

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

VARIOUS ROUTES  
SECTION D-7 OVD SIN STR REPL 14-42

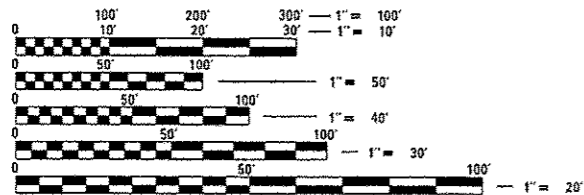
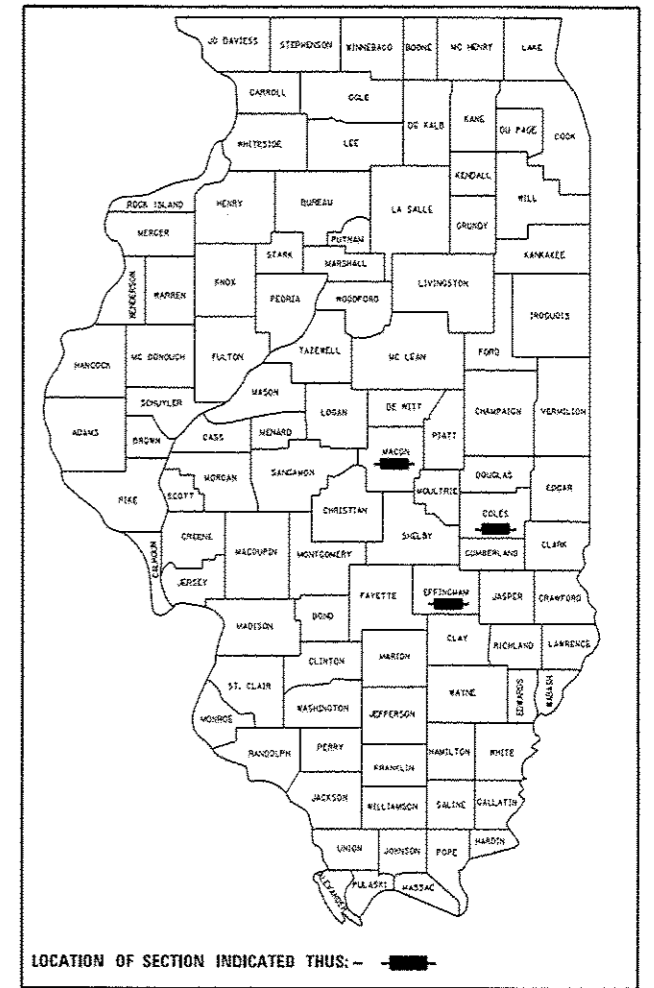
**SIGN STRUCTURE REPLACEMENTS/REPAIRS  
EFFINGHAM, MACON & COLES COUNTIES**

C-60-044-14

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			33	1
ILLINOIS CONTRACT NO. 46306				

\* D7 OVC SIN STR REPL 14-42  
\*\* EFFINGHAM, MACON, COLES

FOR INDEX OF SHEETS, SEE SHEET NO. 5



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER: MATT WEIDNER  
PROJECT MANAGER:

CONTRACT NO. 46306

EFFINGHAM COUNTY LOCATION MAP  
F.A.I. 70 ON SHEET NO. 2

MACON COUNTY LOCATION MAP  
VARIOUS ROUTES ON SHEET NO. 3

COLES COUNTY LOCATION MAP  
F.A.I. 57 ON SHEET NO. 4

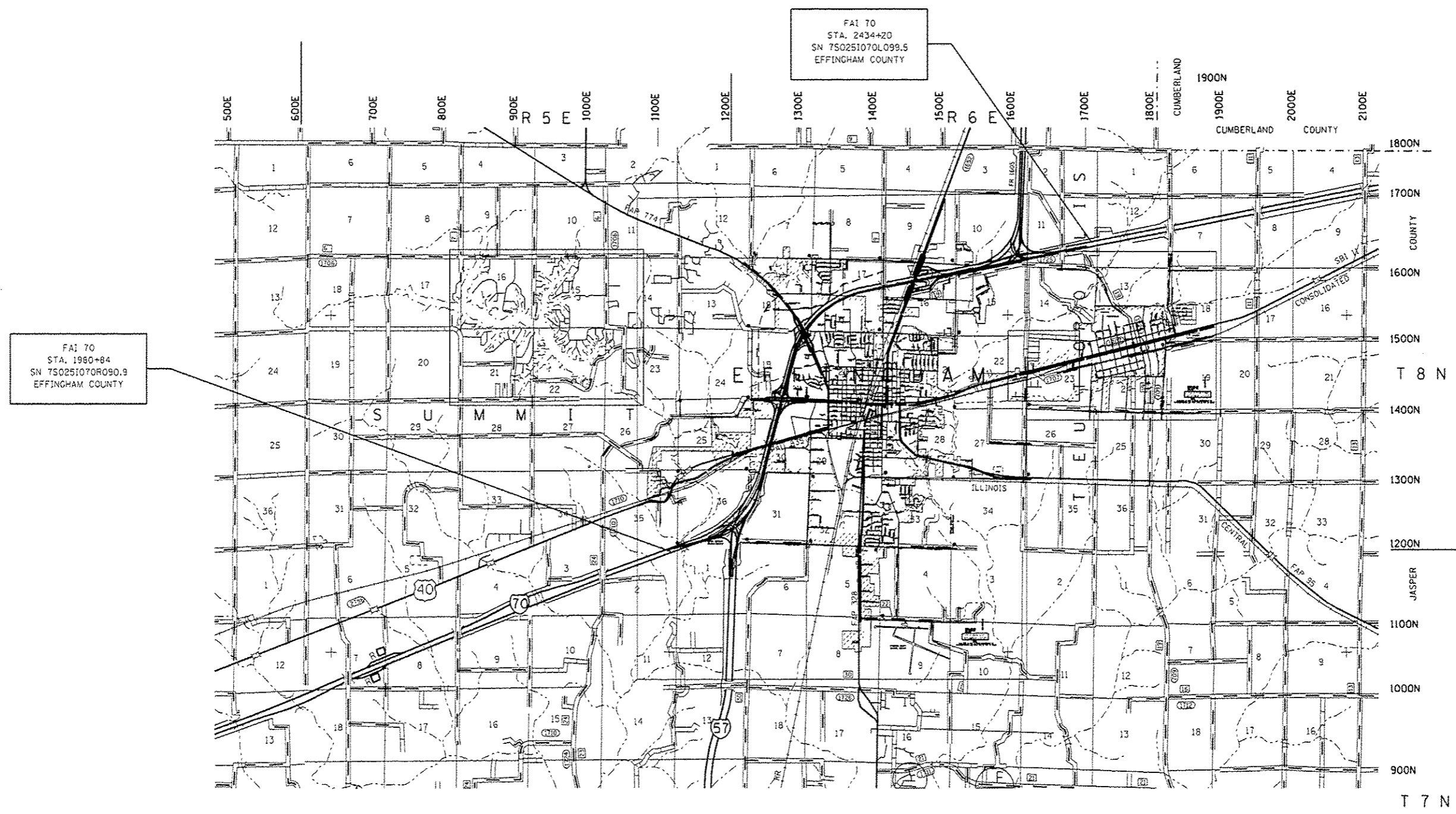
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED 2/7 20 14  
*Justin Mann*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 21 20 14  
*John D. Baranzelli, PE*  
ENGINEER OF DESIGN AND ENVIRONMENT

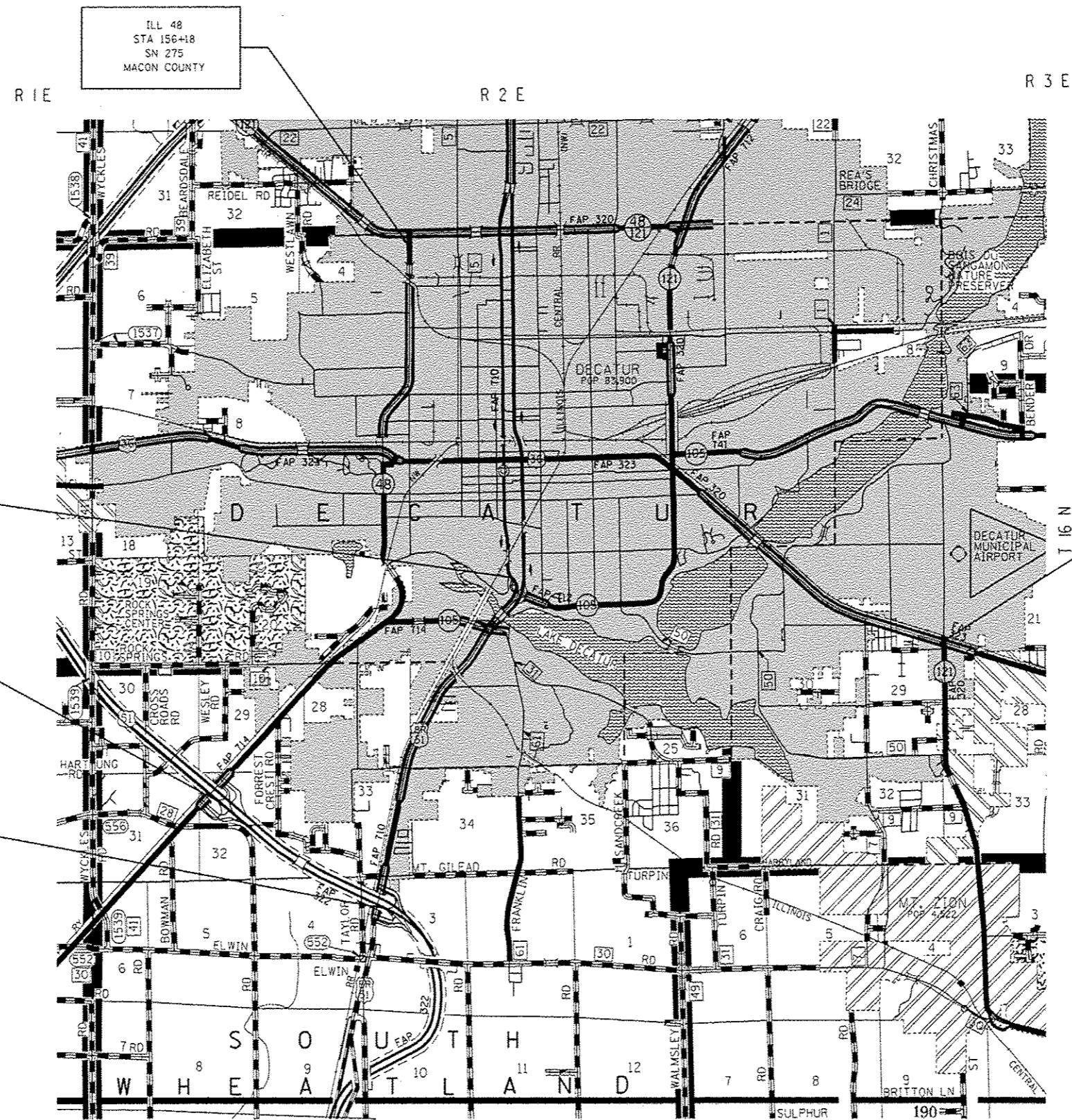
March 21 20 14  
*Omer Asman, PE*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**



**LOCATION F.A.I.70 (I-70)**  
**EFFINGHAM COUNTY**

FILE NAME :	USER NAME : staffennk	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>PROJECT LOCATION MAP</b> <b>EFFINGHAM COUNTY</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 10/29/2013	DATE -	REVISED -							
						* D7 OVC SIN STR REPL 14-42		CONTRACT NO. 46306		
						ILLINOISIFIED AID PROJECT				
						**EFFINGHAM, MACON, COLES				



BUS 51  
STA 116+61  
SN 269  
MACON COUNTY

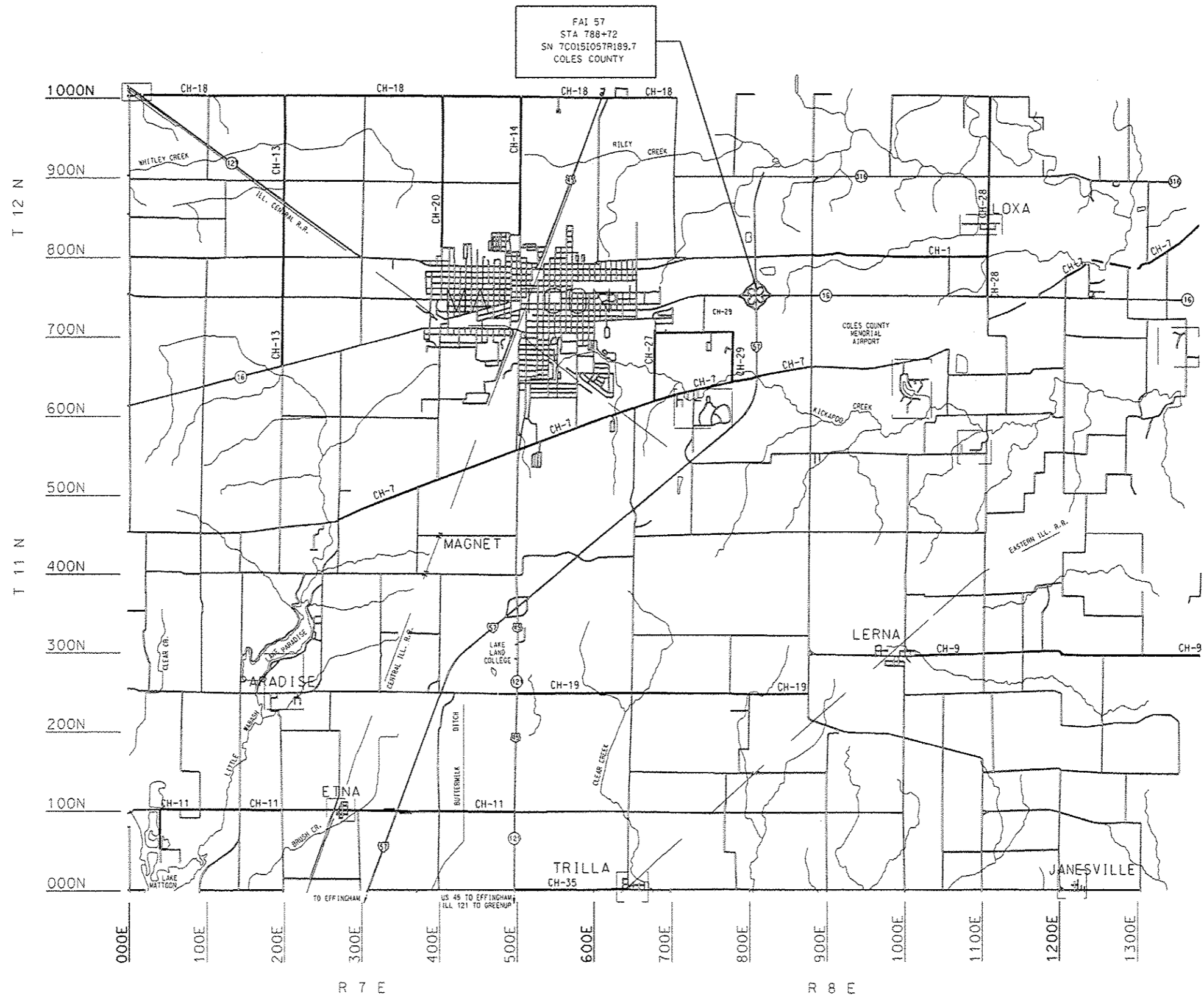
US 51  
SN 7C058U051L117.4  
MACON COUNTY

US 51  
SN 7C058U051L118.9  
MACON COUNTY

US 36  
STA 277+20  
SN 236  
MACON COUNTY

**VARIOUS ROUTES  
MACON COUNTY**

FILE NAME = c:\pwwork\pvidot\staff\annk\08350433\0	USER NAME = staff\annk 46386-ant-100.dgn	DESIGNED - DRAWN -	REVISED - REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PROJECT LOCATION MAP MACON COUNTY</b>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT DATE = 10/29/2013	DATE -	REVISED -					* 07 OVC SIN STR REPL 14-42		CONTRACT NO. 46306			



**LOCATION F.A.I.57 (I-57)**  
**COLES COUNTY**

FILE NAME :	USER NAME : wstaffennk	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>PROJECT LOCATION MAP</b> <b>COLES COUNTY</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 10/29/2010	DATE -	REVISED -							
						• D7 OVC SIN STR REPL 14-42		CONTRACT NO. 46306		
						ILLINOISIFIED AID PROJECT				
						**EFFINGHAM, MACON, COLES				

INDEX OF SHEETS:

NO.	DESCRIPTION
1	COVER SHEET
2-4	LOCATION MAPS
5	INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES
6	SUMMARY OF QUANTITIES
7	SCHEDULE
8-30	SIGN STRUCTURE DETAILS
31-33	SOIL BORING LOG SHEETS

HIGHWAY STANDARDS:

720021-02	SIGN PANELS EXTRUDED ALUMINUM TYPE
701101-04	OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701400-07	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-08	LANE CLOSURE, FREEWAY/EXPRESSWAY
701411-08	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS >= 45 MPH
701451-02	RAMP CLOSURE FREEWAY/EXPRESSWAY
701456-03	PARTIAL EXIT RAMP CLOSURE FREEWAY/EXPRESSWAY
701701-09	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-03	TRAFFIC CONTROL DEVICES

NOTES:

STRUCTURE 275: REMOVAL OF OVERHEAD SIGN STRUCTURE- MONOTUBE, SPAN:  
THIS WORK SHALL INCLUDE DELIVERY OF EXISTING SIGNS TO THE DECATUR  
YARD UPON THE REMOVAL OF THE SIGNS. THIS WORK WILL BE PAID FOR AT THE  
CONTRACT UNIT PRICE FOR REMOVAL OF OVERHEAD SIGN STRUCTURE-MONOTUBE-SPAN,  
NECESSARY TO COMPLETE THE WORK.

STRUCTURE 236: CAPPING OF UNUSED CONDUIT CONNECTION POINTS:  
THE CONTRACTOR SHALL REMOVE ANY MATERIAL LOCATED INSIDE THE CHORD OR END  
SUPPORT PRIOR TO INSTALLING THE NEW CAP.

STRUCTURE 269 & 236: OVERHEAD SIGN SUPPORT GROUT REPAIR:  
SHALL INCLUDE UNCOVERING THE BASE PLATES.

RODENT SHIELD/METAL FOUNDATION SCREENS AT ALL LOCATIONS WHERE REQUIRED:  
SHALL NOT BE INSTALLED AT REQUIRED LOCATIONS UNTIL FOUNDATION REPAIR AND/OR  
OVERHEAD SIGN TRUSS PAINTING IS COMPLETED.

FILE NAME =	USER NAME = staffannk	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES, INDEX OF SHEETS, HIGHWAY STANDARDS &amp; COMMENTS</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 2/6/2014	DATE -	REVISED -			SCALE:	SHEET OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT **EFFINGHAM, MACON, COLES	

SUMMARY OF QUANTITIES				100% STATE 0040		
				CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	EFFINGHAM	MACON	COLES
67100100	MOBILIZATION	L SUM	1	0.3	0.4	0.3
73300300	OVERHEAD SIGN STRUCTURE - SPAN, TYPE III-A (5' -0" X 7' -0")	FOOT	176	176		
73301810	OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	46	46		
73301840	OVERHEAD SIGN STRUCTURE WALKWAY, CANTILEVER, TYPE A	FOOT	20			20
73302210	OVERHEAD SIGN STRUCTURE - CANTILEVER, TYPE III-C-A (36" X 7' -0")	FOOT	30			30
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	50.3	42.8		7.5
73600100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	2	2		
73601100	REMOVE OVERHEAD SIGN STRUCTURE, MONOTUBE - SPAN	EACH	1		1	
73700300	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	7	4	2	1
82109105	SIGN LIGHTING (HIGH PRESSURE SODIUM)	EACH	3	2		1
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	0.3	0.4	0.3
X7200075	REMOVE AND REINSTALL SIGN PANEL	SO FT	810	346	464	

SUMMARY OF QUANTITIES				100% STATE 0040		
				CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	EFFINGHAM	MACON	COLES
X7200085	REPLACE AND TIGHTEN SIGN MOUNTING CLIPS PER EACH SIGN	EACH	4		4	
X7230203	INSTALL SIGN PANEL - TYPE 3	SO FT	133			133
X7330066	REPAIR HANDRAIL LOCKING PIN CONNECTION	EACH	2		2	
X7330068	TIGHTEN CANTILEVER CONNECTION	EACH	2		2	
X7330070	OVERHEAD SIGN SUPPORT GROUT REPAIR	EACH	5		5	
X7330080	REPLACE WALKWAY SUPPORT BRACKET BOLT	EACH	5		5	
X7330090	METAL SCREEN	EACH	5		5	
X7330091	CONDUIT CONNECTION CAP	EACH	4		4	
X7330100	PAINT OVERHEAD SIGN SUPPORT	EACH	2		2	
X7330112	SAFETY CHAIN	EACH	4		4	
X7350010	SIGN SUPPORT BRACKET	EACH	8		8	
X8040510	RELOCATE ELECTRIC SERVICE	EACH	3	2		1
X8140234	REPLACE HANDHOLE COVER	EACH	2		2	
Z0010483	CLEANING AND PAINTING SIGN STRUCTURE NO. 4	L SUM	1		1	





**GENERAL NOTES**

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

**DESIGN STRESSES:**

Field Units  
 $f_c = 3,500$  p.s.i.  
 $f_y = 60,000$  p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specifications.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53. All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W\*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.

The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2) of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to ASTM F1554 Gr. 105.

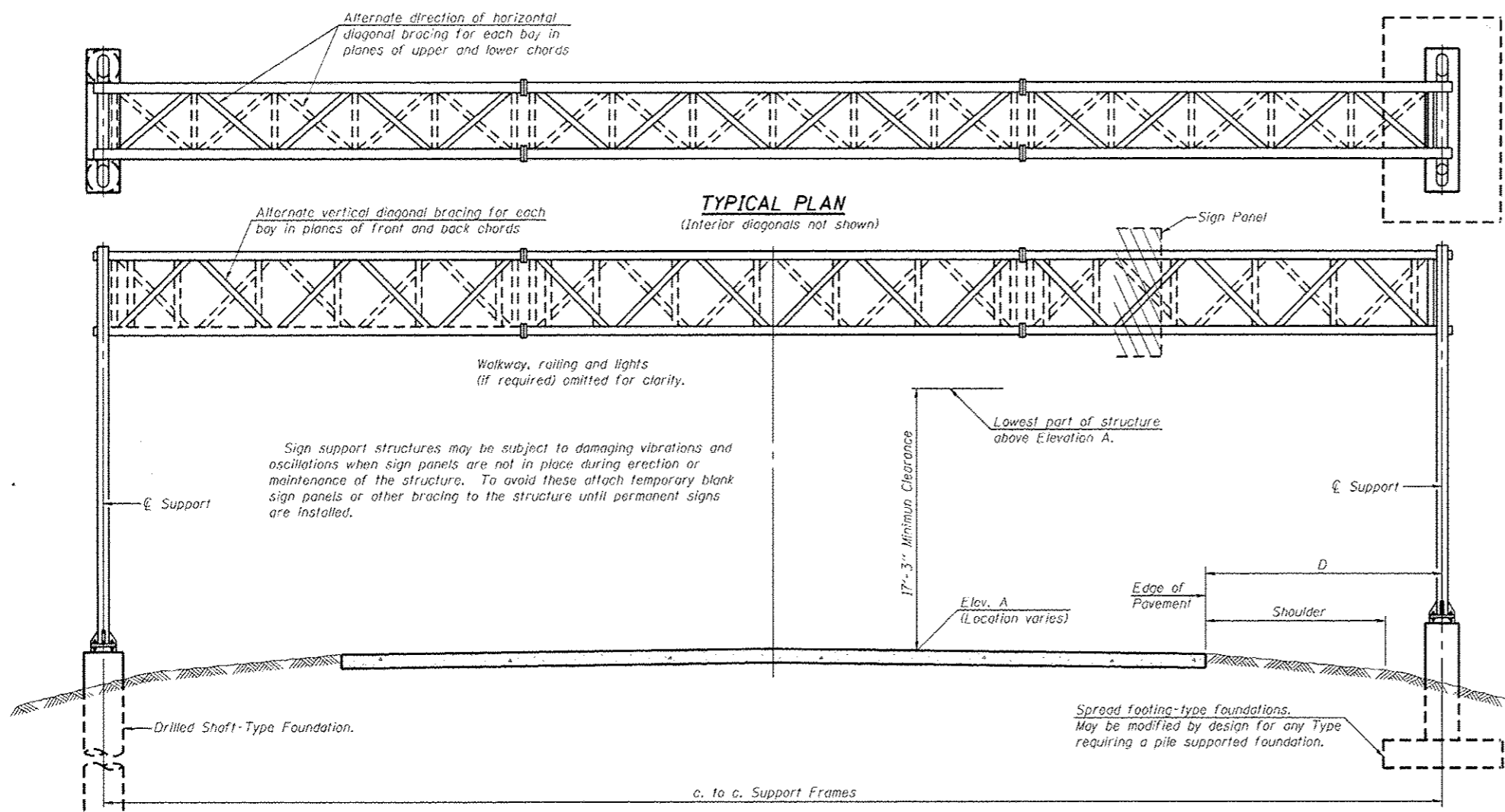
CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Bridge Seal Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

FOUNDATIONS: The contract unit price for Concrete Foundations and Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE SPAN TYPE I-A	Foot	-
OVERHEAD SIGN STRUCTURE SPAN TYPE II-A	Foot	-
OVERHEAD SIGN STRUCTURE SPAN TYPE III-A	Foot	176
OVERHEAD SIGN STRUCTURE WALKWAY TYPE A	Foot	46
CONCRETE FOUNDATIONS	Cu. Yds.	-
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	12.8



**TYPICAL PLAN**

(Interior diagonals not shown)

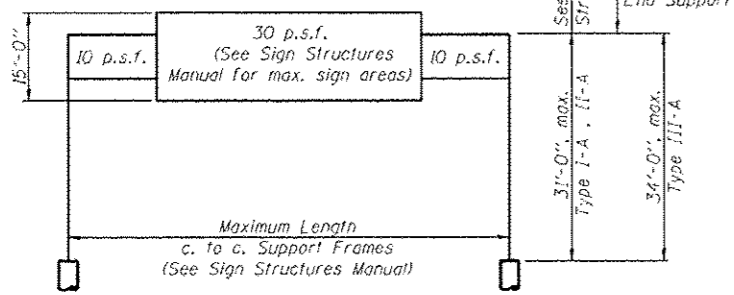
**TYPICAL ELEVATION**

(Looking at Face of Signs)\*\*

Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
7S0251070R090.9	1890+84	III-A	88'-0"	550.47	22'-0"RT 28'-0"LT	13'-0"	173
7S0251070L099.5	2434+20	III-A	88'-0"	594.48	22'-0"RT 28'-0"LT	13'-0"	173

\*\*Looking upstation for structures with signs both sides.

• If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.



