

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VOR	**	various	28	1
ILLINOIS			CONTRACT NO. 46176	

** D-2 OVD SIN STR REPL 12-03

PROPOSED HIGHWAY PLANS

Various Routes
 SECTION D-2 OVD SIN STR REPL 12-03
 Various Counties

C-60-003-12

INDEX OF SHEETS

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2. Summary of Quantities
3. Schedule of Quantities
4. Guardrail Details
5. -28. Sign Truss Plans

STANDARDS


- 701101-02
- 701106-02
- 701400-04
- 701401-06
- 701411-07
- 701901-01

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

CONTRACT NO. 46176

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED APRIL 14 2011


 ENGINEER OF OPERATIONS

July 1 2011
Scott E. Stitt P.E.
 acting ENGINEER OF DESIGN AND ENVIRONMENT

July 1 2011
Christine M. Reed
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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 OF THE STATE OF ILLINOIS

SUMMARY OF QUANTITIES

CODE NUMBER	PAY ITEM	UNIT	TOTAL QUANTITY	SIGN 46	SIGN 97	SIGN 100	SIGN 102	SIGN 131	SIGN 135	SIGN 167	SIGN 168
* 63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	75						75		
* 63301210	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL TYPE A	FOOT	150		75	75					
* 63301990	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 1	EACH	6		2	2			2		
* 63302000	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 2	EACH	6		2	2			2		
67100100	MOBILIZATION	L SUM	1	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
73300200	OVERHEAD SIGN STRUCTURE-SPAN, TYPE II-A (4'-6" X 5'-3')	FOOT	656	118	110	110	84	120	114		
73301810	OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	313	66	48	54		55	53	18	19
73302170	OVERHEAD SIGN STRUCTURE-CANTILEVER, TYPE II-C-A (36" X 5'-6").	FOOT	58							28	30
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	136.1	21	25	25		25	24.6	6.9	8.6
73600100	REMOVE OVERHEAD SIGN STRUCTURE-SPAN	EACH	6	1	1	1	1	1	1		
73600200	REMOVE OVERHEAD SIGN STRUCTURE-CANTILEVER	EACH	2							1	1
73700300	REMOVE CONCRETE FOUNDATIONS-OVERHEAD	EACH	12	2	2	2		2	2	1	1
X0325265	REMOVE ELECTRIC SERVICE	EACH	8	1	1	1	1	1	1	1	1
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
X7200075	REMOVE AND RE-INSTALL SIGN PANEL	SQ FT	1450		478	538	434				
X7200095	FURNISH AND ERECT SIGN PANEL	SQ FT	1221	315				288	419	124	75
X7330066	REPAIR HANDRAIL LOCKING PIN CONNECTION	EACH	12				12				
X7330104	REMOVE AND REINSTALL WALKWAY	FOOT	54.5				54.5				

* Specialty Items

SCHEDULE OF QUANTITIES

Location No.:	2-01	State I.D. No.:	2S081N000L000.0				
County:	ROCK ISLAND	Route:	7TH AVE	M.P.:	0	Direction:	WB
Description of Work	Unit	Quantity					
DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	21.00					
REMOVE CONCRETE FOUNDATION-OVERHEAD	EACH	2.00					
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	86.00					
OVERHEAD SIGN STRUCTURE-SPAN TYPE II-A (4'-6" X 5'-3")	FOOT	118.00					
FURNISH AND ERECT SIGN PANEL	SQ FT	315.00					
REMOVE ELECTRIC SERVICE	EACH	1.00					
REMOVE OVERHEAD SIGN STRUCTURE	EACH	1.00					
<i>The new foundations will be built in line with the existing footings.</i>							
<i>Center the new sign structure 25 feet east of the center of the existing structure.</i>							
SIGN # 48							

Location No.:	2-03	State I.D. No.:	2S081I080L003.6				
County:	ROCK ISLAND	Route:	I-80	M.P.:	3.8	Direction:	WB
Description of Work	Unit	Quantity					
REMOVE AND RE-ERECT SPGR, TYPE A	FOOT	75.00					
REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2.00					
REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2.00					
OVERHEAD SIGN STRUCTURE-SPAN, TYPE II-A (4'-6" X 5'-3")	FOOT	110.00					
DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	25.00					
REMOVE OVERHEAD SIGN STRUCTURE	EACH	1.00					
REMOVE CONCRETE FOUNDATION-OVERHEAD	EACH	2.00					
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	54.00					
REMOVE & REINSTALL SIGN PANEL	SQ FT	538.00					
REMOVE ELECTRIC SERVICE	EACH	1.00					
<i>Locate the new structure 25 feet east of the existing structure.</i>							
<i>Drilled shafts in the median shall be located halfway between the outside edges of the passing lanes.</i>							
SIGN # 100							

Location No.:	2-05	State I.D. No.:	2S098I088L036.4				
County:	WHITESIDE	Route:	I-88	M.P.:	36.4	Direction:	WB
Description of Work	Unit	Quantity					
OVERHEAD SIGN STRUCTURE-SPAN TYPE II-A (4'-6" X 5'-3")	FOOT	120.00					
DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	25.00					
REMOVE OVERHEAD SIGN STRUCTURE	EACH	1.00					
REMOVE CONCRETE FOUNDATION-OVERHEAD	EACH	2.00					
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	55.00					
FURNISH AND ERECT SIGN PANEL	SQ FT	288.00					
REMOVE ELECTRIC SERVICE	EACH	1.00					
<i>Locate the new structure 25 feet east of the existing structure.</i>							
SIGN # 131							

Location No.:	2-07	State I.D. No.:	2C101S251L009.6				
County:	WINNEBAGO	Route:	IL 251	M.P.:	9.6	Direction:	SB
Description of Work	Unit	Quantity					
OVERHEAD SIGN STRUCTURE-CANTILEVER TYPE II-C-A	FOOT	28.00					
DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	6.80					
REMOVE OVERHEAD SIGN STRUCTURE	EACH	1.00					
REMOVE CONCRETE FOUNDATION-OVERHEAD	EACH	1.00					
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	18.00					
FURNISH AND ERECT SIGN PANEL	SQ FT	124.00					
REMOVE ELECTRIC SERVICE	EACH	1.00					
<i>Locate the new structure 15 feet north of the existing structure.</i>							
<i>Build the new foundation with the same pavement offset as the old.</i>							
SIGN # 167							

Location No.:	2-02	State I.D. No.:	2S081I080R003.2				
County:	ROCK ISLAND	Route:	I-80	M.P.:	3.2	Direction:	EB
Description of Work	Unit	Quantity					
REMOVE AND RE-ERECT SPGR, TYPE A	FOOT	75.00					
REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2.00					
REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2.00					
OVERHEAD SIGN STRUCTURE-SPAN, TYPE II-A (4'-6" X 5'-3")	FOOT	110.00					
DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	25.00					
REMOVE OVERHEAD SIGN STRUCTURE	EACH	1.00					
REMOVE CONCRETE FOUNDATION-OVERHEAD	EACH	2.00					
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	48.00					
REMOVE ELECTRIC SERVICE	EACH	1.00					
REMOVE & REINSTALL SIGN PANEL	SQ FT	478.00					
<i>Locate the new structure 25 feet west of the existing structure.</i>							
<i>Drilled shafts in the median shall be located halfway between the outside edges of the passing lanes.</i>							
SIGN # 97							

Location No.:	2-04	State I.D. No.:	2S081I088R015.8				
County:	ROCK ISLAND	Route:	I-88	M.P.:	15.6	Direction:	EB
Description of Work	Unit	Quantity					
OVERHEAD SIGN STRUCTURE-SPAN, TYPE II-A (4'-6" X 5'-3")	FOOT	84.00					
REMOVE OVERHEAD SIGN STRUCTURE-SPAN	EACH	1.00					
REMOVE AND REINSTALL WALKWAY	FOOT	54.50					
REPAIR HANDRAIL LOCKING PIN CONNECTION	EACH	12.00					
REMOVE ELECTRIC SERVICE	EACH	1.00					
REMOVE & REINSTALL SIGN PANEL	SQ FT	434.00					
<i>Locate the new structure 25 feet west of the existing structure.</i>							
<i>Drilled shafts in the median shall be located halfway between the outside edges of the passing lanes.</i>							
SIGN # 102							

Location No.:	2-06	State I.D. No.:	2S081I280R010.8				
County:	ROCK ISLAND	Route:	I-280	M.P.:	10.8	Direction:	EB
Description of Work	Unit	Quantity					
STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	75.00					
REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2.00					
REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2.00					
OVERHEAD SIGN STRUCTURE-SPAN, TYPE II-A (4'-6" X 5'-3")	FOOT	114.00					
DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	24.60					
REMOVE OVERHEAD SIGN STRUCTURE	EACH	1.00					
REMOVE CONCRETE FOUNDATION-OVERHEAD	EACH	2.00					
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	53.00					
FURNISH AND ERECT SIGN PANEL	SQ FT	419.00					
REMOVE ELECTRIC SERVICE	EACH	1.00					
<i>Locate the new structure 25 feet west of the existing structure.</i>							
<i>Drilled shafts in the median shall be located halfway between the outside edges of the passing lanes.</i>							
SIGN # 135							

Location No.:	2-08	State I.D. No.:	2C101S251R009.6				
County:	WINNEBAGO	Route:	IL 251	M.P.:	9.6	Direction:	NB
Description of Work	Unit	Quantity					
OVERHEAD SIGN STRUCTURE-CANTILEVER TYPE II-C-A	FOOT	30.00					
DRILLED SHAFT CONCRETE FOUNDATIONS	CU YD	8.80					
REMOVE OVERHEAD SIGN STRUCTURE	EACH	1.00					
REMOVE CONCRETE FOUNDATION-OVERHEAD	EACH	1.00					
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	19.00					
FURNISH AND ERECT SIGN PANEL	SQ FT	75.00					
REMOVE ELECTRIC SERVICE	EACH	1.00					
<i>Locate the new structure 15 feet south of the existing structure.</i>							
<i>Build the new foundation with the same pavement offset as the old.</i>							
SIGN # 168							

GUARDRAIL REMOVAL SCHEDULE

I- 80	EAST BOUND	WEST BOUND
Sign 97 (SN 250811080R003.0)	Centerline of sign is at Sta. 202+00	
Remove Traffic Barrier Terminal, Type 1	201+10.3 - 201+62.3	- 202+37.7 - 202+89.7
Remove Steel Plate Guardrail, Type A	201+62.3 - 201+99.8	- 202+00.2 - 202+37.7
Remove Traffic Barrier Terminal, Type 2	201+99.8 - 202+13.8	- 201+86.2 - 202+00.2
Sign 100 (SN 25081080L003.8)	Centerline of sign is at Sta. 234+00	
Remove Traffic Barrier Terminal, Type 1	233+21.4 - 233+73.4	- 234+25.1 - 234+77.1
Remove Steel Plate Guardrail, Type A	233+73.4 - 234+10.9	- 233+87.6 - 234+25.1
Remove Traffic Barrier Terminal, Type 2	234+10.9 - 234+24.9	- 233+73.6 - 233+87.6

I- 280

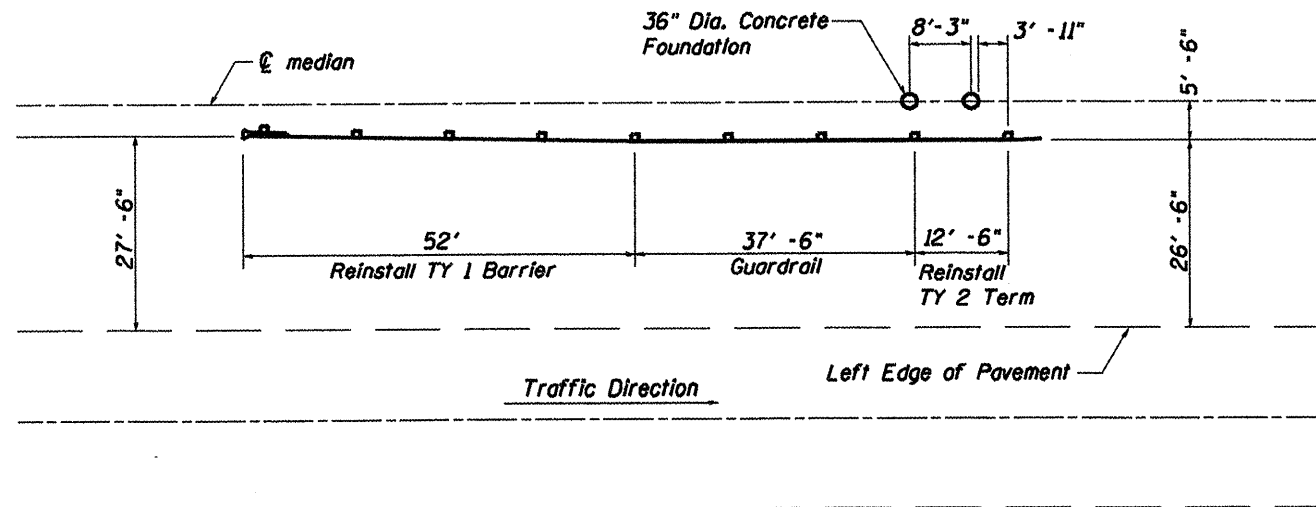
Sign 135 (SN 250811280R010.8)	Centerline of sign is at Sta. 92+00	
Remove Traffic Barrier Terminal, Type 1	91+43.9 - 91+95.9	- 92+04.0 - 92+56.0
Remove Traffic Barrier Terminal, Type 2	91+95.9 - 92+09.9	- 91+90.0 - 92+04.0

GUARDRAIL INSTALLATION AND REINSTALLATION SCHEDULE

I- 80	EAST BOUND	WEST BOUND
Sign 97 (SN 250811080R003.0)	Centerline of new sign is at Sta. 201+75	
Re-erect Traffic Barrier Terminal, Type 1	200+82.54 - 201+34.54	201+65.46 - 201+77.96
Re-erect Steel Plate Guardrail, Type A	201+34.54 - 201+72.04	201+77.96 - 202+15.45
Re-erect Traffic Barrier Terminal, Type 2	201+72.04 - 201+84.54	202+15.45 - 202+67.46
Sign 100 (SN 25081080L003.8)	Centerline of new sign is at Sta. 234+35	
Re-erect Traffic Barrier Terminal, Type 1	233+32.54 - 233+84.55	234+76.71 - 235+28.71
Re-erect Steel Plate Guardrail, Type A	233+84.55 - 234+22.05	234+39.21 - 234+76.71
Re-erect Traffic Barrier Terminal, Type 2	234+22.05 - 234+34.55	234+26.71 - 234+39.21

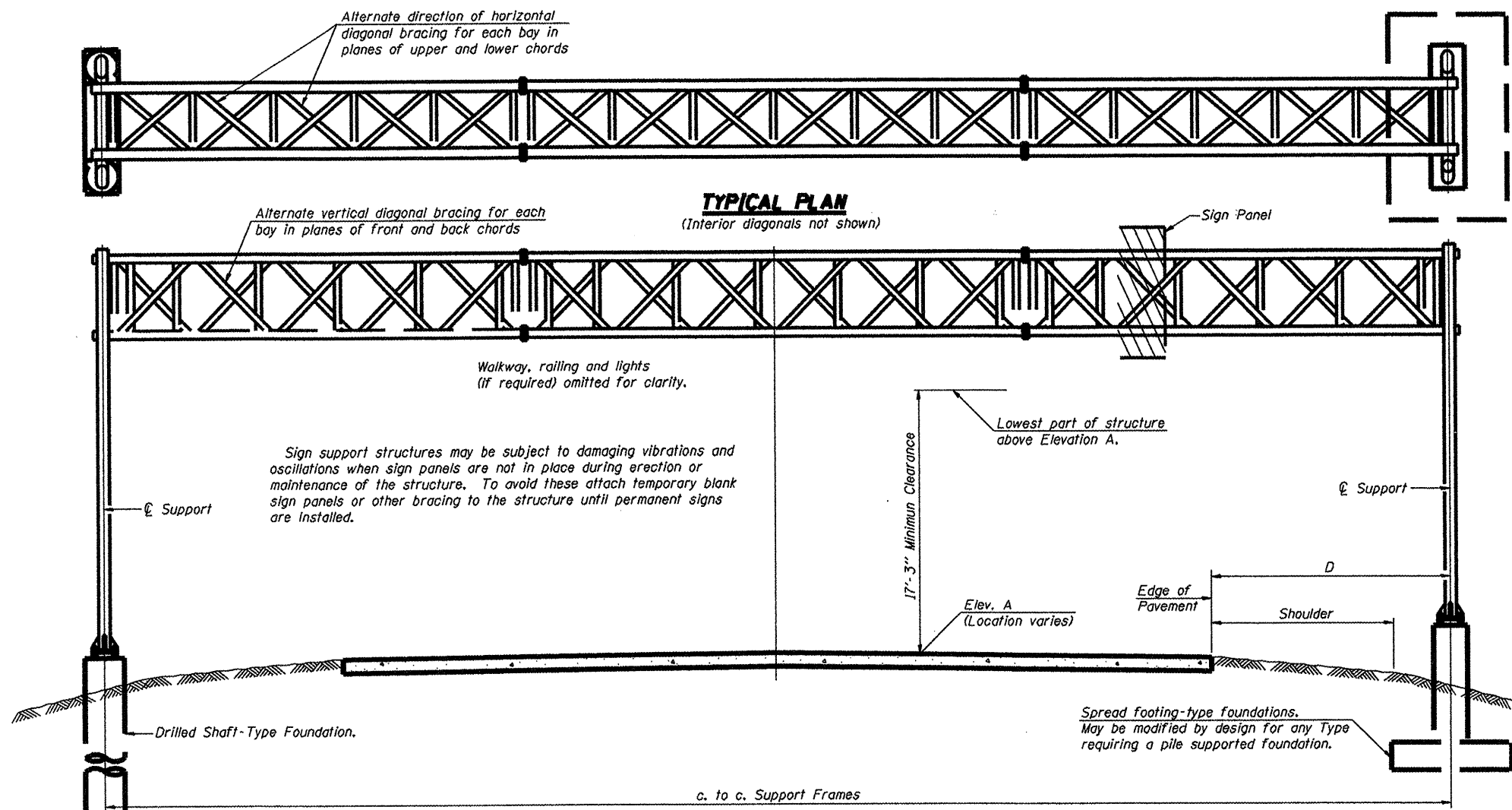
I-280

Sign 135 (SN 250811280R010.8)	Centerline of new sign is at Sta. 91+75	
Re-erect Traffic Barrier Terminal, Type 1	90+82.55 - 91+34.55	92+26.71 - 92+78.71
Add New Steel Plate Guardrail, type A	91+34.55 - 91+72.05	91+89.21 - 92+26.71
Re-erect Traffic Barrier Terminal, Type 2	91+72.05 - 91+84.55	91+76.71 - 91+89.21



GUARDRAIL DETAILS

FILE NAME =	USER NAME = jinkdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GUARDRAIL SCHEDULES AND DETAILS		F.A. RTE. =	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D:\BYSIGN TRUSS\CAOD Plans\2011-2 cont	act\PLANeng.dgn	DRAWN -	REVISED -		SCALE: _____	SHEET NO. _____ OF _____ SHEETS	STA. _____ TO STA. _____	var I-2 OVD SIM STR REPL 12-03	var	28	4
	PLOT SCALE = 100.0000' / IN.	CHECKED -	REVISED -		CONTRACT NO. 46176						
	PLOT DATE = Wed Apr 06 15:28:10 2011	DATE -	REVISED -		ILLINOIS FED. AID PROJECT						



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)d 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 Seat Sealer in accordance with the Standard Specifications.

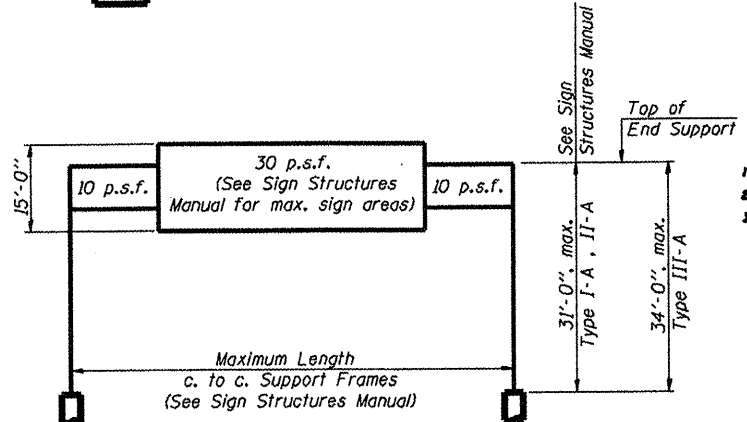
REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

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

TYPICAL ELEVATION
(Looking at Face of Signs)**

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

Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
46	215+70	II-A	118'	98.00	12.5	8.0'	315
97	201+75	II-A	110'	99.44	35'	14'	478
100	250811080L003.8	II-A	110'	102.93	35.5	12'	538
102	250811088R015.8	II-A	84'	588.40	35	10'	434
131	250981088L036.4	II-A	120'	102.2	30.5	10.5'	288
135	250811280R010.8	II-A	114'	104.22	32	11'	419



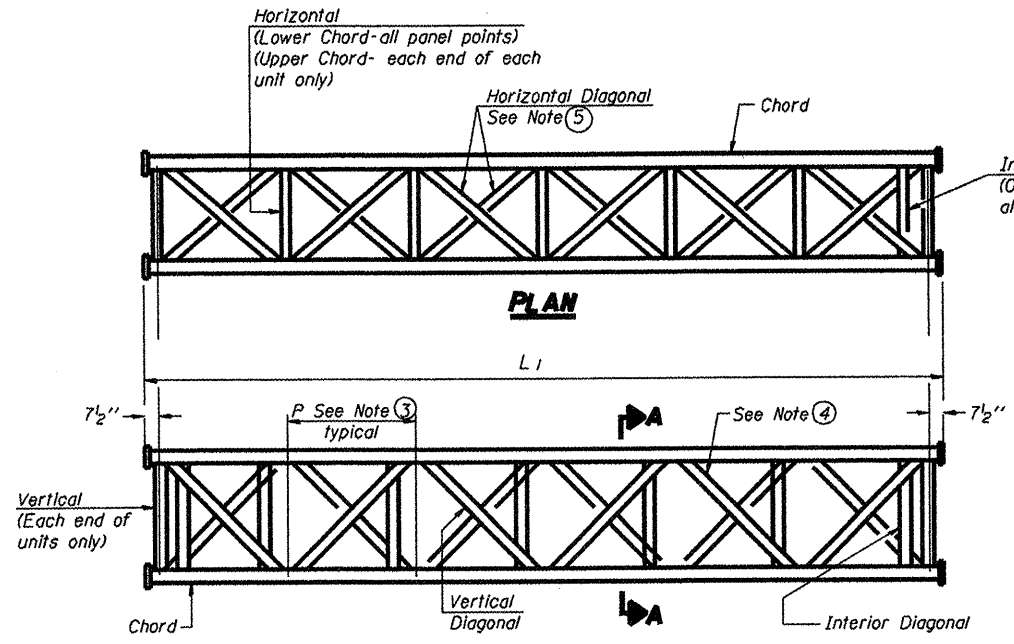
DESIGN WIND LOADING DIAGRAM

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.

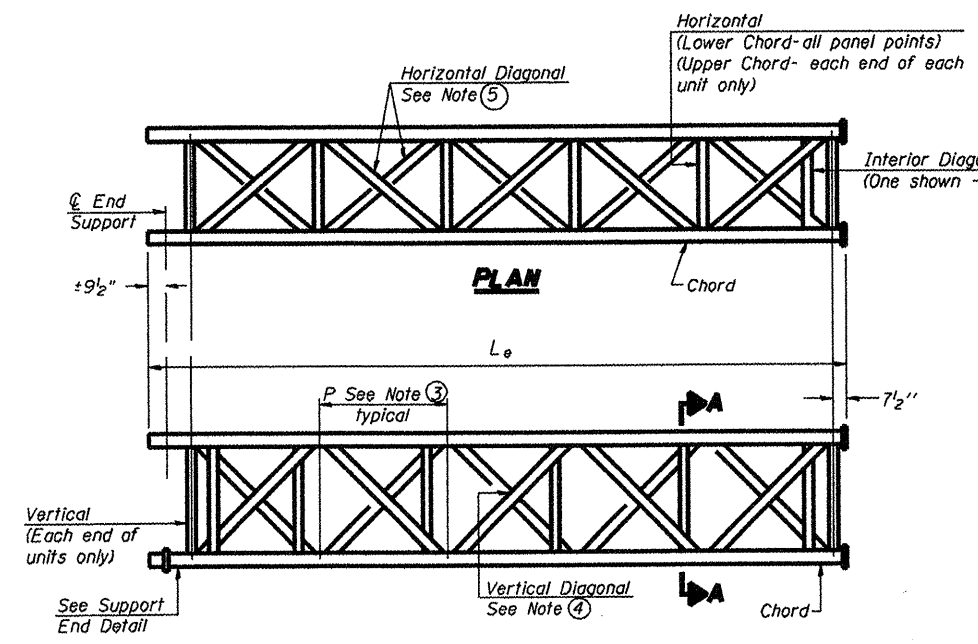
- **Looking upstation for structures with signs both sides.
- 1 Using existing structure on new foundations
 - 2 66' from EBL's
 - 3 64.5' from WBL's
 - 4 30.5' north of north edge of ramp (65.5' north of E WBL's)
- * If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

TOTAL BILL OF MATERIAL

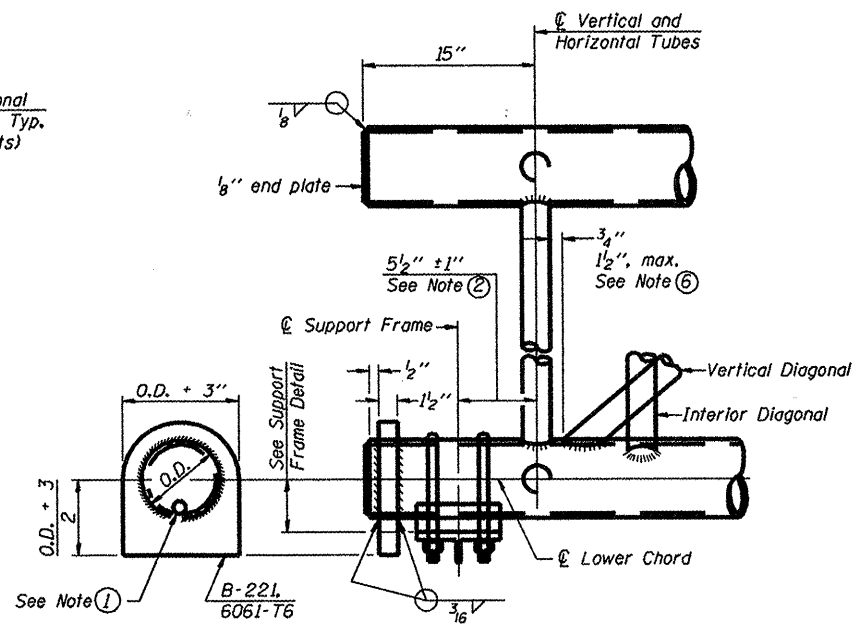
ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE SPAN TYPE I-A	Foot	
OVERHEAD SIGN STRUCTURE SPAN TYPE II-A	Foot	
OVERHEAD SIGN STRUCTURE SPAN TYPE III-A	Foot	
OVERHEAD SIGN STRUCTURE WALKWAY TYPE A	Foot	
CONCRETE FOUNDATIONS	Cu. Yds.	
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	



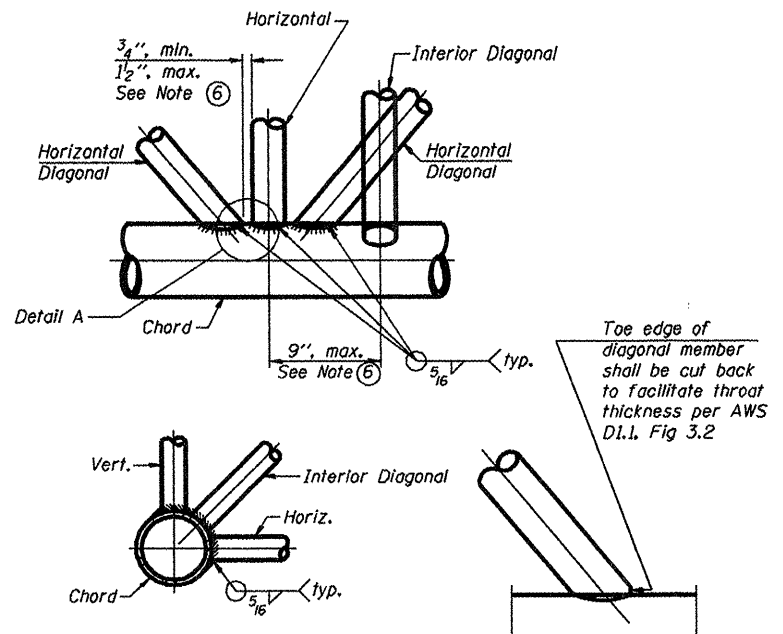
**ELEVATION
TYPICAL INTERIOR UNIT**
Even number of panels/interior unit required.



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

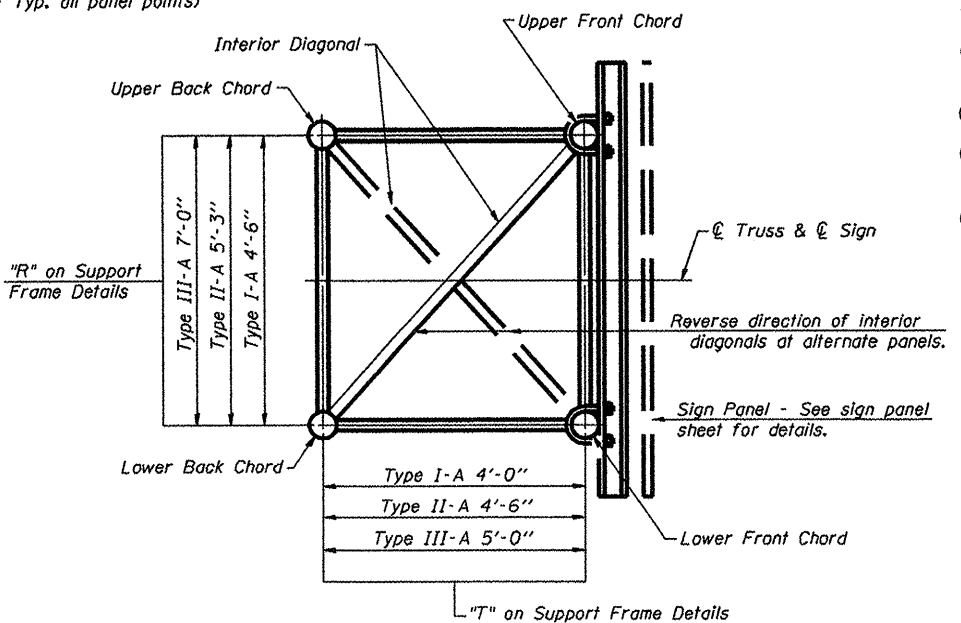


SUPPORT END DETAIL FOR EXTERIOR UNIT



TYPICAL JOINT DETAILS

DETAIL A



SECTION A-A

- ① Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" φ drain hole in end plate/drive-fit cap. (Typ. at ends of all 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-A or 4'-0" and 5'-6" for Types II-A and III-A.
- ④ Vertical Diagonals in front and back face shall alternate.
- ⑤ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- ⑥ 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 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.

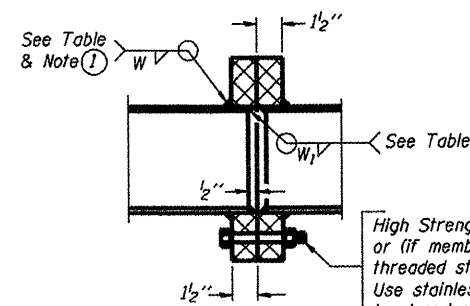
OS-A-2

1-20-11

FILE NAME =	USER NAME = lunkdj	DESIGNED -	REVISED -	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 SHEETS	SHEET NO.
ONBR/SIGN TRUSS/CADD Plans/2011-2 cont/act/PLANeng.dgn		DRAWN -	REVISED -			var 0-2 OVD SIM STR REPL 12-03	VARIOUS	28	6	
PLOT SCALE = 100.0000 / IN.		CHECKED -	REVISED -			CONTRACT NO. 46176		ILLINOIS FED. AID PROJECT		
PLOT DATE = Wed Apr 06 15:28:41 2011		DATE -	REVISED -			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.		

TRUSS UNIT TABLE

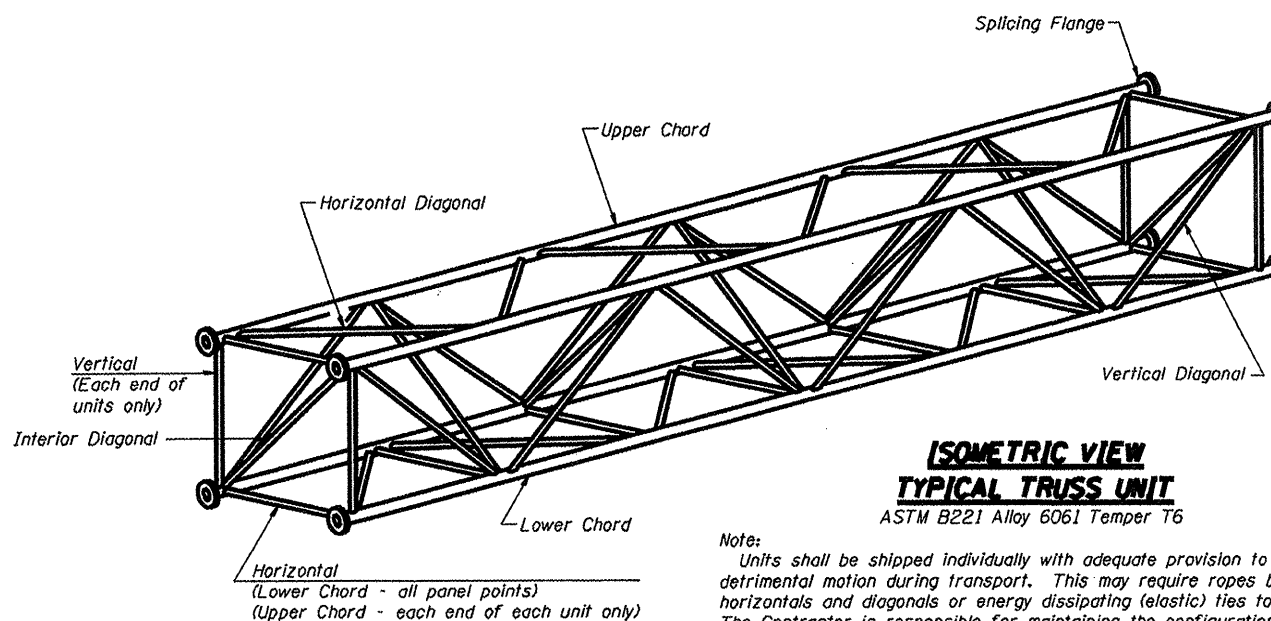
Structure Number	Station	Design Truss Type	Exterior Units (2)				Interior Unit				Upper & Lower Chord		Verticals, Horizontals, Vertical, Horizontal, and Interior Diagonals				Camber at Midspan	Splicing Flange			
			No. Panels per Unit	Unit Lgth.(L _e)	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(L _i)	Panel Lgth.(P)	O.D.	Wall	O.D.	Wall	Bolts		Weld Sizes		A	B		
														No./Splice	Dia.	W				W _i	
97	201+75	II-A	7	39' 2 1/2"	5' 4"	1	6	33' 3"	5' 4"	6 1/2"	5/8"	3"	5/8"	3 1/2"	6	1"	3/8"	1/4"	11"	14 1/2"	
100	234+25	II-A	7	39' 2 1/2"	5' 4"	1	6	33' 3"	5' 4"	6 1/2"	5/8"	3"	5/8"	3 1/2"	6	1"	3/8"	1/4"	11"	14 1/2"	
102	232+00	II-A	5	27' 1"	5' 0 1/2"	1	6	31' 6"	5' 0 1/2"	5 1/2"	5/8"	3"	5/8"	2 1/2"	6	1"	3/8"	1/4"	9 1/2"	12 1/4"	
131	250981088L036.4	II-A	6	30' 9"	4' 9 3/4"	2	6	30' 1 1/2"	4' 9 3/4"	7"	5/8"	3"	5/8"	4 1/2"	6	1"	3/8"	1/4"	11 1/2"	15"	
135	250811280R010.8	II-A	8	38' 8 1/2"	4' 7 1/4"	1	8	38' 1"	4' 7 1/4"	7"	5/8"	3"	5/8"	3 3/8"	6	1"	3/8"	1/4"	11 1/2"	15"	
46	250811000L000.0	II-A	8	40' 1/2"	4' 9 1/4"	1	8	39' 5"	4' 9 1/4"	7"	5/8"	3"	5/8"	4 1/4"	6	1"	3/8"	1/4"	11 1/2"	15"	



SECTION B-B

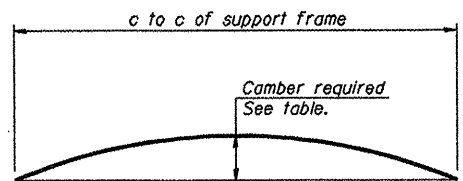
① Splicing Flanges shall be attached to each truss unit with the truss shop assembled to camber shown. Truss units shall be in proper alignment and flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.

High Strength bolts with locknuts or (if members interfere) threaded studs with 2 locknuts. Use stainless steel washers under head and nut. See table.



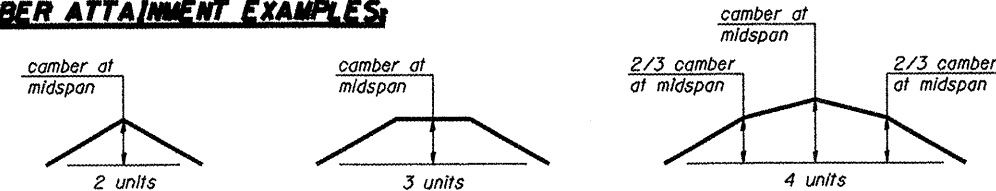
ISOMETRIC VIEW TYPICAL TRUSS UNIT
ASTM B221 Alloy 6061 Temper T6

Note: Units 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 units.

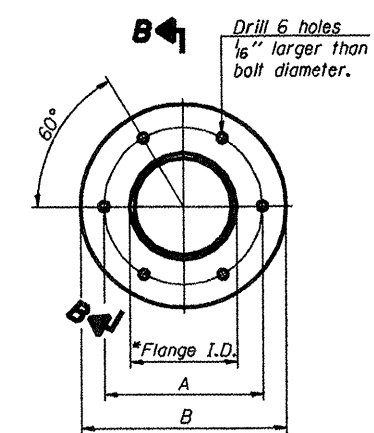


CAMBER DIAGRAM
Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

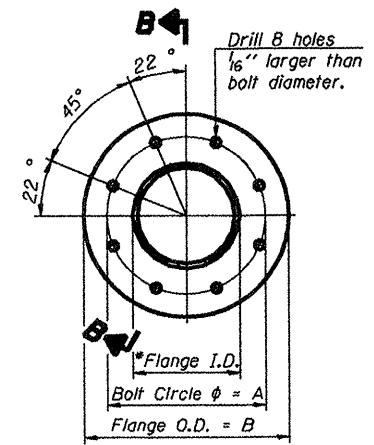
CAMBER ATTAINMENT EXAMPLES:



Camber shown is for fabrication only, measured with truss fully supported. (No-load condition)



TRUSS TYPES I-A, II-A, & III-A



TRUSS TYPES II-A & III-A
SPLICING FLANGES

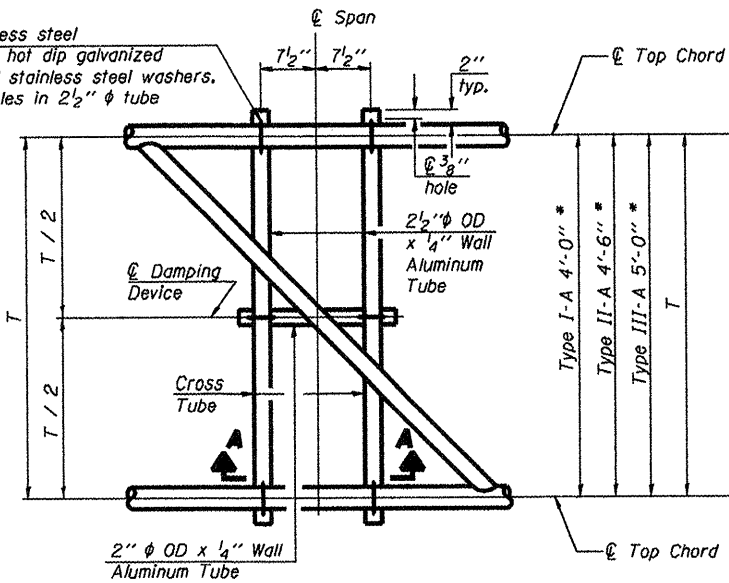
ASTM B221, Alloy 6061-T6 or ASTM B209, Alloy 6061-T651
*To fit O.D. of Chord with maximum gap of 1/16"

054-A-2

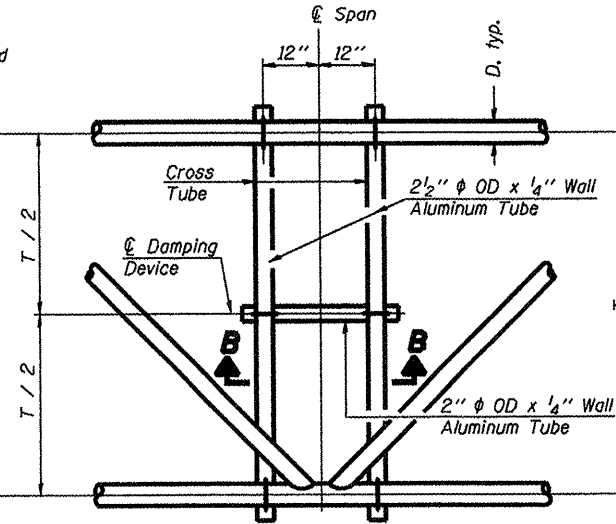
1-20-11

FILE NAME = D:\BR\SIGN TRUSS\CADD Plans\2011-2 cont	USER NAME = lmkd	DESIGNED -	REVISED -	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 SHEETS	SHEET NO.				
	act\PLANeng.dgn	DRAWN -	REVISED -			var D-2	OVD	SIN	STR	REPL	12-03	VARIOUS	28	7
	PLDT SCALE = 1/8"=1'-0"	CHECKED -	REVISED -			SCALE	SHEET NO.	OF	SHEETS	STA.	TO	STA.	CONTRACT NO. 46176	
	PLDT DATE = Wed Apr 06 15:28:53 2011	DATE -	REVISED -			ILLINOIS FED. AID PROJECT								

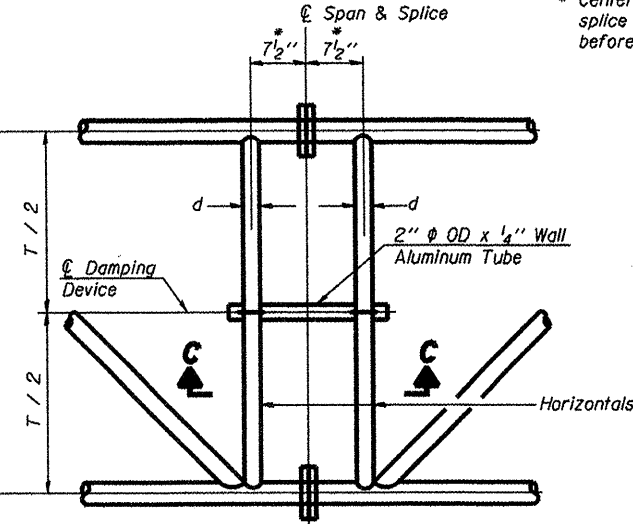
5/16" φ stainless steel U-bolt with hot dip galvanized locknuts and stainless steel washers, typ. 3/8" φ holes in 2 1/2" φ tube



PLAN DETAIL "A"
Span between Panel Points



PLAN DETAIL "B"
Span at Panel Point

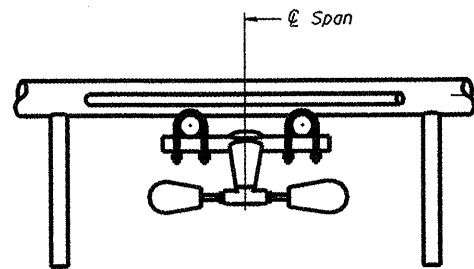


PLAN DETAIL "C"
Span at Chord Splice

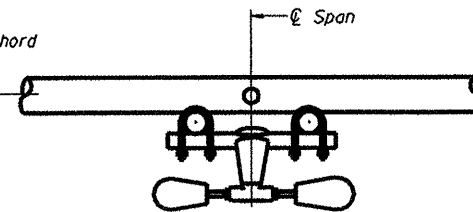
* Center of horizontal to center of splice dimension may vary. Verify before drilling holes in mounting tube.

NOTES

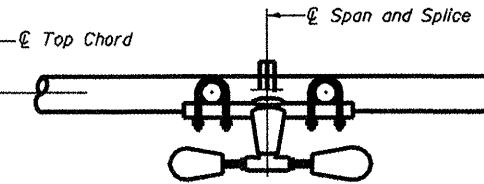
- Damper: One damper per truss. (31 lbs. minimum Stockbridge-Type Aluminum - 29" minimum between ends of weights) Cost included in Overhead Sign Structure...
- Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure...



SECTION A-A

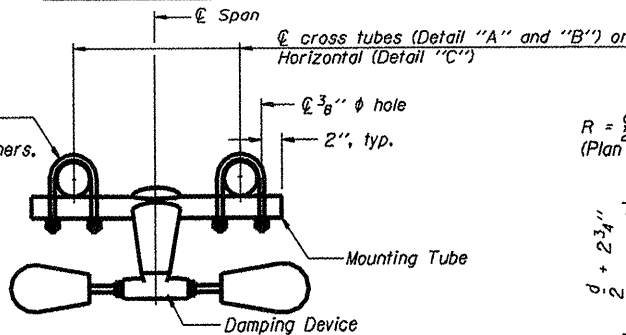


SECTION B-B

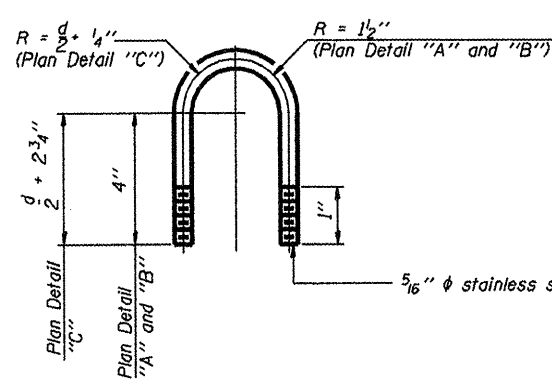


SECTION C-C

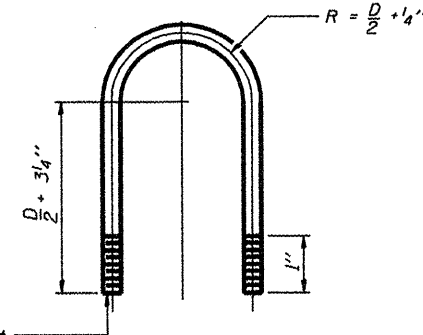
5/16" φ stainless steel U-bolt with hot dip galvanized locknuts and stainless steel washers, typ. 3/8" φ holes in mounting tube



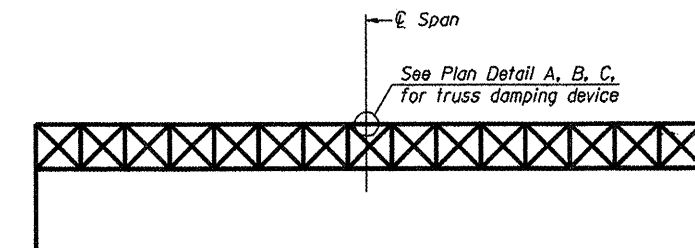
TRUSS DAMPING DEVICE CONNECTION DETAIL
(Typical)



DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL
(Typical)



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



ELEVATION
Aluminum Overhead Sign Truss

OS-A-D

1-20-11

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Q:\BR\SIGN TRUSS\CADD Plans\2011-2\contracts\PLANeng.dgn		DRAWN -	REVISED -
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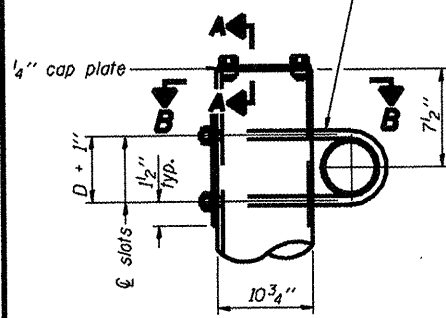
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURE
DAMPING DEVICE

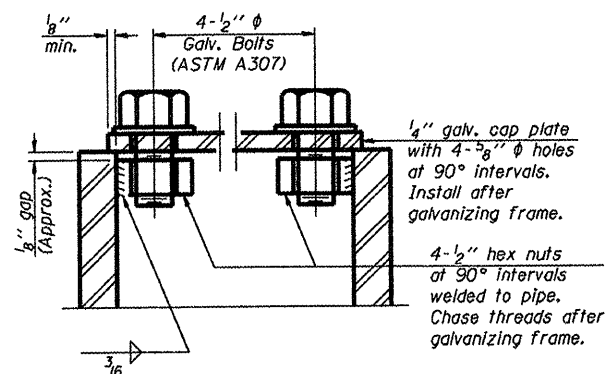
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	var 0-2 OVD SIM STR REPL 12-03	VARIOUS	28	8
CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	

3/4" ϕ stainless steel U-bolt.
Provide two washers and two hexagon locknuts. (4)
1 1/8" x 2" slots on ϕ 10" ϕ pipe.
(4 slots required per pipe)

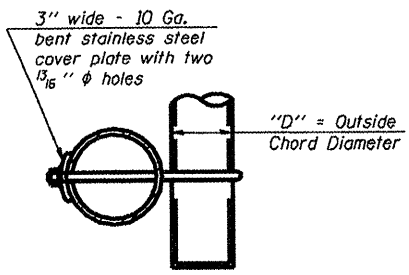


DETAIL A

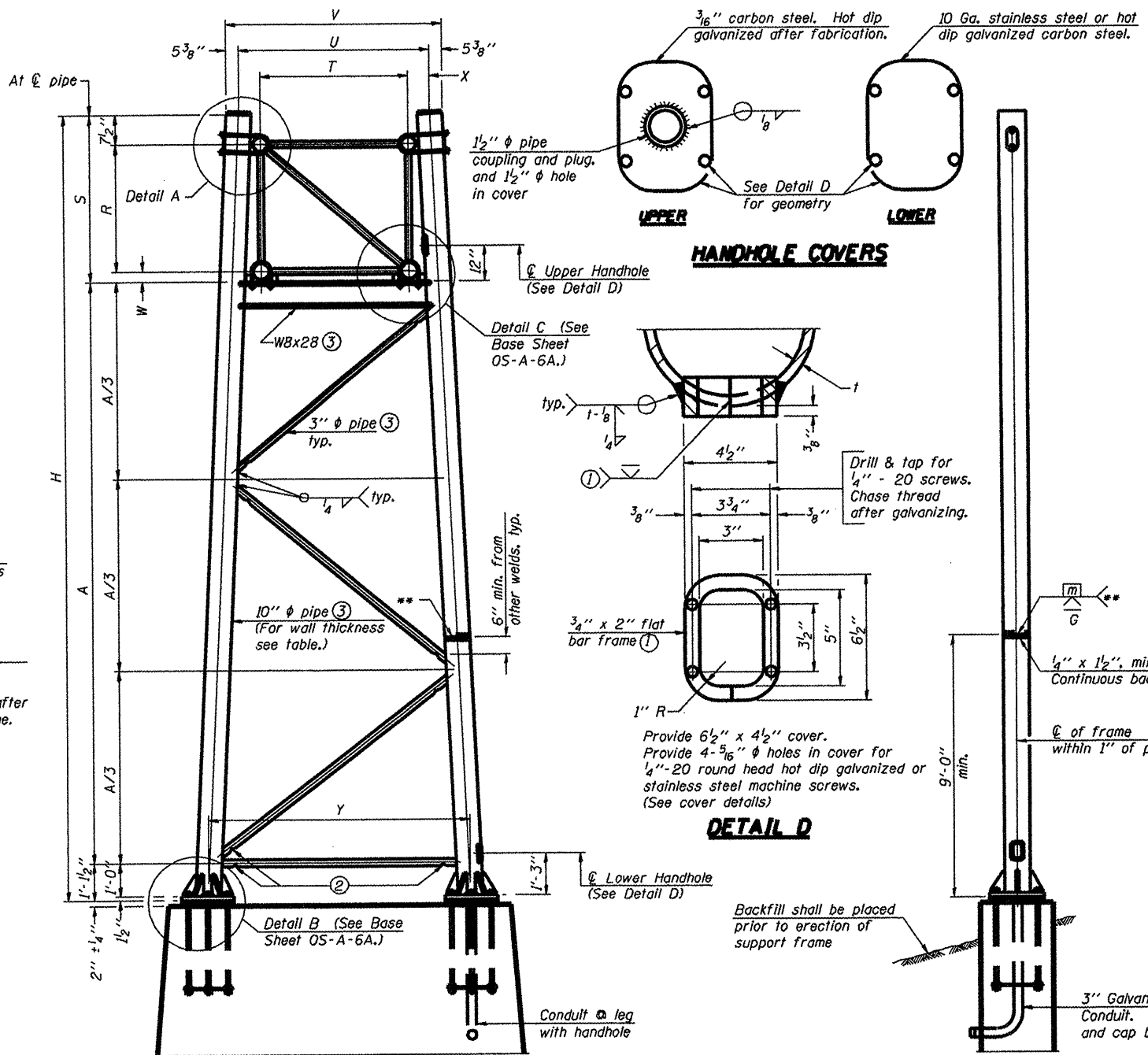


SECTION A-A

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

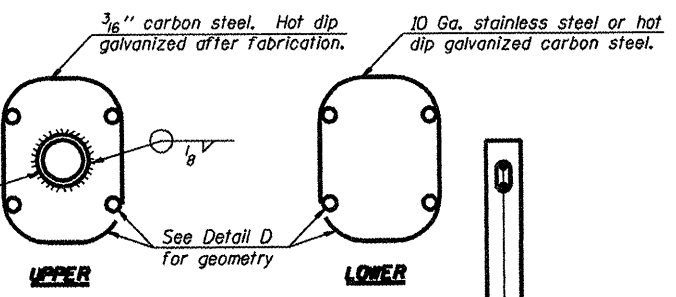
10" ϕ PIPE TRUSS SUPPORT FRAME

** 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.

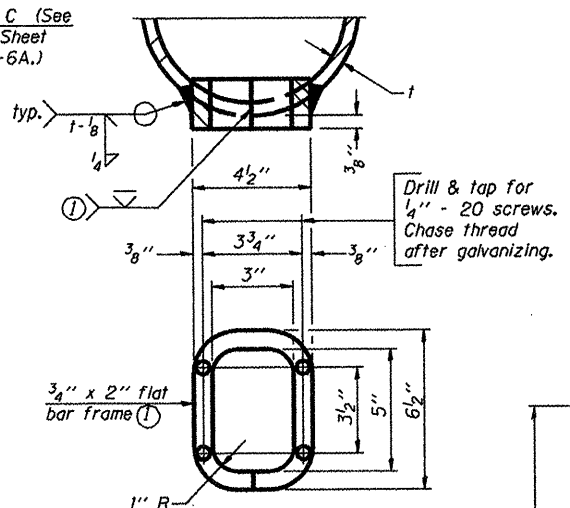
Truss Type	Dimensions							
	R	S	T	U	V	W	X	Y
I-A	4'-6"	5'-5 1/2"	4'-0"	5'-6"	6'-4 3/4"	4"	9"	8'-3"
II-A (5)	5'-3"	6'-3 1/4"	4'-6"	6'-1"	6'-11 3/4"	4 3/4"	9 1/2"	8'-3"

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 min 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.



HANDHOLE COVERS



DETAIL D

END ELEVATION

Structure Number	Station	Support		Truss Type	Pipe Wall Thickness	H (6)	A
		Left	Right				
97	25081080R003.2	201+75	X		II-A	0.365	26' 6 1/2" 19' 1 1/2"
				X			
100	25081080L003.8	234+25	X		II-A	0.365	28' 0 1/4" 20' 7 1/2"
				X			
131	25081088L036.4	2217+20	X		II-A	0.365	30' 9" 23' 4"
				X			
135	25081280R010.8	91+75	X		II-A	0.365	28' 9 1/2" 21' 4 1/2"
				X			
46	25081000L000.0	215+70	X		II-A	0.365	26' 7 1/2" 19' 2 1/2"
				X			

OS-A-6

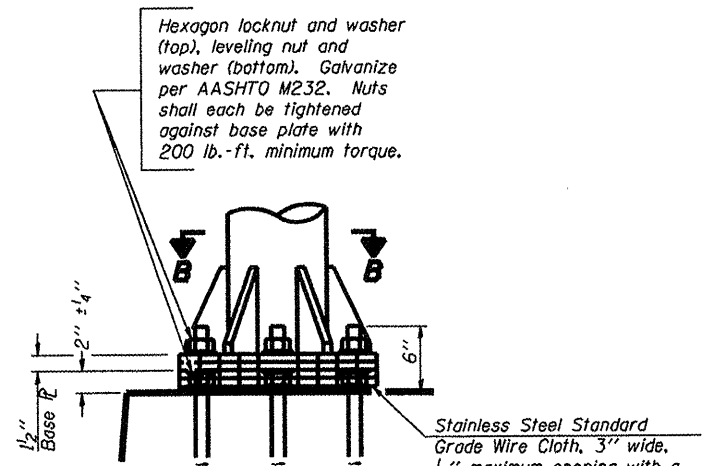
1-20-11

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PLOT SCALE: 100.0000 / IN.	DATE: Wed Apr 06 15:29:22 2011	DRAWN: -	REVISED: -
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		DATE: -	REVISED: -

STATE OF ILLINOIS
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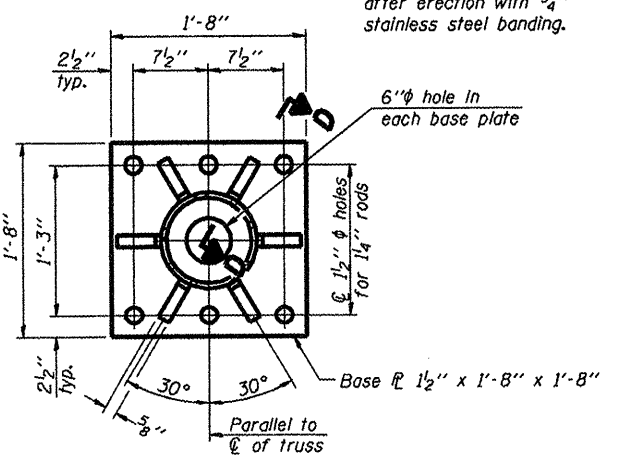
OVERHEAD SIGN STRUCTURES SUPPORT FRAME FOR ALUMINUM TRUSS			
SCALE: -	SHEET NO. -	OF -	SHEETS -
STA. -	TO STA. -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
var D-2 OVD SIN STR REPL 12-03	VARIOUS	VARIOUS	28
CONTRACT NO. 46176			9
ILLINOIS FED. AID PROJECT			

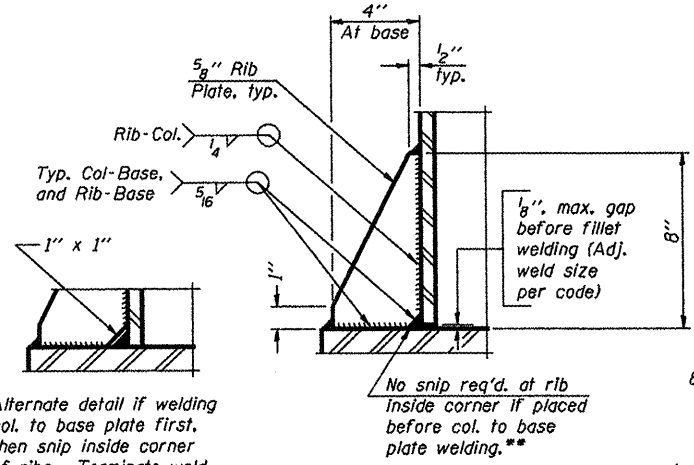


DETAIL B

Ribs shall be cut to fit slope of pipe.



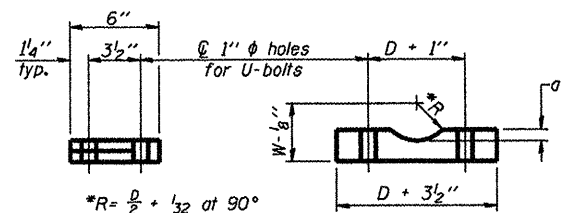
SECTION B-B



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

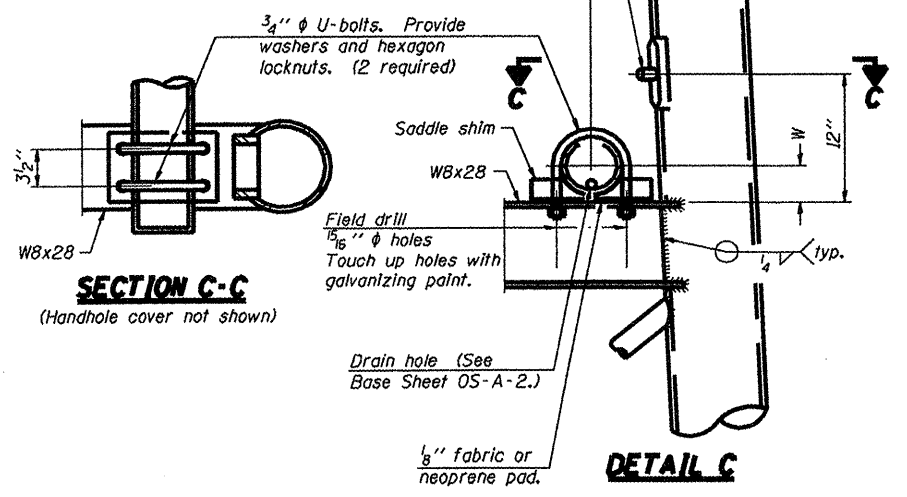
D = Outside Diameter of Chord. For W, see Base Sheet OS-A-6.

ASTM B26 Alloy 356-F

or

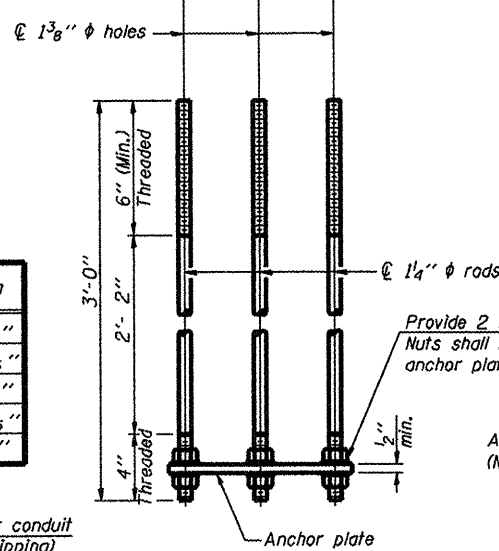
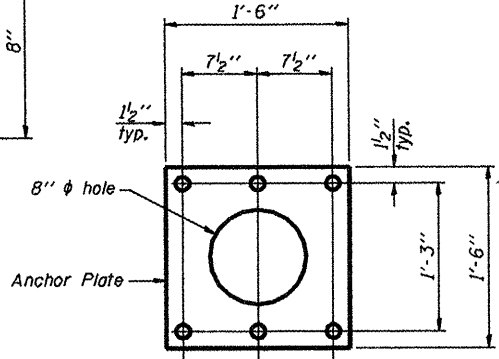
ASTM B209 Alloy 6061-T651 (4 required per sign truss)

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

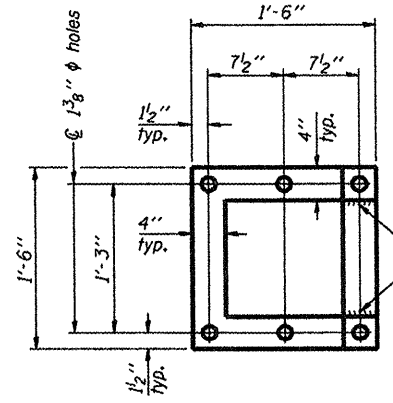


SECTION C-C

DETAIL C



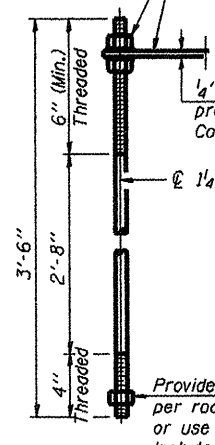
ANCHOR ROD DETAIL
Spread Footing Foundation



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

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

10" ϕ PIPE SUPPORT FRAME DETAILS

OS-A-6A

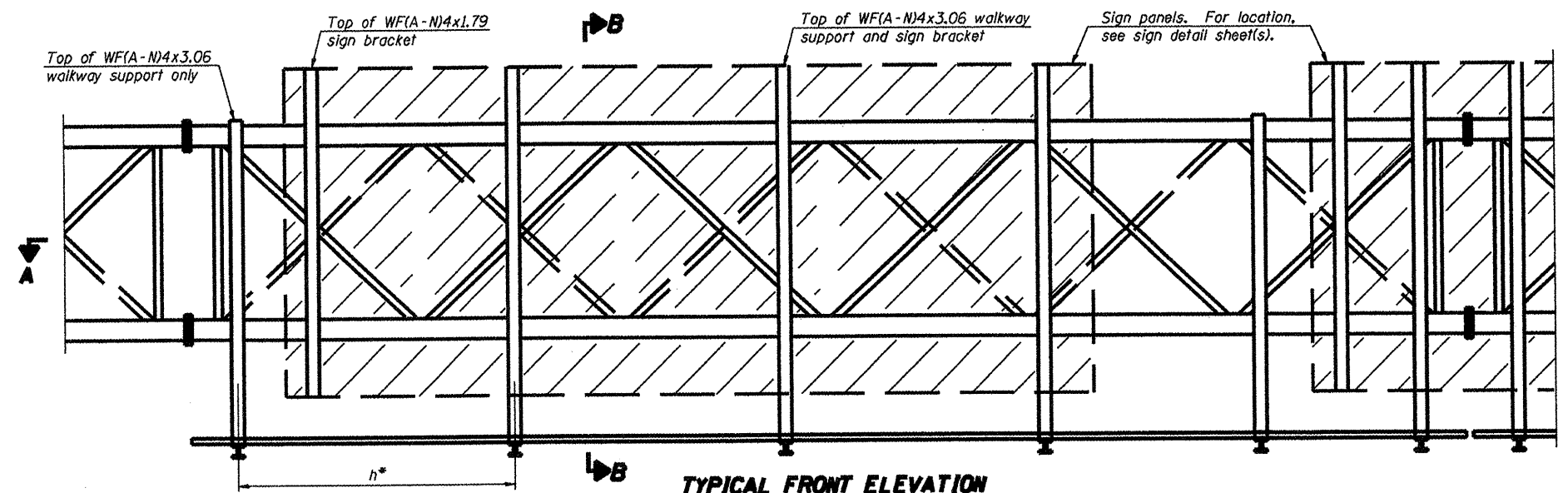
1-20-11

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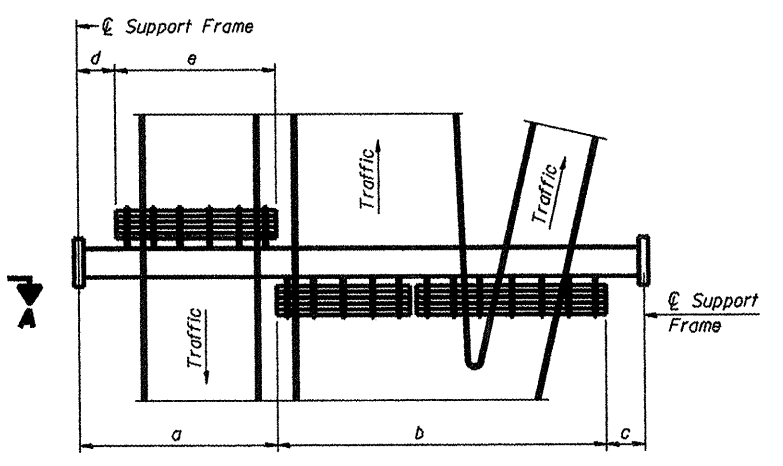
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES			
SUPPORT FRAME DETAILS - ALUMINUM TRUSS			
SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	var I-2 OVD SIN STR REPL 12-03	VARIOUS	28	10
			CONTRACT NO. 46176	
ILLINOIS FED. AID PROJECT				



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)

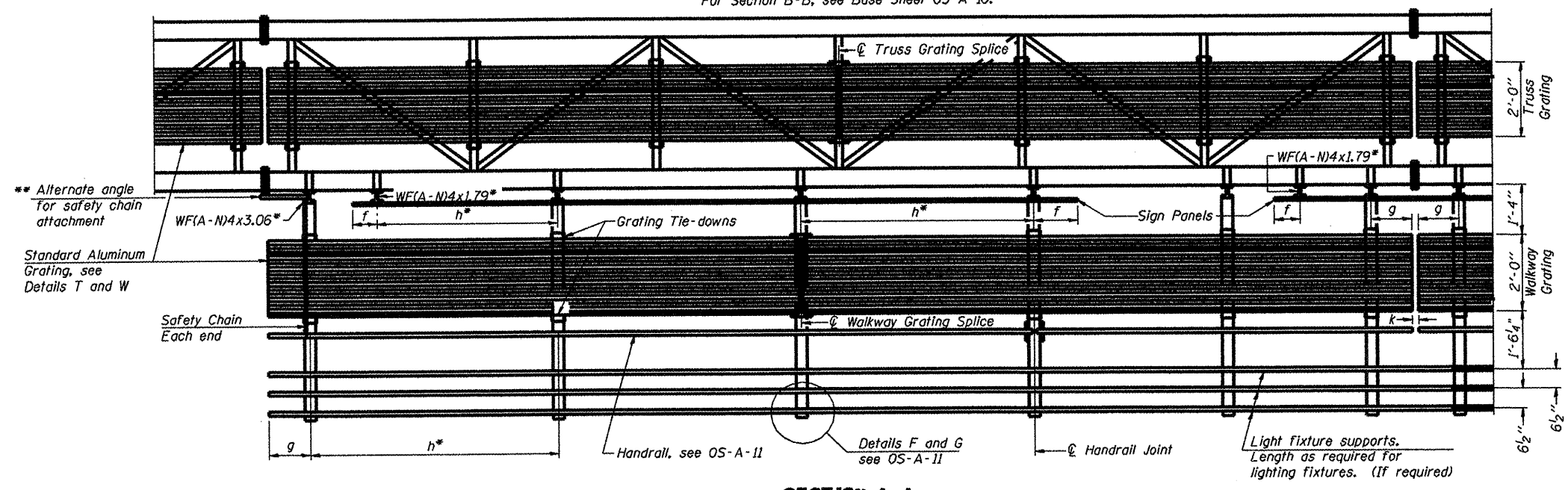
BRACKET TABLE

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

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 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, 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.



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.

Structure Number	Station	a	b	c	d	e	Walkway Grating and Handrail Lengths
97	250811080R003.2	201-75	32'	48'	30'	0	48'
100	250811080L003.8	234-25	28'	54'	28'	0	54'
131	25081088L036.4	2217-20	37'	55'	28'	0	55'
135	250811280R010.8	91-75	33'	53'	28'	0	53'
46	25081000L000.1	215-70	44'	66'	8'	0	66'

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

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

OS-A-9

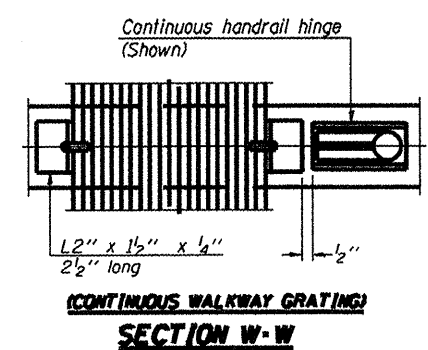
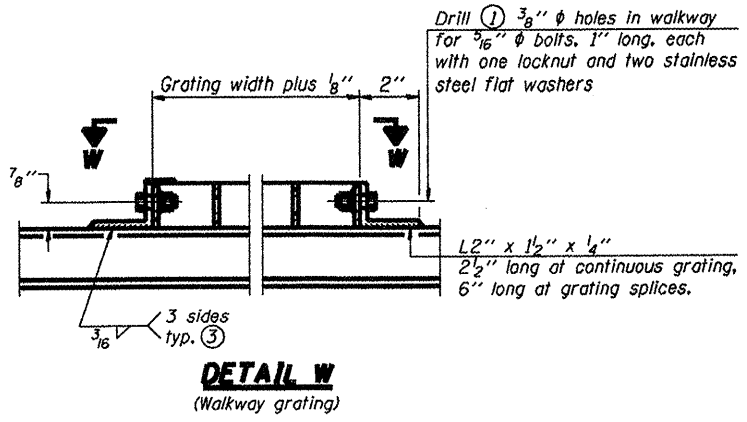
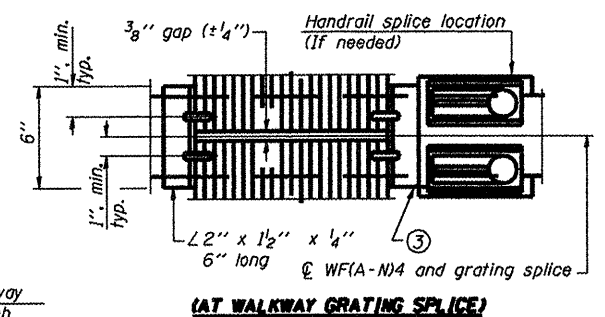
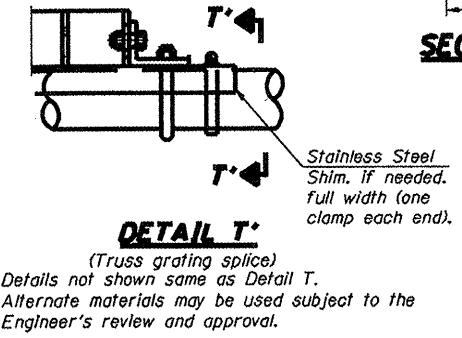
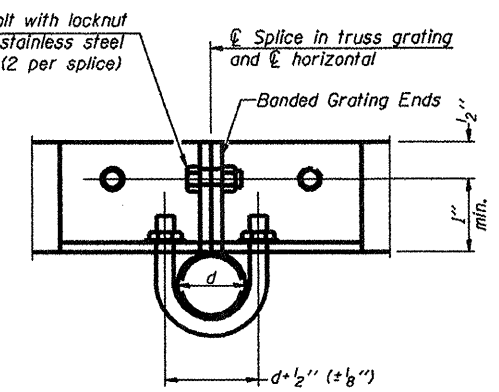
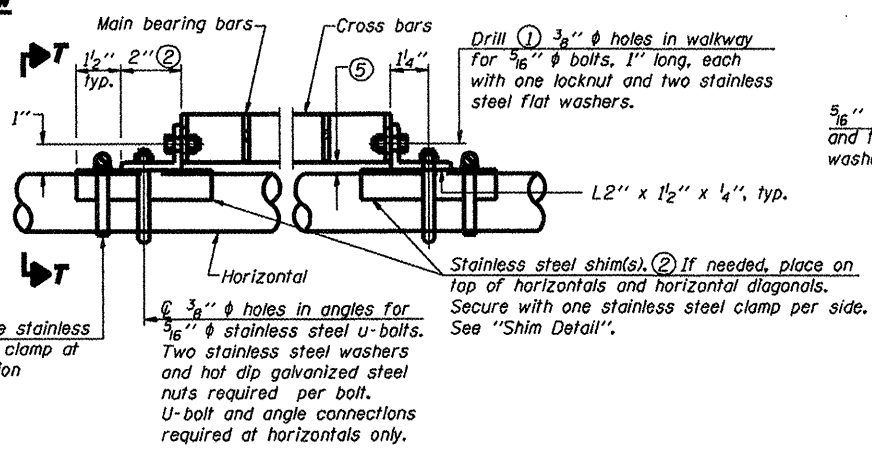
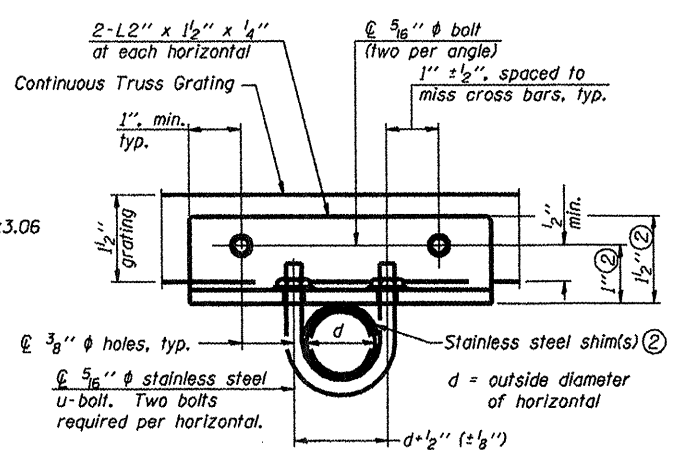
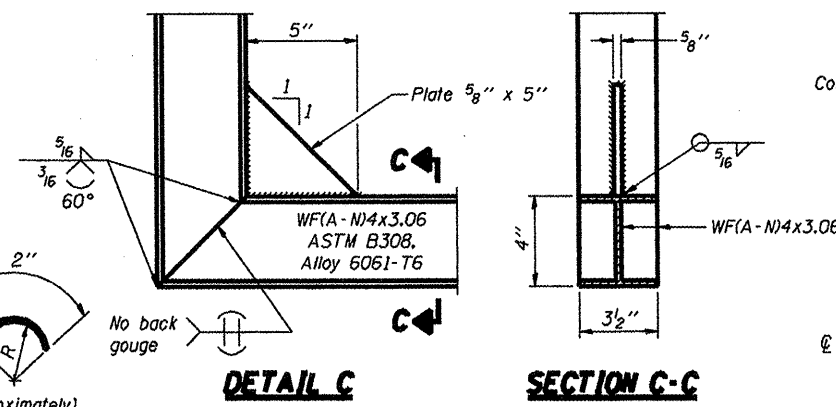
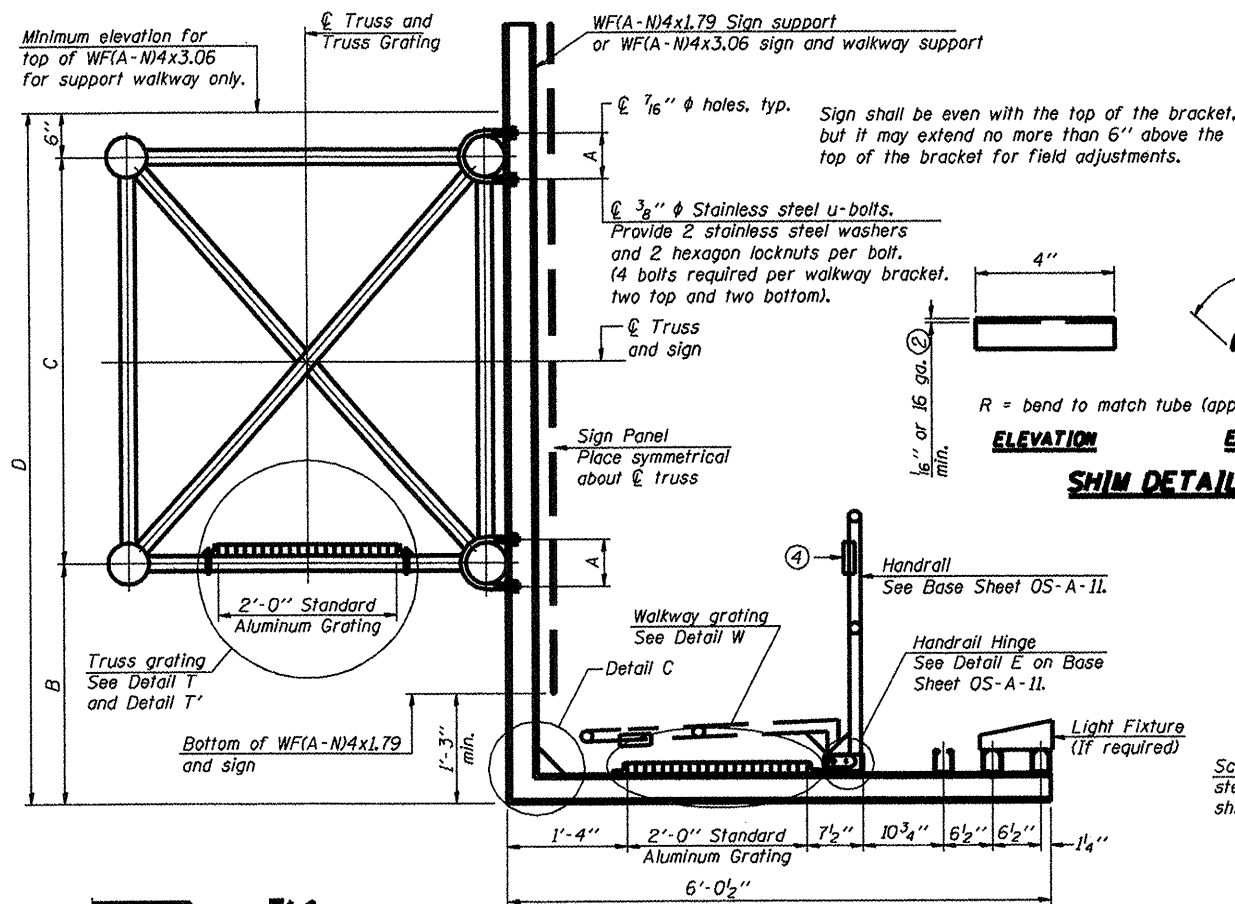
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OVERHEAD SIGN STRUCTURES
 ALUMINUM WALKWAY DETAILS
 SCALE: _____ SHEET NO. ____ OF ____ SHEETS STA. _____ TO STA. _____

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
vor D-2 OVD S/N STR REPL 12-Q3	VARIOUS		28	11
CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	



SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.

