

**** Notes:**
 Use 3/4" φ H.S. Bolts with 5/16" φ Holes in connection plates, bearing stiffener plates and gusset plates.
 Hardened washers required over holes in connection plates, bearing stiffener plates and gusset plates under bolt heads and nuts.

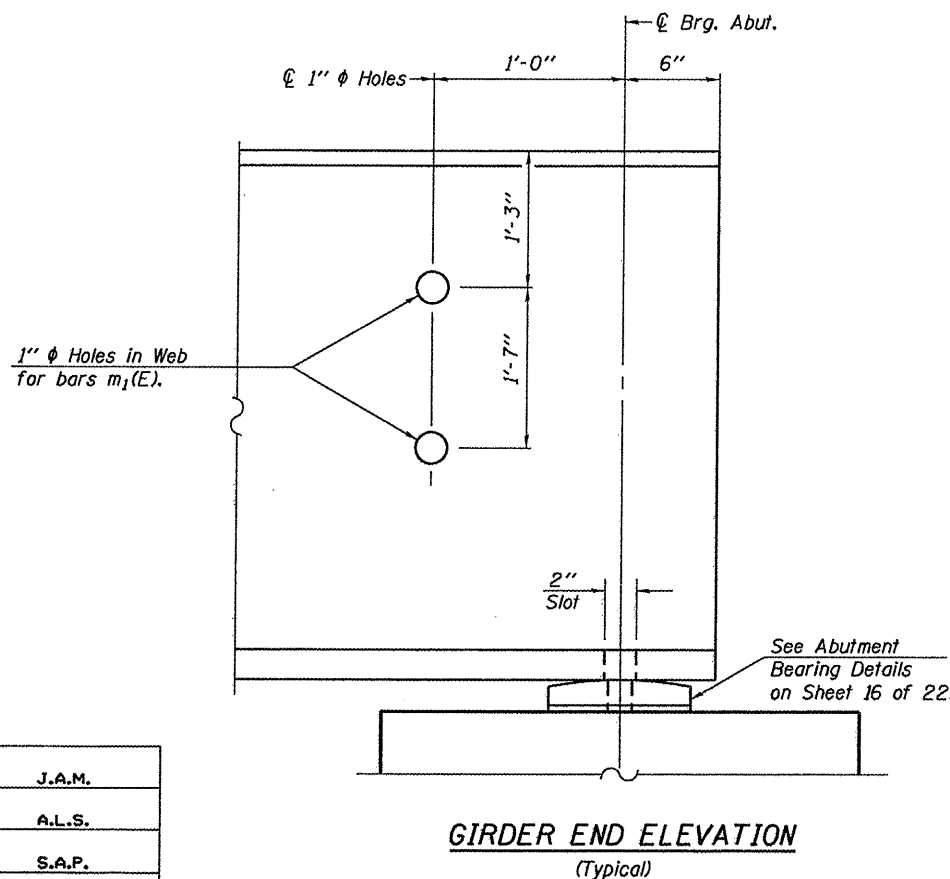
*****Note:**
 For weld size at bearing stiffener plate see Section at Pier on Sheet 14 of 22.

TYPICAL INTERIOR CROSS FRAME

*Note: Fillet weld angles along 3 sides on one face of gusset plate.
 Note: All cross frames shall be installed as steel is erected and secured with bolts.

INTERIOR GIRDER MOMENT TABLE			
	0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in ⁴) 24,548	43,533	29,969
$I_c(n)$	(in ⁴) 56,216	---	72,850
$I_c(3n)$	(in ⁴) 41,884	---	52,594
S_s	(in ³) 885	1,527	1,226
$S_c(n)$	(in ³) 1,201	---	1,639
$S_c(3n)$	(in ³) 1,096	---	1,501
ρ	(k/')	0.922	1.484
$M \rho$	(k)	312	2,868
$s \rho$	(k/')	0.480	0.480
$M_s \rho$	(k)	231	784
$M \ddagger$	(k)	771	885
M_I	(k)	171	181
$5_3[M \ddagger + M_I]$	(k)	1,570	1,777
M_a	(k)	2,747	6,039
$f_s \rho$ (non-comp)	(ksi)	4.2	22.5
$f_s \rho$ (comp)	(ksi)	2.5	6.3
$f_s 5_3 [M \ddagger + M_I]$	(ksi)	15.7	14.0
f_s (Overload)	(ksi)	22.4	36.5
f_s (Total)	(ksi)	29.1	47.5
VR	(k)	55.1	53.2

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).
 ρ : Un-factored non-composite dead load (kips/ft.).
 $M \rho$: Un-factored moment due to non-composite dead load (kip-ft).
 $s \rho$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
 $M_s \rho$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 $M \ddagger$: Un-factored live load moment (kip-ft.).
 M_I : Un-factored moment due to impact (kip-ft).
 M_a : Factored design moment (kip-ft.).
 $1.3 [M \rho + M_s \rho + \frac{5}{3} (M \ddagger + M_I)]$
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M \rho + M_s \rho + \frac{5}{3} (M \ddagger + M_I)$
 f_s (Total): Sum of stresses as computed from the moments below on non compact section (ksi). $1.3 [M \rho + M_s \rho + \frac{5}{3} (M \ddagger + M_I)]$
 VR: Maximum \ddagger + impact shear range within the composite portion of the span for stud shear connector design (kips).



INTERIOR GIRDER REACTION TABLE			
	S. Abut.	Pier	N. Abut.
$R \rho$	(k) 41.6	222.1	80.1
$R \ddagger$	(k) 40.1	75.0	41.5
R_I	(k) 9.0	15.3	7.9
R_{Total}	(k) 90.7	312.4	129.5

DESIGNED -	J.A.M.
CHECKED -	A.L.S.
DRAWN -	S.A.P.
CHECKED -	J.A.M. & A.L.S.

STRUCTURAL STEEL DETAILS
 S.N. 043-3270

<p>ENGINEERING AND SCIENCE CONSULTANTS FREEPORT, IL ROCKFORD, IL ROCHELLE, IL MONROE, WI SPRINGFIELD, IL</p>	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9	06-00127-00-BR	JO DAVIESS	55	24
SCOUT CAMP ROAD			CONTRACT NO. 85539		
ILLINOIS					