**DESIGN WIND LOADING DIAGRAM**

Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

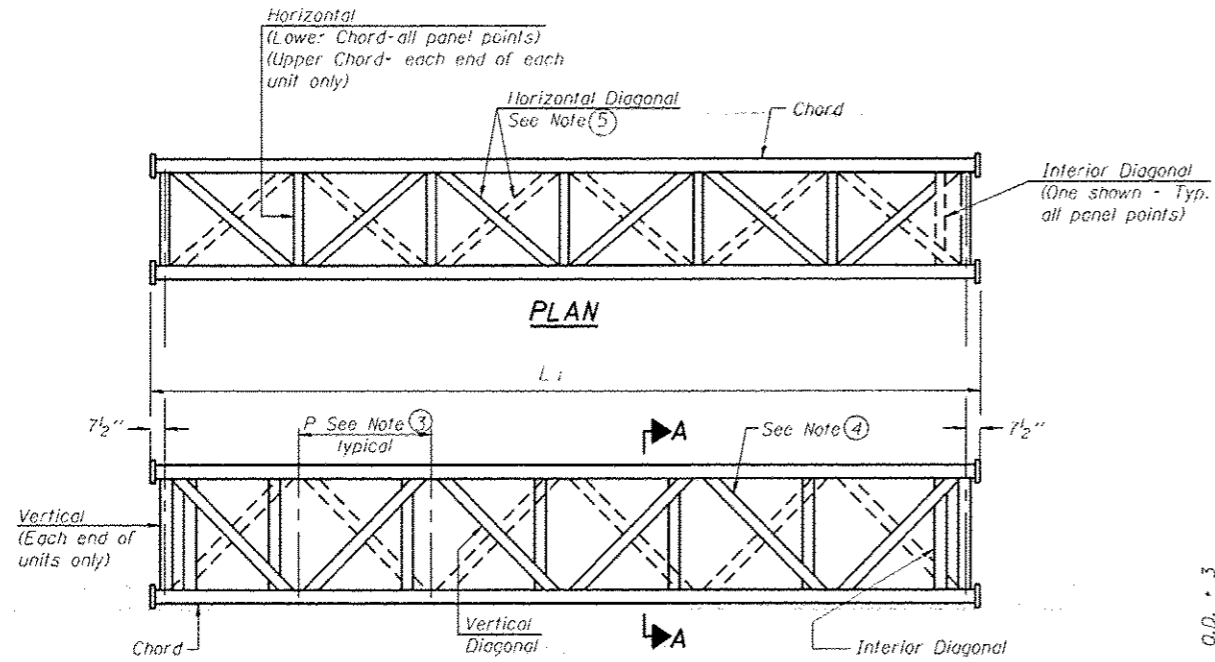
OS-A-1

6-1-12

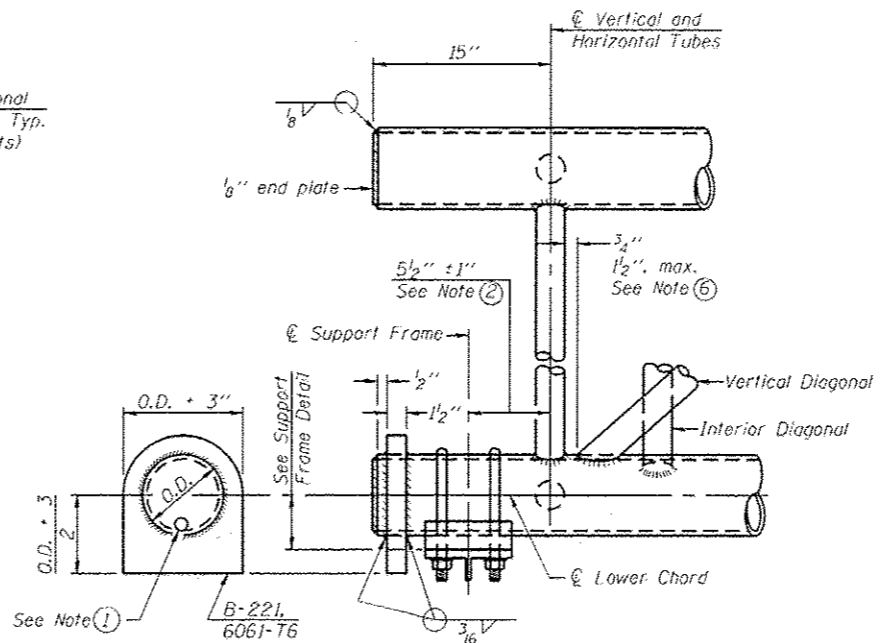
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PLOT SCALE 1/8" = 1'-0"	PLOT DATE 10/29/2013	DRAWN -	REVISOR -	SCALE:	SHEET OF SHEETS	STA.	TO STA.	CONTRACT NO. 46306		
ILLINOIS FED. AID PROJECT										

•EFFINGHAM, MACON, COLES

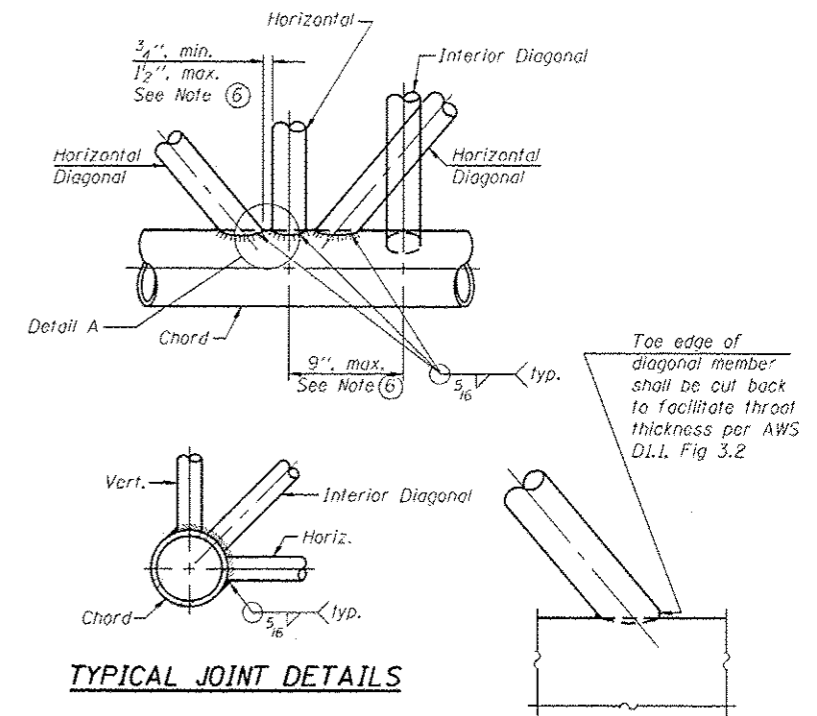




**ELEVATION  
TYPICAL INTERIOR UNIT**  
Even number of panels/interior unit required.



**SUPPORT END DETAIL FOR EXTERIOR UNIT**



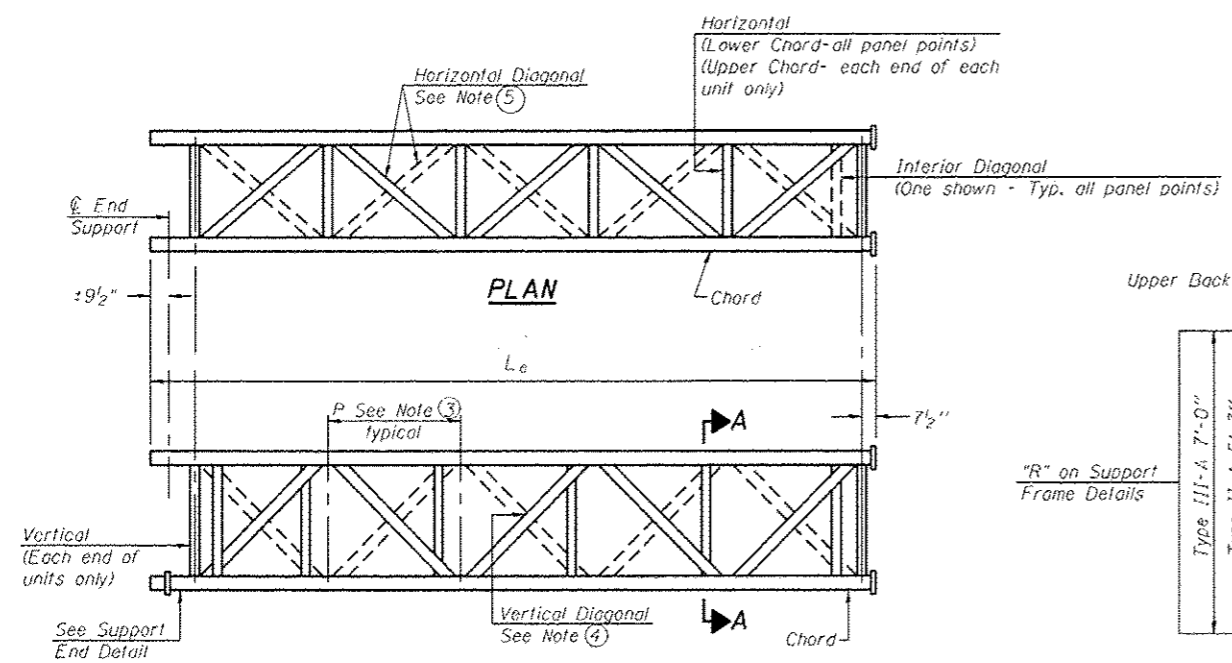
**TYPICAL JOINT DETAILS**

**DETAIL A**

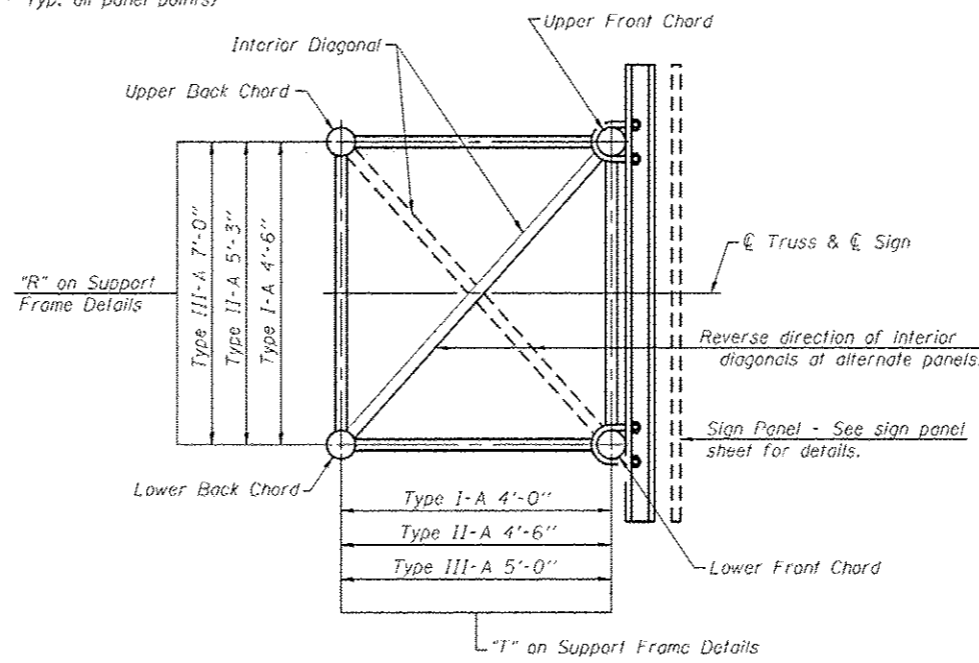
Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" diameter drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)

- ① 5 1/2" end dimension may vary by +/- 1" to provide uniform panel spacing (P).
- ② Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-A or 4'-0" and 5'-6" for Types II-A and III-A.
- ③ Vertical Diagonals in front and back face shall alternate.
- ④ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.

All diagonals shall be detailed for minimum offset from the panel point based on the following. Offset shall be such as to provide a 3/4" minimum to 1/2" maximum clearance between any diagonal and any horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.



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



**SECTION A-A**

OS-A-2

6-1-12

FILE NAME	USER NAME	DESIGNED	REVISED
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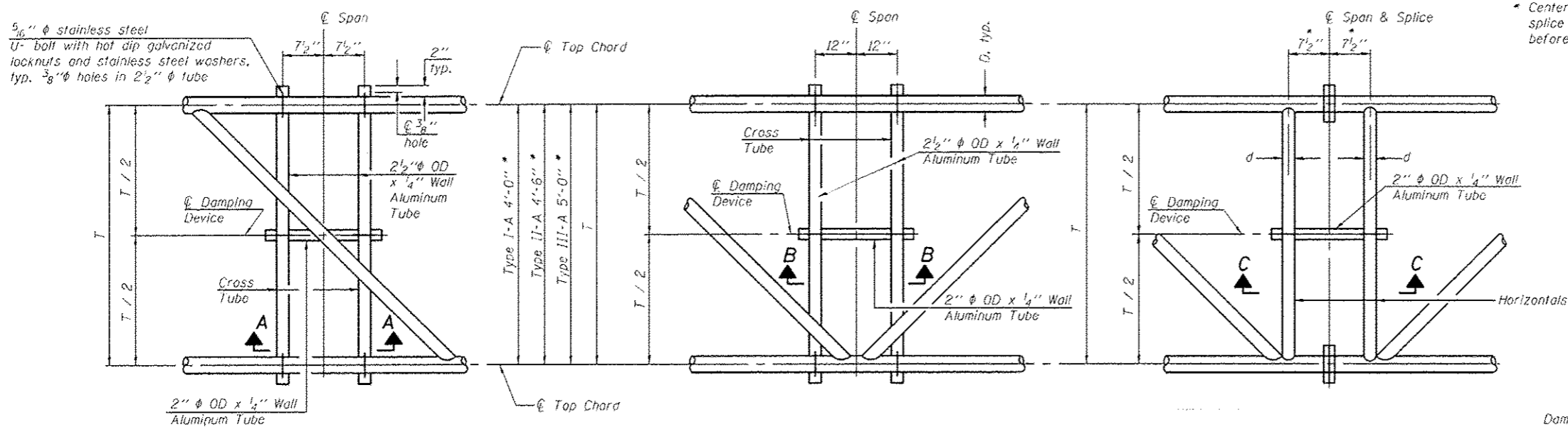
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS  
DETAILS FOR TRUSS TYPES I-A, II-A AND III-A**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEET	SHEET NO.
VAR	*	**	47	9
* DT OVC SIN STR REPL 14-42			CONTRACT NO. 46306	
ILLINOIS FED. AID PROJECT				
**EFFINGHAM, MACON, COLES				

SCALE: SHEET OF SHEETS STA. TO STA.



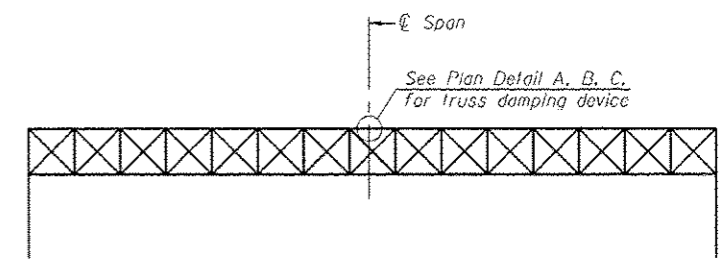
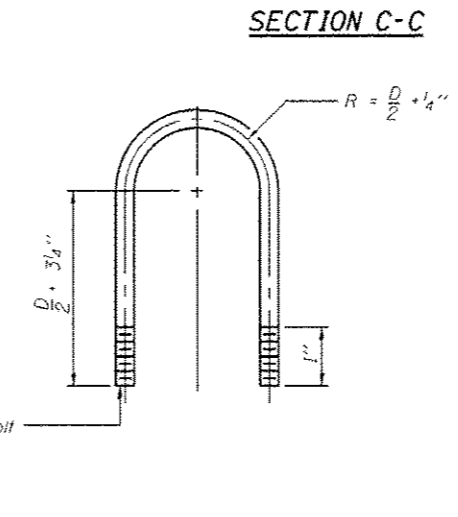
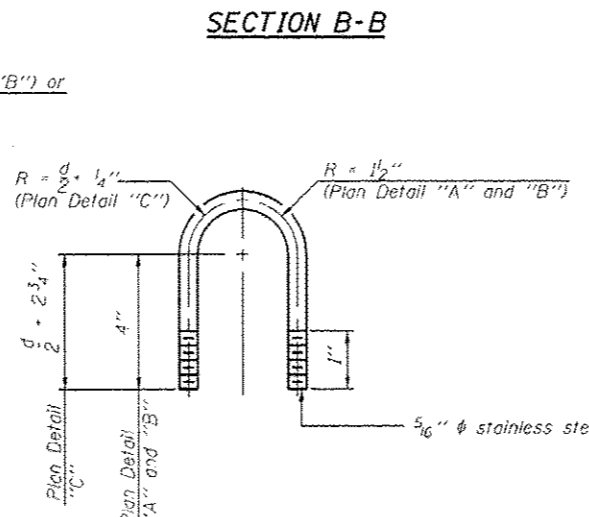
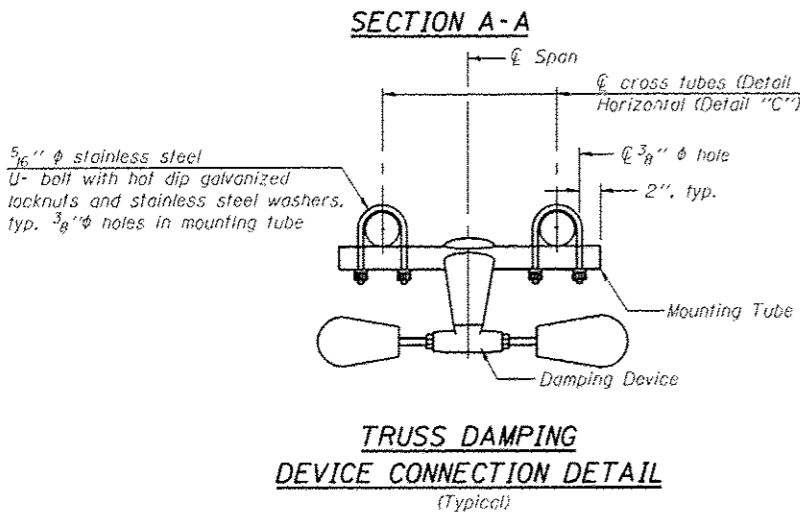
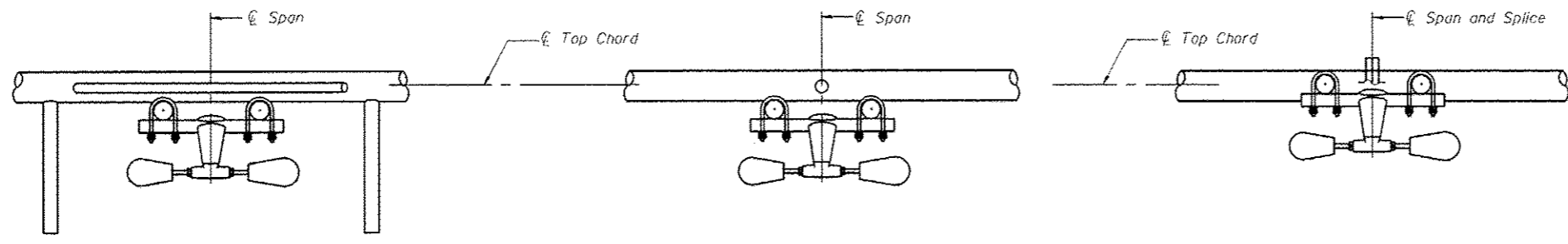


\* Center of horizontal to center of splice dimension may vary. Verify before drilling holes in mounting tube.

**NOTES**

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

Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure...

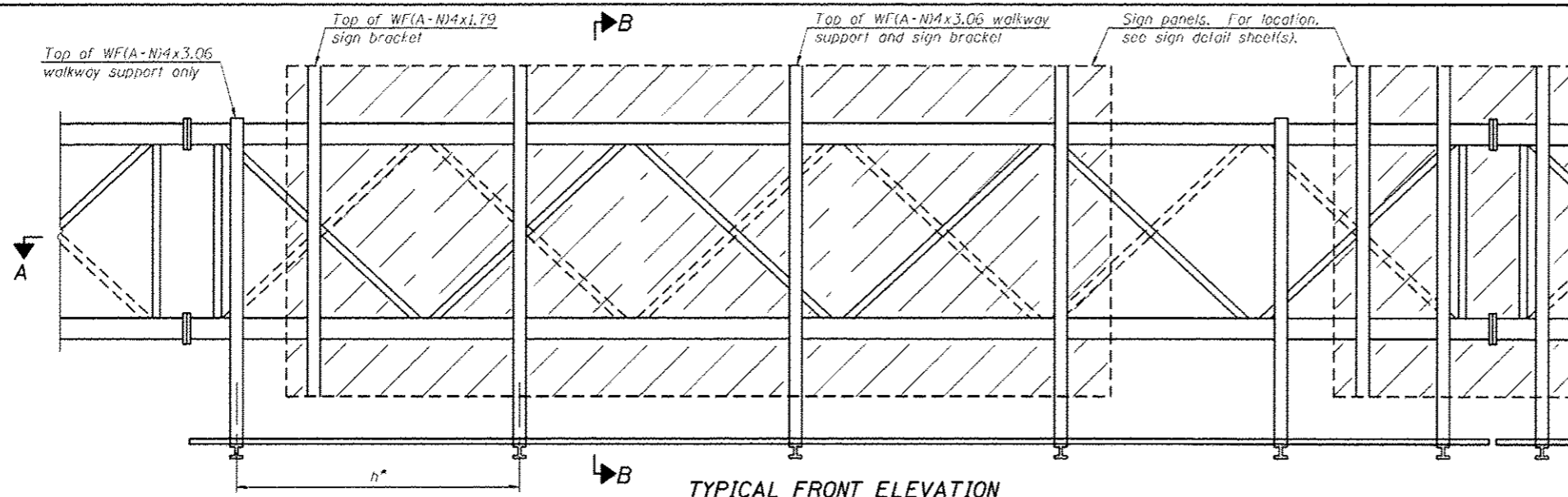


OS-A-D

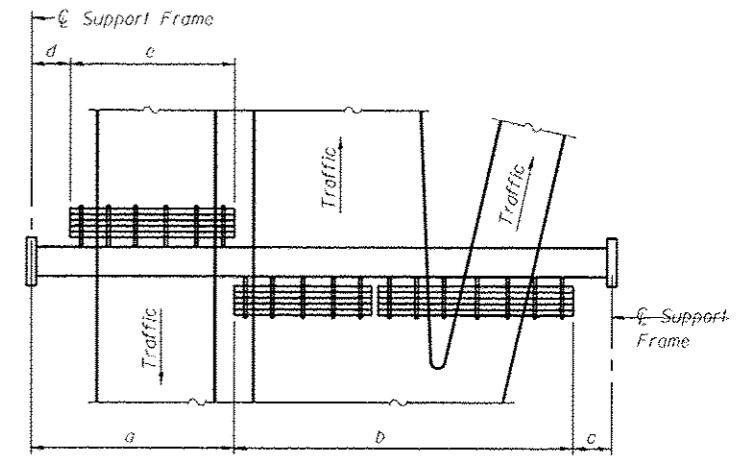
6-1-12

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	EG306-shs-detail.dgn	DRAWN -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		47	11
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	PLD DATE = 10/29/2013	DATE -	REVISED -										

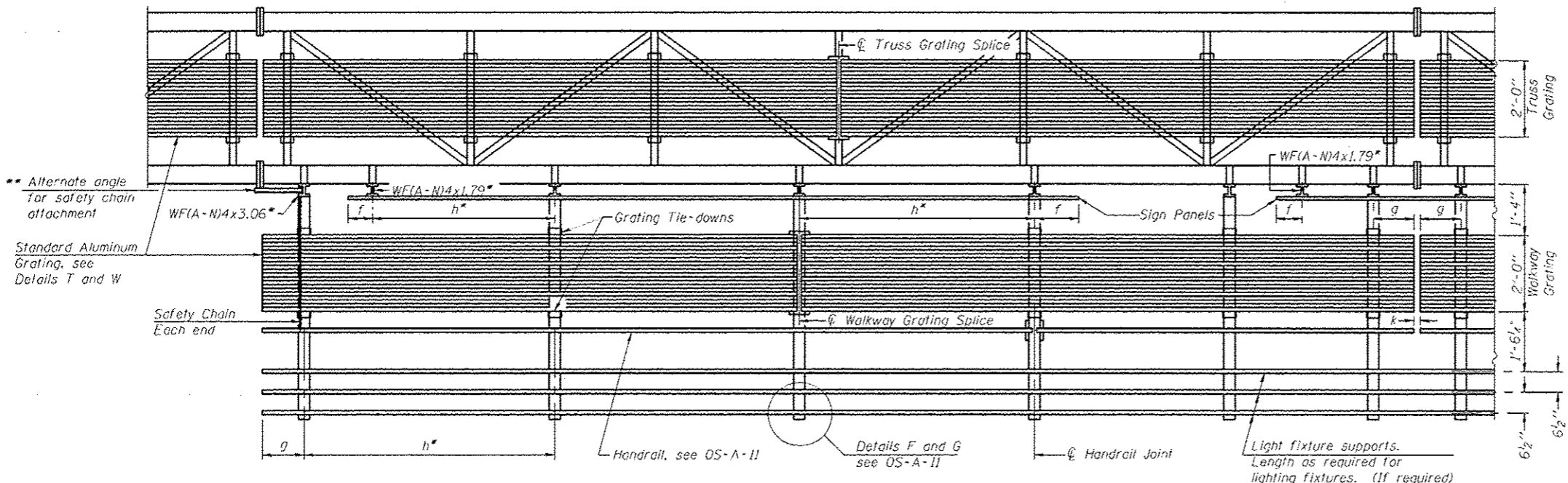
ILLINOIS FED. AID PROJECT  
CONTRACT NO. 46306  
EFFINGHAM, MACON, COLES



**TYPICAL FRONT ELEVATION**  
 With lights and handrail omitted for clarity.  
 For Section B-B, see Base Sheet OS-A-10.



**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.

**BRACKET TABLE**

Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	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 walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:
  - f = 12" maximum, 4" minimum (End of sign to center of nearest bracket)
  - g = 12" maximum, 4" minimum (End of walkway grating to center of nearest support bracket)
  - h = 6'-0" maximum (center to center of sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)
  - 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 OS-A-11.
  - For Details T and W, Section B-B and Grating Splice Details see Base Sheet OS-A-10.
  - For Handrail Details see Base Sheet OS-A-11.

Structure Number	Station	a	b	c	d	e	Walkway Grating and Handrail Lengths
7S0251070R090.9	1980+84	38.0'	23.0'	27.0'	N/A	N/A	23.0'
7S0251070L099.5	2434+20	37.0'	23.0'	28.0'	N/A	N/A	23.0'

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".

