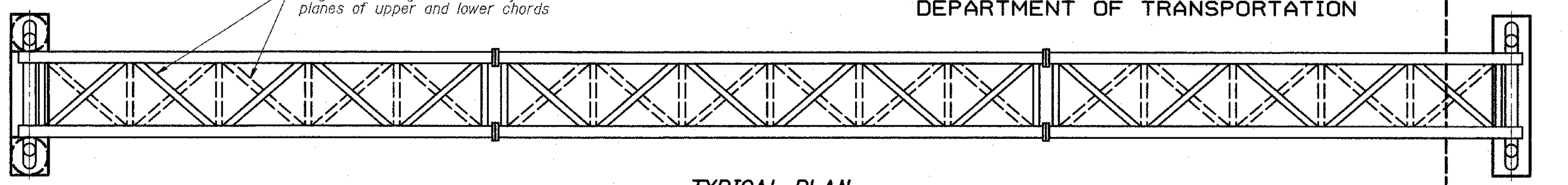
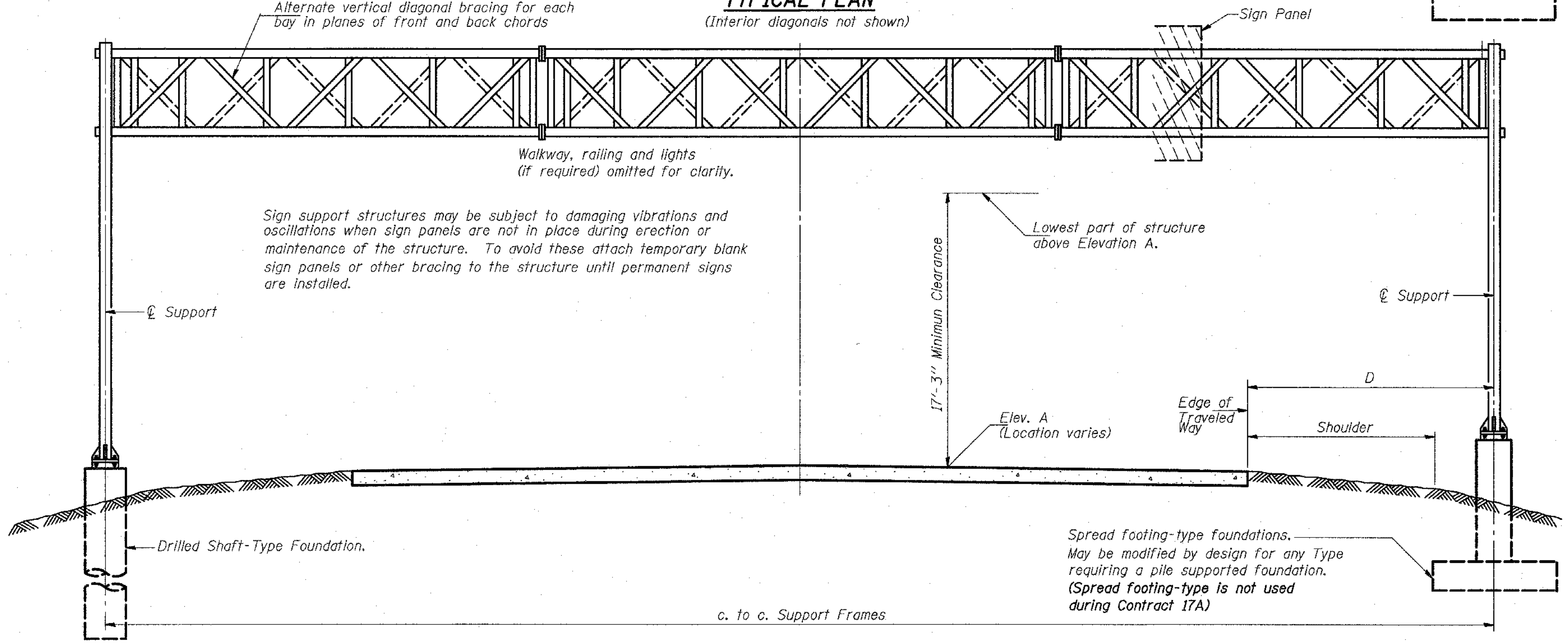
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TYPICAL PLAN

(Interior diagonals not shown)



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 attach temporary blank sign panels or other bracing to the structure until permanent signs are installed.

