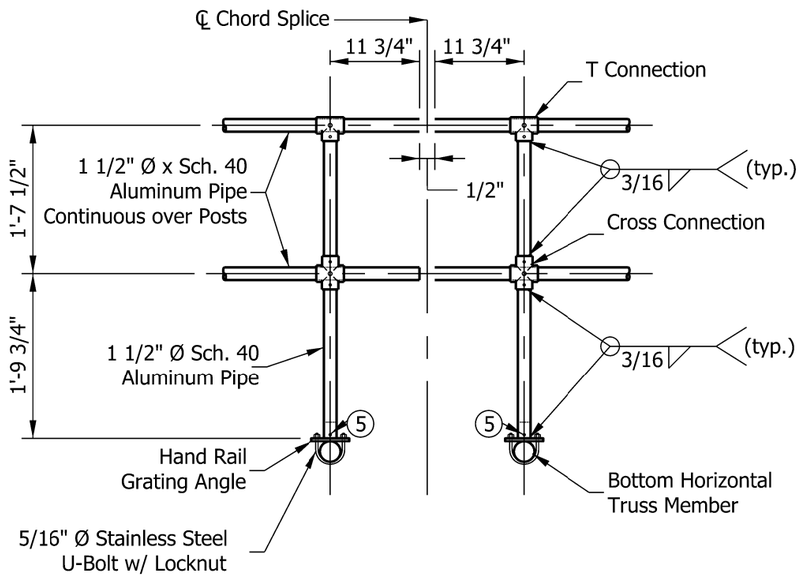
1. Interior walkway gratings shall be extruded I-bars 2 in. x ¼ in. x 1 $^{3}/_{16}$ in. center-to-center. Cross bars shall have a maximum gap of 4 in. Moment of Inertia, I_x = 1.382 in^4. A different grating of equal strength may be used upon approval by the engineer.

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

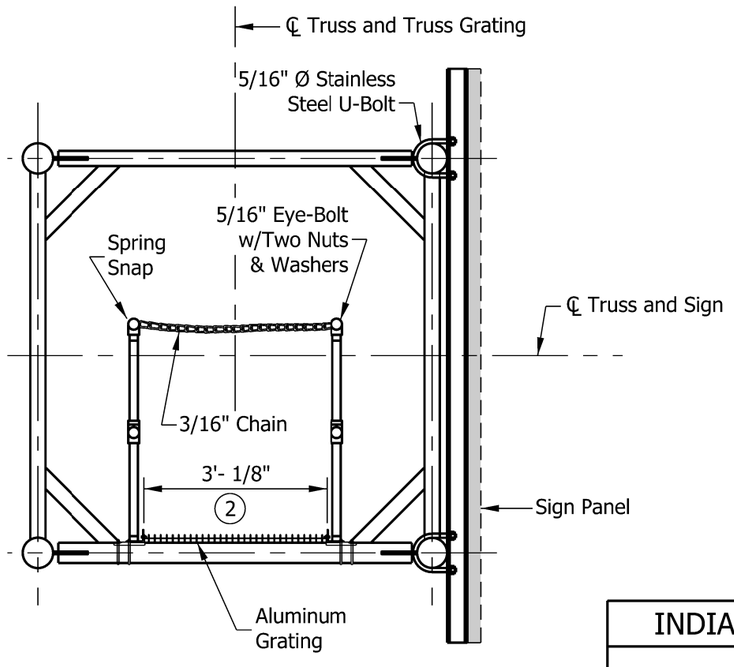
(3) Interior walkway gratings can be spliced on center of any horizontal truss member as needed. See Standard Drawing E 802-SBTS-22 for typical interior walkway grating splice detail.

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

(5) Drain holes shall be as detailed on Standard Drawing E 802-SBTS-26, including placement on the horizontal handrail pipes.



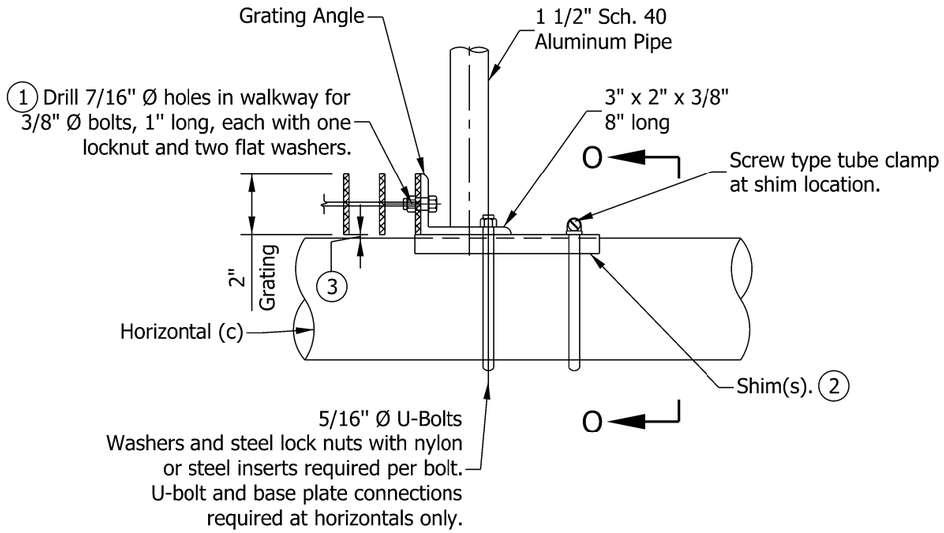
TYPICAL HANDRAIL DETAIL



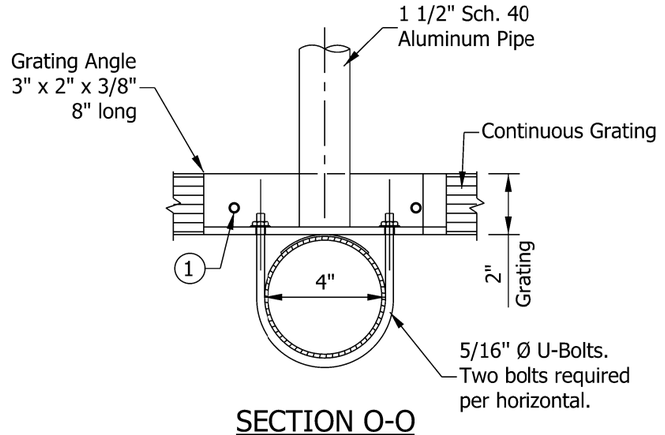
SECTION N-N

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
INTERIOR WALKWAY GRATING & HANDRAIL DETAILS



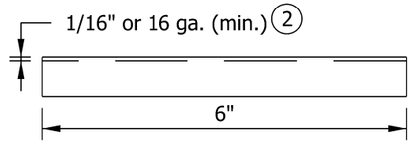
GRATNG SUPPORT DETAIL



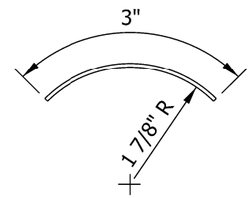
SECTION O-O

NOTES:

1. Drilling of holes in grating may be done in shop or field, based on Contractor's preference and subject to and shall provide 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 ½ in. max. to align walkway, allow for camber.

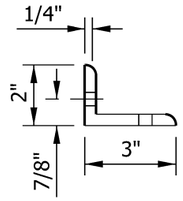


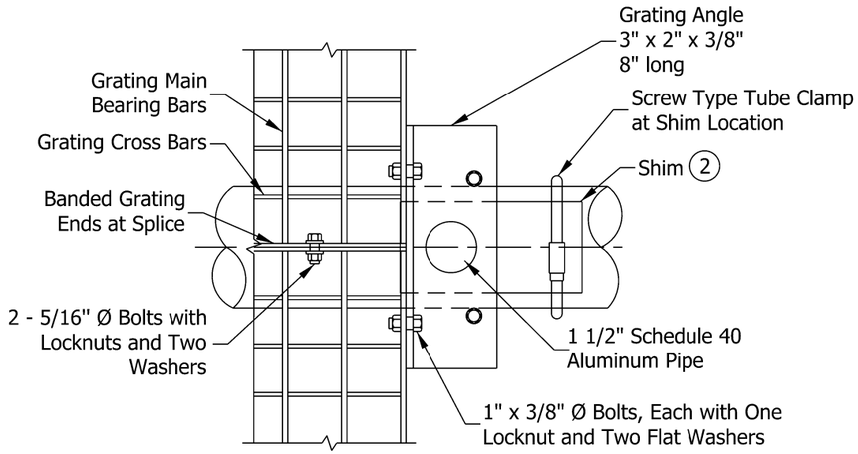
ELEVATION



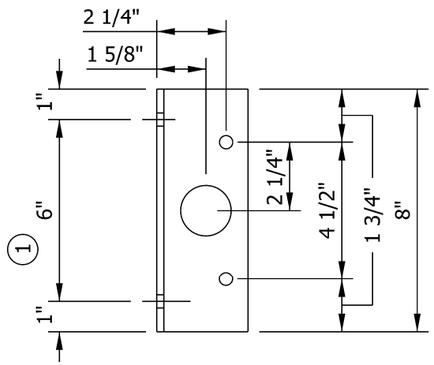
END VIEW

SHIM DETAIL





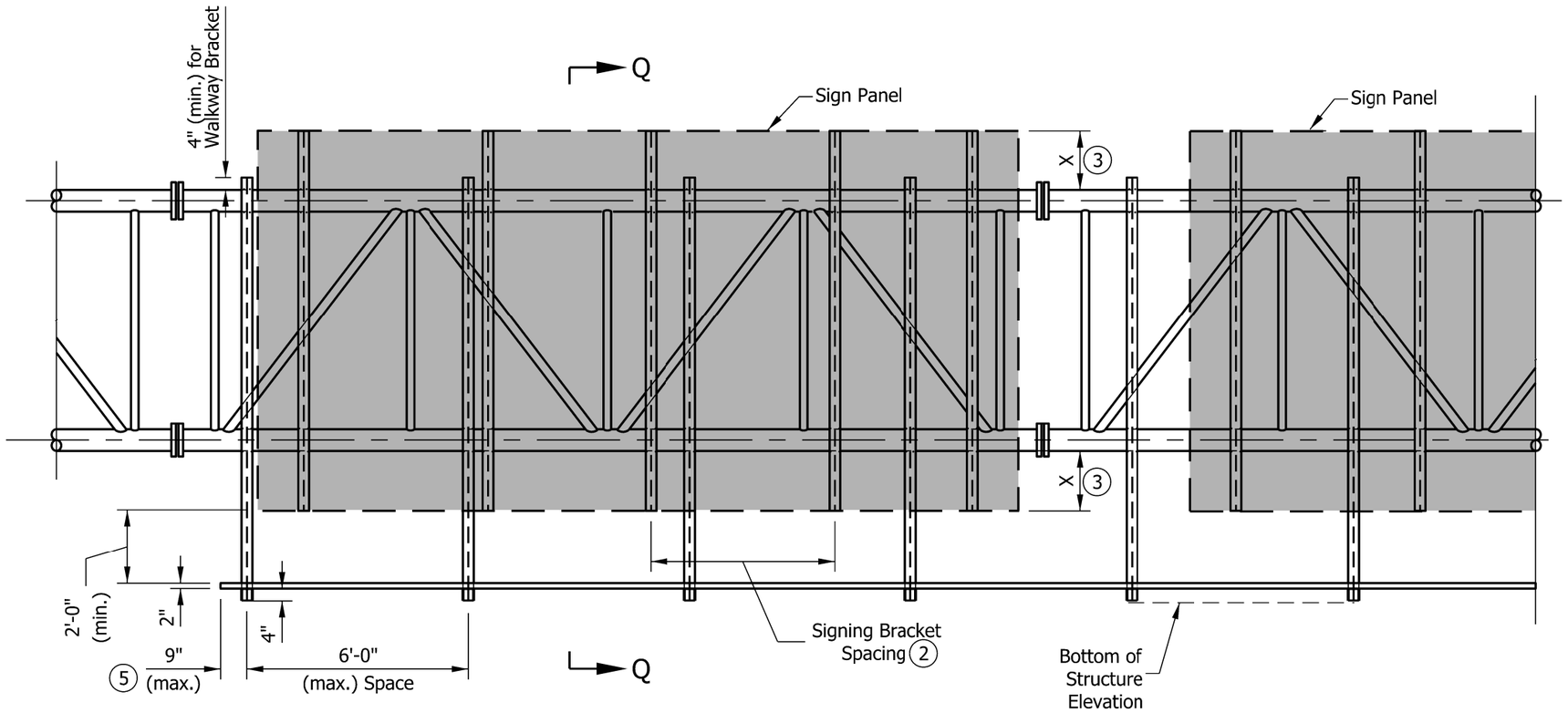
GRATING SPLICE DETAIL



GRATING ANGLE

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
INTERIOR WALKWAY GRATING DETAILS



TYPICAL LIGHTING WALKWAY FRONT ELEVATION

(Lighting walkway and handrail provided only when specified in the plans)

NOTES:

1. For location and data for sign panels, see plan details cross section.

(2) Sign bracket spacing 5 ft max.

(3) Dimension X depends on the height of the sign. Sign shall be centered vertically on truss.

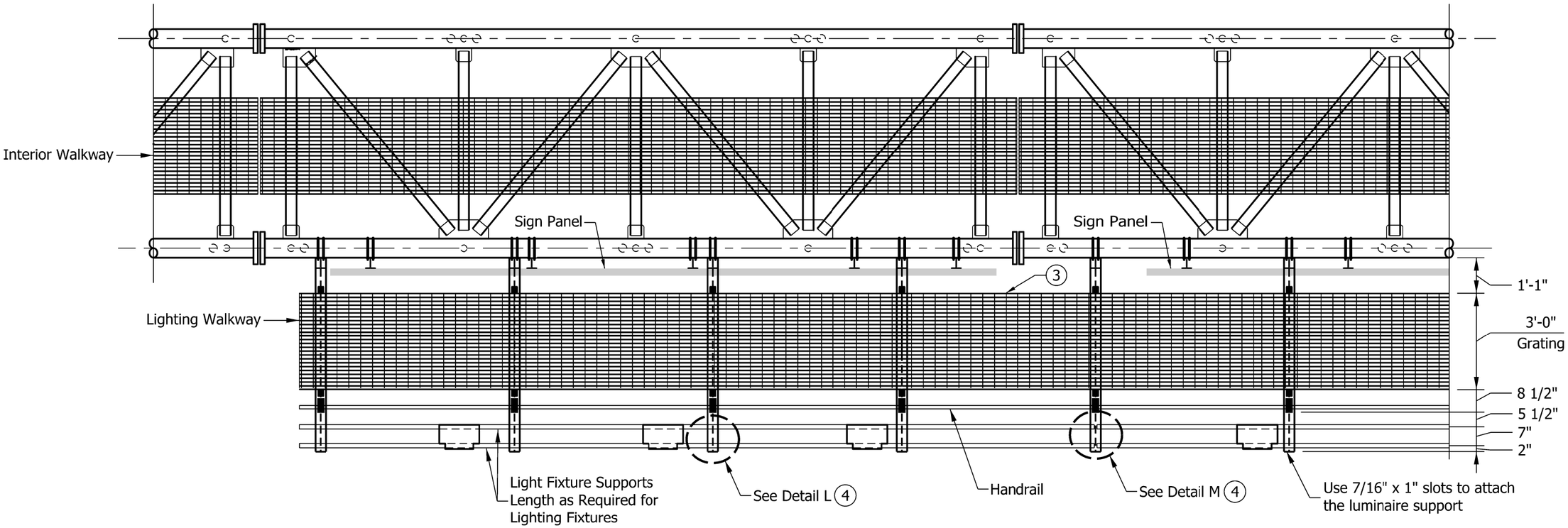
4. See Standard Drawing E 802-SBTS-24 for Plan, and E 802-SBTS-25 for Section Q-Q.

(5) Sign shall be installed on truss with independent brackets WF (A-N) 4 x 3.06 for signs ≤ 18 ft in height. For signs > 18 ft and ≤ 25 ft use WF (A-N) 5 x 5.36. Lighting walkway may be extended to comply with the 9 in. maximum unsupported grating.

6. Alternate bracket with section properties equal to or greater than the specified bracket may be used upon approval by the Engineer.

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY ELEVATION



PLAN VIEW

(Lighting walkway and handrail provided only when specified in the plans)

NOTES:

1. Handrail and grating shall span a minimum of 3 brackets.
2. Grating splice shall be located on center of L-bracket only. See Standard Drawing E 802-SBTS-28, Detail M.

(3) Lighting walkway gratings are extruded I-bars 2 in. x ¼ in. spaced at 1 $^{3}/_{16}$ in. center-to-center. $_{4}$Cross bars shall have a maximum gap of 4 in. Moment of Inertia, I_x = 1.382 in. A different grating of equal strength may be used upon approval.