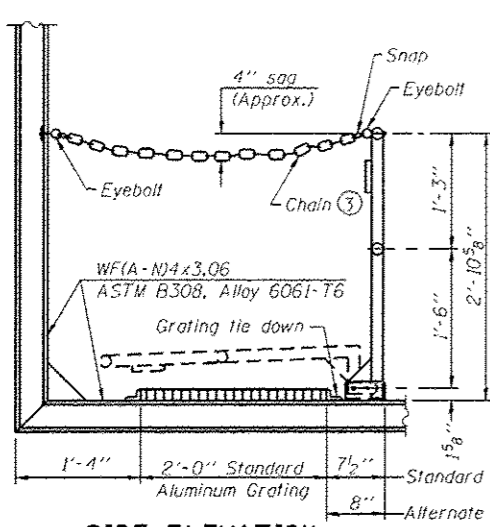
Walkway and Truss Grating width dimensions are nominal and may vary ±1/2" based on available standard widths.

OS-A-9

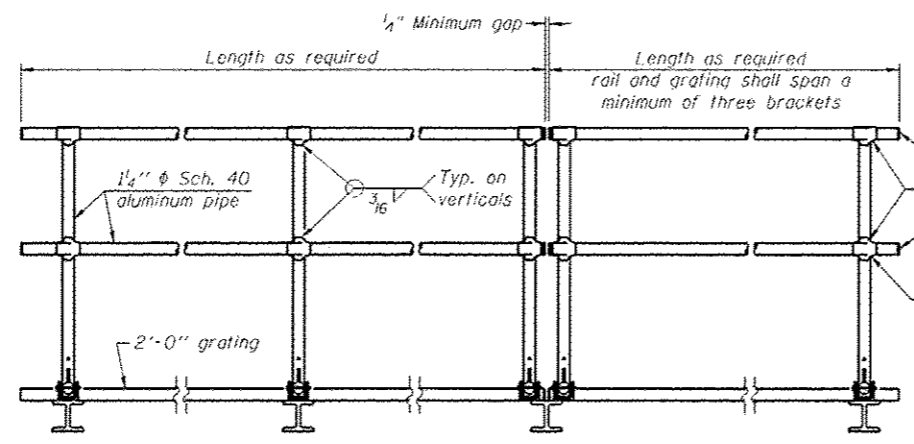
6-1-12







**SIDE ELEVATION**  
(Showing safety chain w/o sign)



**FRONT ELEVATION**

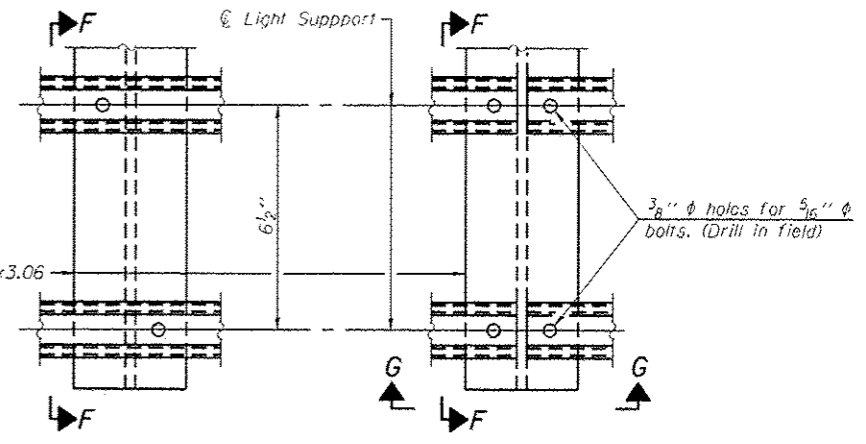
**HANDRAIL DETAILS**

Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

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)

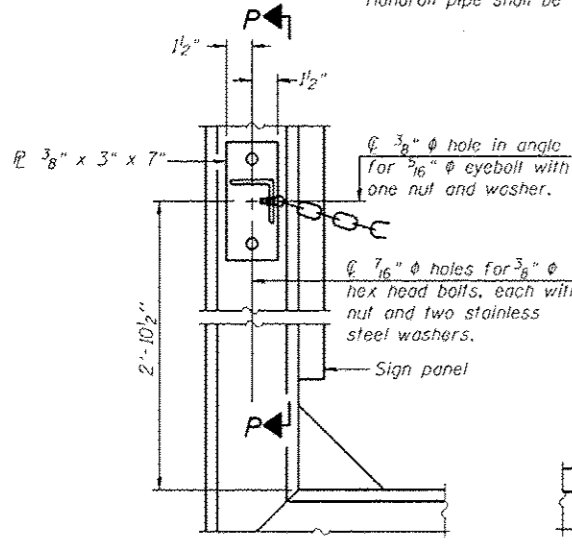
② Horizontal handrail member shall be continuous thru fitting. Provide 7/16" hole in fitting for 3/8" bolt. Field drill 1/16" hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 5/16" eyebolts in 7/16" holes on top rail at ends only.)

Fittings-ASTM B26, Alloy 356-T7 or 1/2" aluminum pipe



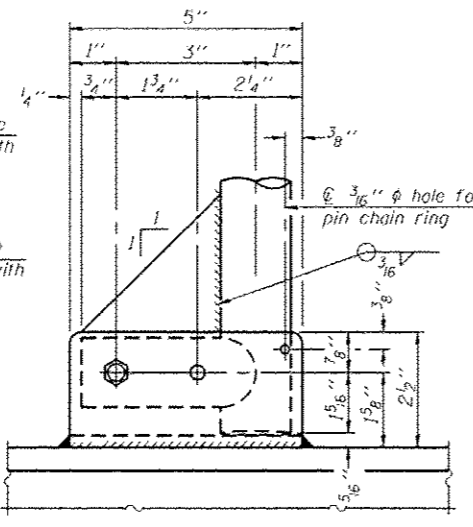
**DETAIL F**

**DETAIL G**

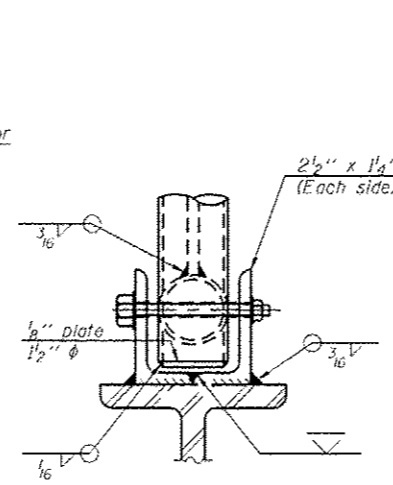


**ALTERNATE SAFETY CHAIN ATTACHMENT**  
(With Sign Present)

Hems not shown same as "Side Elevation" of "Handrail Details"

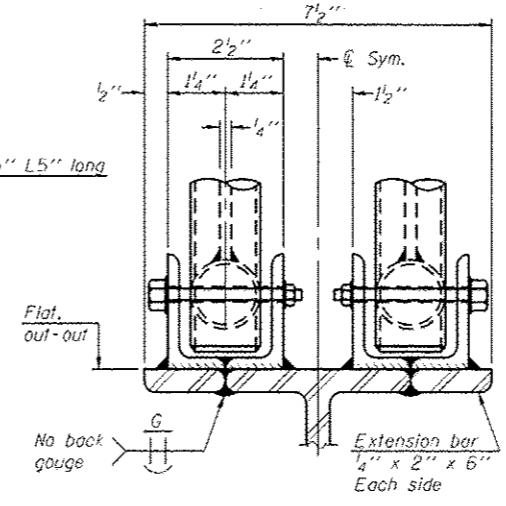


**SIDE ELEVATION**

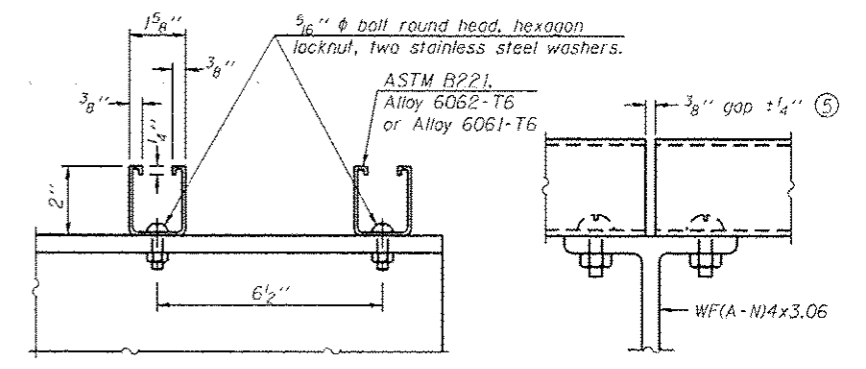


**FRONT ELEVATION**

See "Elevation" at right for dimensions.



**ELEVATION AT HANDRAIL JOINT** ④

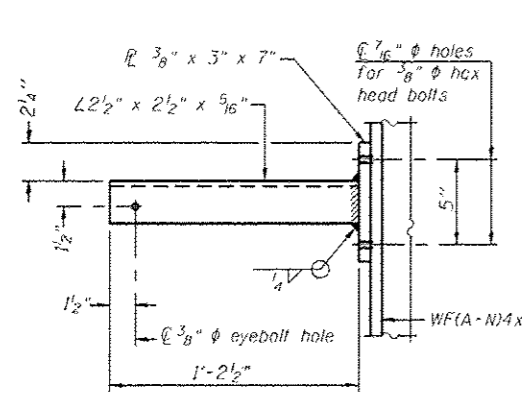


**SECTION F-F**

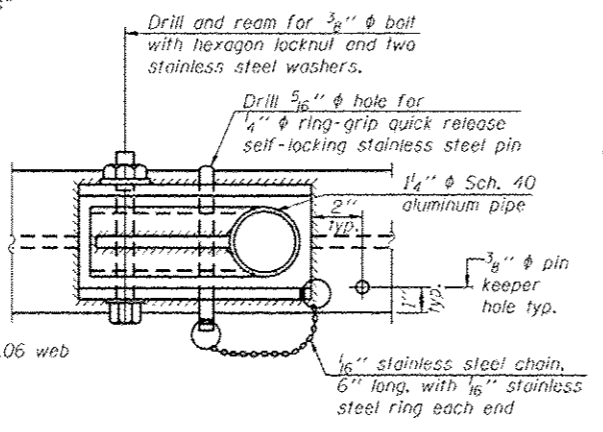
**SECTION G-G**

**LIGHTING FIXTURE MOUNTS (IF REQUIRED)**

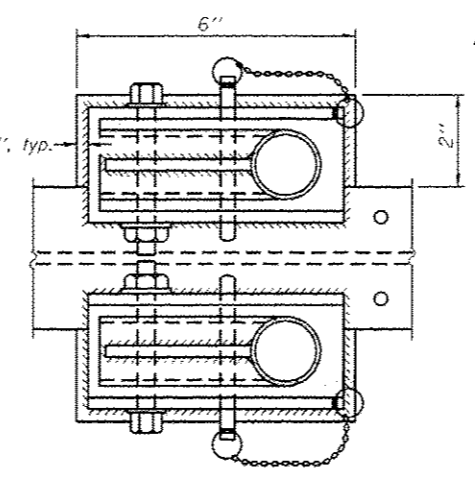
⑤ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.



**SECTION P-P**

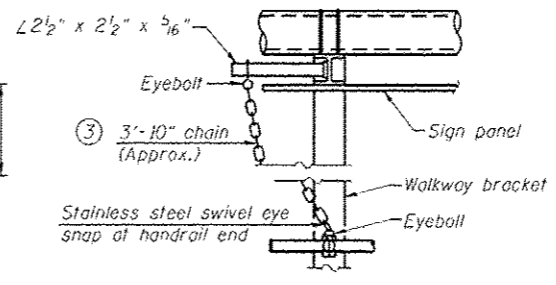


**PLAN DETAIL E HANDRAIL HINGE**



**PLAN AT HANDRAIL JOINT**

Details not shown same as "PLAN"

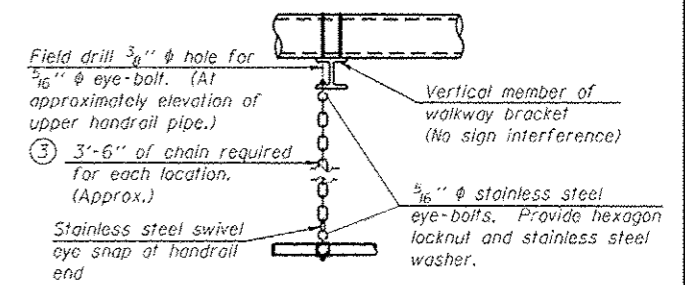


**ALTERNATE SAFETY CHAIN ATTACHMENT**

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

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

④ Extrusions may be used in lieu of the details shown, with approval of the Engineer.



**SAFETY CHAIN**

One required for each end of each walkway.

OS-A-11

6-1-12

FILE NAME -	USER NAME - steffennk	DESIGNED -	REVISED -
cr:\p\work\p\dot\steffennk\d0358935\071630c-sh1-deta1a.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 1/8"=1'-0"	CHECKED -	REVISED -
	PLOT DATE = 10/29/2013	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

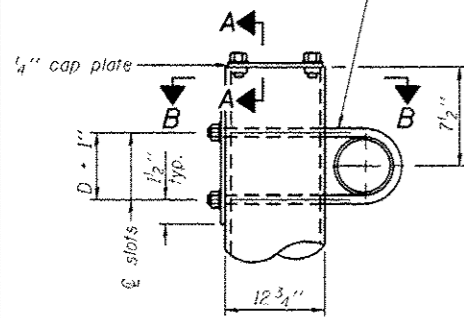
OVERHEAD SIGN STRUCTURES  
ALUMINUM HANDRAIL DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

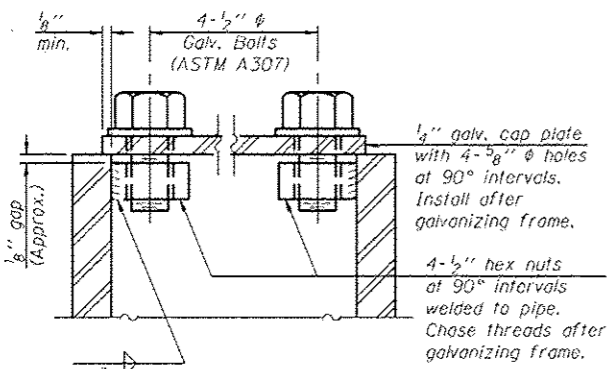
F.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
VAR5		**	47 14
DT OVC SIN STR REPL 14-42		CONTRACT NO. 46306	
ILLINOIS FED. AID PROJECT			
**EFF (NGHAM, MACON, COLES			



3/4"  $\phi$  stainless steel U-bolt.  
Provide two washers and two hexagon locknuts. (4)  
13/16" x 2" slots on 1/2"  $\phi$  pipe.  
(4 slots required per pipe)

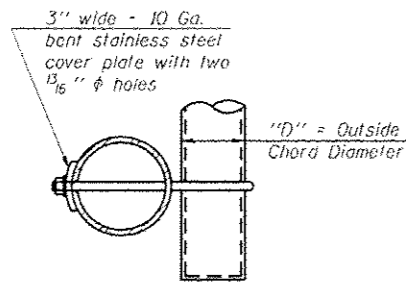


**DETAIL A**

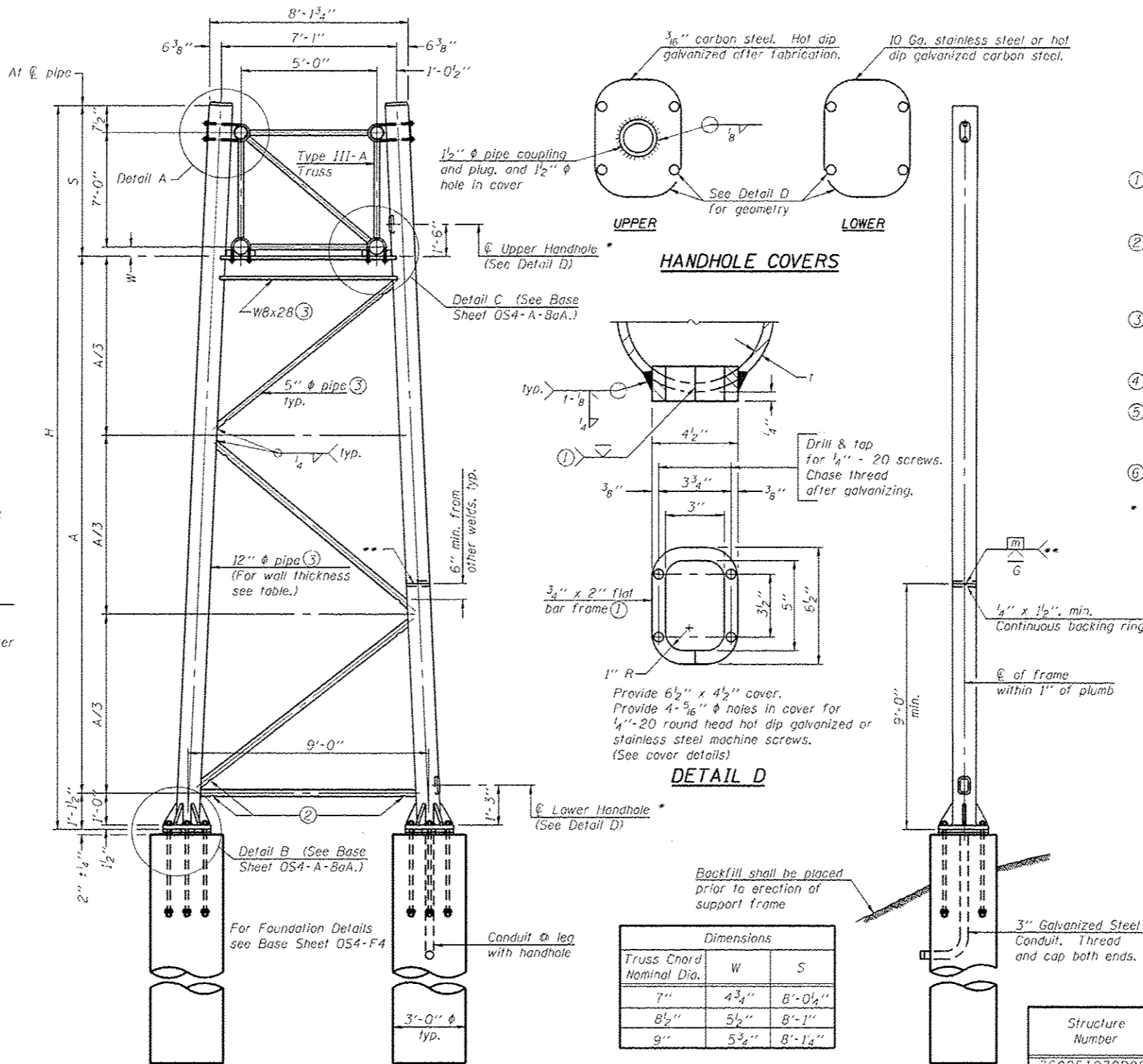


**SECTION A-A**

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



**SECTION B-B**



Dimensions		
Truss Chord Nominal Dia.	W	S
7"	4 3/4"	8'-0 1/4"
8 1/2"	5 1/2"	8'-1"
9"	5 3/4"	8'-1 1/4"

Support Design Loads: See Base Sheet OS-A-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 500  $\mu$ m 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-A-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.

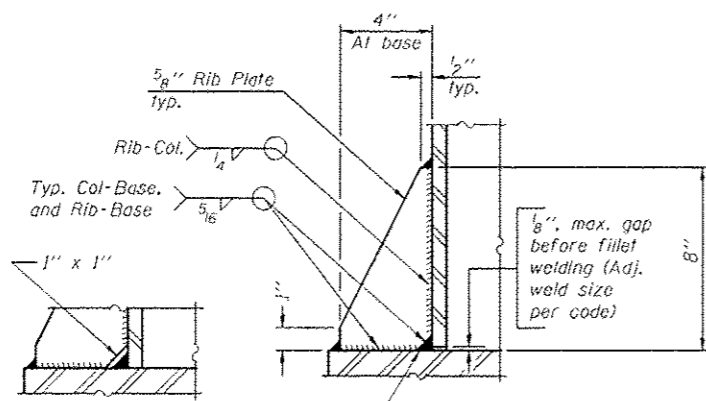
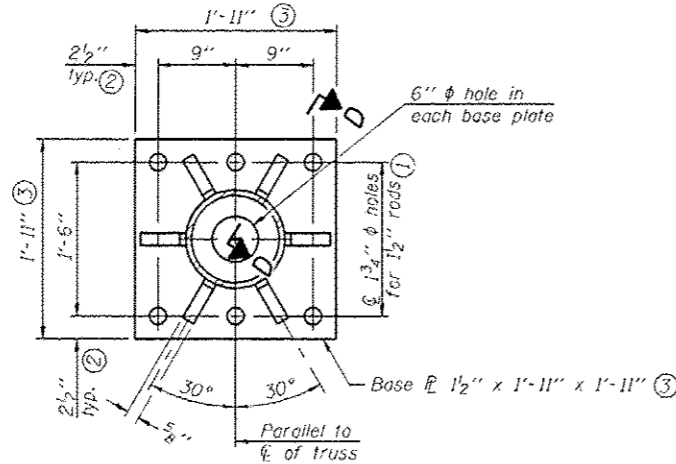
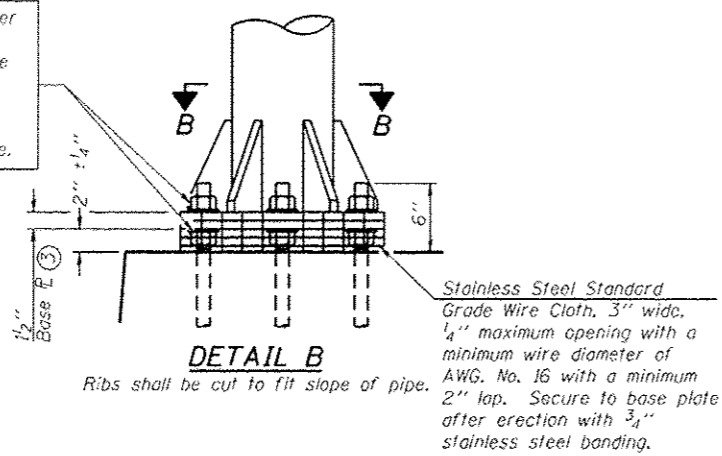
**TRUSS SUPPORT DETAILS**

(12"  $\phi$  Pipe-Type III-A 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.

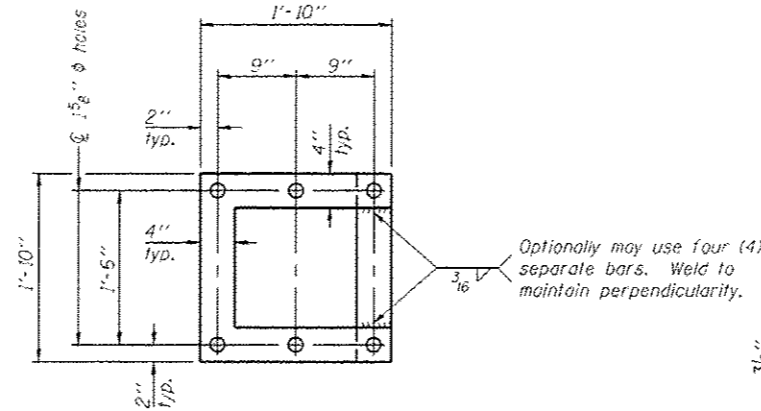
Structure Number	Station	Support		Pipe Wall Thickness	H (6)	A
		Left	Right			
7S0251070R090.9	1980+84	X	X	0.33	30'-7"	22'-4 1/4"
7S0251070L099.5	2434+20	X	X	0.33	30'-9"	22'-4 1/4"

OS4-A-8a 6-1-12

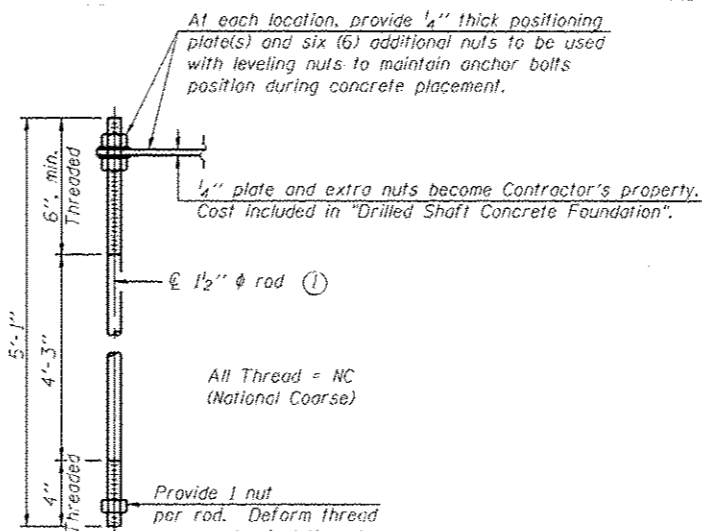
Hexagon locknut and washer (top), leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. minimum torque.



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



**POSITIONING PLATE(S)**



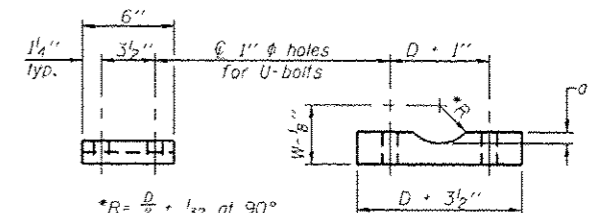
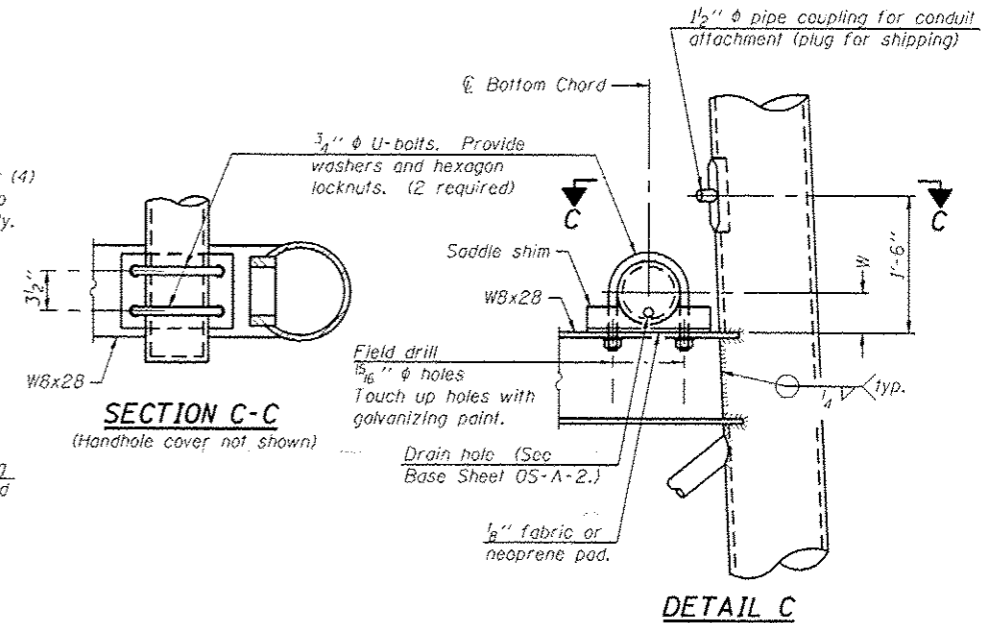
**ANCHOR ROD DETAIL**

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-A TRUSS  
12"  $\phi$  PIPE SUPPORT FRAME DETAILS**

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

- ① 1 3/4"  $\phi$  rod, 2"  $\phi$  holes
- ② 2 3/4" edge distance
- ③ Base  $\square$  1 5/8" x 1-11 1/2" x 1-11 1/2"



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

**SADDLE SHIM DETAIL**

ASTM B26 Alloy 356-F  
or  
ASTM B209 Alloy 6061-T651  
(4 required per sign truss)

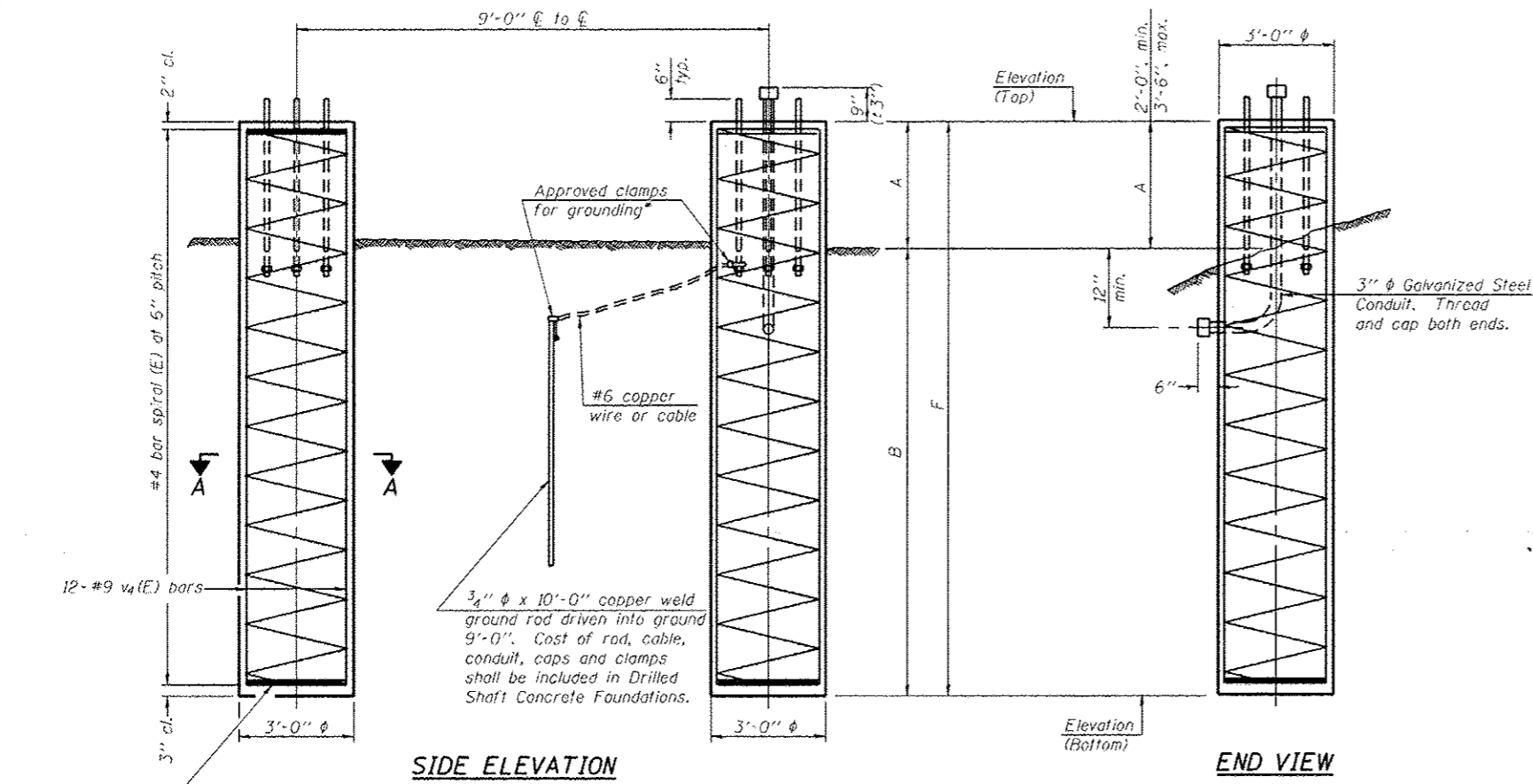
OS4-A-8aA

6-1-12

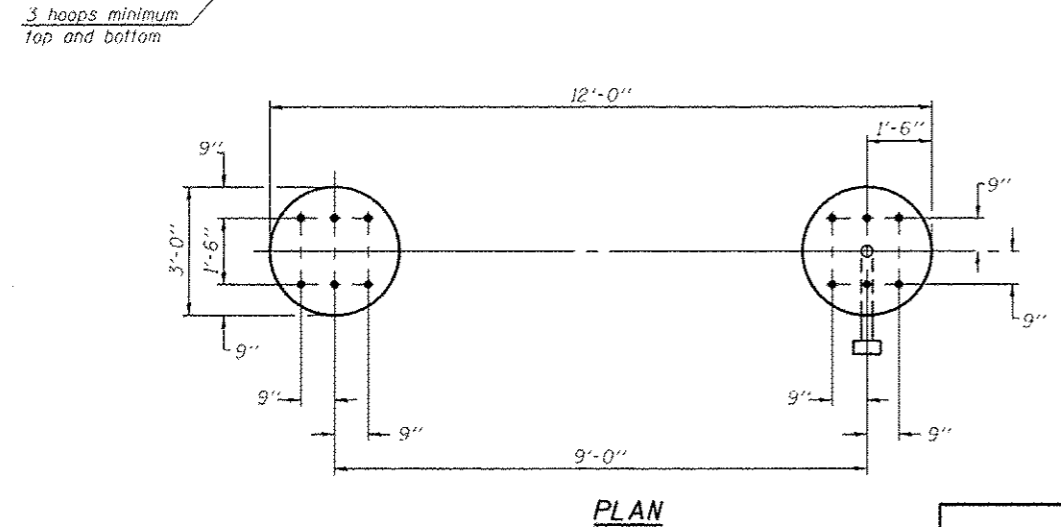
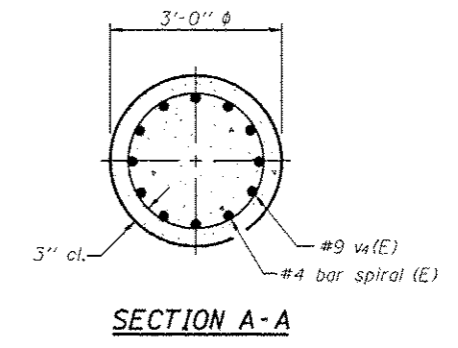
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or:\pwork\pwork\staveffenn\ad358933\012306-shs-deta1.dgn	staveffenn	-	-	SUPPORT FRAME FOR TYPE III-A ALUMINUM TRUSS							47	16
Default	PLOT SCALE = 1/8"=1'-0"	CHECKED	REVISED	SCALE: SHEET OF SHEETS STA. TO STA.				* D7 OVC SIN STR REPL 14-42		CONTRACT NO. 46306		
	PLOT DATE = 10/29/2013	DATE	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				ILLINOIS FED. AID PROJECT		**EFFINGHAM, MACON, COLES		

**BAR LIST - EACH FOUNDATION**

Bar	Number	Size	Length	Shape
v4(F)	24	#9	F less 5"	—
#4 bar spiral (E) - see Side Elevation				



**NOTES:**  
 The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.  
 If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.  
 No sonotubes or decomposable forms shall be used below the lower conduit entrance.  
 Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.  
 Concrete shall be placed monolithically, without construction joints.  
 Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.  
 A normal surface finish followed by a Bridge Seat Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.



For anchor rod size and placement, see Support Frame Detail Sheet.

\* Anchor rod shall be ground or filed to bright metal at clamp and cable connection location.

**DETAILS FOR 12" Ø SUPPORT FRAME  
TYPE III-A TRUSS**

Structure Number	Station	Left Foundation			Right Foundation			Class DS Concrete (Cu. Yds.)				
		Elevation Top	Elevation Bottom	A	B	F	Elevation Top		Elevation Bottom	A	B	F
7S0251070R090.9	1980+84	550.40	518.73	2'-0"	18'-0"	20'-0"	550.40	518.73	2'-9 1/2"	18'-0"	20'-9 1/2"	21.3
7S0251070L099.5	2434+20	594.21	573.14	3'-3/4"	18'-0"	21'-3/4"	594.21	574.21	2'-0"	18'-0"	20'-0"	21.5

OS4-F4

6-1-12

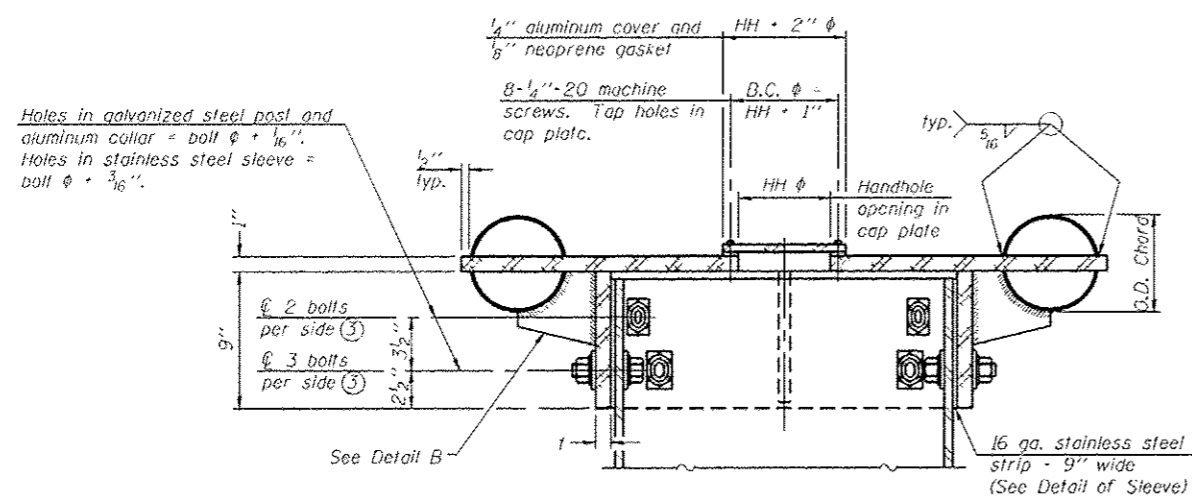
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	PLOT DATE > 10/29/2013	DATE >	REVISED >

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES  
DRILLED SHAFT DETAILS

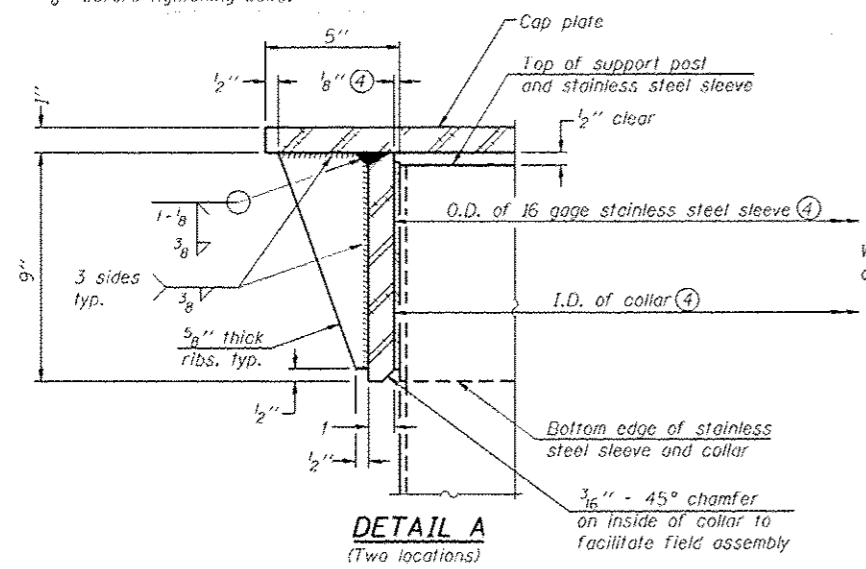
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* D7 OVC SIN STR REPL 14-42			CONTRACT NO. 46306	
ILLINOIS FED. AID PROJECT				

\*\*EFFINGHAM, MACON, COLES

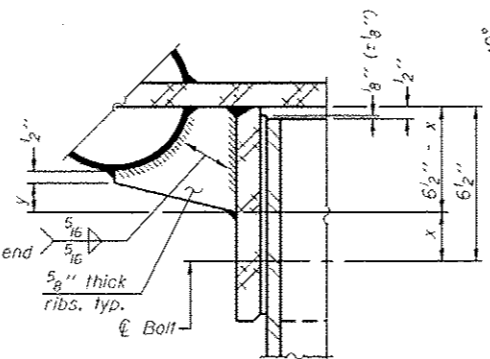


④ Collar I.D. shall be manufactured to correspond to O.D. of actual galvanized post and stainless steel sleeve plus  $\frac{1}{8}$ " ( $\pm \frac{1}{16}$ "). Maximum gap between post and collar at any location equals  $\frac{1}{8}$ " before tightening bolts.

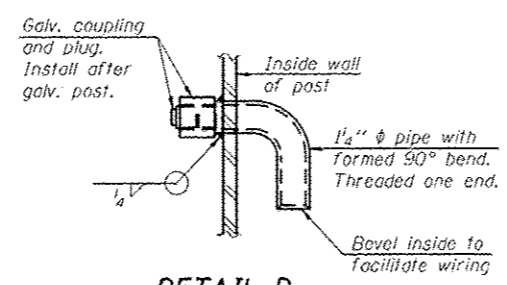
**SECTION B-B**  
Bolts, washers (including contoured washers), and locknuts shall be stainless steel.



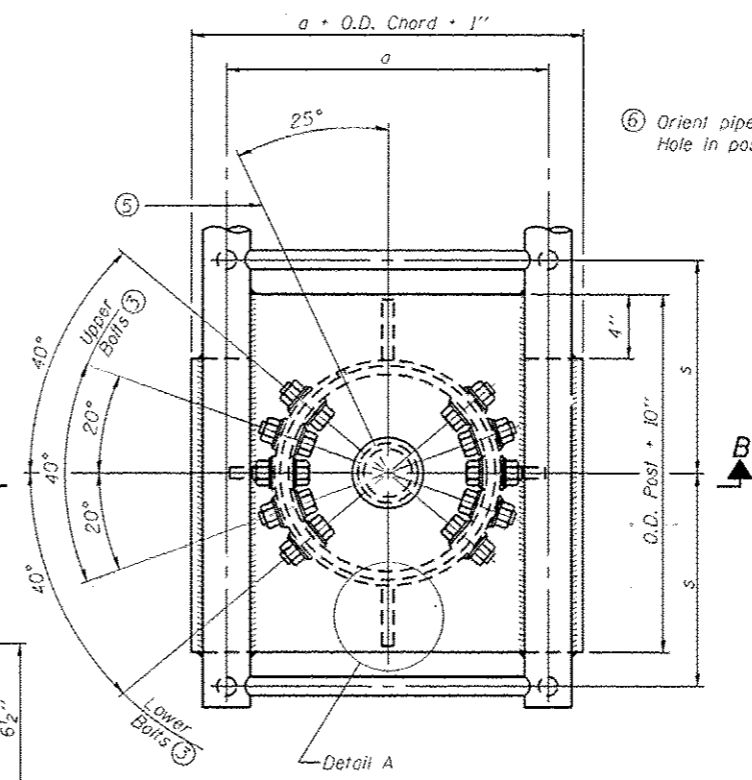
**DETAIL A**  
(Two locations)



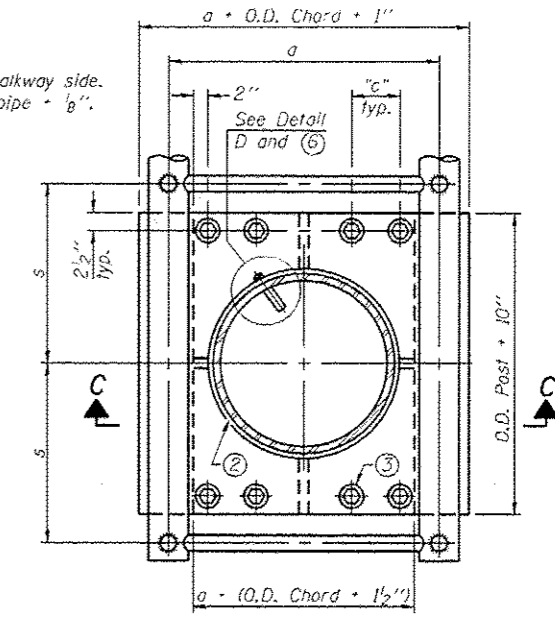
**DETAIL B**  
Two locations  
(For details not shown, see Detail C)



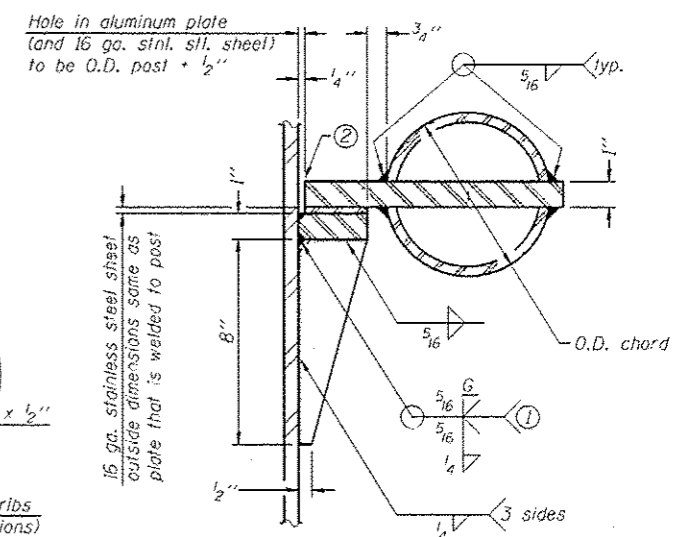
**DETAIL D**



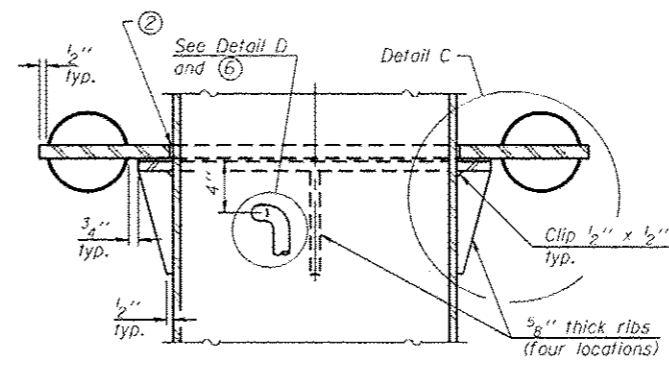
**PLAN VIEW - TOP OF COLUMN**  
⑤ Optional full penetration weld in collar.  
(Two locations maximum... (180° apart)... X-ray or UT 100%)



**SECTION THRU POST ABOVE LOWER CHORDS**



**DETAIL C**



**SECTION C-C**

**CONTOURED WASHERS**

Bolt Size	Contoured Washers	
	Hole Dia.	B
7/8"	1"	2 1/2"
1"	1 1/8"	3"
1 1/4"	1 3/8"	3 1/4"

**DETAIL OF STAINLESS STEEL SLEEVE**

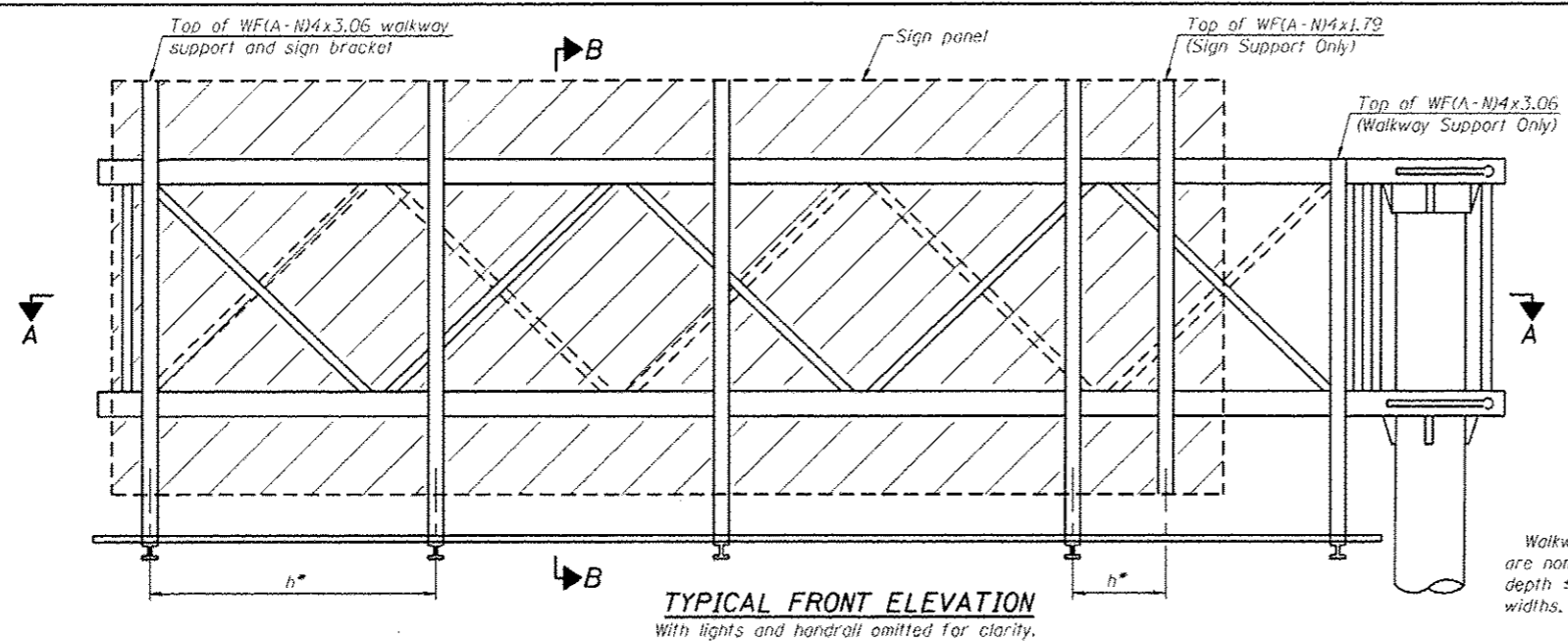
Weld to post after galvanizing.  
(Prepare post surface to insure tight, uniform fit and allow welding.)  
Welds to be 1/2" long at 6" cts. along top edge and at 1/4" opening.

Truss Type	Post Size	Upper & Lower Connection Bolt Diameter ③	Lower Juncture Bolt Spacing Dimension "c" ③	Opening in Cap Plate "HH"	Collar Thickness (t)	Side Ribs	
						x	y
I-C-A	16" $\phi$ (83#/')	7/8"	3 1/4"	8"	5/8"	1 3/4"	2 1/4"
II-C-A	24" $\phi$ (125#/' )	1"	3 1/2"	12"	7/8"	2"	1 1/4"
III-C-A (35' max.)	24" $\phi$ (125#/' )	1 1/4"	3 1/2"	12"	7/8"	2"	1"
III-C-A (>35' to 40')	24" $\phi$ (171#/' )	1 1/4"	3 1/2"	12"	7/8"	2"	1"

- ① Grind top if required to fully seat aluminum plate and stainless steel sheet.
- ② After tightening lower connection bolts, fill gap with non-hardening, silicone caulk suitable for exterior exposure and acceptable to the Engineer. Cost is included in Overhead Sign Structure Cantilever.
- ③ Upper and lower connection bolts in collar and bolts at lower chord connection shall be high strength with matching locknuts. Connection bolts shall have 2 stainless steel flat washers each.

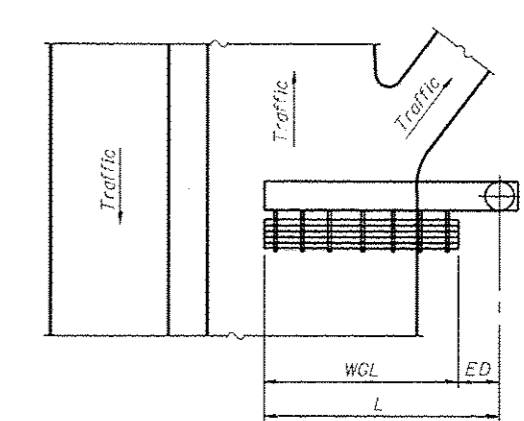
OSC-A-3

6-1-12

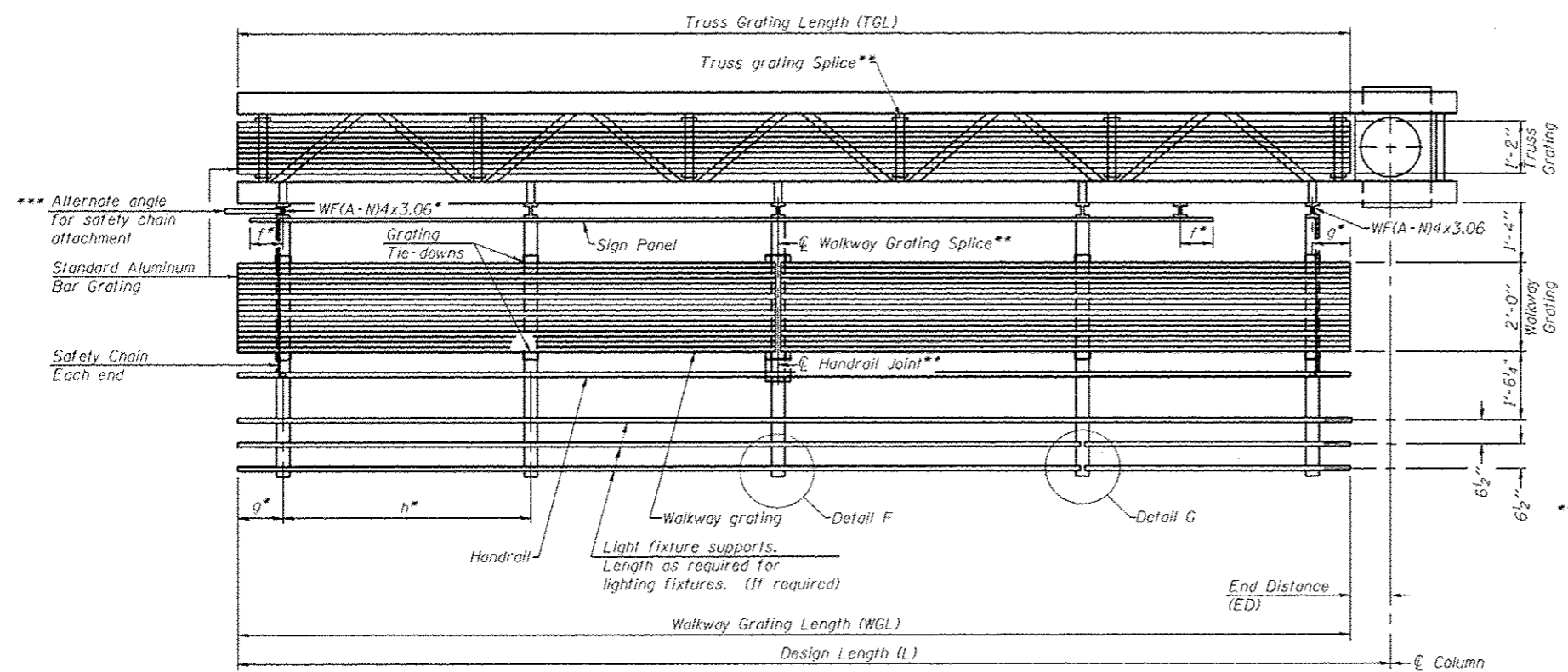


**TYPICAL FRONT ELEVATION**  
With lights and handrail omitted for clarity.

Walkway and truss grating dimensions are nominal and may vary (width ± 1/2", depth ± 1/2") based on available standard widths.



