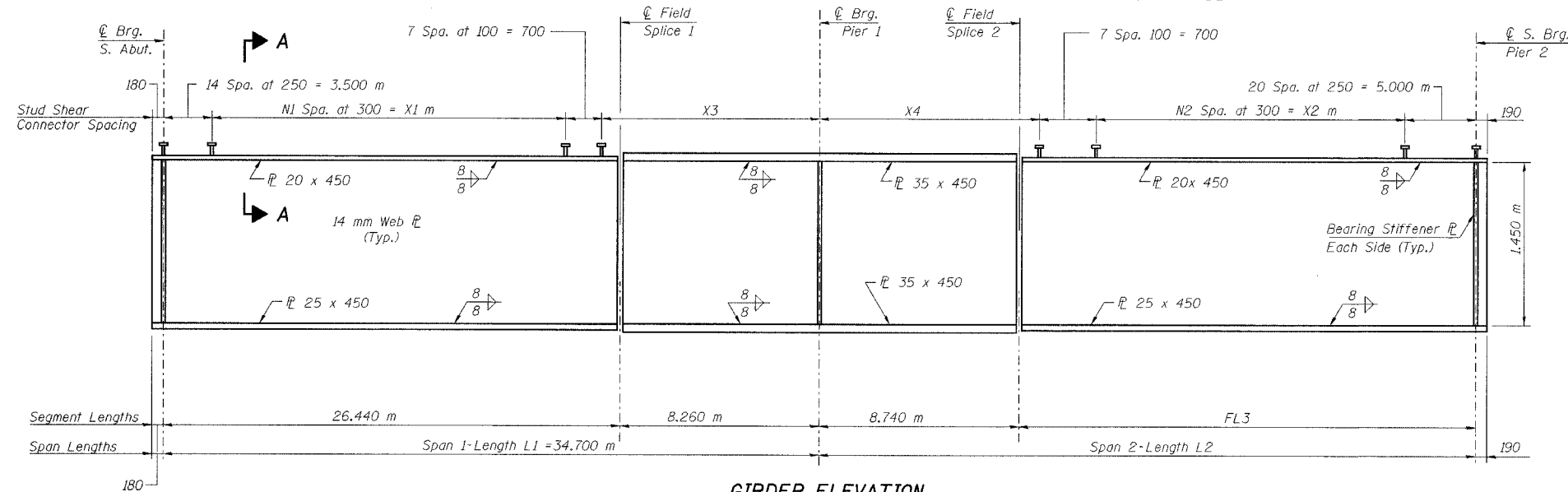


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 80/94		COOK	90	47
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT-		
2004-133F		CONTRACT NO. 62838		

SHEET NO. 32  
42 SHEETS



**GIRDER ELEVATION**

(All Plates AASHTO M270M Grade 345, N.T.R.)  
"N.T.R." denotes notch  
toughness requirements are applicable

**SHEAR CONNECTOR NUMBERS**

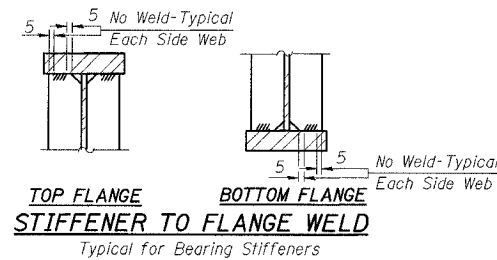
"NOT IN CONTRACT"

Girder	N1	N2
1	69	76
2	69	72
3	69	69
4	71	66
5	71	62
6	71	59

**SHEAR CONNECTOR LOCATIONS**

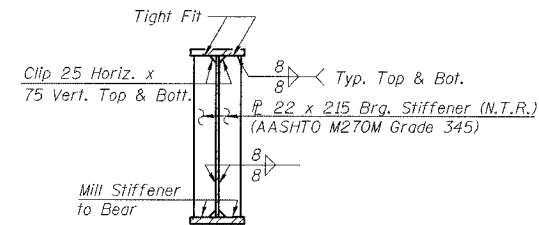
(Meters)  
"NOT IN CONTRACT"

Girder	X1	X2	X3	X4
1	20.700	22.800	9.800	9.344
2	20.700	21.600	9.800	9.543
3	20.700	20.700	9.800	9.442
4	21.300	19.800	9.200	9.341
5	21.300	18.600	9.200	9.540
6	21.300	17.700	9.200	9.439



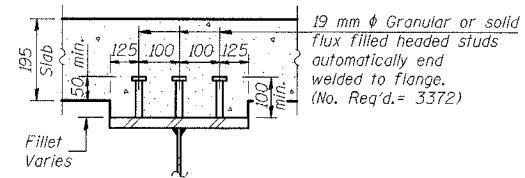
**TOP FLANGE STIFFENER TO FLANGE WELD**

Typical for Bearing Stiffeners



**BEARING STIFFENERS**

(At Piers 1 & 2 & S. Abut.)



**SECTION A-A**  
"NOT IN CONTRACT"

Notes:

- For Dimensions L2 & FL3, see Sheet No. 31 of 42.
- All Field Splice Plates, except Fill Plates, shall be AASHTO M270M Grade 345 and shall meet the Notch Toughness Requirements (N.T.R.)
- All dimensions are in millimeters (mm) except noted otherwise.

