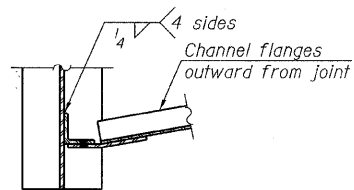


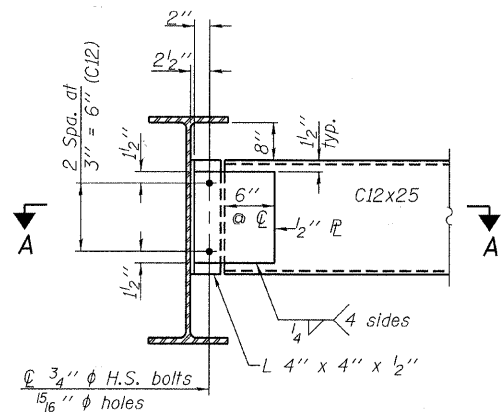
**INTERIOR DIAPHRAGM (D)**  
8 Required

Note:  
Two hardened washers required for each set of oversized holes.

\*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.



**SECTION A-A**



**END DIAPHRAGM D1**

Note:  
Two hardened washers required for each set of oversized holes.

INTERIOR GIRDER MOMENT TABLE		
0.5 Sp. 1		
$I_s$	(in <sup>4</sup> )	2370.0
$I_c(n)$	(in <sup>4</sup> )	7627.0
$I_c(3n)$	(in <sup>4</sup> )	5655.3
$S_s$	(in <sup>3</sup> )	196.68
$S_c(n)$	(in <sup>3</sup> )	317.02
$S_c(3n)$	(in <sup>3</sup> )	285.58
DC1	(k/')	0.691
$M_{DC1}$	(k)	141.97
DC2	(k/')	0.030
$M_{DC2}$	(k)	6.16
DW	(k/')	0.275
$M_{DW}$	(k)	56.50
$M_{\xi} + IM$	(k)	421.63
$M_u$ (Strength I)	(k)	1007.77
$\phi_r M_n$	(k)	1619.19
$f_s$ DC1	(ksi)	8.66
$f_s$ DC2	(ksi)	0.26
$f_s$ DW	(ksi)	2.37
$f_s$ 1.3( $\xi + IM$ )	(ksi)	20.75
$f_s$ (Service II)	(ksi)	32.04
$V_r$	(k)	40.26

INTERIOR GIRDER REACTION TABLE		
	Abut.	Pier
$R_{DC1}$	(k)	14.01
$R_{DC2}$	(k)	0.61
$R_{DW}$	(k)	5.57
$R_{\xi} + IM$	(k)	58.08
$R_{Total}$	(k)	78.27

$I_s, S_s$ : 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.).

$M_{\xi} + IM$ : Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).

$M_u$  (Strength I): Factored design moment (kip-ft.).

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

$\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$f_s$  (Service II): Sum of stresses as computed from the moments below (ksi).

$M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{\xi} + IM$

$V_r$ : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

DESIGNED -	A.S.L.
CHECKED -	S.W.M.
DRAWN -	D.A.B.
CHECKED -	S.W.M.

**STRUCTURAL STEEL DETAILS**  
**STRUCTURE NO. 005-3006**

 HAMPSON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 08.0204.130 DATE: 04/09/10	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	3A	05-00065-00-BR	BROWN	24	18
			CONTRACT NO. 93509		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT ARA 1583(103)			