Cross bars shall be 3/8" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with modified "I" 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.³ 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.

Structure Number	Station	A	(6) B	C	(6) D
97	2S081080R003.2	201-75	7'-5' 7/2"	5'-3"	11'-4 1/2"
100	2S081080L003.8	234-25	4'-7 1/2"	5'-3"	10'-4 1/2"
131	2S0981088L036.4	2217-20	7'-16"	3'-10 1/2"	5'-3"
135	2S0811280R010.8	91-75	7'-16"	4'-1 1/2"	9'-10 1/2"
46	2S081000L000.1	215-70	7'-16"	2'-7 1/2"	5'-3"

- 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 OS-A-11.)
- 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 height of tallest sign given on OS-A-1.

OS-A-10

1-20-11

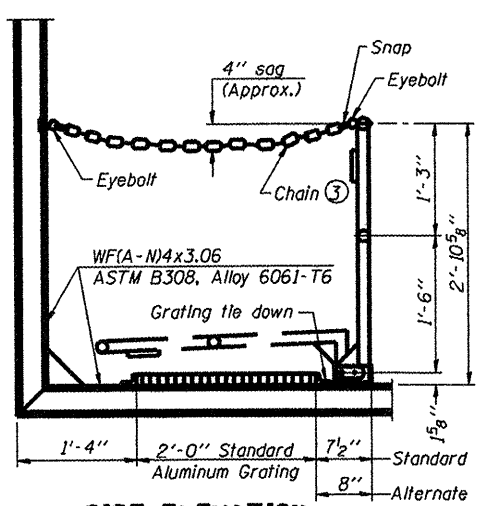
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OVERSIGN TRUSS\CADD Plans\2011-2	act\PLANeng.dgn	DRAWN -	REVISED -
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PLOT DATE = Tue Apr 12 07:35:59 2011		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

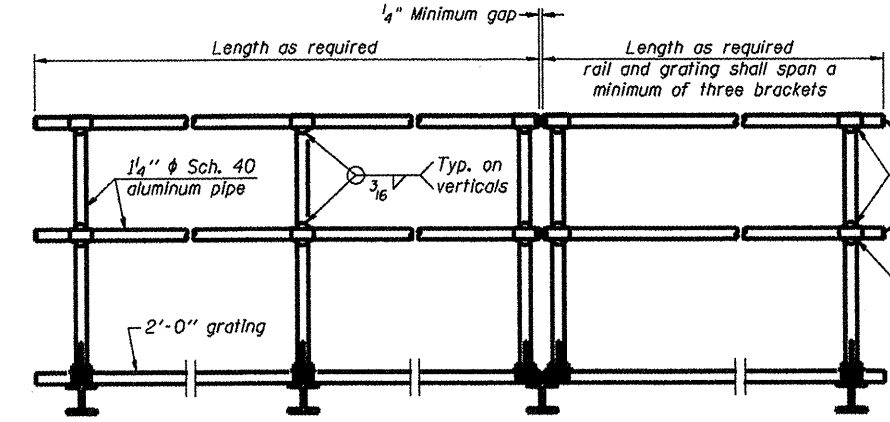
OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
var D-2 OVD SIN STR REPL 12-03	VARIOUS	VARIOUS	28	12
CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	



SIDE ELEVATION
(Showing safety chain w/o sign)

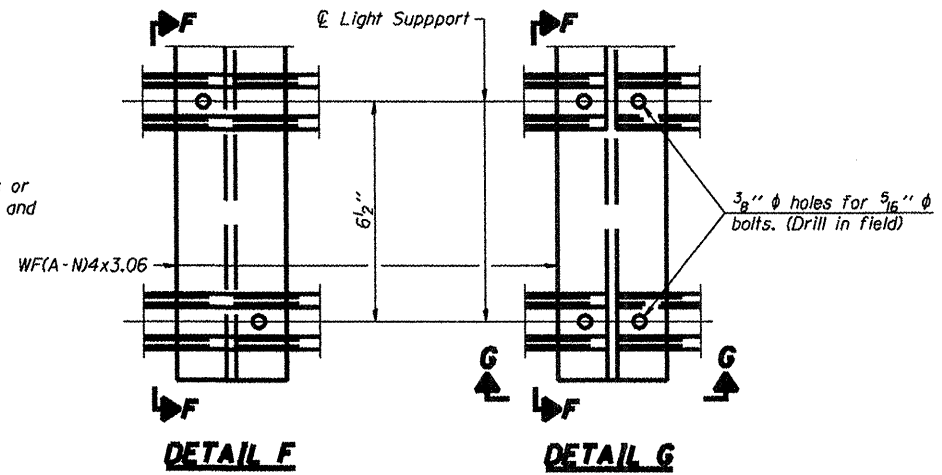


FRONT ELEVATION

HANDRAIL DETAILS

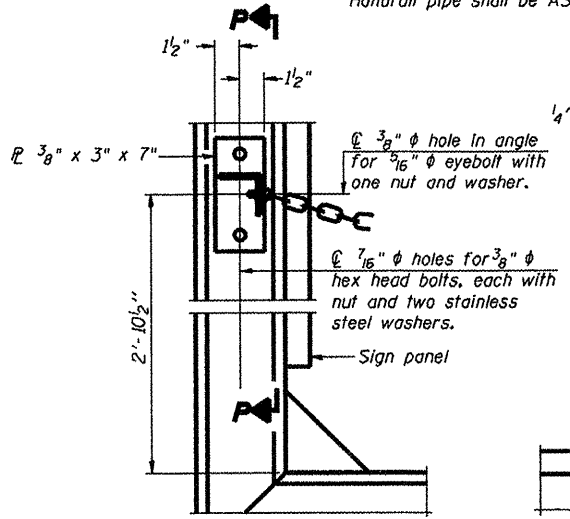
Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

- ① Install standard force-fit end caps or weld 3/8" end plates with 3/8" 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.)



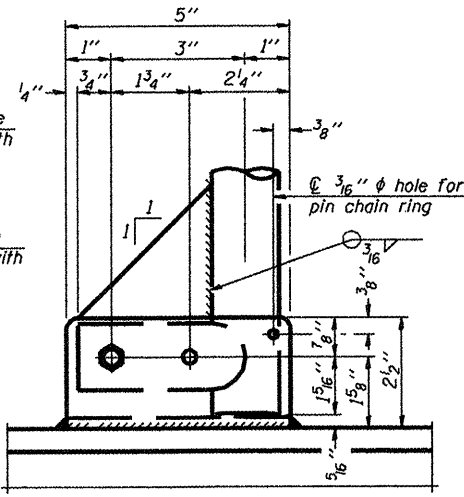
DETAIL F

DETAIL G

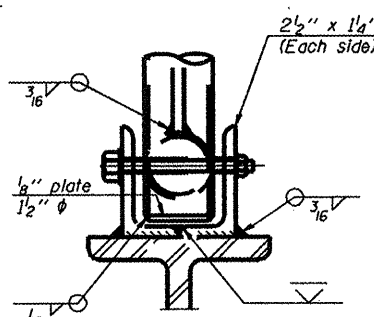


ALTERNATE SAFETY CHAIN ATTACHMENT
(With Sign Present)

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

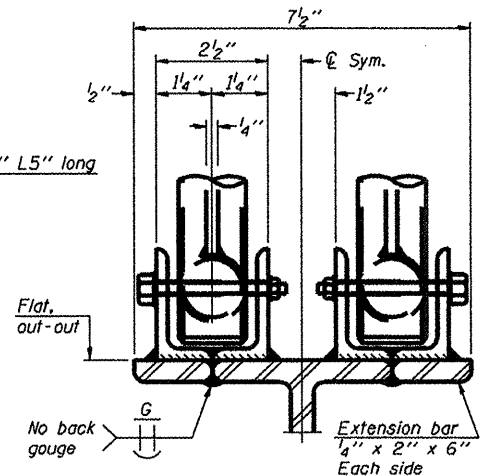


SIDE ELEVATION

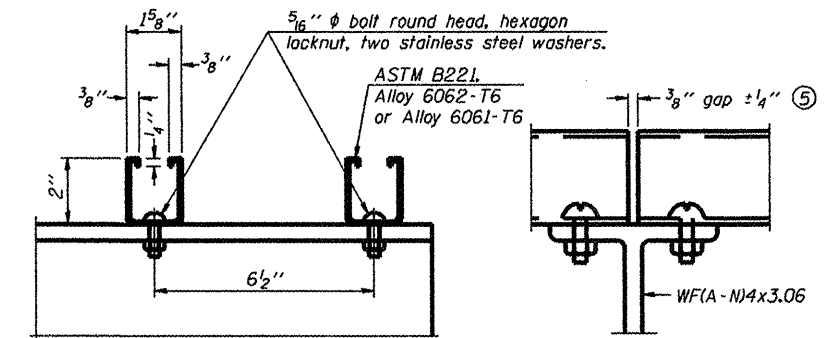


FRONT ELEVATION

See "Elevation" at right for dimensions.



ELEVATION AT HANDRAIL JOINT

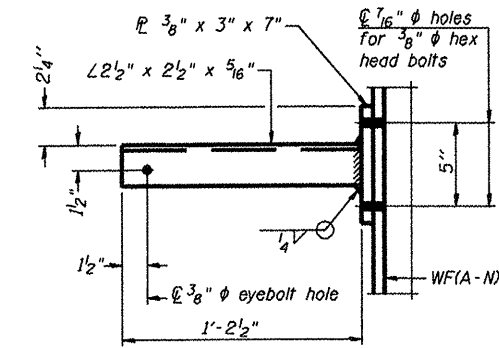


SECTION F-F

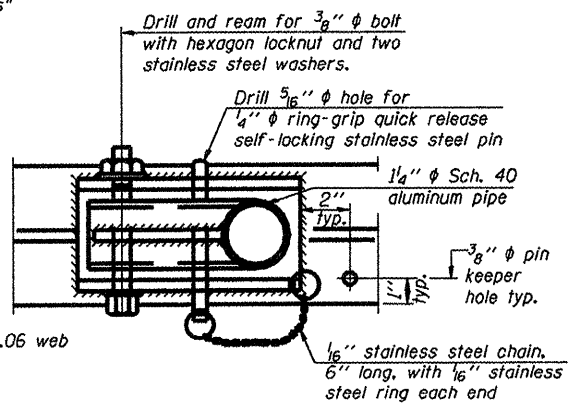
SECTION G-G

LIGHTING FIXTURE MOUNTS (IF REQUIRED)

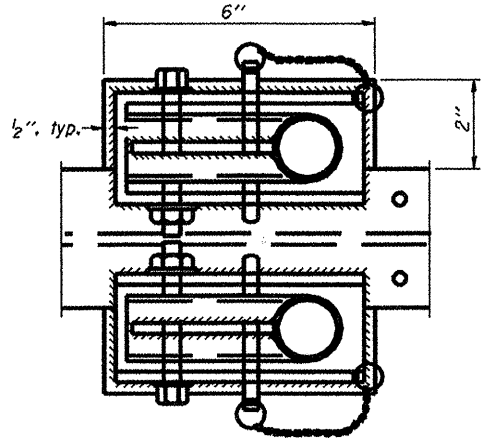
- ⑤ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.



SECTION P-P

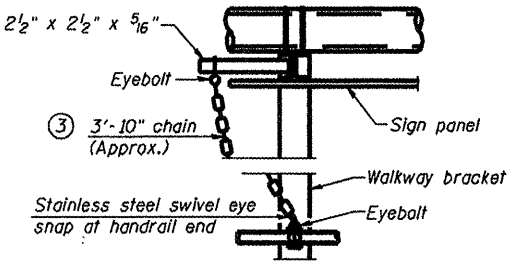


PLAN
DETAIL E HANDRAIL HINGE



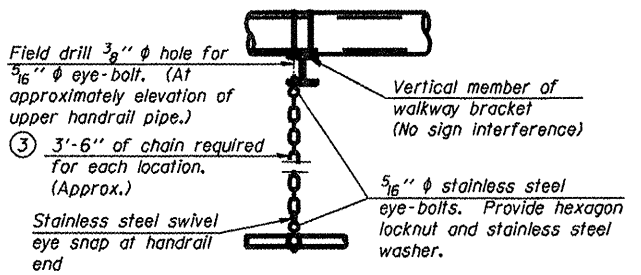
PLAN AT HANDRAIL JOINT

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

1-20-11

FILE NAME =	USER NAME = linkd
ONBR\SIGN TRUSS\CADD Plans\2011-2 connect\PLANeng.dgn	
PLOT SCALE = 100.0000 / IN.	
PLOT DATE = Wed Apr 06 15:38:22 2011	

DESIGNED -	REVISD -
DRAWN -	REVISD -
CHECKED -	REVISD -
DATE -	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE: _____	SHEET NO. _____ OF _____ SHEETS	STA. _____ TO STA. _____
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F.A. RTE. _____	SECTION _____	COUNTY _____	TOTAL SHEETS _____	SHEET NO. _____
var 0-2 OVD SIM STR REPL 12-03 VARIOUS			28	13
CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	

BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v4(E)	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 (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 will be the result of site specific designs.

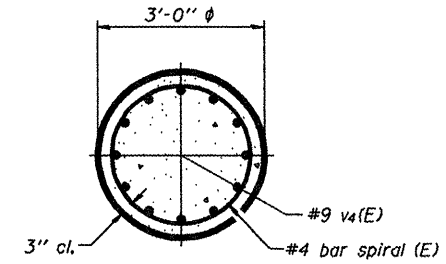
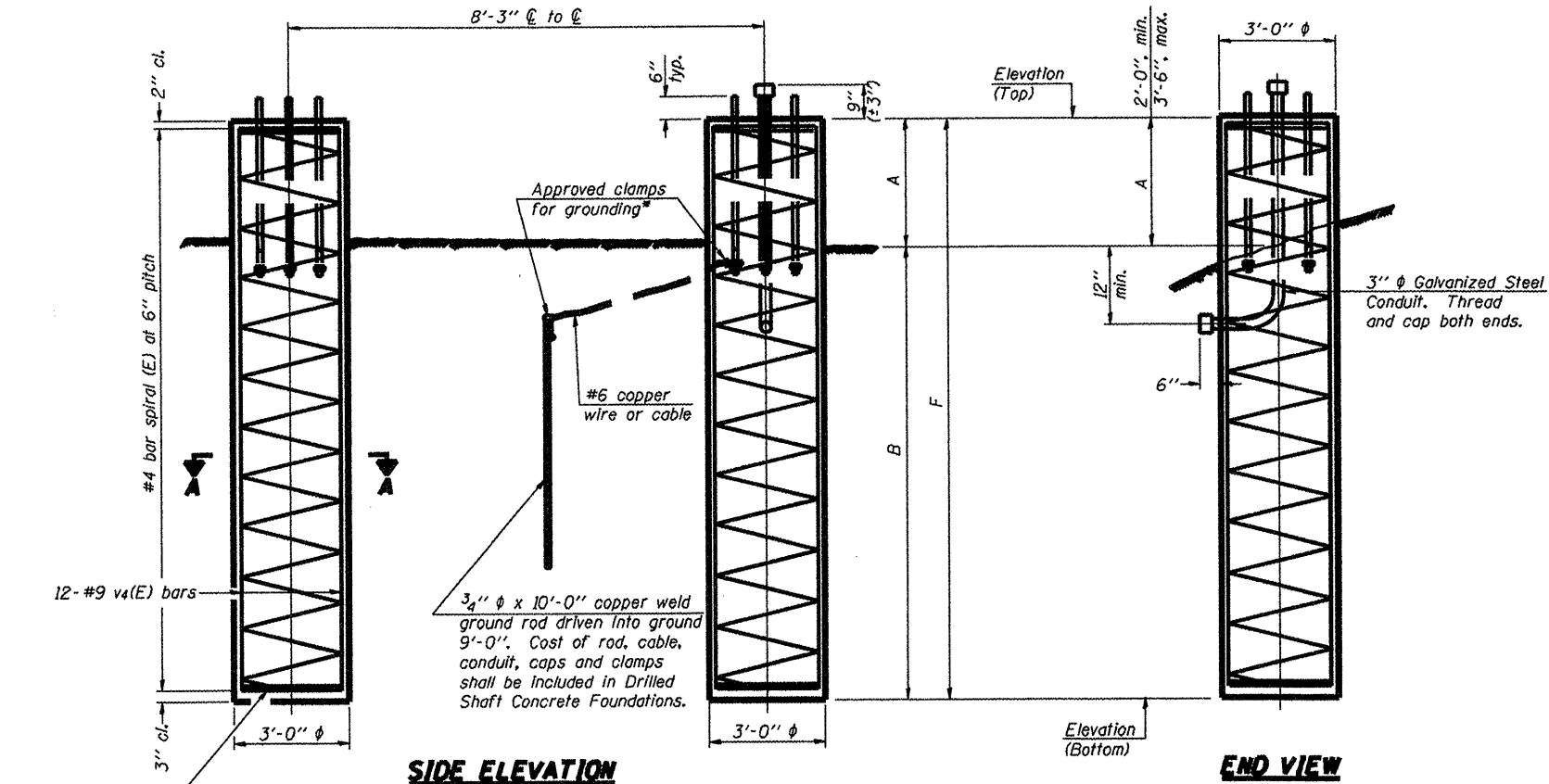
If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District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

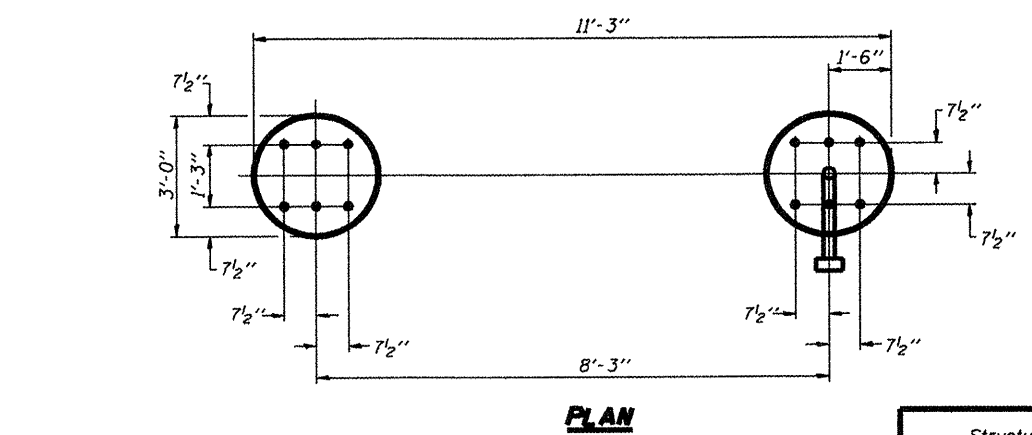
Concrete shall be placed monolithically, without construction joints.

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.



SECTION A-A



PLAN

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 10" Ø SUPPORT FRAME
TYPE I-A or II-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
97	250811080R003.2	102.00	78.0	3.50	20.5	24.0	102.00	79.00	2.50	20.5	23.0	25.0
100	250811080L003.8	104.00	80.5	3.0	20.5	23.5	101.50	77.50	3.50	20.5	24.0	25.0
131	250811088L036.4	100.50	76.5	3.5	20.5	24.0	101.00	78.00	2.50	20.5	23.0	25.0
135	250811280R010.8	104.50	84.0	2.5	20.5	23.0	100.40	79.90	3.50	20.5	24.0	24.6
46	250811000L000.0	100.50	80.0	2.0	20.5	22.5	100.00	79.50	2.00	20.5	22.5	23.5

054-F3

1-20-11

FILE NAME =	USER NAME = ltrkdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD SIGN STRUCTURES DRILLED SHAFT DETAILS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D:\BR\SIGN TRUSS\CADD Plans\2011-2 cont\ast\PLANeng.dgn		DRAWN -	REVISED -			var D-2 OVD SIN STR REPL 12-03	VARIOUS	28	14	
PLOT SCALE = 100.0000 / IN.		CHECKED -	REVISED -			CONTRACT NO. 46176				
PLOT DATE = Wed Apr 06 15:30:51 2011		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				

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)d 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.

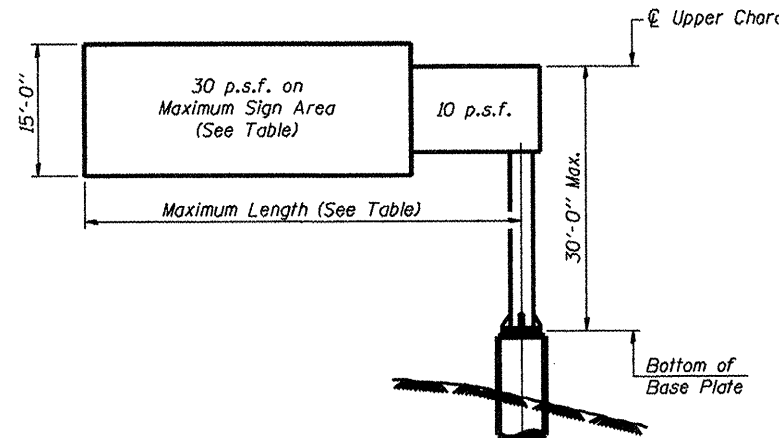
CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Bridge Seat Sealer in accordance with the Standard Specifications.

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 _s	Total Sign Area
2C101S251L009.6	104+85	II-C-A	28'	98.23	14'	7' 6"	124 sq ft
2C101S251R009.6	104+85	II-C-A	30'	96.25	15'	7' 6"	75 sq 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.



DESIGN WIND LOADING DIAGRAM

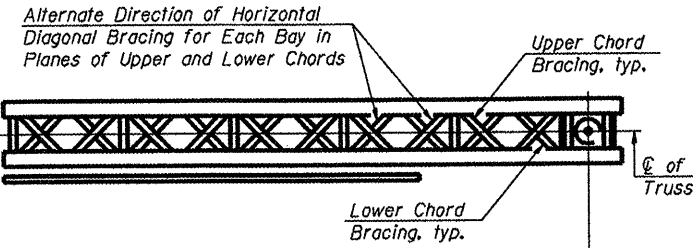
Parameters shown are basis for I.D.O.T. Standards. Installations not within dimensional limits shown require special analysis for all components.

Note:

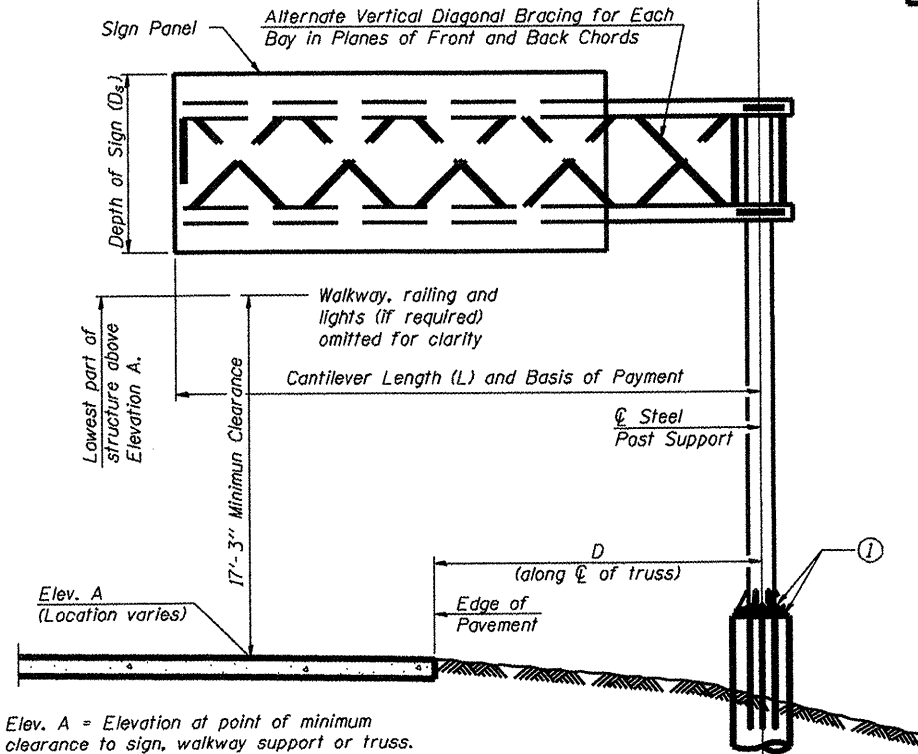
Trusses shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The contractor is responsible for maintaining the configuration and protection of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



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.

