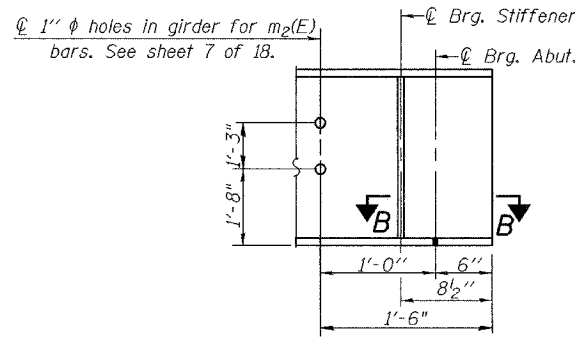


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9
F.A.I. 80	37-IHBR-1	HENRY	133	72	18 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #64602

		0.4 Sp. 1 & 0.6 Sp. 2	Pier
Is	(in <sup>4</sup> )	14436	22385
Ic (n)	(in <sup>4</sup> )	32007	
Ic (3n)	(in <sup>4</sup> )	23694	
Ss	(in <sup>3</sup> )	687	1035
Sc (n)	(in <sup>3</sup> )	910	
Sc (3n)	(in <sup>3</sup> )	831	
Z	(in <sup>3</sup> )		
DC1	(k/ft.)	0.764	0.836
M DC1	('k)	500.0	1146.8
DC2	(k/ft.)	0.15	0.15
M DC2	('k)	117.1	173.2
DW	(k/ft.)	0.296	0.296
M DW	('k)	231.0	341.8
M <sub>±</sub> +Imp	('k)	1172.0	1044.3
Ma (Strength I)	('k)	3168.9	3990.3
φMn	('k)	4593	
fs DC1	(k.s.i.)	8.73	13.30
fs DC2	(k.s.i.)	1.69	2.01
fs DW	(k.s.i.)	3.34	3.96
fs 1.3 (L+I)	(k.s.i.)	20.09	15.74
fs (Service II)	(k.s.i.)	33.85	35.01
fs (Total)(Strength I)	(k.s.i.)		46.27
Vsr	(k)	25.1	



TYP. END OF GIRDER ELEVATION

		Abuts.	Pier
R DC1	(k)	27.8	103.5
R DC2+DW	(k)	17.6	55.5
R <sub>±</sub>	(k)	57.1	113.6
R Imp.	(k)	18.8	23.4
R (Total)	(k)	121.3	296.0

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs due to non-composite loads.

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing fs due to short-term composite loads.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing fs due to long-term composite loads.

DC1 is the dead load acting on the non-composite section.

DC2 is the dead load acting on the long-term composite section.

DW is the dead load acting on the long-term composite section due to wearing surface.

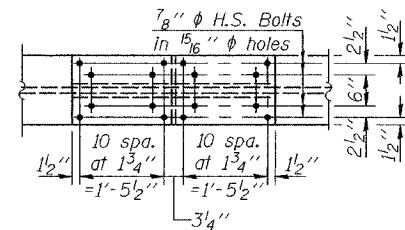
Ma (Strength I)=1.25 M(DC1+DC2)+1.5M (DW)+1.75 M(L+Imp).

φMn is the full plastic moment capacity computed in accordance with appendix D6.1 and 6.10.7.

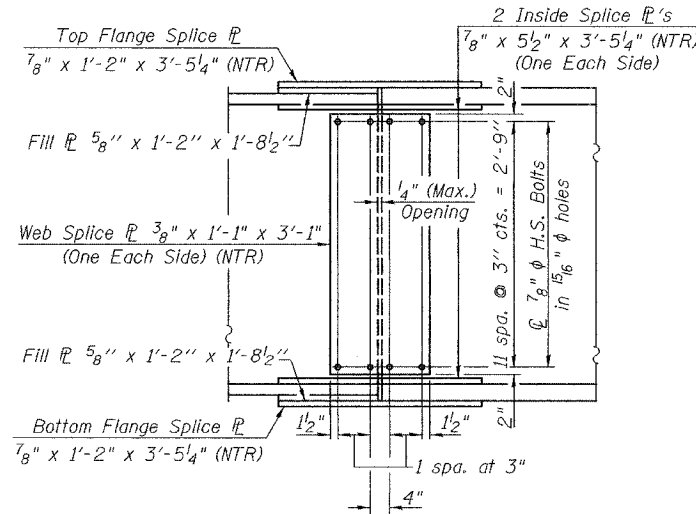
fs (Service II) is the sum of the stresses due to DC1+DC2+DW+1.3(L+Imp).

fs (Total) (Strength I) (Non-compact section) is the sum of the stresses due to 1.25(DC1+DC2)+1.5DW+1.75(L+Imp).

