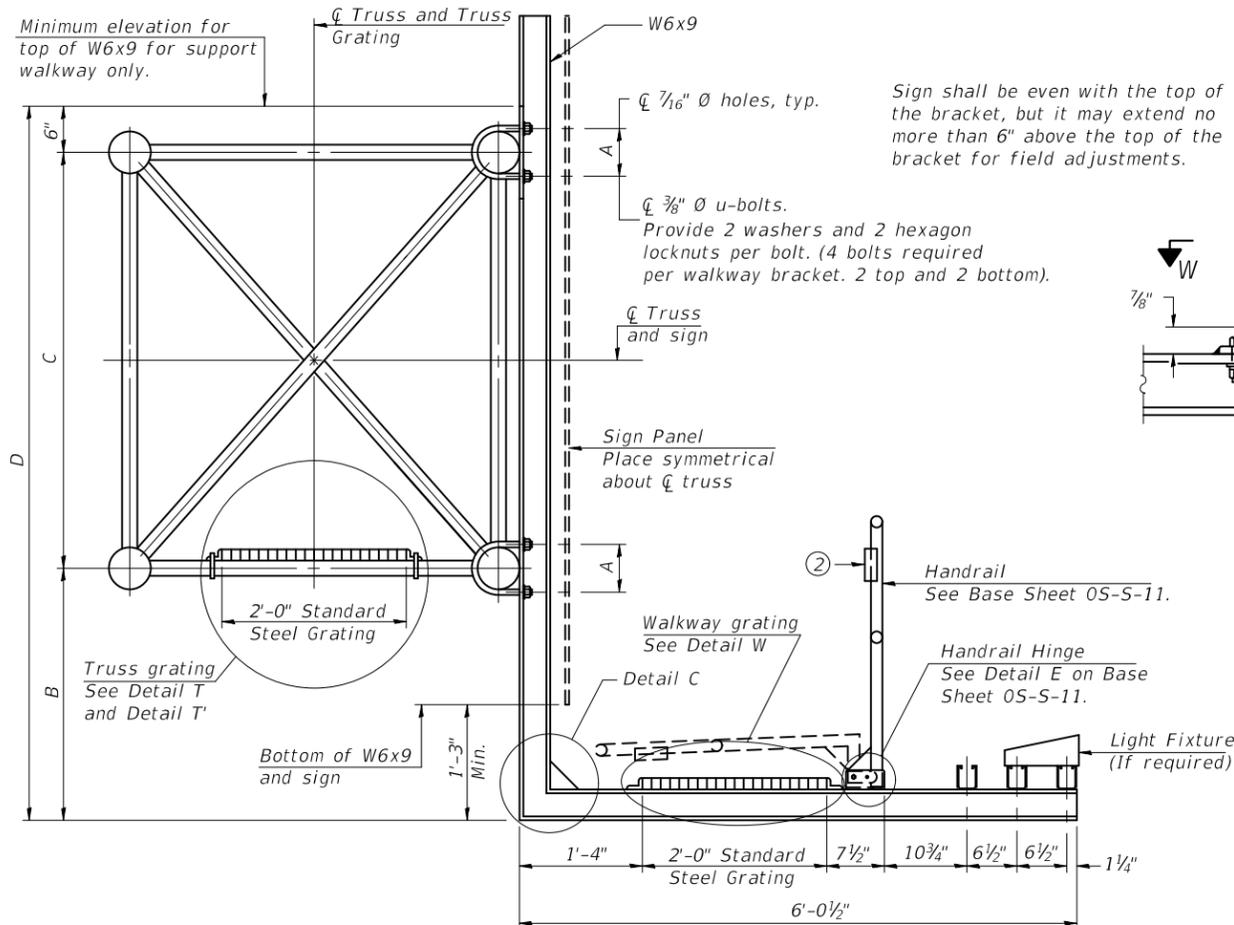
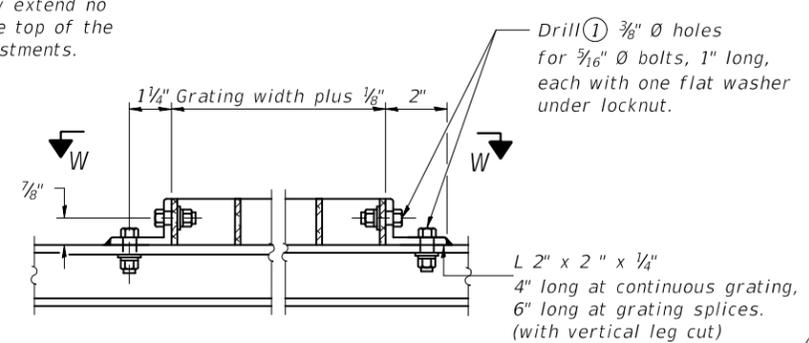


CELL / MODEL NAME	DESCRIPTION	DATE
OS-S-1	General plan and elevation	2/17/2017
OS-S-10	Steel walkway details	2/17/2017
OS-S-10-DMS	Alternate steel walkway details for DMS	2/17/2017
OS-S-10S	Alternate steel walkway details	2/17/2017
OS-S-11	Steel handrail details	2/17/2017
OS-S-11-DMS	Alternate steel handrail details for DMS	2/17/2017
OS-S-2	Steel truss details for truss types I-S, II-S, and III-S	2/17/2017
OS-S-3	6" diameter pipe support frame for type I-S steel truss	2/17/2017
OS-S-3A	6" diameter pipe support frame details	2/17/2017
OS-S-4	8" diameter pipe support frame for type I-S steel truss	2/17/2017
OS-S-4A	8" diameter pipe support frame details	2/17/2017
OS-S-6	10" diameter pipe support frame for steel truss	2/17/2017
OS-S-6A	10" diameter pipe support frame details	2/17/2017
OS-S-9	Steel walkway details	2/17/2017
OS-S-9-DMS	Alternate steel walkway details for DMS	2/17/2017
OS-S-9S	Alternate steel walkway details	2/17/2017
OS-S-D	Damping devise	2/17/2017
OS4-S-2	Steel truss details, truss types I-S, II-S, and III-S	2/17/2017
OS4-S-8a	12" diameter pipe support frame for type III-S steel truss	2/17/2017
OS4-S-8aA	12" diameter pipe support frame details	2/17/2017

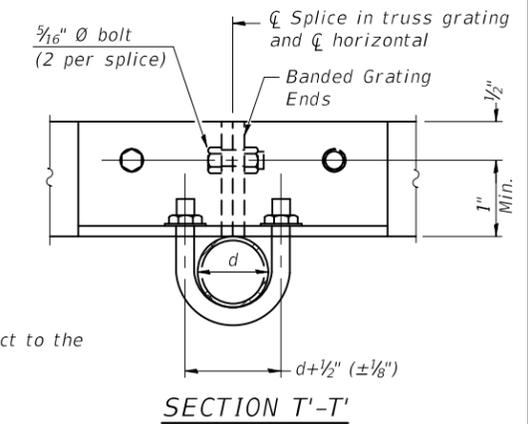


SECTION B-B

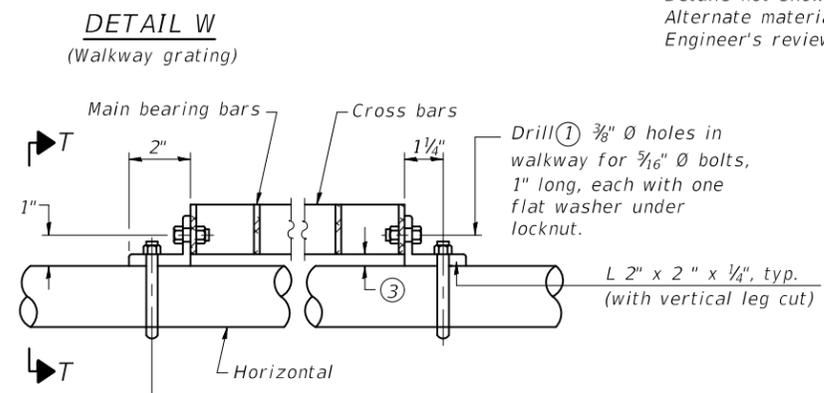


DETAIL T'

(Truss grating splice)
Details not shown same as Detail T.
Alternate materials may be used subject to the Engineer's review and approval.

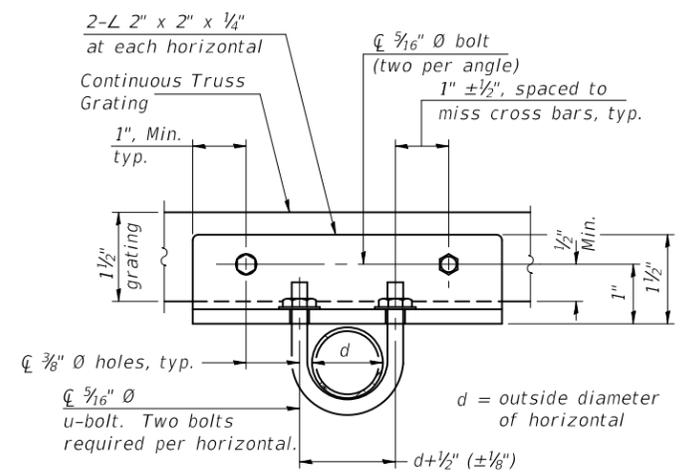


SECTION T'-T'



DETAIL T

(Continuous Truss grating)

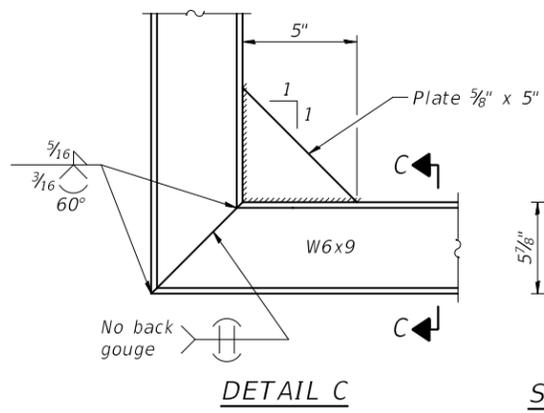


SECTION T-T

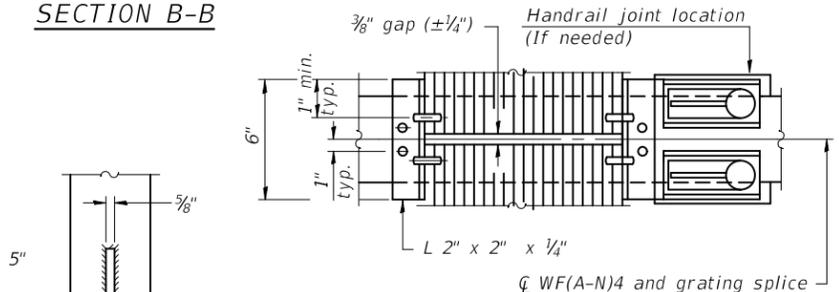
BARS SIZES FOR STANDARD STEEL GRATING

- TRUSS GRATING Main bearing bars $\frac{1}{8}$ " x $1\frac{1}{2}$ " on $1\frac{3}{16}$ " centers.
Cross bars $\frac{3}{16}$ " x $1\frac{1}{2}$ " on 4" centers.
- WALKWAY GRATING Main bearing bars $\frac{3}{16}$ " x $1\frac{1}{2}$ " on $1\frac{3}{16}$ " centers.
Cross bars $\frac{3}{16}$ " x $1\frac{1}{2}$ " on 4" centers.

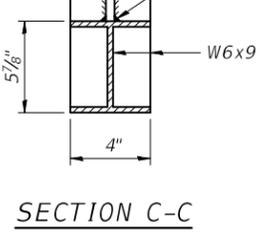
- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- $\frac{1}{8}$ " x $\frac{1}{2}$ " x 2" welded to handrail posts to protect locations that contact grating.
- Tube to grating gap may vary from 0 to $\frac{1}{2}$ ", max. to align walkway, allow for camber, etc.
- Based on actual height of tallest sign given on OS-S-1.



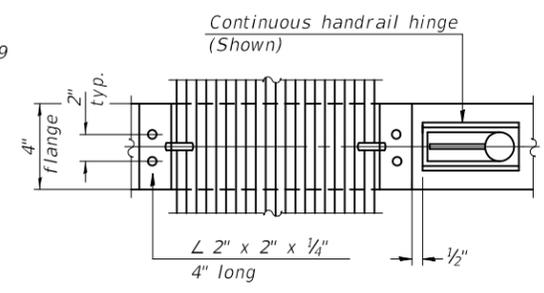
DETAIL C



(AT WALKWAY GRATING SPLICE)



SECTION C-C



(CONTINUOUS WALKWAY GRATING)

SECTION W-W

Structure Number	Station	A	④ B	C	④ D

OS-S-10

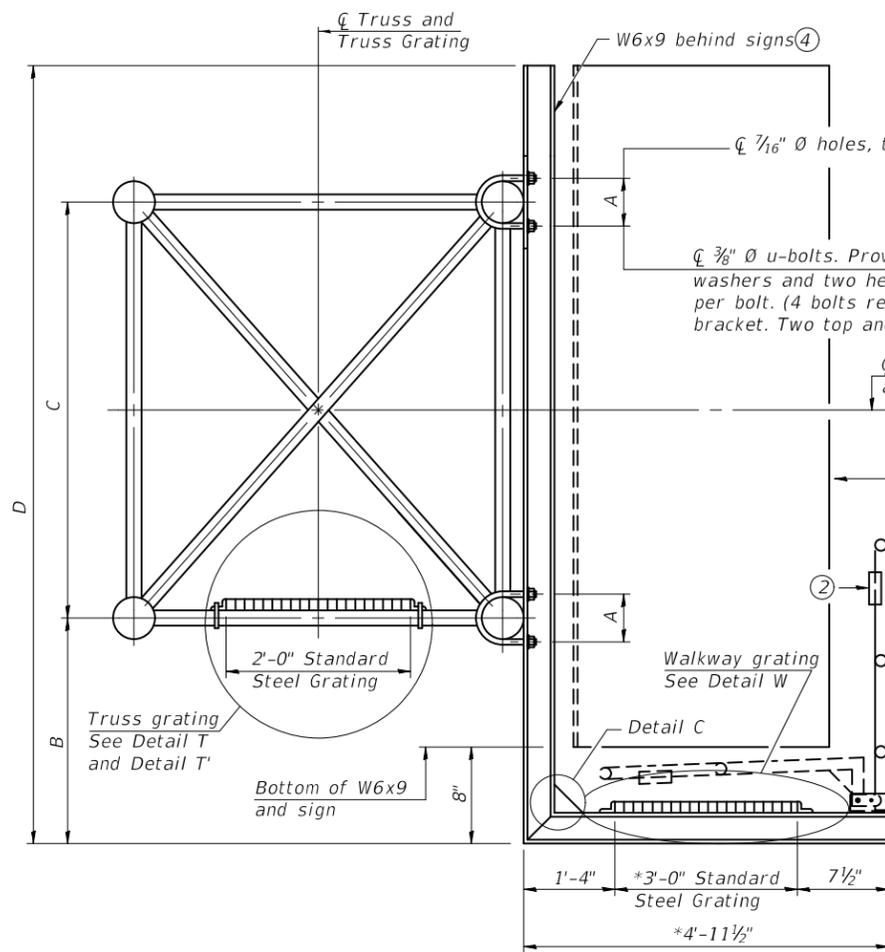
2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		DRAWN -	REVISD -
		CHECKED -	REVISD -

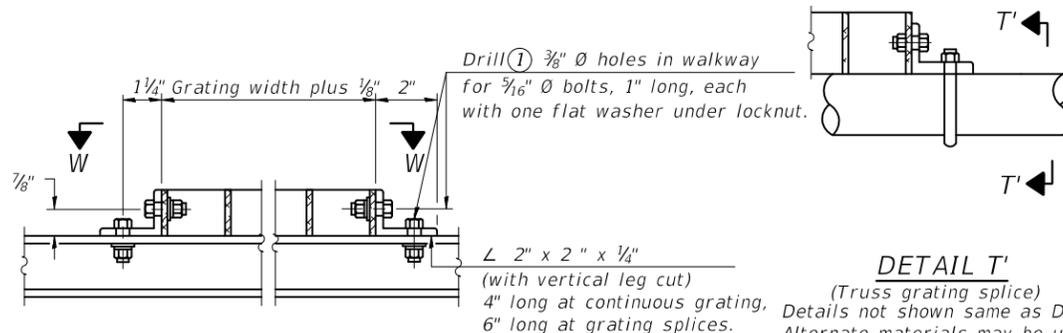
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
STEEL WALKWAY DETAILS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

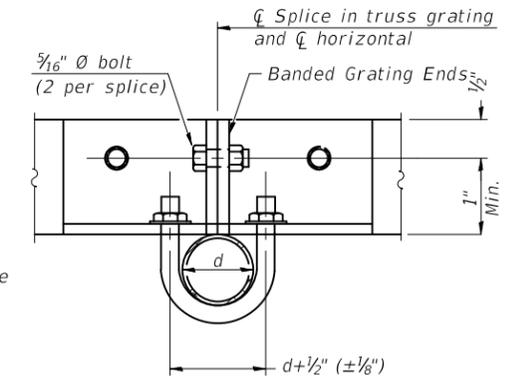


SECTION B-B



DETAIL T'

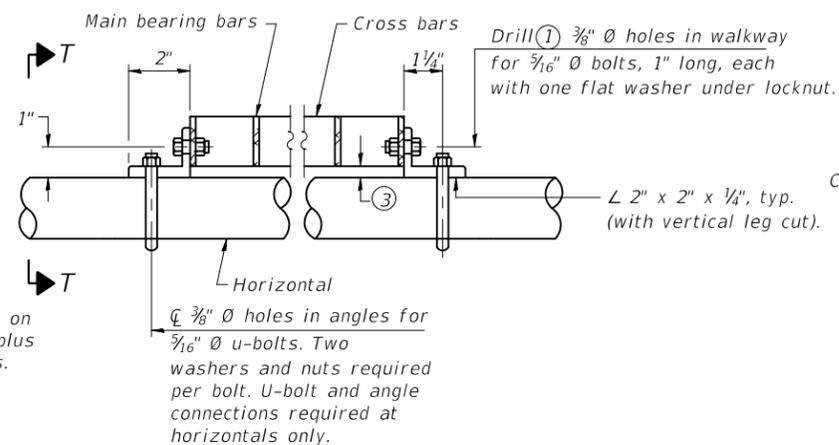
(Truss grating splice)
 Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.



SECTION T'-T'

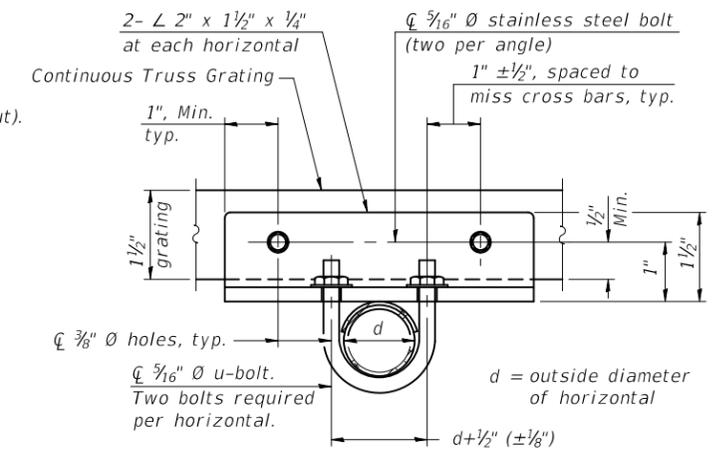
DETAIL W

(Walkway grating)



DETAIL T

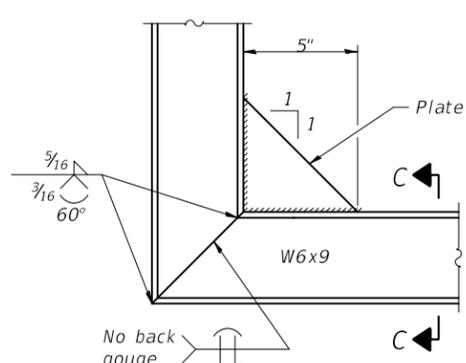
(Continuous Truss grating)



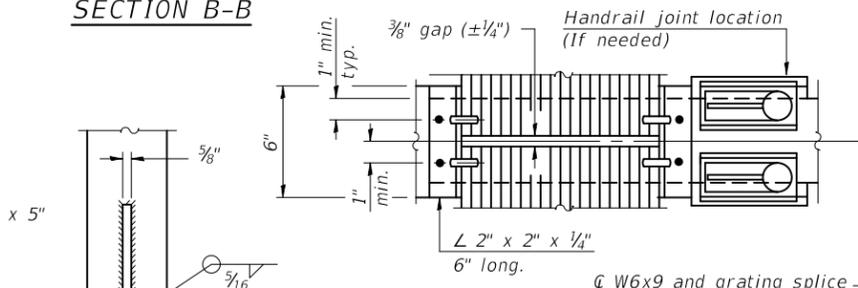
SECTION T-T

BARS SIZES FOR STANDARD STEEL GRATING

TRUSS GRATING Main bearing bars $\frac{3}{16}$ " x $1\frac{1}{2}$ " on $1\frac{3}{16}$ " centers.
 Cross bars $\frac{1}{16}$ " x $1\frac{1}{2}$ " on 4" centers.
 WALKWAY GRATING Main bearing bars $\frac{3}{16}$ " x $1\frac{1}{2}$ " on $1\frac{3}{16}$ " centers.
 Cross bars $\frac{3}{16}$ " x $1\frac{1}{2}$ " on 4" centers.

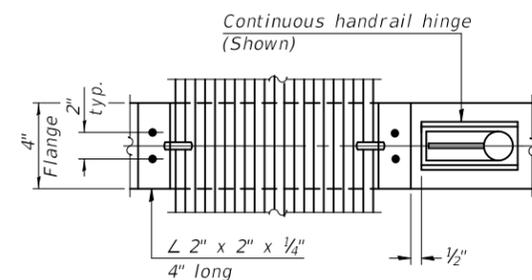


DETAIL C



(AT WALKWAY GRATING SPLICE)

SECTION C-C



(CONTINUOUS WALKWAY GRATING)

SECTION W-W

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- R $\frac{1}{8}$ " x $\frac{1}{2}$ " x 2" welded to handrail posts to protect locations that contact grating.
- Tube to grating gap may vary from 0 to $\frac{1}{2}$ ", max. to align walkway, allow for camber, etc.
- Cabinet manufacturer must design and supply hardware for connection of cabinet to WF's. Bolts must be stainless steel or hot dip galvanized high strength per IDOT specifications.
- Based on actual height of tallest sign given on OS-S-1.

Structure Number	Station	A	(5) B	C	(5) D

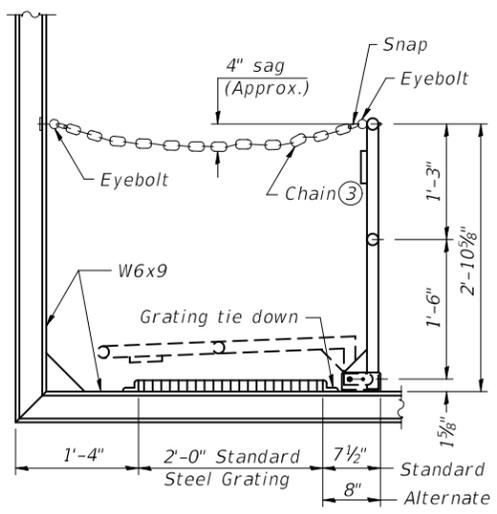
OS-S-10-DMS 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -

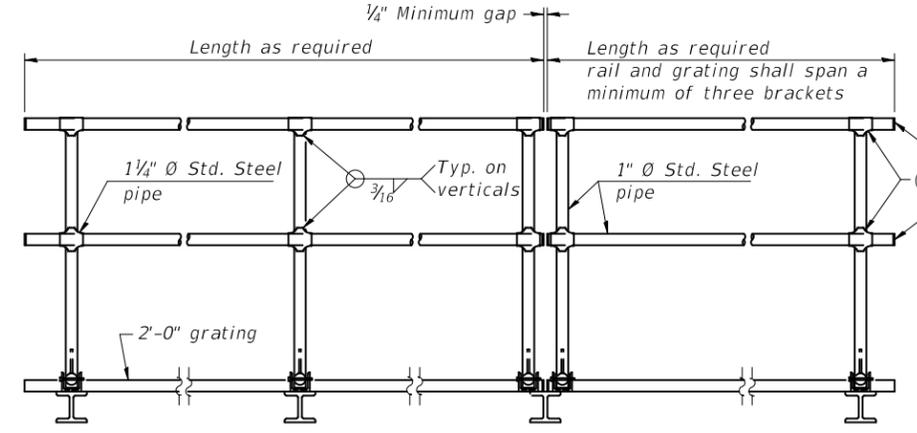
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES - ALTERNATE
 STEEL WALKWAY DETAILS FOR DMS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



SIDE ELEVATION
(Showing safety chain w/o sign)

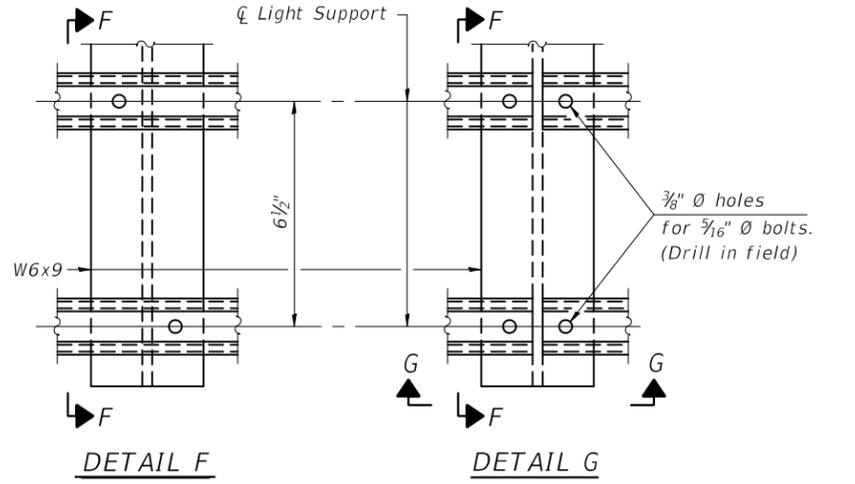


FRONT ELEVATION

HANDRAIL DETAILS

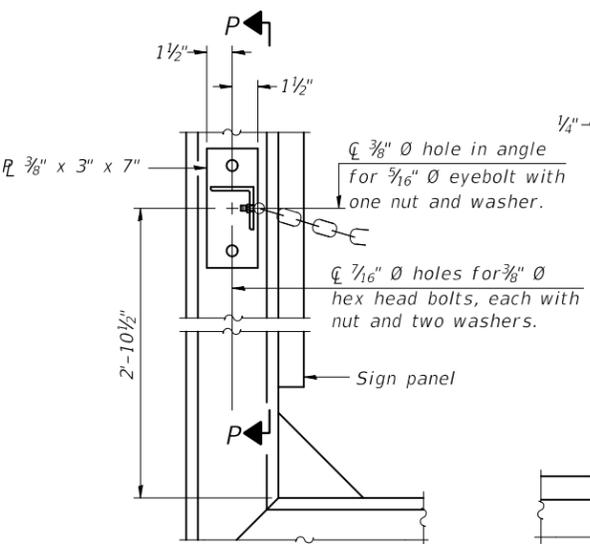
① Install standard force-fit end caps or weld 1/8" end plates with 1/8" c.f.w. and grind smooth. (All rail ends)

② Horizontal handrail member shall be continuous thru 1 1/4" diameter pipe. Provide 7/16" diameter hole in 1 1/4" diameter pipe for 3/8" diameter bolt. Field drill 7/16" diameter hole in horizontal rail member. Provide washer and locknut for bolt. (Use 3/16" eyebolts in 7/16" diameter holes on top rail at ends only.)



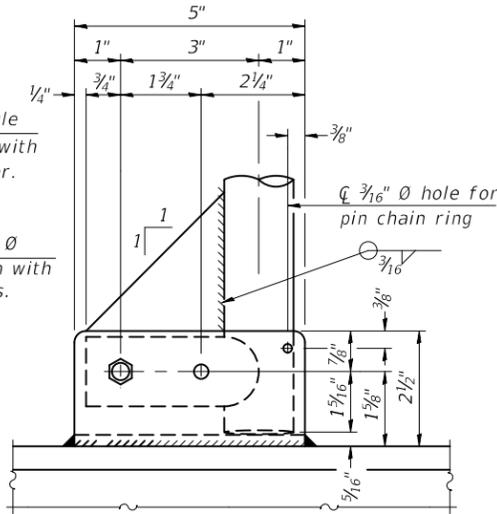
DETAIL F

DETAIL G

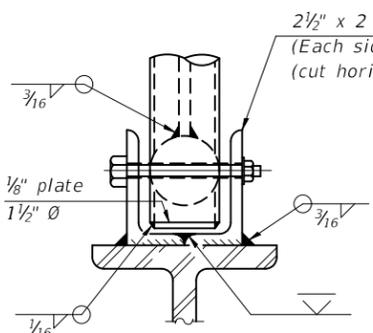


ALTERNATE SAFETY CHAIN ATTACHMENT

(With Sign Present)
Items not shown same as "Side Elevation" of "Handrail Details"

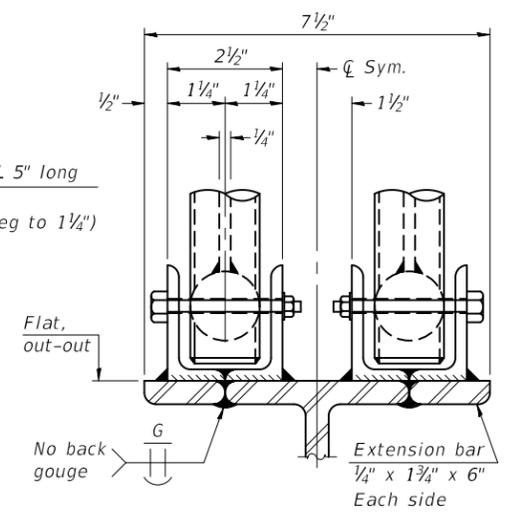


SIDE ELEVATION

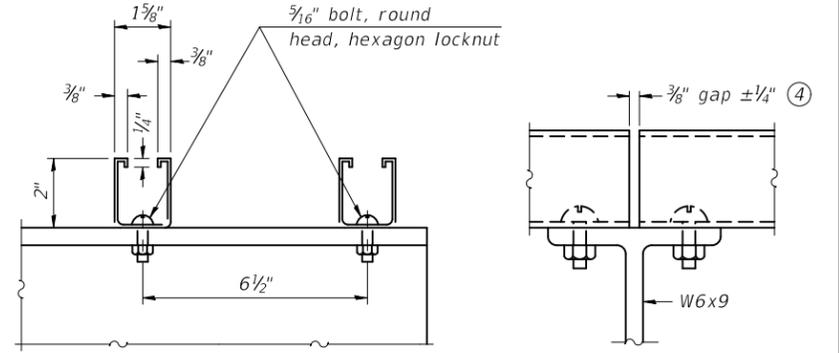


FRONT ELEVATION

See "ELEVATION" at right for dimensions.



ELEVATION AT HANDRAIL JOINT

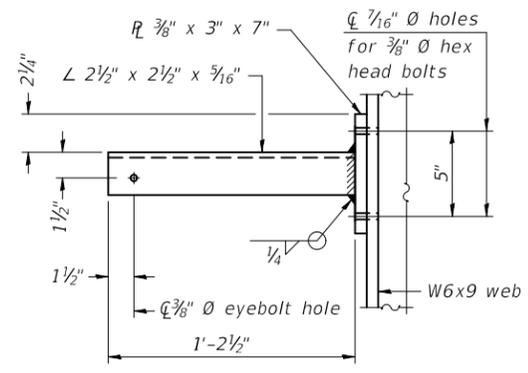


SECTION F-F

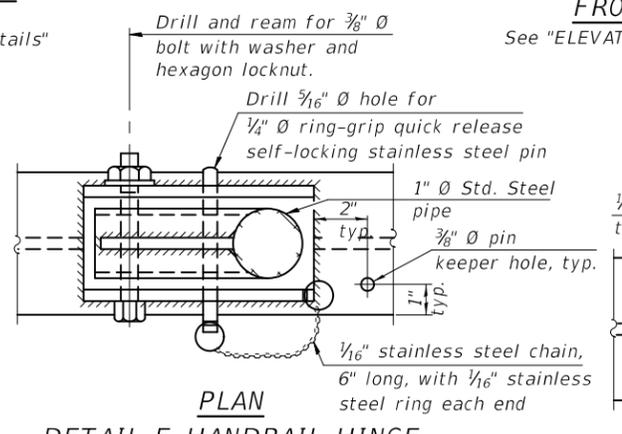
SECTION G-G

LIGHTING FIXTURE MOUNTS (IF REQUIRED)

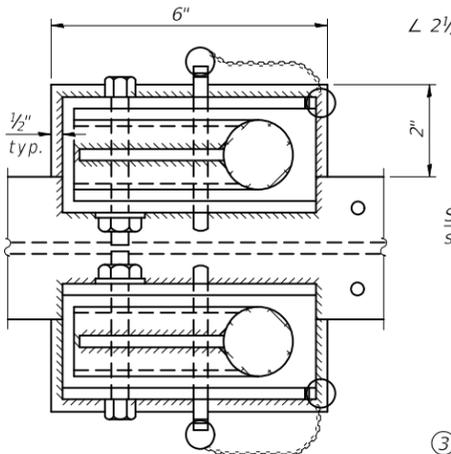
④ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.