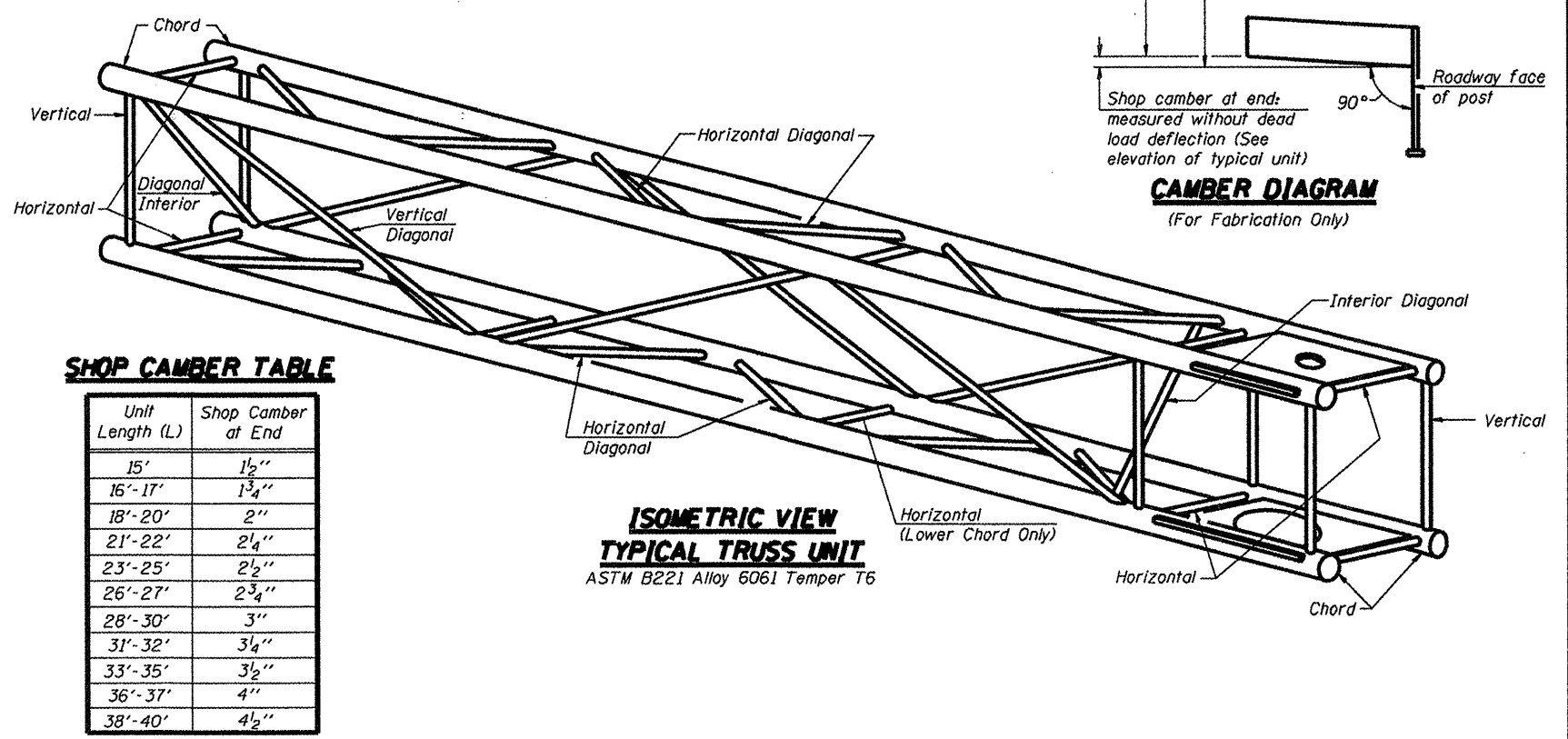
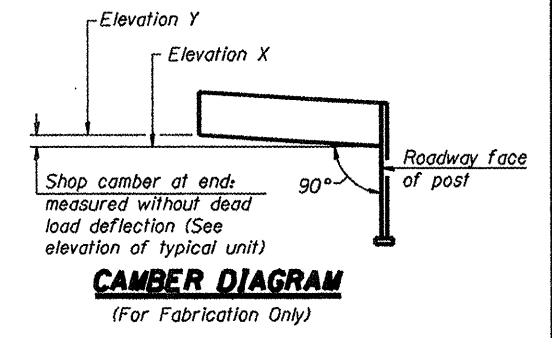
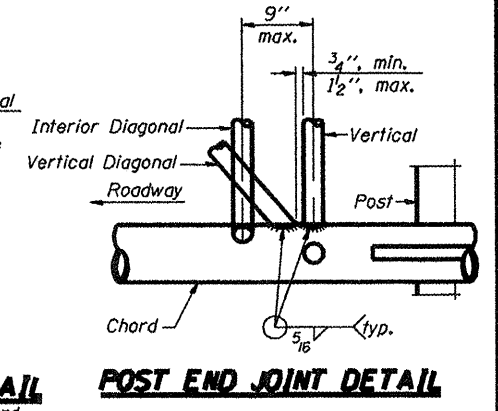
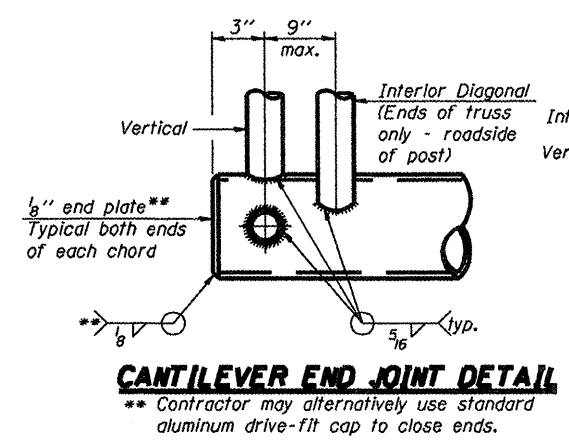
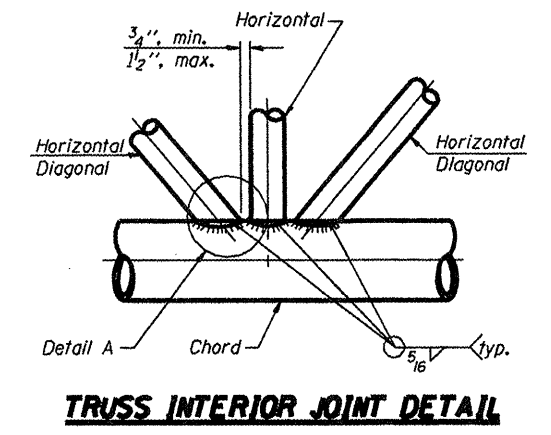
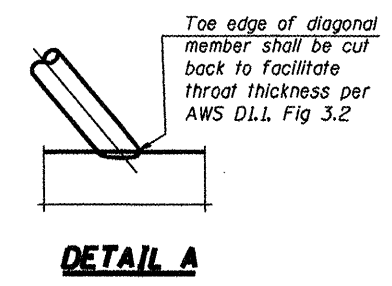
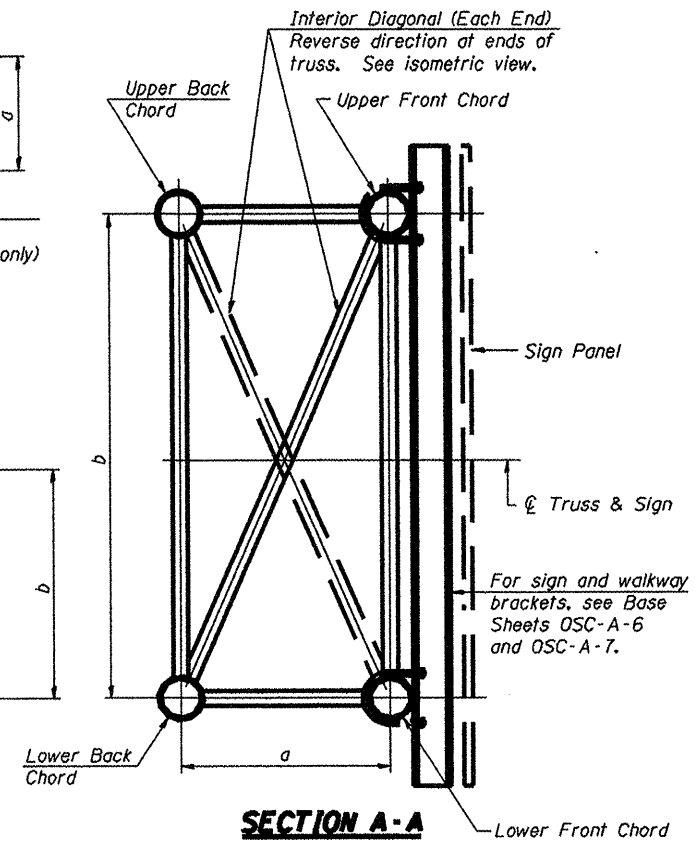
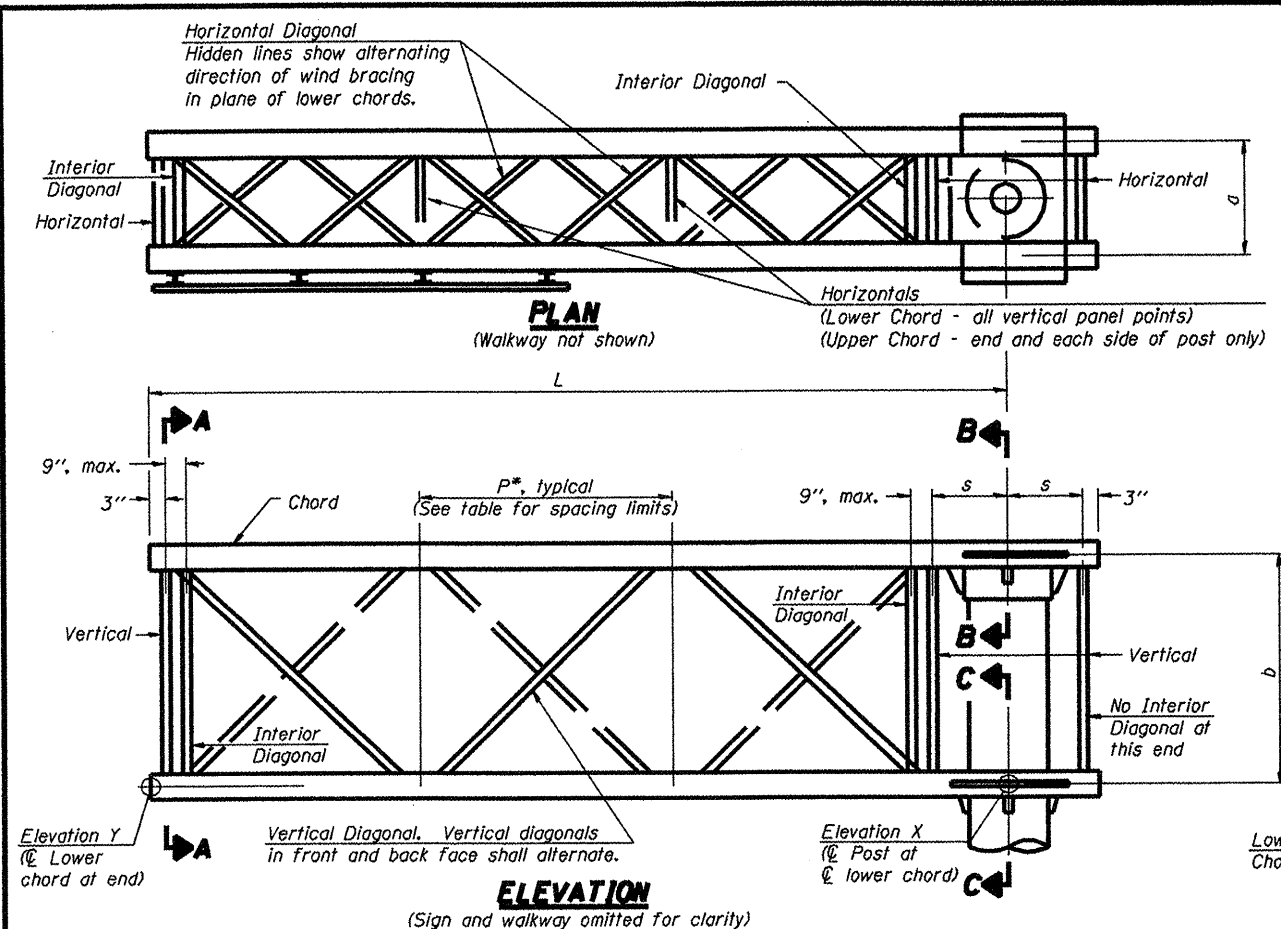
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE I-C-A	Foot	
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE II-C-A	Foot	88
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE III-C-A	Foot	
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	Foot	37.3
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	15.5

OSC-A-1

1-20-11

FILE NAME =	USER NAME = linkdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CANTILEVER SIGN STRUCTURES - GENERAL PLAN & ELEVATION ALUMINUM TRUSS & STEEL POST	SCALE: _____ OF _____ SHEETS STA. _____ TO STA. _____	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
DRBN\SIGN TRUSS\CADD Plans\2011-2 cont\act\PLANeng.dgn	DRAWN -	REVISED -	var 0-2 OVD SIN STR REPL 12-03								VARIOUS	28	15
PLOT SCALE = 1/8"=1'-0" / IN.	CHECKED -	REVISED -	CONTRACT NO. 46176										
PLOT DATE = Tue Apr 12 07:38:48 2011	DATE -	REVISED -	ILLINOIS FED. AID PROJECT										



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.	Wall
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"

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

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

1-20-11

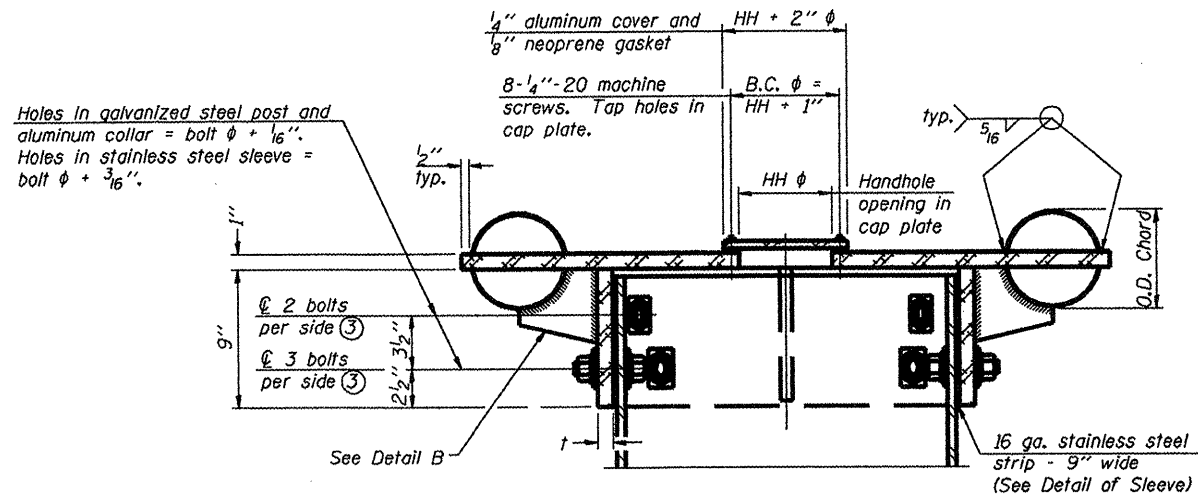
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		CHECKED - ---	REVISED - ---
		DATE - ---	REVISED - ---

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - TRUSS DETAILS
ALUMINUM TRUSS & STEEL POST

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
var D-2 OVD SIGN STR REPL 12-Q3	VARIOUS	28	16
CONTRACT NO. 46176		ILLINOIS FED. AID PROJECT	

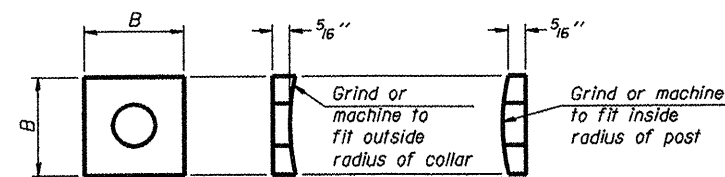
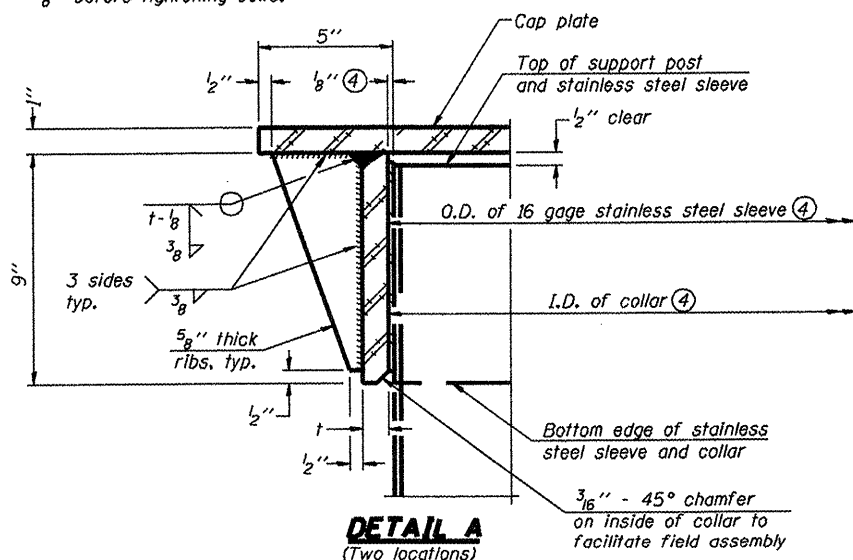
SCALE: SHEET NO. OF SHEETS STA. TO STA.



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

SECTION B-B

Bolts, washers (including contoured washers), and locknuts shall be stainless steel.



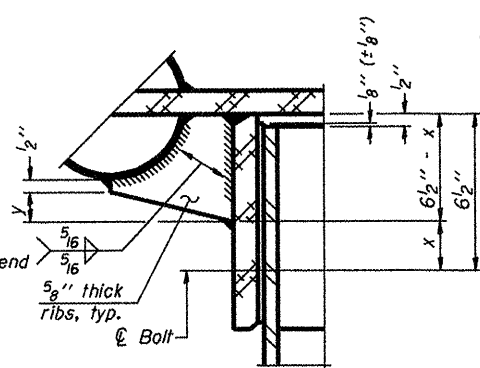
CONTOURED WASHERS

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

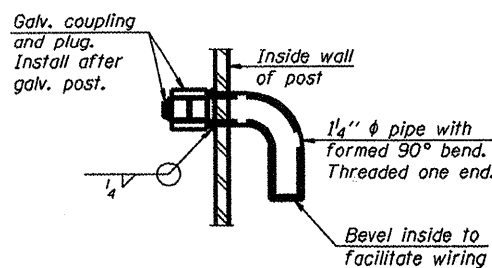
Weld to post after galvanizing. (Prepare post surface to insure tight, uniform fit and allow welding.) Welds to be 1/2" long at 6" cts. along top edge and at 1/4" opening.

1/4" (±1/8") opening

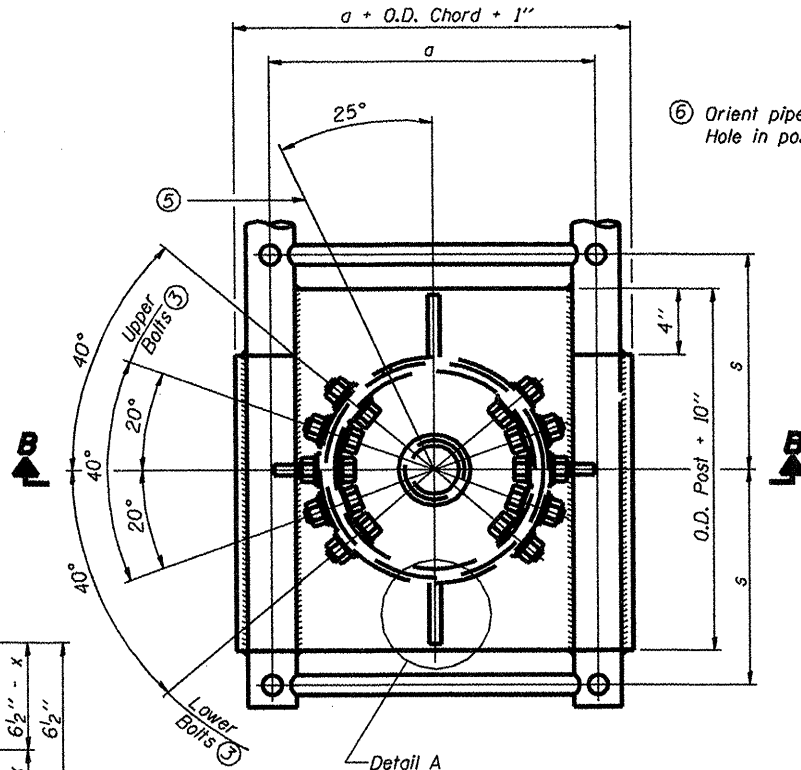


DETAIL C

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

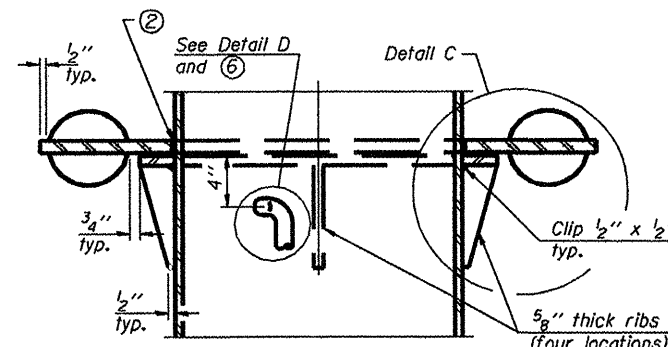


DETAIL D

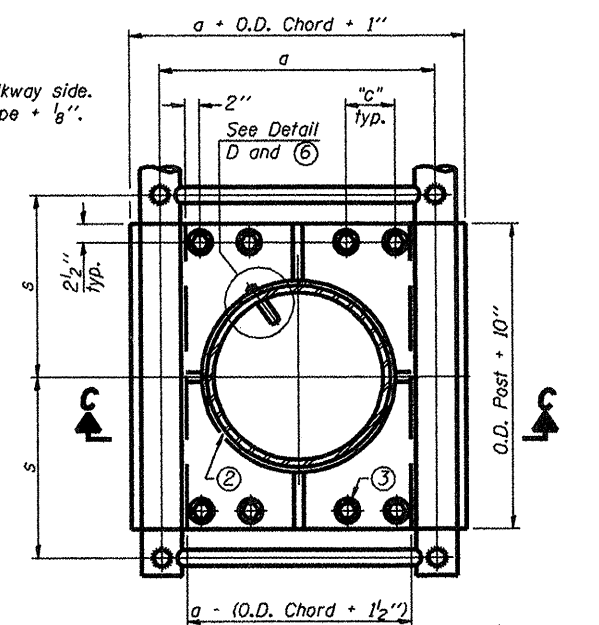


PLAN VIEW - TOP OF COLUMN

⑤ Optional full penetration weld in collar. (Two locations maximum....(180° apart)....X-ray or UT 100%)

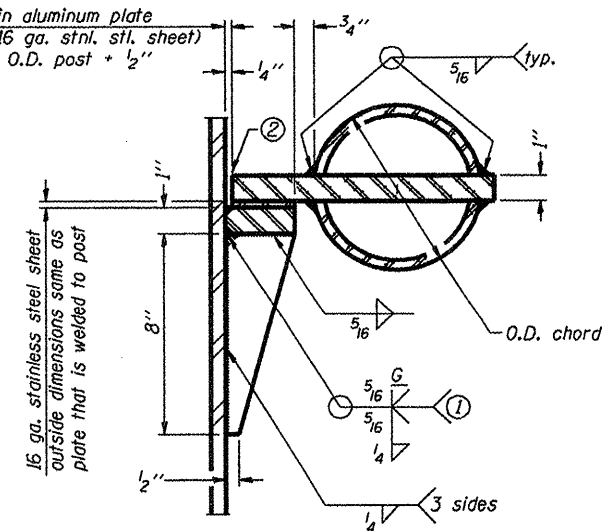


SECTION C-C



SECTION THRU POST ABOVE LOWER CHORDS

Hole in aluminum plate (and 16 ga. stnl. stl. sheet) to be O.D. post + 1/2"



DETAIL C

- 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.

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" φ (83#/')	7/8"	3 1/4"	8"	5/8"	1 3/4"	2 1/4"
II-C-A	24" φ (125#/')	1"	3 1/2"	12"	7/8"	2"	1 1/4"
III-C-A (35' max.)	24" φ (125#/')	1 1/4"	3 1/2"	12"	7/8"	2"	1"
III-C-A (>35' to 40')	24" φ (171#/')	1 1/4"	3 1/2"	12"	7/8"	2"	1"

OSC-A-3

1-20-11

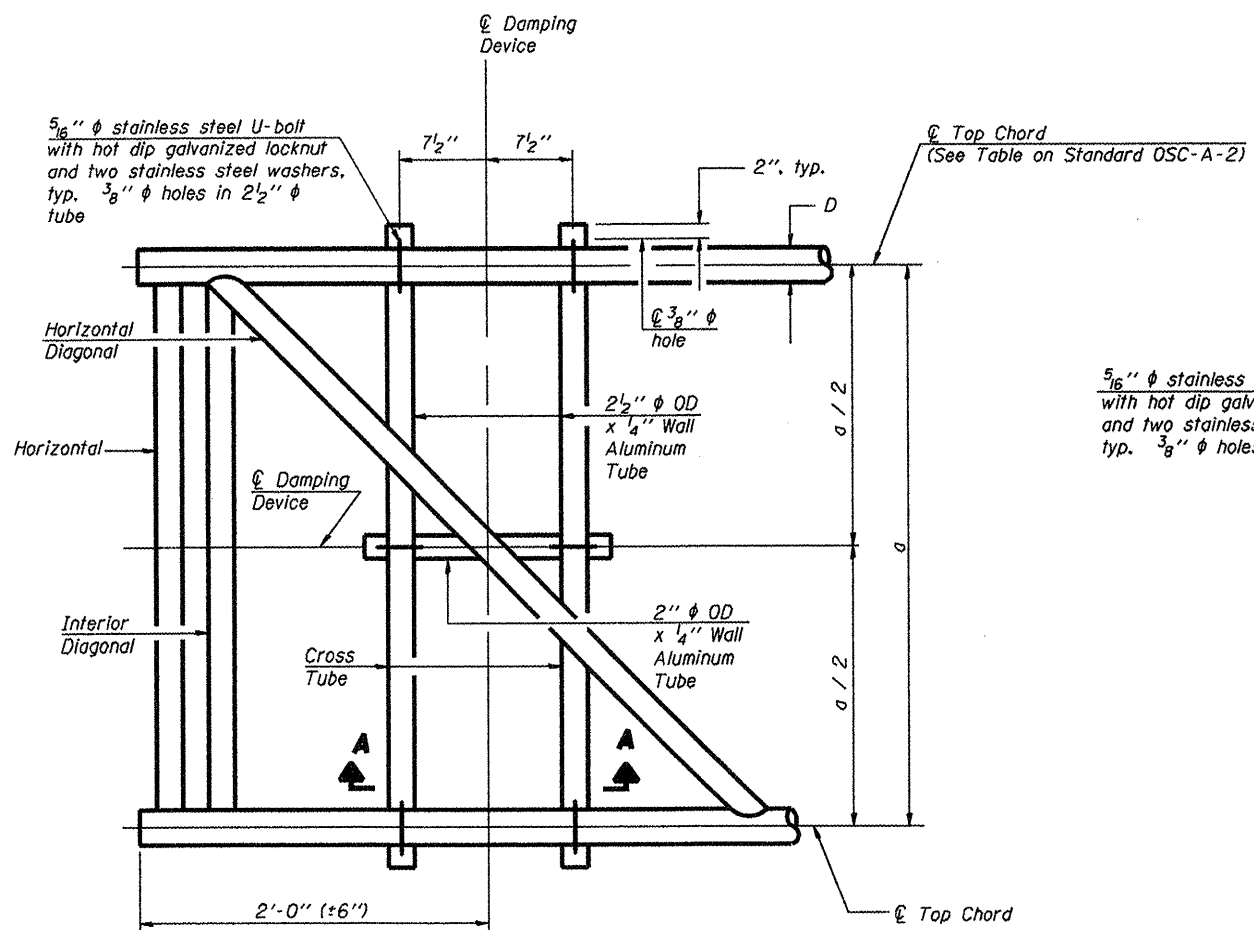
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		CHECKED -	REVISED -
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PLOT DATE = Wed Apr 06 15:31:34 2011			

