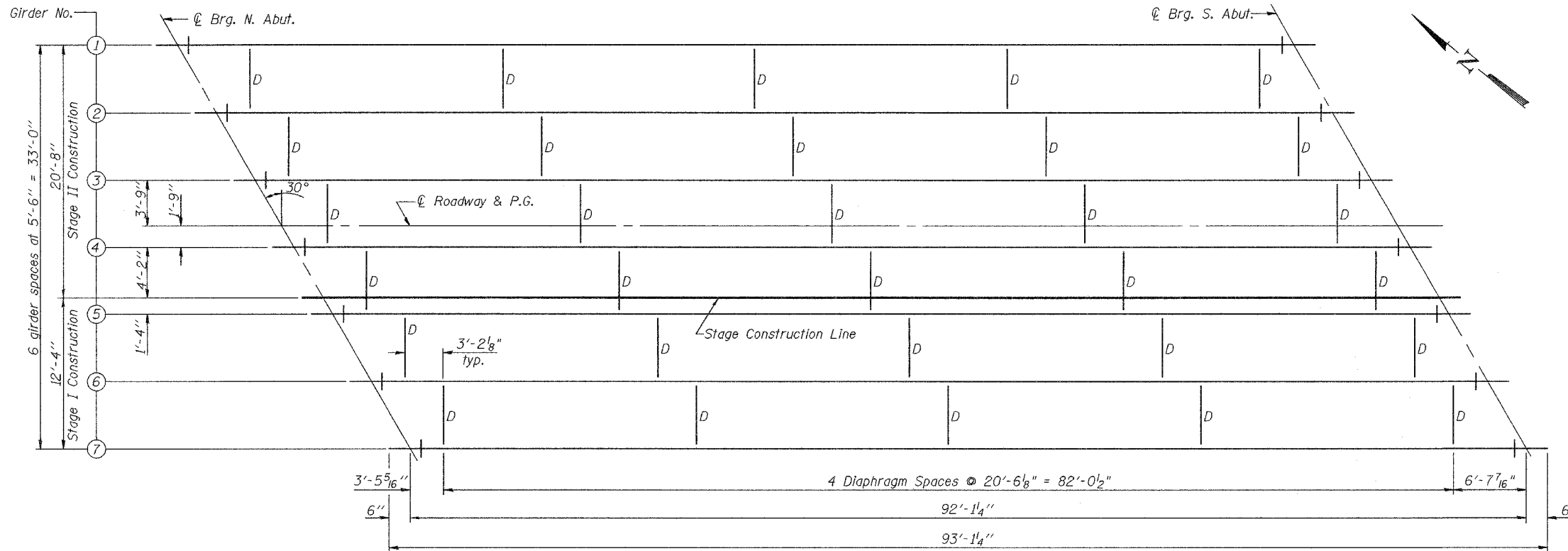


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

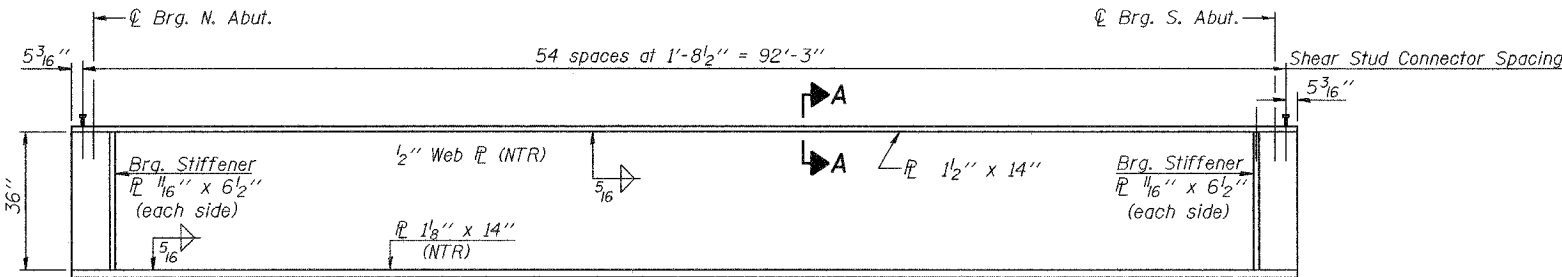
ROUTE NO. F.A.P. 781	SECTION 108B-1	COUNTY CRAWFORD	TOTAL SHEETS 38	SHEET NO. 20	SHEET NO. 11 16 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	

Contract #94656



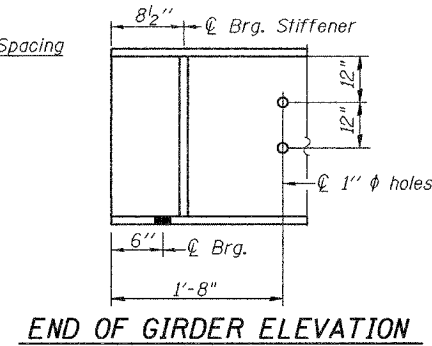
FRAMING PLAN

Note: All plates, diaphragms and angles shall be AASHTO M270 Gr. 50W.

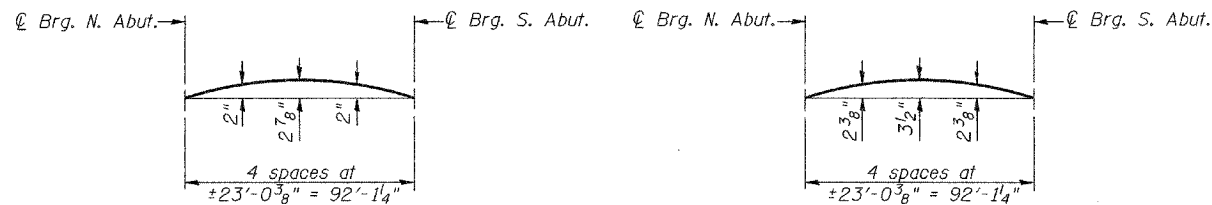


GIRDER ELEVATION

"NTR" denotes plates to which Notch Toughness Requirements are applicable.

