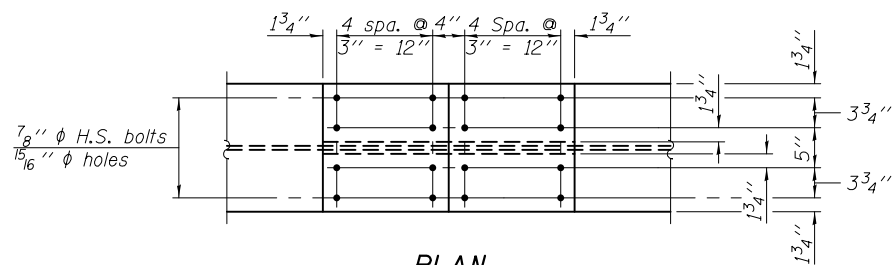
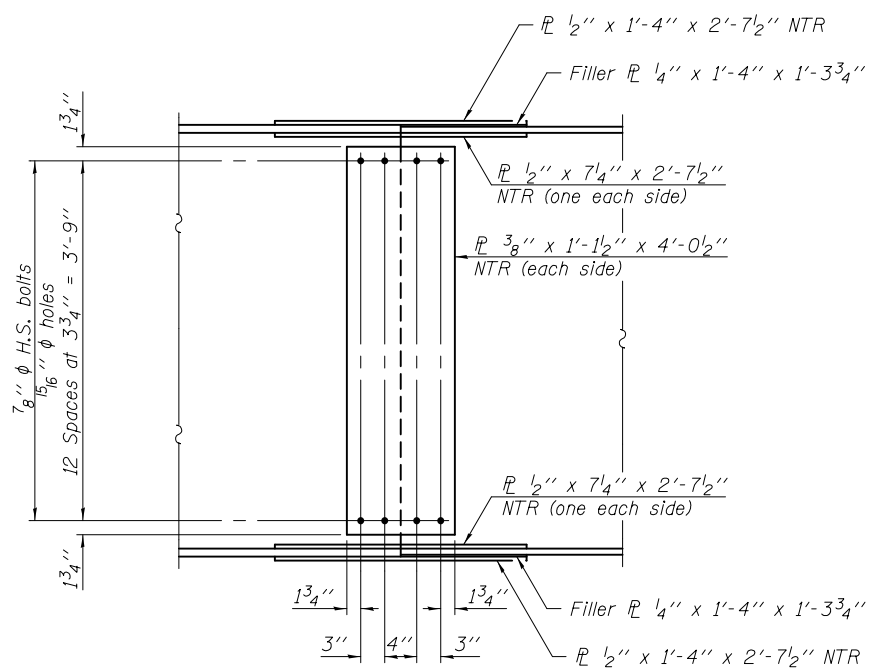