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



**SECTION A-A**

Truss grating to facilitate inspection shall run full length of cantilevers. Cost of truss grating is included in Overhead Sign Structure Cantilever.

Handrail and walkway grating shall span a minimum of three brackets between splices.  
\*\* Use and location of handrail joints or grating splices are optional, based on lengths needed and material availability.

$$TGL = L - \left( \frac{\text{Post O.D.}}{2} + 6'' \right)$$

- Notes:
- \* Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:
  - f = 12" maximum, 4" minimum (End of sign to center of nearest bracket)
  - g = 12" maximum, 4" minimum (End of walkway to center of nearest bracket)
  - h = 5'-0" maximum (center to center sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)
  - \*\*\* If walkway bracket at safety chain location is behind sign, add angle to bracket. See alternate safety chain attachment on base sheet OSC-A-8.
- For details of sign placement, sign/walkway brackets, truss and walkway gratings, grating splices and Section B-B, see Base Sheet OSC-A-7.  
For details of handrail, handrail joint, safety chain and Details F and G, see Base Sheet OSC-A-8.

**BRACKET TABLE**

WF(A-N)4x1.79 or WF(A-N)4x3.06 ASTM B308, Alloy 6061-T6		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

OSC-A-6

6-1-12

FILE NAME: c:\pwork\spidas\steffenmk\d0358933.dwg	USER NAME: steffennk	DESIGNED: -	REVISED: -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CANTILEVER SIGN STRUCTURES - ALUMINUM WALKWAY DETAILS - ALUMINUM TRUSS &amp; STEEL POST</b>				F.A. RATE: VARS	SECTION: *	COUNTY: **	TOTAL SHEETS: 47	SHEET NO.: 19	
PLOT SCALE: 1/8" = 1'-0"	PLOT DATE: 10/29/2013	DRAWN: -	REVISED: -		SCALE: 1/8" = 1'-0"	SHEET: 19	OF: 47	SHEETS: 47	STA. TO STA.	CONTRACT NO. 46306				
Checked: -	Date: -	Checked: -	Date: -		ILLINOIS FED. AID PROJECT									
												**EFFINGHAM, MACON, COLES		
Default														

**GENERAL NOTES**

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

DESIGN STRESSES:

Field Units  
 $f'_c = 3,500$  p.s.i.  
 $f_y = 60,000$  p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specifications.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53.

All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W\*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.

The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2) of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to ASTM F1554 Gr. 105.

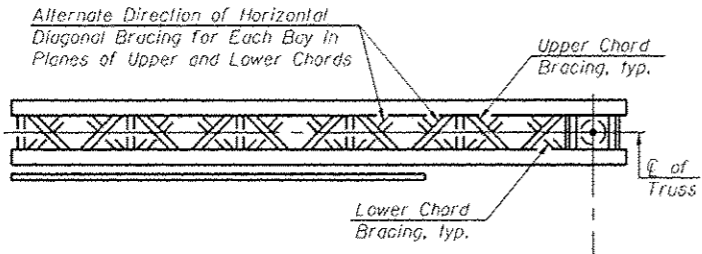
CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Bridge Seal Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

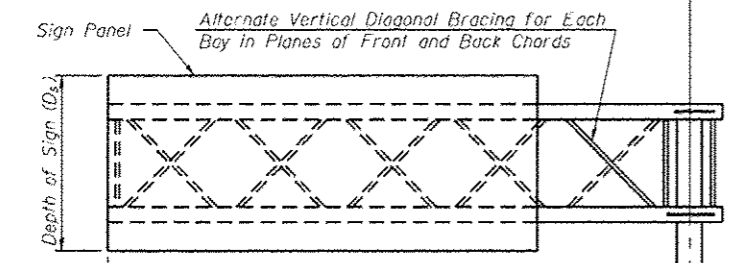
FOUNDATIONS: The contract unit price for Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.

Structure Number	Station	Design Truss Type	Cantilever Length (L)	Elev. A	Dim. D	D <sub>s</sub>	Total Sign Area
7C0151057R189.7	788+72	III-C-A	30'-0"	740.60	5'-0"	9'-6"	133.50 FT

Truss Type	Maximum Sign Area	Maximum Length
I-C-A	170 Sq. Ft.	25 Ft.
II-C-A	340 Sq. Ft.	30 Ft.
III-C-A	400 Sq. Ft.	40 Ft.



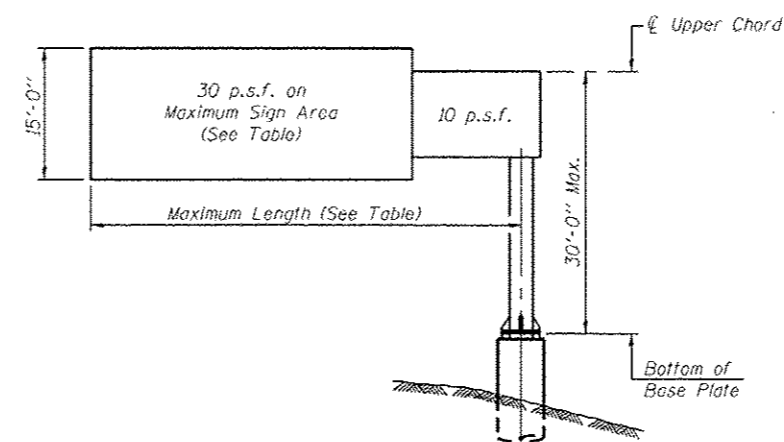
**TYPICAL PLAN**  
(Walkway not shown)



**TYPICAL ELEVATION**  
Looking in Direction of Traffic

Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

Sign support structures may be subject to damaging vibrations and oscillations when sign panels are not in place during erection or maintenance of the structure. To avoid these vibrations and oscillations, consideration should be given to attaching temporary blank sign panels to the structure.



**DESIGN WIND LOADING DIAGRAM**

Parameters shown are basis for I.D.O.T. Standards. Installations not within dimensional limits shown require special analysis for all components.

Note:  
 Trusses shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The contractor is responsible for maintaining the configuration and protection of the trusses.

① After adjustments to level truss and insure adequate vertical clearance, all top and leveling nuts shall be tightened against the base plate with a minimum torque of 200 lb.-ft. Stainless steel mesh shall then be placed around the perimeter of the base plate. Secure to base plate with stainless steel banding.

\* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

**TOTAL BILL OF MATERIAL**

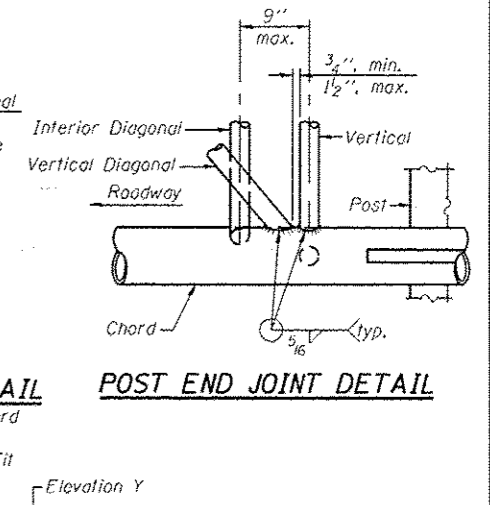
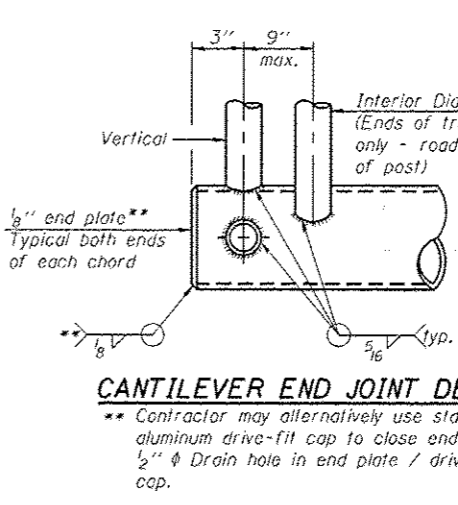
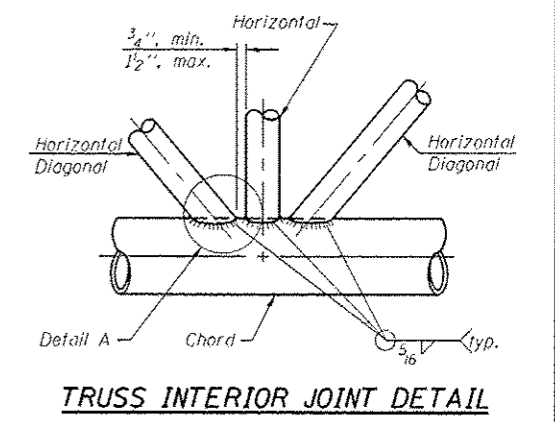
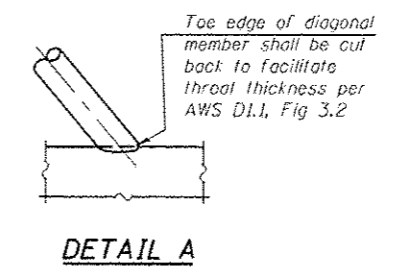
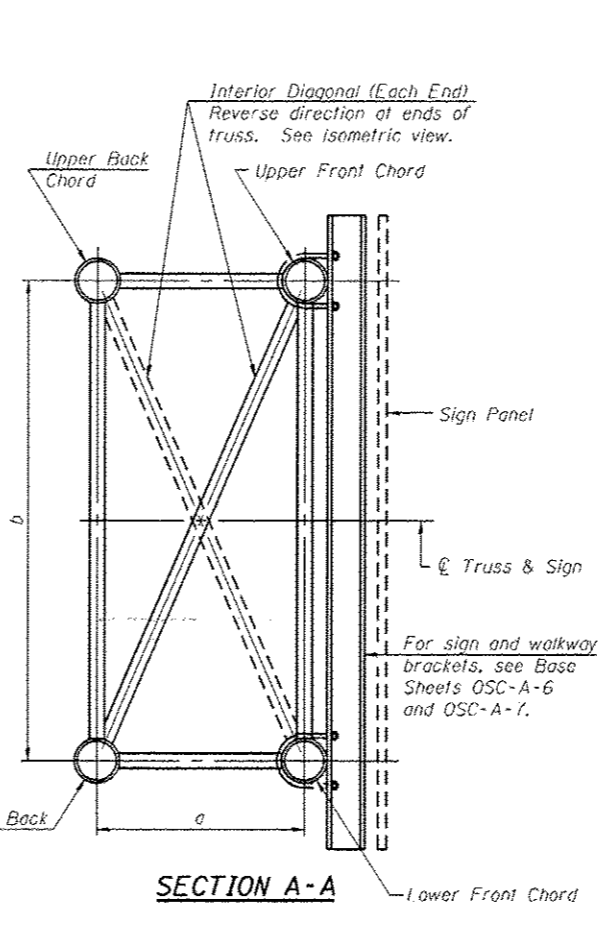
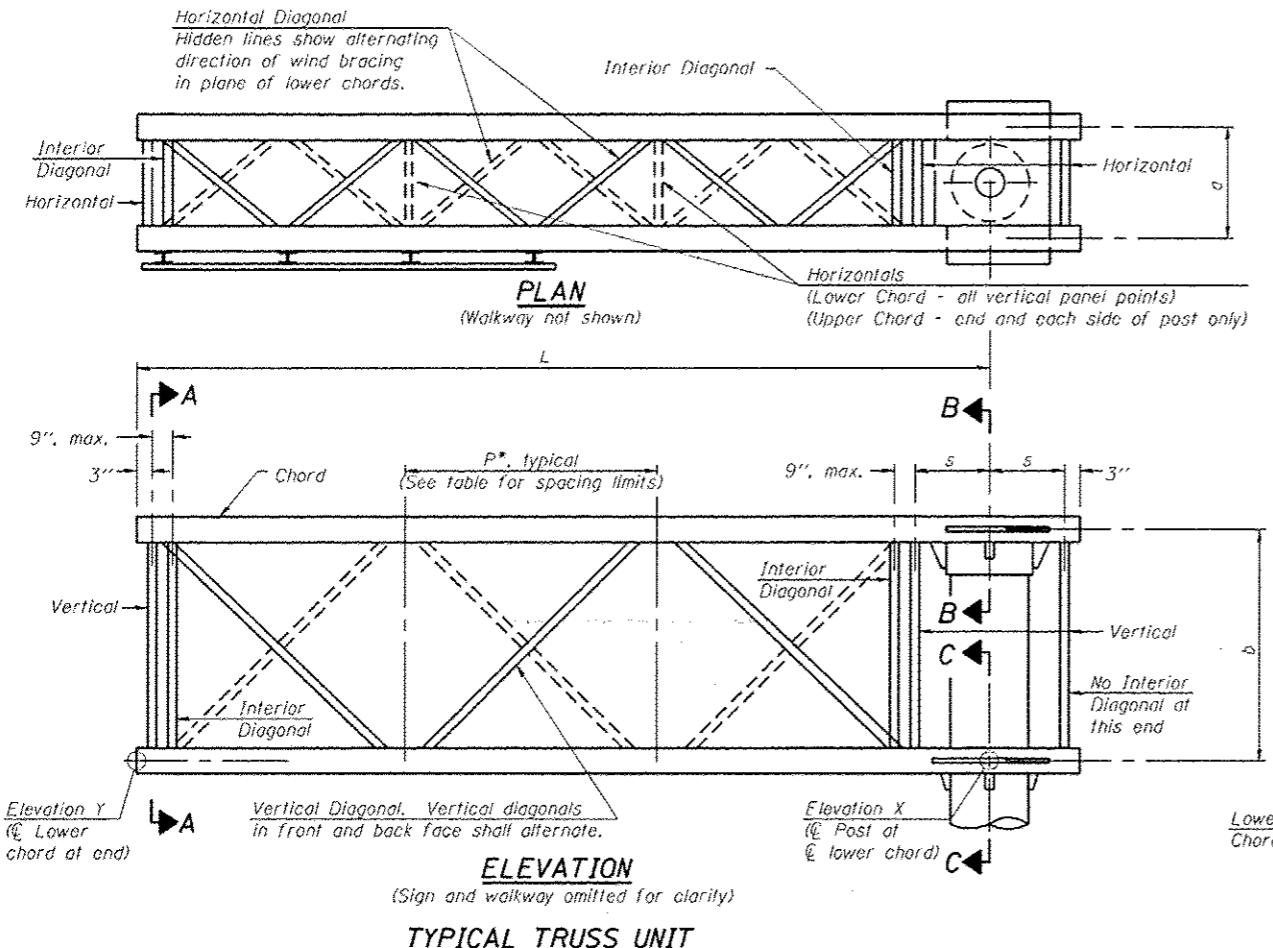
ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE I-C-A	Foot	-
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE II-C-A	Foot	-
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE III-C-A	Foot	30
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	Foot	20
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	1.50

OSC-A-1

6-1-12

FILE NAME -	USER NAME - staffennh	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CANTILEVER SIGN STRUCTURES - GENERAL PLAN &amp; ELEVATION ALUMINUM TRUSS &amp; STEEL POST</b>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.	
c:\pwworkspace\staffennh\1035093310	62306-sht-details.dgn	DRAWN -	REVISED -					47	20			
Default	PLOT SCALE = 1/8"=1'-0"	CHECKED -	REVISED -					* DT OVC SIN STR REFL 14-42			CONTRACT NO.	
Default	PLOT DATE = 10/24/2013	DATE -	REVISED -									
**EFFINGHAM, MACON, COLES												





Note: There are twice as many horizontal diagonals as there are vertical diagonals.

For Section B-B and Section C-C, see Base Sheet OSC-A-3.

**TRUSS UNIT TABLE**

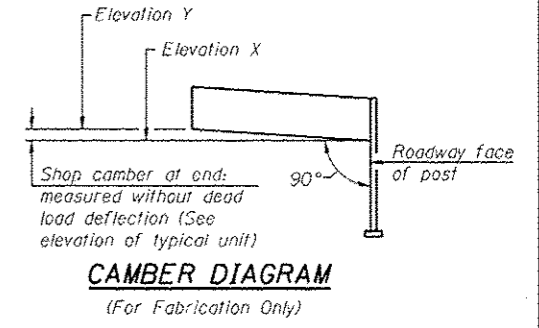
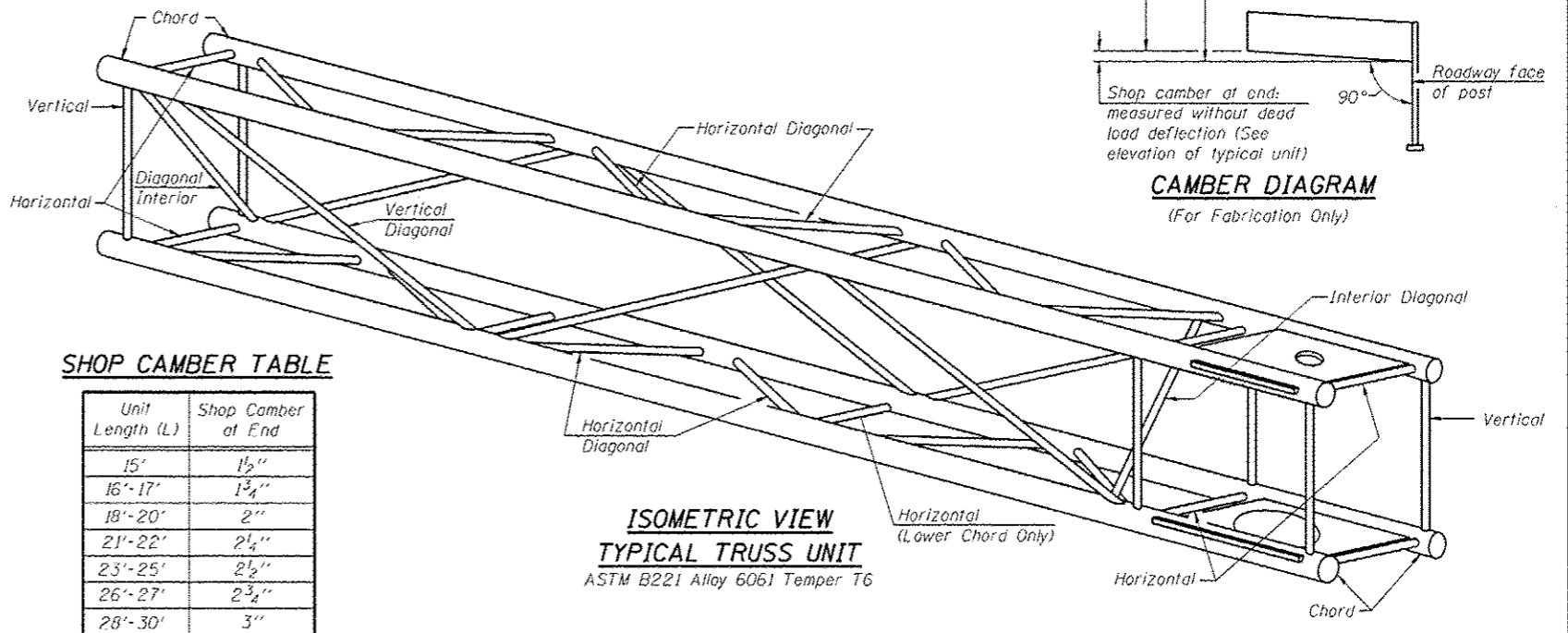
Truss Type	Dimension "a"	Dimension "b"	Dimension "s"	Limits for Panel Spacing (P)*	Up. & Low. Chord			Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals		
					O.D.	Wall	O.D.	O.D.	Wall	O.D.
I-C-A	24"	54"	16"	36" min. to 48" max.	5"	5/16"	2 1/2"	5/16"		
II-C-A	36"	66"	21"	42" min. to 54" max.	6 1/2"	5/16"	3 1/4"	5/16"		
III-C-A (35' Max.)	36"	84"	21"	48" min. to 66" max.	7"	3/8"	3 1/2"	3/8"		
III-C-A (>35' to 40')	36"	84"	21"	48" min. to 66" max.	8"	3/8"	3 1/2"	3/8"		

\*P =  $\frac{L-5'-3"}{\# \text{ Panels}}$

Structure Number	Station	Truss Type	Design Length (L)	Number of Panels Per Unit	Panel Length (P)*
TC0151057R189.7	788+72	III-C-A	30'	6	56"

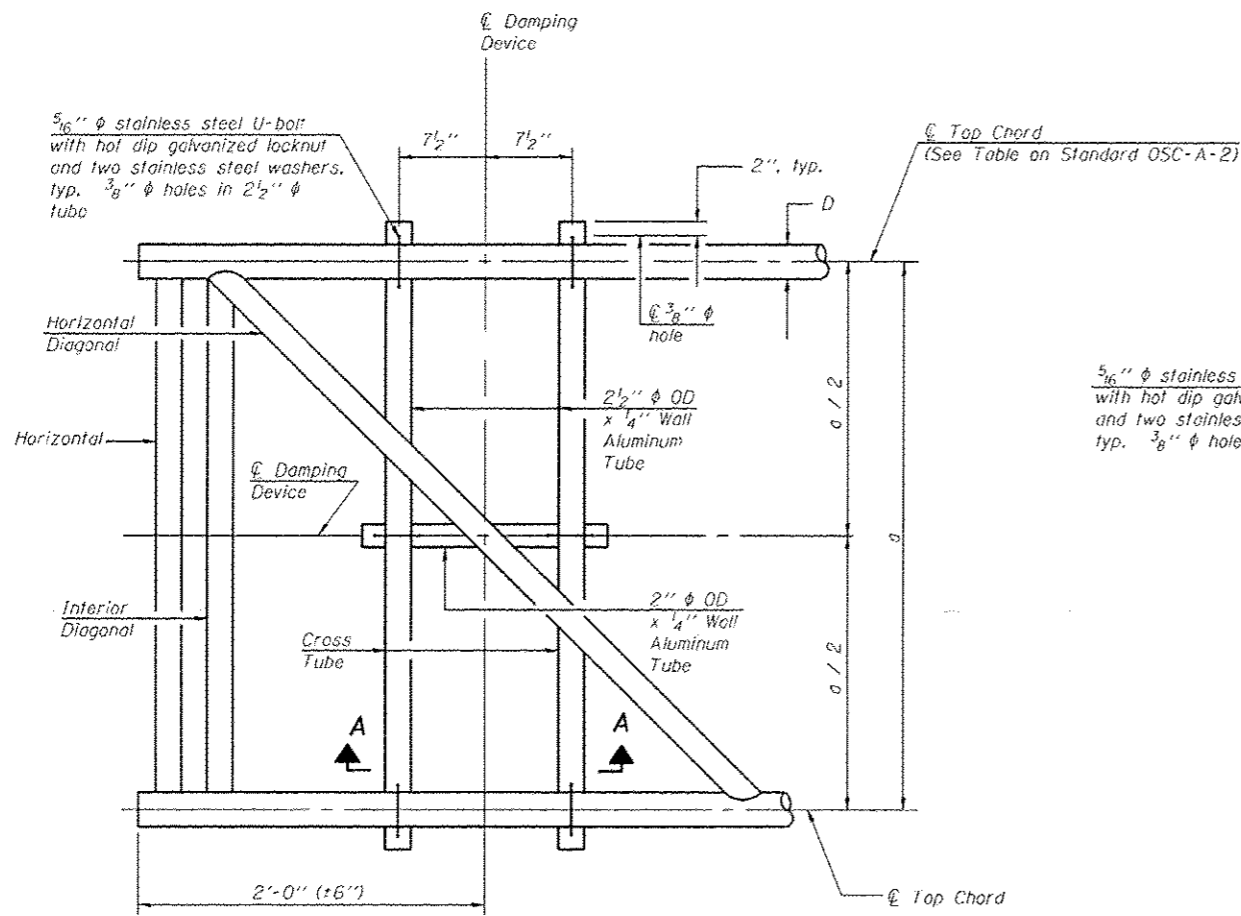
**SHOP CAMBER TABLE**

Unit Length (L)	Shop Camber at End
15'	1 1/2"
16'-17'	1 3/4"
18'-20'	2"
21'-22'	2 1/4"
23'-25'	2 1/2"
26'-27'	2 3/4"
28'-30'	3"
31'-32'	3 1/4"
33'-35'	3 1/2"
36'-37'	4"
38'-40'	4 1/2"