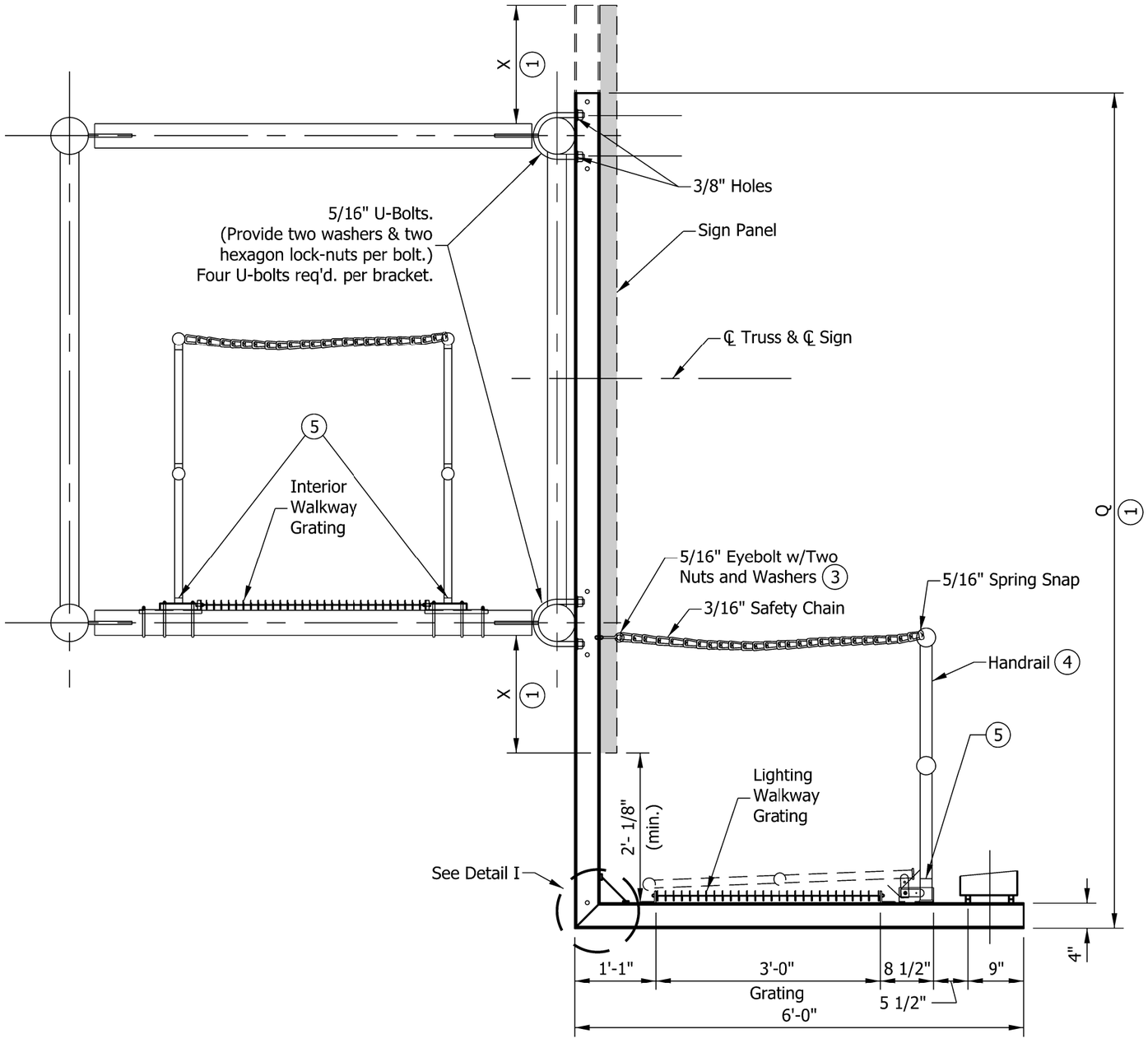
(4) See Standard Drawing E 802-SBTS-28, Details L & M.

INDIANA DEPARTMENT OF TRANSPORTATION

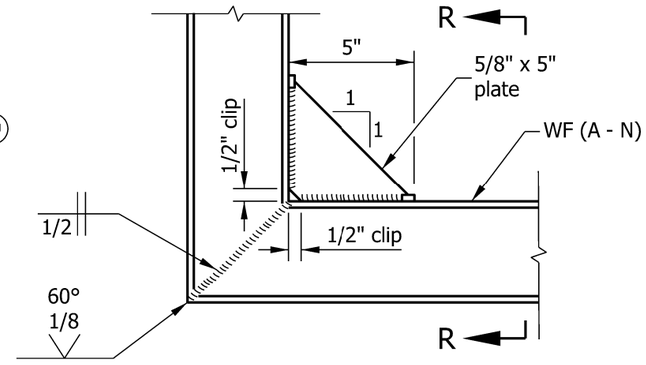
SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY PLAN

NOTES:

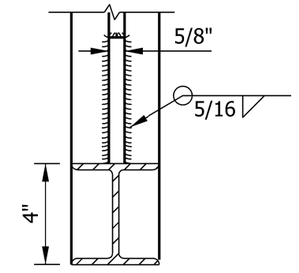
1. Dimensions X and Q shall be determined by Contractor to fit signs.
2. Sign panel shall be placed symmetrically about centerline of truss.
3. Eyebolt shall be attached to web of bracket at approximate elevation of upper handrail pipe.
4. See Standard Drawing E 802-SBTS-26 for handrail interior walkway.
5. Drain hole, See Standard Drawing E 802-SBTS-26



SECTION Q-Q



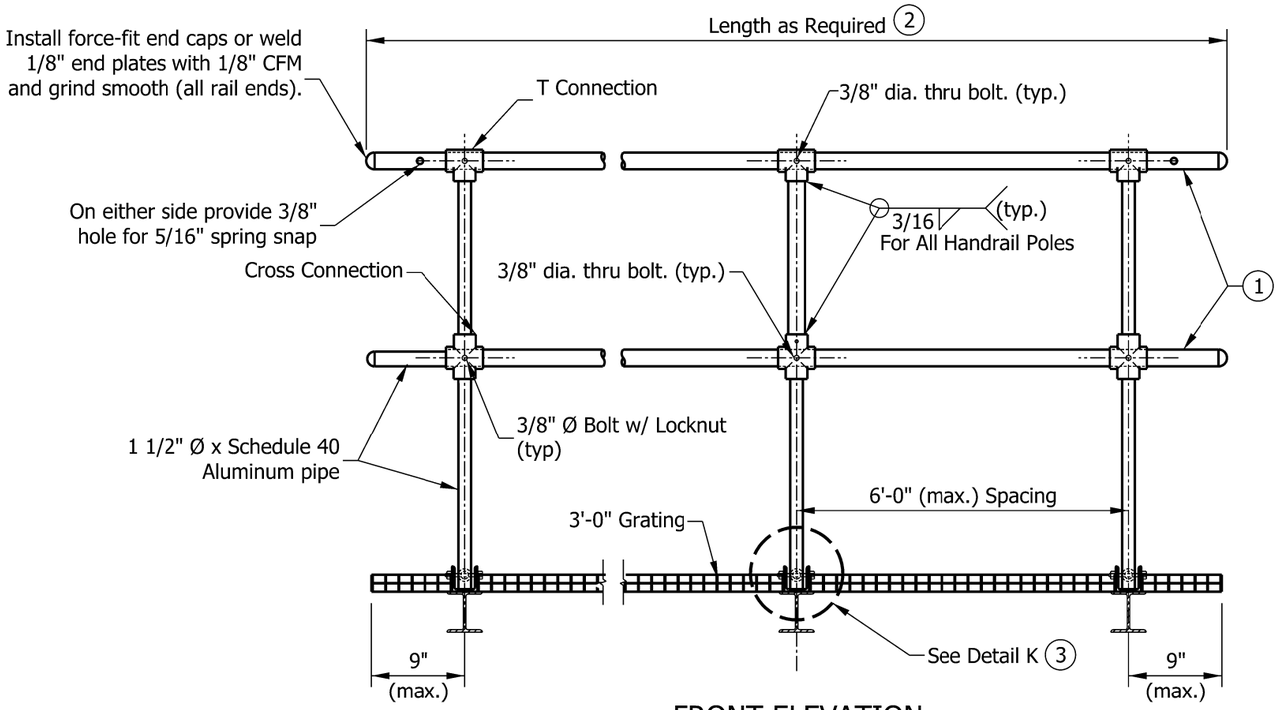
DETAIL I



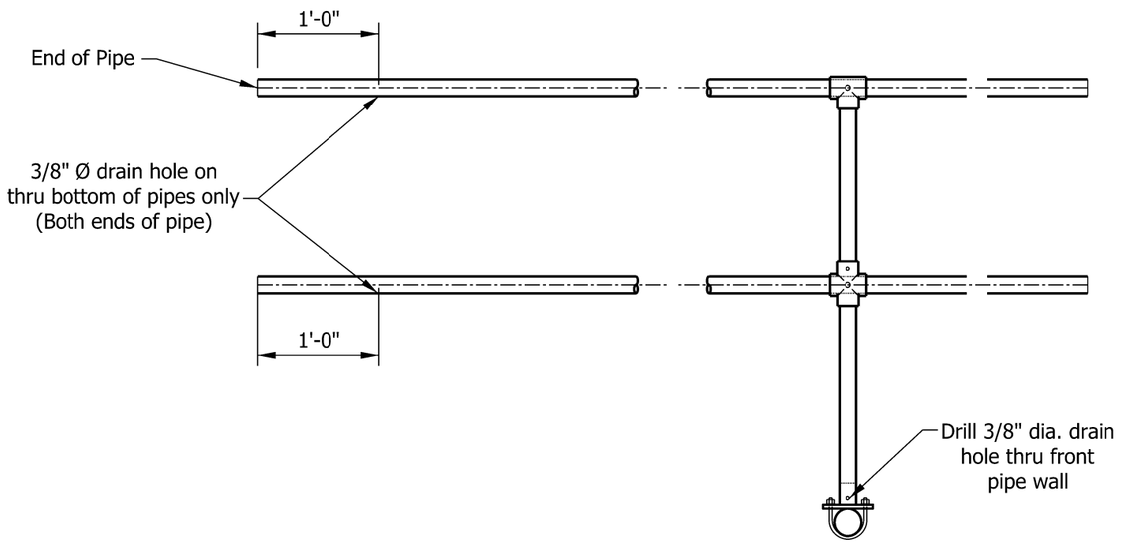
SECTION R-R

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY PROFILE



FRONT ELEVATION



HANDRAIL DRAIN HOLES DETAIL

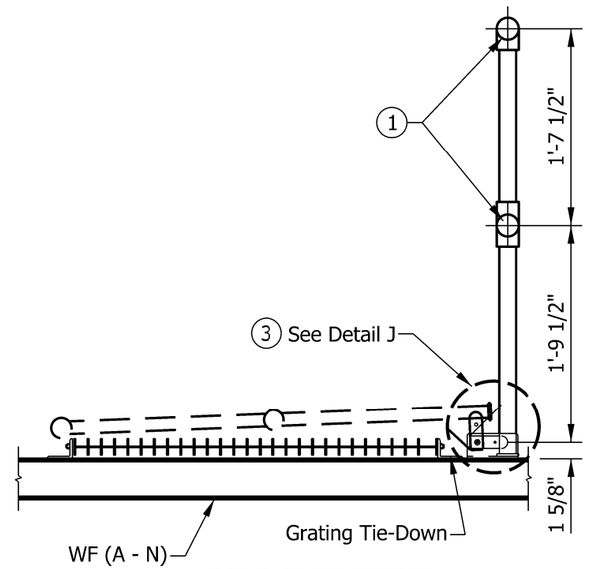
NOTES:

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

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

(3) See Standard Drawing E 802-SBTS-27 for Detail J & K.

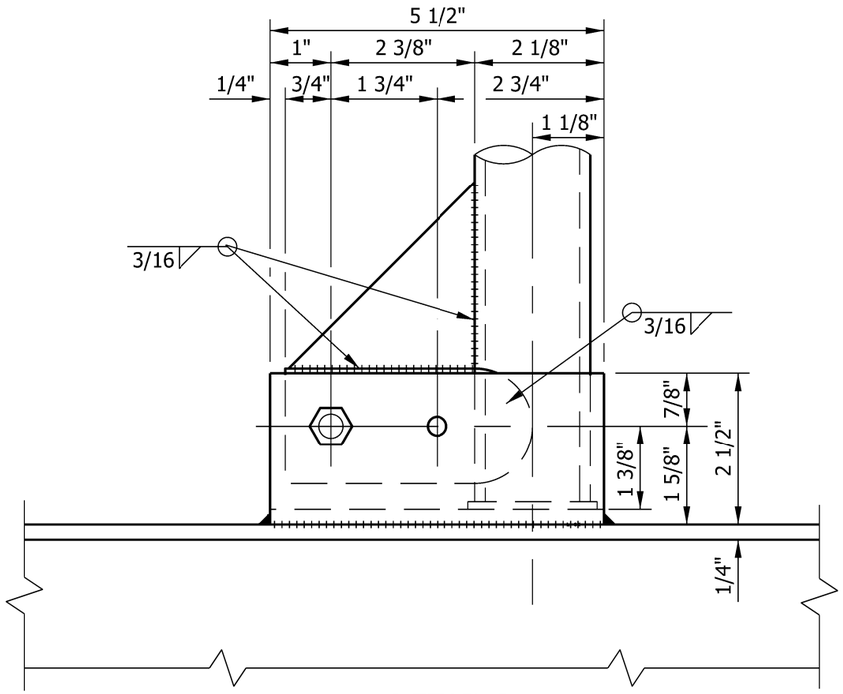
4. Lighting walkway and handrail provided only when specified on the plans.



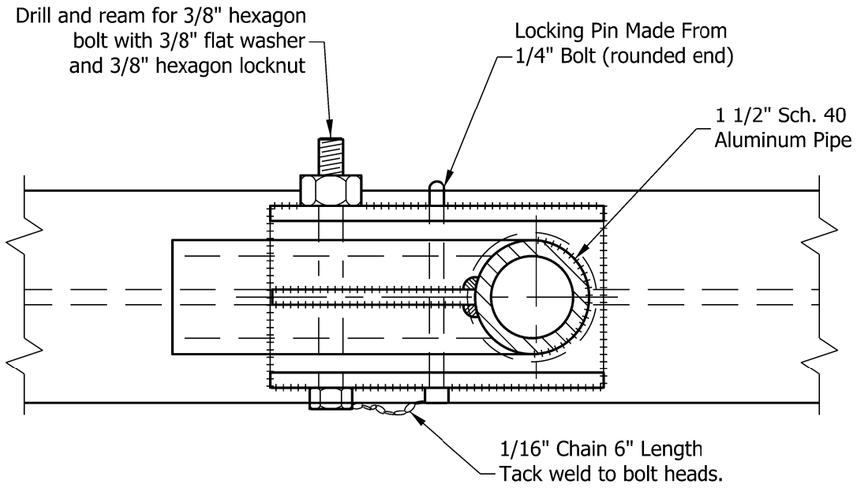
SIDE ELEVATION

INDIANA DEPARTMENT OF TRANSPORTATION

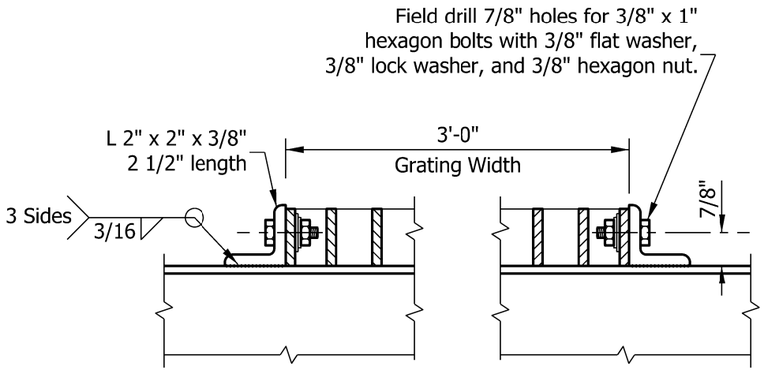
SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY AND
HANDRAIL ASSEMBLY



