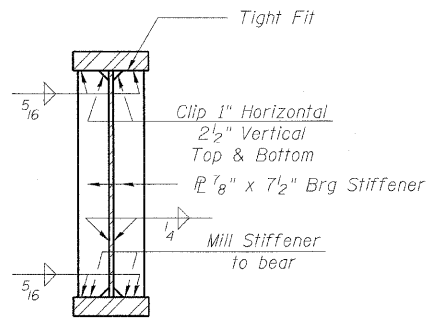


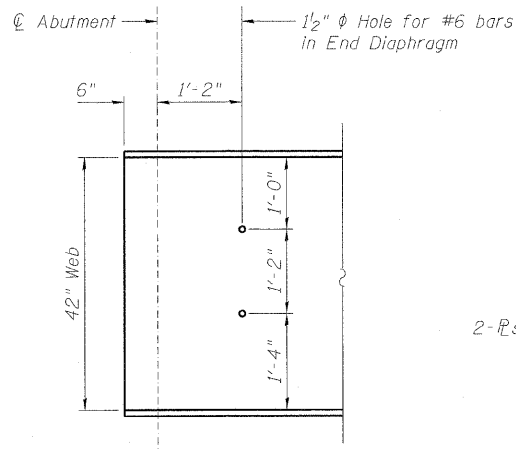
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 17
FAI 80	50 - 8HBR	LASALLE	143	78	26 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. ROAD PROJECT		

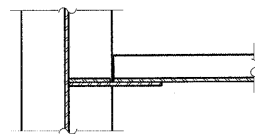
Contract # 66645



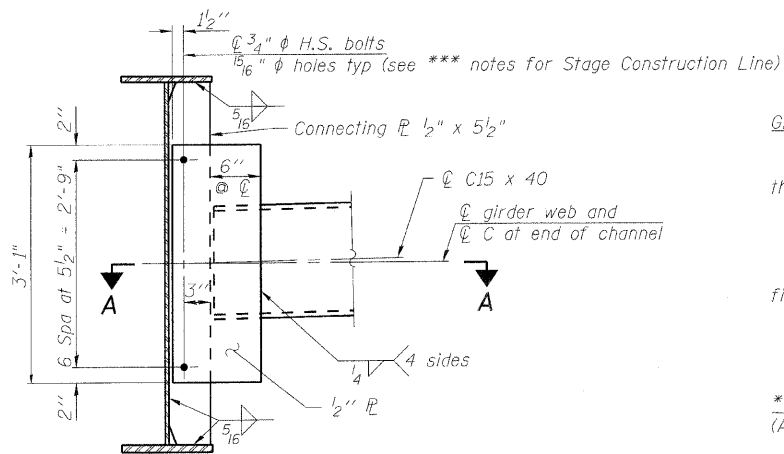
SECTION AT PIER



END OF GIRDER ELEVATION
(at integral abutments)