Vsr is the maximum shear range in the span 0.75 (L+Imp).



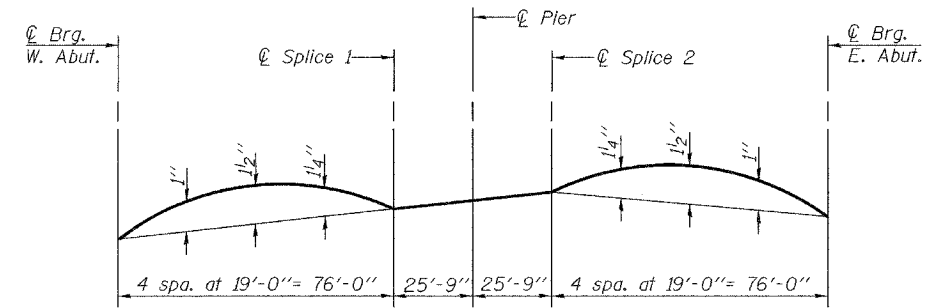
TOP & BOTTOM FLANGE P



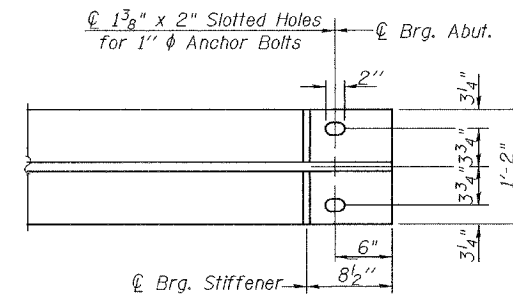
SPLICE DETAILS

(12 Required)

For Splice locations 1 & 2.

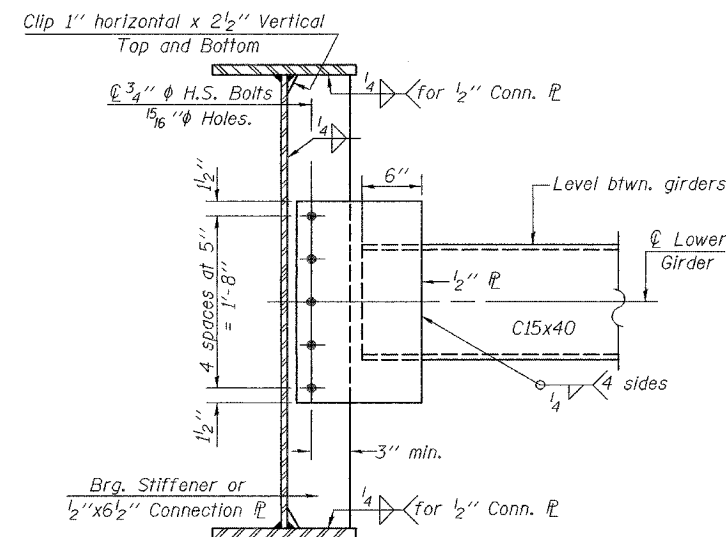


CAMBER DIAGRAM



SECTION B-B

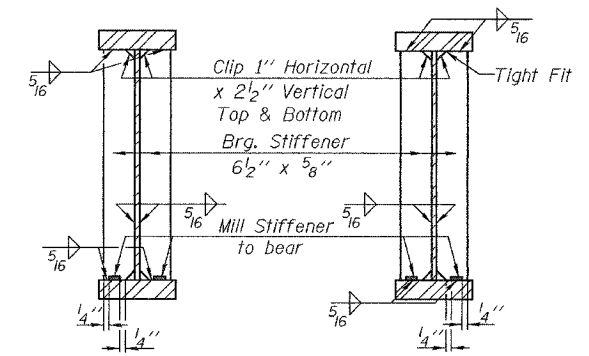
Note: All structural steel for splice plates shall be AASHTO M 270 Grade 50.



DIAPHRAGM D

(65 Required)

Note: Two hardened washers shall be required for all 1 5/16 inch holes in diaphragms.



SECTION AT PIER

SECTION AT ABUTMENTS

BEARING STIFFENER P's

DESIGNED	Michael D. Cima
CHECKED	Phillip R. Litchfield
DRAWN	R. Sommer
CHECKED	MDC/PRL

September 25, 2006	
EXAMINED	Thomas J. Domagalaki
PASSED	Ralph E. Anderson

STRUCTURAL STEEL DETAILS  
F.A.I. RT. 80 SEC. 37-IHBR-1  
HENRY COUNTY  
STATION 461+73.82  
STRUCTURE NO. 037-0171