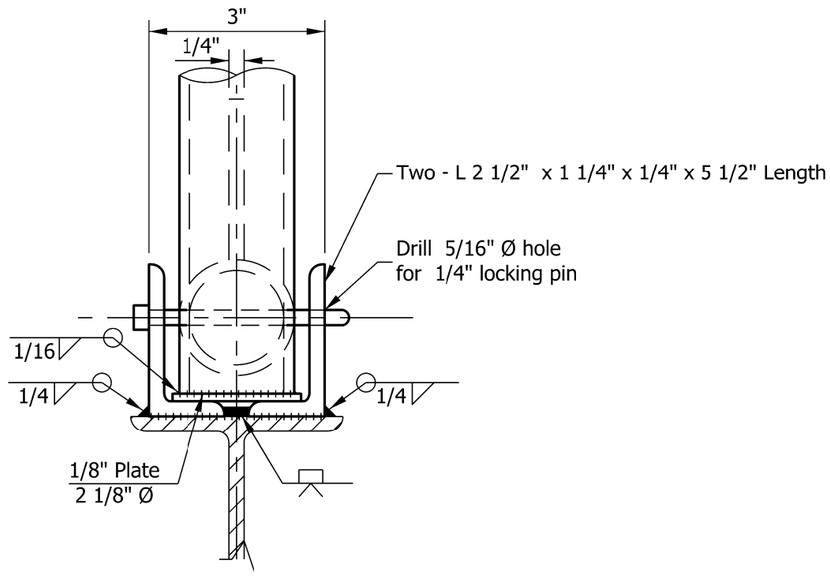
DETAIL J
SIDE ELEVATION



PLAN
DETAILS OF HANDRAIL HINGE



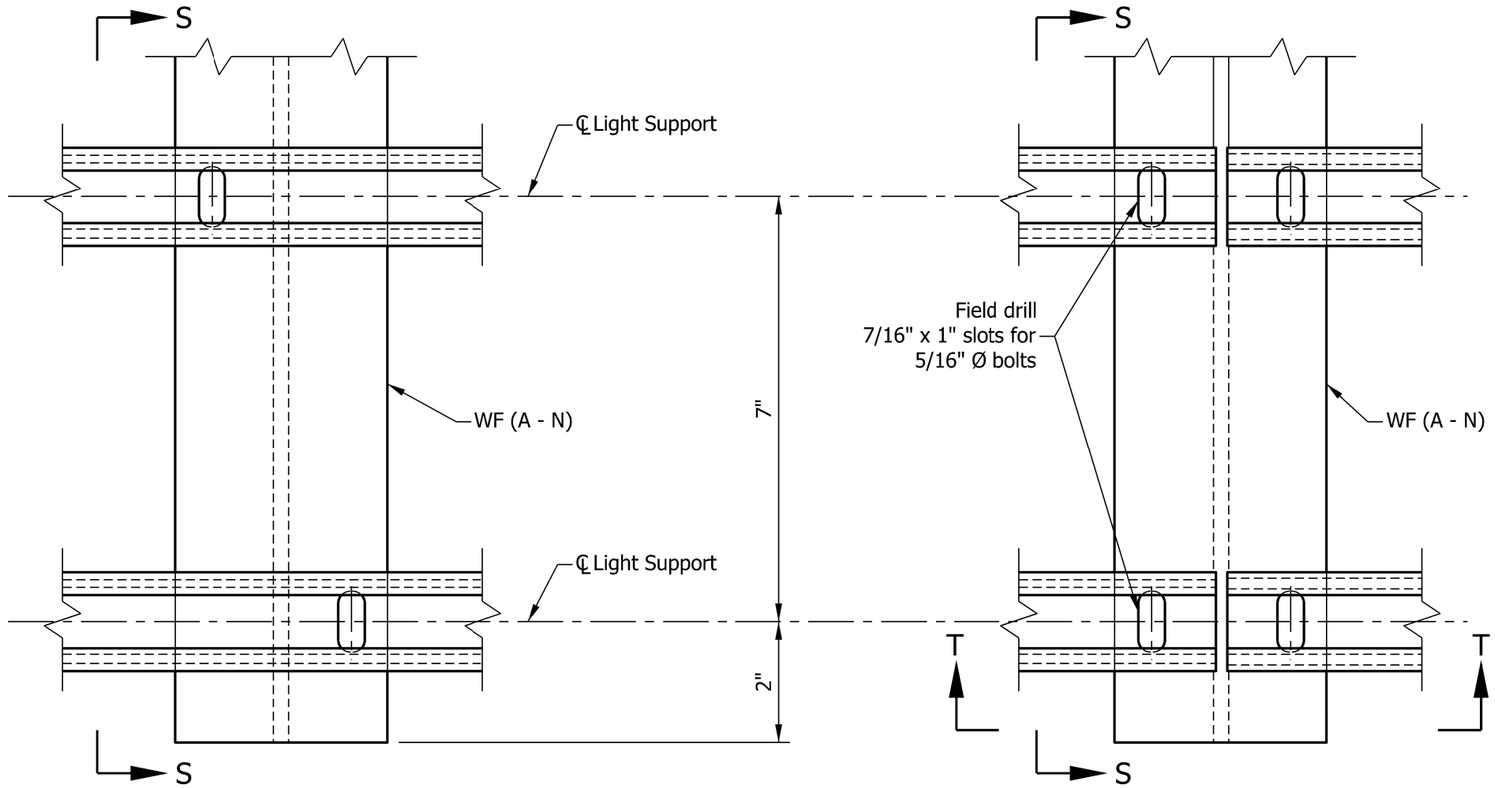
GRATING TIE DOWN
(Two req'd per walkway bracket)



DETAIL K
FRONT ELEVATION

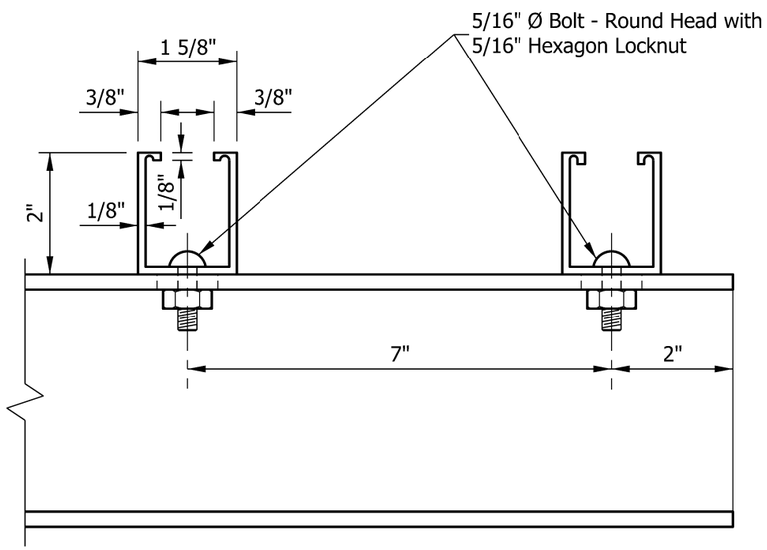
INDIANA DEPARTMENT OF TRANSPORTATION

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

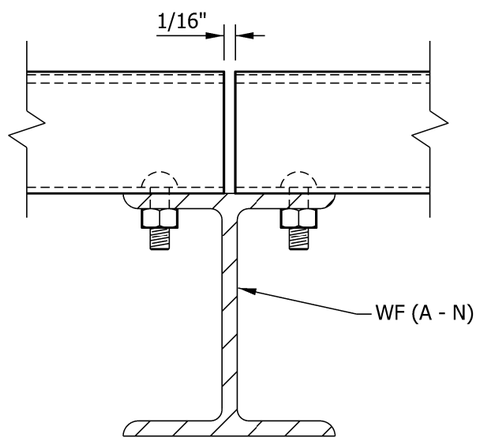


DETAIL L

DETAIL M



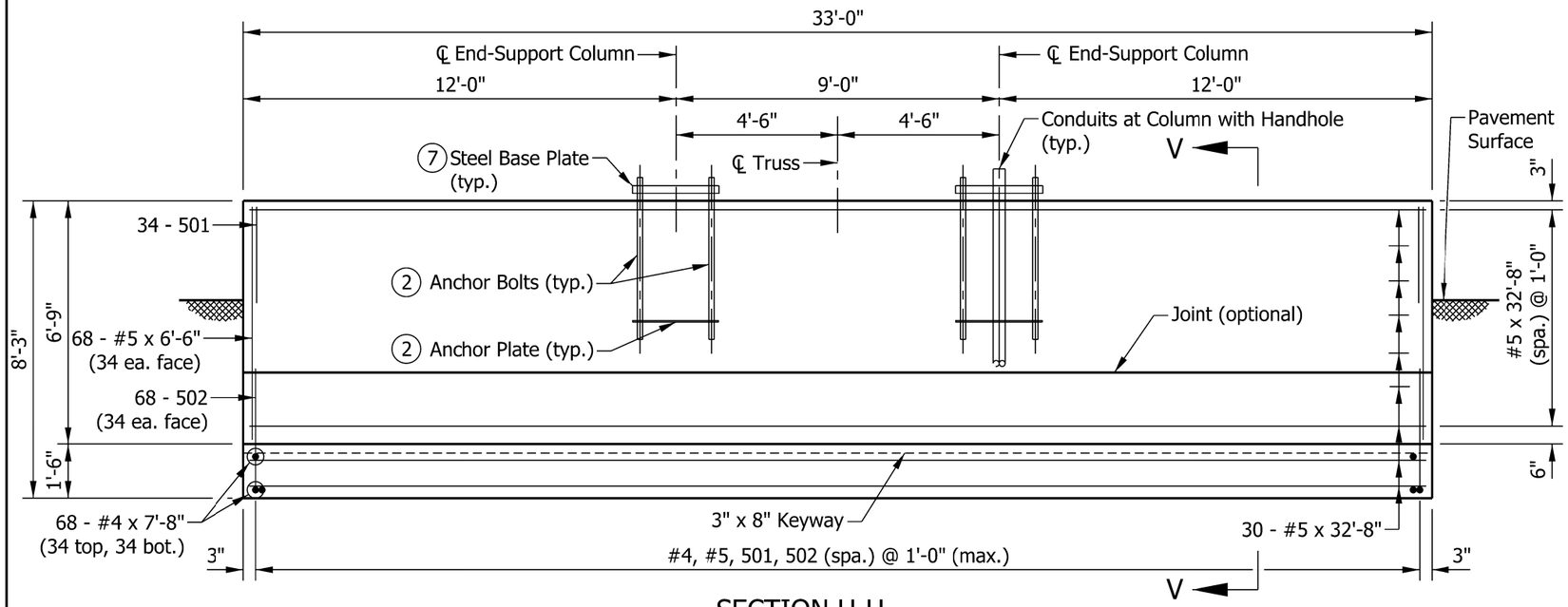
SECTION S-S



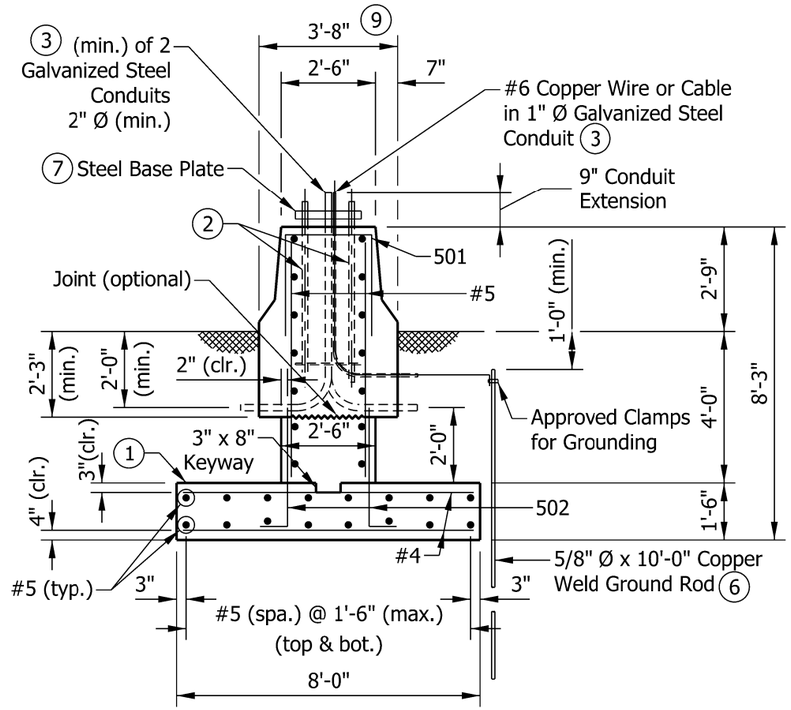
SECTION T-T

INDIANA DEPARTMENT OF TRANSPORTATION

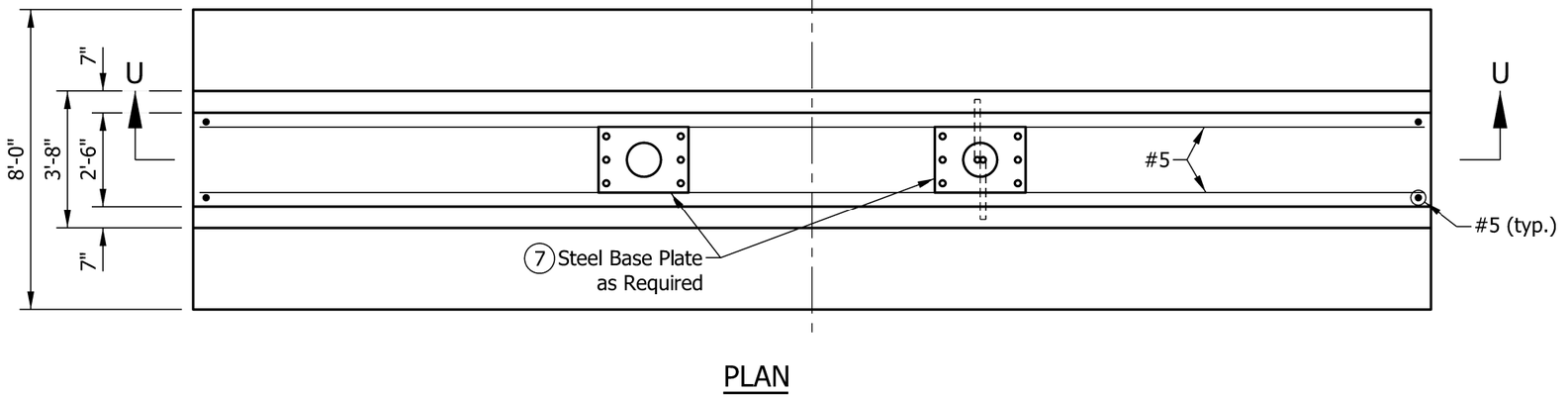
SIGN BOX TRUSS STRUCTURE
LIGHTING WALKWAY
FIXTURE MOUNT DETAILS



SECTION U-U



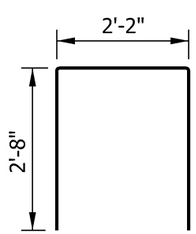
SECTION V-V



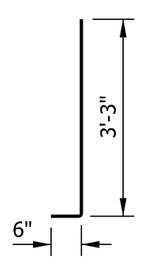
PLAN

NOTES:

1. Top of the footing shall be a minimum of 4 ft - 0 in. below the pavement or ground surface.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-32 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 602-CCMB series for barrier wall width transition.
8. Minimum concrete strength f'c = 3500 psi
9. See Standard Drawing E 602-CCMB series for barrier wall width transition.



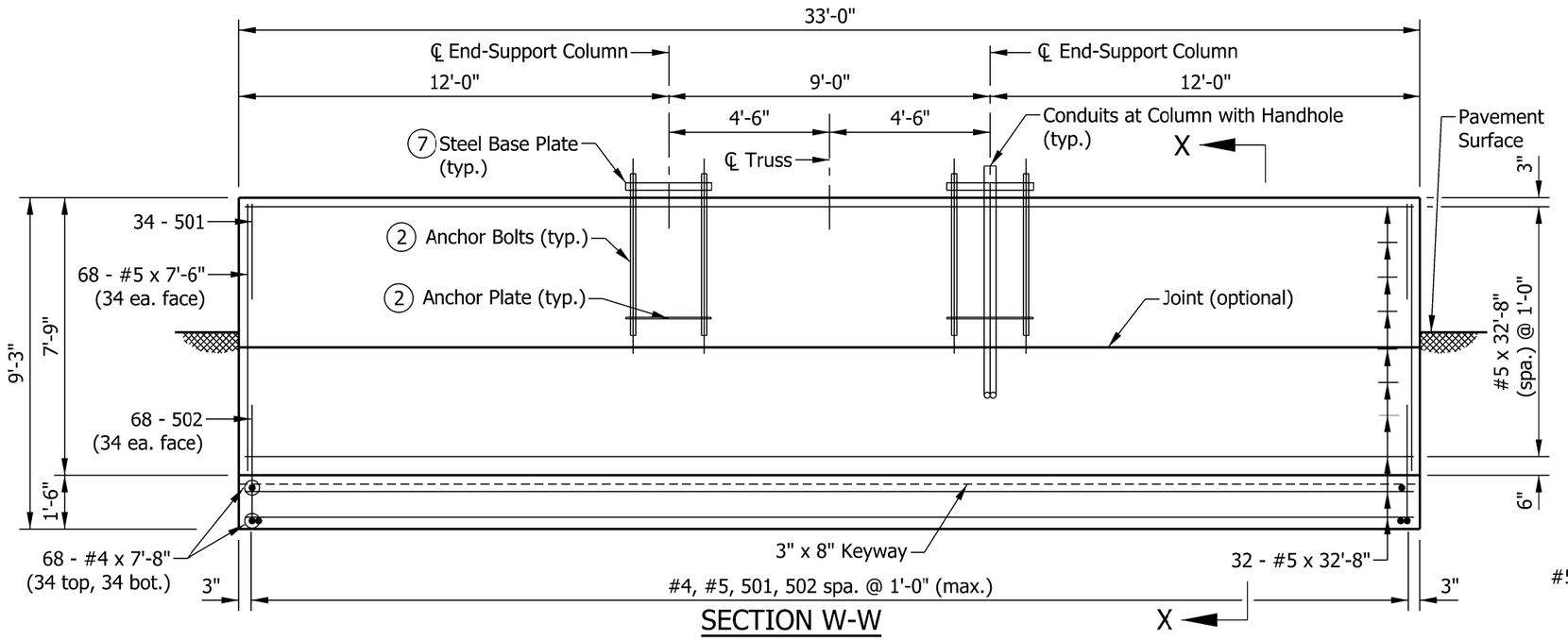
501 x 7'-6"