**ELEVATION**  
(Splice 1)



**PLAN**  
(Top and bottom flange splice 1 and splice 2)

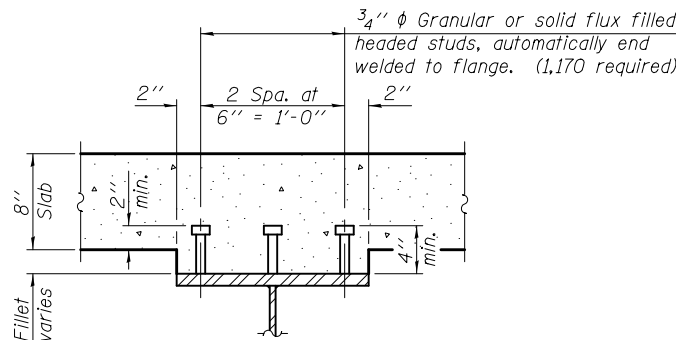


**ELEVATION**  
(Splice 2)

INTERIOR GIRDER MOMENT TABLE - GIRDER 3				
		0.4 Sp. 1	Pier	0.6 Sp. 2
$I_s$	(in <sup>4</sup> )	22555	52536	27538
$I_c(n)$	(in <sup>4</sup> )	50518	92623	65370
$I_c(3n)$	(in <sup>4</sup> )	37353	70945	46855
$I_c(cr)$	(in <sup>4</sup> )	-	58552	-
$S_s$	(in <sup>3</sup> )	843	1876	1172
$S_c(n)$	(in <sup>3</sup> )	1140	-	1560
$S_c(3n)$	(in <sup>3</sup> )	1035	-	1423
$S_c(cr)$	(in <sup>3</sup> )	-	1950	-
$S_{xc}$	(in <sup>3</sup> )	1084	1928	1460
DC1	(k/')	0.815	0.952	0.843
MDC1	('k)	589	2319	1127
DC2	(k/')	0.295	0.295	0.295
MDC2	('k)	122	455	218
DW	(k/')	0.267	0.267	0.267
MDW	('k)	146	412	238
$M_L + IM$	('k)	990	1292	1202
$f_i$ (Strength I)	(ksi)	11.0	9.0	12.0
$M_u + \frac{1}{2} f_i S_{xc}$	('k)	3171	6829	4628
$\phi_r M_n$	('k)	-	-	-
$f_s$ DC1	(ksi)	8.4	14.8	11.5
$f_s$ DC2	(ksi)	1.4	2.8	1.8
$f_s$ DW	(ksi)	1.7	2.5	2.0
$f_s$ ( $L + IM$ )	(ksi)	10.4	8.0	9.2
$f_i$ (Service II)	(ksi)	8.5	7.1	8.9
$f_s + \frac{1}{2} f_i$ (Service II)	(ksi)	29.3	34.0	31.9
$0.95 R_h F_y f$	(ksi)	47.5	47.5	47.5
$f_s + \frac{1}{3}$ (Total)(Strength I)	(ksi)	36.7	42.8	39.9
$\phi_r F_n$	(ksi)	50.0	50.0	50.0
$V_f$	(k)	24.9	-	23.2

INTERIOR GIRDER REACTION TABLE - GIRDER 3				
		S. Abut.	Pier	N. Abut.
$R_{DC1}$	(k)	33.4	152.6	45.1
$R_{DC2}$	(k)	7.7	34.3	10.0
$R_{DW}$	(k)	8.1	30.8	10.2
$R_L + IM$	(k)	67.5	128.8	71.0
$R_{Total}$	(k)	116.7	346.4	136.3

Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.



**SECTION A-A**

$I_s, S_s$ : 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) in uncracked sections 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) in uncracked sections due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).  
 $I_c(cr), S_c(cr)$ : 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<sup>4</sup> and in<sup>3</sup>).  
 $S_{xc}$ : 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 (in<sup>3</sup>).  
 DC1: Un-factored non-composite dead load (kips/ft.).  
 MDC1: 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.).  
 MDC2: 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.).  
 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.).  
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$   
 $f_i$ : Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending, Strength I or Service II as applicable (ksi).  
 $\phi_r M_n$ : 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).  
 $M_{DC1} / S_{sc}$   
 $f_s$  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).  
 $M_L + IM / S_c(n)$  or  $M_{DW} / S_c(cr)$  as applicable.  
 $f_s + \frac{1}{2}$  (Service II): Sum of stresses as computed below (ksi).  
 $f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (L + IM) + \frac{1}{2} 0.95 R_h F_y f$ : Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).  
 $f_s + \frac{1}{3}$  (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).  
 $1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (L + IM) + \frac{1}{3} \phi_r F_n$ : Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).  
 $V_f$ : 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.

DESIGNED - DEWEY H. COULTAS	EXAMINED - <i>Jaime F. Schmitt</i>	DATE - FEBRUARY 25, 2013
CHECKED - NICHOLAS R. BARNETT	PASSED - <i>Carl Berger</i>	REVISOR
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISOR
CHECKED - D.H.C. / N.R.B.		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS  
STRUCTURE NO. 010 - 0289

SHEET NO. 40 OF 62 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	10-4BR	CHAMPAIGN	290	125
CONTRACT NO. 70700			ILLINOIS FED. AID PROJECT	