SECTION P-P

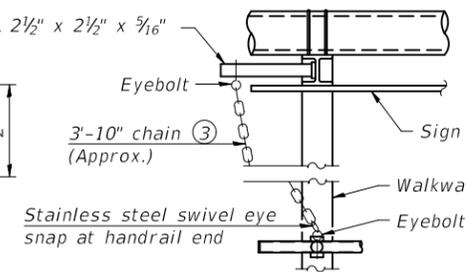


PLAN
DETAIL E HANDRAIL HINGE



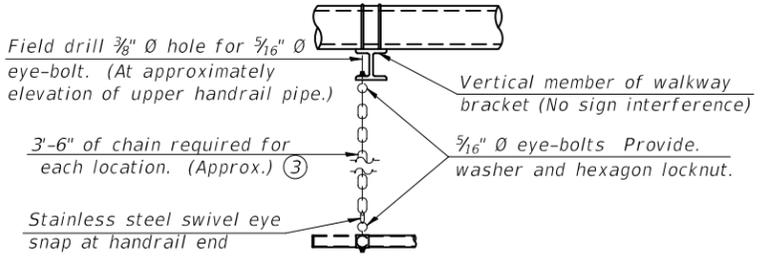
PLAN AT HANDRAIL JOINT

Details not shown same as "PLAN"



ALTERNATE SAFETY CHAIN ATTACHMENT

Details not shown similar to "Safety Chain" Details (Walkway omitted for clarity)



SAFETY CHAIN

One required for each end of each walkway.

③ 3/16" Type 304L stainless steel chain, approximately 12 links per foot.

05-S-11

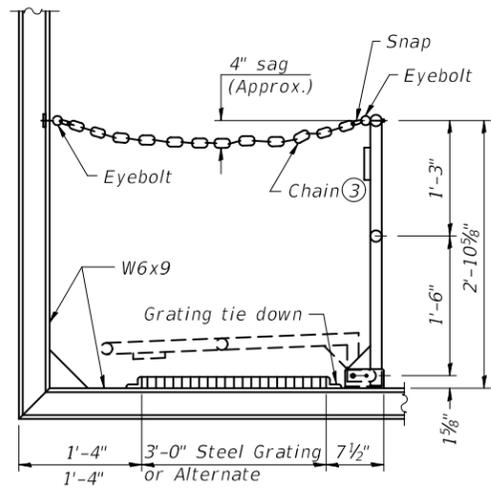
2-17-2017

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		DRAWN -	REVISD -
		CHECKED -	REVISD -

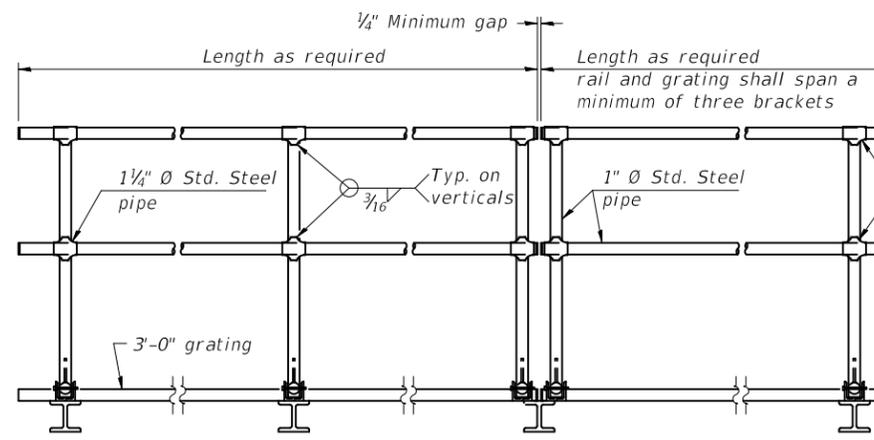
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
STEEL HANDRAIL DETAILS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



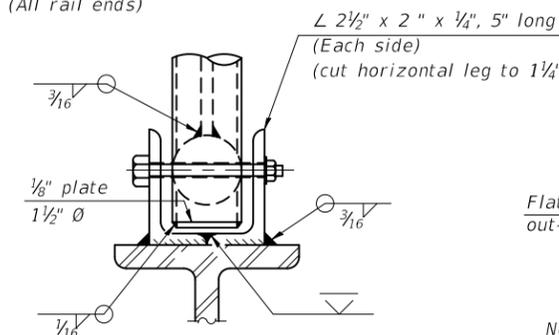
SIDE ELEVATION
(Showing safety chain w/o sign)



FRONT ELEVATION

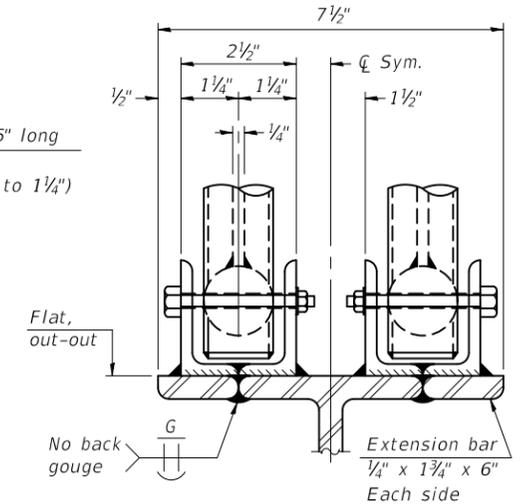
① Install standard force-fit end caps or weld 1/8" end plates with 1/8" c.f.w. and grind smooth. (All rail ends)

② Horizontal handrail member shall be continuous thru 1 1/4" Ø pipe. Provide 7/16" Ø hole in 1 1/4" Ø pipe for 3/8" Ø bolt. Field drill 7/16" Ø hole in horizontal rail member. Provide washer and locknut for bolt. (Use 5/16" eyebolts in 7/16" Ø holes on top rail at ends only.)

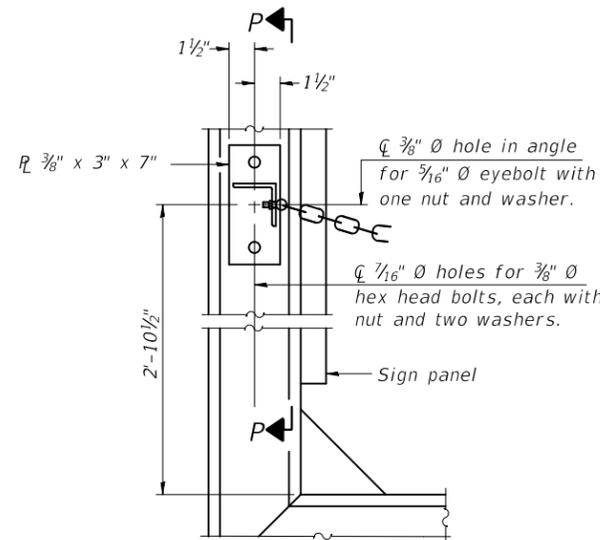


FRONT ELEVATION

See "ELEVATION" at right for dimensions.

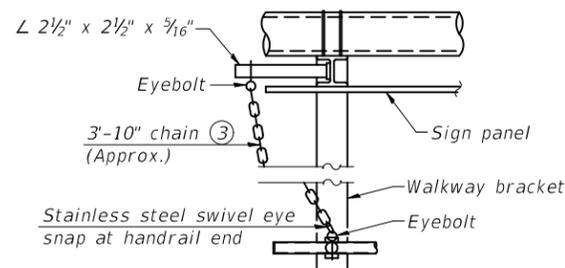


ELEVATION AT HANDRAIL JOINT



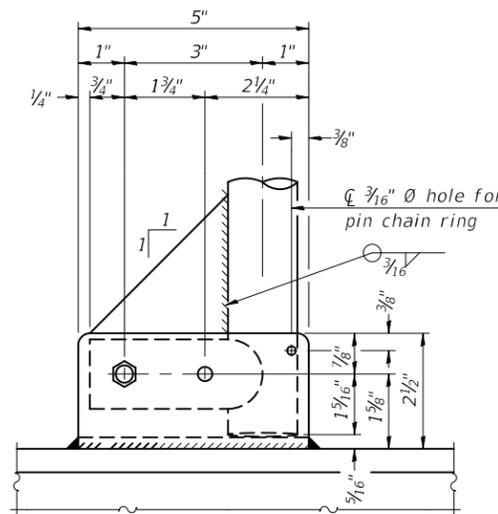
ALTERNATE SAFETY CHAIN ATTACHMENT

(With Sign Present)
Items not shown same as "Side Elevation" of "Handrail Details"

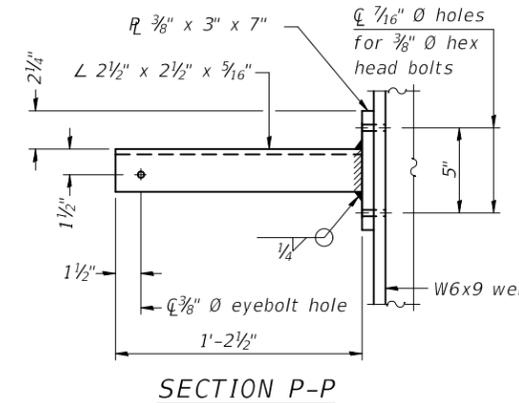


ALTERNATE SAFETY CHAIN ATTACHMENT

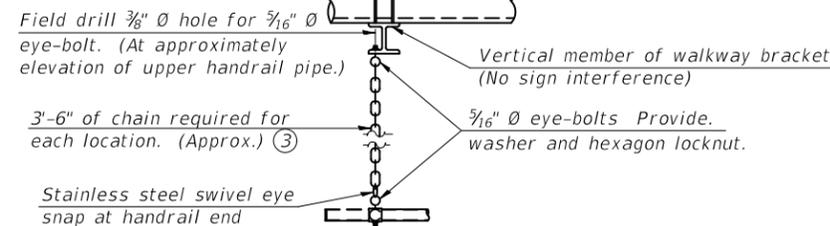
Details not shown similar to "Safety Chain" Details
(Walkway omitted for clarity)



SIDE ELEVATION

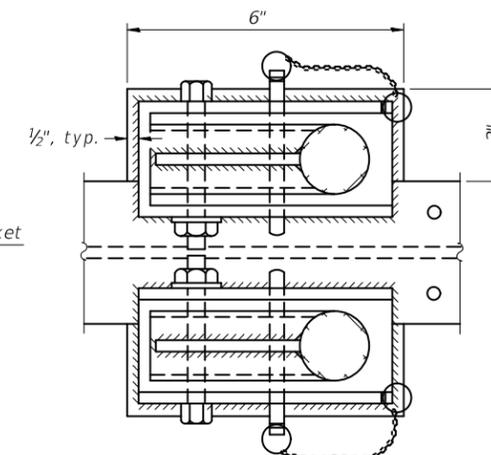


SECTION P-P



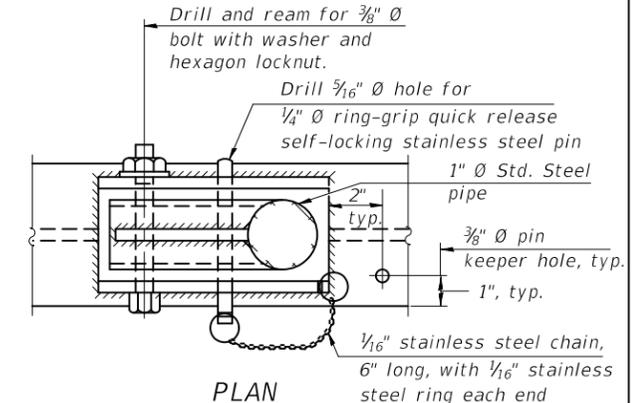
SAFETY CHAIN

One required for each end of each walkway.



PLAN AT HANDRAIL JOINT

Details not shown same as "PLAN"



DETAIL E HANDRAIL HINGE

③ 3/16" Type 304L stainless steel chain, approximately 12 links per foot.

05-S-11-DMS

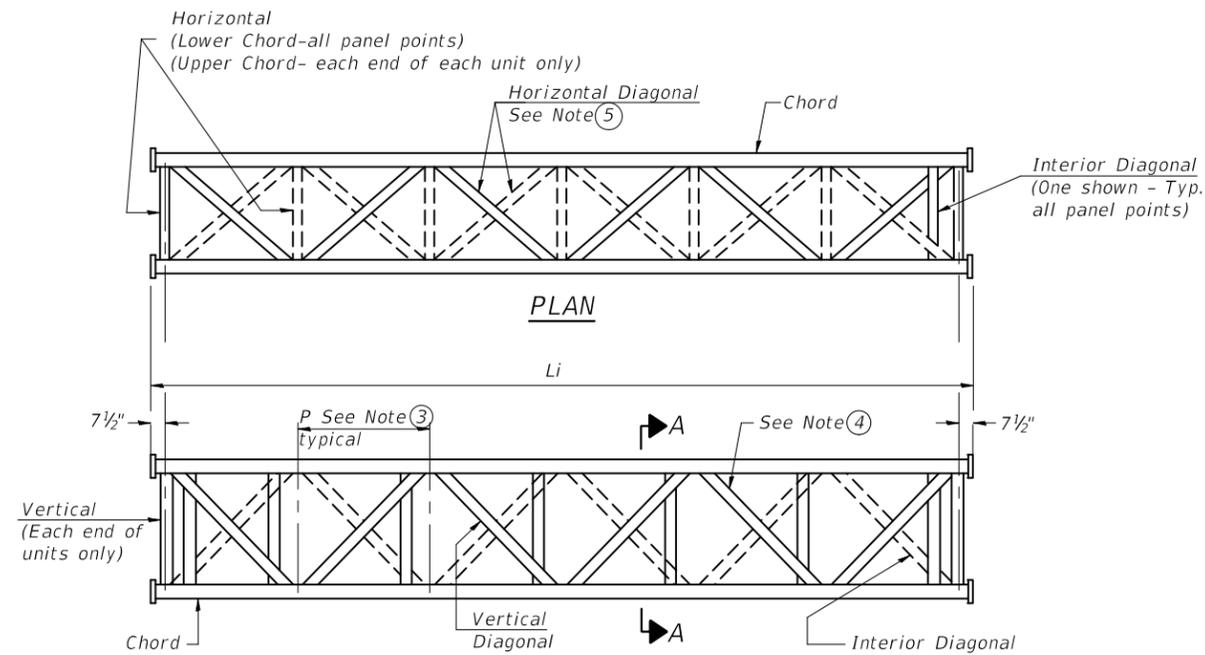
2-17-2017

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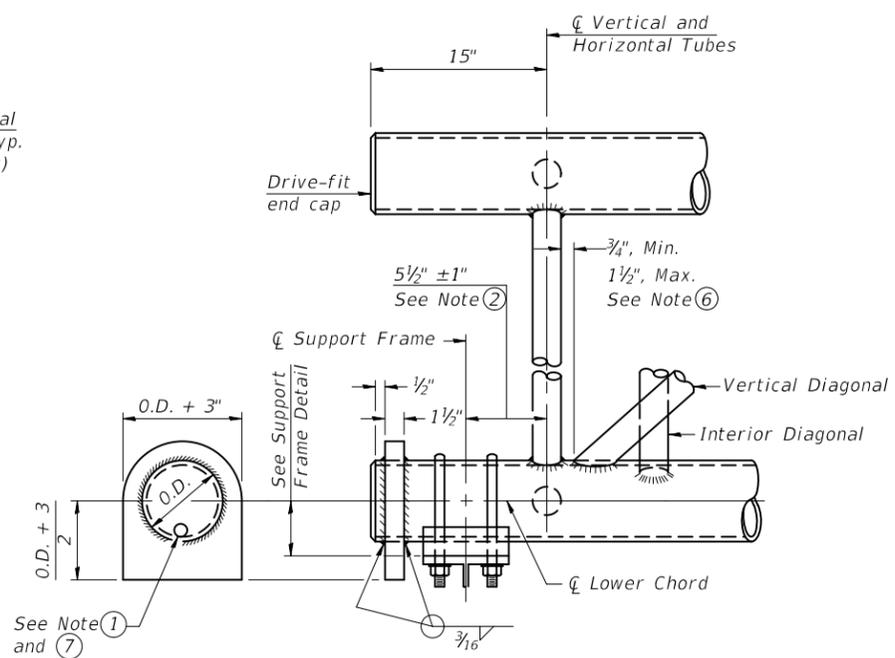
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES - ALTERNATE
STEEL HANDRAIL DETAILS FOR DMS

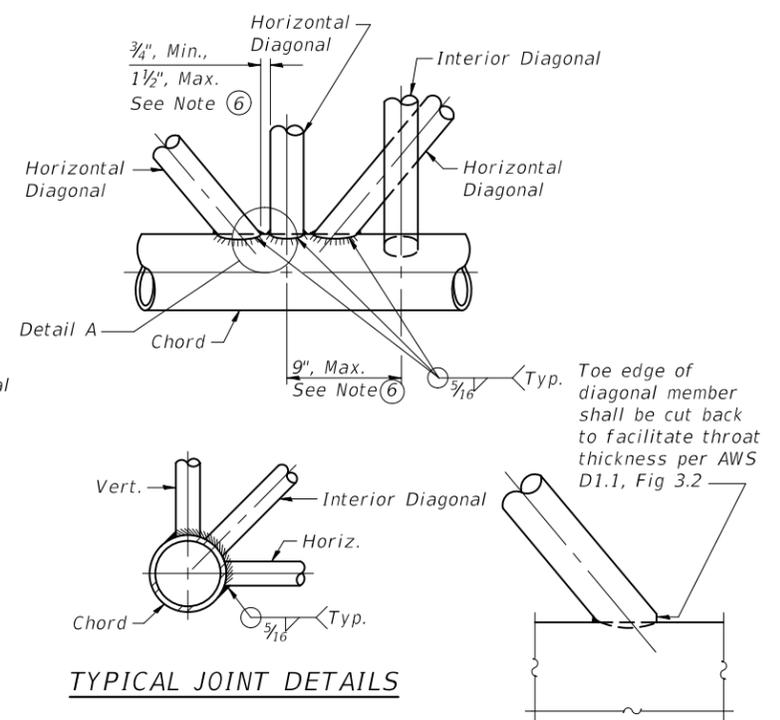
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



**ELEVATION
TYPICAL INTERIOR UNIT**
Even number of panels/interior unit required.



SUPPORT END DETAIL FOR EXTERIOR UNIT

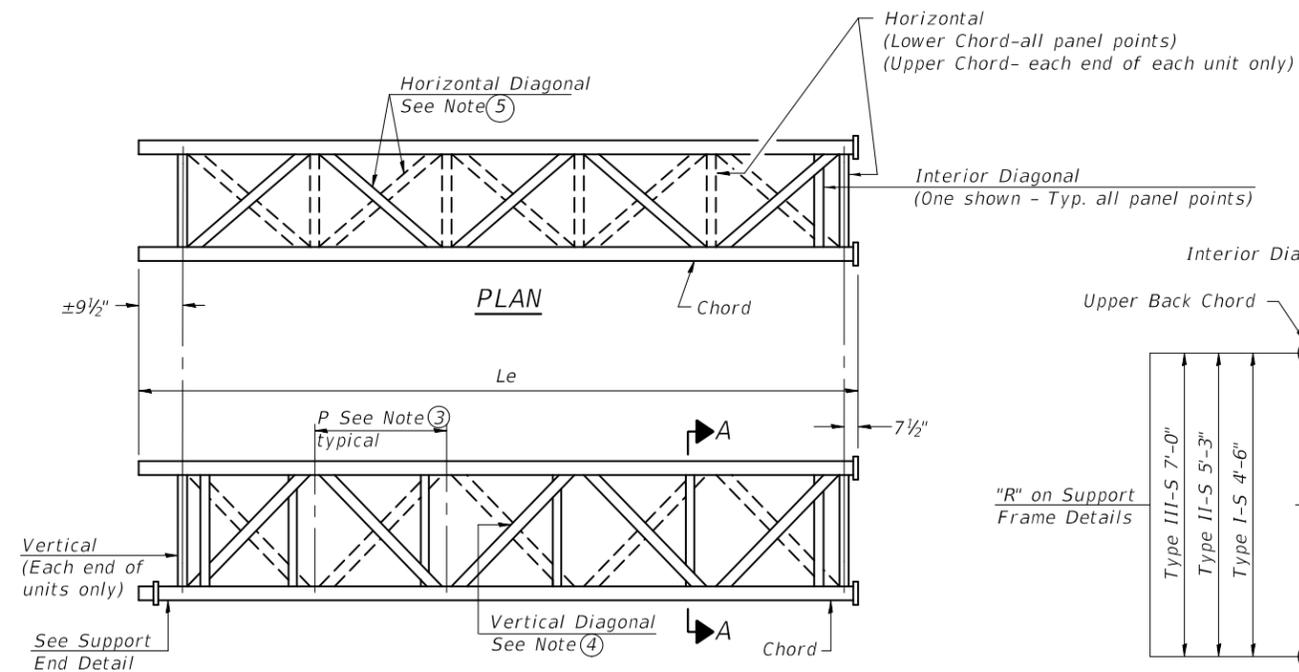


TYPICAL JOINT DETAILS

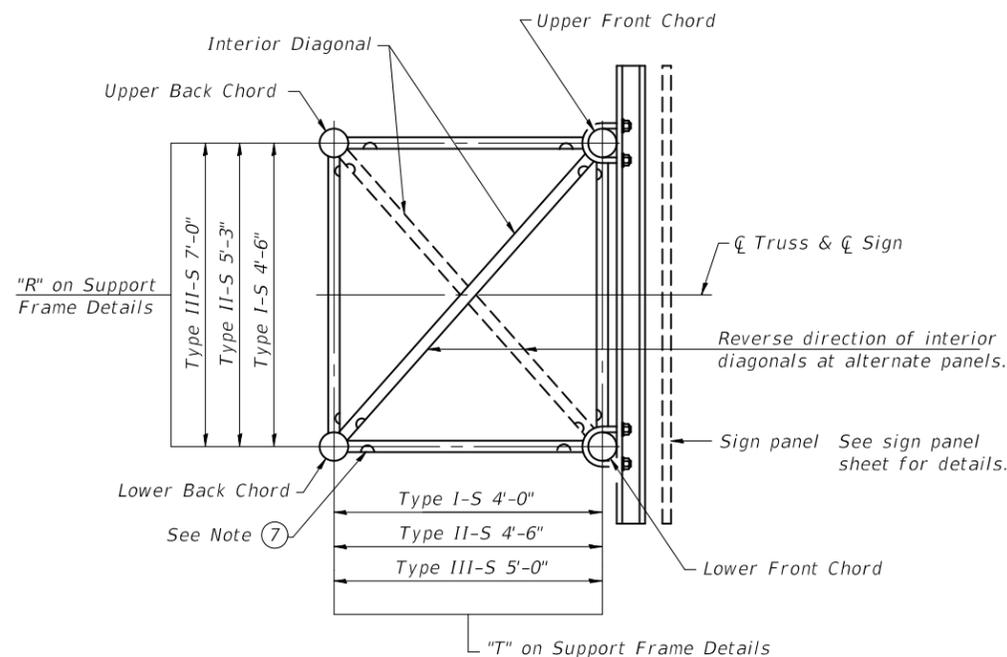
DETAIL A

NOTES

- ① Contractor must use standard drive-fit cap to close end. 1/2" Ø drain hole in drive-fit cap installed after galvanizing. (Typ. at non-splice ends of chords)
- ② 5 1/2" end dimension may vary by ±1" to provide uniform panel spacing (P).
- ③ Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-S or 4'-0" and 5'-6" for Types II-S and III-S.
- ④ Vertical Diagonals in front and back face shall alternate inclination.
- ⑤ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- ⑥ All diagonals shall be offset from the panel point based on the following: offset shall provide a 3/4" minimum to 1 1/2" maximum clearance between diagonal and any other diagonal, horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.
- ⑦ Galvanizing vent holes of adequate size shall be provided on underside at each end of truss members except chords. Alternately, holes may be provided in wall of chords. All vent holes shall be drilled and de-burred, typ.



**ELEVATION
TYPICAL EXTERIOR UNIT**
Even or odd number of panels/exterior units allowed.



SECTION A-A

(Vertical and horizontal diagonals not shown)

05-S-2

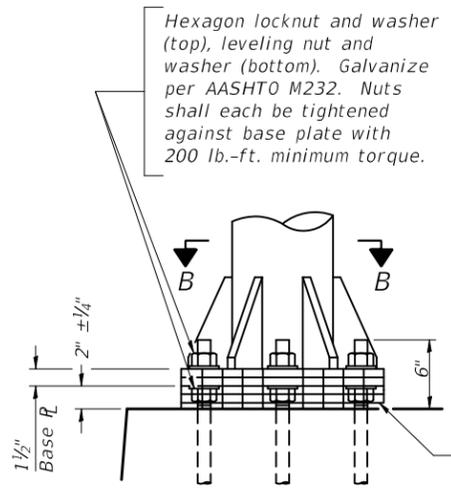
2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES - STEEL TRUSS DETAILS
FOR TRUSS TYPES I-S, II-S AND III-S**

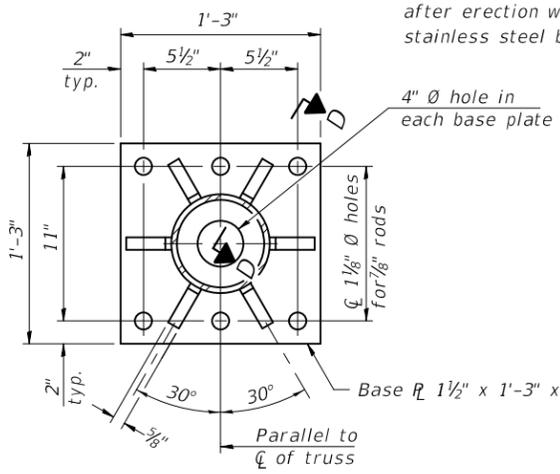
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



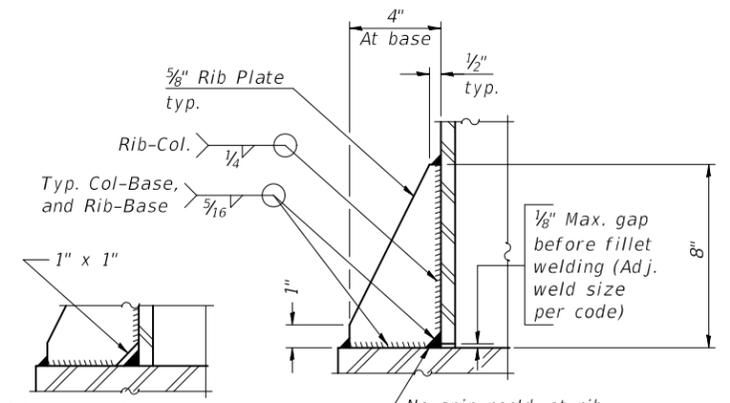
DETAIL B

Ribs shall be cut to fit slope of pipe.

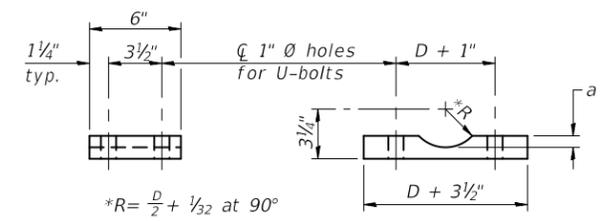
Stainless Steel Standard Grade Wire Cloth, 3" wide, 1/4" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with 3/4" stainless steel banding.



SECTION B-B

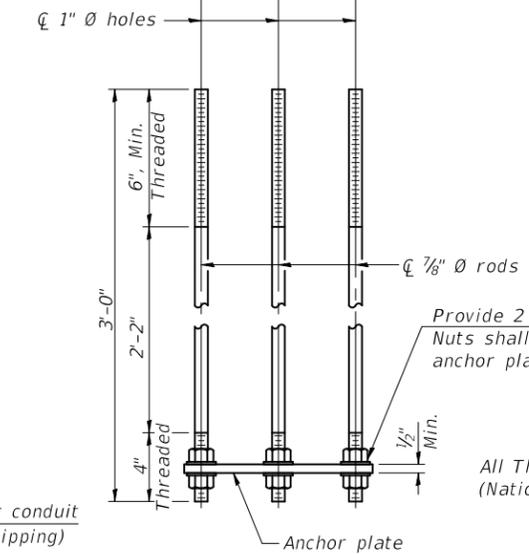
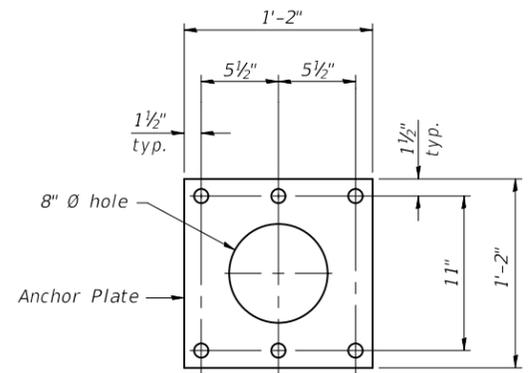


SECTION D-D

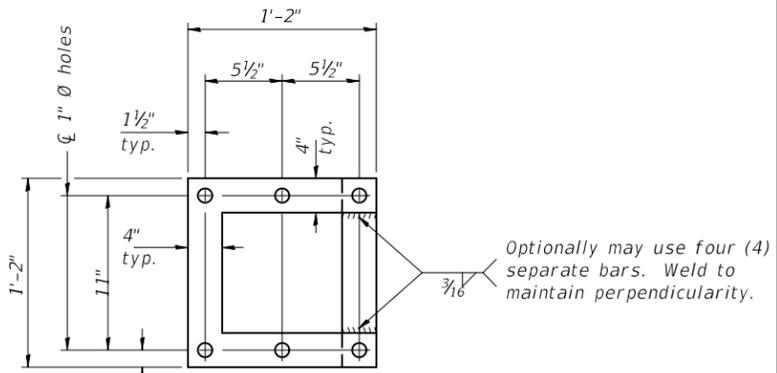


SADDLE SHIM DETAIL

Truss Chord Nominal Dia.	a
4 1/2"	1 1/16"
5"	3/4"
5 1/2"	1 3/16"

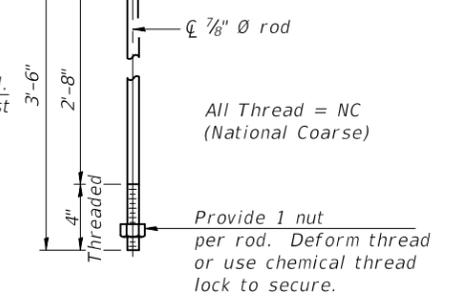


ANCHOR ROD DETAIL
Spread Footing Foundation

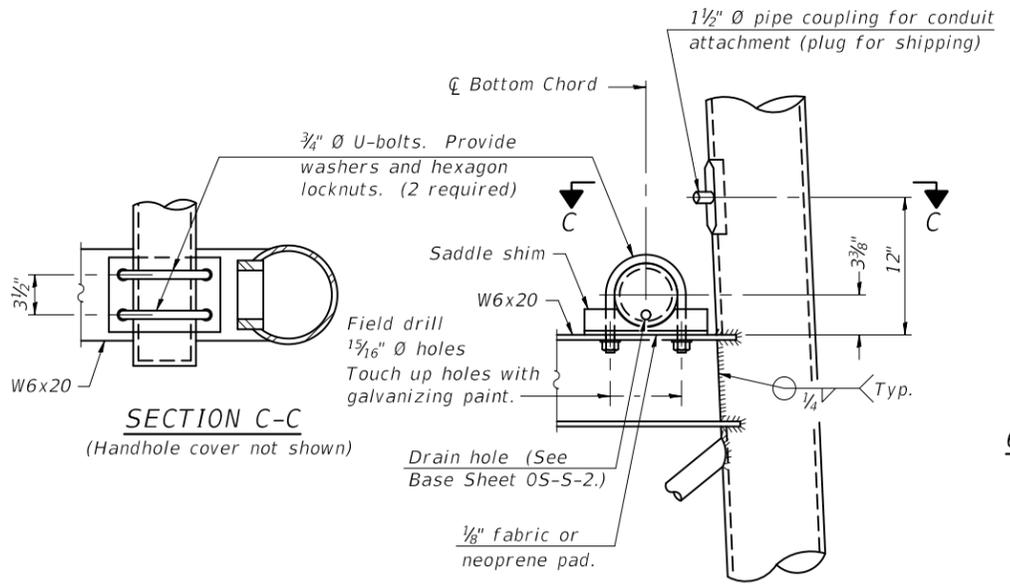


POSITIONING PLATE(S)

At each location, provide 1/4" thick positioning plate(s) and six (6) additional nuts to be used with leveling nuts to maintain anchor bolts position during concrete placement. 1/4" plate and extra nuts become Contractor's property. Cost included in Drilled Shaft Concrete Foundations.



ANCHOR ROD DETAIL
Drilled Shaft Foundation



SECTION C-C
(Handhole cover not shown)

DETAIL C

TYPE I-S STEEL TRUSS
6" Ø PIPE SUPPORT FRAME DETAILS

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.

OS-S-3A

2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
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		DRAWN -	REVISD -
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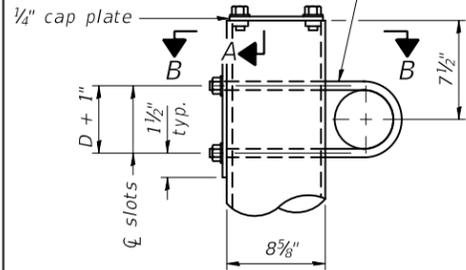
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR TYPE I-S STEEL TRUSS

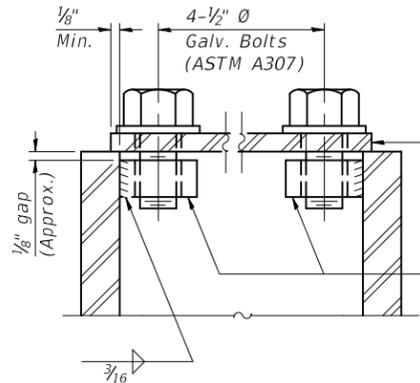
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				

ILLINOIS FED. AID PROJECT

3/4" Ø U-bolt.
Provide two washers and two hexagon locknuts. (4)
1 3/16" x 2" slots on 8" Ø pipe.
(4 slots required per pipe)

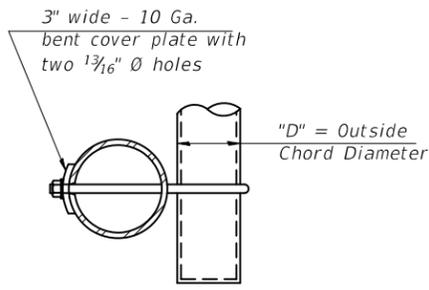


DETAIL A

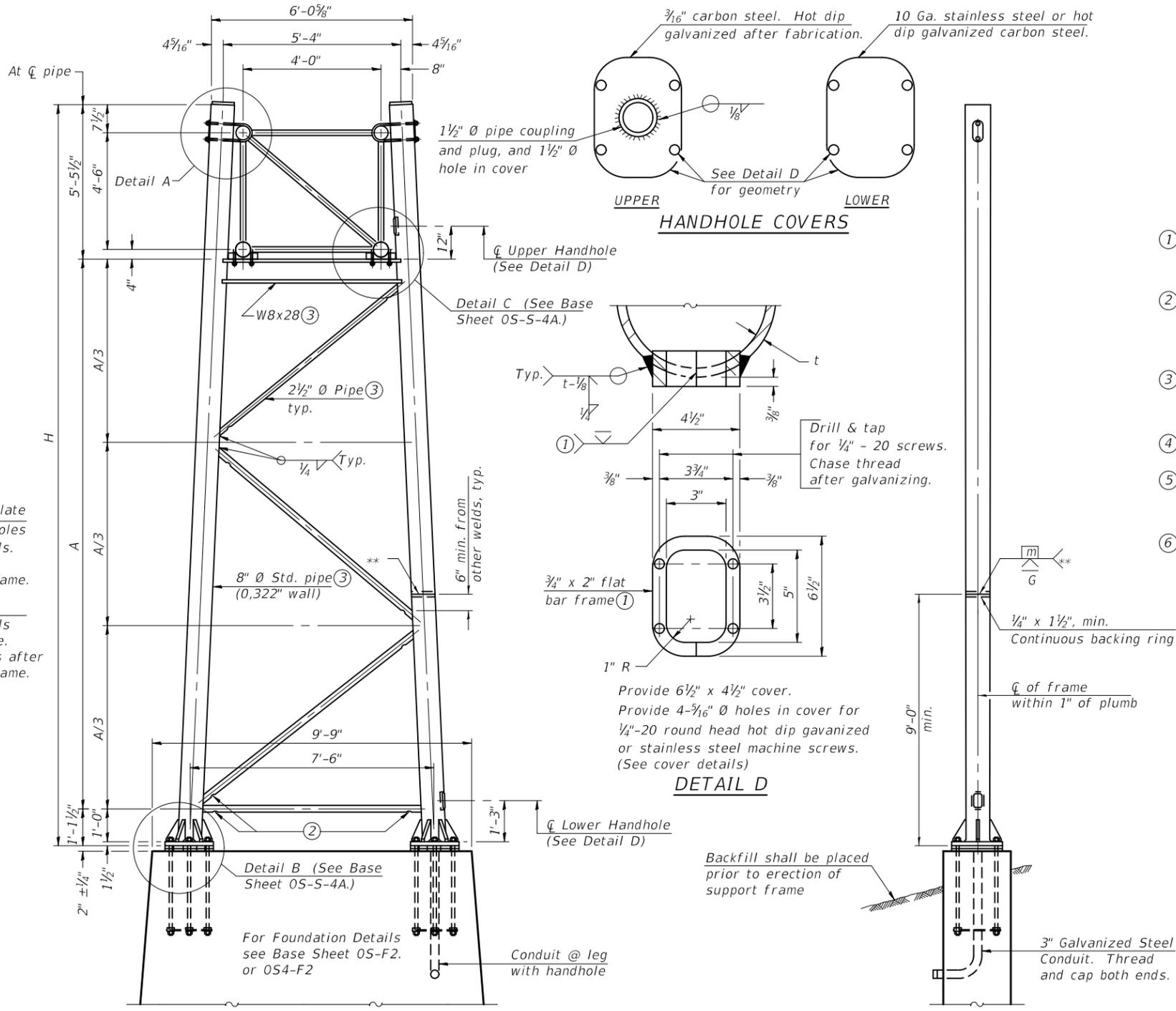


SECTION A-A

As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.

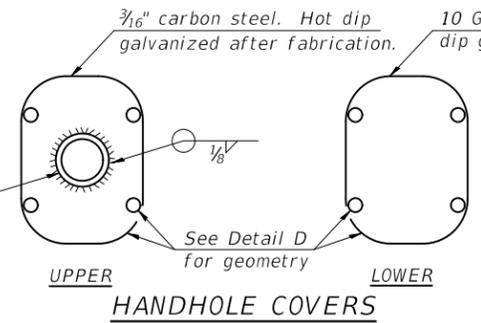


SECTION B-B

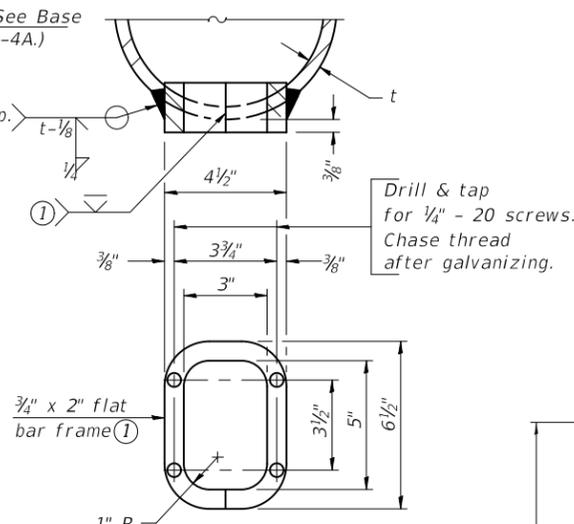


SIDE ELEVATION

END ELEVATION



HANDHOLE COVERS



DETAIL D

Support Design Loads:
See Base Sheet 05-S-1 for design and loading criteria.

Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign

- ① In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500µ in or less.
- ② Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
- ③ Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet 05-S-1.
- ④ See General Notes for fasteners.
- ⑤ Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
- ⑥ "H" based on 15'-0" or actual sign height, whichever is greater.

8" Ø PIPE TRUSS SUPPORT FRAME

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Structure Number	Station	Support		H ⑥	A
		Left	Right		

05-S-4

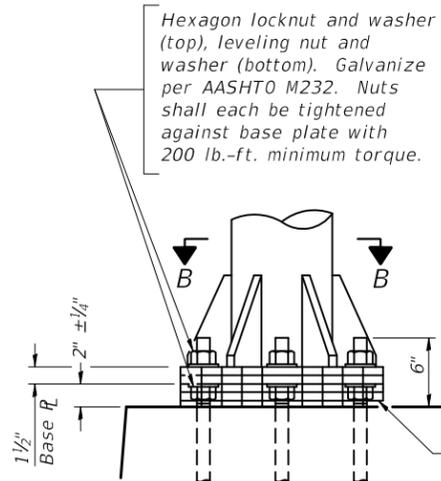
2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR TYPE I-S STEEL TRUSS

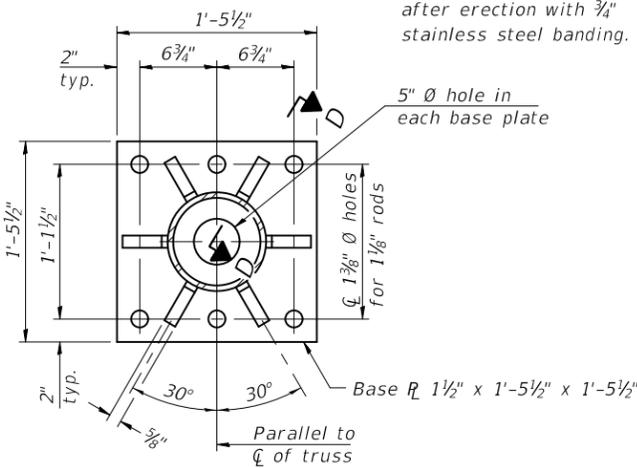
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



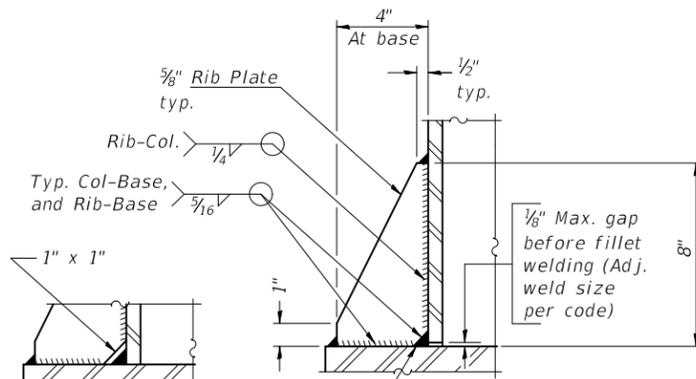
DETAIL B

Ribs shall be cut to fit slope of pipe.

Stainless Steel Standard Grade Wire Cloth, 3" wide, 1/4" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with 3/4" stainless steel banding.



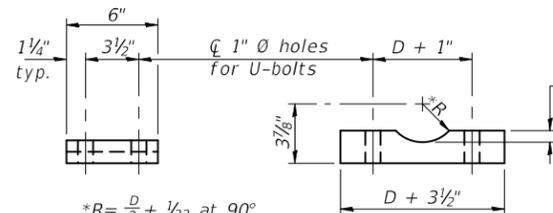
SECTION B-B



SECTION D-D

** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.

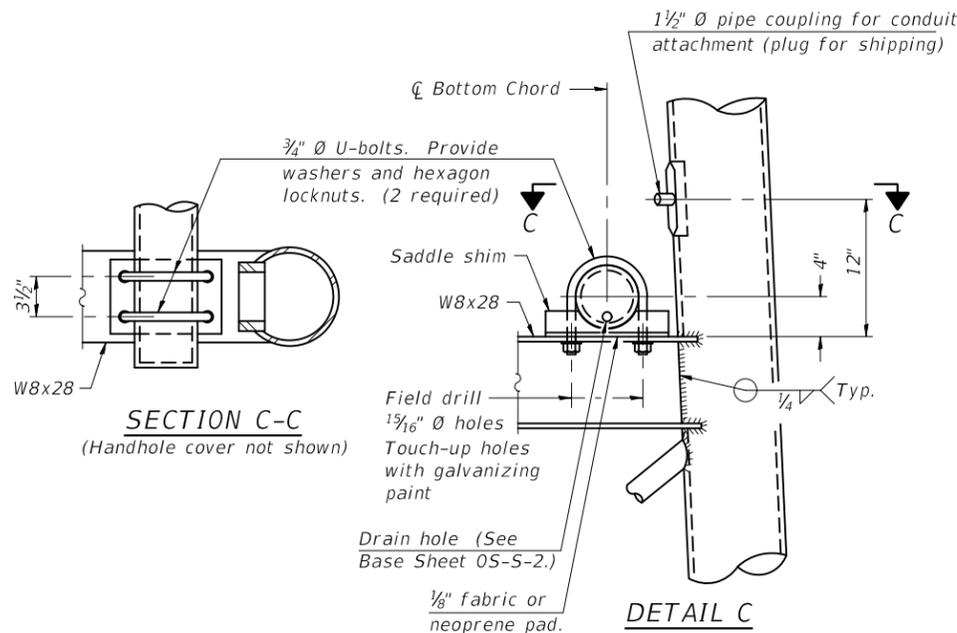
No snip req'd. at rib inside corner if placed before col. to base plate welding.**



SADDLE SHIM DETAIL

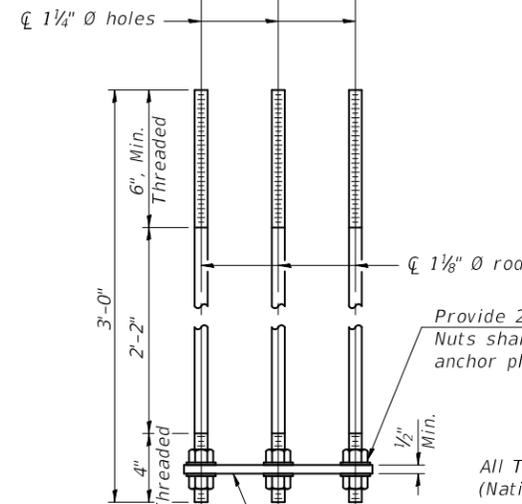
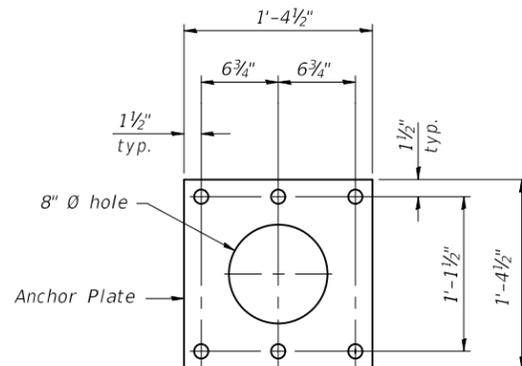
$R = \frac{D}{2} + \frac{1}{32}$ at 90°
D = Outside Diameter of Chord.

Truss Chord Nominal Dia.	a
5"	3/4"
5 1/2"	13/16"
6"	7/8"
6 1/2"	15/16"

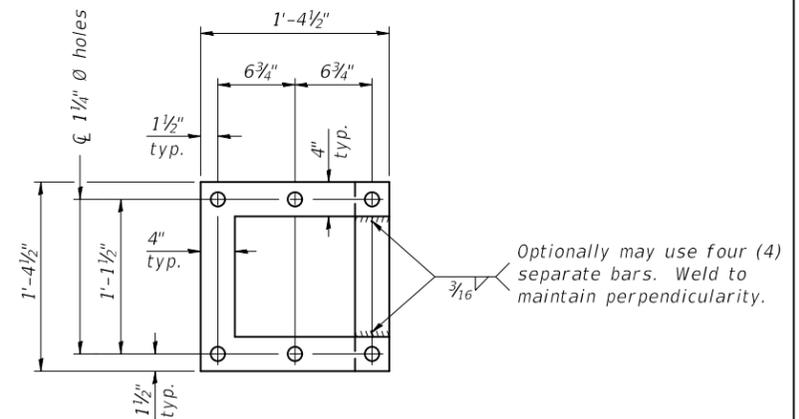


SECTION C-C

DETAIL C

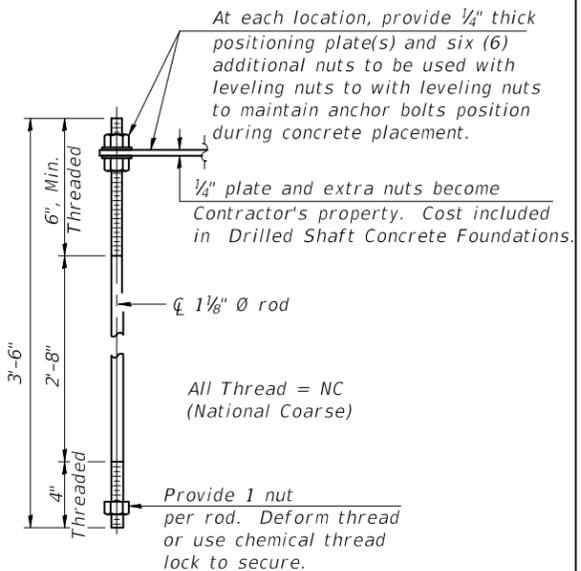


ANCHOR ROD DETAIL
Spread Footing Foundation



POSITIONING PLATE(S)

Optionally may use four (4) separate bars. Weld to maintain perpendicularity.



ANCHOR ROD DETAIL
Drilled Shaft Foundation

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.