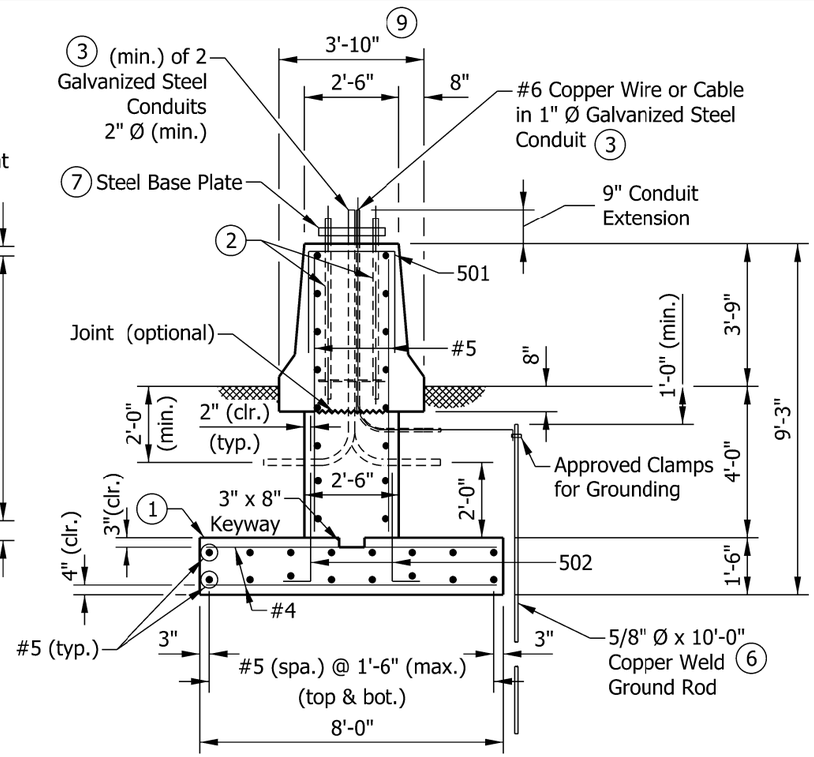
502 x 3'-9"

INDIANA DEPARTMENT OF TRANSPORTATION

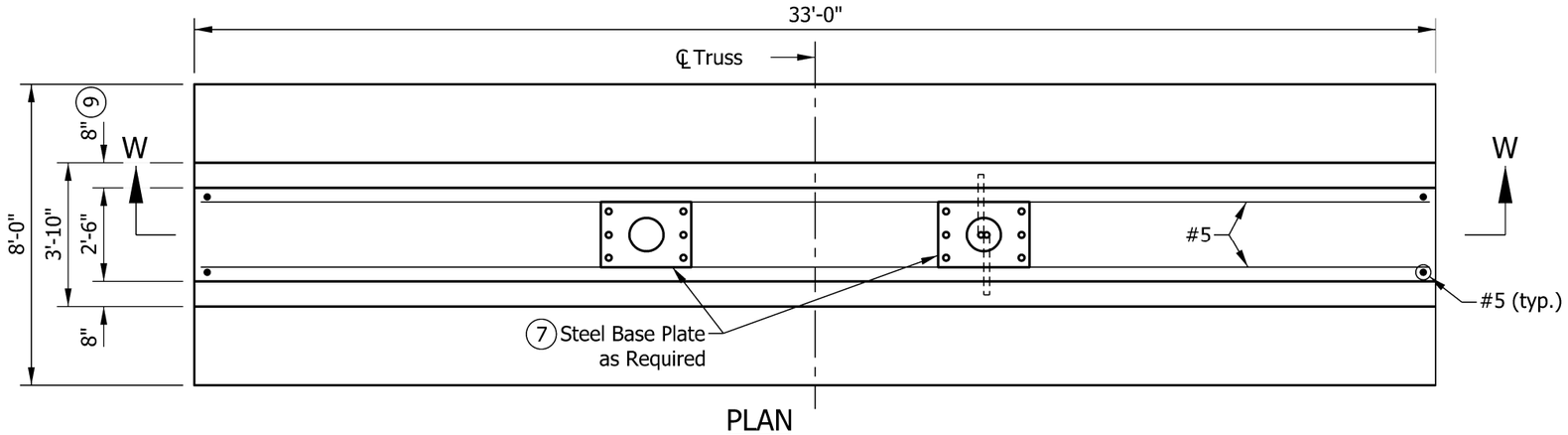
SIGN BOX TRUSS STRUCTURE
INDEX



SECTION W-W



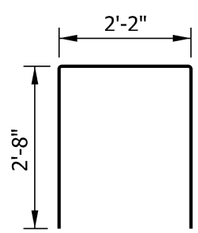
SECTION X-X



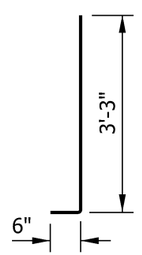
PLAN

NOTES:

1. Top of the footing shall be a minimum of 4 ft - 0 in. below the pavement or ground surface.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-32 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength f'c = 3500 psi.
9. See Standard Drawing E 602-CCMB series for barrier wall width transition.



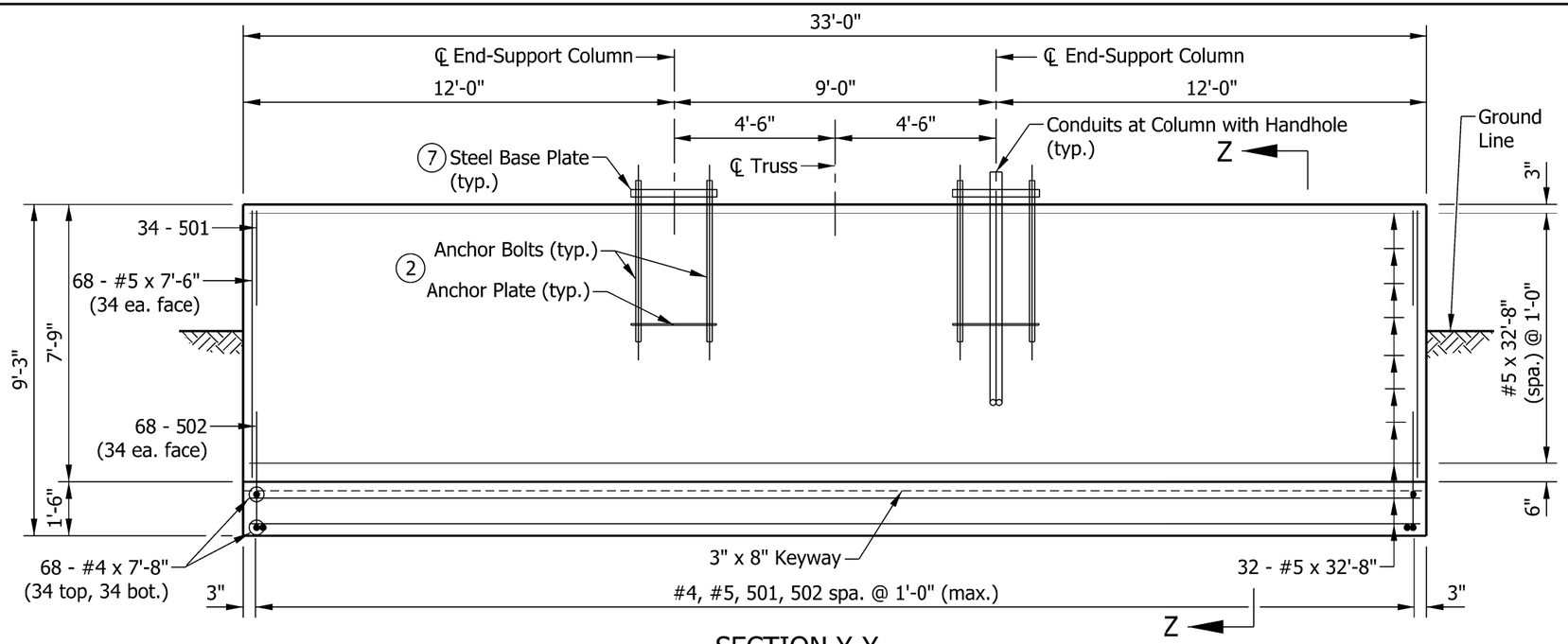
501 x 7'-6"



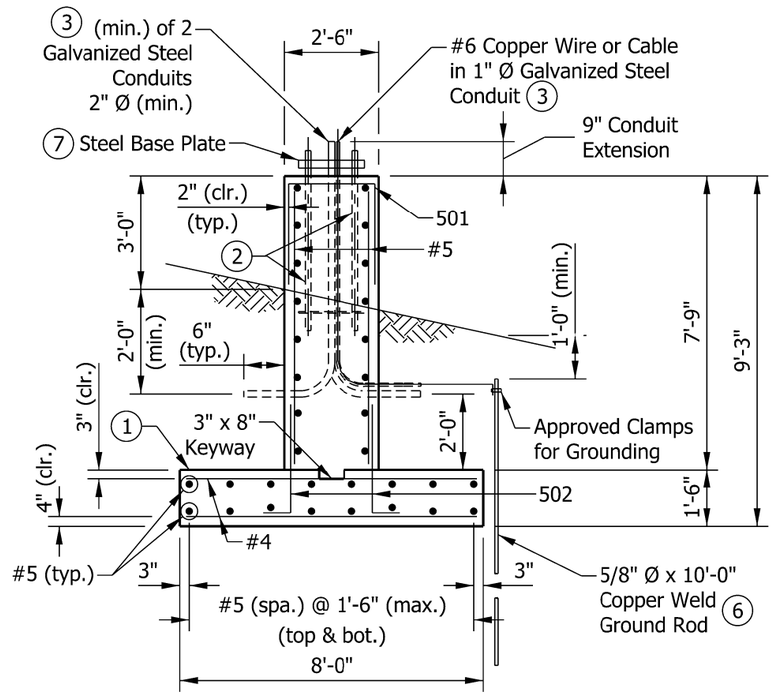
502 x 3'-9"

INDIANA DEPARTMENT OF TRANSPORTATION

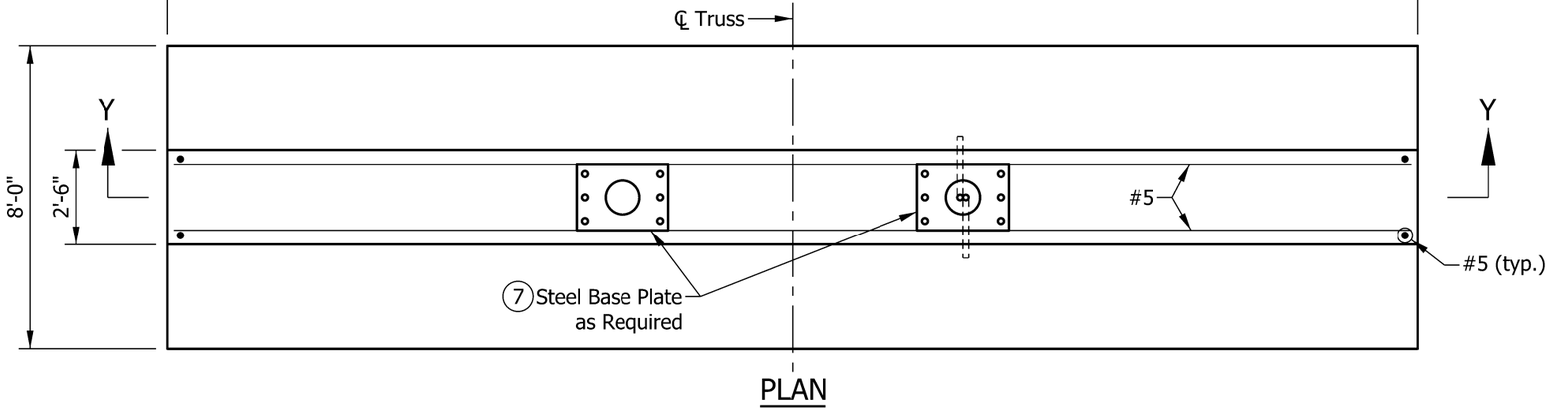
SIGN BOX TRUSS STRUCTURE A-E
SPREAD FOUNDATION
AT 33" CONCRETE BARRIER WALL



SECTION Y-Y



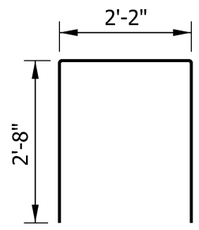
SECTION Z-Z



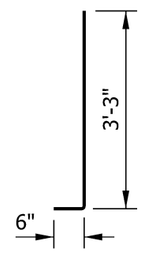
PLAN

NOTES:

1. Top of the footing shall be a minimum of 4 ft - 0 in. below the pavement for ground suface.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-32 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength f'c = 3500 psi.
9. For slopes steeper than 3:1 the Alternate Drilled Shaft Foundation shall be used.



501 x 7'-6"



502 x 3'-9"

INDIANA DEPARTMENT OF TRANSPORTATION

SIGN BOX TRUSS STRUCTURE A-E
SPREAD FOUNDATION
FOR MEDIAN OR SHOULDER, 36" HEIGHT

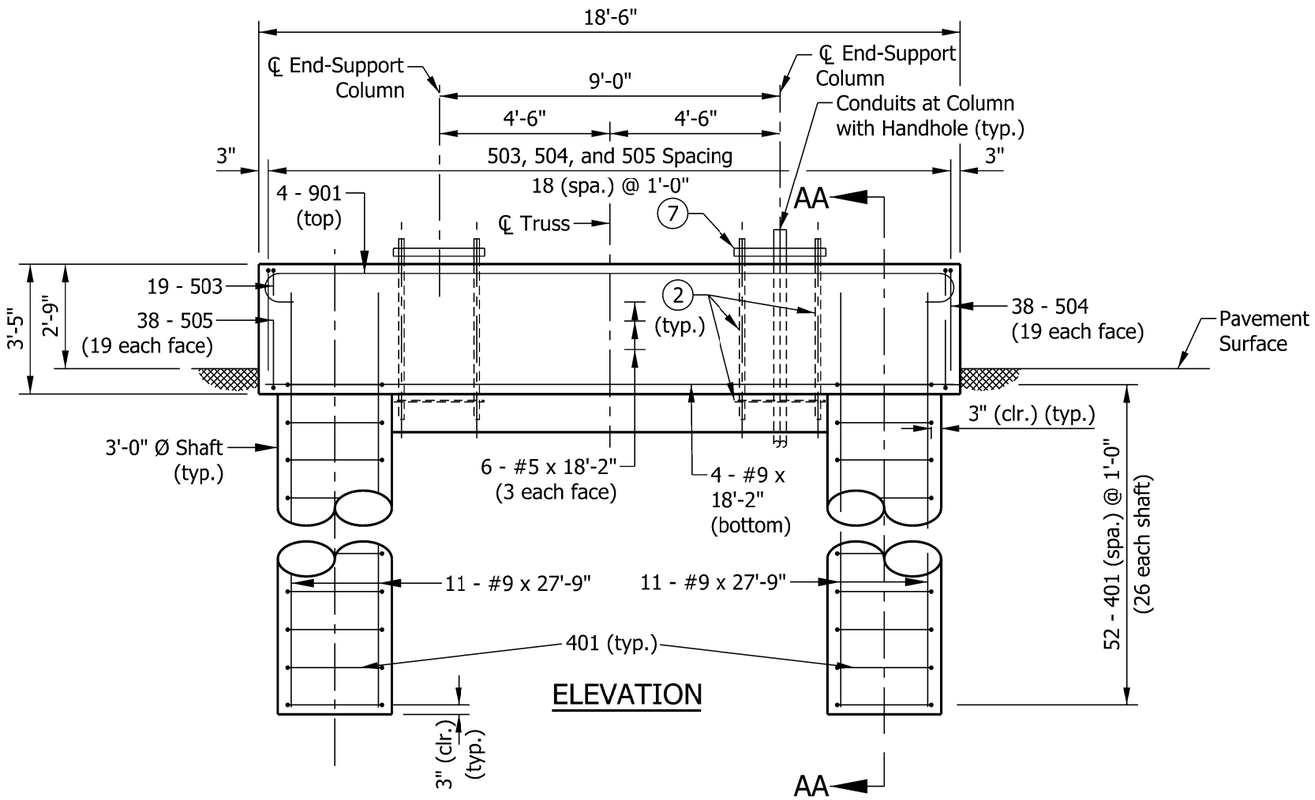
SPREAD FOUNDATION AT 33" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
501	34	7'-6"	
502	68	3'-9"	
#5	68	6'-6"	
#5	30	32'-8"	
Total #5			2015 LBS
#4	68	7'-8"	
Total #4			348 LBS
Total Epoxy-Coated Reinforcing Bars			2363 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			39.8 CYS
MISCELLANEOUS			
Surface Seal			30.4 SYS

