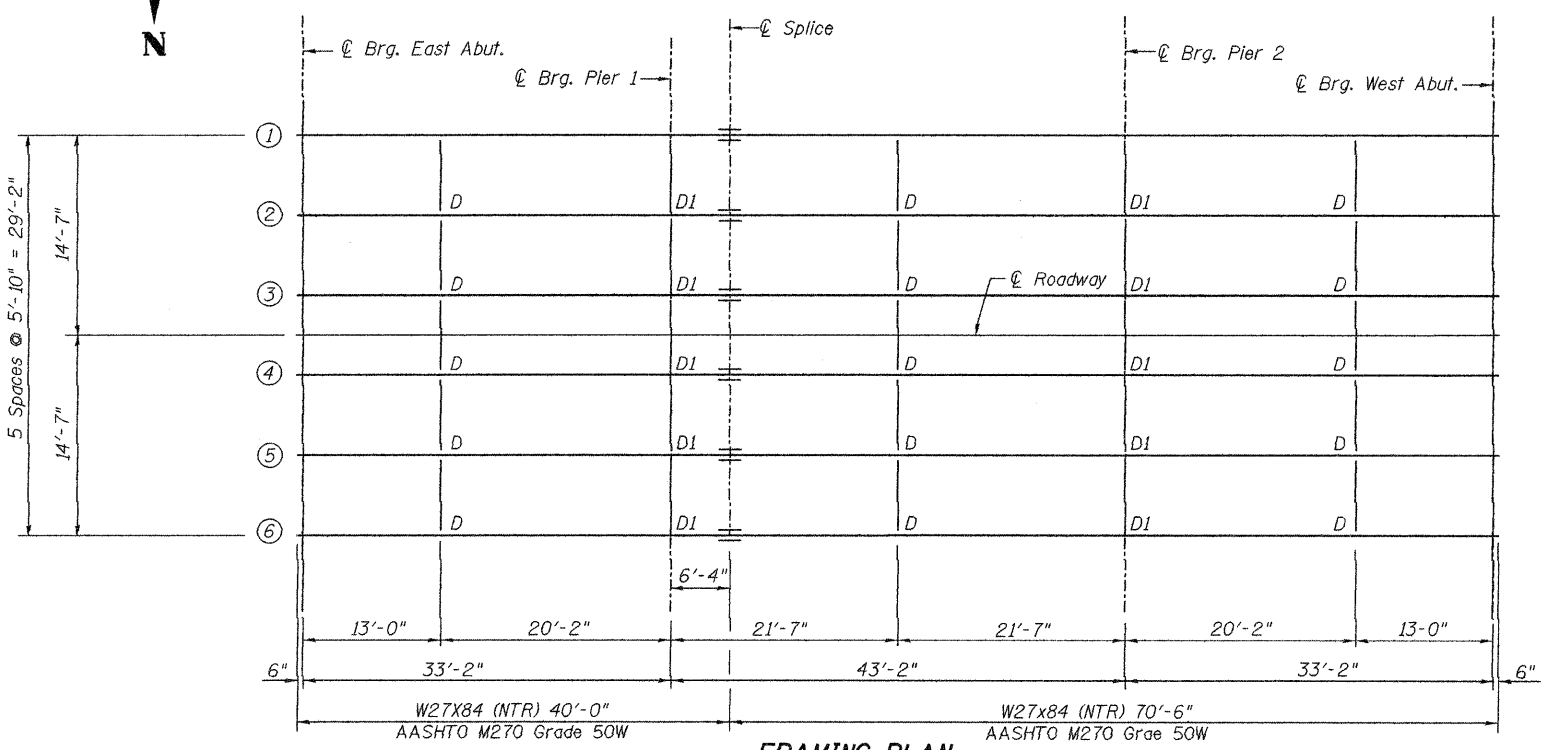
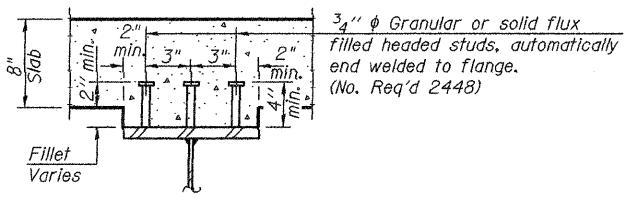


