

INTERIOR GIRDER MOMENT TABLE					
		0.4 Span 1 & 0.6 Span 4	Pier 1 & Pier 3	0.5 Span 2 & Span 3	Pier 2
I_s	(in ⁴)	10500	14682	10500	14682
$I_c(n)$	(in ⁴)	27588	-	27588	-
$I_c(3n)$	(in ⁴)	19903	-	19903	-
S_s	(in ³)	581	787	581	787
$S_c(n)$	(in ³)	855	-	855	-
$S_c(3n)$	(in ³)	767	-	767	-
Z	(in ³)	-	-	-	-
ρ	(k/')	0.96	1.28	0.96	1.28
$M \rho$	('k)	240.6	689.6	234.8	721.5
$s \rho$	(k/')	0.32	-	0.32	-
$M_s \rho$	('k)	88.9	-	97.3	-
M_L	('k)	445.2	308.6	503.4	345.6
M_{IM}	('k)	118.8	82.4	122.9	84.4
$^3_3 [M_L + I]$	('k)	939.9	651.6	1043.8	716.7
M_a	('k)	1650.2	1743.6	1788.7	1869.7
M_u	('k)	-	-	-	-
$f_s \rho$ non-comp	(ksi)	4.97	10.52	4.85	11.01
$f_s \rho$ (comp)	(ksi)	1.45	-	1.59	-
$f_s \ ^3_3 [M_L + M_I]$	(ksi)	13.87	9.94	15.41	10.93
f_s (Overload)	(ksi)	20.29	20.46	21.85	21.94
f_s (Total)	(ksi)	26.38	26.60	28.40	28.52
VR	(k)	52	-	43	-

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INTERIOR GIRDER REACTION TABLE				
		N. Abut. & S. Abut.	Pier 1 & Pier 3	Pier 2
$R \rho$	(k)	31.1	99.0	103.6
R_L	(k)	36.9	48.8	51.2
R_I	(k)	9.9	13.0	12.5
R_{Total}	(k)	77.9	160.8	167.3

** 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.).

$M \rho$: 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_L : Un-factored live load moment (kip-ft.).

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

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

$1.3 [M \rho + M_s \rho + \frac{5}{8} (M_L + M_I)]$

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M \rho + M_s \rho + \frac{5}{8} (M_L + M_I)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M \rho + M_s \rho + \frac{5}{8} (M_L + M_I)]$

VR: Maximum ρ + impact shear range within the composite portion of the span for stud shear connector design (kips).

BENTON & ASSOCIATES, INC.
QUIGG ENGINEERING INC

FILE NAME	USER NAME =	DESIGNED - MBH	REVISED - _____
0600104-76G10-019-Frame.dgn		CHECKED - DRB	REVISED - _____
	PLOT SCALE =	DRAWN - MBH	REVISED - _____
	PLOT DATE =	CHECKED - RHB	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL DETAILS
STRUCTURE NO. 060-0104

SHEET NO. 19 OF 29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	60-2HB-2	MADISON	52	37
CONTRACT NO. 76G10				
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT				