

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	2005-062 I	WILL	72	27
STA.		TO STA.		
FED. ROAD DIST. NO.		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

WIND LOADING: 30 p.s.f. normal to Sign Panel Area and truss elements not behind sign Loading Diagram.

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 with a minimum yield of 35,000 p.s.i., or A500 Grade B or C with a minimum yield of 46,000 p.s.i. 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.

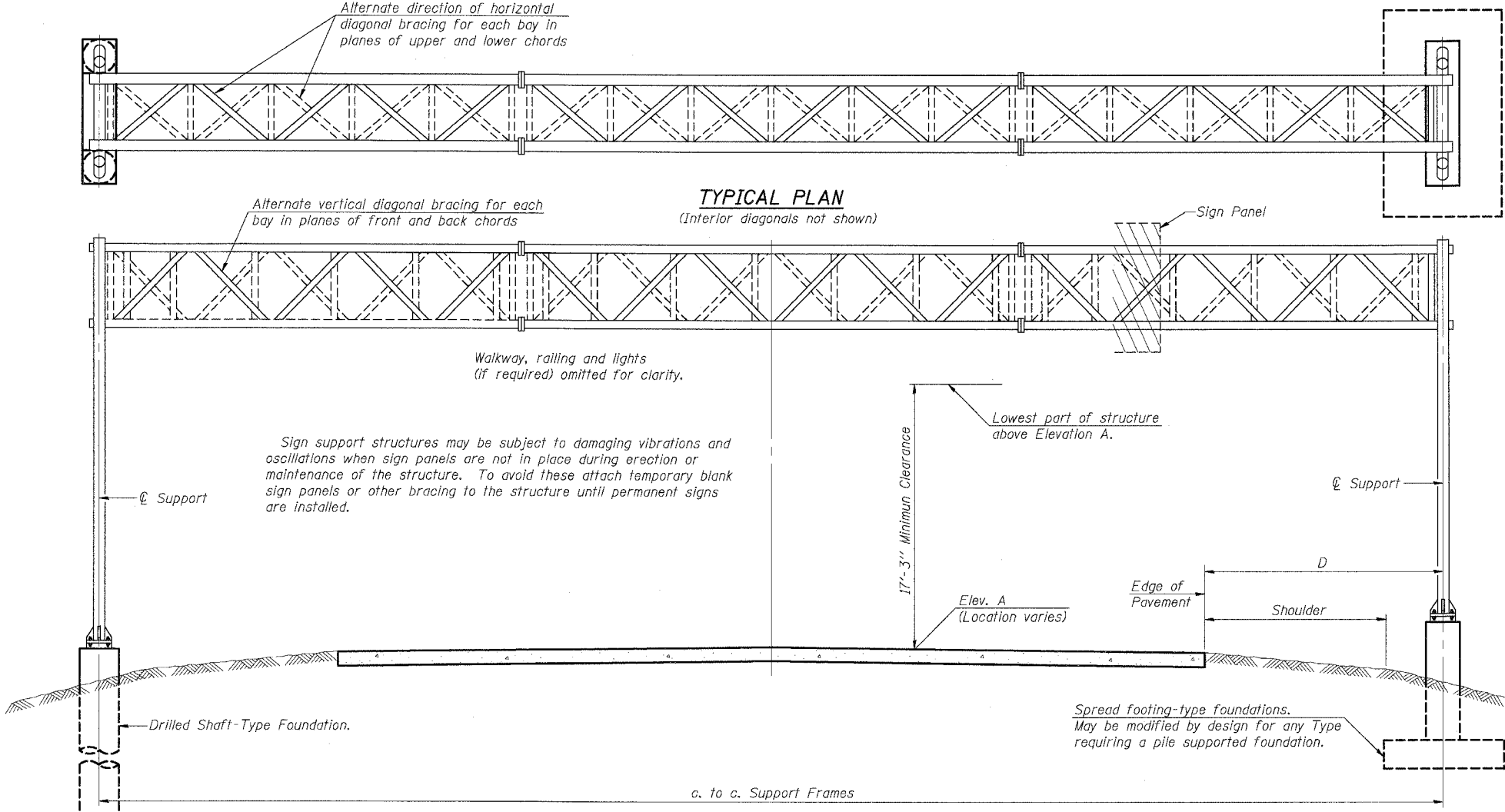
GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to AASHTO M314 Gr. 36 or 55 with a minimum Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F.