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

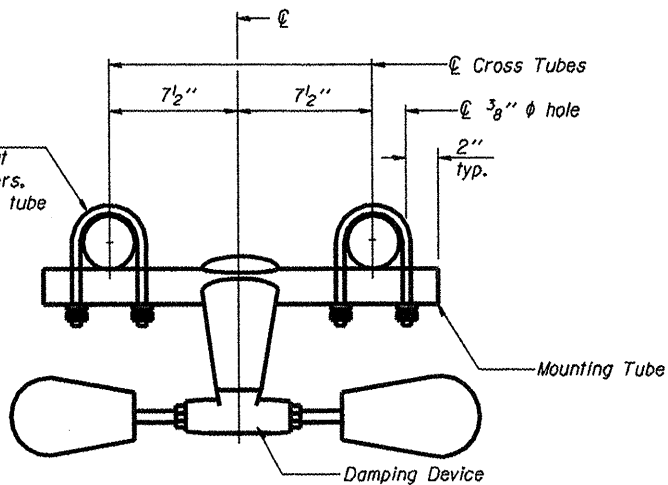
CANTILEVER SIGN STRUCTURES - JUNCTURE DETAILS
 ALUMINUM TRUSS & STEEL POST

SCALE: _____ SHEET NO. ____ OF ____ SHEETS STA. _____ TO STA. _____

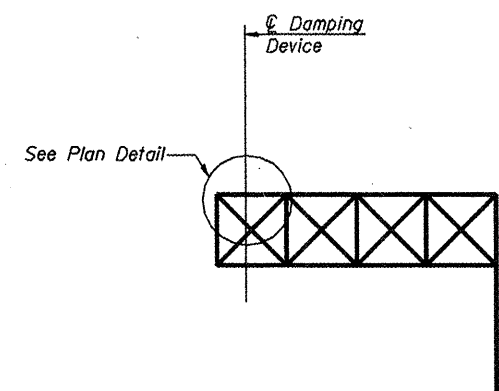
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
var D-2 OVD	SIN STR REPL 12-Q3	VARIOUS	28	17
CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	



PLAN DETAIL



TRUSS DAMPING DEVICE CONNECTION DETAIL

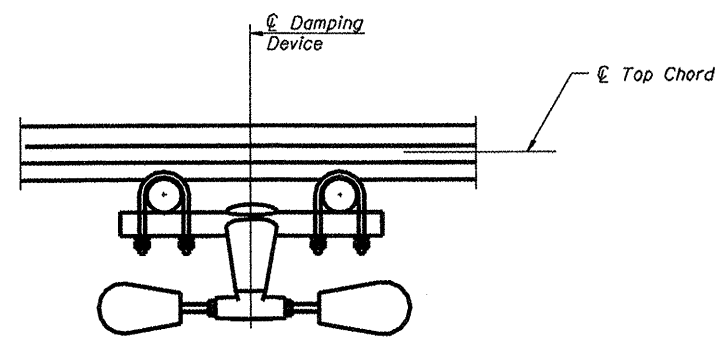


ELEVATION

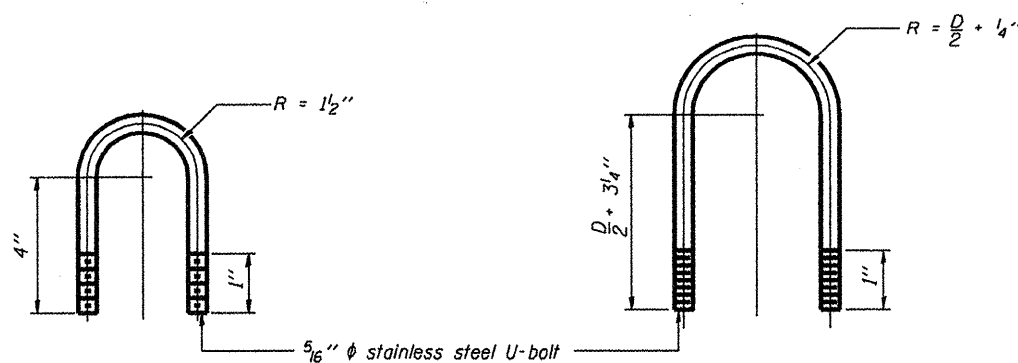
Aluminum Cantilever Sign Structure

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 T5



SECTION A-A



DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL

(Typical)

TOP CHORD TO CROSS TUBE U-BOLT DETAIL

(Typical)

OSC-A-D

1-20-11

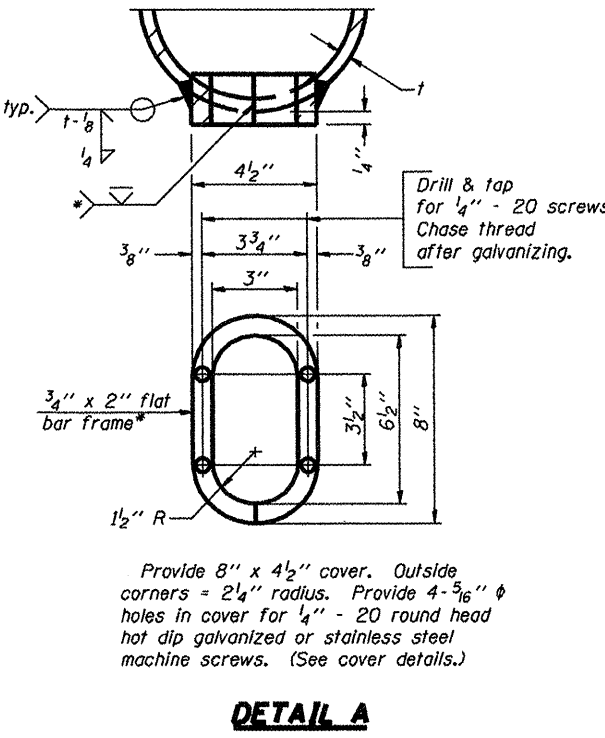
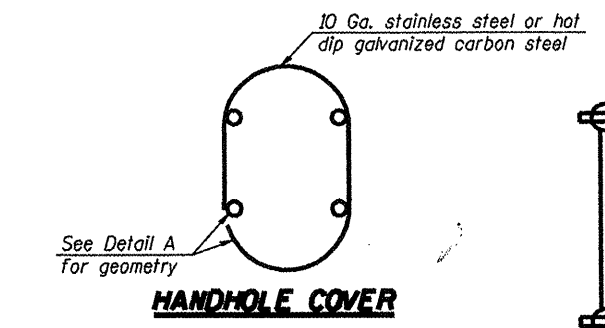
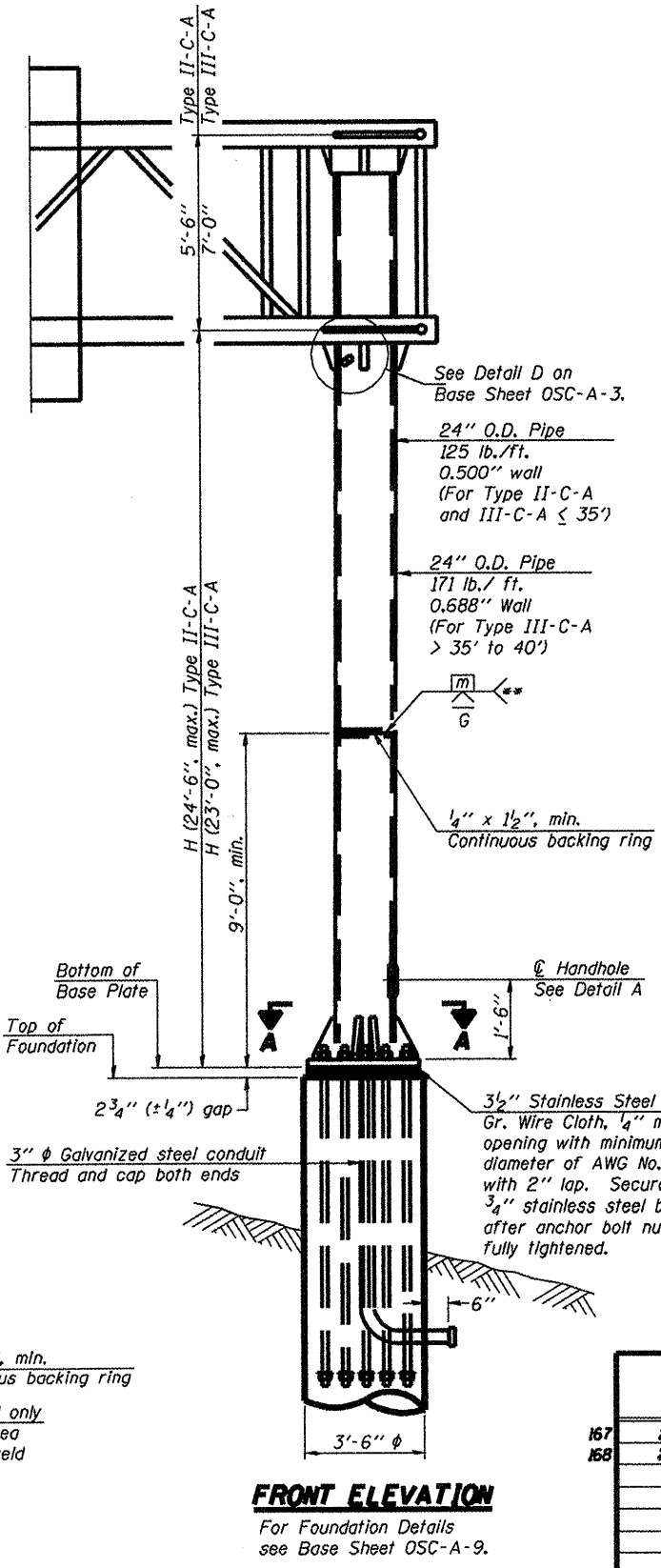
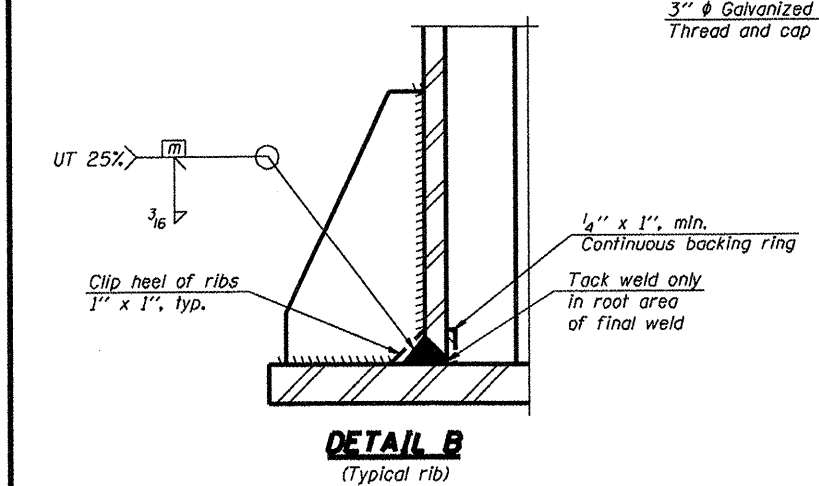
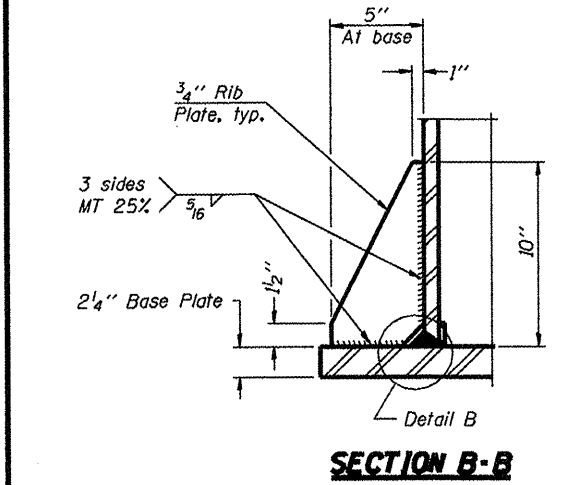
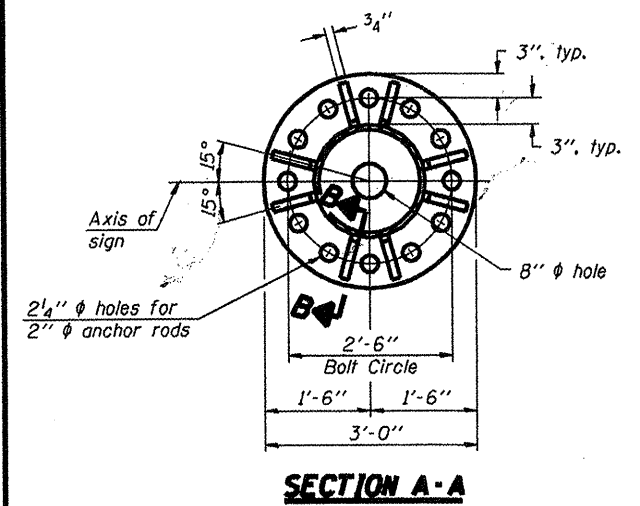
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		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURE
DAMPING DEVICE

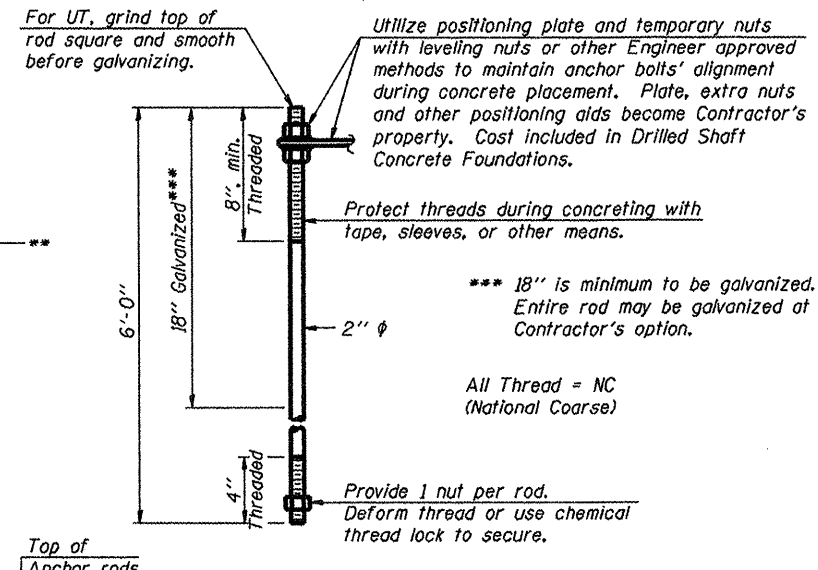
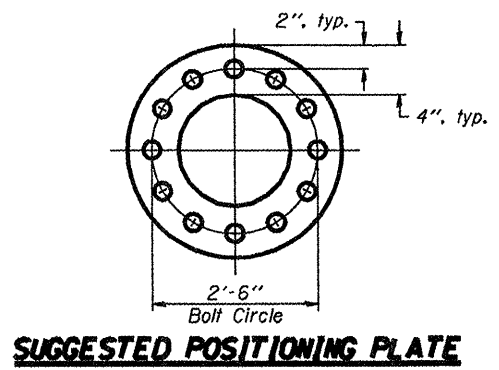
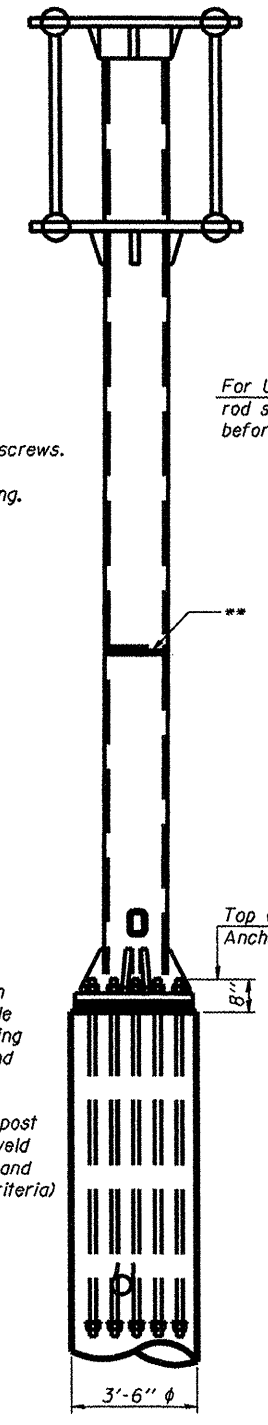
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
var 0-2 OVD SIN STR REFL 12-03	VARIOUS	28	18	
CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	



Structure Number	Station	H
167 2C10IS25L009.6	104+85	21' 3"
168 2C10IS25LR009.6	104+85	19' 3 1/4"

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



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, using a straight beam, 1/2" diameter 3.5 mhz. transducer, to insure no rejectable flaws exist in the upper 18" (tension criteria). Cost of testing included in Drilled Shaft Concrete Foundations.

OSC-A-5

1-20-11

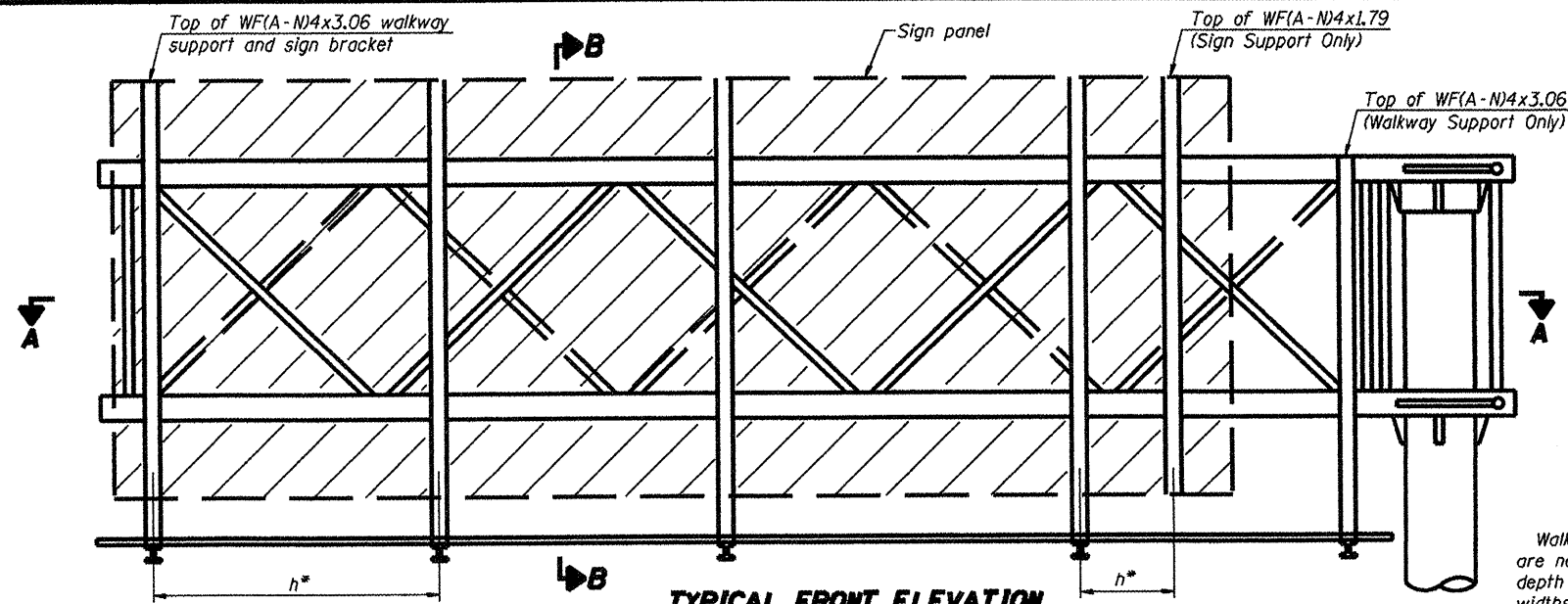
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DATE -	REVISED -

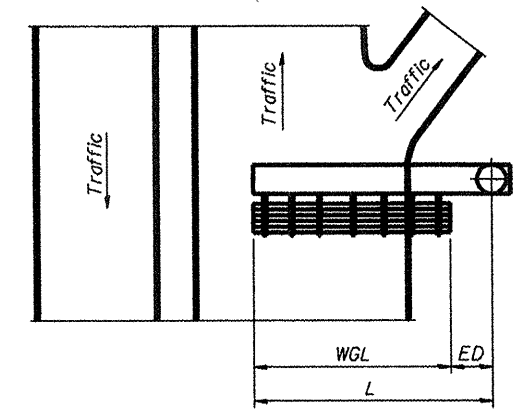
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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.
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CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	

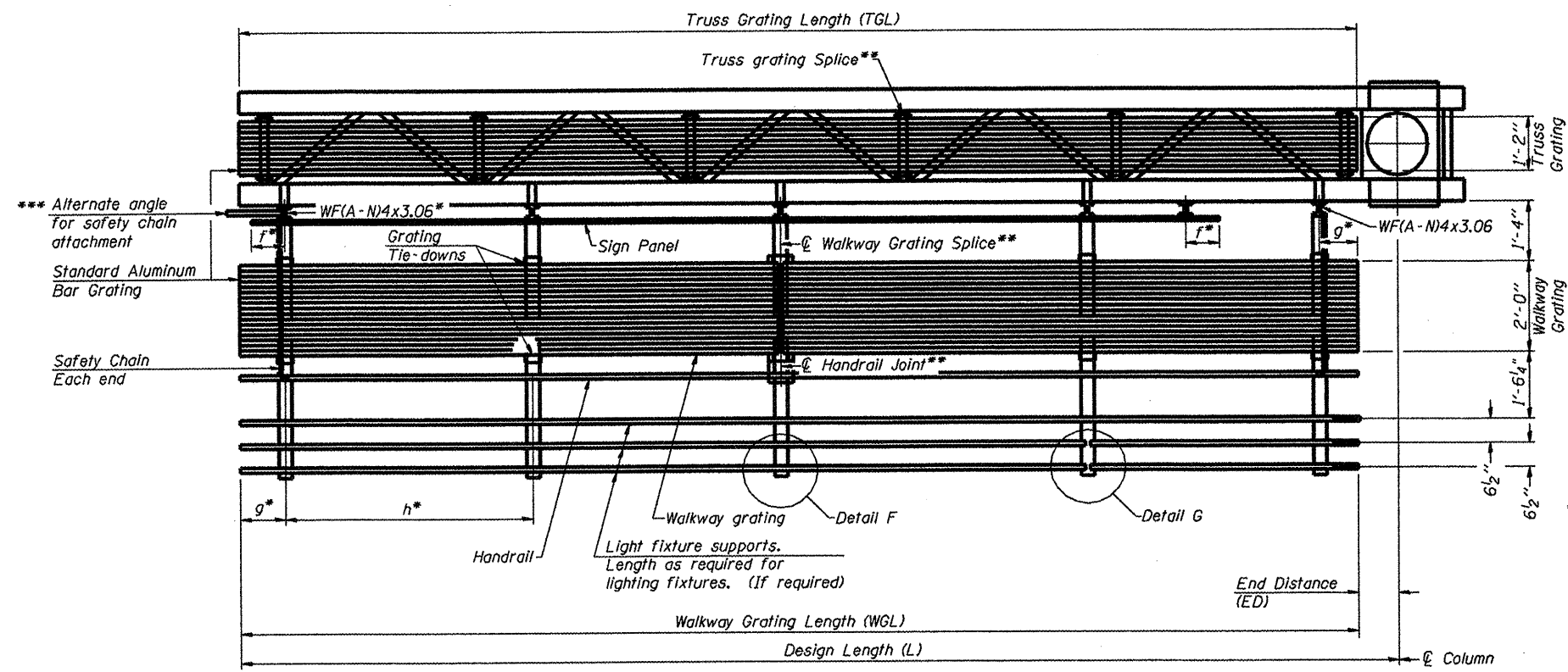


TYPICAL FRONT ELEVATION
With lights and handrail omitted for clarity.



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

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



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
167	2C101S251L009.6	18'	10'	26' 6"
168	2C101S251R009.6	19'	11'	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

