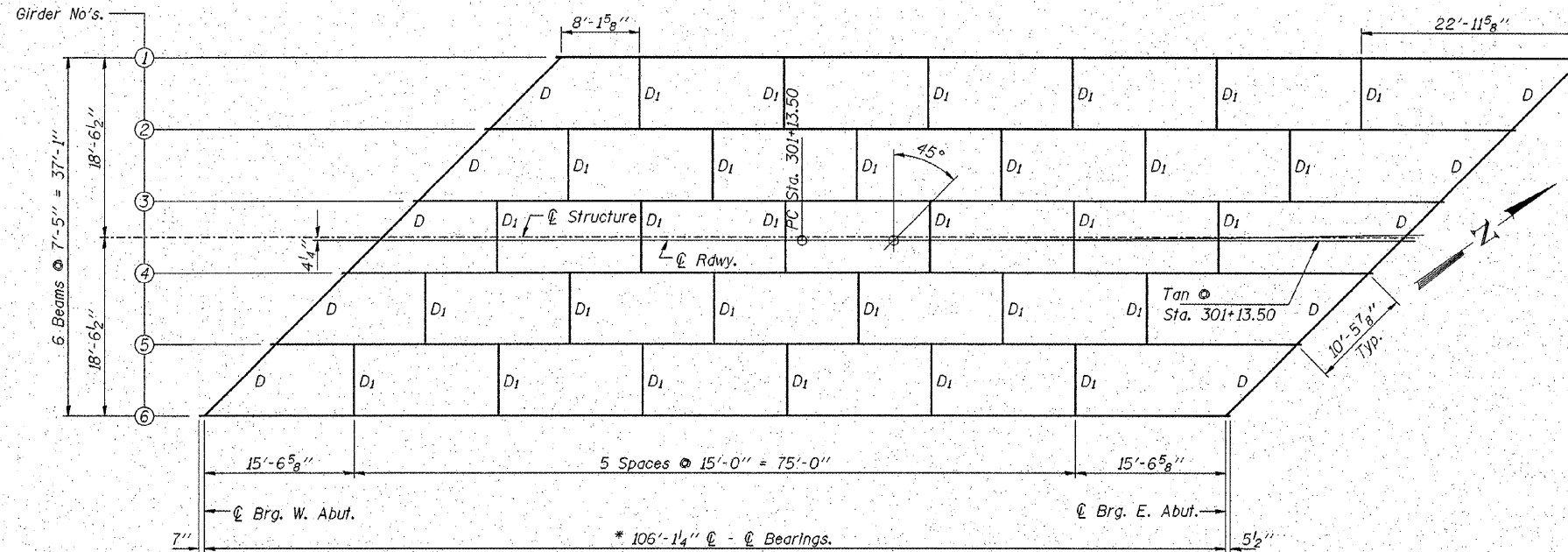


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
F.A.P. 313	(7BY)BR	HENDERSON	68	23
FED. ROAD DIST. NO. 7		BLANK	FED. AID PROJECT	

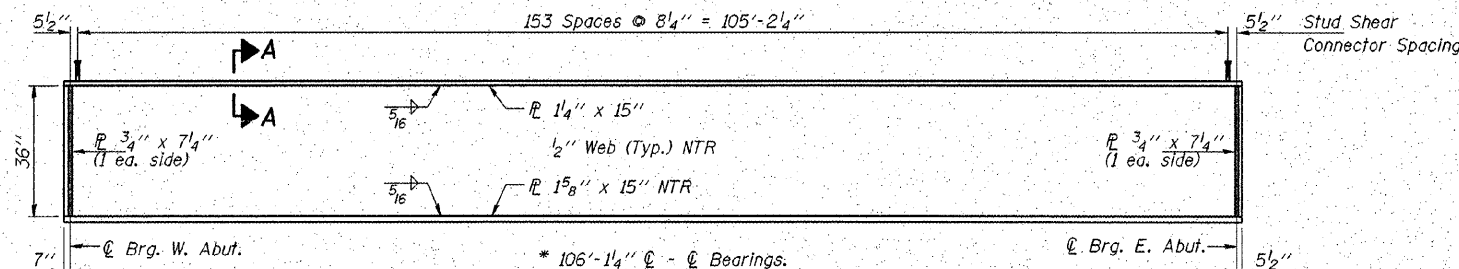
SHEET NO. 9  
21 SHEETS

Contract #68149



**PLAN**

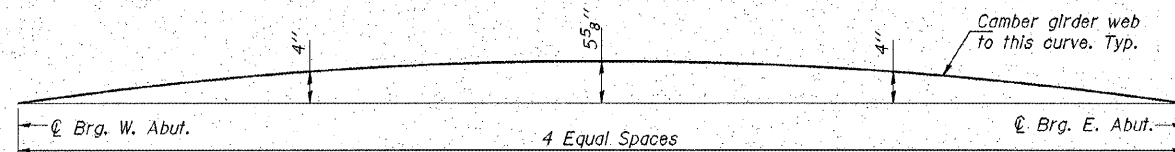
\* Along  $\bar{C}$  Structure



**ELEVATION**

\* Along  $\bar{C}$  Structure

Note: All structural steel shall be AASHTO M270 Gr. 50W.  
NTR designates Notch Toughness Requirements.



**CAMBER DIAGRAM**

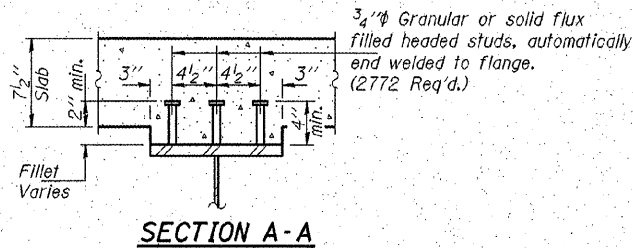
Location	$\bar{C}$ Brg. W. Abut.	$\bar{C}$ Brg. E. Abut.
BEAM 1	541.53	541.49
BEAM 2	541.65	541.70
BEAM 3	541.76	541.92
BEAM 4	541.79	542.13
BEAM 5	541.71	542.32
BEAM 6	541.59	542.48

**TOP OF WEB ELEVATIONS**

(For fabrication only)  
(Does not include Dead Load Deflections)

**INTERIOR GIRDER REACTION TABLE**

	Abuts.
$R_L + R_{sL}$ (K)	78.3
$R_L$ (K)	44.3
Imp. (K)	9.6
$R$ (Total) (K)	132.2



**SECTION A-A**

**INTERIOR GIRDER MOMENT TABLE**

		0.5 Span
$I_s$	(in <sup>4</sup> )	16887
$I_c$ (n)	(in <sup>4</sup> )	39090
$I_c$ (3n)	(in <sup>4</sup> )	28484
$S_s$	(in <sup>3</sup> )	947
$S_c$ (n)	(in <sup>3</sup> )	1228
$S_c$ (3n)	(in <sup>3</sup> )	1131
$D$	(K/ft)	.967
$M_L$	(K)	1361
$s_L$	(K/ft)	.508
$M_{sL}$	(K)	715
$M_L$	(K)	1102
$M$ (Imp)	(K)	239
$5_3[M_L + M$ (Imp)]	(K)	2234
$M_a$	(K)	5603
$M_u$	(K)	5822
$f_s$ non-comp	(k.s.i.)	17.3
$f_s$ comp	(k.s.i.)	7.6
$f_s$ (k + Imp)	(k.s.i.)	21.8
$f_s$ (Overload)	(k.s.i.)	46.7
$f_s$ (Total)	(k.s.i.)	60.7
VR	(K)	44.3

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (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.

VR is the maximum Live Load + Impact shear range in span.  
The Plastic Moment capacity ( $M_u$ ) is computed according to AASHTO 10.48.1 and 10.50.1.1.

$f_s$  (Overload) is the sum of the stresses due to  $M_L + M_{sL} + 5_3(M_L + M_{imp})$ .

$M_L$  - Moment due to dead loads on non-composite section.

$M_{sL}$  - Moment due to dead loads on composite section.

$M_L$  - Moment due to live loads on composite section.

$M$  (Imp) - Moment due to live load impact on composite section.

$M_a$  (Applied Moment) =  $1.3[M_L + M_{sL} + 5_3(M_L + M_{imp})]$ .

All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS

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SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

**ELGIN • SPRINGFIELD**

PROJECT NUMBER: 12-44-0001-1    DATE: 11/19/07  
DESIGNED: D.A.B.    CHECKED: M.G.B.    DRAWN: D.T.M.

**STRUCTURAL STEEL**

U.S. 34 OVER P.D. CREEK  
F.A.P. 313 / SECTION (7BY)BR  
HENDERSON COUNTY

STRUCTURE NO. 036-0052 / STATION 301+23