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.

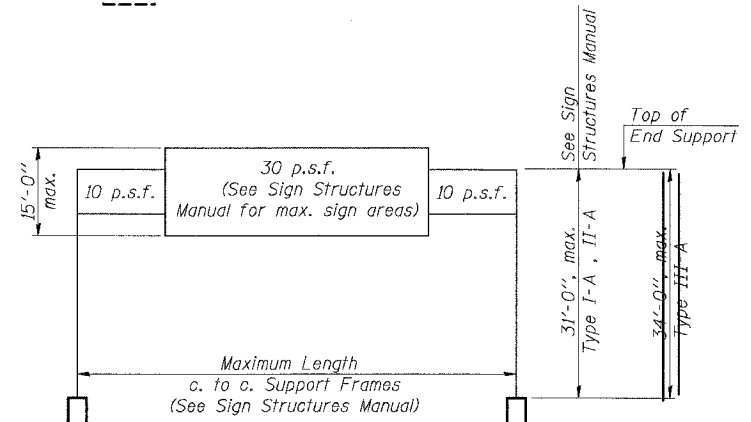
REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

\* 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 ELEVATION**  
(Looking at Face of Signs)\*\*

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



**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.

Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
IS099I055R249.90	189+70	II-A	102'-0"	571.71	12'-9"	12'-6"	487.5 sq. ft.
IS099I055L250.67	229+76	I-A	77'-0"	589.98	12'-10"	12'-6"	487.5 sq. ft.
IS099I055R251.02	248+22	I-A	75'-0"	592.69	18'-7"	14'-6"	420.5 sq. ft.
IS099I055L251.17	256+26	I-A	82'-0"	587.35	13'-6"	12'-6"	312.5 sq. ft.
IS099I055R252.64	333+75	I-A	91'-0"	583.44	32'-5"	12'-6"	343.75 sq. ft.
IS099I055L253.03	354+55	I-A	89'-0"	579.82	31'-7"	12'-6"	381.25 sq. ft.

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

**TOTAL BILL OF MATERIAL**

NUMBER	REVISION	DATE

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE TYPE I-A (4'-0" x 4'-6")	Foot	414
OVERHEAD SIGN STRUCTURE TYPE II-A (4'-6" x 5'-3")	Foot	104
OVERHEAD SIGN STRUCTURE TYPE III-A (5'-0" x 7'-0")	Foot	
OVERHEAD SIGN STRUCTURE WALKWAY TYPE A	Foot	249
CONCRETE FOUNDATIONS	Cu. Yds.	
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	180.2
ROCK EXCAVATION FOR STRUCTURES	Cu. Yds.	23.1

SHT. S-1 OF 27

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 FAI ROUTE 55 (I-80 TO U.S. 30)  
 SIGNING  
 WILL COUNTY

**OVERHEAD SIGN STRUCTURES  
 PLAN & ELEVATION  
 ALUMINUM TRUSS & STEEL SUPPORTS**

SCALE: DRAWN BY: MDB  
 DATE: 05/19/06 CHECKED BY: MJK

**TENG**  
 TENG & ASSOCIATES, INC.  
 ENGINEERS/ARCHITECTS/PLANNERS  
 CHICAGO, ILLINOIS

PLOT DATE = 05/19/06  
 PLOT NAME = 05A101.DWG  
 PLOT SCALE = 1/8"=1'-0"  
 USER NAME = JGIBBS  
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 GARCIAZ  
 5-17-2286, 14-2715