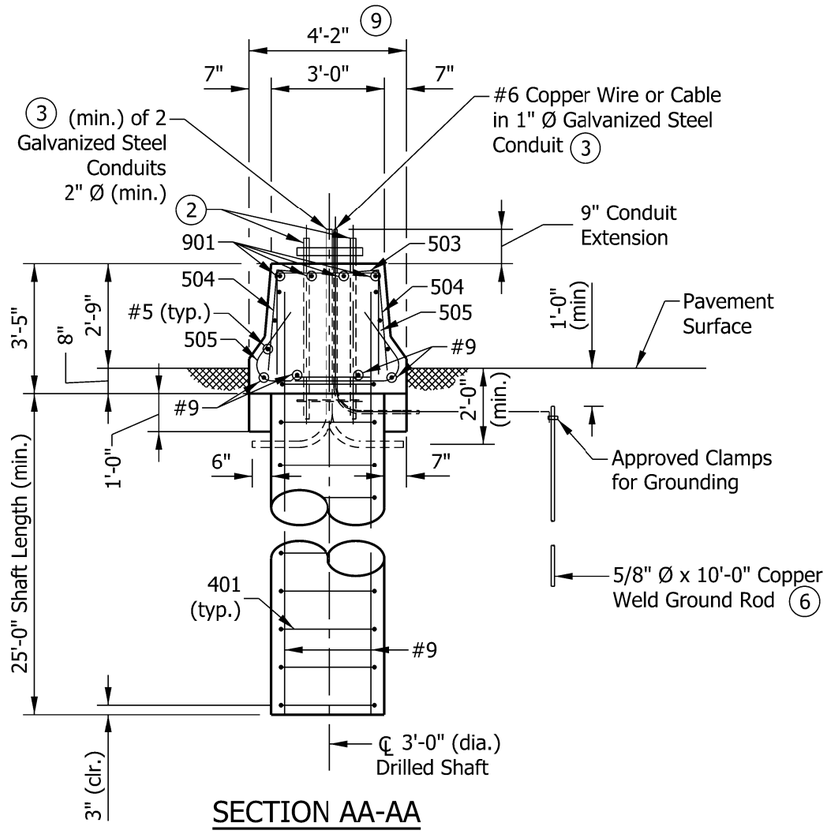
SPREAD FOUNDATION AT 45" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
501	34	7'-6"	
502	68	3'-9"	
#5	68	7'-6"	
#5	32	32'-8"	
Total #5			2154 LBS
#4	68	7'-8"	
Total #4			348 LBS
Total Epoxy-Coated Reinforcing Bars			2502 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			41.4 CYS
MISCELLANEOUS			
Surface Seal			37.8 SYS

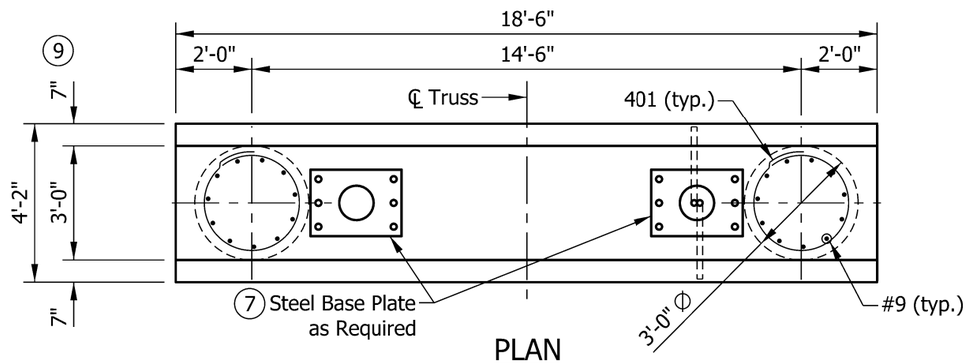
SPREAD FOUNDATION FOR MEDIAN OR SHOULDER, 36" HEIGHT			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
501	34	7'-6"	
502	68	3'-9"	
#5	68	7'-6"	
#5	32	32'-8"	
Total #5			2154 LBS
#4	68	7'-8"	
Total #4			348 LBS
Total Epoxy-Coated Reinforcing Bars			2502 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			38.4 CYS
MISCELLANEOUS			
Surface Seal			35.8 SYS

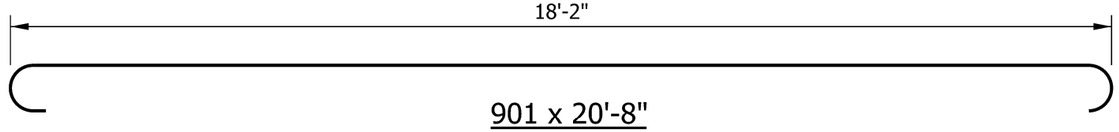
INDIANA DEPARTMENT OF TRANSPORTATION

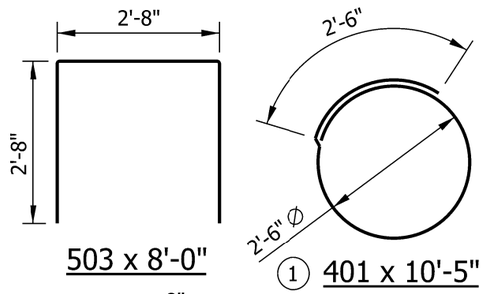
SIGN BOX TRUSS STRUCTURE A-E
SPREAD FOUNDATIONS
QUANTITIES

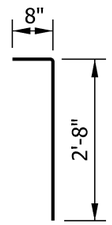


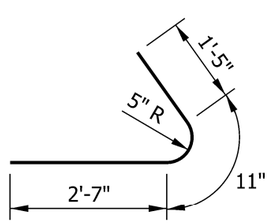










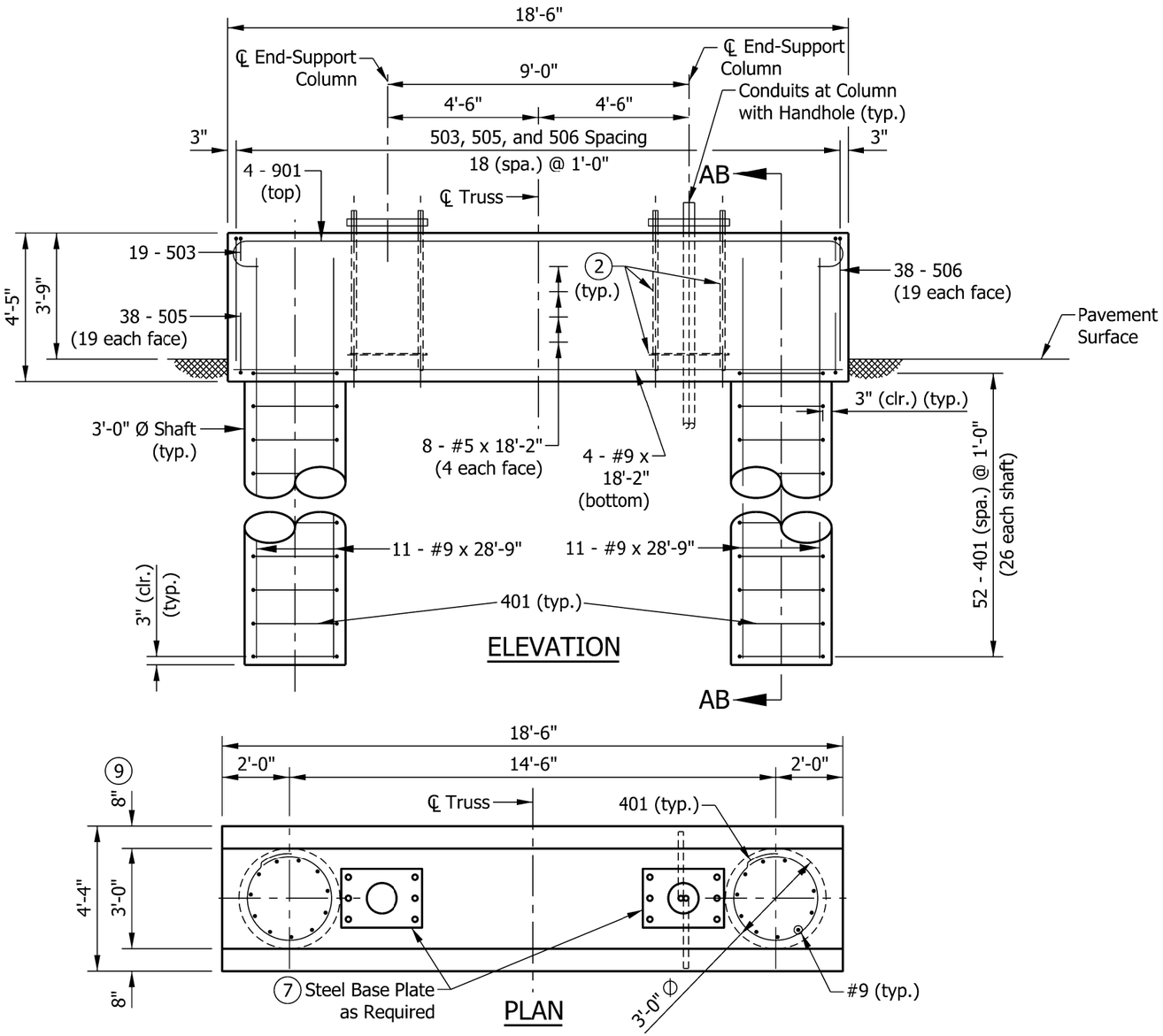


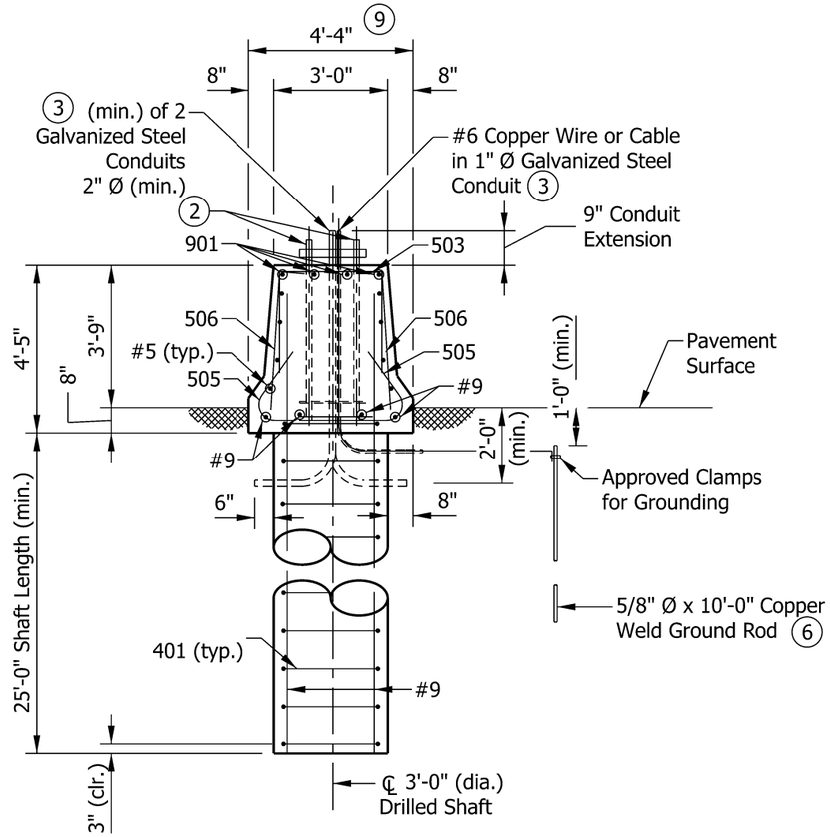
NOTES:

1. Each tie shall be rotated 90 degrees from the previous tie to stagger lap locations.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-36 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength f'c = 3500 psi.
9. See Standard Drawing E 602-CCMB series for barrier wall width transition.

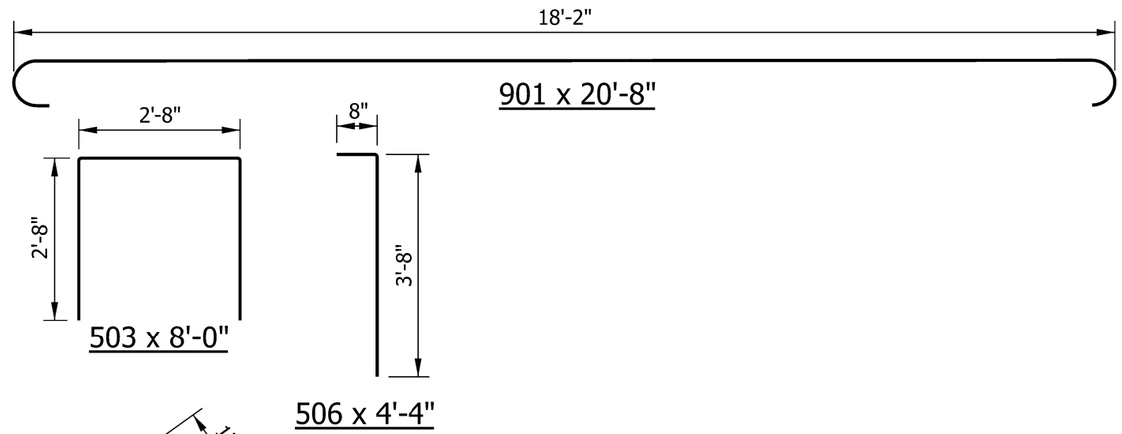
INDIANA DEPARTMENT OF TRANSPORTATION

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





SECTION AB-AB

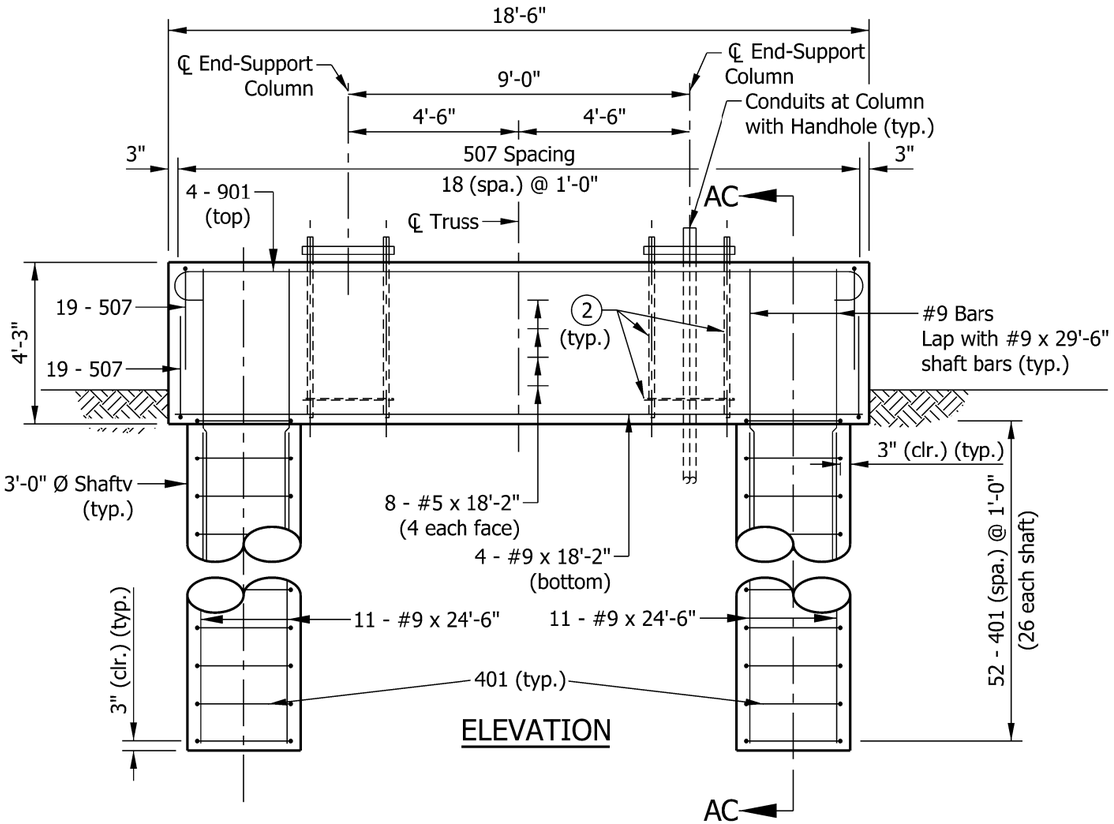


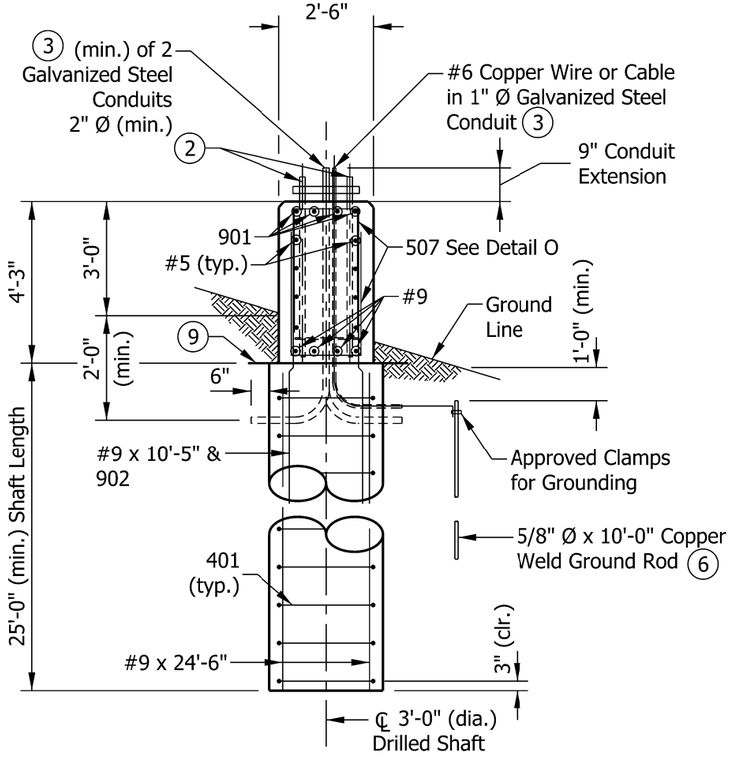
NOTES:

1. Each tie shall be rotated 90 degrees from the previous tie to stagger lap locations.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-36 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength f'c = 3500 psi.
9. See Standard Drawing E 602-CCMB series for barrier wall width transition.

