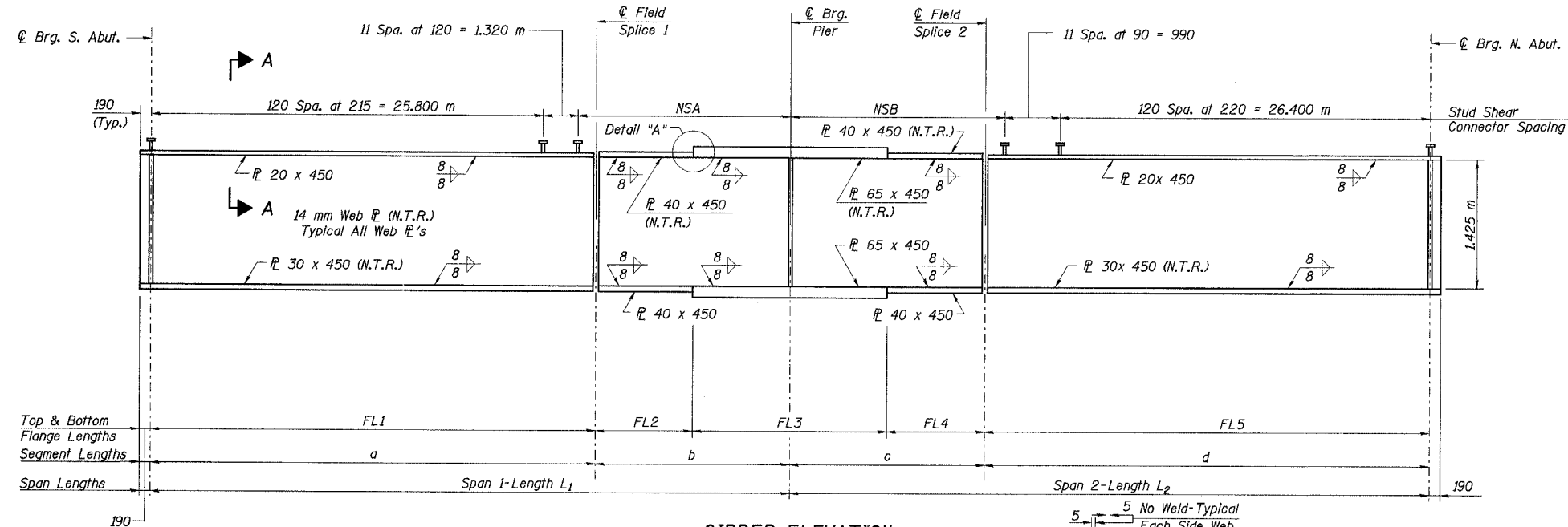
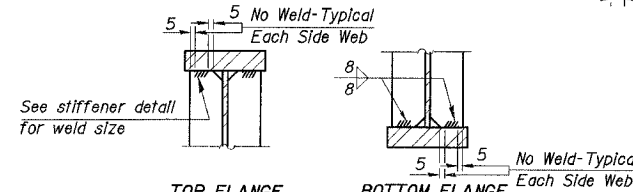


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

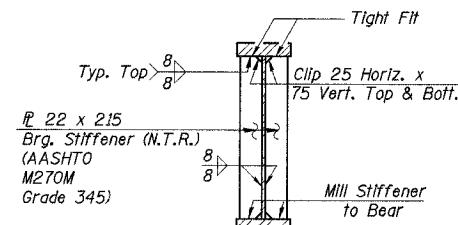
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 16
F. A. I. 80/94	.	COOK	870	458	29 SHEETS
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT-			
* (0203.1 & 0312-708W) R-3		CONTRACT NO. 62108			



**GIRDER ELEVATION**  
"N.T.R." denotes plates to which notch toughness requirements are applicable



**TOP FLANGE STIFFENER TO FLANGE WELD**  
Typical for Bearing Stiffeners



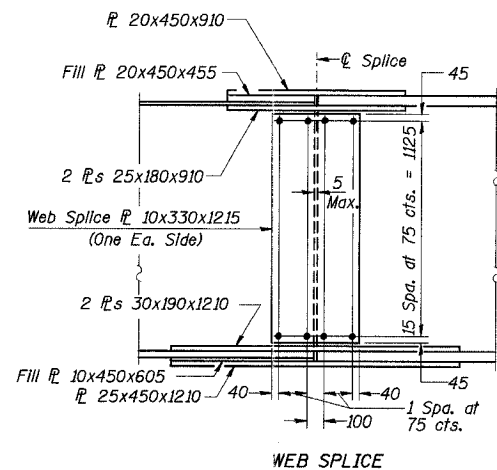
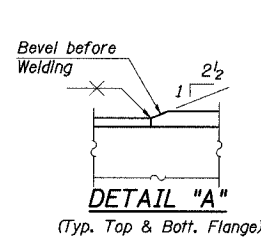
**AT PIER & ABUTMENT BEARING STIFFENERS**

**STUD SHEAR CONNECTOR SPACING (Meters)**

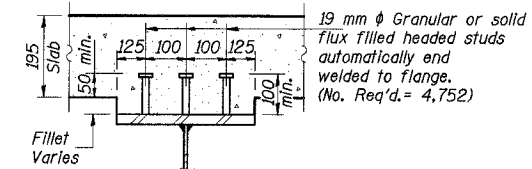
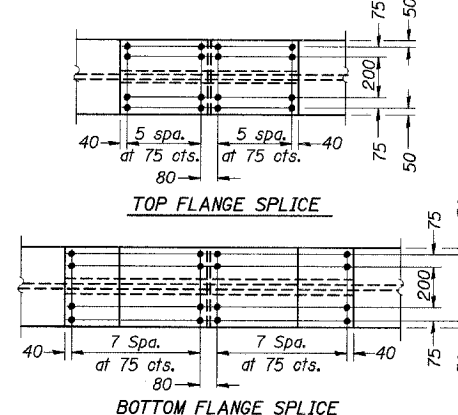
Girder	Pier	
	NSA	NSB
1	12.463	12.565
2	12.462	12.565
3	12.461	12.565
4	12.460	12.564
5	12.459	12.564
6	12.458	12.564

**GIRDER TOP AND BOTTOM FLANGE LENGTHS (Meters)**

Girder	Flange Lengths				
	FL1	FL2	FL3	FL4	FL5
1	27.708	7.521	8.749	7.591	27.969
2	27.708	7.521	8.749	7.591	27.968
3	27.707	7.520	8.749	7.591	27.968
4	27.706	7.520	8.749	7.591	27.968
5	27.705	7.520	8.749	7.591	27.968
6	27.705	7.520	8.749	7.591	27.968



**FIELD SPLICE 1 & 2**



**SECTION A-A**

Notes:

- For Span Lengths  $L_1$ ,  $L_2$  & Segment Lengths  $a$  thru  $d$ , see Sheet No. 15 of 29.
- All Flange Plates & Web Plates shall be AASHTO M270M Grade 345.
- 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
$I_s$	( $10^6$ mm <sup>4</sup> )	14,961	35,865	14,961
$I_c$ (n)	( $10^6$ mm <sup>4</sup> )	35,458	---	35,458
$I_c$ (3n)	( $10^6$ mm <sup>4</sup> )	25,654	---	25,654
$S_s$	( $10^3$ mm <sup>3</sup> )	22,520	46,129	22,520
$S_c$ (n)	( $10^3$ mm <sup>3</sup> )	30,178	---	30,178
$S_c$ (3n)	( $10^3$ mm <sup>3</sup> )	27,541	---	27,541
$S_{br}$	( $10^3$ mm <sup>3</sup> )	675	2,194	675
$I_{\phi}$	(kN/m)	16	29	16
$M_{\phi}$	(kN-m)	1,510	6,339	1,503
$s_{\phi}$	(kN/m)	9	---	9
$M_{s\phi}$	(kN-m)	945	---	963
$M_{\phi}$	(kN-m)	1,817	1,945	1,833
$M$ (Imp)	(kN-m)	454	389	458
$S_{\phi}[M_{\phi} + M(Imp)]$	(kN-m)	3,785	3,890	3,819
$M_a$	(kN-m)	8,111	13,298	8,171
$M_{br}$	(kN-m)	12	29	12
$f_{s\phi}$ (non-comp)	(MPa)	67	137	67
$f_{s\phi}$ (comp)	(MPa)	34	---	35
$f_{s\phi}[M_{\phi} + M(Imp)]$	(MPa)	125	84	127
$f_i$	(MPa)	18	13	18
$f_s$ (Overload)	(MPa)	227	222	228
$f_s$ (Total)	(MPa)	295	288	297
$F_{\phi}$ (Overload)	(MPa)	328	312	328
$VR$	(kN)	300	---	300
$F_{\phi}$	(MPa)	345	323	345

**INTERIOR GIRDER REACTION TABLE**

		S. Abut.	Pier	N. Abut.
$R_{\phi}$	(kN)	355	1,379	361
$R_{\phi}$	(kN)	232	461	232
$Imp.$	(kN)	70	115	70
$R$ (Total)	(kN)	657	1,955	663

$F_{\phi}$  - Critical average flange stress (smaller of  $F_{\phi 1}$  or  $F_{\phi 2}$  for partially braced flanges and  $F_y$  for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4).

$F_{\phi}$  (Overload) - Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5.

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total and 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 load (see AASHTO 10.38).

$VR$  is the maximum  $\pm$  impact shear range in span.

$M_a$  (Applied Moment) =  $1.3 [M_{\phi} + M_s + 5/3 (M_{\phi} + M(Imp))]$

$f_s$  (Overload) is the sum of stresses due to  $M_{\phi} + M_s + 5/3 (M_{\phi} + M(Imp))$

$f_s$  (Total) is the sum of stresses due to  $1.3 [M_{\phi} + M_s + 5/3 (M_{\phi} + M(Imp))]$

$S_{br}$  is the section modulus for one top flange plate for lateral flange bending.

$M_{br}$  is the lateral bending moment during construction for flange plate (factored).

$f_i$  is the calculated normal stress at the edge of flange due to lateral bending (factored).

$M_{\phi}$  and  $R_{\phi}$  include the effects of centrifugal force and superelevation.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
I-94 EAST BOUND / IL 394 SOUTH BOUND  
**GIRDER ELEVATION & DETAILS**  
SB ILLINOIS ROUTE 394 OVER INTERSTATE 80  
F.A.P. 332 SECTION (0203.1 & 0312-708W) R-3  
COOK COUNTY  
STA. 440+193.335 STRUCTURE NO. 016-2796  
DATE 07/18/05  
SCALE ---

**HNTB**

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08-JUL-2005 13:56

DESIGNED	MEA
CHECKED	MAS/ACF
DRAWN	LK
CHECKED	ACF