

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in ⁴)	7779	7779	7779	7779	7779
$I_c(n)$	(in ⁴)	19788	19788	19788	19788	19788
$I_c(3n)$	(in ⁴)	14890	14890	14890	14890	14890
$I_c(cr)$	(in ⁴)	-	10592	-	10592	-
S_s	(in ³)	414.9	414.9	414.9	414.9	414.9
$S_c(n)$	(in ³)	583.4	1708.9	583.4	1708.9	583.4
$S_c(3n)$	(in ³)	534.6	843.8	534.6	843.8	534.6
$S_c(cr)$	(in ³)	-	524.6	-	524.6	-
S_{xc}	(in ³)	567.0	507.2	568.5	506.9	566.7
DC1	(k/ft)	0.80	0.80	0.80	0.80	0.80
MDC1	(k)	154	274	140	279	157
DC2	(k/ft)	0.08	0.08	0.08	0.08	0.08
MDC2	(k)	12	21	10	21	12
DW	(k/ft)	0.28	0.28	0.28	0.28	0.28
MDW	(k)	53	95	48	97	54
$M_L + IM$	(k)	556	517	562	532	567
f_t (Strength I)	(ksi)	3.9	5.6	3.9	6.1	4.2
$M_u + 1/3 f_t S_{xc}$	(k)	1322	1495	1305	1366	1350
$\phi_r M_n$	(k)	2274	1911	2286	1908	2274
f_s DC1	(ksi)	4.5	7.9	4.0	8.1	4.5
f_s DC2	(ksi)	0.3	0.5	0.2	0.5	0.3
f_s DW	(ksi)	1.2	2.2	1.1	2.2	1.2
f_s (L+IM)	(ksi)	11.4	11.8	11.6	12.2	11.7
f_t (Service II)	(ksi)	0.8	4.3	1.2	4.6	1.4
$f_s + 1/2$ (Service II)	(ksi)	21.2	28.1	21.0	28.9	21.9
$0.95R_h F_y$	(ksi)	47.5	47.5	47.5	47.5	47.5
$f_s + 1/3$ (Total)(Strength I)	(ksi)	29.0	36.3	28.5	39.8	29.6
$\phi_r F_n$	(ksi)	50	50	50	50	50
V_r	(k)	9.9	13.7	10.4	14.9	10.1

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 (in⁴ and in³).

$I_c(n), S_c(n)$: 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) in uncracked sections due to short term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: 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) in uncracked sections due to long-term composite (superimposed) dead loads (in⁴ and in³).

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite dead loads (in⁴ and in³).

S_{xc} : Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in³).

DC1: Un-factored non-composite dead load (kips/ft.).
 DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
 MDC1: Un-factored moment due to non-composite dead load (kip-ft.).
 MDC2: Un-factored 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.).
 MDW: 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.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$
 f_t : Factored calculated normal stress at edge of flange for controlling steel flange plate due to lateral bending, Strength I or Service II as applicable (ksi).
 $\phi_r M_n$: Factored resistance available according to A6.1.1 ('k).
 f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
 M_{DC1} / S_s
 f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
 $M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.
 f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
 $M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.
 f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
 $M_L + IM / S_c(3n)$ or $M_L + IM / S_c(cr)$ as applicable.
 $f_s + 1/2$ (Service II): Sum of stresses as computed below (ksi).
 $f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s L + IM + 1/2$
 $0.95R_h F_y$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
 $f_s + 1/3$ (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
 $1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s L + IM + 1/3$
 $\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7.2 (ksi).
 V_r : Maximum factored shear range computed according to Article 6.10.10.
 M_L and R_L include the effects of centrifugal force and superelevation.