TYPE I-S TRUSS
8" Ø PIPE SUPPORT FRAME DETAILS

05-S-4A

2-17-2017

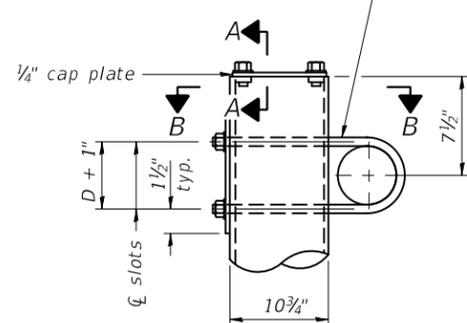
FILE NAME =	USER NAME =	DESIGNED -	REVISIONS -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

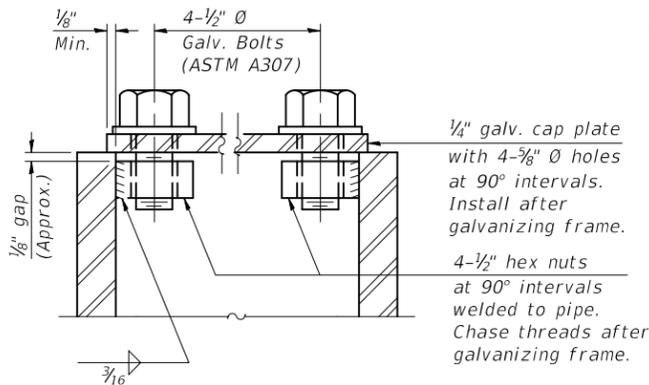
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR I-S STEEL TRUSS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

3/4" Ø U-bolt.
Provide two washers and two hexagon locknuts. (4)
1 3/16" x 2" slots on 10" Ø pipe.
(4 slots required per pipe)

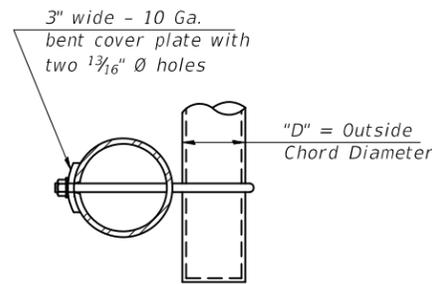


DETAIL A

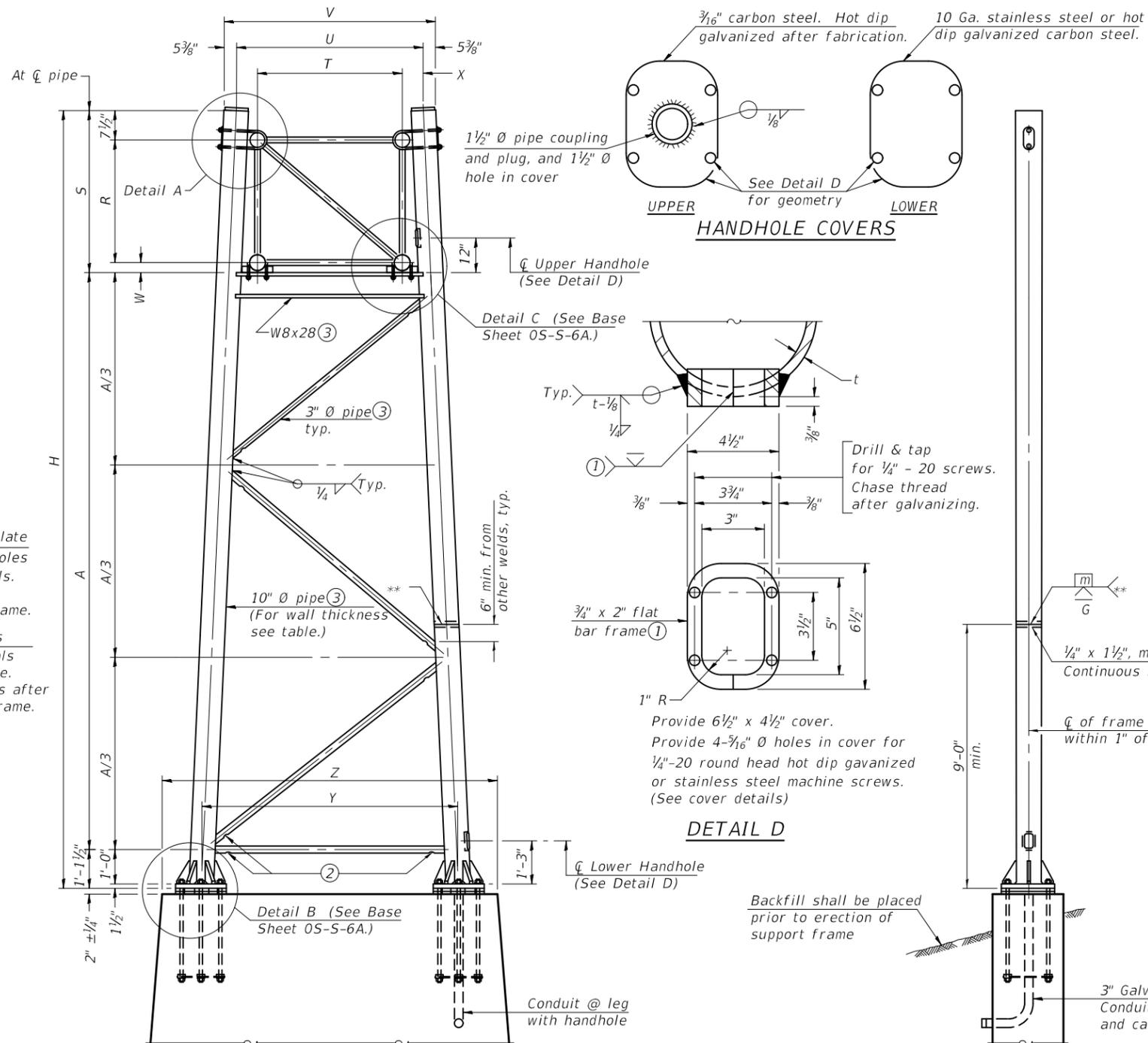


SECTION A-A

As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.

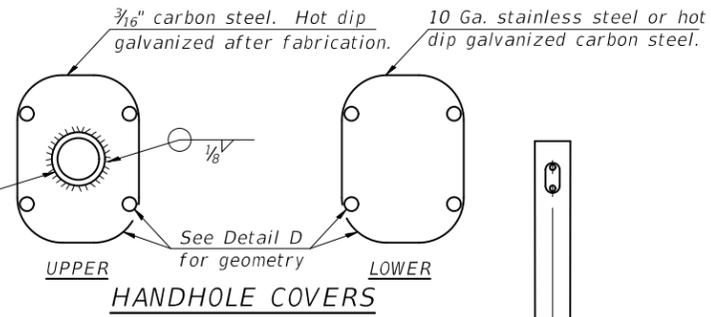


SECTION B-B

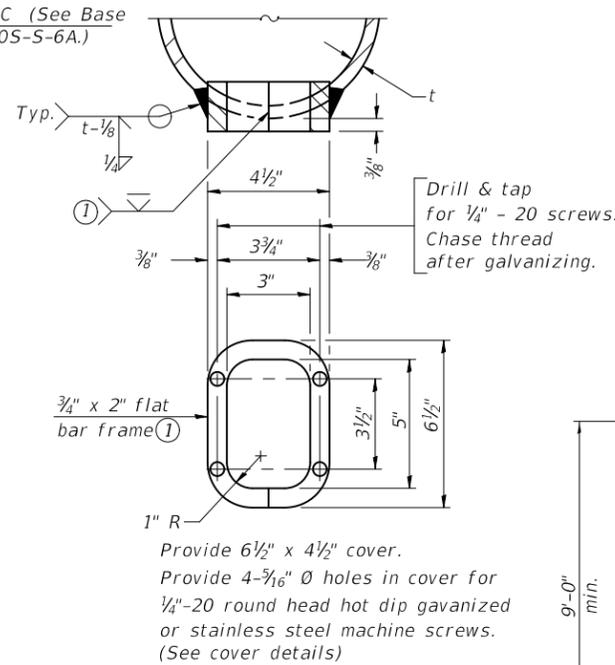


FOR FOUNDATION DETAILS SEE BASE SHEET OS-F3 (Spread Footing) or OS4-F3 (Drilled Shaft).

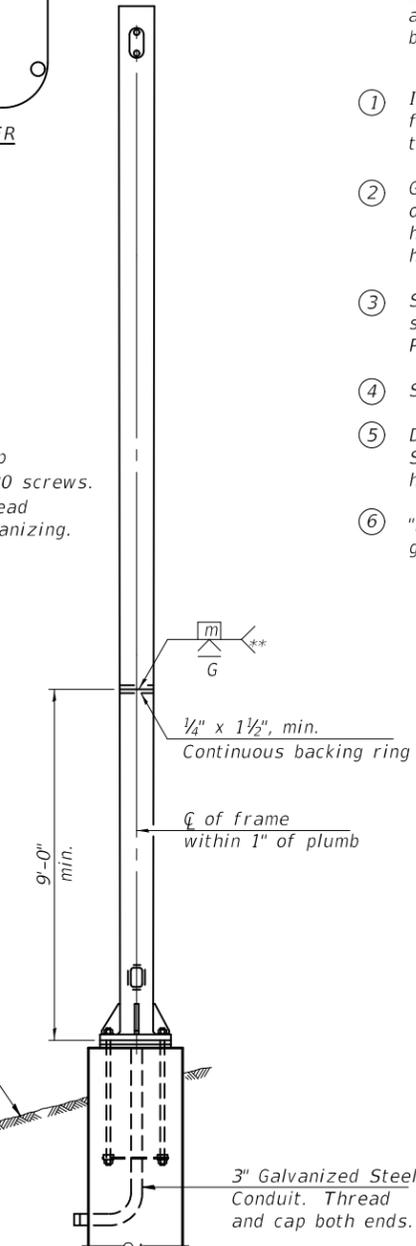
SIDE ELEVATION



HANDHOLE COVERS



DETAIL D



END ELEVATION

Support Design Loads:
See Base Sheet OS-S-1 for design and loading criteria.

Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign

- ① In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500µ in or less.
- ② Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
- ③ Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet OS-S-1.
- ④ See General Notes for fasteners.
- ⑤ Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
- ⑥ "H" based on 15'-0" or actual sign height, whichever is greater.

Truss Type	Dimensions								
	R	S	T	U	V	W	X	Y	Z
I-S	4'-6"	5'-5 1/2"	4'-0"	5'-6"	6'-4 3/4"	4"	9"	8'-3"	10'-9"
II-S ⑤	5'-3"	6'-3 1/4"	4'-6"	6'-1"	6'-11 3/4"	4 3/4"	9 1/2"	8'-3"	10'-9"

10" Ø PIPE TRUSS SUPPORT FRAME

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Structure Number	Station	Support		Truss Type	Pipe Wall Thickness	H ⑥	A
		Left	Right				

OS-S-6

2-17-2017

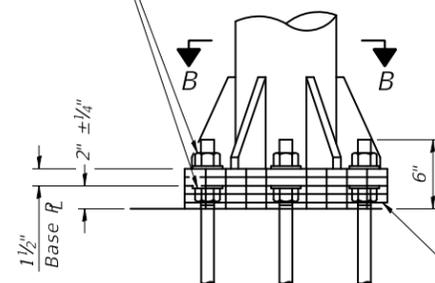
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
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		DRAWN -	REVISED -
		CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR STEEL TRUSS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

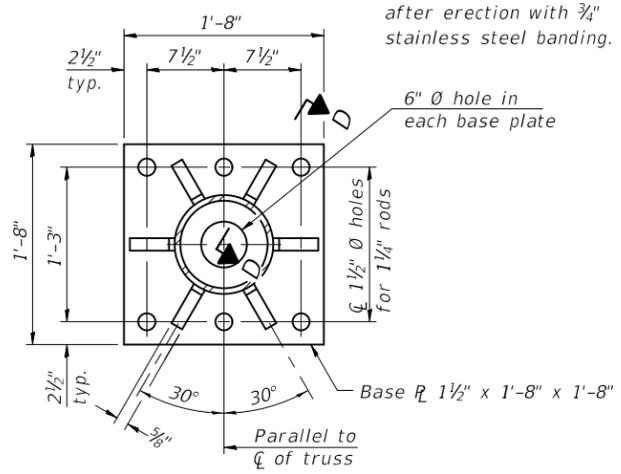
Hexagon locknut and washer (top), leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. minimum torque.



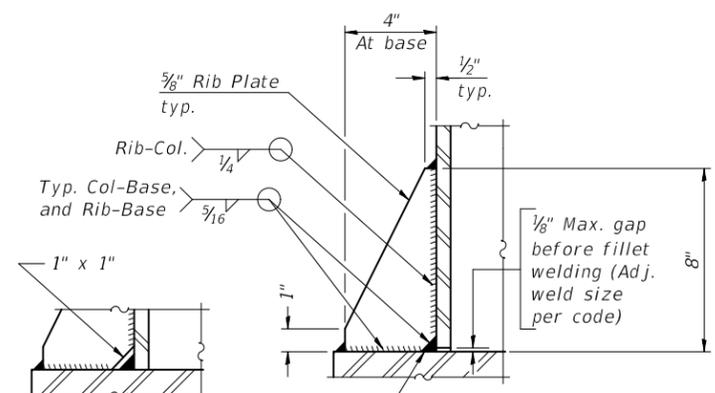
DETAIL B

Ribs shall be cut to fit slope of pipe.

Stainless Steel Standard Grade Wire Cloth, 3" wide, 1/4" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with 3/4" stainless steel banding.



SECTION B-B



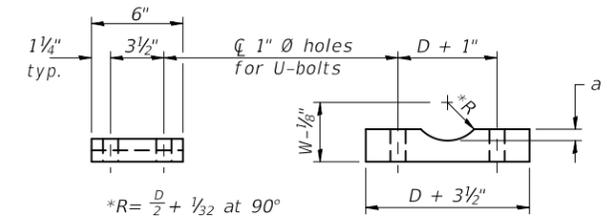
SECTION D-D

1" x 1" Rib-Col. and Rib-Base

1/8" Max. gap before fillet welding (Adj. weld size per code)

No snip req'd. at rib inside corner if placed before col. to base plate welding.**

** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.



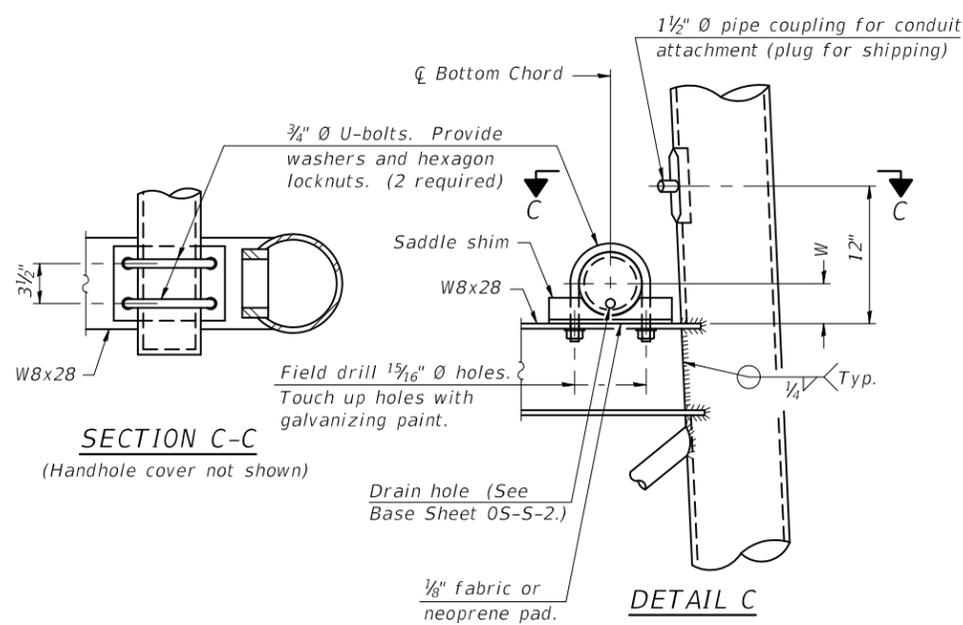
SADDLE SHIM DETAIL

*R = D/2 + 1/2 at 90°

D = Outside Diameter of Chord.

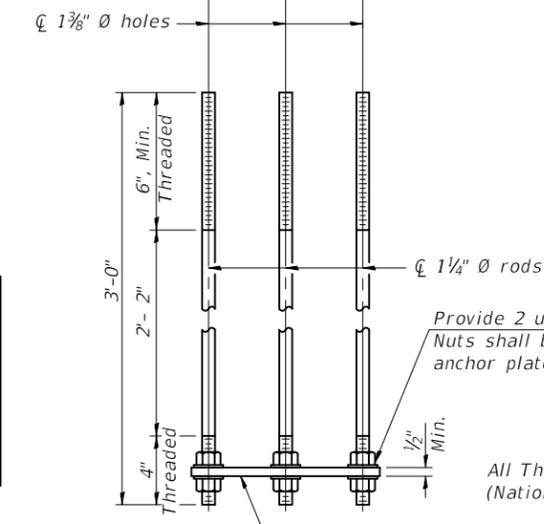
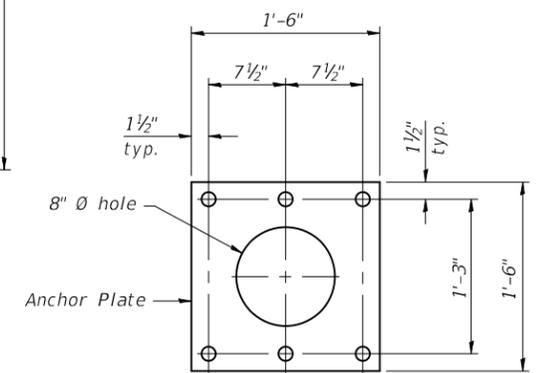
For W, see Base Sheet 05-S-6.

