

INTERIOR GIRDER MOMENT TABLE								
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3	Pier 3	0.6 Sp. 4
$I_s$	(in <sup>4</sup> )	15303	30343	18123	39626	18123	39626	18123
$I_c(n)$	(in <sup>4</sup> )	39650	-	45823	-	45823	-	45823
$I_c(3n)$	(in <sup>4</sup> )	29639	-	33987	-	33987	-	33987
$S_s$	(in <sup>3</sup> )	618	1189	756	1524	756	1524	756
$S_c(n)$	(in <sup>3</sup> )	899	-	1061	-	1061	-	1061
$S_c(3n)$	(in <sup>3</sup> )	818	-	971	-	971	-	971
DC1	(k/')	1.02	1.11	1.04	1.17	1.04	1.17	1.04
$M_{dc1}$	(k)	304.5	1279.2	592.5	1667.0	448.3	1610.2	645.3
DC2	(k/')	0.09	0.09	0.09	0.09	0.09	0.09	0.09
$M_{dc2}$	(k)	33.0	94.8	64.5	127.8	52.7	118.4	62.8
DW	(k/')	0.35	0.35	0.35	0.35	0.35	0.35	0.35
$M_{dw}$	(k)	128.2	368.5	250.9	496.9	204.9	460.6	244.2
$M_L + IM$	(k)	1133.0	1336.4	1469.4	1659.4	1444.2	1592.5	1454.7
$M_u$ (Strength I)	(k)	2596.9	4609.0	3769.1	5892.8	3461.0	5638.5	3797.2
$\phi_r M_n, \phi_r M_{nc}$	(k)	4895.1	4954.2	5509.1	6350.0	5509.1	6350.0	5509.1
$f_s$ DC1	(ksi)	5.91	12.91	9.40	13.13	7.12	12.68	10.24
$f_s$ DC2	(ksi)	0.48	0.96	0.80	1.01	0.65	0.93	0.78
$f_s$ DW	(ksi)	1.88	3.72	3.10	3.91	2.53	3.63	3.02
$f_s$ 1.3(L+IM)	(ksi)	19.66	17.53	21.6	16.99	21.23	16.30	21.39
$f_s$ (Service II)	(ksi)	27.94	35.12	34.91	35.03	31.53	33.54	35.43
$f_s$ (Total)(Strength I)	(ksi)	37.28	46.52	46.49	46.40	42.09	44.40	47.09
$V_r$	(k)	61.2	-	56.6	-	53.3	-	64

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

INTERIOR GIRDER REACTION TABLE						
		S. Abut.	Pier 1	Pier 2	Pier 3	N. Abut.
$R_{DC1}$	(k)	25.9	122.9	140.8	139.6	37.0
$R_{DC2}$	(k)	2.5	10.2	11.6	11.3	3.4
$R_{DW}$	(k)	9.6	39.6	45.1	43.8	13.1
$R_L + IM$	(k)	92.2	178.7	195.1	189.8	98.7
$R_{Total}$	(k)	130.2	351.4	392.6	384.5	152.2

### TOP OF BEAM ELEVATIONS


(For Fabrication Only)

Location	Beam 1	Beam 2	Beam 3	Beam 4
⊕ Brg. S. Abutment	664.284	664.432	664.432	664.284
⊕ Brg. Pier 1	664.347	664.494	664.494	664.347
⊕ Splice 1	664.410	664.557	664.557	664.410
⊕ Splice 2	664.451	664.598	664.598	664.451
⊕ Brg. Pier 2	664.389	664.536	664.536	664.389
⊕ Splice 3	664.451	664.598	664.598	664.451
⊕ Brg. Pier 3	664.389	664.536	664.536	664.389
⊕ Brg. N. Abutment	664.285	664.432	664.432	664.285

$I_s, S_s$ : 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.).  
 $M_{dc1}$ : 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.).  
 $M_{dc2}$ : 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.).  
 $M_{dw}$ : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
 $M_L + IM$ : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).  
 $M_u$  (Strength I): Factored design moment (kip-ft.).  
 $1.25 (M_{dc1} + M_{dc2}) + 1.5 M_{dw} + 1.75 M_L + IM$   
 $\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).  
 $\phi_r M_{nc}$ : Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).  
 $f_s$  (Service II): Sum of stresses as computed from the moments below (ksi).  
 $M_{dc1} + M_{dc2} + M_{dw} + 1.3 M_L + IM$   
 $f_s$  (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).  
 $1.25 (M_{dc1} + M_{dc2}) + 1.5 M_{dw} + 1.75 M_L + IM$   
 $V_r$ : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

DESIGNED - M.D.C.
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DRAWN - D.A.B.
CHECKED - M.G.B.

### STRUCTURAL STEEL DETAILS STRUCTURE NO. 074-3296

 <b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PROJECT NUMBER: 12-76-0001-1	DATE: 12/22/08	154	03-06130-00-BR	PIATT
SANGAMON ROAD DISTRICT			CONTRACT NO. 91385		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		