DIAPHRAGM SPACING - LEFT (feet)

Beam	DL1	DL2	DL3	DL4	DL5	DL6	DL7	DL8	DL9
1	--	--	--	--	--	--	--	--	--
2	8.35	15.31	13.19	2.13	15.94	14.26	1.68	15.77	3.50
3	8.41	15.38	13.22	2.15	15.99	14.29	1.71	15.80	3.50
4	8.48	15.44	13.27	2.18	16.04	14.32	1.72	15.84	3.50
5	8.55	15.51	13.31	2.20	16.09	14.35	1.74	15.88	3.50

DIAPHRAGM SPACING - RIGHT (feet)

Beam	DR1	DR2	DR3	DR4	DR5	DR6	DR7	DR8	DR9
1	3.50	15.44	2.12	13.95	16.07	1.84	14.06	15.90	6.53
2	3.50	15.50	2.16	13.97	16.13	1.86	14.07	15.94	6.56
3	3.50	15.57	2.17	14.00	16.18	1.88	14.09	15.98	6.58
4	3.50	15.64	2.20	14.02	16.23	1.91	14.11	16.00	6.63
5	--	--	--	--	--	--	--	--	--

LAYOUT DIMENSIONS (feet)

Beam	W. Abut.-@ Brg.		Inflection point		Pier 1-@ Brg.		Splice 1		Splice 2		Pier 2-@ Brg.		Inflection point		E. Abut.-@ Brg.	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
1	-88.48	13.62	-50.13	17.05	-36.72	17.80	-24.89	18.27	15.07	18.52	27.26	18.19	40.15	17.63	79.52	14.60
2	-92.60	6.76	-53.91	10.45	-40.65	11.26	-28.79	11.80	11.38	12.25	23.53	11.97	36.70	11.46	75.91	8.59
3	-96.75	-0.13	-57.89	3.81	-44.59	4.70	-32.71	5.30	7.60	5.96	19.79	5.74	32.97	5.29	72.30	2.58
4	-100.91	-7.07	-62.04	-2.87	-48.55	-1.89	-36.65	-1.22	3.82	-0.34	16.03	-0.50	29.15	-0.89	68.68	-3.44
5	-105.10	-14.03	-65.71	-9.54	-52.52	-8.50	-40.72	-7.77	0.02	-6.67	12.27	-6.77	25.54	-7.10	65.05	-9.48

X dimensions are parallel to the local tangent at Sta. 9+96.56.
 Y dimensions are at right angles to the local tangent at Sta. 9+96.56.

SHEAR STUD SPACING

Beam	SA1	SA2	SA3	SA4	SB1	SB2	SB3	SB4	SB5	SB6	SC1	SC2	SC3
1	27 spa. @ 9"	7"	46 spa. @ 8"	8 1/2"	15 spa. @ 8"	27 spa. @ 8"	1'-1"	27 spa. @ 8"	14 spa. @ 9"	8"	46 spa. @ 8"	11 3/8"	27 spa. @ 9"
2	27 spa. @ 9"	9"	46 spa. @ 8"	10 1/8"	17 spa. @ 7"	27 spa. @ 8"	1'-3 5/8"	27 spa. @ 8"	15 spa. @ 8"	10"	47 spa. @ 8"	8 1/2"	27 spa. @ 9"
3	27 spa. @ 9"	11"	46 spa. @ 8"	11 1/2"	17 spa. @ 7"	28 spa. @ 8"	9 1/2"	27 spa. @ 8"	15 spa. @ 8"	10 1/4"	47 spa. @ 8"	9 1/2"	27 spa. @ 9"
4	27 spa. @ 9"	1'-2 7/8"	46 spa. @ 8"	10 1/2"	17 spa. @ 7"	28 spa. @ 8"	11 1/4"	27 spa. @ 8"	15 spa. @ 8"	10"	47 spa. @ 8"	11 3/4"	27 spa. @ 9"
5	27 spa. @ 9"	1'-3 3/4"	46 spa. @ 8"	10 1/2"	15 spa. @ 8"	28 spa. @ 8"	1'-2 5/8"	27 spa. @ 8"	14 spa. @ 9"	10 1/2"	46 spa. @ 8"	1'-3"	27 spa. @ 9"

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						SHEET NO. 16 OF 33 SHEETS		CONTRACT NO. 78182				
						DATE - 12/2/2011		ILLINOIS FED. AID PROJECT				