Truss Chord Nominal Dia.	a
5"	3/4"
5 1/2"	1 3/16"
6"	7/8"
6 1/2"	1 5/16"
7"	1"



SECTION C-C

DETAIL C



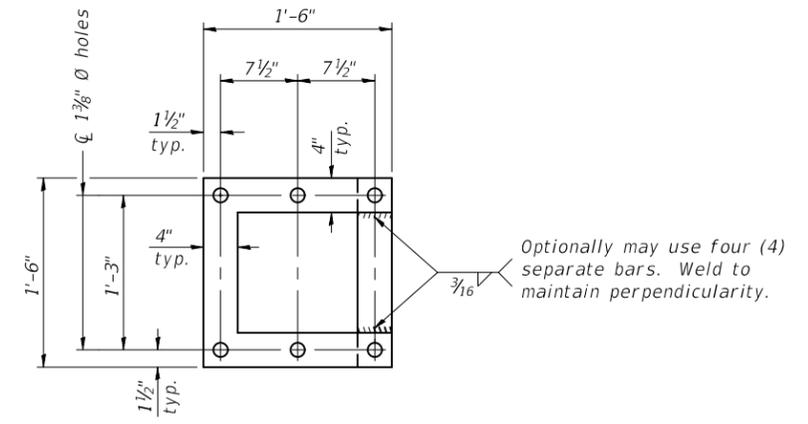
ANCHOR ROD DETAIL
Spread Footing Foundation

Provide 2 uncoated nuts per rod. Nuts shall be "snug tight" against anchor plate.

All Thread = NC (National Coarse)

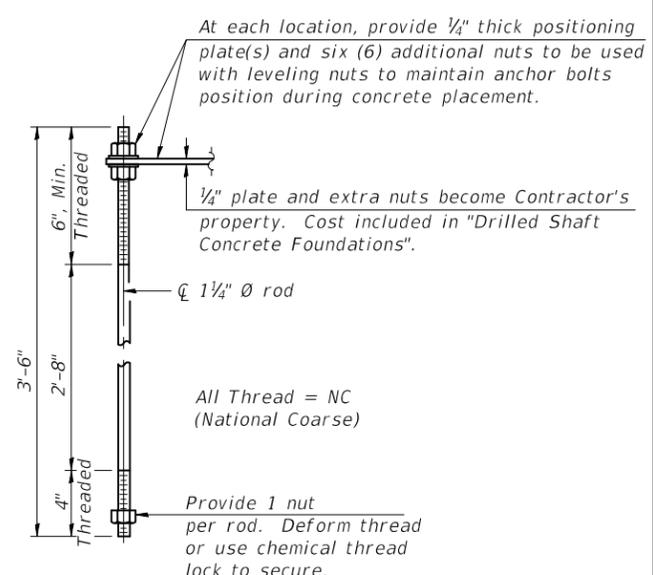
Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.

10" Ø PIPE SUPPORT FRAME DETAILS



POSITIONING PLATE(S)

Optionally may use four (4) separate bars. Weld to maintain perpendicularity.



ANCHOR ROD DETAIL
Drilled Shaft Foundation

At each location, provide 1/4" thick positioning plate(s) and six (6) additional nuts to be used with leveling nuts to maintain anchor bolts position during concrete placement.

1/4" plate and extra nuts become Contractor's property. Cost included in "Drilled Shaft Concrete Foundations".

All Thread = NC (National Coarse)

Provide 1 nut per rod. Deform thread or use chemical thread lock to secure.

05-S-6A

2-17-2017

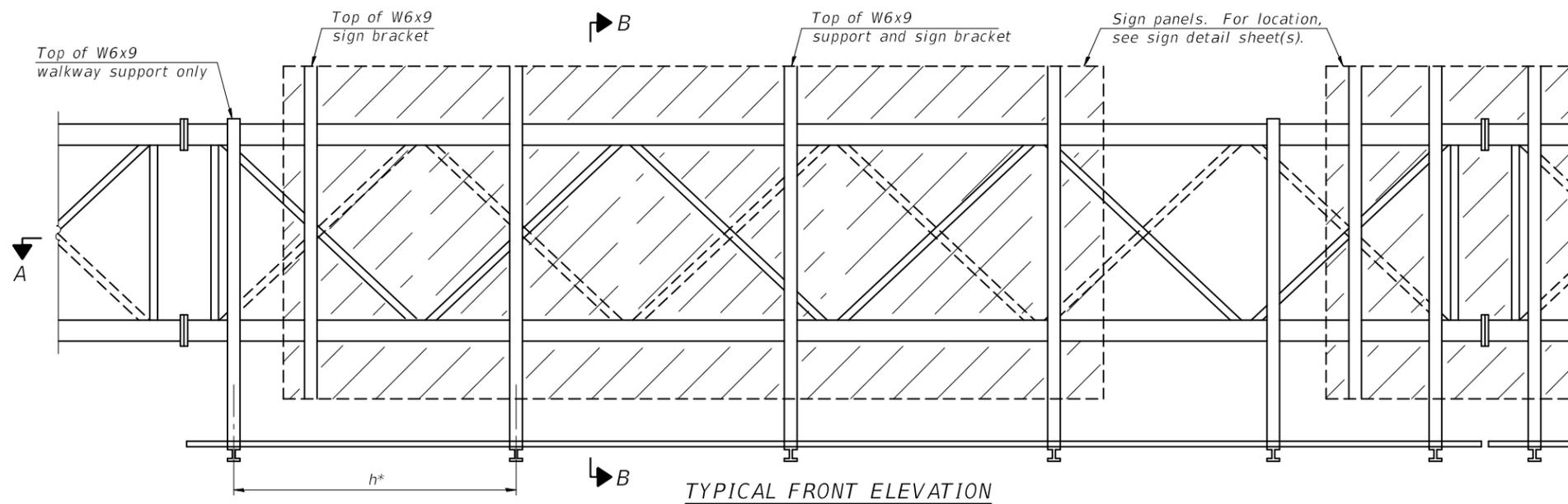
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

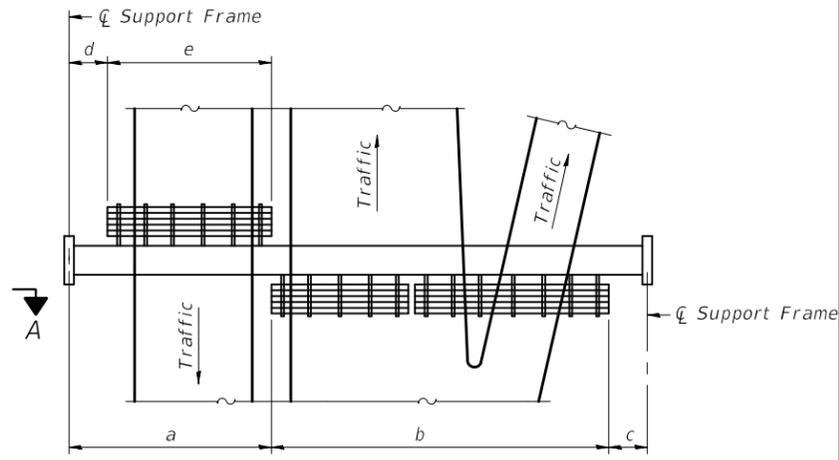
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME DETAILS STEEL TRUSS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				

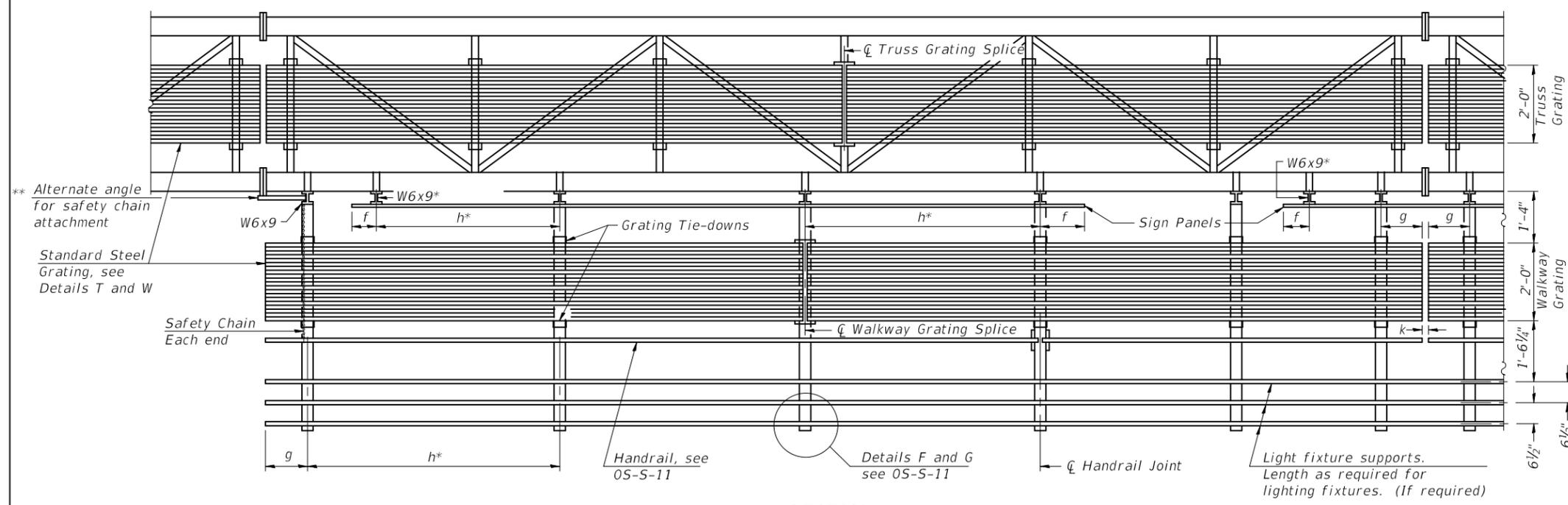
ILLINOIS FED. AID PROJECT



TYPICAL FRONT ELEVATION
With lights and handrail omitted for clarity.



PLAN WALKWAY AND HANDRAIL SKETCH
(Road plan beneath truss varies)



SECTION A-A

Handrail and walkway shall span a minimum of three brackets between splices and/or gap joints. Place all sign and walkway brackets as close to panel points as practical. Handrail joints, grating, and light support splices placed as needed.

Walkway and Truss Grating width dimensions are nominal and may vary $\pm 1/2$ " based on available standard widths.

BRACKET TABLE

W6x9		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
8'-0"	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

- Notes:
- * Space W6x9 walkway brackets and sign brackets W6x9 for efficiency and within limits shown:
 - f = 12" maximum, 4" minimum (End of sign to ϕ of nearest bracket)
 - g = 12" maximum, 4" minimum (End of walkway grating to ϕ of nearest support bracket)
 - h = 6'-0" maximum (ϕ to ϕ sign and/or walkway support brackets, W6x9)
 - k = 2" maximum gap between adjacent walkway grating sections and handrail ends
 - ** If walkway bracket at safety chain location is behind sign, add angle to bracket, see Alternate Safety Chain Attachment on Base Sheet 05-S-11
- For Details T and W, Section B-B and Grating Splice Details, see Base Sheet 05-S-10.
For Handrail Details, see Base Sheet 05-S-11.

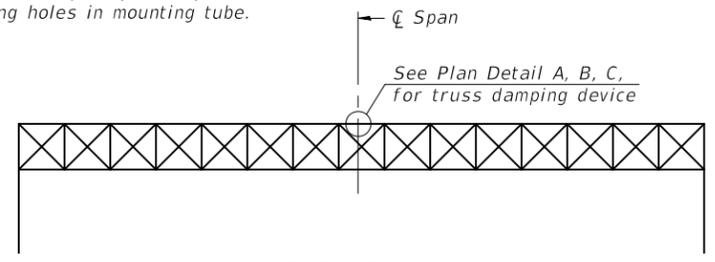
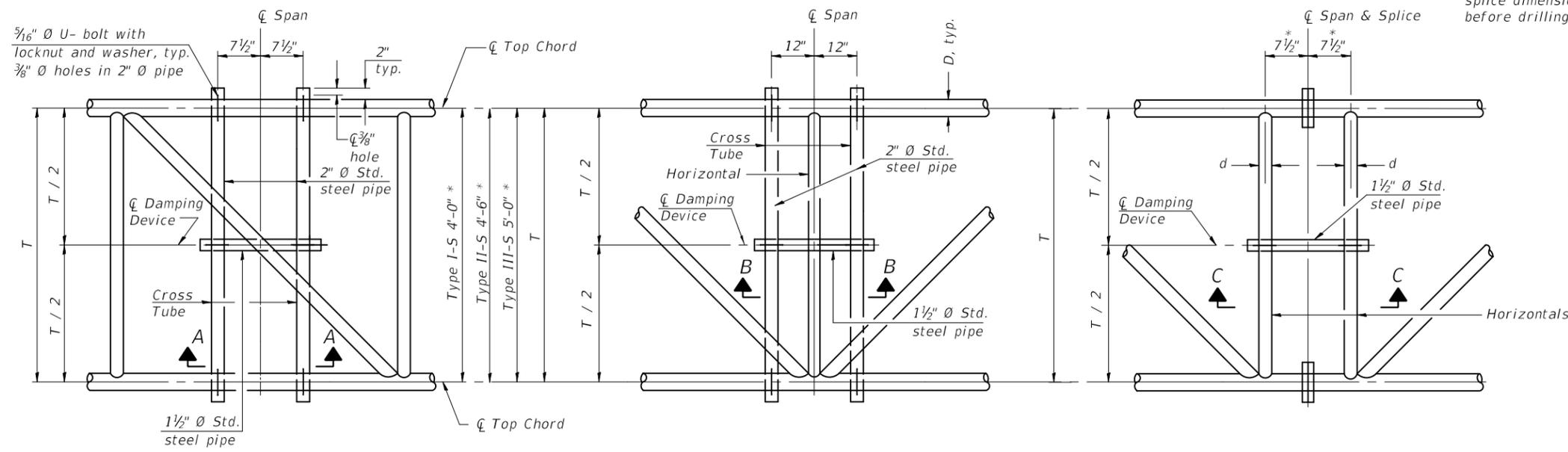
Structure Number	Station	a	b	c	d	e	Walkway Grating and Handrail Lengths

Truss grating to facilitate inspection shall run full length (center to center of support frames) ± 12 " on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure".

05-S-9

2-17-2017

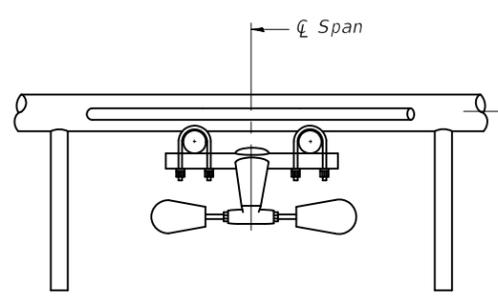
Center of horizontal to center of splice dimension may vary. Verify before drilling holes in mounting tube.



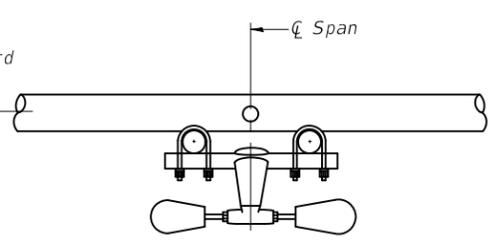
ELEVATION
Steel Overhead Sign Truss

NOTES

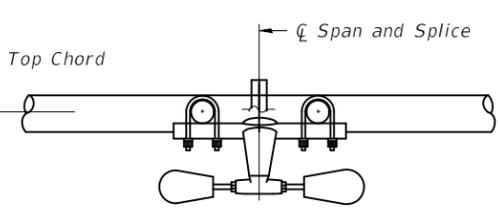
Damper: One damper per truss. (31 Lbs. Stockbridge-Type - 29" minimum between ends of weights) Cost included in Overhead Sign Structure...



