

Contract #60A65

INTERIOR GIRDER MOMENT TABLE		
	0.4 Sp. 1	Pier
$I_s$	(in <sup>4</sup> ) 4930	4930
$I_c$ (n)	(in <sup>4</sup> ) 14,313	-
$I_c$ (sn)	(in <sup>4</sup> ) 10,590	-
$S_s$	(in <sup>3</sup> ) 329	329
$S_c$ (n)	(in <sup>3</sup> ) 500	-
$S_c$ (sn)	(in <sup>3</sup> ) 453	-
$Z$	(in <sup>3</sup> ) -	-
$\bar{\rho}$	(k/ft.) 0.838	1.371
$M\bar{\rho}$	(k) 186.4	473.9
$s\bar{\rho}$	(k/ft.) 0.533	-
$Ms\bar{\rho}$	(k) 143.1	-
$M\bar{L}$	(k) 437.1	214.0
$M$ (Imp)	(k) 120.6	59.1
$5_3[M\bar{L} + M(\text{Imp})]$	(k) 929.5	455.2
$M_a$	(k) 1636.7	1207.8
$M_u$	(k) 1932.7	-
$f_s\bar{\rho}$ non-comp (k.s.i.)	6.8	17.3
$f_s\bar{\rho}$ (comp) (k.s.i.)	3.8	-
$f_s 5_3(\bar{L} + \text{Imp})$ (k.s.i.)	22.3	16.6
$f_s$ (Overload) (k.s.i.)	32.9	33.9
$f_s$ (Total) (k.s.i.)	-	44.1
$VR$	(k) 55.0	-

INTERIOR GIRDER REACTION TABLE		
	Abut.	Pier
$R\bar{\rho}$	(k) 30.1	93.9
$R\bar{L}$	(k) 40.2	47.0
Imp.	(k) 11.1	13.0
$R$ (Total)	(k) 81.4	153.9

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total & Overload).

$I_c$  (n) and  $S_c$  (n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

$I_c$  (sn) and  $S_c$  (sn) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

$VR$  is the maximum Live Load + Impact shear range in span.

