INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier	0.5 Sp. 2
I_s	(in^4)	2850	2850	2850
$I_c(n)$	(in^4)	9431	-	9431
$I_c(3n)$	(in^4)	7225	-	7225
$I_c(cr)$	(in^4)	-	4809	-
S_s	(in^3)	213	213	213
$S_c(n)$	(in^3)	347	-	347
$S_c(3n)$	(in^3)	316	-	316
$S_c(cr)$	(in^3)	-	539	-
DC1	(k/')	0.966	0.966	0.966
M_{DC1}	('k)	85	143	71
DC2	(k/')	0.173	0.173	0.173
M_{DC2}	('k)	16	27	13
DW	(k/')	0.400	0.400	0.400
M_{DW}	('k)	36	62	30
M_{L+IM}	('k)	366	325	359
M_u (Strength I)	('k)	821	874	778
$\phi_f M_n$	('k)	1778	1033	1794
f_s DC1	(ksi)	4.79	8.06	4.00
f_s DC2	(ksi)	0.61	0.60	0.49
f_s DW	(ksi)	1.37	1.38	1.14
f_s (L+IM)	(ksi)	12.66	7.24	12.41
f_s (Service II)	(ksi)	23.22	19.44	21.77
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	-	-	-
V_f	(k)	39.7	-	44.1

INTERIOR GIRDER REACTION TABLE			
		Abut.	Pier
R_{DC1}	(k)	13.5	40.5
R_{DC2}	(k)	2.3	7.6
R_{DW}	(k)	5.4	17.5
R_{L+IM}	(k)	62.7	95.3
R_{Total}	(k)	83.9	160.9

TOP OF BEAM ELEVATIONS

For Fabrication Only

WESTBOUND STRUCTURE (081-0195)					
Beam Number	℄ Brg. W. Abut.	℄ Brg. Pier 1	℄ Brg. Pier 2	℄ Splice No. 1	℄ Brg. E. Abut.
Beam 1	574.95	575.00	575.07	575.09	575.12
Beam 2	575.11	575.16	575.23	575.25	575.28
Beam 3	575.27	575.32	575.39	575.41	575.44
Beam 4	575.43	575.48	575.55	575.57	575.60
Beam 5	575.59	575.64	575.71	575.73	575.76
Beam 6	575.75	575.80	575.87	575.89	575.92

EASTBOUND STRUCTURE (SN 081-0194)					
Beam Number	℄ Brg. W. Abut.	℄ Brg. Pier 1	℄ Brg. Pier 2	℄ Splice No. 1	℄ Brg. E. Abut.
Beam 7	575.17	575.22	575.28	575.30	575.33
Beam 8	575.33	575.38	575.44	575.46	575.49
Beam 9	575.49	575.54	575.60	575.62	575.65
Beam 10	575.65	575.70	575.76	575.78	575.81
Beam 11	575.81	575.86	575.93	575.94	575.97
Beam 12	575.97	576.02	576.09	576.10	576.13

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.^{4} and in.^{3}).

$I_c(n)$, $S_c(n)$: 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 (in.^{4} and in.^{3}).

$I_c(3n)$, $S_c(3n)$: 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 (in.^{4} and in.^{3}).

$I_c(cr)$, $S_c(cr)$: 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 (superimposed) dead loads (in.^{4} and in.^{3}).

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.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

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_{nc}

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 load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{DW} / S_c(cr)$ as applicable.

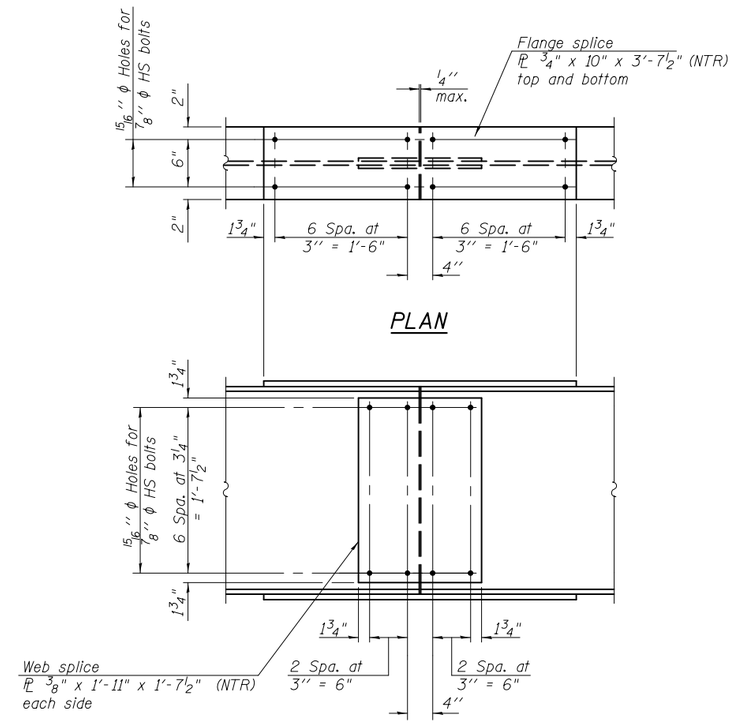
f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

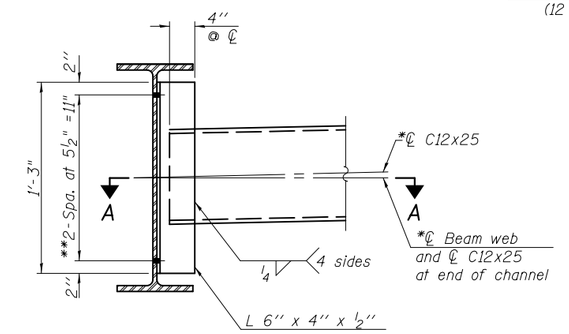
V_f: Maximum factored shear range in span computed according to Article 6.10.10.

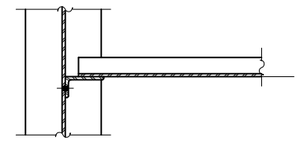
Note:
M_L and R_L include the effects of centrifugal force and superelevation.



SPLICE DETAIL

(12 Required)





SECTION A-A

INTERIOR DIAPHRAGM

Note:
Two hardened washers required for each set of oversized holes.
For diaphragms at stage construction line, standard long slots shall be used at the Beam 4 and Beam 9 end of bracing and standard oversize holes shall be provided at the Beam 3 and Beam 10 end in the diaphragm connection angles.
**Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.*
The alternate (C12x30), if utilized, shall be provided at no additional cost to the Department.
***3/4" ϕ HS bolts, 15/16" ϕ holes or 13/16" x 1 7/8" standard long slots*
Bolts in slots shall be finger tight until second stage pour is complete. Position slots so bolts start at one end with no concrete load and finish near opposite end under deck load.

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Wight

	DESIGNED - BJM	REVISED -	
	CHECKED - MAS	REVISED -	
	DRAWN - BJM	REVISED -	
PLOT DATE = 3/19/2013	CHECKED - MAS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 081-0194 (E.B.) & NO. 081-0195 (W.B.)
SHEET NO. 22 OF 38 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74/280	81-3BR	ROCK ISLAND	290	185
		CONTRACT NO. 64D23		
	ILLINOIS FED. AID PROJECT			