**ELEVATION**



**FRAMING PLAN**



**SECTION A-A**

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

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

	E. Abut.	☉ Pier 1	☉ Splice	☉ Pier 2	W. Abut.
Beam 1 and 6	392.37	392.53	392.56	392.75	392.91
Beam 2 and 5	392.47	392.63	392.66	392.85	393.01
Beam 3 and 4	392.56	392.72	392.75	392.94	393.10

**TOP OF BEAM ELEVATIONS**  
(For Fabrication use Only)

	0.4 Sp. 1 or 0.6 Sp. 2	Pier 1 or 2	0.5 Sp. 2
$I_s$	2850	2850	2850
$I_c(n)$	8832		8832
$I_c(3n)$	6565		6565
$S_s$	213	213	213
$S_c(n)$	338		338
$S_c(3n)$	305		305
DC1	0.700	0.700	0.700
M <sub>DC1</sub>	51	103	60
DC2	0.150	0.150	0.150
M <sub>DC2</sub>	11	22	13
DW	0.267	0.267	0.267
M <sub>DW</sub>	19	39	23
M <sub>ℓ + IM</sub>	291	227	294
M <sub>u</sub> (Strength I)	615	613	638
φ <sub>T</sub> M <sub>n</sub>	1990		1990
f <sub>s</sub> DC1	2.9	5.9	3.4
f <sub>s</sub> DC2	0.5	1.3	0.5
f <sub>s</sub> DW	0.8	2.3	0.9
f <sub>s</sub> 1.3(ℓ + IM)	13.5	16.6	13.7
f <sub>s</sub> (Service II)	17.7	26.1	18.5
f <sub>s</sub> (Total)(Strength I)		34.9	
V <sub>r</sub>	15.1		16.4

\* Compact sections  
\*\* Non-Compact and slender sections

	Abut.	Pier
R <sub>DC1</sub>	8.4	29.8
R <sub>DC2</sub>	1.8	6.4
R <sub>DW</sub>	3.2	11.3
R <sub>ℓ + IM</sub>	47.7	75.1
R <sub>Total</sub>	61.1	122.6

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$ (Total-Strength I, and Service II) due to non-composite dead loads (in.<sup>4</sup> and in.<sup>3</sup>).

$I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$ (Total-Strength I, and Service II) due to short-term composite live loads (in.<sup>4</sup> and in.<sup>3</sup>).

$I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$ (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in.<sup>4</sup> and in.<sup>3</sup>).

DC1: Un-factored non-composite dead load (kips/ft.).  
M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).  
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
M<sub>ℓ + IM</sub>: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).  
M<sub>u</sub> (Strength I): Factored design moment (kip-ft.).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>ℓ + IM</sub>  
φ<sub>T</sub>M<sub>n</sub>: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).  
f<sub>s</sub> (Service II): Sum of stresses as computed from the moments below (ksi).  
M<sub>DC1</sub> + M<sub>DC2</sub> + M<sub>DW</sub> + 1.3 M<sub>ℓ + IM</sub>  
f<sub>s</sub> (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>ℓ + IM</sub>  
V<sub>r</sub>: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

**FRAMING PLAN AND  
BEAM DETAILS  
IL 15 OVER UNION DRAINAGE  
DITCH OVERFLOW  
WAYNE COUNTY  
STATION 295+41.00  
STRUCTURE NO. 096-0072**

SHEET NO. 12	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	823				
23 SHEETS			CONTRACT NO. 74238		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			