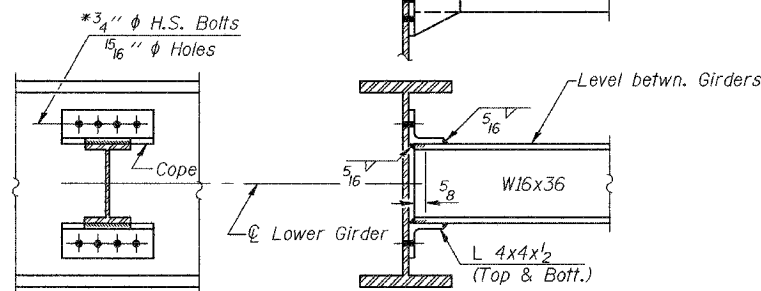


END OF GIRDER ELEVATION



CAMBER DIAGRAM
(Girders 1, 2, 3, & 4)

CAMBER DIAGRAM
(Girders 5, 6 & 7)



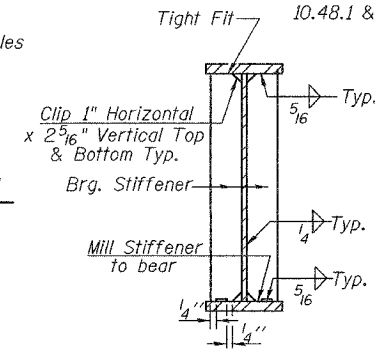
DIAPHRAGM D
(30 Required)

Note: Two hardened washers shall be required over all oversize holes for diaphragms.

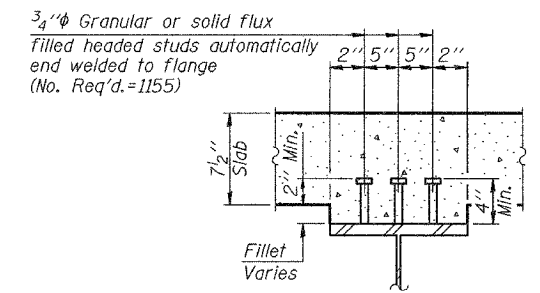
Symbol	Units	Value
I_s	(in ⁴)	14572
I_c (n)	(in ⁴)	28289
I_c (3n)	(in ⁴)	21395
S_s	(in ³)	695
S_c (n)	(in ³)	882
S_c (3n)	(in ³)	806
ϕ	(K/ft.)	0.754
$M\phi$	(K)	797.7
$s\phi$	(K/ft.)	0.372
$Ms\phi$	(K)	393.5
$M\phi$	(K)	691.3
M (Imp)	(K)	159
$S_3[M\phi + M(Imp)]$	(K)	1417
M_a	(K)	3391
M_u	(K)	4202
$fs\phi$ non-comp (k.s.i.)		13.8
$fs\phi$ (comp) (k.s.i.)		5.9
$fs_{S_3}(\phi + Imp)$ (k.s.i.)		19.3
fs (Overload) (k.s.i.)		39
fs (Total) (k.s.i.)		—
VR	(K)	39.8

Symbol	Units	Value
$R\phi$	(K)	51.8
$R\phi$	(K)	32.4
Imp.	(K)	7.5
R (Total)	(K)	91.7

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).
 $I_c(n)$ and $S_c(n)$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 $I_c(3n)$ and $S_c(3n)$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Superimposed Dead Loads. (See AASHTO 10.38).
 VR is the maximum live Load + Impact shear range within the composite portion of the span.
 M_a (Applied Moment) = $1.3[M\phi + Ms\phi + S_3(M\phi + M(Imp))]$.
 fs (Overload) is the sum of the stresses due to $M\phi + Ms\phi + S_3(M\phi + M(Imp))$.
 fs (Total) is the sum of the stresses due to $1.3[M\phi + Ms\phi + S_3(M\phi + M(Imp))]$.
 The Plastic Moment Capacity (M_u) is computed according to AASHTO 10.48.1 & 10.50.1.1.



SECTION AT ABUTMENT



SECTION A-A

**TOP OF WEB ELEVATIONS

Loc.	Gir. #1	Gir. #2	Gir. #3	Gir. #4	Gir. #5	Gir. #6	Gir. #7
⊕ Brg. N. Abut.	432.784	432.830	432.851	432.831	432.745	432.655	432.540
⊕ Brg. S. Abut.	433.281	433.137	432.975	432.801	432.615	432.415	432.204

**For fabrication only.

DESIGNED	W. Beisner
CHECKED	Chi-Cheung Chau
DRAWN	R. Dalsin
CHECKED	C.C.C./S.J.B./S.M.R.

December 13 2005
 EXAMINED *Thomas J. Demagala*
 PASSED *Ralph E. Anderson*
 ENGINEER OF BRIDGES AND STRUCTURES

*Use 1 1/2" vertical x 1 3/16" slotted holes in top and bottom angles at West Side of Beam 4 only. The bolts for the slotted holes in angles at Beam 4 shall only be finger tightened prior to the Stage II deck pouring and then be fully tightened after completion of the pouring for Stage II Construction. Each slotted hole shall have 5/16" plate washer.

STRUCTURAL STEEL DETAILS
 F.A.P. ROUTE 781 - SECTION 108B-1
 CRAWFORD COUNTY
 STATION 545+80.00
 STRUCTURE NO. 017-0030