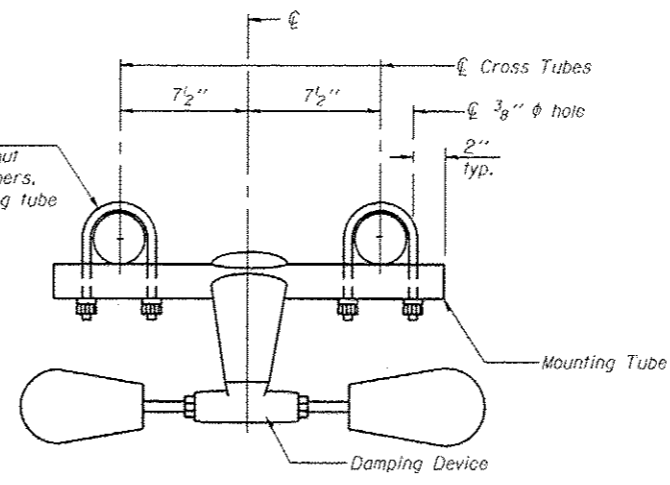


OSC-A-2

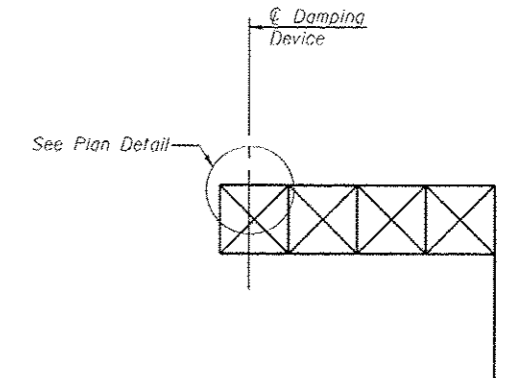
6-1-12



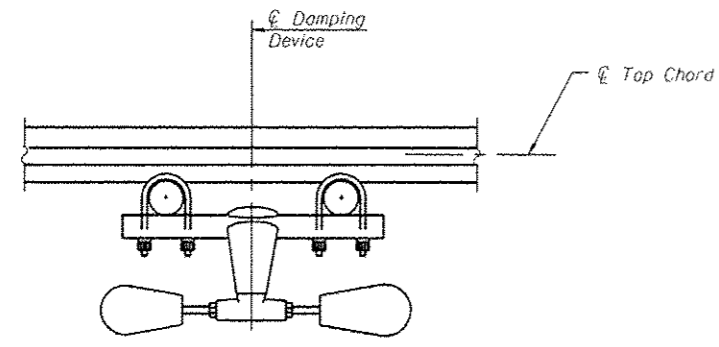
**PLAN DETAIL**



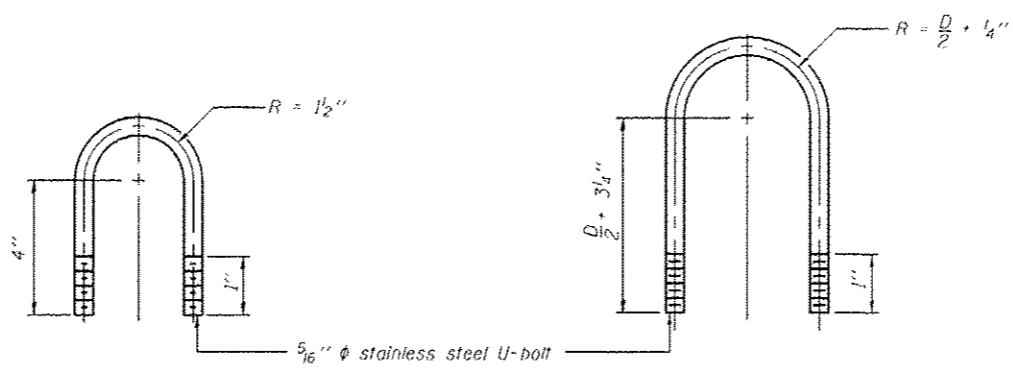
**TRUSS DAMPING DEVICE CONNECTION DETAIL**



**ELEVATION**  
Aluminum Cantilever Sign Structure



**SECTION A-A**



**DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL**  
(Typical)

**TOP CHORD TO CROSS TUBE U-BOLT DETAIL**  
(Typical)

**GENERAL NOTES**

- Damper: One damper per truss. (31 lbs. Stockbridge-Type Aluminum-29" minimum between ends of weights)
- Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6

OSC-A-D

6-1-12

FILE NAME	USER NAME	DESIGNED	REVISED
ct:\pwworkspace\stef\erick\103308933\0103308933.sht-detail.dgn	stef.erick	-	-
Default	Plot Scale = 100.0000' / 1"	CHECKED	REVISED
	Plot Date = 10/29/2013	DATE	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

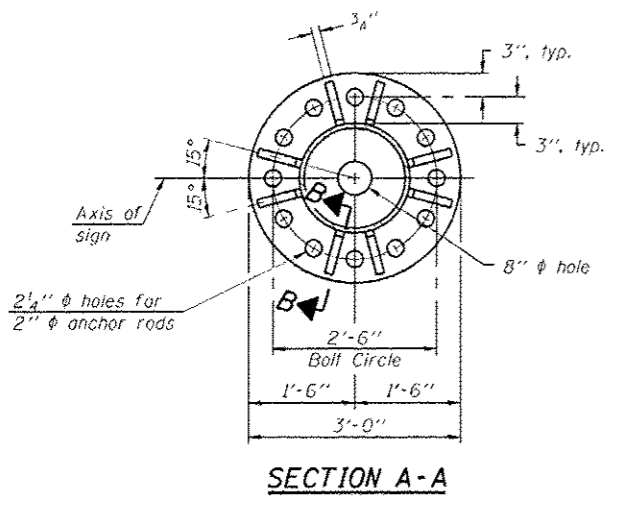
CANTILEVER SIGN STRUCTURE  
DAMPING DEVICE

SCALE: SHEET OF SHEETS STA. TO STA.

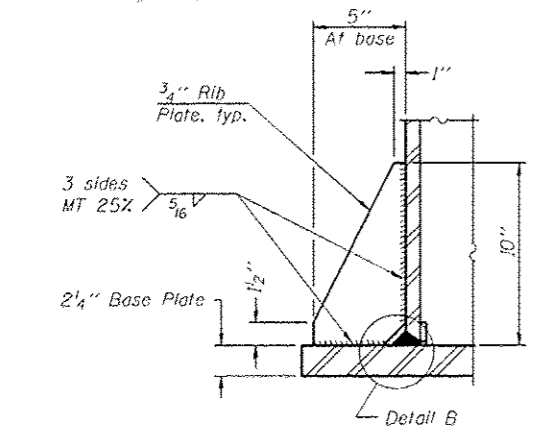
P.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			47	22
* D7 OVC SIGN STR REPL 14-42			CONTRACT NO. 46306	
ILLINOIS FED. AID PROJECT				

\*\*EFFINGHAM, MACON, COLES

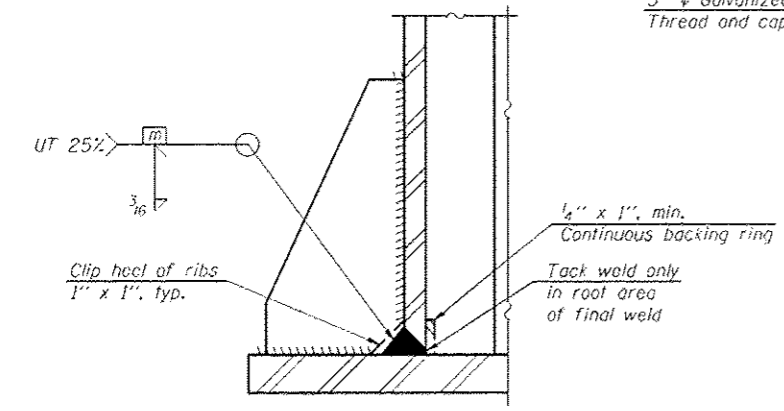




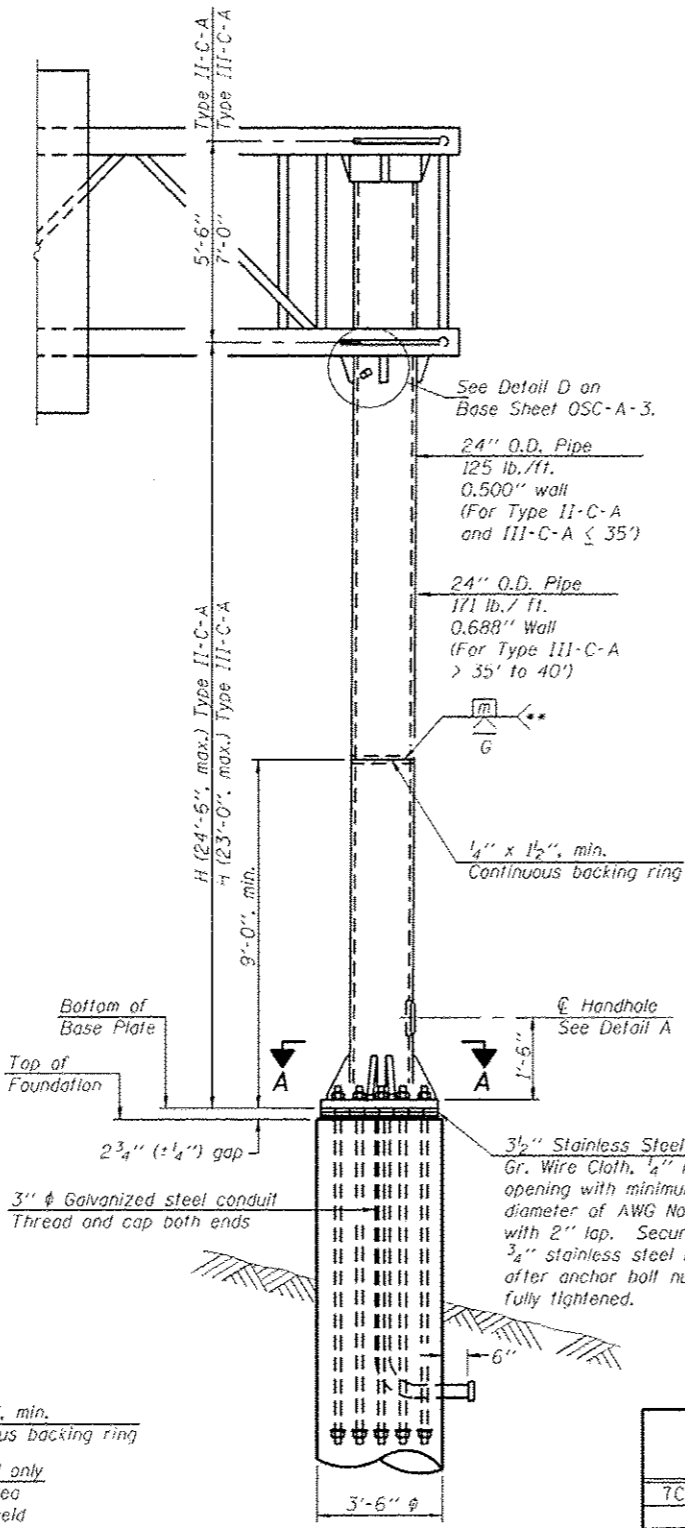
**SECTION A-A**



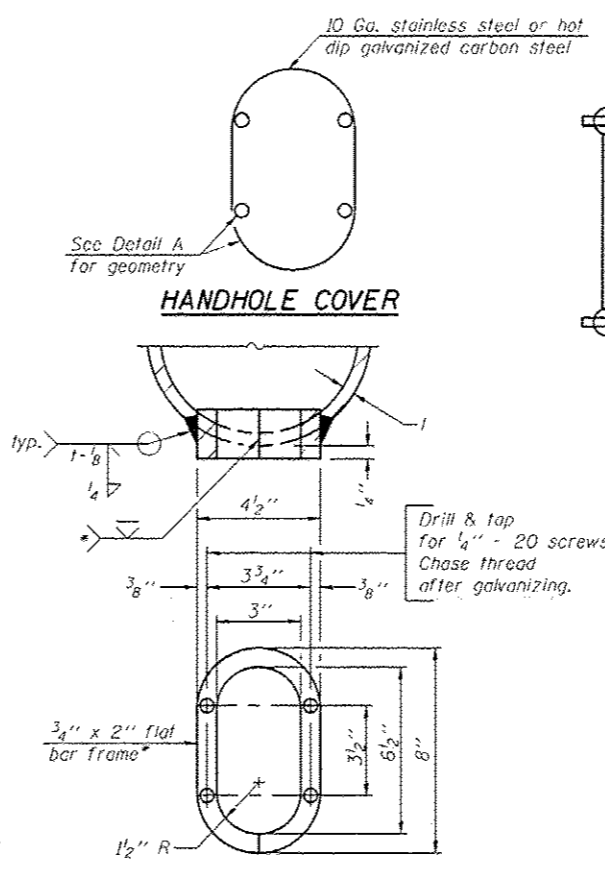
**SECTION B-B**



**DETAIL B**  
(Typical rib)



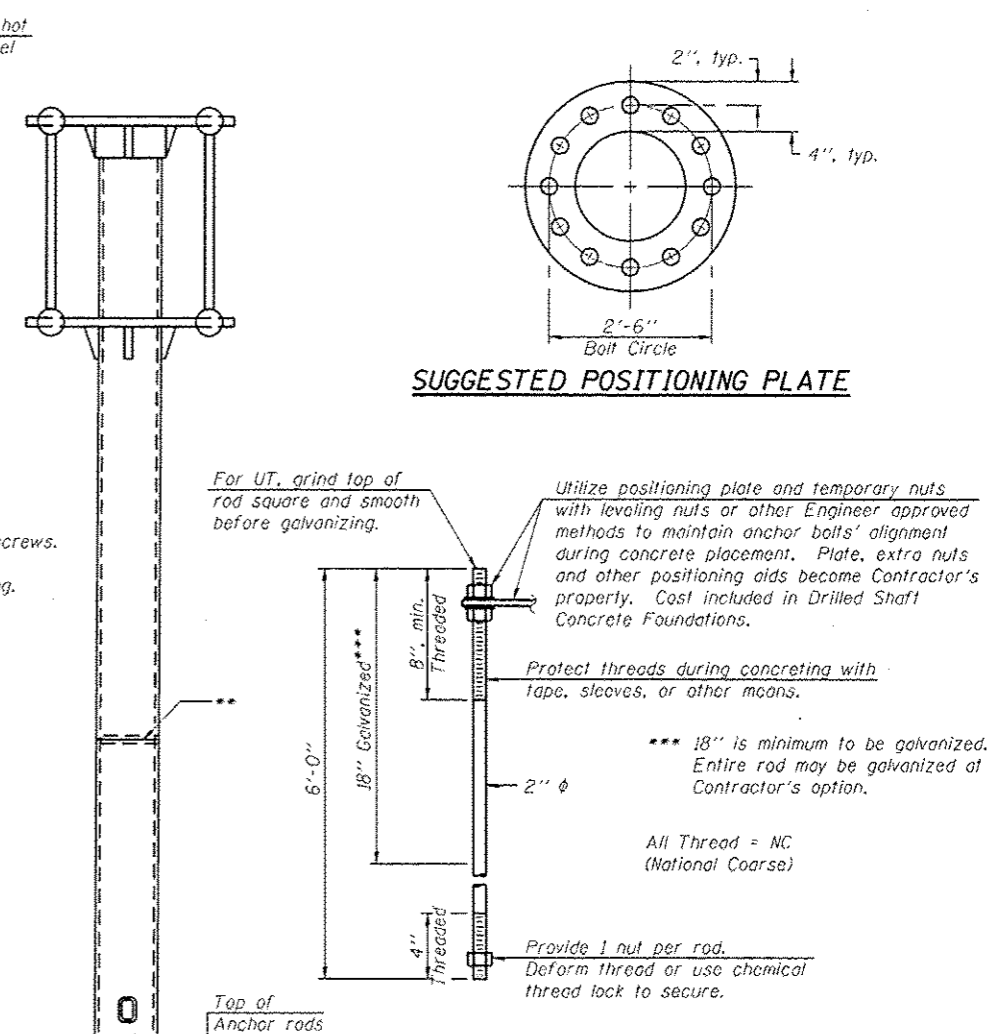
**FRONT ELEVATION**  
For Foundation Details see Base Sheet OSC-A-9.



**DETAIL A**

Structure Number	Station	H
7C0151057R189.7	788+72	21'-9"

Note: "H" based on 15'-0" or actual sign height, whichever is greater.



**ANCHOR ROD DETAIL**

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize the upper 18" (minimum) and associated AASHTO M291, Grade A, C or DH heavy hex nuts and hardened washers per AASHTO M232. No welding shall be permitted on rods. Provide a nut at bottom, a hexagon locknut and washer above base plate and a leveling nut and washer below base plate. Nuts shall each be tightened with 200 lb.-ft. minimum torque against base plate. Before or after threading, but before galvanizing, each anchor rod shall be ultrasonically tested (UT) by a Level II or III inspector, qualified in accord with ANSI guidelines, to insure no rejectable flaws exist in the upper 18" (tension criteria). Cost of testing included in Drilled Shaft Concrete Foundations.

**SUGGESTED POSITIONING PLATE**

Utilize positioning plate and temporary nuts with leveling nuts or other Engineer approved methods to maintain anchor bolts' alignment during concrete placement. Plate, extra nuts and other positioning aids become Contractor's property. Cost included in Drilled Shaft Concrete Foundations.

Protect threads during concreting with tape, sleeves, or other means.

\*\*\* 18" is minimum to be galvanized. Entire rod may be galvanized at Contractor's option.

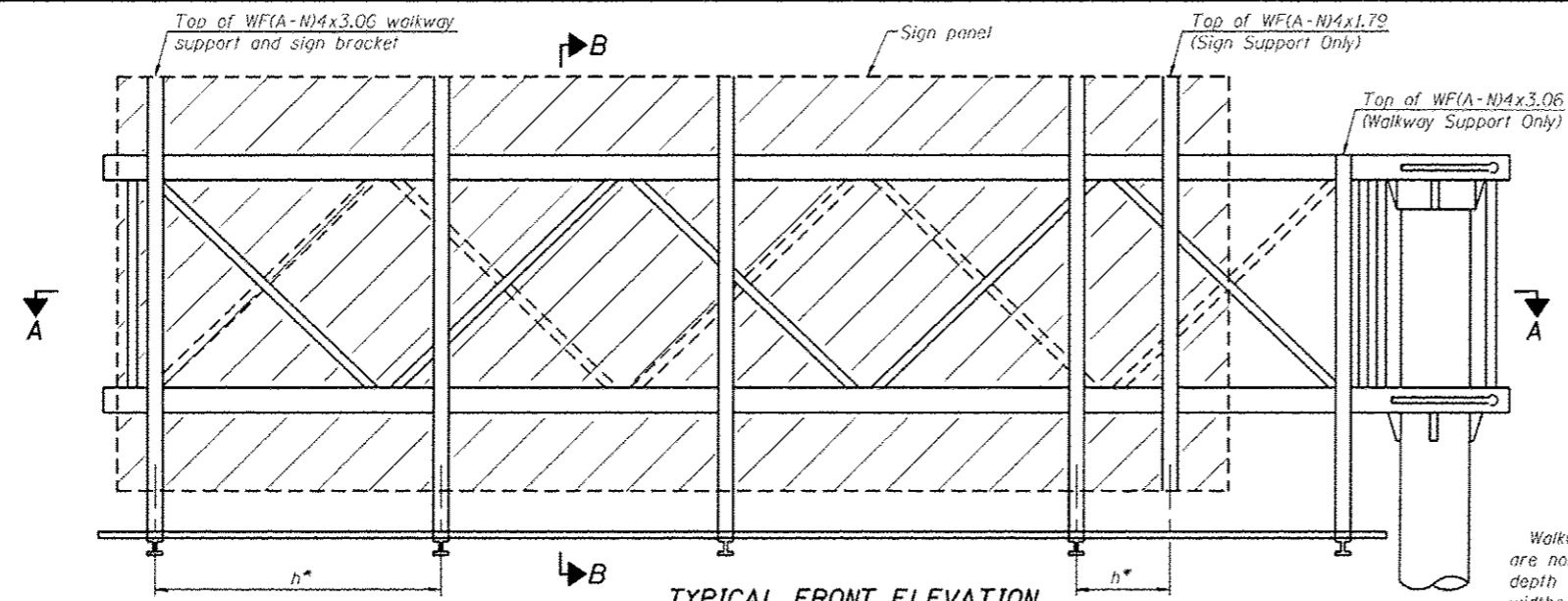
All Thread = NC (National Coarse)

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

OSC-A-5

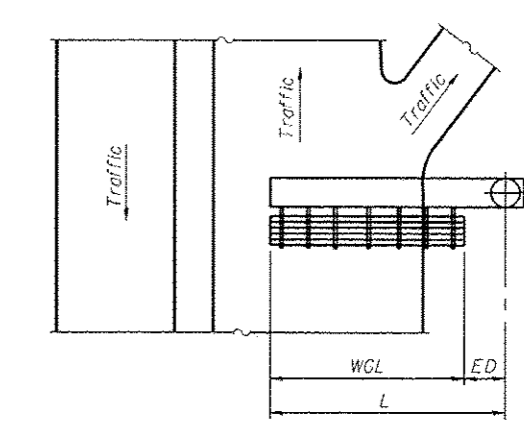
6-1-12

FILE NAME -	USER NAME - steffernak	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CANTILEVER SIGN STRUCTURES - TYPE II-C-A & III-C-A TRUSS SUPPORT POST - ALUMINUM TRUSS & STEEL POST	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ORIG. WORK/PWD/DATE/STEFFERNAK/03/09/13/07	REVISIONS -	DRAWN -	REVISED -			VAR.		**	47	24	
Default:	PLOT SCALE - 1/8" = 1'-0"	CHECKED -	REVISED -			* D7 OVC SIN STR REPL 14-42 CONTRACT NO. 46306					
	PLOT DATE - 10/29/2013	DATE -	REVISED -			ILLINOIS FED. AID PROJECT **EPPINGHAM, MACON, COLES					

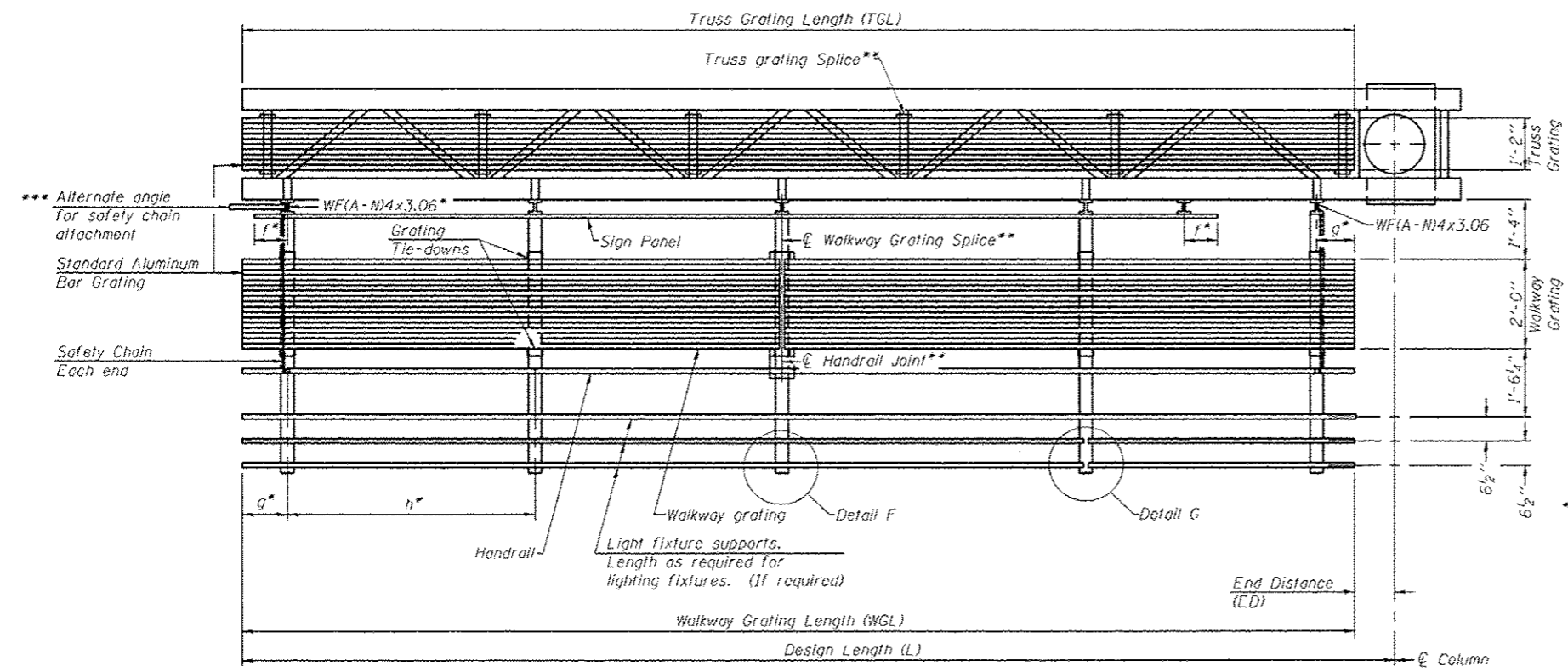


**TYPICAL FRONT ELEVATION**  
With lights and handrail omitted for clarity.

Walkway and truss grating dimensions are nominal and may vary (width ± 1/2", depth ± 1/2") based on available standard widths.



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



**SECTION A-A**

Truss grating to facilitate inspection shall run full length of cantilevers. Cost of truss grating is included in Overhead Sign Structure Cantilever.

Handrail and walkway grating shall span a minimum of three brackets between splices.  
\*\* Use and location of handrail joints or grating splices are optional, based on lengths needed and material availability.

$$TGL = L - \left( \frac{\text{Post O.D.}}{2} + 6'' \right)$$

Structure Number	Station	WGL	ED	TGL
7C0151057R189.7	788+72	20'-0"	1'-6"	28'-6"

Notes:  
 \* Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:  
 f = 12" maximum, 4" minimum (End of sign to center of nearest bracket)  
 g = 12" maximum, 4" minimum (End of walkway to center of nearest bracket)  
 h = 6'-0" maximum (center to center sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)  
 \*\*\* If walkway bracket at safety chain location is behind sign, add angle to bracket. See alternate safety chain attachment on base sheet OSC-A-8.  
 For details of sign placement, sign/walkway brackets, truss and walkway gratings, grating splices and Section B-B, see Base Sheet OSC-A-7.  
 For details of handrail, handrail joint, safety chain and Details F and G, see Base Sheet OSC-A-8.