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

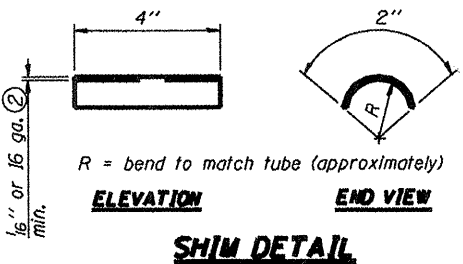
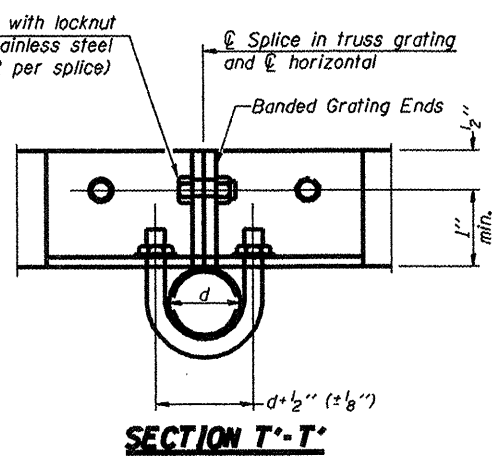
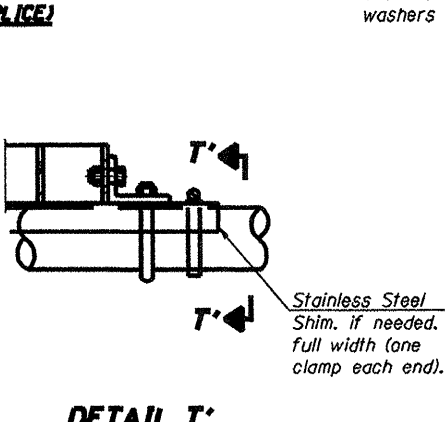
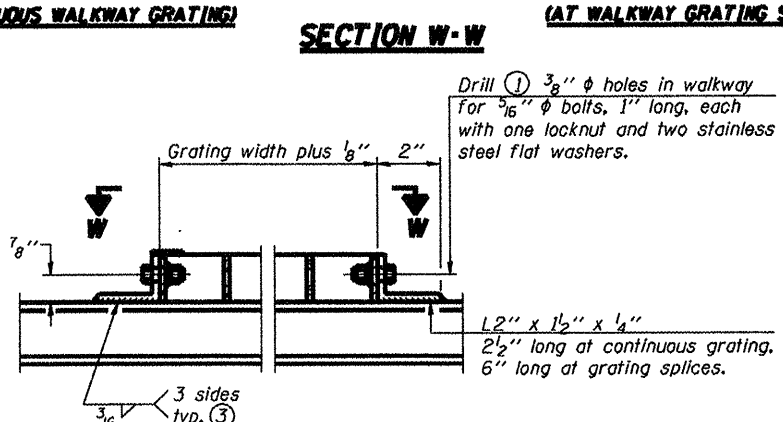
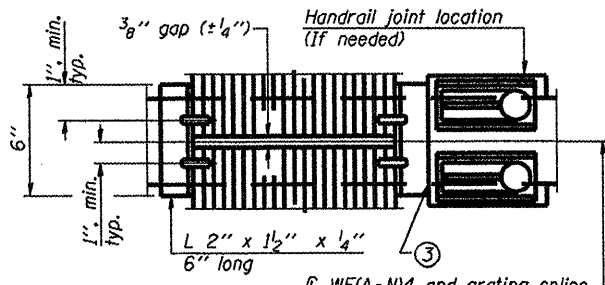
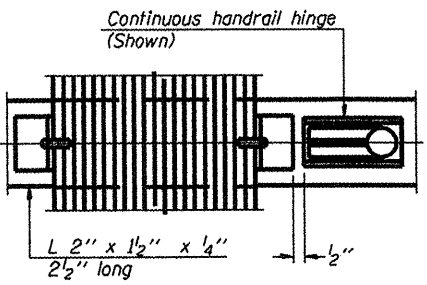
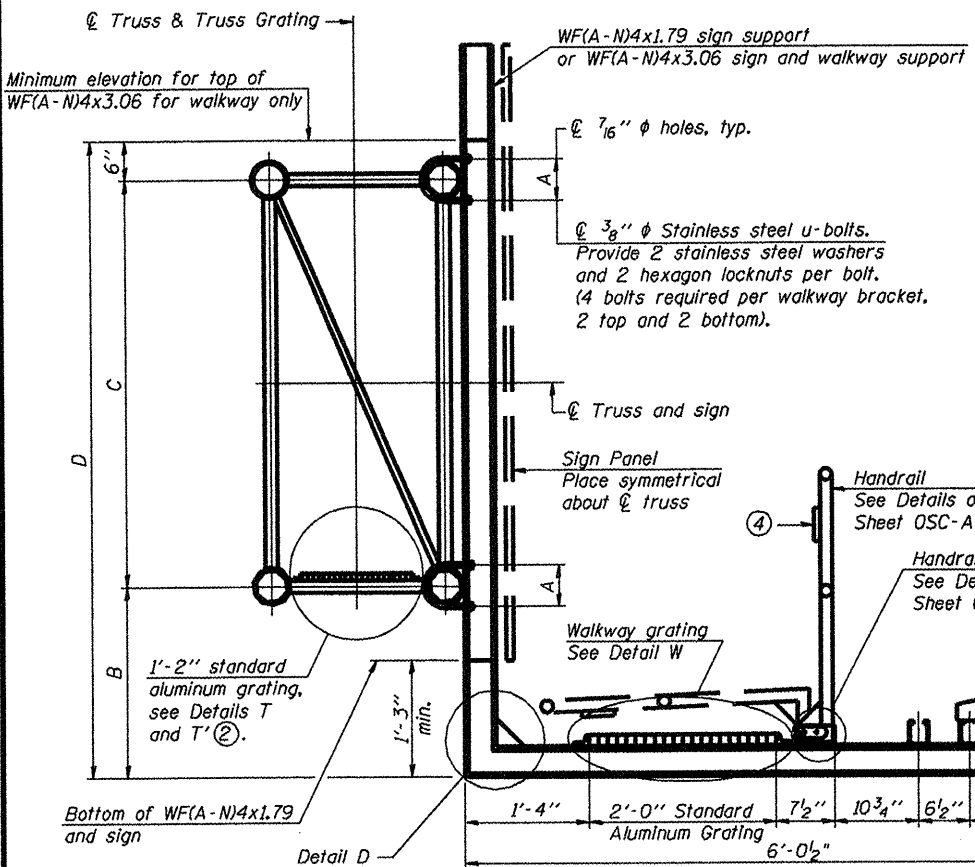
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**STATE OF ILLINOIS
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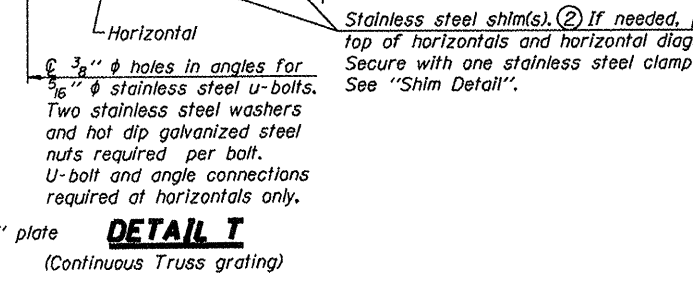
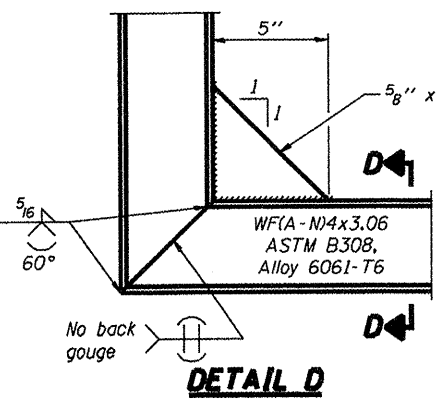
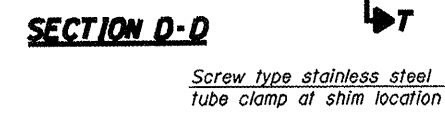
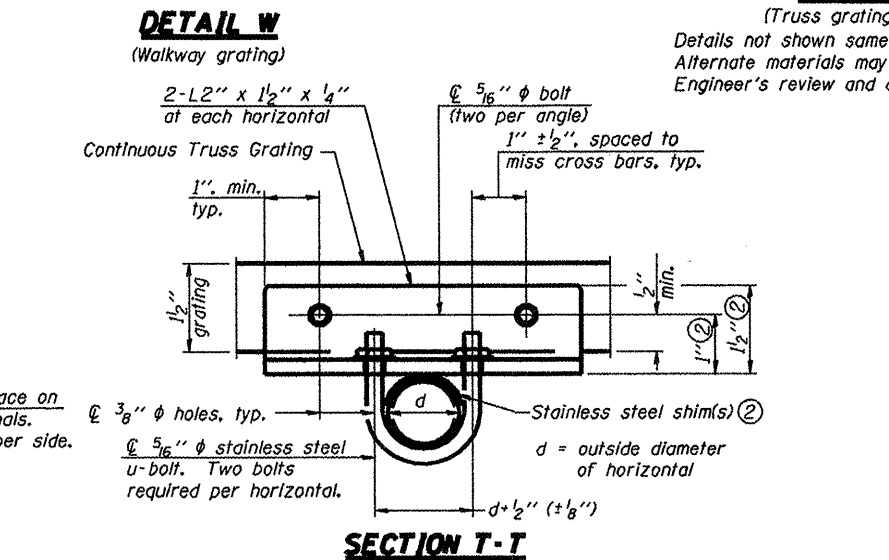
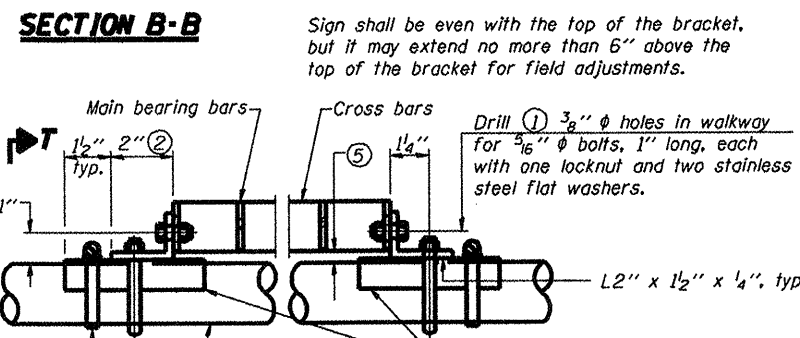
**CANTILEVER SIGN STRUCTURES - ALUMINUM WALKWAY
DETAILS - ALUMINUM TRUSS & STEEL POST**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
var 0-2 OVD SIN STR REPL 12-03	VARIOUS		28	20
CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	



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



- 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_s given on OSC-A-1.

Structure Number	Station	A	⑥ B	C	⑥ D
167 2C10IS251L009.6	104+85	7'	2' 3"	5' 6"	8' 3"
168 2C10IS251R009.6	104+85	7'	2' 3"	5' 6"	8' 3"

OSC-A-7

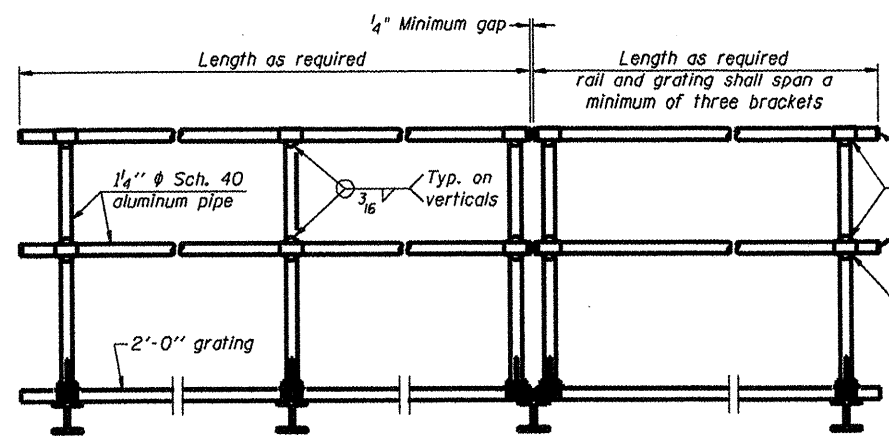
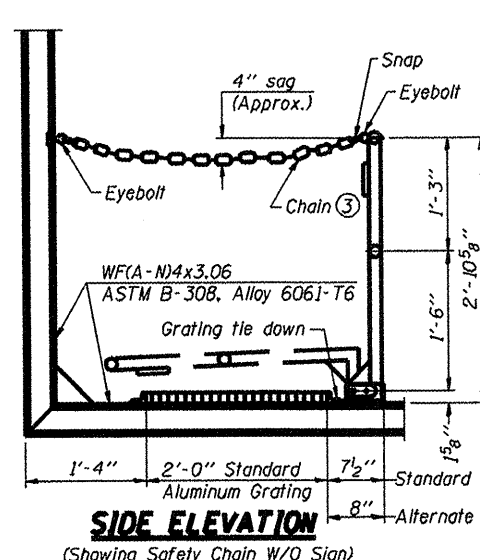
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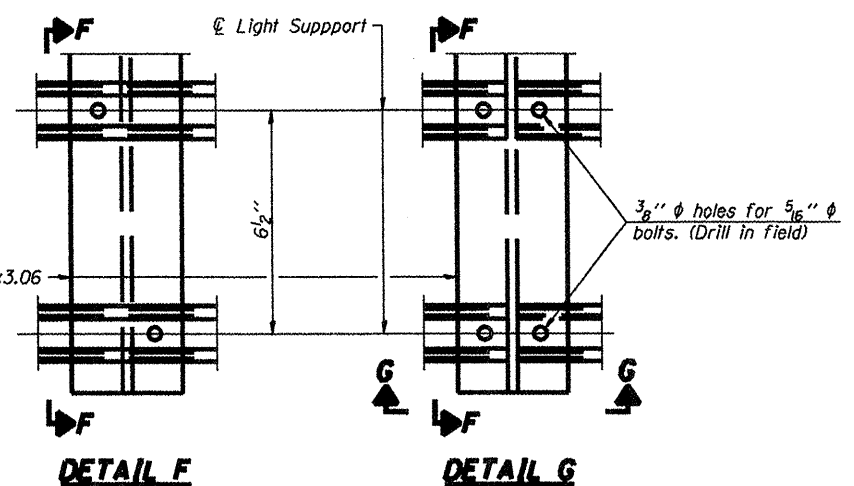
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - WALKWAY DETAILS		F.A. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ALUMINUM TRUSS & STEEL POST		var 0-2 OVD SIN STR REPL 12-03	VARIOUS	28	21
SCALE:	SHEET NO. OF SHEETS	STA.	TO STA.	CONTRACT NO. 46176	

ILLINOIS FED. AID PROJECT					
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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)



SIDE ELEVATION
(Showing Safety Chain W/O Sign)

FRONT ELEVATION

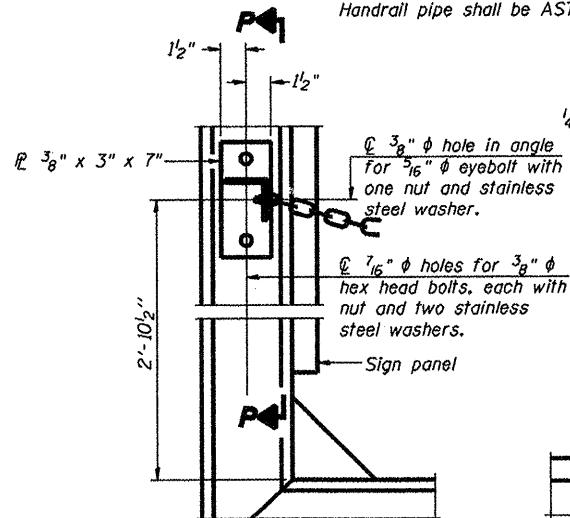
DETAIL F

DETAIL G

HANDRAIL DETAILS

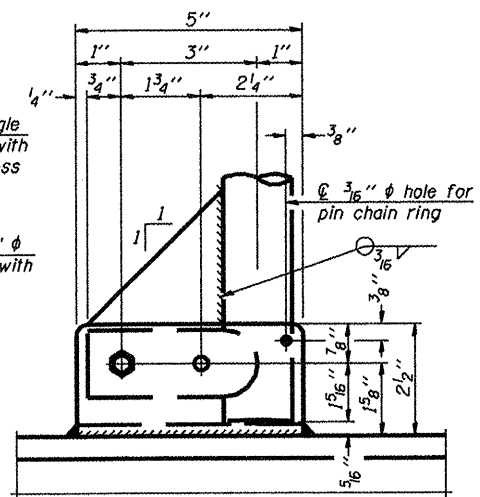
Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

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 1/16" holes on top rail at ends only.)

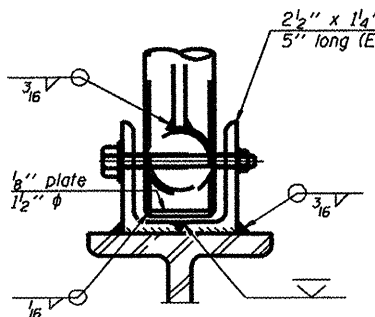


ALTERNATE SAFETY CHAIN ATTACHMENT
(With Sign Present)

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

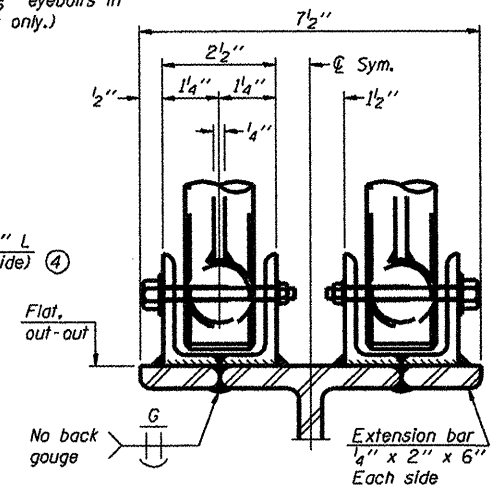


SIDE ELEVATION

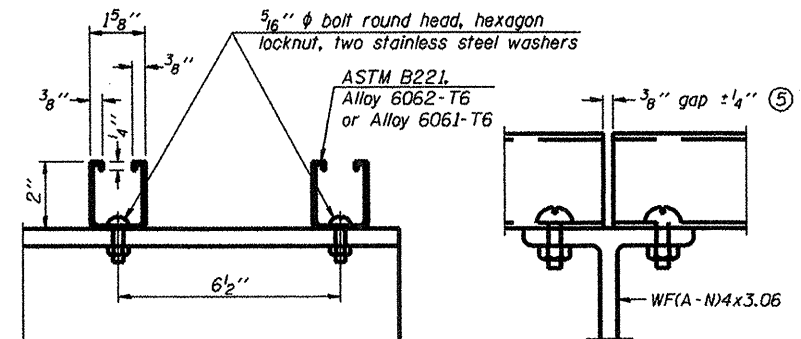


FRONT ELEVATION

Details not shown same as "ELEVATION" at right.



ELEVATION AT HANDRAIL JOINT ④
Details not shown same as "FRONT ELEVATION"

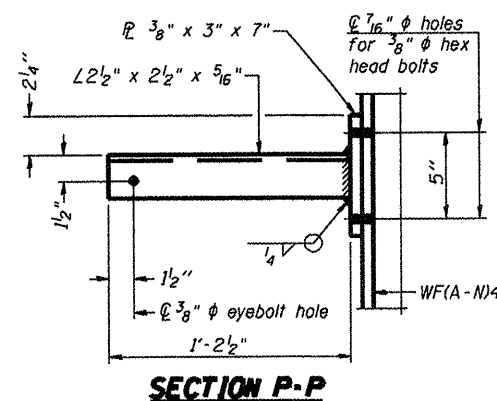


SECTION F-F

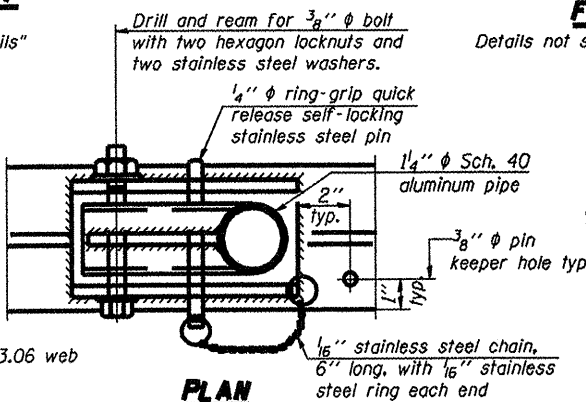
SECTION G-G

LIGHTING FIXTURE MOUNTS (IF REQUIRED)

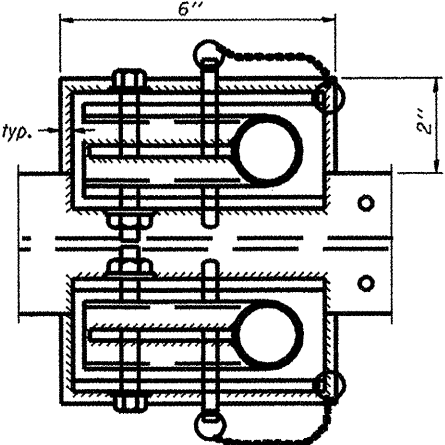
⑤ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.



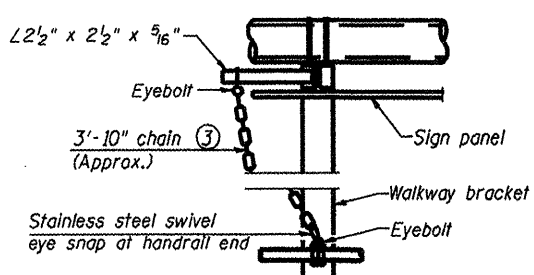
SECTION P-P



PLAN
DETAIL E HANDRAIL HINGE



PLAN AT HANDRAIL JOINT
Details not shown same as "PLAN"

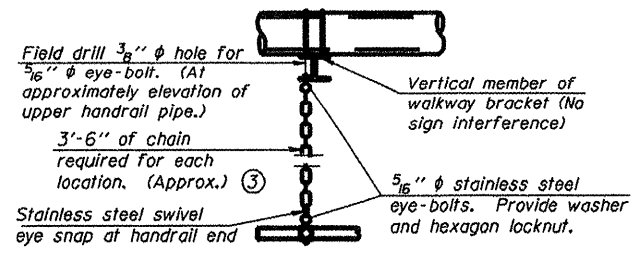


ALTERNATE SAFETY CHAIN ATTACHMENT

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.

OSC-A-B

1-20-11

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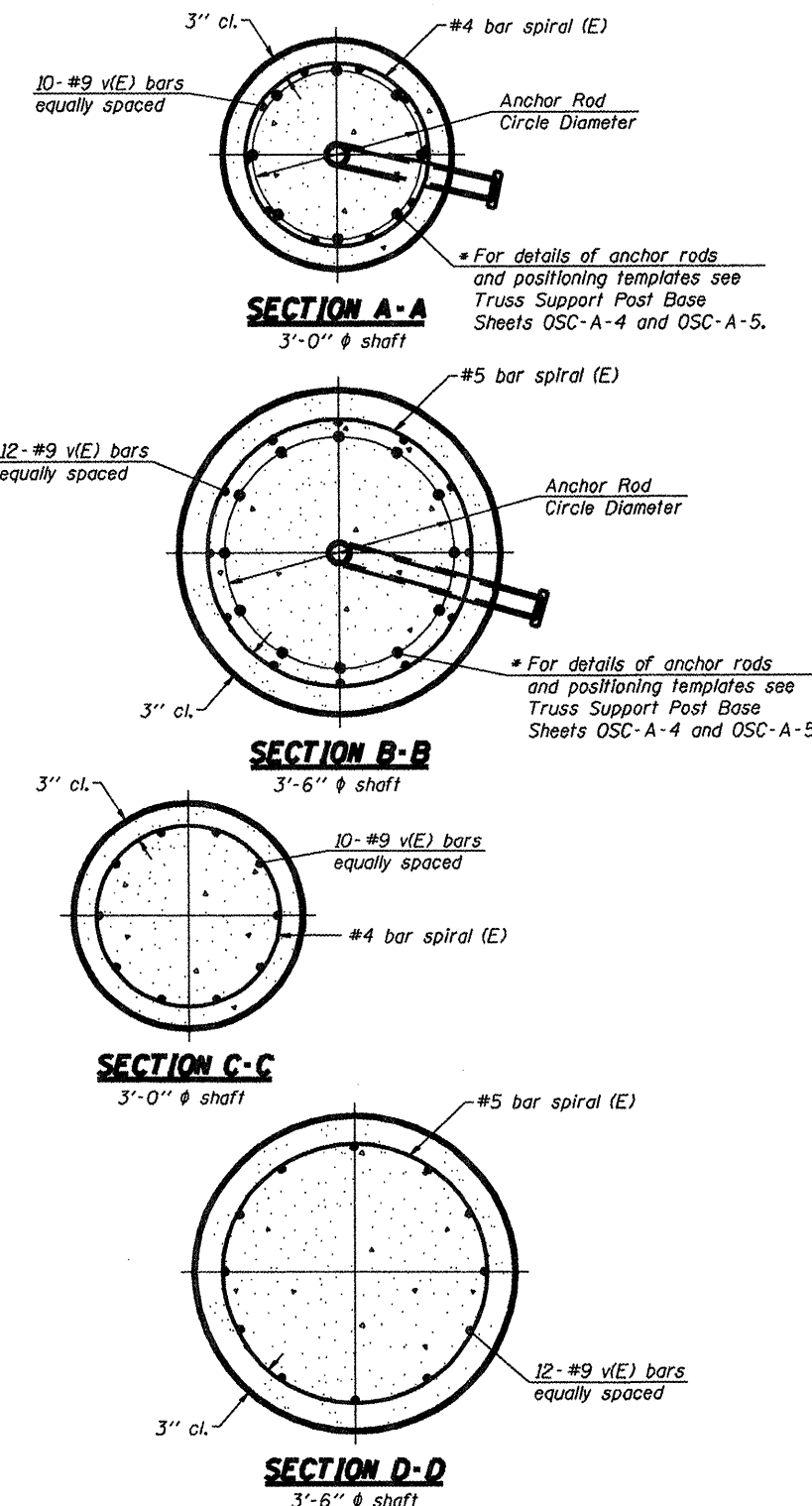
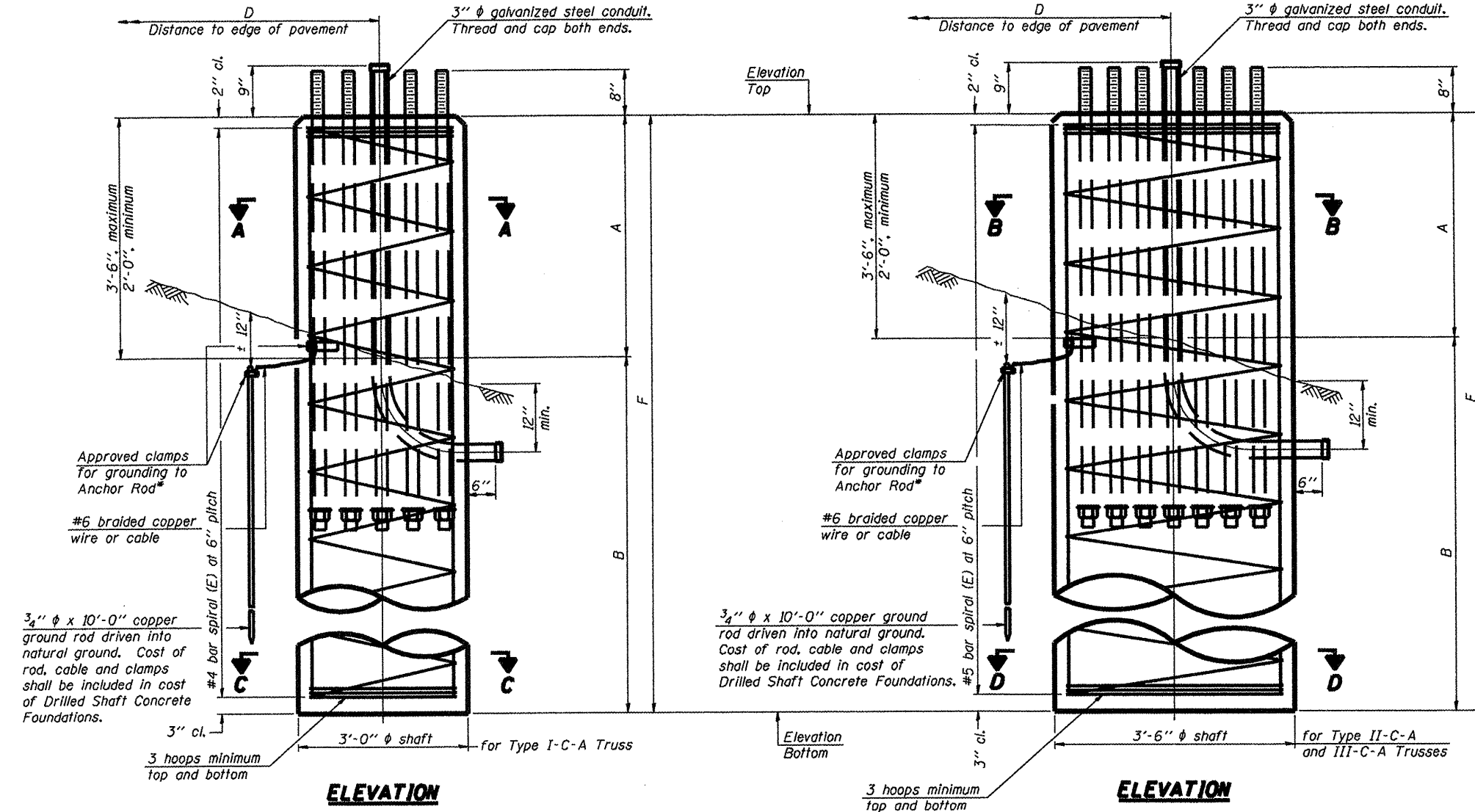
DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - HANDRAIL DETAILS			
ALUMINUM TRUSS & STEEL POST			
SCALE:	SHEET NO. OF SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
var 0-2 OVD	SIN STR REPL 12-03	VARIOUS	28	22
CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	

* 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 (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 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 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".

