

All wide flange beams and splice plate material, except fill plates shall be AASHTO M270, Grade 50 and shall meet notch toughness requirements

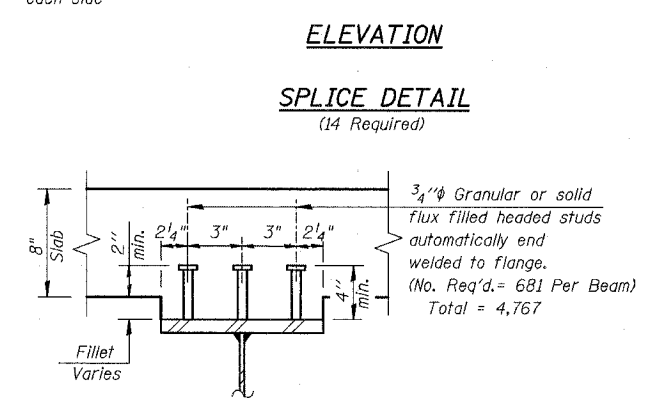
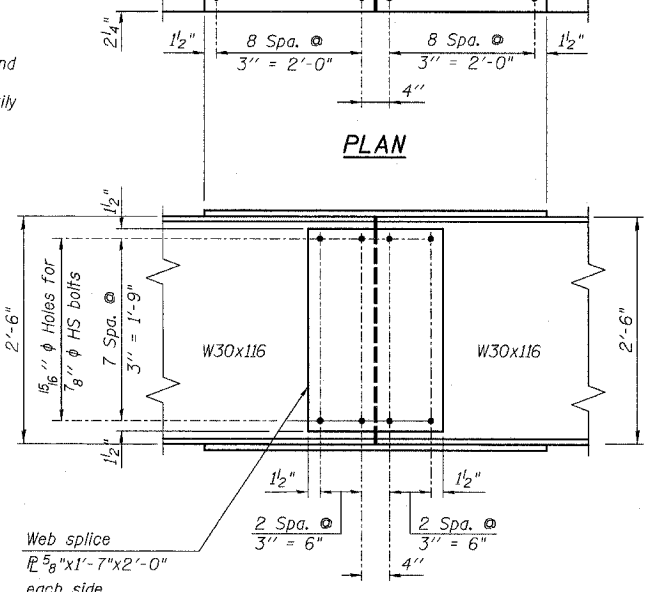
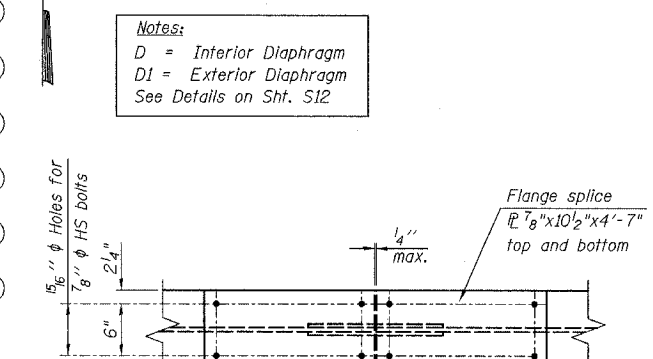
Note:
 Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier	0.5 Sp. #2
I_s	(in ⁴)	4,930	4,930	4,930
$I_c(n)$	(in ⁴)	14,155	-	14,155
$I_c(3n)$	(in ⁴)	10,303	-	10,303
S_s	(in ³)	329	329	329
$S_c(n)$	(in ³)	502	-	502
$S_c(3n)$	(in ³)	450	-	450
Z	(in ³)	-	-	-
Q	(k/')	0.792	1.232	0.792
M_D	(k)	163	452	173
s_D	(k/')	0.44	-	0.44
M_{sD}	(k)	104	-	130
M_L	(k)	350	211	377
M_{Imp}	(k)	98	56	97
$S_3 [M_L + M_{Imp}]$	(k)	747	445	790
M_a	(k)	1,318	1,166	1,421
M_u	(k)	1,989	-	1,980
f_s non-comp	(ksi)	6.0	16.5	6.3
f_s comp	(ksi)	2.8	-	3.5
$f_s S_3 [M_L + M_{Imp}]$	(ksi)	17.9	16.2	18.9
f_s (Overload)	(ksi)	26.7	32.7	28.7
f_s (Total)	(ksi)	-	42.5	-
VR	(k)	44.4	-	44.9

INTERIOR BEAM REACTION TABLE			
	Abut.	Pier	
R_D	(k)	25.6	85.2
R_L	(k)	32.5	39.2
$Imp.$	(k)	9.1	10.5
R_{Total}	(k)	67.2	134.9

*Compact section
 **Braced non-compact and partially braced section

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) 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 and Overload) 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 and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).
 Z : Plastic Section Modulus of the steel section in non-composite areas (in³).
 Q : Un-factored non-composite dead load (kips/ft.).
 M_D : Un-factored moment due to non-composite dead load (kip-ft.).
 s_D : Un-factored long-term composite (superimposed) dead load (kips/ft.).
 M_{sD} : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 M_L : Un-factored live load moment (kip-ft.).
 M_{Imp} : Un-factored moment due to impact (kip-ft.).
 M_a : Factored design moment (kip-ft.).
 M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 VR : Maximum $L +$ impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).



ILLINOIS DEPARTMENT OF TRANSPORTATION
 FRAMING PLAN & STRUCTURAL STEEL DETAILS
 IL. RTE. 173
 OVER
 PISCASAW CREEK
 F.A.P. RTE. 303 SECTION 131B(1&2)BR
 McHENRY COUNTY STATION 100+00.00
 STRUCTURE NO. 056-0090

SCALE: DATE: APRIL 2, 2007
 DRAWN BY: D.L./F.M.
 CHECKED BY: B.N.S./J.C.N.
 CHRISTIAN-ROGE & ASSOC., INC.
 CHICAGO ILLINOIS

REVISIONS	
NAME	DATE