Spread footing-type foundations. May be modified by design for any Type requiring a pile supported foundation. **(Spread footing-type is not used during Contract 17A)**

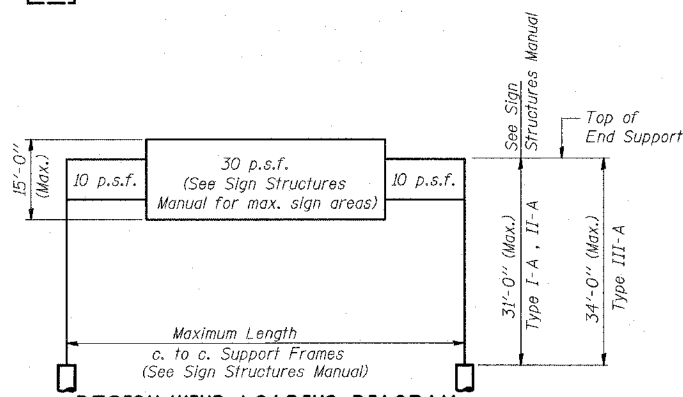
TYPICAL ELEVATION

(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
1S016I057R357.7	215+44	I-A	92'	-3.16	32.13'	10'	335.0 ft²
1S016I057R357.9	227+29	II-A	109'	5.22	32.44'	10.5'	441.0 ft²
1S016I094R062.8	2204+66	I-A	96'	-1.70	26.06'	8.5'	229.5 ft²
1S016I094R062.2	2242+70	II-A	112'	3.56	19.86'	8.5'	174.25 ft²
1S016I094R061.7	2264+34	II-A	106'	-3.11	37.17'	14.5'	461.25 ft²
1S016I094R061.3	2282+42	III-A	112'	-5.34	39.81'	8.5'	***
1S016I094R061.2	2290+90	II-A	110'	-8.16	38.06'	8.5'	255.0 ft²
1S016I094R060.2	2344+44	II-A	115'	-4.17	28.21'	10.5'	258.25 ft²

**Looking upstation for structures with signs both sides.
***Dynamic Message Sign



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.

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
$f' = 3{,}500$ 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 Specificiations.

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) 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.

NUMBER	REVISION	DATE

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE TYPE I-A (4'-0" x 4'-6")	Foot	188
OVERHEAD SIGN STRUCTURE TYPE II-A (4'-6" x 5'-3")	Foot	552
OVERHEAD SIGN STRUCTURE TYPE III-A (5'-0" x 7'-0")	Foot	112
OVERHEAD SIGN WALKWAY TYPE A****	Foot	560
CONCRETE FOUNDATIONS	Cu. Yds.	0
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	168

****Paid for as Overhead Sign Structure Walkway

THE CONTRACTOR SHALL COORDINATE WITH THE LIGHTING CONTRACTOR TO ALLOW FOR INSTALLATION OF APPROPRIATE EQUIPMENT PRIOR TO ERECTION OF THE SIGN STRUCTURES.

DESIGNED -
CHECKED -
DRAWN -
CHECKED -

- 20
EXAMINED
ENGINEER OF STRUCTURAL SERVICES
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

OS-A-1 11/1/2002

TYLIN INTERNATIONAL

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)

OVERHEAD SIGN STRUCTURES
GENERAL PLAN & ELEVATIONS
ALUMINUM TRUSS & STEEL POST

SCALE: AS NOTED DRAWN BY: AMB
DATE: MARCH 18, 2005 CHECKED BY: TB