Truss Type	Post Base Sheet	Maximum Cantilever Length (ft)	Maximum Total Sign Area (sq ft)	Shaft Diameter (in)	"B" Depth (ft)	Anchor Rods No.	Anchor Rod Diameter (in)	Anchor Rod Circle 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	Qu	A	B	F	Class DS Concrete Cubic Yards
167	2C10IS251L009.6	104+85	II-C-A	3.5'	100	80.75	2.25'	17'	19.25'	6.9
168	2C10IS251R009.6	104+85	II-C-A	3.5'	100	76.00	2.5'	21' 6"	24'	8.6

OSC-A-9

1-20-11

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PLOT DATE = Wed Apr 06 15:33:06 2011		DATE -	REVISOR -

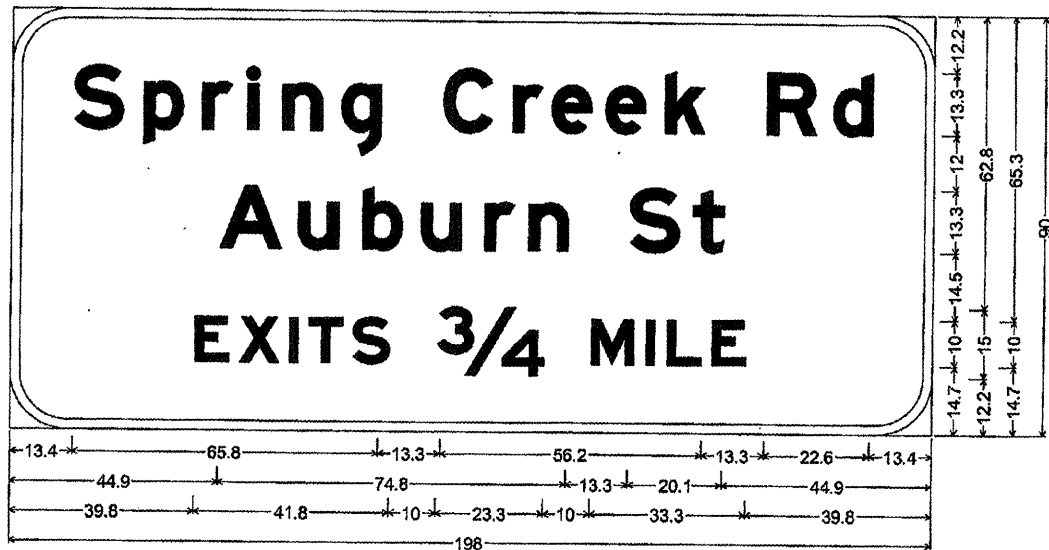
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - DRILLED SHAFT
 ALUMINUM TRUSS & STEEL POST

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
var Q-2	QVD SIN STR REPL 12-03	var	28	23
CONTRACT NO. 46176				
ILLINOIS FED. AID PROJECT				

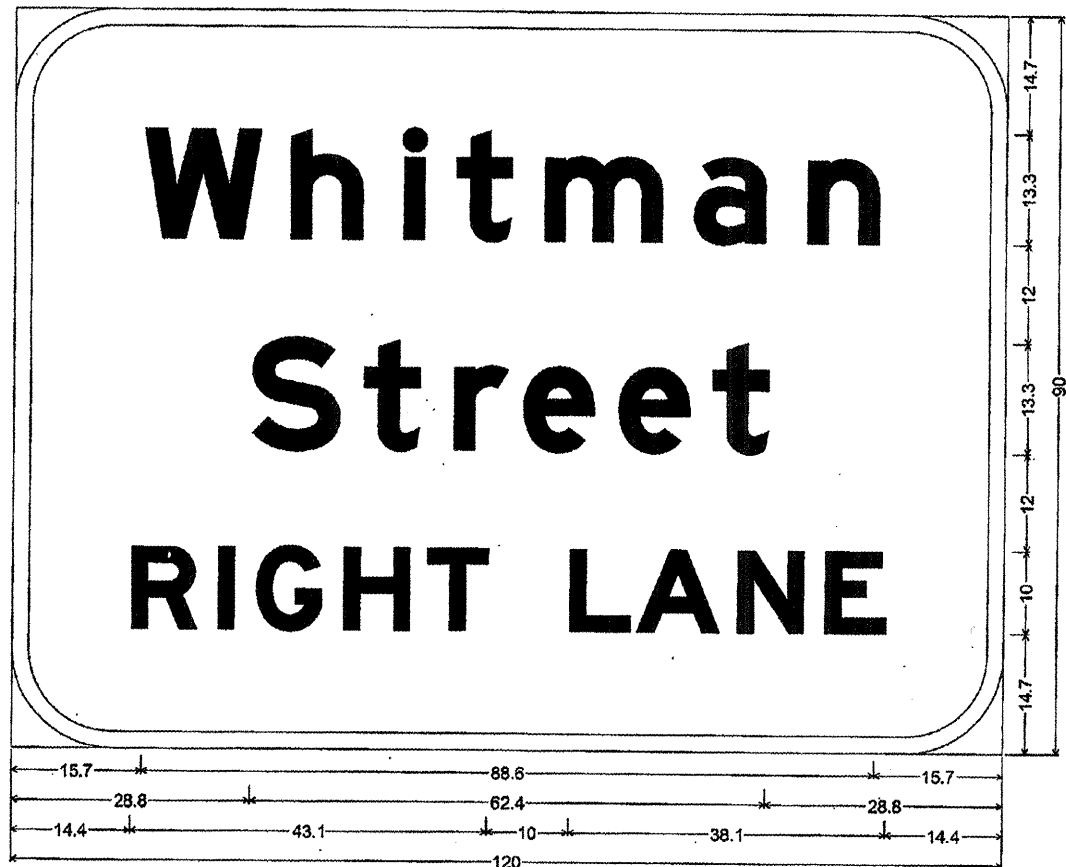
SIGN 167

SIGN 168



12.0" Radius, 2.0" Border, White on Green;
 "Spring Creek Rd" E Mod; "Auburn St" E Mod; "EXITS 3/4 MILE" E Mod;

123.75



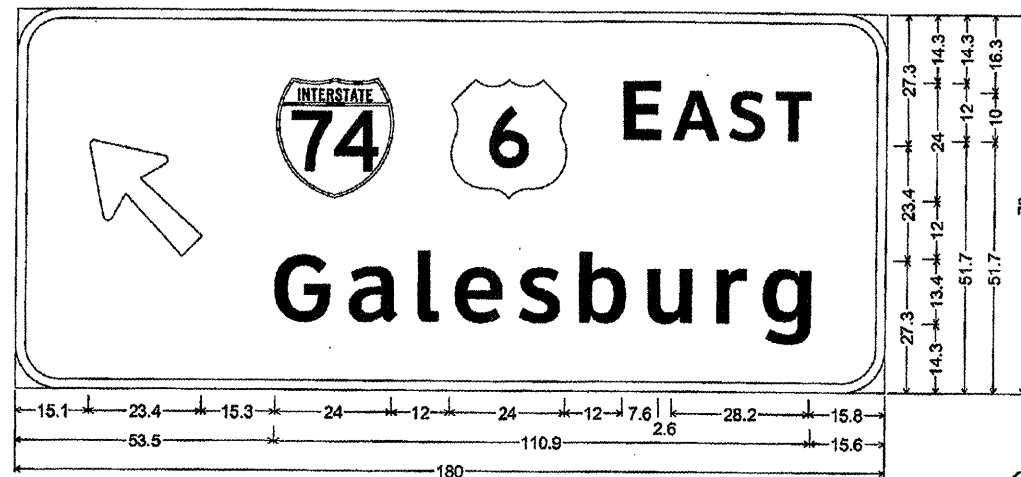
12.0" Radius, 2.0" Border, White on Green;
 "Whitman" E Mod; "Street" E Mod; "RIGHT LANE" E Mod;

7556

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PLOT SCALE = 100.0000 / IN.	CHECKED -	REVISED -	REVISED -			CONTRACT NO. 46176		ILLINOIS FED. AID PROJECT			
PLOT DATE = Wed Apr 06 15:33:25 2011	DATE -	REVISED -	REVISED -			SCALE: _____	SHEET NO. _____ OF _____ SHEETS	STA. _____ TO STA. _____			

SIGN 46

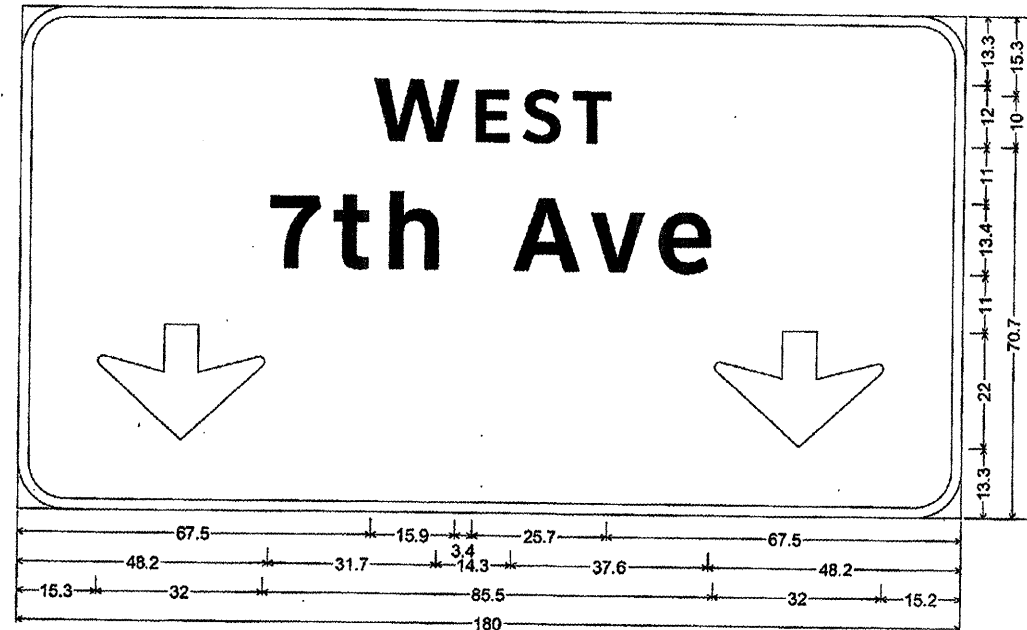
SIGN 46



9.0" Radius, 2.0" Border, White on Green;
 "E" ClearviewHwy-5-W " " E Mod 2K "AST" ClearviewHwy-5-W; "Galesburg" ClearviewHwy-5-W;
 Table of widths and spaces.

R	Ⓜ	Ⓜ	Ⓜ	Ⓜ	E	A	S	T										
15.1	23.4	15.3	24.0	12.0	24.0	12.0	7.6	2.6	9.3	2.2	7.2	2.2	7.3	15.8				
G	a	l	e	s	b	u	r	g										
53.5	11.6	3.9	9.9	4.2	4.3	3.4	9.8	3.5	8.5	4.3	9.6	4.5	9.2	5.0	6.1	3.4	9.7	15.6

97.5 sf



9.0" Radius, 2.0" Border, White on Green;
 "W" ClearviewHwy-5-W " " E Mod 2K "EST" ClearviewHwy-5-W; "7th Ave" ClearviewHwy-5-W;
 Down Arrow 22.0" 270"; Down Arrow 22.0" 270";
 Table of widths and spaces.

W	E	S	T									
67.5	15.9	3.4	6.3	2.7	7.2	2.2	7.3	67.5				
7	t	h	A	v	e							
48.2	9.4	2.5	6.5	4.0	9.3	14.3	12.5	2.1	10.2	3.0	9.8	48.2
↓	↓											
15.3	32.0	85.4	32.0	15.3								

120 sf

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PLOT DATE = Wed Apr 06 15:33:39 2011		DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

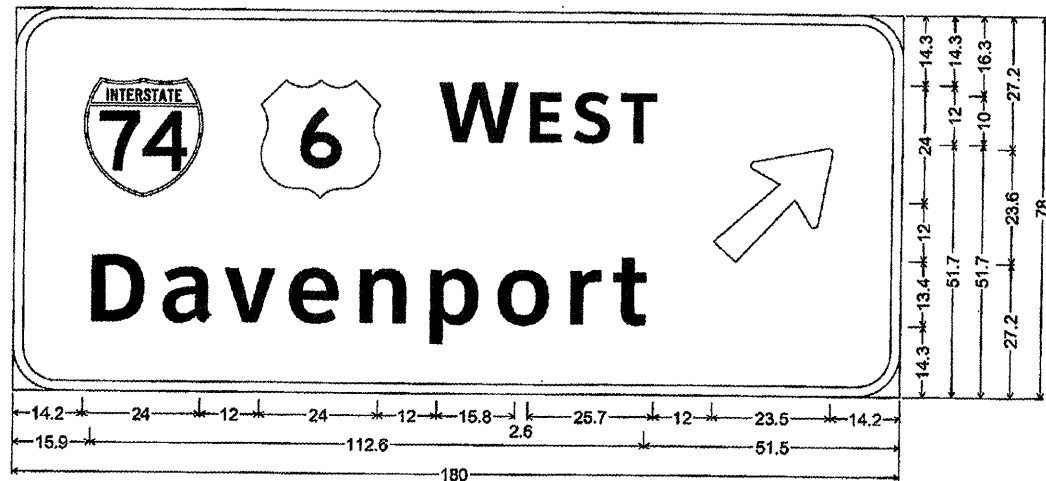
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
var 0-2 OVD SIN STR REPL 12-03	var		28	25
CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	

SIGN 46

SIGN 135 25081I280 R010.8

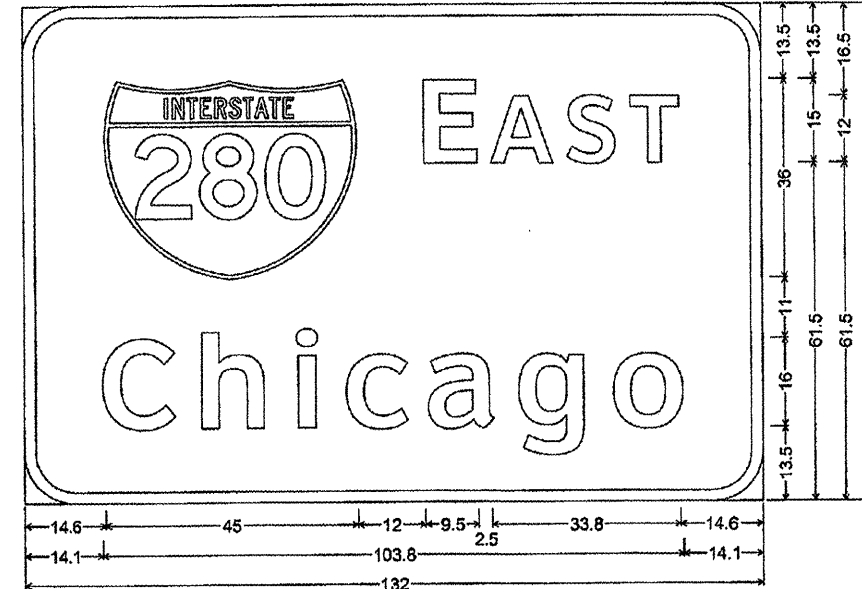


9.0" Radius, 2.0" Border, White on Green;
 "W" ClearviewHwy-5-W " " E Mod 2K "EST" ClearviewHwy-5-W; "Davenport" ClearviewHwy-5-W;
 Table of widths and spaces.

14.2	24.0	12.0	24.0	12.0	15.8	2.6	6.3	2.7	7.2	2.2	7.3	12.0	23.5	14.2				
15.9	10.8	3.8	10.0	2.5	10.2	3.0	9.8	4.5	9.3	5.0	9.7	4.0	10.3	4.5	5.1	2.6	6.5	51.5

97.5 SF

11' - 0"



9.0" Radius, 2.0" Border, White on Green;
 Interstate 280 15.0" D 2K;
 "E" ClearviewHwy-5-W " " ClearviewHwy-4-W "AST" ClearviewHwy-5-W;
 "Chicago" ClearviewHwy-5-W;
 Table of widths and spaces.

14.6	45.0	12.0	9.5	2.5	11.2	2.6	8.7	2.6	8.7	14.6				
14.1	13.0	4.9	11.1	5.7	3.8	5.0	10.9	3.6	11.9	4.5	11.6	5.4	12.4	14.1

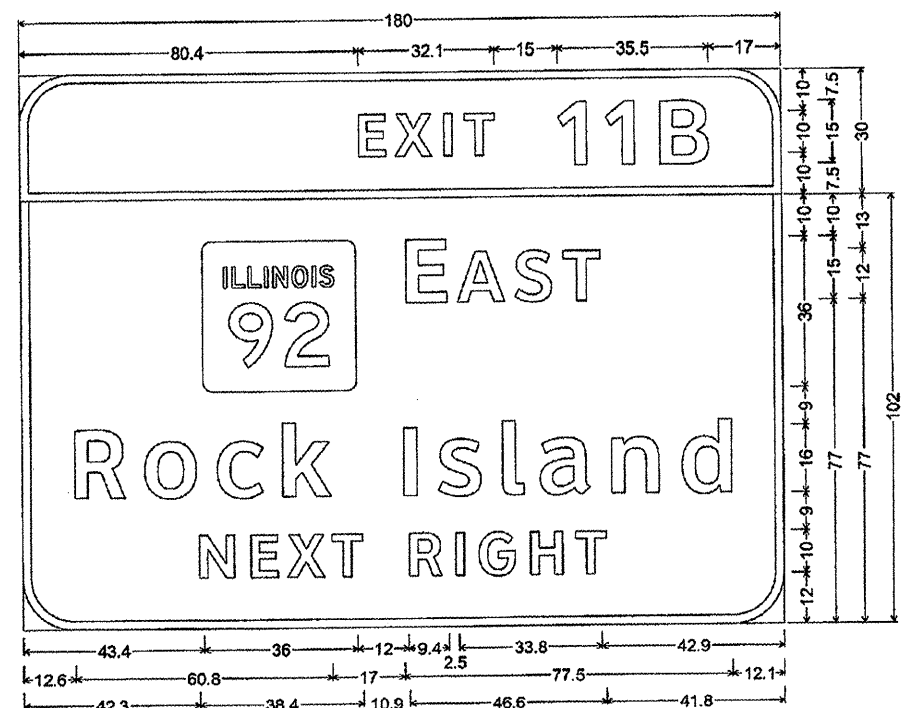
7' - 6"

FILE NAME =	USER NAME = linkj	DESIGNED -	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGN DESIGNS	FA- RTE-	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = Wed Apr 06 15:33:03 2011		DATE -	REVISD -			ILLINOIS FED. AID PROJECT				

SIGN 135

SIGN 135

15' - 0"



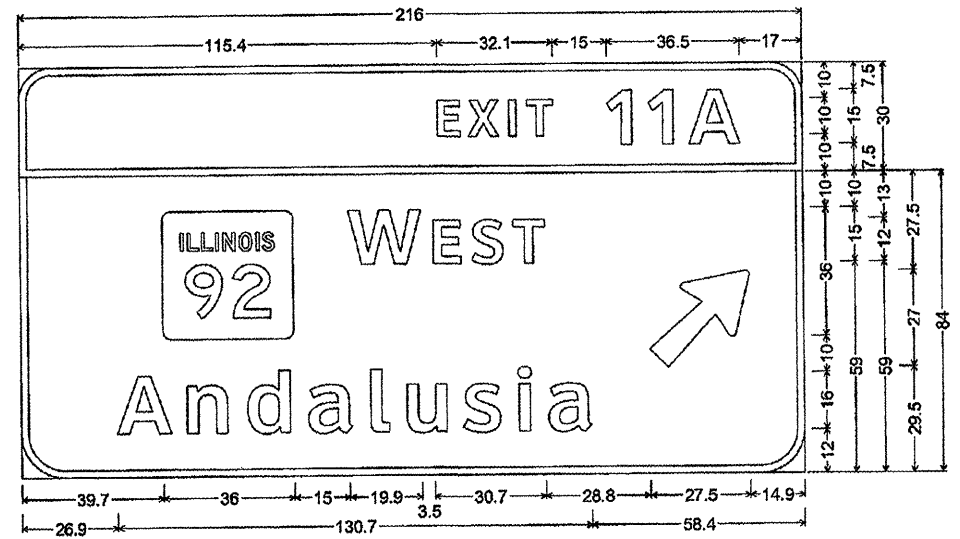
11' - 0"

12.0" Radius, 2.0" Border, White on Green;
 "EXIT" ClearviewHwy-5-W; "11B" ClearviewHwy-5-W;
 12.0" Radius, 2.0" Border, White on Green;
 "E" ClearviewHwy-5-W " " ClearviewHwy-4-W "AST" ClearviewHwy-5-W;
 "Rock Island" ClearviewHwy-5-W; "NEXT RIGHT" ClearviewHwy-5-W;

Table of widths and spaces.

80.4	6.3	2.2	8.7	2.7	2.0	3.0	7.2	15.0	6.9	4.4	6.8	6.0	11.4	17.0						
43.4	36.0	12.0	9.4	2.5	11.3	2.5	8.7	2.7	8.6	42.9										
12.6	12.1	4.8	12.3	4.8	10.9	4.5	11.4	17.0	3.1	5.0	10.2	5.2	5.1	3.7	12.0	5.0	11.2	5.4	11.6	12.1
42.3	8.2	4.0	6.3	2.2	8.7	1.7	7.3	10.9	7.5	3.5	1.9	3.6	8.7	3.6	7.7	2.9	7.2	41.8		

18' - 0"



9.0" Radius, 2.0" Border, White on Green;
 "EXIT" ClearviewHwy-5-W; "11A" ClearviewHwy-5-W;
 12.0" Radius, 2.0" Border, White on Green;
 "W" ClearviewHwy-5-W " " ClearviewHwy-4-W "EST" ClearviewHwy-5-W;
 "Andalusia" ClearviewHwy-5-W; 18x30;
 Table of widths and spaces.

115.4	6.3	2.2	8.7	2.7	1.9	3.0	7.3	15.0	6.8	4.4	6.9	4.3	14.1	17.0				
39.7	36.0	15.0	19.9	3.5	7.6	3.1	8.7	2.7	8.6	28.8	27.5	14.9						
26.9	15.0	4.6	11.1	5.4	11.6	5.0	12.0	5.0	5.1	4.8	10.9	4.8	10.2	4.8	3.8	4.7	11.9	58.4

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

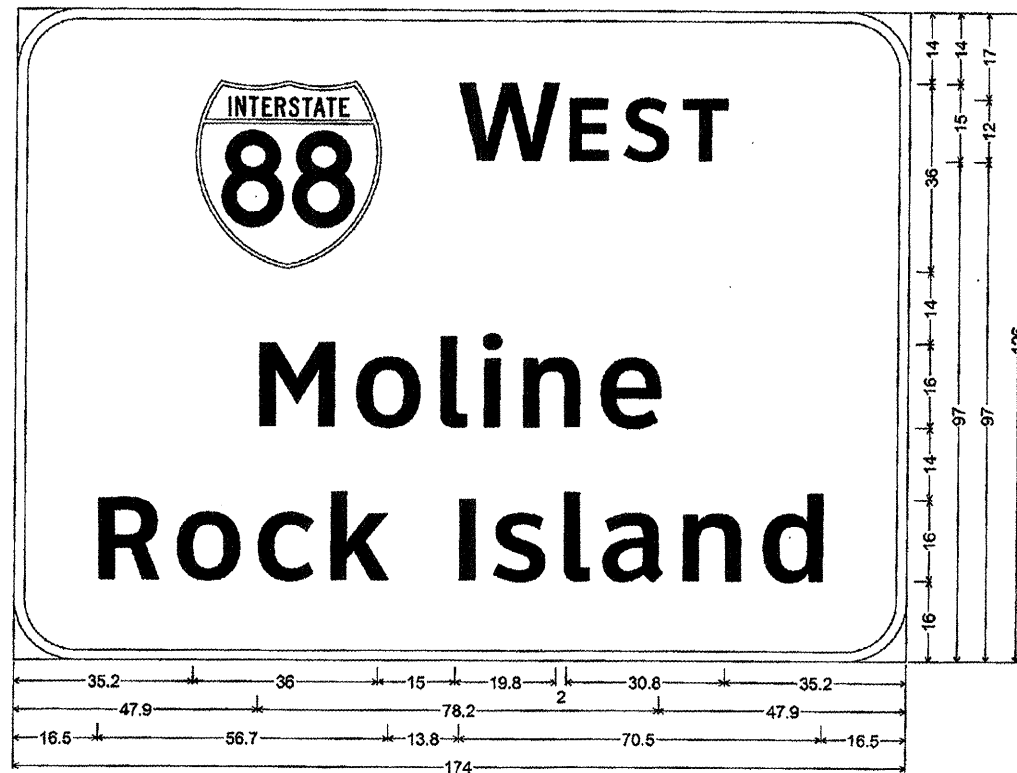
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F.A. RTE.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 46176			ILLINOIS FED. AID PROJECT	

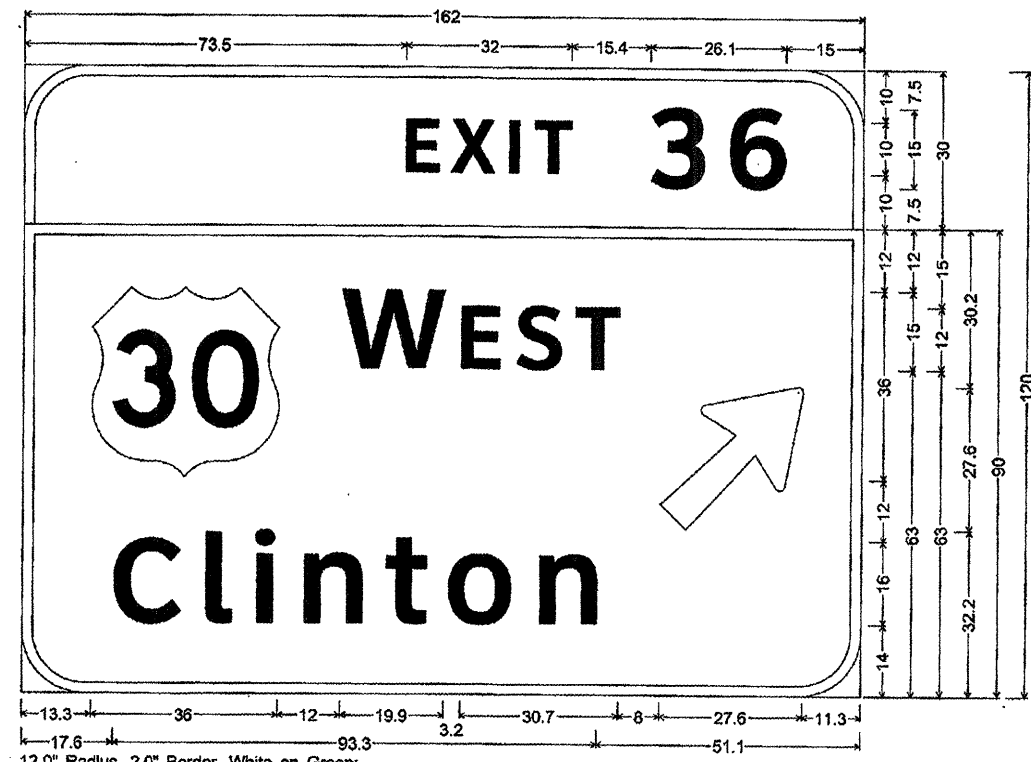
SIGN 131

SIGN 131



IL 83 Should Have no Border;
 12.0" Radius, 2.0" Border, White on Green;
 "W EST" ClearviewHwy-5-W; "Moline" ClearviewHwy-5-W-R 90% spacing;
 "Rock Island" ClearviewHwy-5-W-R 90% spacing;

152.25 ST



12.0" Radius, 2.0" Border, White on Green;
 "EXIT 36" ClearviewHwy-5-W;
 12.0" Radius, 2.0" Border, White on Green;
 "W EST" ClearviewHwy-5-W; "Clinton" ClearviewHwy-5-W; Arrow 160 - 35.0" 45";

135 ST

FILE NAME = D:\BR\SIGN TRUSS\CADD Plans\2011-2	USER NAME = linkdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGN DESIGNS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
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PLOT DATE = Wed Apr 06 15:34:30 2011	DATE -	REVISED -	ILLINOIS FED. AID PROJECT										
SCALE: _____ SHEET NO. _____ OF _____ SHEETS STA. _____ TO STA. _____													