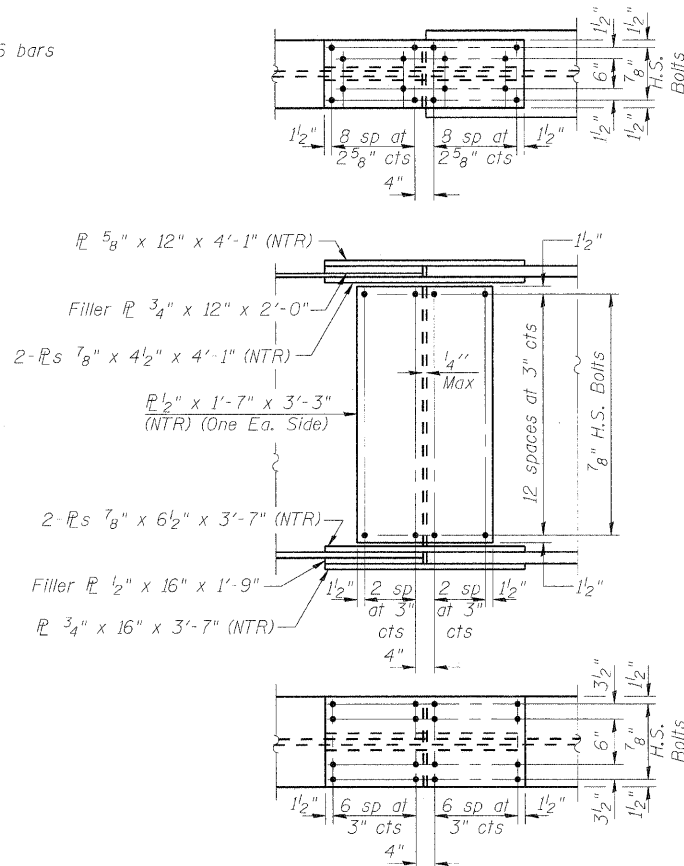


SECTION A-A



DIAPHRAGM D
99 Required

DESIGNED	- BHS
CHECKED	- BPS
DRAWN	- RRG
CHECKED	- GSP



FIELD SPLICE DETAIL

GENERAL NOTES:

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

All splice plate material shall be AASHTO M 270 Grade 50.

All diaphragm, connecting plates, bearing stiffeners and splice filler plates shall be AASHTO M270 Grade 36.

Two hardened washers required for each set of oversized holes.

*** NOTES FOR DIAPHRAGMS AT STAGE CONSTRUCTION LINE:
(At right side of Girder 6 and left side of Girder 7)

To accommodate the deflection during Stage II deck placement, use standard long slotted holes (1/16" x 1" in the diaphragm connector plates at both sides of diaphragm.

Bolts in slots shall be finger tight until the second stage pour is complete. Position slots so bolts start at one end of slot with no concrete load and finish near the opposite end of slot under deck dead load, allowing maximum displacement without laterally stressing the main members.

A plate washer or continuous bar of at least 5/16" thickness with standard holes shall be provided at the long slotted holes.

	0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s	(in ⁴) 14097	25803
$I_c(n)$	(in ⁴) 37797	
$I_c(3n)$	(in ⁴) 27198	
S_s	(in ³) 754	1147
$S_c(n)$	(in ³) 1045	
$S_c(3n)$	(in ³) 957	
Z	(in ³)	1265
ρ	(k/')	0.835
$M\phi$	(k)	634
$s\phi$	(k/')	0.415
$M_s\phi$	(k)	369
M_t	(k)	856
M_I	(k)	181
M_u	(k)	1731
M_u	(k)	3555
M_u	(k)	4977
f_s non-comp	(ksi)	10.1
f_s comp	(ksi)	4.6
f_s 5/3 [M _t + M _I]	(ksi)	19.9
f_s (Overload)	(ksi)	34.6
f_s (Total)	(ksi)	38.7
VR	(k)	44.2

	Abut.	Pier
$R\phi$	(k) 50.4	184.4
R_t	(k) 42.8	70.7
R_I	(k) 10.2	14.9
R_{Total}	(k) 103.4	270.0

* 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).

ρ : Un-factored non-composite dead load (kips/ft.).

$M\phi$: Un-factored moment due to non-composite dead load (kip-ft.).

$s\phi$: Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s\phi$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_t : Un-factored live load moment (kip-ft.).

M_I : Un-factored moment due to impact (kip-ft.).

M_u : Factored design moment (kip-ft.).

$1.3 [M\phi + M_s\phi + \frac{2}{3} (M_t + M_I)]$

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).
 $M\phi + M_s\phi + \frac{2}{3} (M_t + M_I)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M\phi + M_s\phi + \frac{2}{3} (M_t + M_I)]$

VR: Maximum $\frac{1}{4}$ + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

FRAMING DETAILS

PLANK ROAD OVER
FAI ROUTE 80 (I-80)
SECTION 50-8HBR
LASALLE COUNTY
STATION 3886+74.90
STRUCTURE NO. 050-0249