**BRACKET TABLE**

WF(A-N)4x1.79 or WF(A-N)4x3.06  
ASTM B308, Alloy 6061-T6

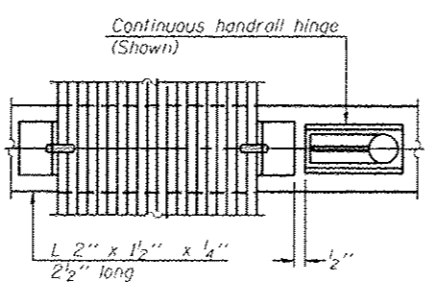
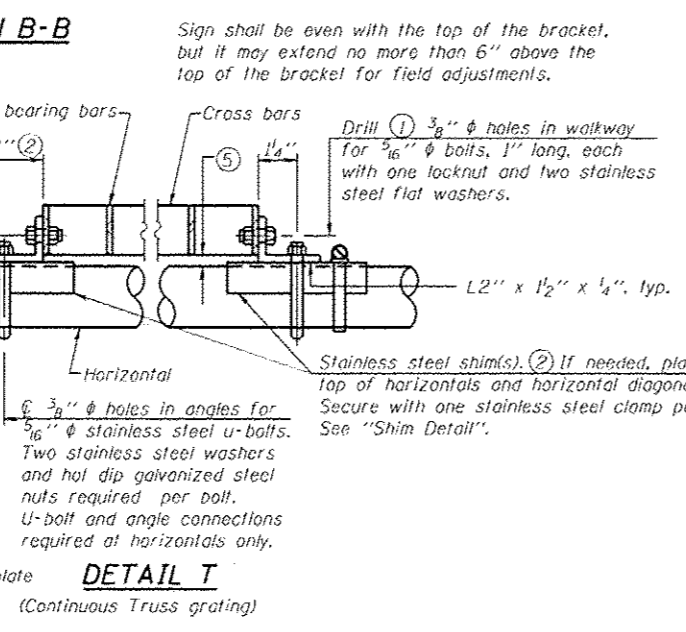
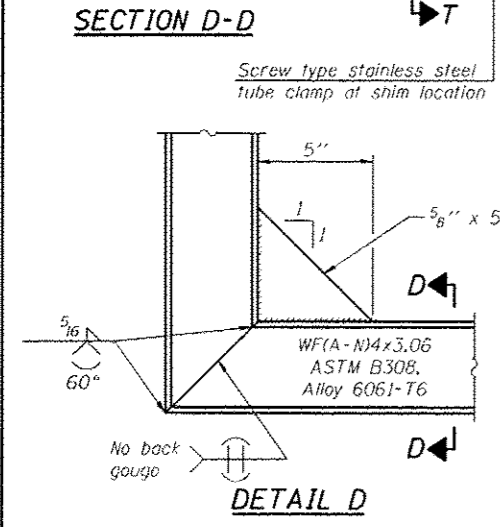
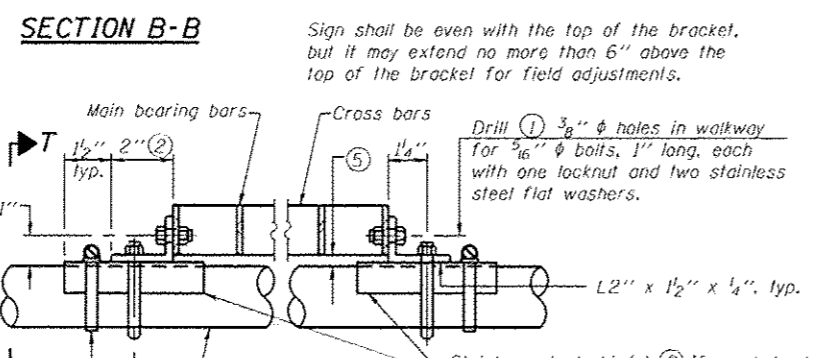
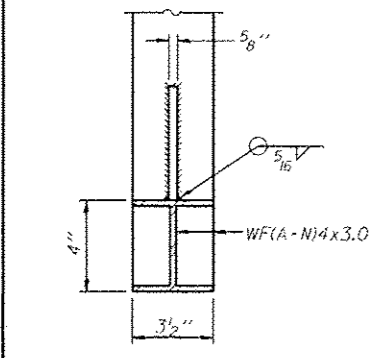
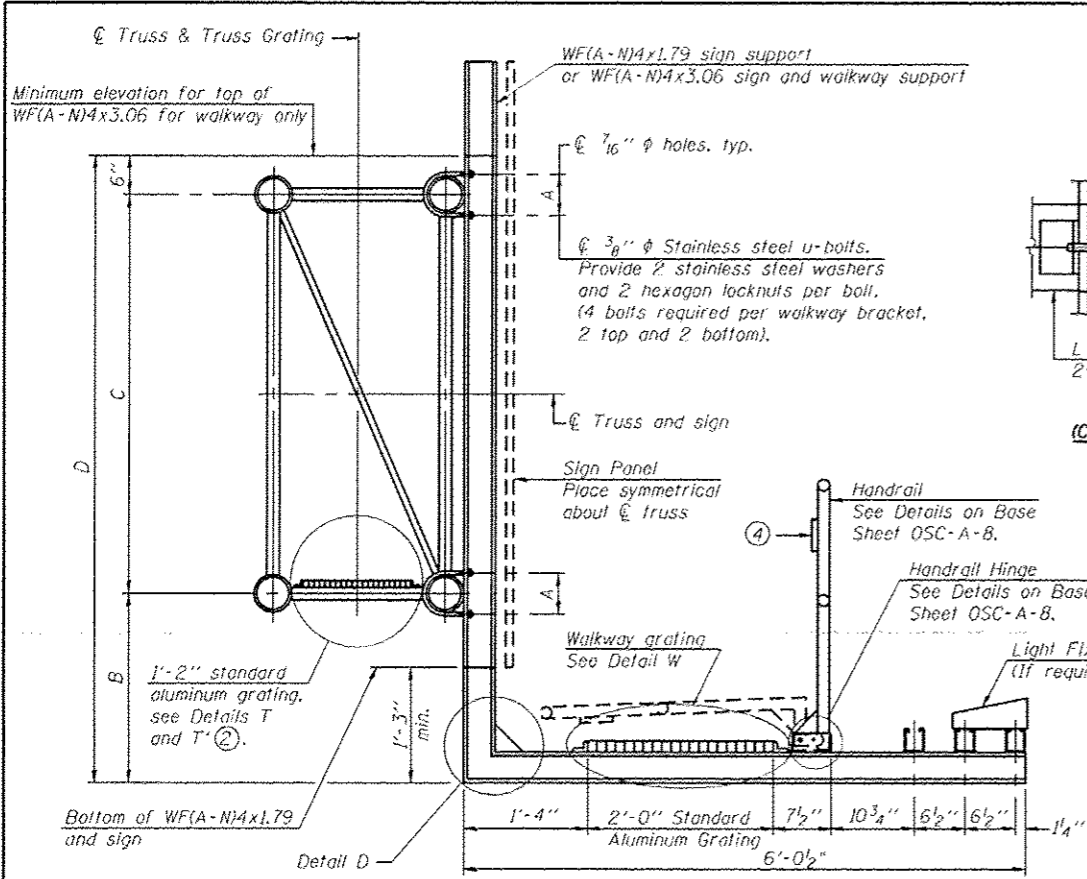
Sign Width		Number Brackets Required
Greater Than	Less than or Equal To	
8'-0"	8'-0"	2
14'-0"	14'-0"	3
20'-0"	20'-0"	4
26'-0"	26'-0"	5
32'-0"	32'-0"	6

OSC-A-6

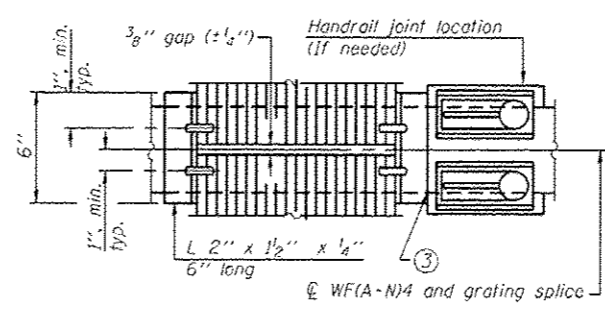
6-1-12

FILE NAME -	USER NAME - steffennk	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CANTILEVER SIGN STRUCTURES - ALUMINUM WALKWAY DETAILS - ALUMINUM TRUSS &amp; STEEL POST</b>	F.A. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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Plot Date = 10/29/2013	DATE -	CHECKED -	REVISED -			* DT OVC SIN STR REPL 14-42 CONTRACT NO. 46306					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
						**EFFINGHAM, MACON, COLES					

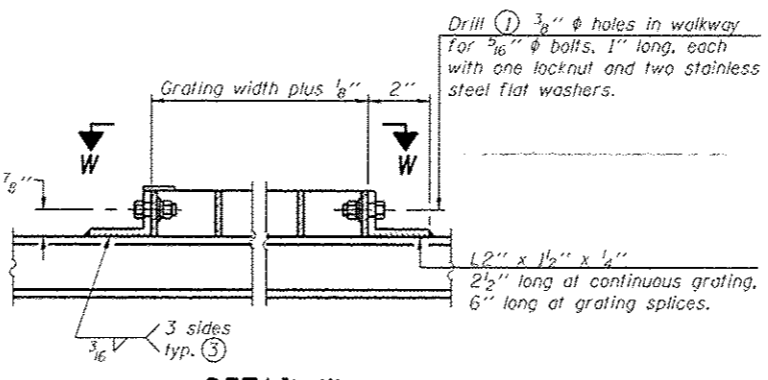




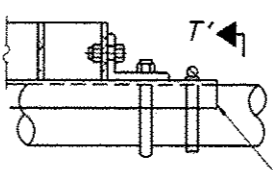
(CONTINUOUS WALKWAY GRATING)



SECTION W-W



DETAIL W (Walkway grating)

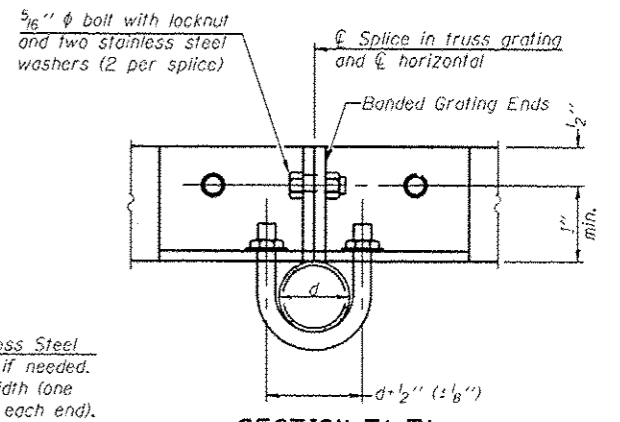


DETAIL T' (Truss grating splice)

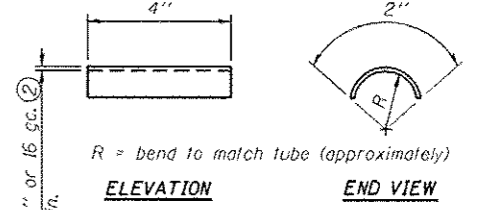
Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.

**SPECIFICATIONS FOR STANDARD ALUMINUM GRATING**  
 Main Bearing Bars (MBB) shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B211 Alloy 6061-T6.  
 Cross bars (CB) shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR  
 Aluminum Grating with modified "T" sections for main bearing bars shall meet the following requirements:  
 Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.<sup>3</sup> per bar, a depth of 1 1/2", spaced on 1 3/16" centers.  
 Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.



SECTION T'-T'



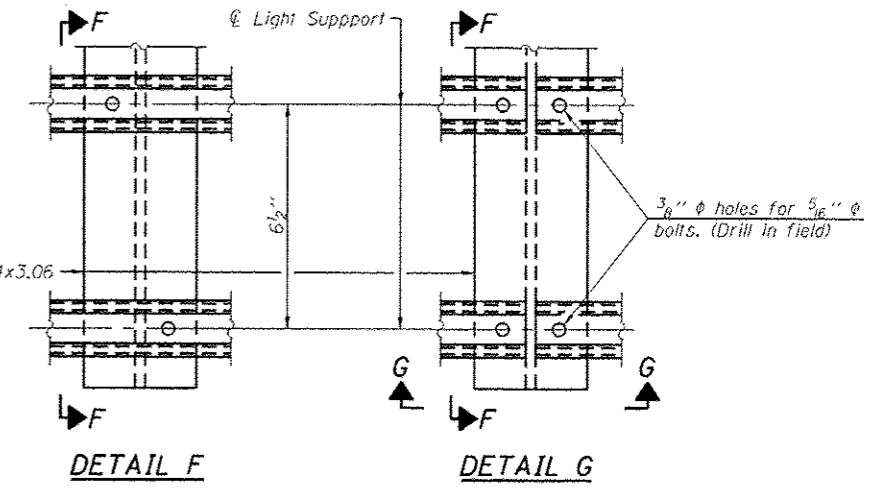
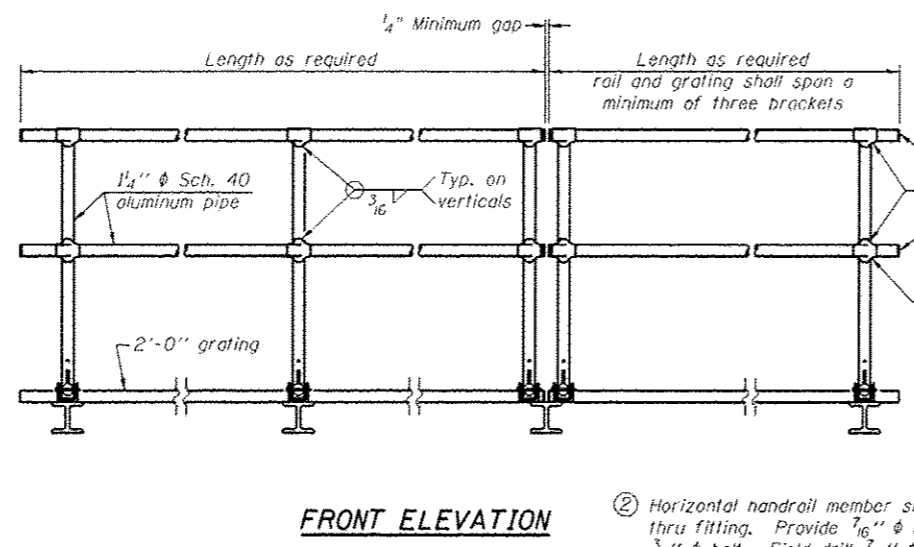
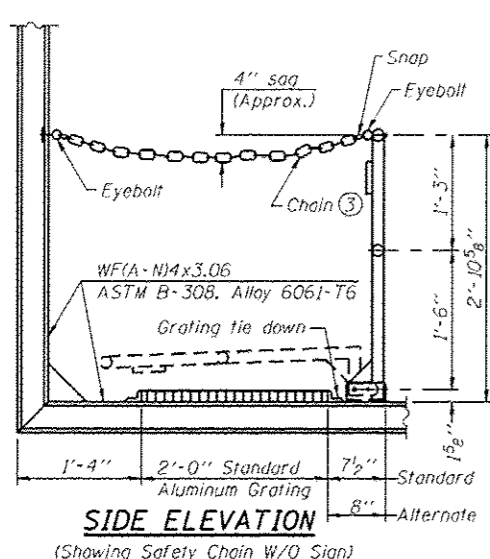
SHIM DETAIL

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T 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.
- If Handrail Joint present, weld angle to WF(A-N)4 and 1/4" extension bars. (See Base Sheet OSC-A-8.)
- 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.
- Based on actual sign height. D<sub>s</sub>, given on OSC-A-1.

Structure Number	Station	A	Ⓟ B	C	Ⓟ D
7C0151Q57R189.7	788+72	7 1/2"	2'-6"	7'-0"	10'-0"
7C058UQ51L117.4		7 1/4"	N/A	N/A	N/A

OSC-A-7 6-1-12



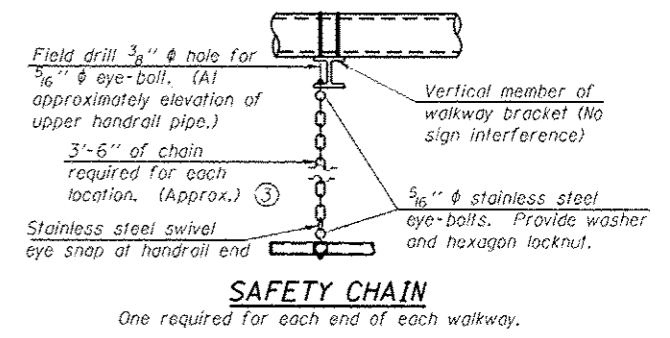
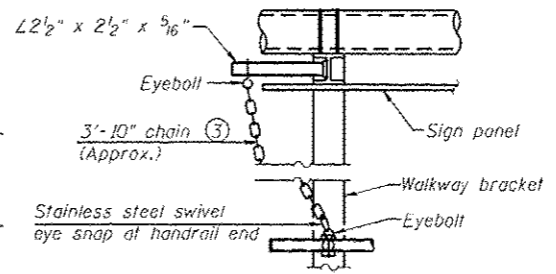
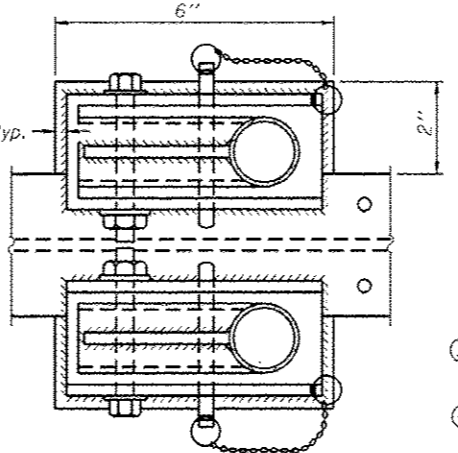
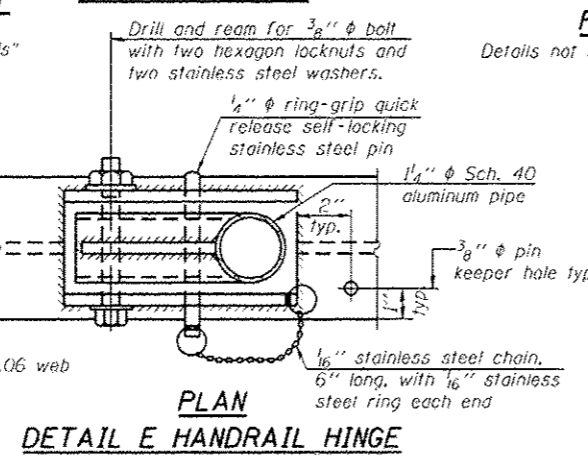
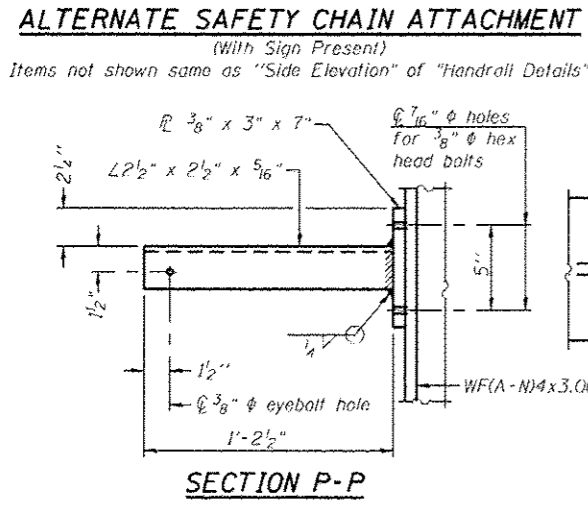
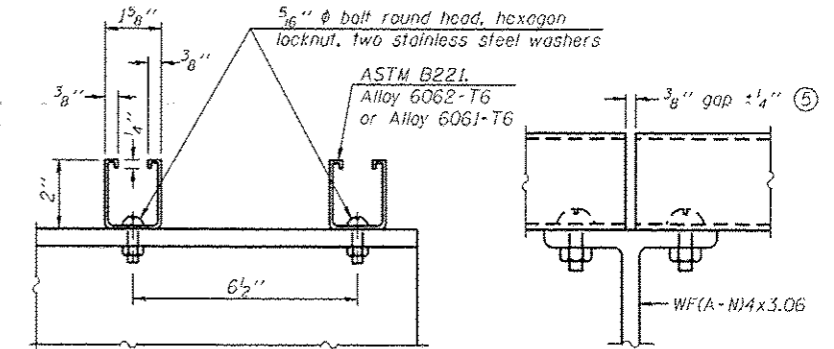
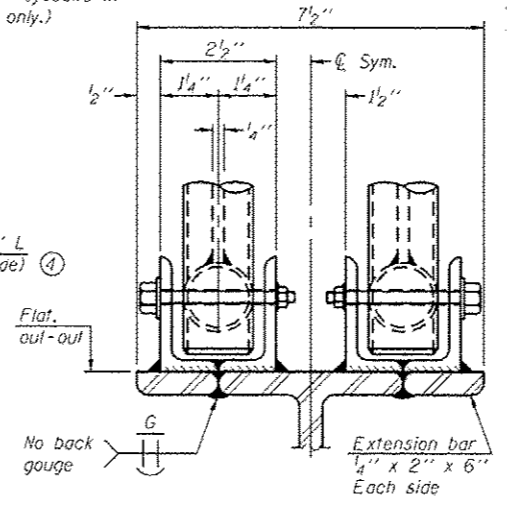
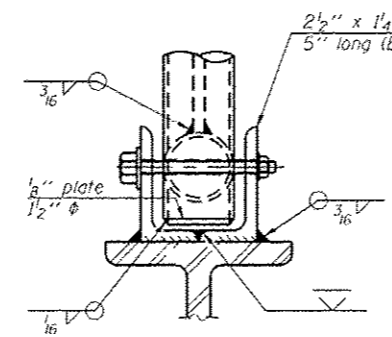
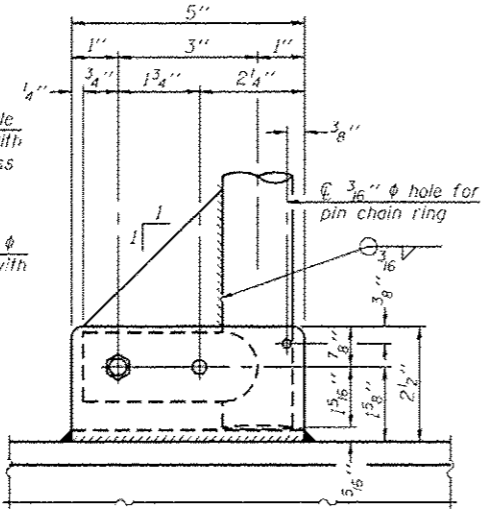
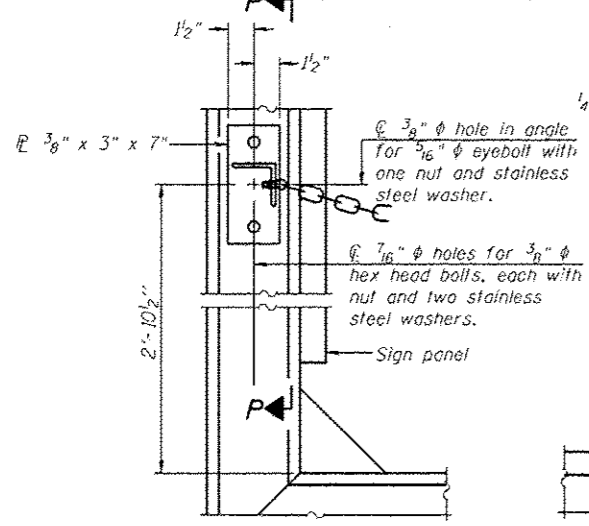


**HANDRAIL DETAILS**

Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

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 fitting. Provide 7/16" hole in fitting for 3/8" bolt. Field drill 7/16" hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 3/16" eyebolts in 7/16" holes on top rail at ends only.)



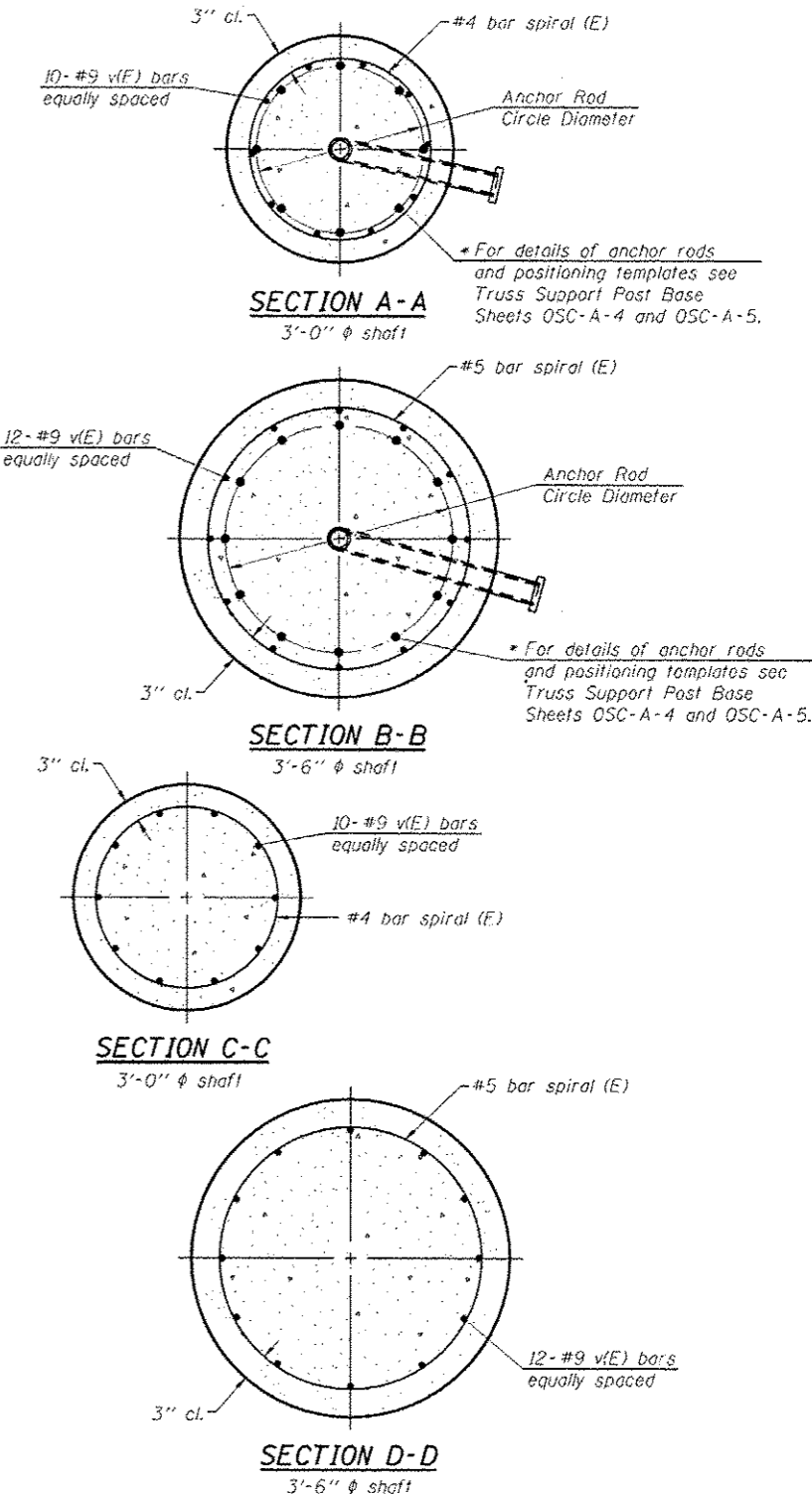
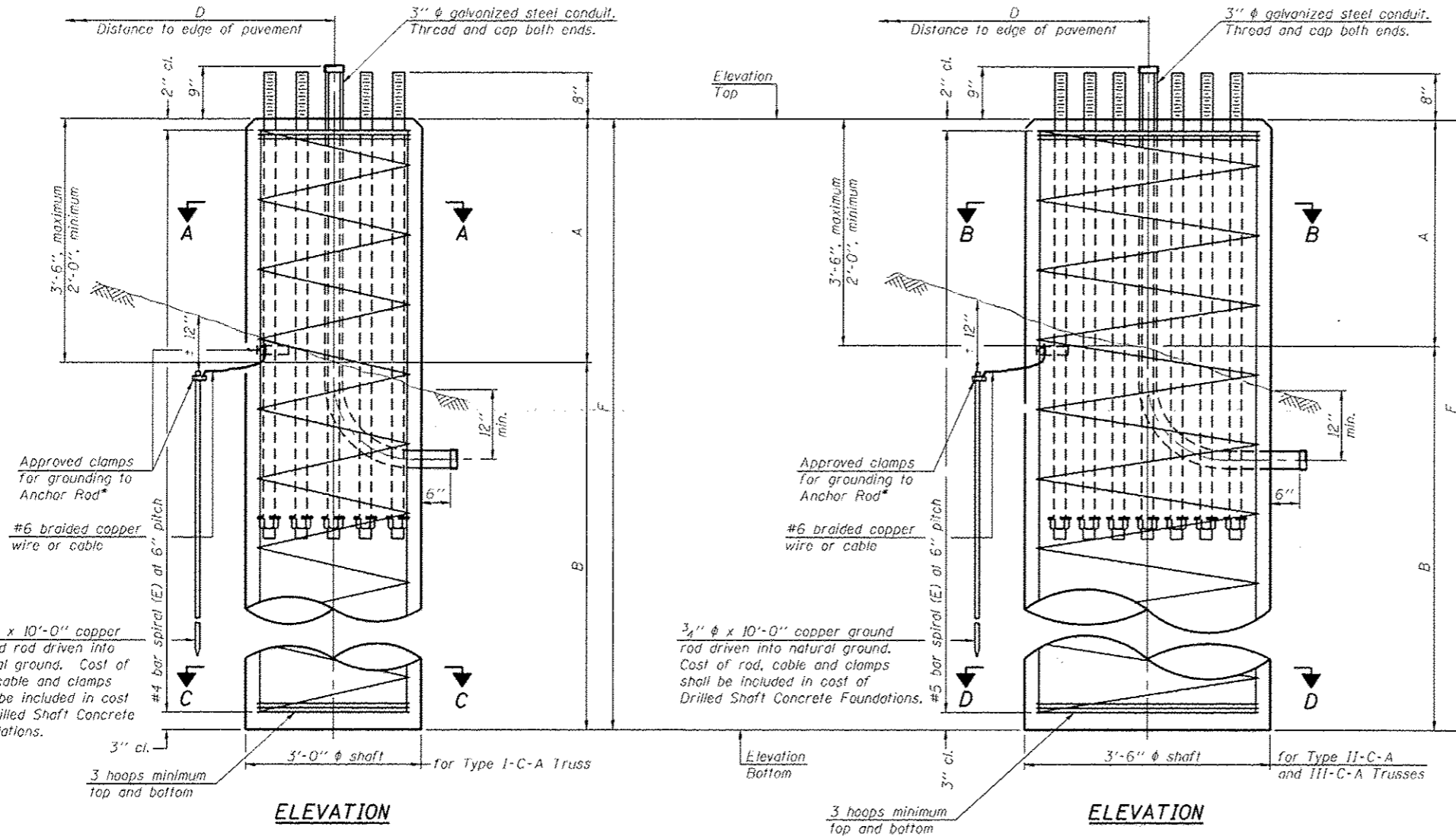
③ 3/16" Type 304L stainless steel chain, approximately 12 links per foot.