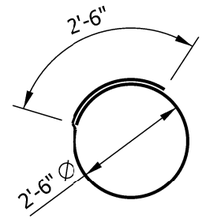
INDIANA DEPARTMENT OF TRANSPORTATION

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

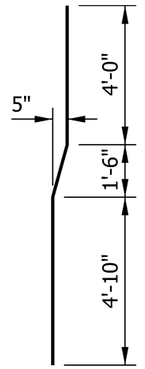




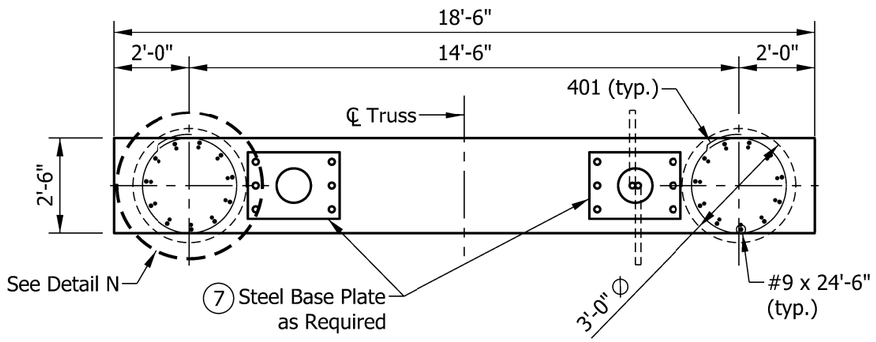
SECTION AC-AC



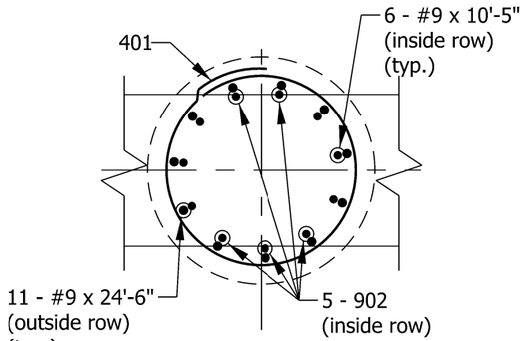
1 401 x 10'-5"



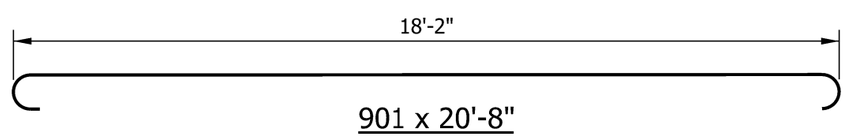
902 x 10'-5"



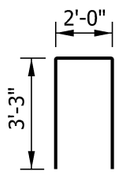
PLAN



DETAIL N



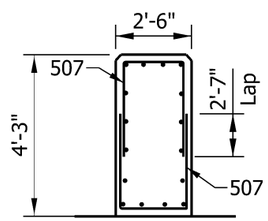
901 x 20'-8"



507 x 8'-6"

NOTES:

1. Each tie shall be rotated 90 degrees from previous tie to stagger lap locations.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-36 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength f'c= 3500 psi.
9. Top of foundation shall be level.
10. For slopes steeper than 3:1 the Alternate Drilled Shaft Foundation shall be used.



DETAIL O

INDIANA DEPARTMENT OF TRANSPORTATION

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

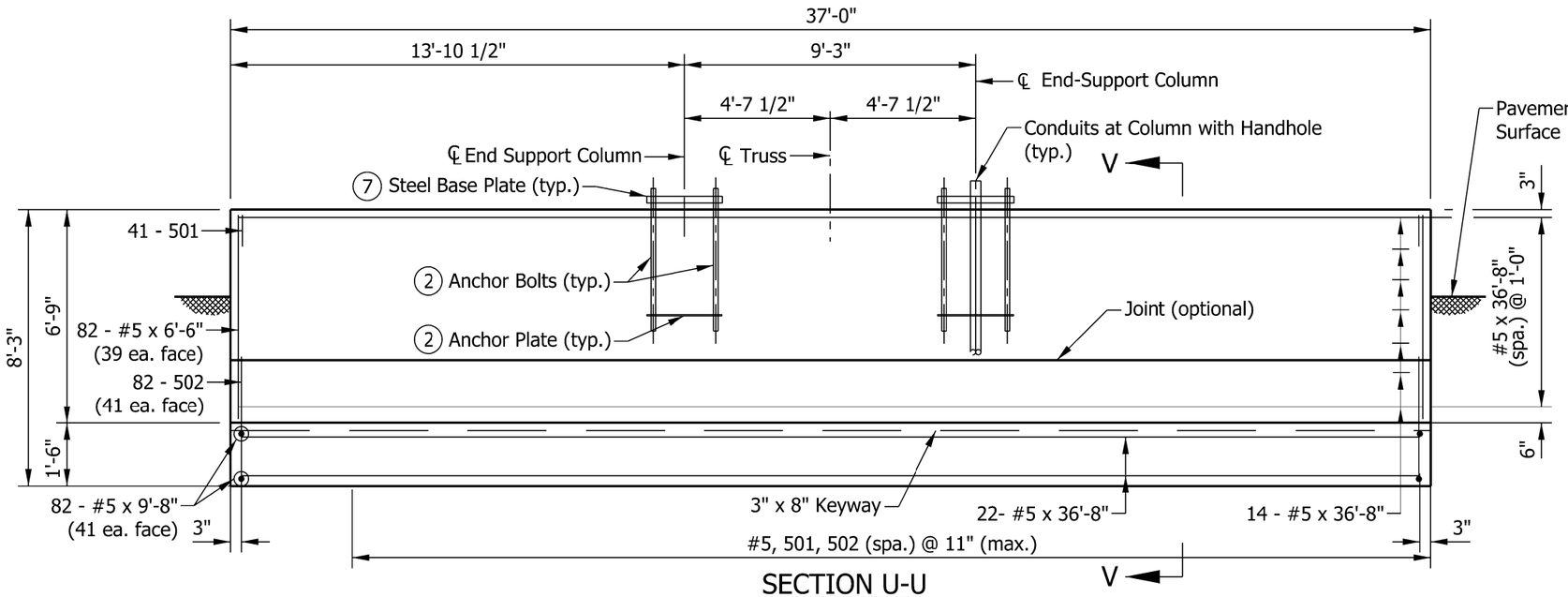
ALTERNATE DRILLED SHAFT FOUNDATION AT 33" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
901	4	20'-8"	
#9	4	18'-2"	
#9	22	27'-9"	
Total #9			2604 LBS
503	19	8'-0"	
504	38	3'-4"	
505	38	4'-11"	
#5	6	18'-2"	
Total #5			599 LBS
401	52	10'-5"	
Total #4			362 LBS
Total Epoxy-Coated Reinforcing Bars			3565
CONCRETE, CLASS A			
Total Concrete, Class A			23.1 CYS
MISCELLANEOUS			
Surface Seal			18.1 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	28'-9"	
Total #9			2679 LBS
503	19	8'-0"	
505	38	4'-11"	
506	38	4'-4"	
#5	8	18'-2"	
Total #5			677 LBS
401	52	10'-5"	
Total #4			362 LBS
Total Epoxy-Coated Reinforcing Bars			3718 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			23.9 CYS
MISCELLANEOUS			
Surface Seal			22.2 SYS

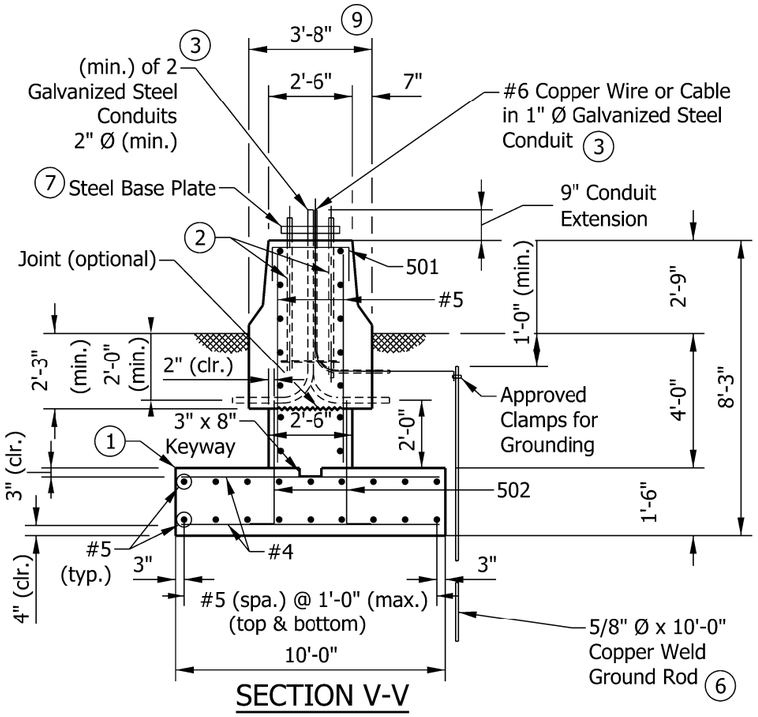
ALTERNATE DRILLED SHAFT FOUNDATION FOR MEDIAN OR SHOULDER, 36" HEIGHT			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
901	4	20'-8"	
902	10	10'-5"	
#9	4	18'-2"	
#9	12	10'-5"	
#9	22	24'-6"	
Total #9			3140 LBS
507	38	8'-6"	
#5	8	18'-2"	
Total #5			488 LBS
401	52	10'-5"	
Total #4			362 LBS
Total Epoxy-Coated Reinforcing Bars			3990 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			18.9 CYS
MISCELLANEOUS			
Surface Seal			21.6 SYS

INDIANA DEPARTMENT OF TRANSPORTATION

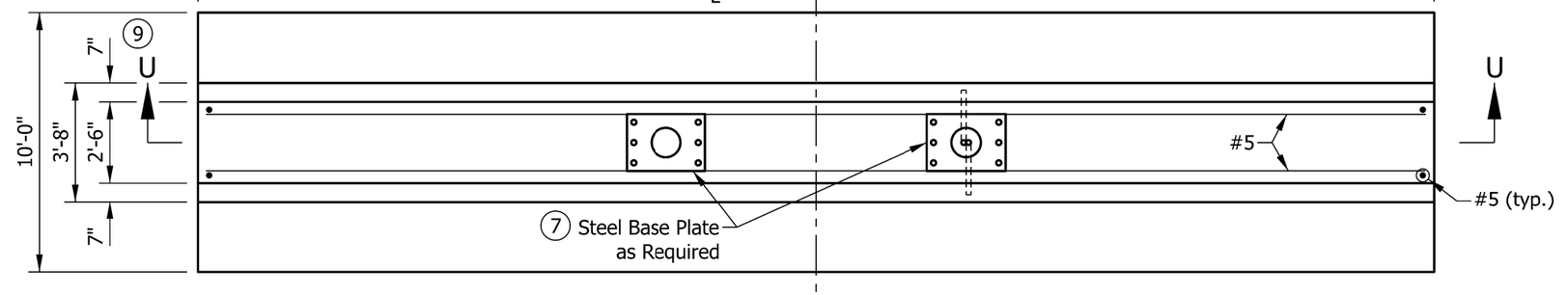
SIGN BOX TRUSS STRUCTURE TYPE A-E
ALTERNATE DRILLED SHAFT FOUNDATIONS
QUANTITIES



SECTION U-U



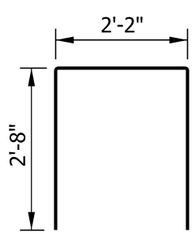
SECTION V-V



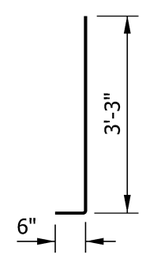
PLAN

NOTES:

1. Top of the footing shall be a minimum of 4 ft - 0 in. below the pavement of ground surface.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-40 for quantities.
5. See Standard Drawing Series E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength fc=3500 psi.
9. See Standard Drawing E 602-CCMB series for barrier wall width transition.



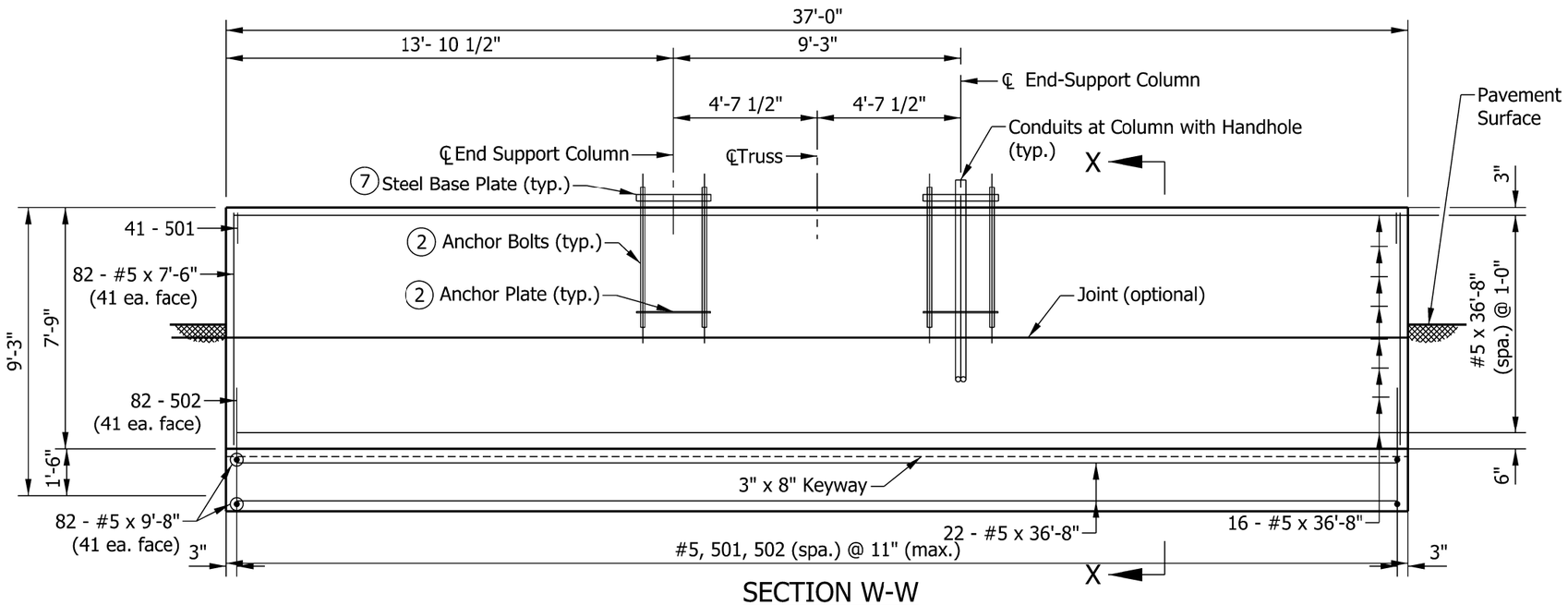
501 x 7'-6"



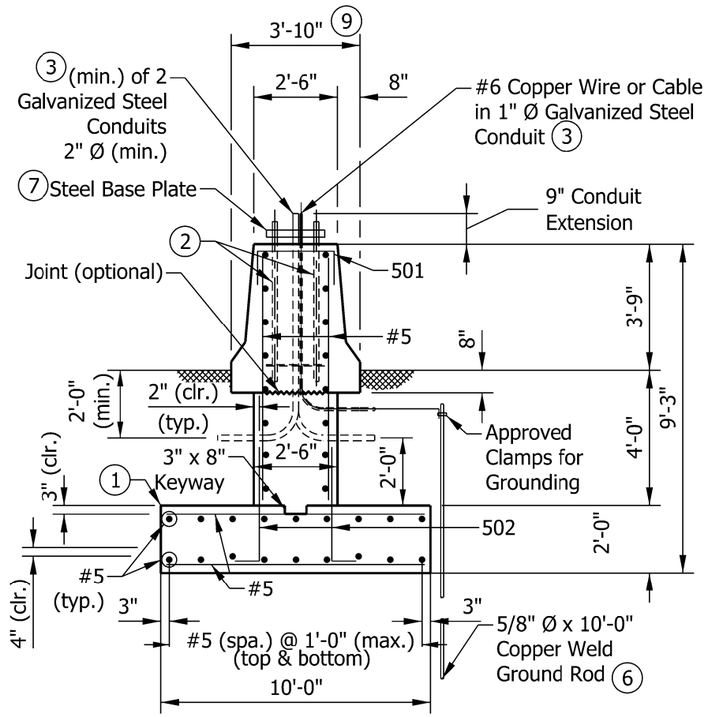
502 x 3'-9"

INDIANA DEPARTMENT OF TRANSPORTATION

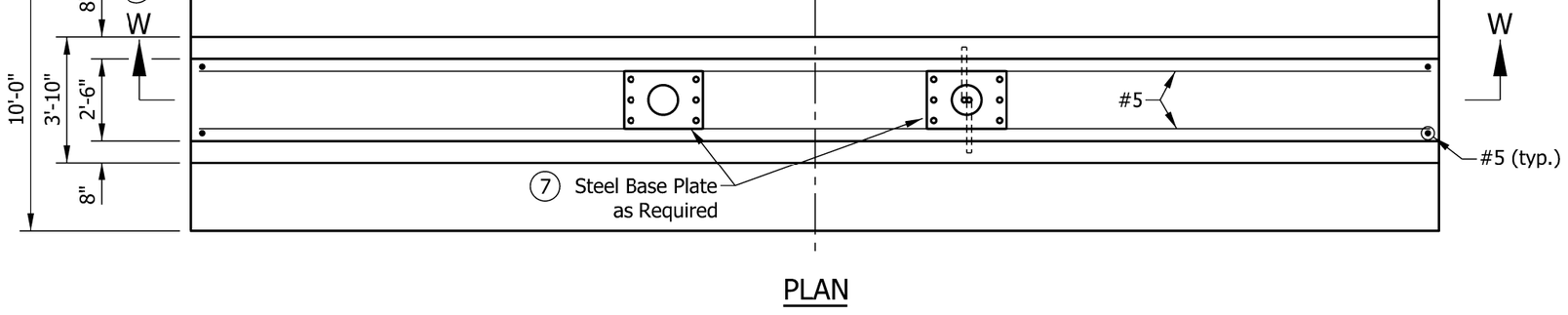
TRUSS STRUCTURE TYPE F, G, H
SPREAD FOUNDATION
AT 33" CONCRETE BARRIER WALL



SECTION W-W



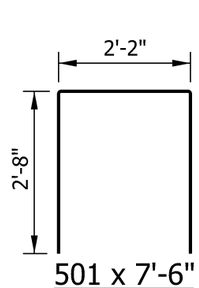
SECTION X-X



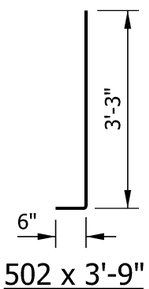
PLAN

NOTES:

1. Top of the footing shall be a minimum of 4 ft - 0 in. below the pavement or ground surface.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-40 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength fc=3500 psi.
9. See Standard Drawing E 602-CCMB series for barrier wall width transition.