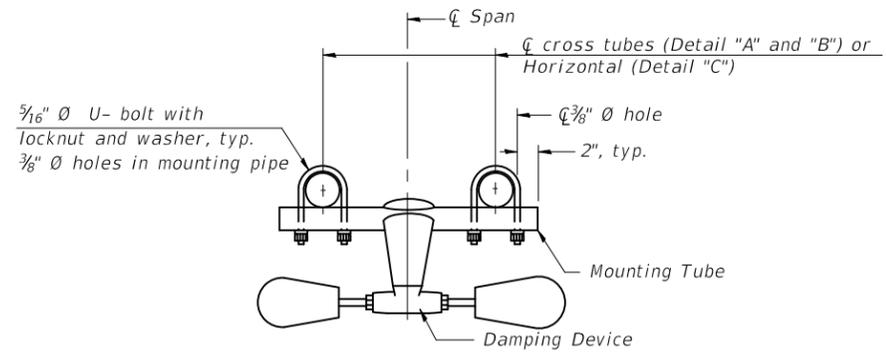
SECTION A-A



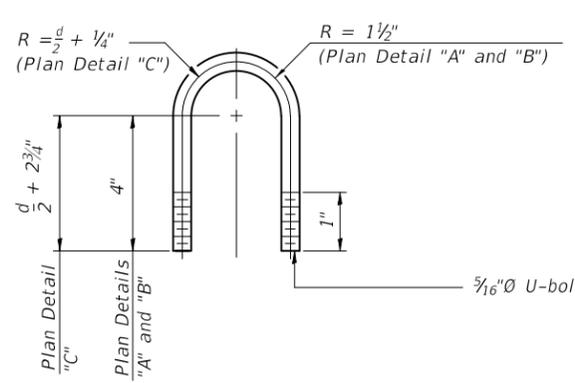
SECTION B-B



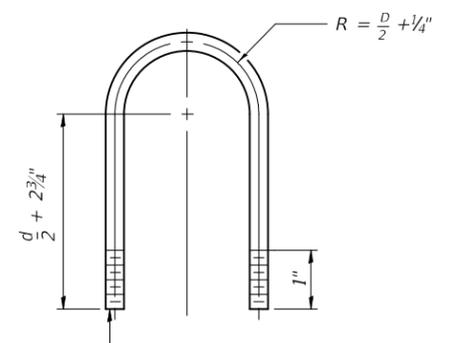
SECTION C-C



TRUSS DAMPING DEVICE CONNECTION DETAIL
(Typical)



DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL
(Typical)



TOP CHORD TO CROSS TUBE U-BOLT DETAIL
(Typical - Detail "A" and "B")

05-S-D

2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -

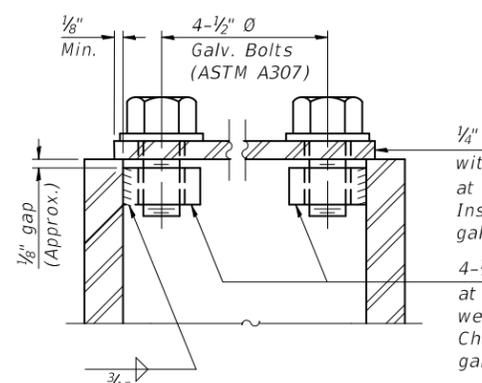
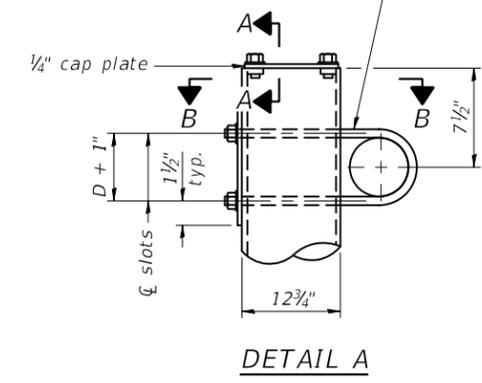
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
DAMPING DEVICE

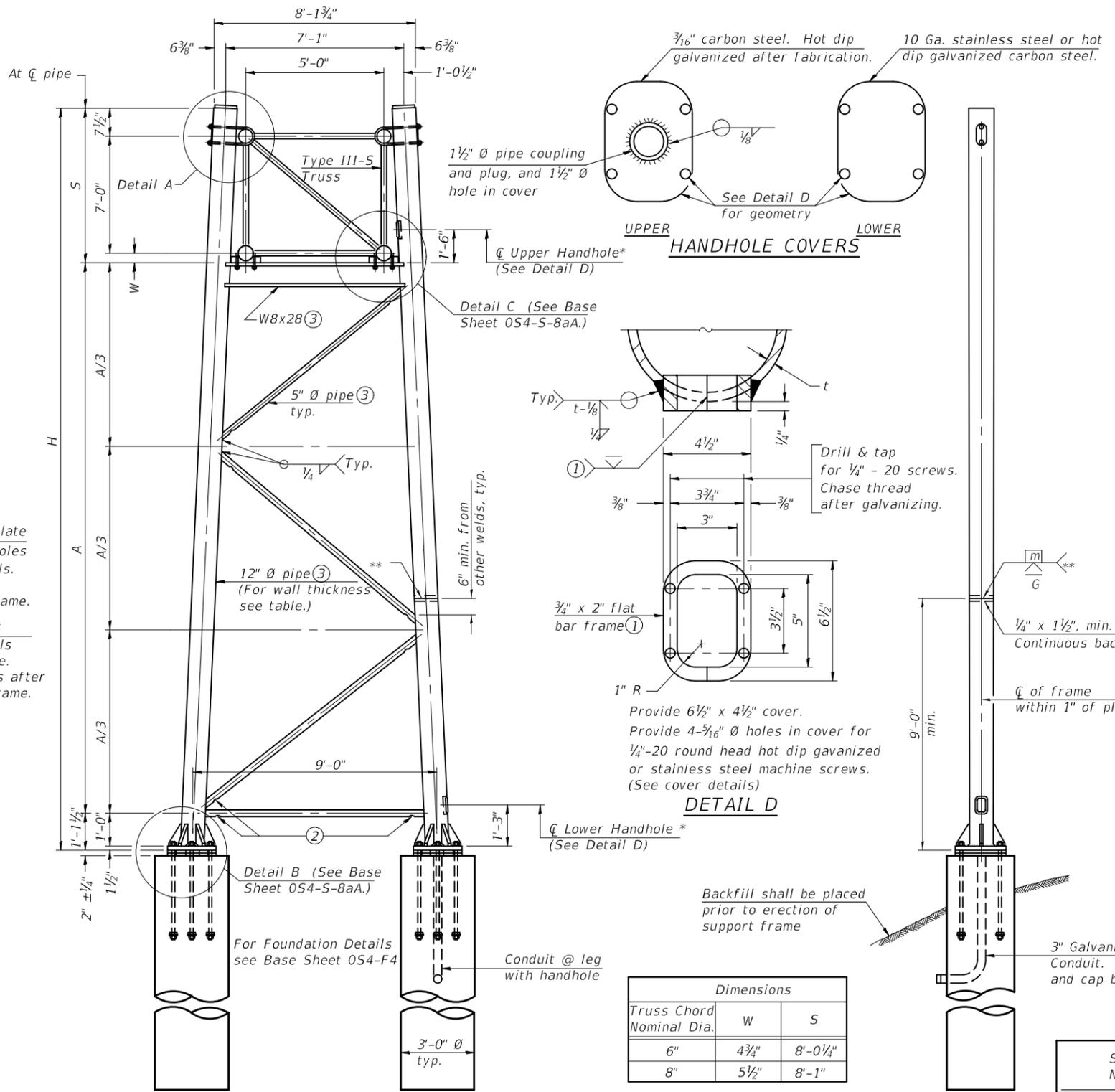
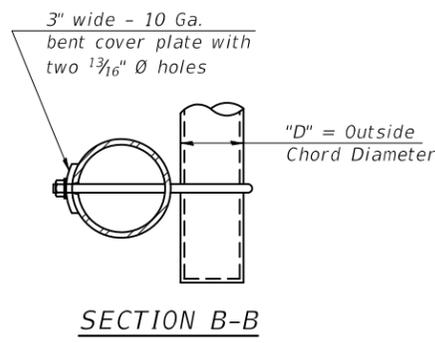
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				

ILLINOIS FED. AID PROJECT

3/4" Ø U-bolt.
Provide two washers and two hexagon locknuts. (4)
1 3/16" x 2" slots on 12" Ø pipe.
(4 slots required per pipe)



SECTION A-A
As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.



Dimensions		
Truss Chord Nominal Dia.	W	S
6"	4 3/4"	8'-0 1/4"
8"	5 1/2"	8'-1"

- Support Design Loads:
See Base Sheet OS-S-1 for design and loading criteria.
- Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign
- In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500µ in or less.
 - Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
 - Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet OS-S-1.
 - See General Notes for fasteners.
 - Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
 - "H" based on 15'-0" or actual sign height, whichever is greater.
- * For dynamic message sign installations, provide upper and lower handholes in both legs of each support frame.

TRUSS SUPPORT DETAILS
12" Ø PIPE-TYPE III-S TRUSS

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Structure Number	Station	Support		Pipe Wall Thickness	H (6)	A
		Left	Right			

054-S-8a 2-17-2017

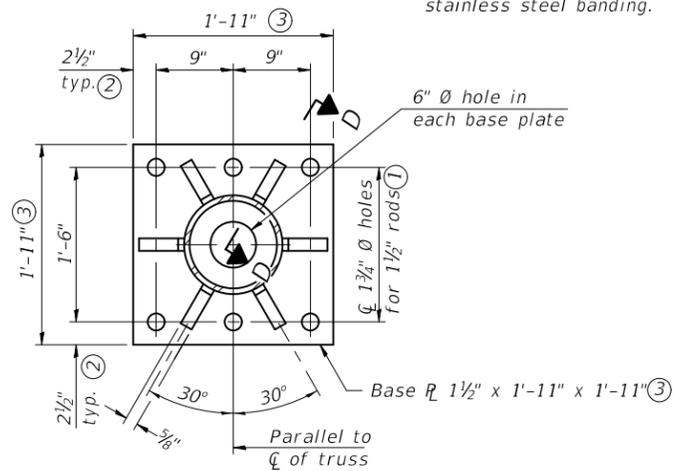
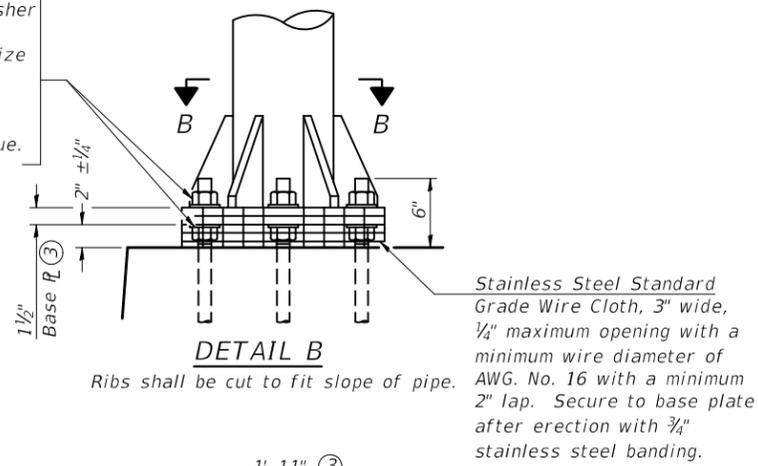
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

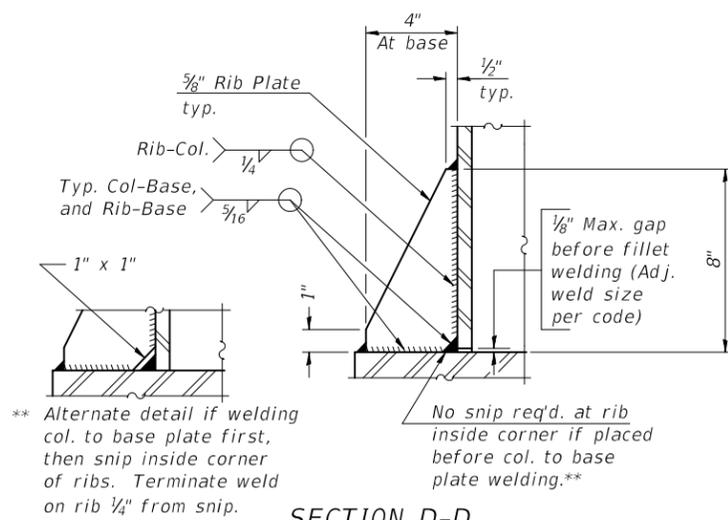
OVERHEAD SIGN STRUCTURES - SUPPORT FRAME
FOR TYPE III-S STEEL TRUSS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

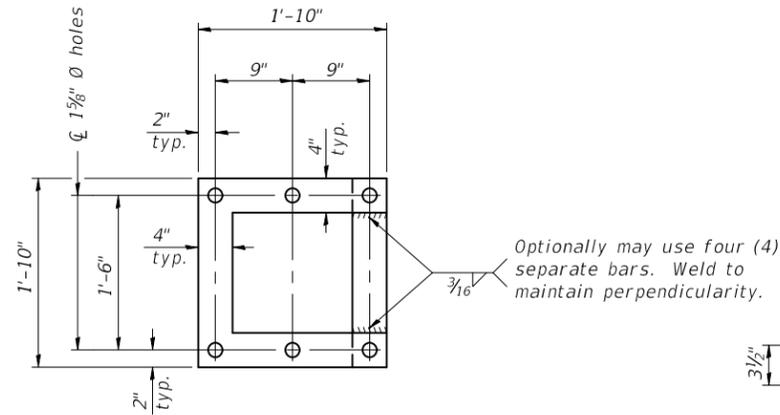
Hexagon locknut and washer (top), leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. minimum torque.



SECTION B-B



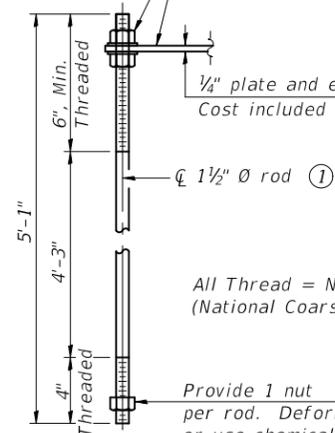
SECTION D-D



POSITIONING PLATE(S)

At each location, provide 1/4" thick positioning plate(s) and six (6) additional nuts to be used with leveling nuts to maintain anchor bolts position during concrete placement.

1/4" plate and extra nuts become Contractor's property. Cost included in Drilled Shaft Concrete Foundation.



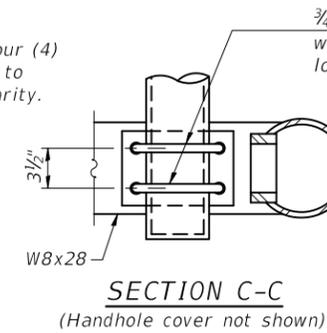
ANCHOR ROD DETAIL

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.

**TYPE III-S STEEL TRUSS
12" Ø PIPE SUPPORT FRAME DETAILS**

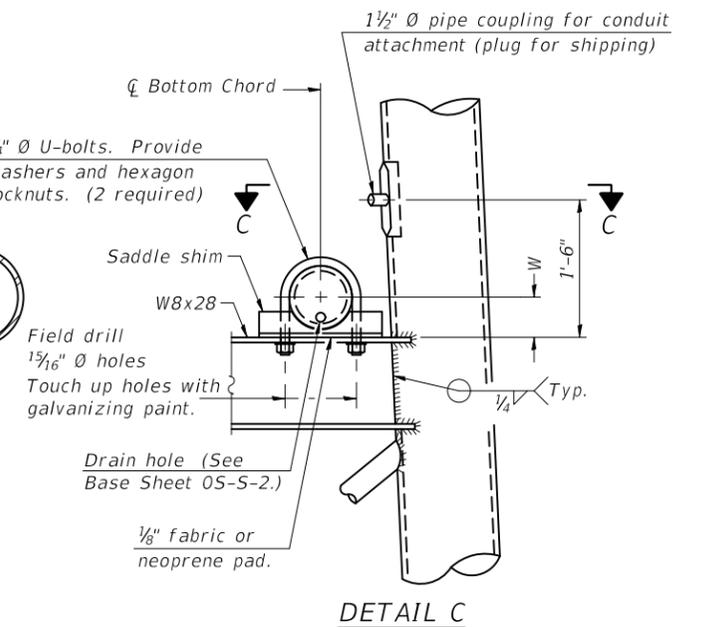
Notes:
For Type III-S Truss spans greater than 150 ft, and up to 160 ft.:

- ① 1 3/4" Ø rod, 2" Ø holes
- ② 2 3/4" edge distance
- ③ Base PL 1 5/8" x 1'-11 1/2" x 1'-11 1/2"

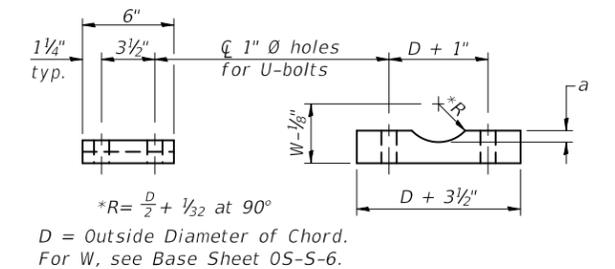


SECTION C-C

(Handhole cover not shown)



DETAIL C



SADDLE SHIM DETAIL

Truss Chord Nominal Dia.	a
7"	1"
8 1/2"	1 1/4"
9"	1 3/8"

054-S-8aA

2-17-2017

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DRAWN -	REVISD -
CHECKED -	REVISD -

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OVERHEAD SIGN STRUCTURES - SUPPORT FRAME
FOR TYPE III-S STEEL TRUSS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				