④ Extrusions may be used in lieu of the details shown, with approval of the Engineer.

OSC-A-8 6-1-12

FILE NAME -	USER NAME - staffernk	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CANTILEVER SIGN STRUCTURES - HANDRAIL DETAILS ALUMINUM TRUSS &amp; STEEL POST</b>				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwworkspace\stofferink\d0308933\d0308-shs-details.dgn	6/3/06-shs-details.dgn	DRAWN -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS	47	27
	PLOT SCALE = 1/8" = 1'-0"	CHECKED -	REVISED -								CONTRACT NO. 46306		
	PLOT DATE = 10/29/2013	DATE -	REVISED -								ILLINOIS FED. AID PROJECT		
											**EFFINGHAM, MACON, COLES		

\* Grind anchor rod to bright finish at ground clamp location before installing clamp.



**NOTES:**

The foundation dimensions shown in the Foundation Design Table are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength ( $Q_u$ ) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown in the Foundation Data Table will be the result of site specific designs.

If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

No sonotubes or decomposable forms shall be used below the lower conduit entrance. Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.

Concrete shall be placed monolithically, without construction joints.

Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

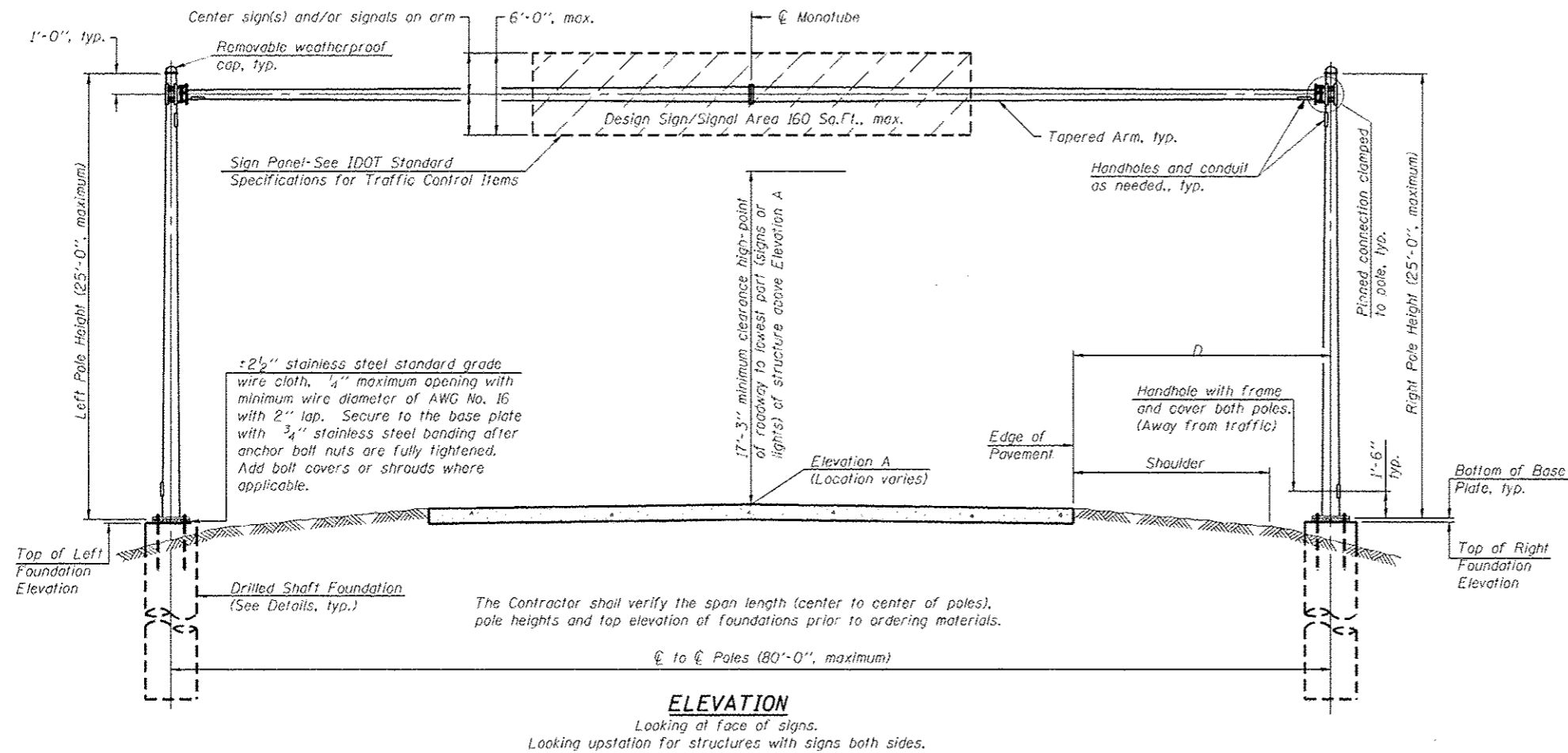
A normal surface finish followed by a Bridge Seal Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in "Drilled Shaft Concrete Foundation".

Truss Type	Post Base Sheet	Maximum Cantilever Length (ft)	Maximum Total Sign Area (sq ft)	Shaft Diameter (in)	"B" Depth (ft)	Anchor Rods		Anchor Rod Circle Diameter (in)
						No.	Diameter (in)	
I-C-A	OSC-A-4	25	170	3.0	16.0	8	2	22
II-C-A	OSC-A-5	30	170	3.5	17.0	12	2	30
II-C-A	OSC-A-5	30	340	3.5	21.5	12	2	30
III-C-A	OSC-A-5	35	170	3.5	19.0	12	2	30
III-C-A	OSC-A-5	35	250	3.5	22.5	12	2	30
III-C-A	OSC-A-5	35	400	3.5	26.5	12	2	30
III-C-A	OSC-A-5	40	400	3.5	32.0	12	2	30

Structure Number	Station	Truss Type	Shaft Diameter	Elevation Top	Elevation Bottom	$Q_u$	A	B	F	Class DS Concrete Cubic Yards
7C0151057R189.7	788+72	III-C-A	3'-6"	741.17	739.17	3.09	2'-0"	19'-0"	21'-0"	7.50

OSC-A-9

6-1-12



**GENERAL NOTES**

**DESIGN:** Current (at time of letting) AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (Fatigue Category II - natural wind gust only).

**CONSTRUCTION:** Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Recurring Special Provisions. ("Standard Specifications") All references to "Mast Arm Assembly and Pole" are applicable, unless otherwise noted.

**WELDING:** All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 Structural Welding Code and the Standard Specifications.

**ANCHOR RODS:** Shall conform to ASTM F1554 Grade 105. No welding shall be permitted on rods.

**FASTENERS:** All connection bolts shall be High Strength Bolts M164, Galvanize M232 (A153), Type 3, or stainless steel heavy hex conforming to ASTM A193, Grade B8 or B8M, Class 1, U-bolts shall be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished, or an equivalent material acceptable to the Engineer. Nuts for stainless steel bolts shall be stainless steel conforming to ASTM A194, Grade 8 (AISI Type 304) or Grade 8F (AISI Type 303). All nuts shall be "locknuts" with nylon or steel inserts and semifinished hexagonal heads equivalent to the finished heavy hex series of the American National Standard. Washers for stainless steel bolts shall be stainless steel conforming to ASTM A240, Type 302 or 304.

**REINFORCEMENT BARS:** Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

**CAMBER:** Minimum AASHTO camber =  $L / 1000 + \text{dead load camber}$ .

**FOUNDATIONS:** The contract unit price for Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.

**ELEVATION**

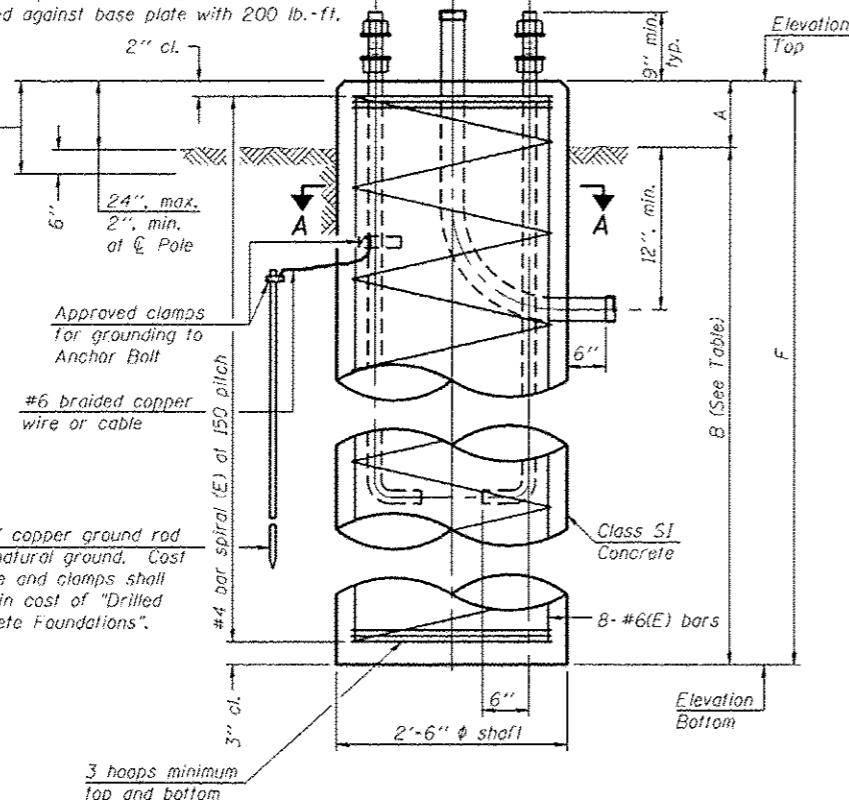
Looking upstation for structures with signs both sides.

MONOTUBE - 1 6-1-12

FILE NAME -	USER NAME - steffenhk	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>MONOTUBE SIGN STRUCTURE</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
c:\pwork\spw\stheffenhk\46386\shrdetails.dgn	46386-shrdetails.dgn	DRAWN -	REVISED -			VARs	*	**	47	29	
Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			* 07 OVC SIN STR REPL 14-42		CONTRACT NO. 46306			
	PLOT DATE = 10/29/2013	DATE -	REVISED -			ILLINOIS FED. AID PROJECT		**EFFINGHAM, MACON, COLES			
SCALE:						SHEET	OF	SHEETS	STA.	TO STA.	

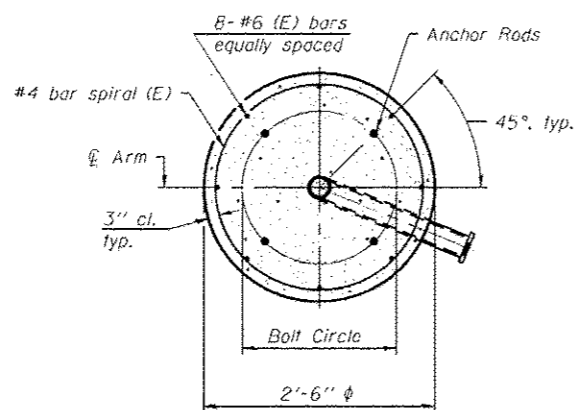
Ø anchor rod. Thread upper 8". Galvanize upper 18" per AASHTO M232. Provide one hexagon locknut and washer (top) and one leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. torque.

Limits of Bridge Seal Sealer (Cost included in "Drilled Shaft Concrete Foundations")



**FOUNDATION DETAILS**

Typical, except conduit may only be required at one foundation. Provide conduit openings both poles.



**SECTION A-A**

Span (Ft.)	B (Ft.)
Span ≤ 45	9
45 < Span ≤ 65	10
65 < Span ≤ 80	11

**FOUNDATIONS:**

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.

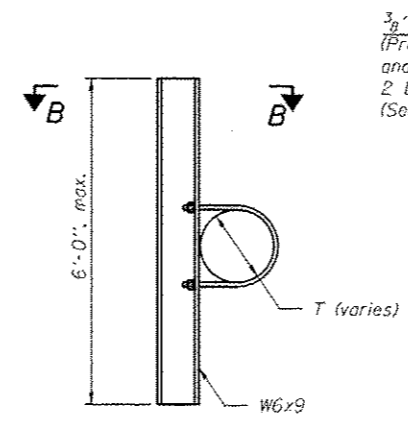
If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

No sonotubes or decomposable forms shall be used below the lower conduit entrance. Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.

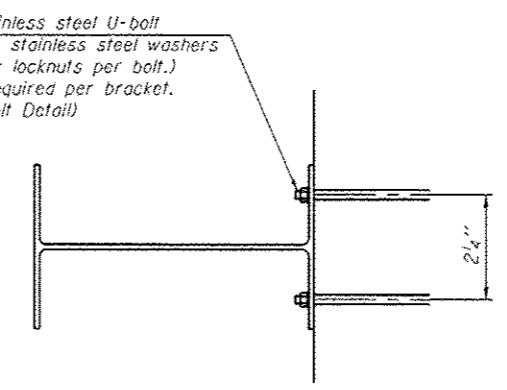
Concrete shall be placed monolithically, without construction joints.

Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

A normal surface finish followed by a Bridge Seal Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.

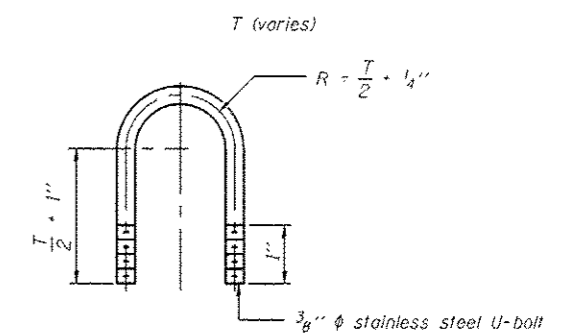


**SIGN MOUNTING BRACKET**  
(Minimum 2 Brackets Each Sign)



**SECTION B-B**

6'-0" maximum spacing.  
2'-0" maximum sign overhang beyond end bracket.



**U-BOLT DETAIL**  
(Typical)

MONOTUBE - 2 6-1-12

FILE NAME	USER NAME	DESIGNED	REVISED
ct:\pvc\work\p1\dot\stef\forms\ad0358933\0746306-shft-details.dgn	stef	-	-
		DRAWN	REVISED
		CHECKED	REVISED
		DATE	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

MONOTUBE SIGN STRUCTURE  
FOUNDATION AND SIGN BRACKETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	-	**	45	30
* 07 OVC SIN STR REPL 14-42			CONTRACT NO. 46306	
ILLINOIS FED. AID PROJECT				
**EFFINGHAM, MACON, COLES				

SCALE: SHEET OF SHEETS STA. TO STA.



SOIL BORING LOG

ROUTE FAI 70 (I-70) DESCRIPTION Overhead Sign Truss LOGGED BY E. Sandschafer

SECTION N/A LOCATION SE, SEC. 11, TWP. 8 N, RNG. 6 E, 3 PM

COUNTY Effingham DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. <u>7S025070L099.5</u>	D	B	U	M	Surface Water Elev. <u>N/A</u> ft	D	B	U	M
Station <u></u>	E	L	C	O	Stream Bed Elev. <u>N/A</u> ft	E	L	C	O
	P	O	S	I		P	O	S	I
BORING NO. <u>1 (North)</u>	T	W	S	T	Groundwater Elev.:	H	S	Qu	T
Station <u>2433+87</u>	H	S	Qu	T	▼ First Encounter <u></u> ft				
Offset <u>72.0ft North</u>					▼ Upon Completion <u>575.1</u> ft				
Ground Surface Elev. <u>593.27</u> ft	(ft)	/6"	(tsf)	(%)	▼ After <u>24</u> Hrs. <u>591.3</u> ft	(ft)	/6"	(tsf)	(%)

Topsoil. <u>593.07</u>					Hard, very moist, brown, CLAY LOAM TILL. (continued)	40	6.98	8
Hard, moist, brown, SANDY CLAY LOAM TILL.					Extent of exploration.	38	S	
	13				Benchmark: BM LIN3 Chisled square on top of center concrete foundation for "Exit 98 Chicago Memphis 1 Mile" Sta 2433+00 = 594.32' elevation. Provided by Program Development.			
	26	10.1	9					
	29	S						
	19							
	27	11.52	8					
	36	B						
	13							
	24	11.52	9					
	50/4"	B						
	12							
Hard, very moist, brown, CLAY LOAM TILL. <u>583.77</u>	-10	16	7.83	12				
		21	BS					
	10							
	25	9.38	11					
	33	S						
	23							
Hard, very moist, brown, SANDY CLAY LOAM TILL. <u>578.77</u>	-15	39	+4.5	10				
		33	PP					
	25							
Hard, very moist, brown, CLAY LOAM TILL. <u>576.27</u>		50	4.84	9				
		46	S					
	23							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated) Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Sealing The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

File Name: S:\NEW GEOTECHNICAL\GINT\DATA\PROJECTS\EFFINGHAM CO (025)\025-0000 (70025070L099.5 SIGN TRUSS) SOI. 2013.GPJ Data Template 06TEMPLE.GDT Date Printed 6/24/13  
Latitude: W 88 deg 29 min 08.145 sec Longitude: N 39 deg 09 min 10.415 sec Datum: 25 Number



SOIL BORING LOG

ROUTE FAI 70 (I-70) DESCRIPTION Overhead Sign Truss LOGGED BY E. Sandschafer

SECTION N/A LOCATION SE, SEC. 11, TWP. 8 N, RNG. 6 E, 3 PM

COUNTY Effingham DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. <u>7S025070L099.5</u>	D	B	U	M	Surface Water Elev. <u>N/A</u> ft	D	B	U	M
Station <u></u>	E	L	C	O	Stream Bed Elev. <u>N/A</u> ft	E	L	C	O
	P	O	S	I		P	O	S	I
BORING NO. <u>2 (South)</u>	T	W	S	T	Groundwater Elev.:	H	S	Qu	T
Station <u>2433+82</u>	H	S	Qu	T	▼ First Encounter <u></u> ft				
Offset <u>13.0ft North</u>					▼ Upon Completion <u>571.1</u> ft				
Ground Surface Elev. <u>592.36</u> ft	(ft)	/6"	(tsf)	(%)	▼ After <u>24</u> Hrs. <u>584.7</u> ft	(ft)	/6"	(tsf)	(%)

Topsoil. <u>592.16</u>					Hard, very moist, brown, CLAY LOAM TILL. (continued)	28	8.51	10
Hard, very moist, brown, CLAY LOAM TILL.					Extent of exploration.	35	S	
	11				Benchmark: BM LIN3 Chisled square on top of center concrete foundation for "Exit 98 Chicago Memphis 1 Mile" Sta 2433+00 = 594.32' elevation. Provided by Program Development.			
	18	10.47	8					
	22	S						
	17							
	24	8.98	9					
	30	S						
	10							
	20	10.91	10					
	30	S						
	19							
	33	10.47	9					
	44	BS						
	20							
Hard, very moist, brown, SANDY CLAY LOAM TILL. <u>580.36</u>		25	6.76	10				
		50	S					
	25							
	31	6.76	8					
	28	S						
	18							
Hard, very moist, brown, CLAY LOAM TILL. <u>575.36</u>		18	7.83	11				
		28	BS					
	18							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated) Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Sealing The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

File Name: S:\NEW GEOTECHNICAL\GINT\DATA\PROJECTS\EFFINGHAM CO (025)\025-0000 (70025070L099.5 SIGN TRUSS) SOI. 2013.GPJ Data Template 06TEMPLE.GDT Date Printed 6/24/13  
Latitude: W 88 deg 29 min 08.117 sec Longitude: N 39 deg 09 min 08.744 sec Datum: Job Number

FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				BORING LOGS				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
		DRAWN	REVISED												47	31		
		CHECKED	REVISED												CONTRACT NO. 46306			
		DATE	REVISED									SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.



Illinois Department  
of Transportation  
Division of Highways  
IDOT

# SOIL BORING LOG

Date 5/14/13

ROUTE FAI 70 (I-70) DESCRIPTION Overhead Sign Truss LOGGED BY E. Sandschafer

SECTION N/A LOCATION NE, SEC. 2, TWP. 7 N, RNG. 5 E, 3 PM

COUNTY Effingham DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 7S025I07OR090.9  
Station \_\_\_\_\_  
BORING NO. 1 (South)  
Station 1980+87  
Offset 75.0ft South  
Ground Surface Elev. 549.00 ft

DEPTH (ft)	SOIL DESCRIPTION	U (tsf)	M (%)	DEPTH (ft)	SOIL DESCRIPTION	U (tsf)	M (%)
0	Topsoil.			0	Hard, very moist, gray, CLAY LOAM TILL.	12	6.18
3	Very stiff, damp, brownish red, SANDY CLAY.			3		8	
4		2.06	20	4		11	7.42
5		B		5		16	B
544.50	Very stiff, damp, brown, CLAY w/ trace Sand.			11		15	8.66
5		2.68	17	18		18	B
539.50	Stiff, damp, brown, SANDY CLAY.			8		13	9.07
3		1.07	19	18		18	B
4		B		18		18	B
536.60	Wet, brown, fine grained, SAND.			12		16	8.66
536.30	Stiff, damp, brown, SANDY CLAY.			20		20	B
534.50	Hard, very moist, brown, CLAY LOAM TILL.			9		13	5.98
13		6.33	11	15		15	B
19		S		6		9	4.95
7				11		11	7.21
11				16		16	B
7				7		7	
529.00				16		16	B

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated) Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Sealing The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

File Name: S:\NEW GEOTECHNICAL\GINTDATA\PROJECTS\EFFINGHAM CO (025)\025-0000 (70025I07OR090.9 SIGN TRUSS) SOIL 2013.GPJ Data Template 06/16/11.DOT Date Printed 6/24/13 Latitude: W 88 deg 36 min 07.712 sec Longitude: N 39 deg 05 min 17.169 sec Datum: NAD83 Job Number: 46306



Illinois Department  
of Transportation  
Division of Highways  
IDOT

# SOIL BORING LOG

Date 5/14/13

ROUTE FAI 70 (I-70) DESCRIPTION Overhead Sign Truss LOGGED BY E. Sandschafer

SECTION N/A LOCATION NE, SEC. 2, TWP. 7 N, RNG. 5 E, 3 PM

COUNTY Effingham DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 7S025I07OR090.9  
Station \_\_\_\_\_  
BORING NO. 2 (North)  
Station 1980+85  
Offset 13.0ft South  
Ground Surface Elev. 549.14 ft

DEPTH (ft)	SOIL DESCRIPTION	U (tsf)	M (%)	DEPTH (ft)	SOIL DESCRIPTION	U (tsf)	M (%)
0	Topsoil.			0	Hard, very moist, gray, CLAY LOAM TILL.	9	5.15
3	Hard, damp, brown, CLAY LOAM TILL.			3		12	B
6				6		6	
7		5.02	11	10		10	7.21
18		S		14		14	B
15				8		8	
18		6.76	9	12		12	8.86
29		S		19		19	B
541.64	Soft, brown, SANDY LOAM to SANDY LOAM TILL.			9		9	
24		1.75	10	10		10	9.07
40		S		15		15	B
21				8		8	
28		4.45	9	12		12	8.04
26		PP		15		15	B
538.34	Hard, very moist, gray, CLAY LOAM TILL.			12		12	
16		8.66	9	20		20	B
20		B		9		9	
13		5.98	10	15		15	B
15		B		6		6	
9				9		9	4.95
15				12		12	B
6				6		6	
529.14				9		9	4.95
12				12		12	B

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated) Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Sealing The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

File Name: S:\NEW GEOTECHNICAL\GINTDATA\PROJECTS\EFFINGHAM CO (025)\025-0000 (70025I07OR090.9 SIGN TRUSS) SOIL 2013.GPJ Data Template 06/16/11.DOT Date Printed 6/24/13 Latitude: W 88 deg 36 min 07.712 sec Longitude: N 39 deg 05 min 17.169 sec Datum: NAD83 Job Number: 46306

FILE NAME: c:\p\work\p\dot\data\effingham\025\025-0000\70025I07OR090.9 SIGN TRUSS\SOIL 2013.GPJ	USER NAME: staffernk	DESIGNED: -	REVISED: -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BORING LOGS</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE: 1/8" = 1'-0"	PLOT DATE: 10/24/2013	DRAWN: -	REVISED: -						47	32	
CHECKED: -	DATE: -	REVISED: -	REVISED: -			CONTRACT NO. 46306					
ILLINOIS FED. AID PROJECT											