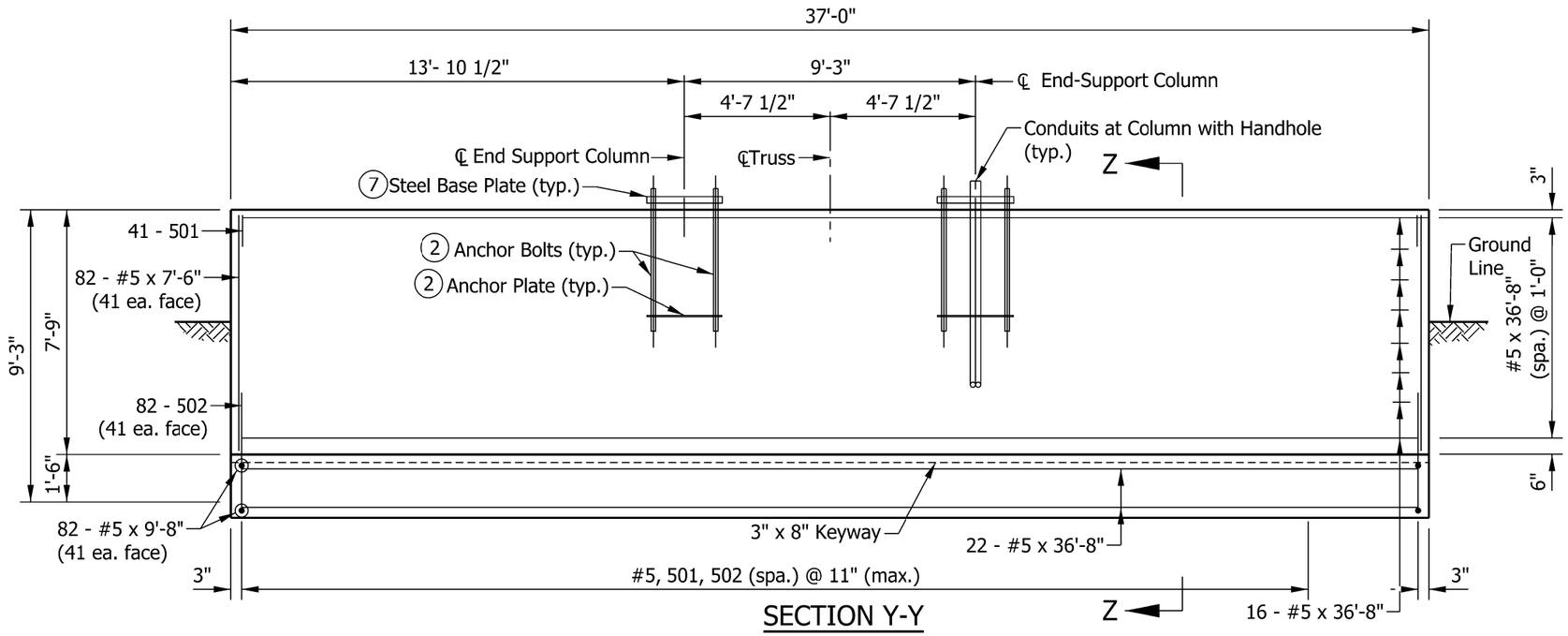
501 x 7'-6"



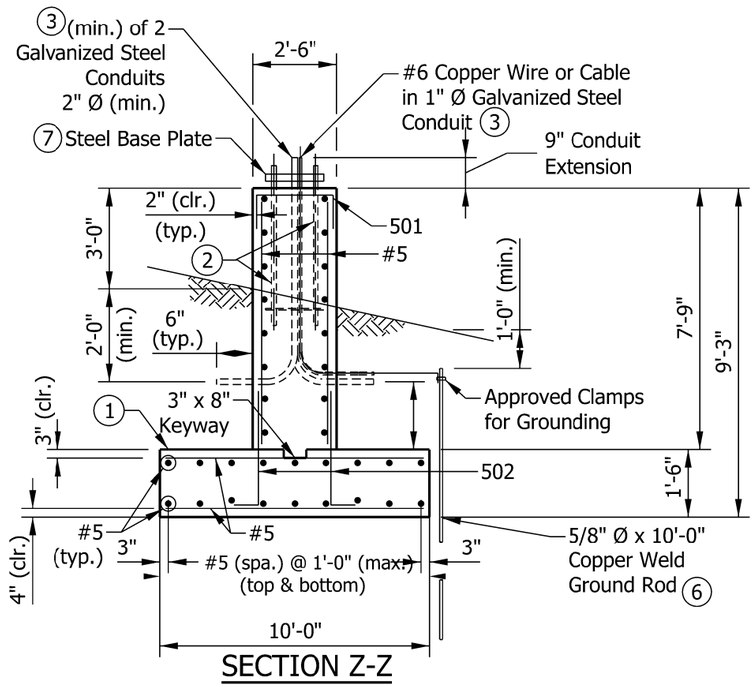
502 x 3'-9"

INDIANA DEPARTMENT OF TRANSPORTATION

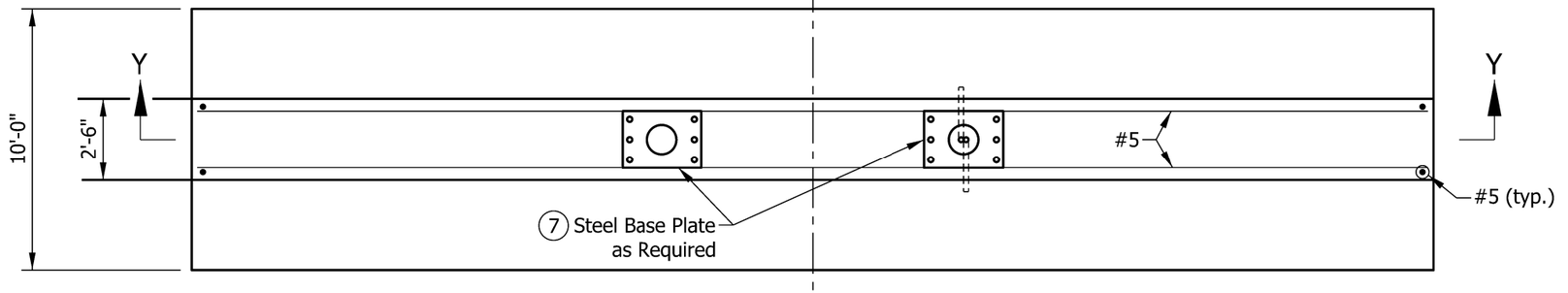
TRUSS STRUCTURE TYPE F, G, H
SPREAD FOUNDATION
AT 45" CONCRETE BARRIER WALL



SECTION Y-Y



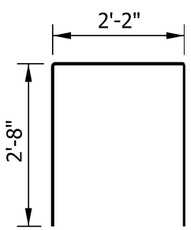
SECTION Z-Z



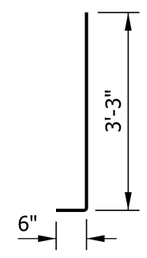
PLAN

NOTES:

1. Top of the footing shall be a minimum of 4 ft - 0 in. below the pavement or ground surface.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-40 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength f'c = 3500 psi.
9. For slopes steeper than 3:1 the Alternate Drilled Shaft Foundation shall be used.



501 x 7'-6"



502 x 3'-9"

INDIANA DEPARTMENT OF TRANSPORTATION

TRUSS STRUCTURE TYPE F, G, H
SPREAD FOUNDATION
FOR MEDIAN OR SHOULDER, 36" HEIGHT

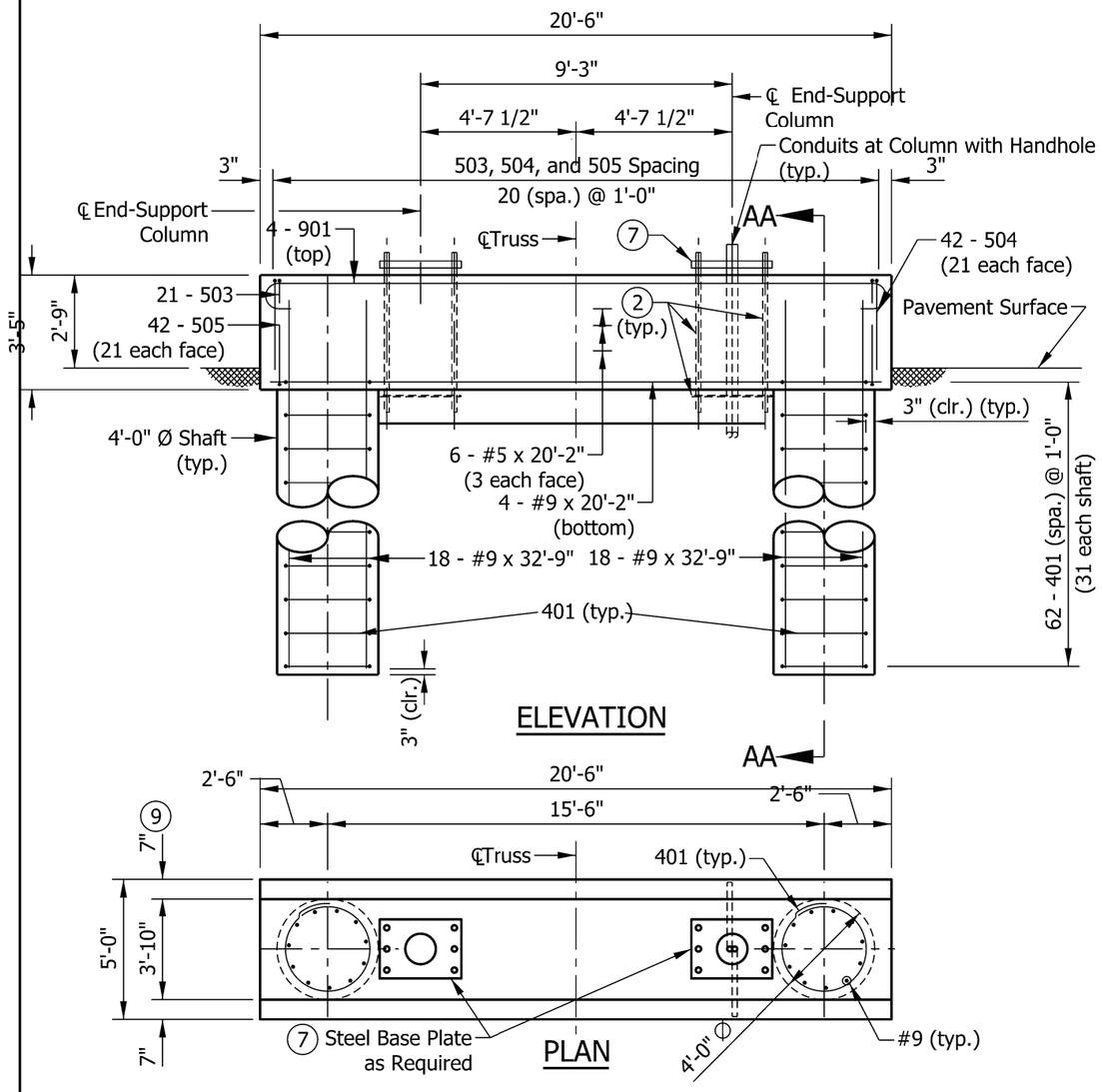
SPREAD FOUNDATION AT 33" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
501	41	7'-6"	
502	82	3'-9"	
#5	82	6'-6"	
#5	36	36'-8"	
#5	82	9'-8"	
Total #5			3401 LBS
Total Epoxy-Coated Reinforcing Bars			3401 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			48.7 CYS
MISCELLANEOUS			
Surface Seal			35.0 SYS

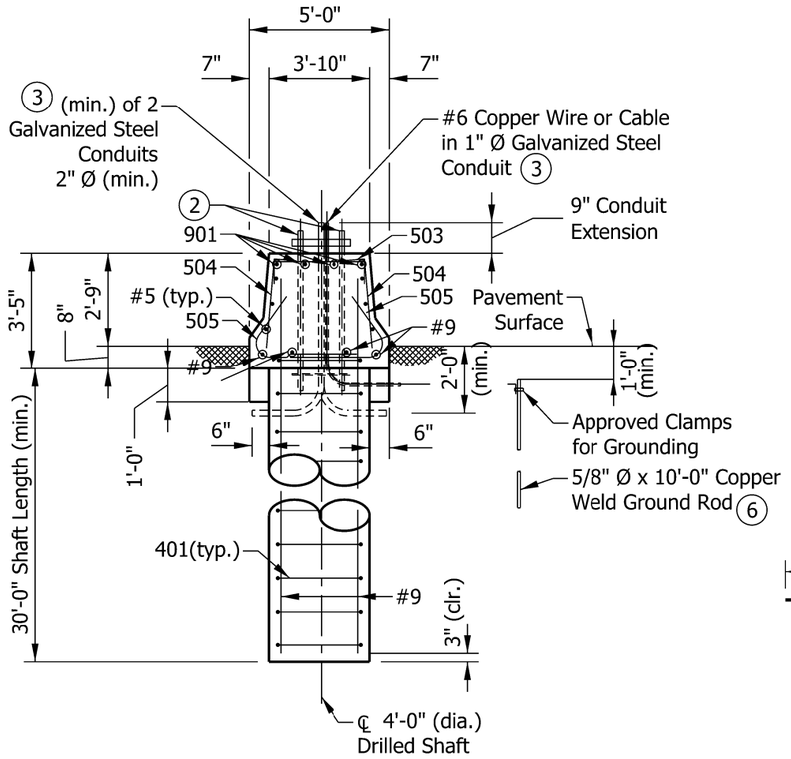
SPREAD FOUNDATION AT 45" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
501	41	7'-6"	
502	82	3'-9"	
#5	82	7'-6"	
#5	36	36'-8"	
#5	82	9'-8"	
Total #5			3563 LBS
Total Epoxy-Coated Reinforcing Bars			3563 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			50.5 CYS
MISCELLANEOUS			
Surface Seal			42.3 SYS

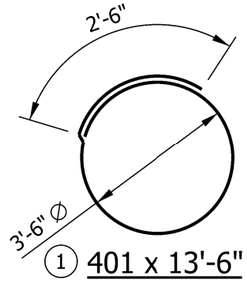
SPREAD FOUNDATION FOR MEDIAN OR SHOULDER, 36" HEIGHT			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
501	41	7'-6"	
502	82	3'-9"	
#5	82	7'-6"	
#5	36	36'-8"	
#5	82	9'-8"	
Total #5			3563 LBS
Total Epoxy-Coated Reinforcing Bars			3563 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			47.1 CYS
MISCELLANEOUS			
Surface Seal			38.4 SYS