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp.1	Pier	0.6 Sp.2
Is	(10 <sup>6</sup> mm <sup>4</sup> )	14,469	20,926	14,469
Ic (n)	(10 <sup>6</sup> mm <sup>4</sup> )	33,450	---	33,450
Ic (3n)	(10 <sup>6</sup> mm <sup>4</sup> )	24,487	---	24,487
Ss	(10 <sup>3</sup> mm <sup>3</sup> )	20,421	27,534	20,421
Sc (n)	(10 <sup>3</sup> mm <sup>3</sup> )	27,501	---	27,501
Sc (3n)	(10 <sup>3</sup> mm <sup>3</sup> )	25,053	---	25,053
Z	(10 <sup>3</sup> mm <sup>3</sup> )	---	30,747	---
Q	(kN/m)	17.51	27.42	17.51
M <sub>l</sub>	(kN·m)	1,215	4,183	1,503
s <sub>l</sub>	(kN/m)	8.91	---	8.91
M <sub>s</sub>	(kN·m)	687	---	848
M <sub>l</sub>	(kN·m)	1,652	1,435	1,769
M (Imp)	(kN·m)	347	301	371
S <sub>y</sub> [M <sub>l</sub> +M(Imp)]	(kN·m)	3,332	2,893	3,567
M <sub>a</sub>	(kN·m)	6,804	9,199	7,693
M <sub>u</sub>	(kN·m)	8,544	---	8,544
f <sub>s</sub> (non-comp)	(MPa)	59	152	74
f <sub>s</sub> (comp)	(MPa)	27	---	34
f <sub>s</sub> S <sub>y</sub> [M <sub>l</sub> +M(Imp)]	(MPa)	121	105	130
f <sub>s</sub> (Overload)	(MPa)	207	257	238
f <sub>s</sub> (Total)	(MPa)	---	334	---
VR	(kN)	295	---	302

INTERIOR GIRDER REACTION TABLE				
	S. Abut.	Pier 1	Pier 2	
R <sub>l</sub>	(kN)	310	1,124	353
R <sub>t</sub>	(kN)	247	453	251
Imp.	(kN)	52	63	53
R (Total)	(kN)	609	1,640	657

Is and Ss are the moment of inertia and section modulus of the steel section used in computing f<sub>s</sub> (Total and Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to live load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead load (see AASHTO 10.38).

VR is the maximum + impact shear range within the composite portion of the span.

Z is the plastic section modulus used to determine the Fully Plastic Moments in the non-composite areas.

The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 & 10.50.1.1.

f<sub>s</sub> (Total) is the sum of stresses due to 1.3 [M<sub>l</sub> + M<sub>s</sub>] + 5/3 (M<sub>l</sub> + M (Imp))

f<sub>s</sub> (Overload) is the sum of the stressed due to M<sub>l</sub> + M<sub>s</sub> + 5/3 (M<sub>l</sub> + M (Imp))

M<sub>l</sub> - Moment due to dead loads on non-composite section.

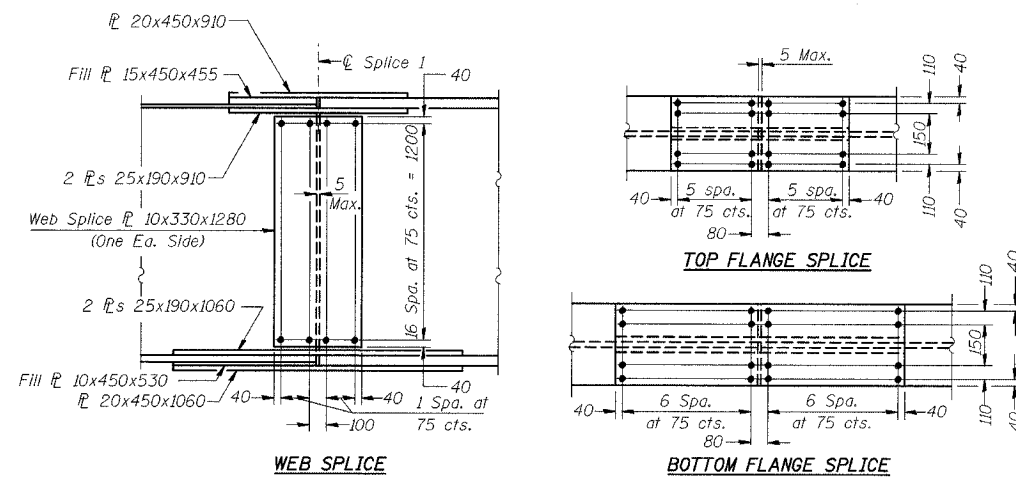
M<sub>s</sub> - Moment due to dead loads on composite section

M<sub>l</sub> - Moment due to live load on non-composite or composite section

M (Imp) - Moment due to live load impact on non-composite or composite section

M<sub>a</sub> (Applied Moment) = 1.3[M<sub>l</sub> + M<sub>s</sub>] + 5/3 (M<sub>l</sub> + M (Imp))

Forces in Moment Table are taken from the Girder producing the maximum forces. (Girder 2).



**FIELD SPLICE 1 & 2**

(Splice 1 shown, Splice 2 opposite hand)

DESIGNED	MEA
CHECKED	JY
DRAWN	LK
CHECKED	JY

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ILLINOIS DEPARTMENT OF TRANSPORTATION  
I-94 EAST BOUND / IL 394 SOUTH BOUND  
GIRDER ELEVATION & DETAILS  
SPANS 1 & 2 - UNIT 2  
SB IL ROUTE 394 OVER THORN CREEK  
F.A.P. 352 SECTION 2004-133F  
COOK COUNTY  
STA. 440+704.350 STRUCTURE NO. 016-2800  
DATE 05/16/05  
SCALE ---

**HNTB**