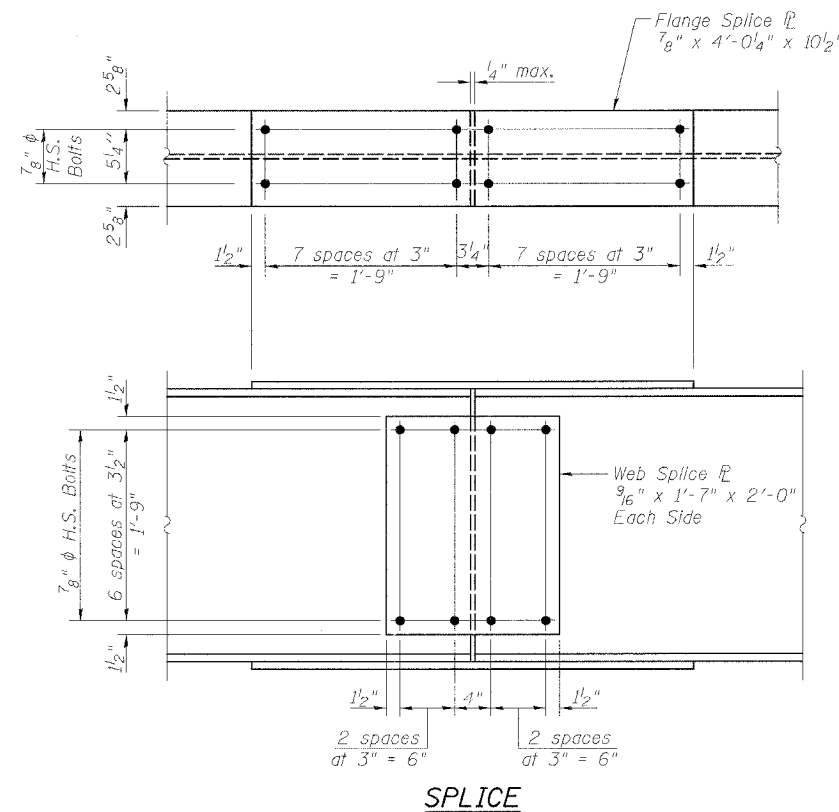
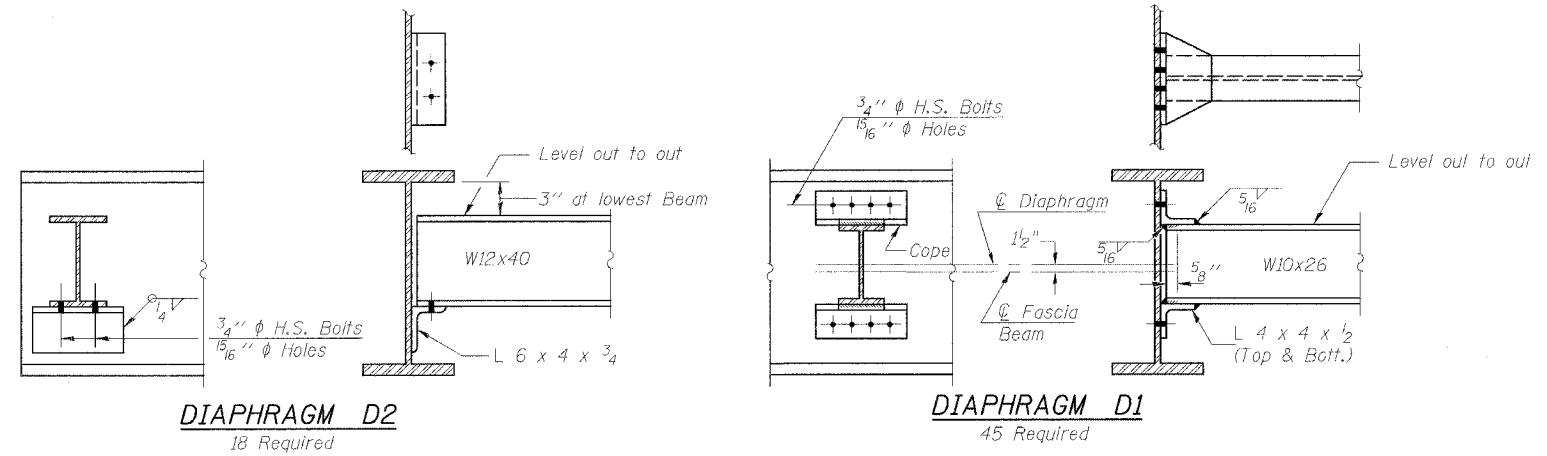
$Z$  is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.

$M_a$  (Applied Moment) =  $1.3LM\bar{\rho} + Ms\bar{\rho} + 5_3(M\bar{L} + M(\text{Imp}))$ .

The Plastic Moment capacity ( $M_u$ ) is computed according to AASHTO 10.48.1 and 10.50.1.1.

$f_s$  (Overload) is the sum of the stresses due to  $M\bar{\rho} + Ms\bar{\rho} + 5_3(M\bar{L} + M(\text{Imp}))$ .

$f_s$  (Total) (Non-compact section) is the sum of the stresses due to  $1.3LM\bar{\rho} + Ms\bar{\rho} + 5_3(M\bar{L} + M(\text{Imp}))$ .



**NOTES**

- Notch toughness requirements are applicable to all splice plates.
- All structural steel splice plates shall be M 270 Grade 50 steel.
- Two hardened washers shall be required over all oversized holes.

**rjngroup**  
Excellence through Ownership  
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ILLINOIS DEPARTMENT OF TRANSPORTATION  
FRAMING DETAILS AND  
MOMENT AND REACTION TABLES  
FOSTER AVE. OVER I-94 (EDENS EXPRESSWAY)  
FAU RTE 1360 - SECTION 0101BR-2  
COOK COUNTY  
STATION 100+00  
STRUCTURE NO. 016-0246  
DATE: 4/30/2006  
DRAWN BY: BLB  
CHECKED BY: WJV