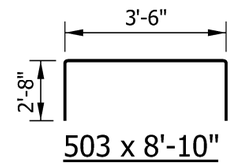
INDIANA DEPARTMENT OF TRANSPORTATION

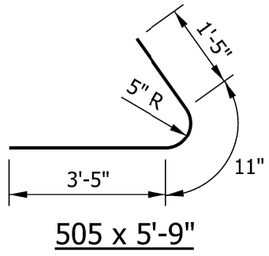
TRUSS STRUCTURE TYPE F, G, H
SPREAD FOUNDATIONS
QUANTITIES

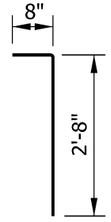


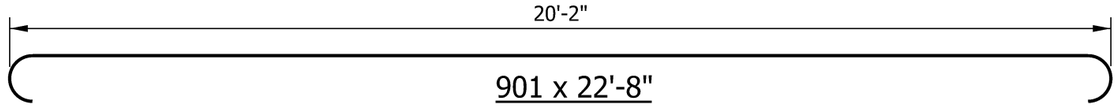










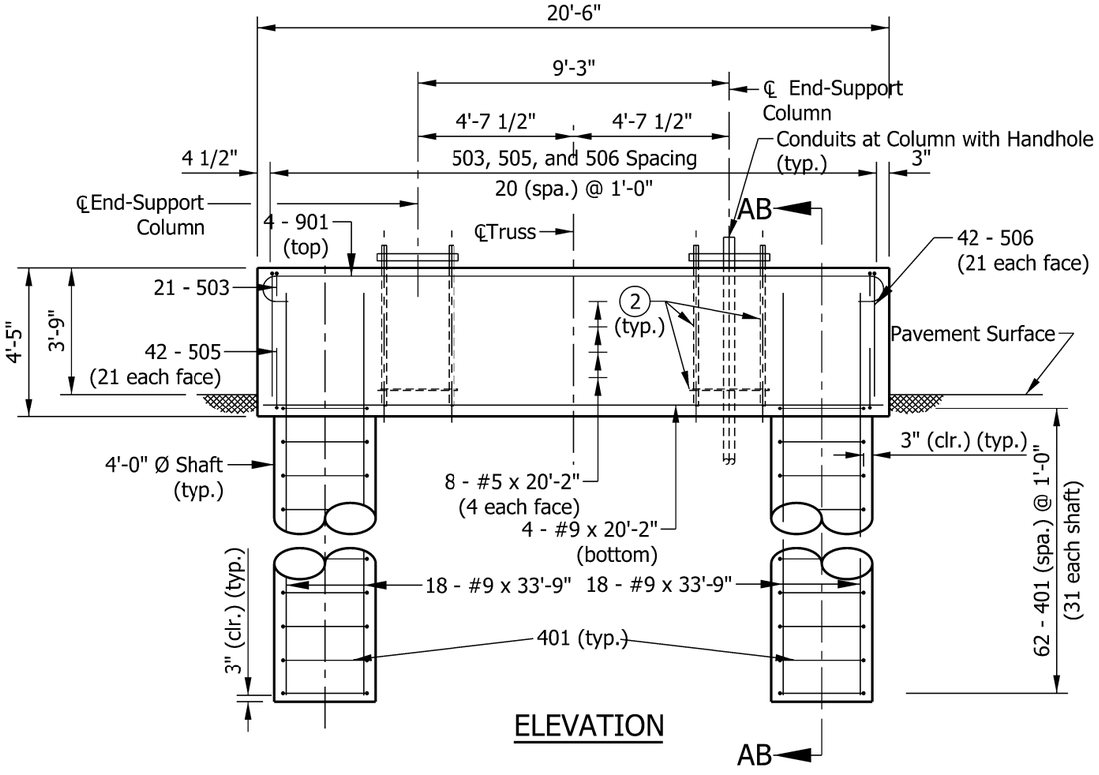


NOTES:

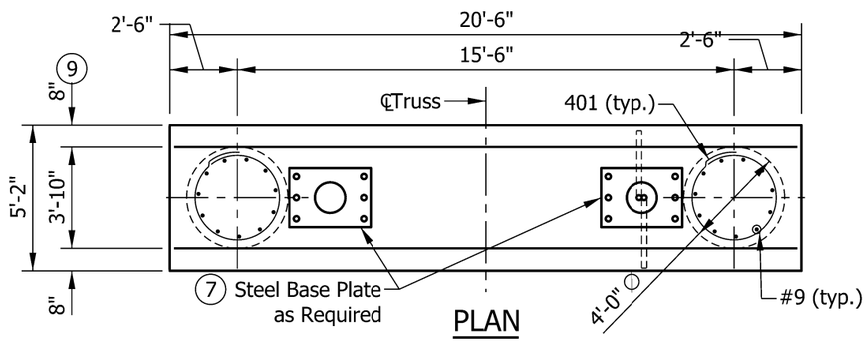
1. Each tie shall be rotated 90 degrees from the previous tie to stagger lap locations.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-44 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength f'c = 3500.
9. See Standard Drawing E 602-CCMB series for barrier wall width transition.

INDIANA DEPARTMENT OF TRANSPORTATION

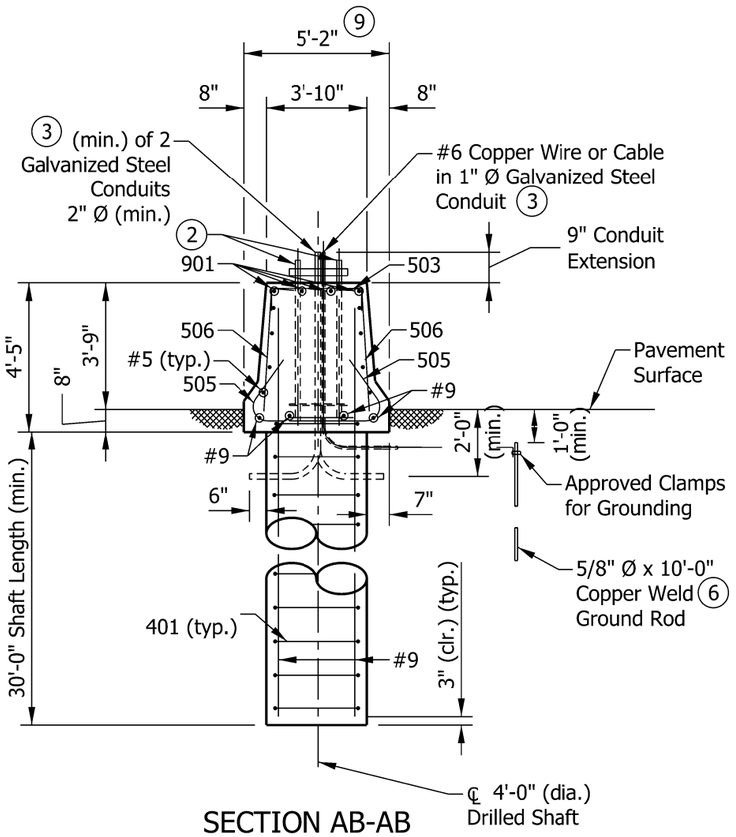
TRUSS STRUCTURE TYPE F, G, H
ALTERNATE DRILLED SHAFT FOUNDATION
AT 33" CONCRETE BARRIER WALL



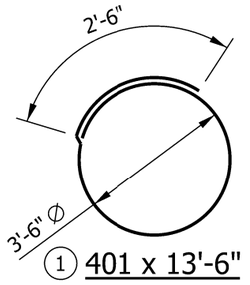
ELEVATION



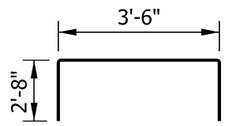
PLAN



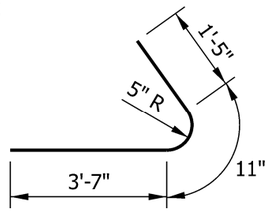
SECTION AB-AB



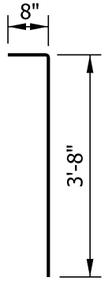
1 401 x 13'-6"



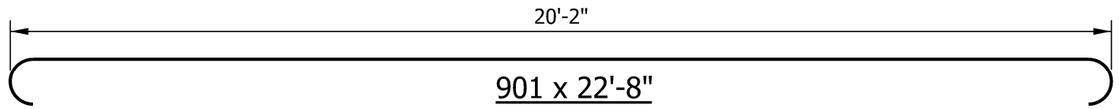
503 x 8'-10"



505 x 5'-11"



506 x 4'-4"



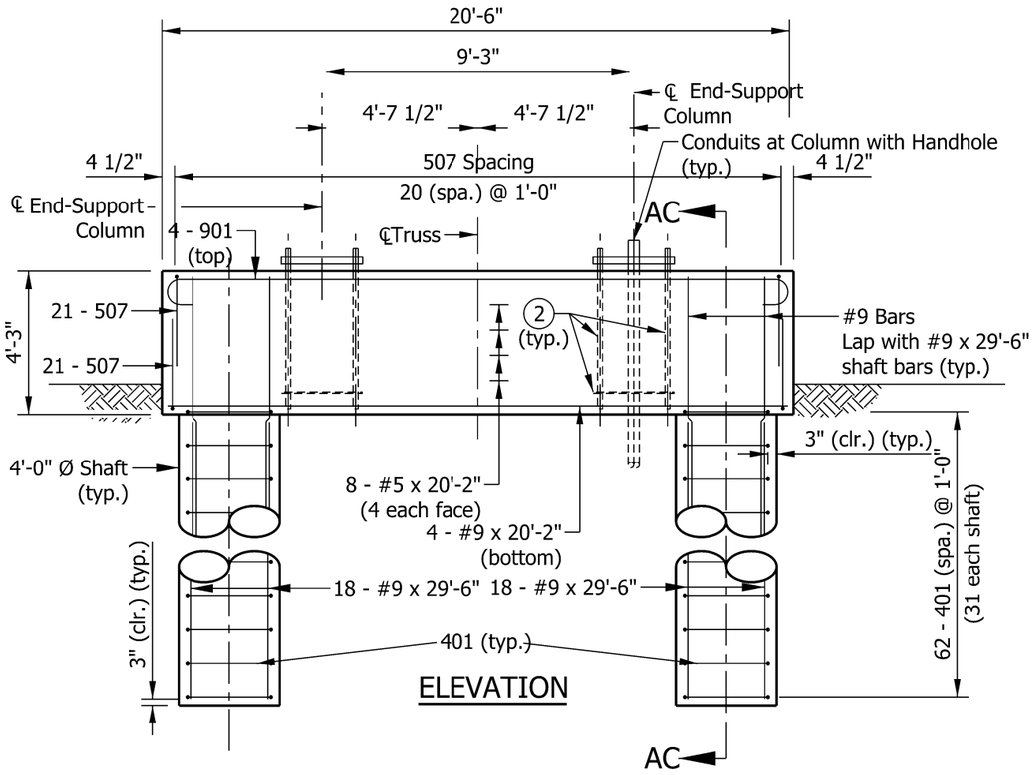
901 x 22'-8"

NOTES:

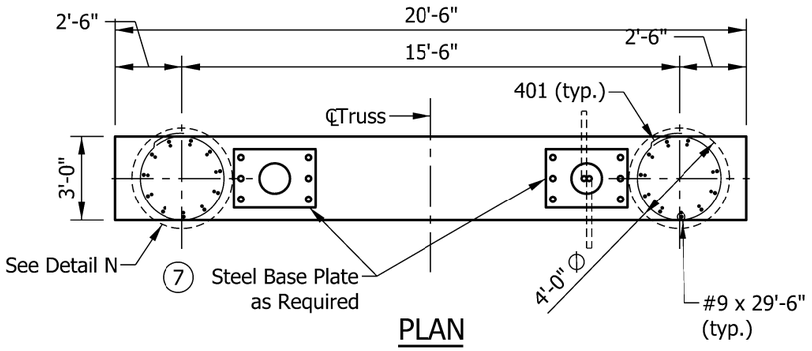
1. Each tie shall be rotated 90 degrees from the previous tie to stagger lap locations.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate details.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-44 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength f'c = 3500.
9. See Standard Drawing E 602-CCMB series for barrier wall width transition.

INDIANA DEPARTMENT OF TRANSPORTATION

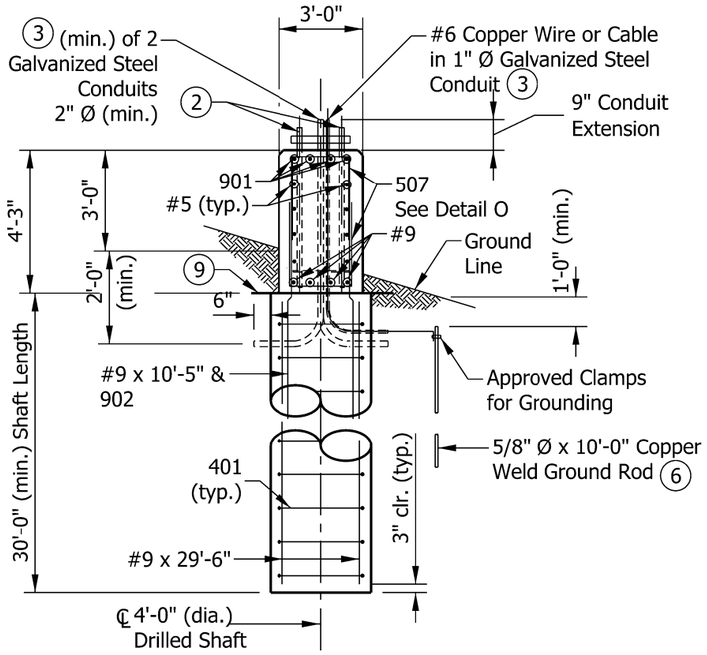
TRUSS STRUCTURE TYPE F, G, H
ALTERNATE DRILLED SHAFT FOUNDATION
AT 45" CONCRETE BARRIER WALL



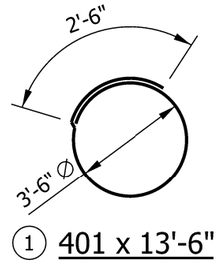
ELEVATION



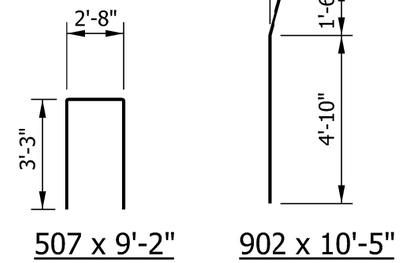
PLAN



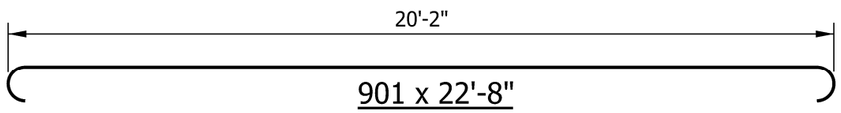
SECTION AC-AC



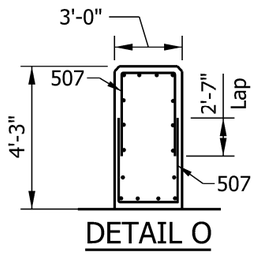
1 401 x 13'-6"



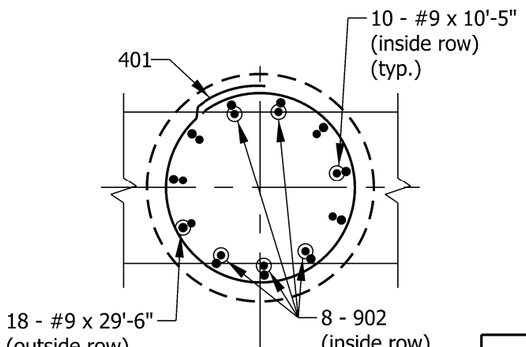
507 x 9'-2" 902 x 10'-5"



901 x 22'-8"



DETAIL O



DETAIL N

NOTES:

1. Each tie shall be rotated 90 degrees from the previous tie to stagger lap locations.
2. See Standard Drawing E 802-SBTS-19 for anchor bolt and anchor plate detals.
3. Both ends of steel conduit shall be capped.
4. See Standard Drawing E 802-SBTS-44 for quantities.
5. See Standard Drawing E 703-BRST series for reinforcing-bar bending details and notes.
6. Only one ground rod per structure is required.
7. See Standard Drawing E 802-SBTS-16 for base plate details.
8. Minimum concrete strength f'c = 3500 psi.
9. Top of foundation shall be level.
10. For slopes steeper than 3:1 the Alternate Drilled Shaft Foundation shall be used.

INDIANA DEPARTMENT OF TRANSPORTATION

TRUSS STRUCTURE TYPE F, G, H
ALTERNATE DRILLED SHAFT FOUNDATION
FOR MEDIAN OR SHOULDER, 36" HEIGHT

ALTERNATE DRILLED SHAFT FOUNDATION AT 33" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
901	4	22'-8"	
#9	4	20'-2"	
#9	36	32'-9"	
Total #9			4591 LBS
503	21	8'-10"	
504	42	3'-4"	
505	42	5'-9"	
#5	6	20'-2"	
Total #5			718 LBS
401	62	13'-6"	
Total #4			559 LBS
Total Epoxy-Coated Reinforcing Bars			5868 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			41.4 CYS
MISCELLANEOUS			
Surface Seal			21.9 SYS

ALTERNATE DRILLED SHAFT FOUNDATION AT 45" CONCRETE BARRIER WALL			
EPOXY-COATED REINFORCING BARS			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
901	4	22'-8"	
#9	4	20'-2"	
#9	36	33'-9"	
Total #9			4714 LBS
503	21	8'-10"	
506	42	4'-4"	
508	42	5'-11"	
#5	8	18'-2"	
Total #5			811 LBS
401	62	13'-6"	
Total #4			559 LBS
Total Epoxy-Coated Reinforcing Bars			6084 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			42.7 CYS
MISCELLANEOUS			
Surface Seal			26.5 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	22'-8"	
902	16	10'-5"	
#9	4	20'-2"	
#9	20	10'-5"	
#9	36	29'-6"	
Total #9			5468 LBS
507	42	9'-8"	
#5	8	20'-2"	
Total #5			592 LBS
401	62	13'-6"	
Total #4			559 LBS
Total Epoxy-Coated Reinforcing Bars			6619 LBS
CONCRETE, CLASS A			
Total Concrete, Class A			37.6 CYS
MISCELLANEOUS			
Surface Seal			23.5 SYS

INDIANA DEPARTMENT OF TRANSPORTATION

TRUSS STRUCTURE TYPE F, G, H
ALTERNATE DRILLED SHAFT FOUNDATIONS
QUANTITIES