STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN
(Left Sign Skew > 15°)
WALKWAY AND HANDRAIL SKETCH
(Road plan beneath structure varies.)

"a" and "f" are measured along ℄ of facia beam/girder to center of bracket

c_s & d_s = sign width
c_w & d_w = walkway-lengths

PLAN
(For Sign Skew ≤ 15°, all brackets constant)
WALKWAY AND HANDRAIL SKETCH
(Road plan beneath structure varies.)

PLAN
(Right Sign Skew > 15°)
WALKWAY AND HANDRAIL SKETCH
(Road plan beneath structure varies.)

TYPICAL FRONT ELEVATION
(With lights, safety chain and handrail omitted for clarity.)

Sign panels. For location and data see Sign Detail Sheet.

Top of parapet

$3\frac{1}{2}''$ ∅ standard pipe

h Bracket height 12'-0" max. (See Base Sheet BM-2)

W6x9 (Typ.)
W10x22 (Typ.)
W6x9 (Typ.)

Facia Beam

12" max.   g ①   g   12" max.

SECTION B-B
(Shown: Left Sign Skew > 15°)

W10x22 (10'-0" max. length)
$3\frac{1}{2}''$ ∅ standard pipe (8'-0" max. length)

Exterior face of facia Beam
Sign Skew Angle (L)
℄ Anchor bolts in parapet or sidewalk

Sign panel
Parallel
W6x9 (Typ.)
p or q

Alternate angle for safety chain attachment ④

12" max.   Grating Tie-downs   12" max.
Steel Grating See Detail D
Safety Chain Each end
12" max.   g ①
Details F and G
Handrail, see Detail D

GENERAL NOTES

SPECIFICATIONS:

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications") ②

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: 80 M.P.H. WIND VELOCITY PLUS 30% GUST FACTOR
WIND LOADING: 35 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.

MINIMUM CLEARANCE: 3" greater than bridge members at all locations. (All Obstructions)

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

MATERIALS: 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 (M183, M223 Gr. 50.).

HIGH STRENGTH BOLTS: All bolts, washers, nuts and locknuts shall satisfy the requirements of ASTM designation A307 unless noted as "H.S." which shall require AASHTO M164 (A325), ASTM A449, or approved alternate. All fasteners shall be hot dip galvanized per AASHTO M232 unless otherwise specified.

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: All-threaded rod conforming to ASTM A307, $\frac{3}{4}''$ ∅ x 12" long, each with one plate washer and locknut and be hot dip galvanized per AASHTO M232. They shall be either cast into the concrete or epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment in concrete shall be 9".

① Bracket spacing g ≤ 6'-0" max. Spacing shall be uniform if possible but may vary ±6" to miss existing obstruction (rail post, light poles, web stiffeners, splice plates, etc.). Adjust bracket lengths accordingly on skewed structures.
② Any design modifications shall be based on the current version of applicable specifications and submitted for the Engineer's approval.
③ Unit price includes grating, handrail, brackets, supports, anchor bolts, fasteners, fabrication, delivery, erection, field drilling and other necessary items. Limits of payment are based on grating length (cw, dw) unless otherwise specified.

"a" and "f" are measured along ℄ of facia beam/girder to center of bracket

For Safety Chain Details and Details D, F and G, see Base Sheet BM-4.
④ If walkway bracket at safety chain location is behind sign, add angle to bracket. See detail on Base Sheet BM-4.

NUMBER	REVISION	DATE

TOTAL BILL of MATERIAL

③ OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED	Foot	121.00'

Structure Number	Sign Skew Angle (L) or (R)	Bridge Station	Bridge Structure Number	Contract Route Designation	a	b	c_s	c_w	d_s	d_w	e	f	g	No. of Brackets (Total)	p	q	Total Grating/ Hndrl. Lengths (c_w + d_w)
1B016I094R059.8	0°	2365+00	016-1146	FAI-94					71.50'	71.50'	6.00'	51.25'	•4.83'	16			71.50'
1B016I094R060.8	0°	2312+37	016-1144	FAI-94					41.53'	49.50'		9.53'	••2.93'	12			49.50'

Dimensions a, b, e, f & g may vary as approved by the Engineer, see ①.
When c_w < c_s and/or d_w < d_s, use alternate brackets without walkway supports where applicable, see ③.

•Starting from bracket at the right (facing northbound), spacings are 4.83', 4.29', 5.38', 4.00', 4.00', 3.63', 5.38', 5.63', 2.96', 6.00', 3.54', 3.00', 4.92', 6.00', 5.96'.

••Starting from bracket at the right (facing northbound), spacings are 2.93', 5.00', 2.83', 6.00', 2.50', 5.54', 2.79', 5.36', 6.00', 4.67' and 4.67'.

DESIGNED	-
CHECKED	-
DRAWN	-
CHECKED	-

EXAMINED
ENGINEER OF STRUCTURAL SERVICES
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

BM-1   11/1/2002

TY·LIN INTERNATIONAL

FOR BRIDGE-MOUNTED SIGN STRUCTURE AT STA. 2365+00, USE W6x12 INSTEAD OF W6x9.

REVISIONS	
NAME	DATE

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

BRIDGE MOUNT SIGN STRUCTURES
GENERAL PLAN AND ELEVATION

REVISED   05/06/05

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