

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier #1	0.5 Sp. 2	Pier #2	0.6 Sp. 3
I_s	(in ⁴)	7350	7350	7350	7350	7350
$I_c(n)$	(in ⁴)	25868	-	25868	-	25868
$I_c(3n)$	(in ⁴)	17806	-	17806	-	17806
S_s	(in ³)	442	442	442	442	442
$S_c(n)$	(in ³)	779	-	779	-	779
$S_c(3n)$	(in ³)	683	-	683	-	683
Z	(in ³)	-	-	-	-	-
ρ	(k/')	0.85	1.26	0.85	1.25	0.85
$M\rho$	(k)	66.0	363.0	197.8	363.0	66.0
$s\rho$	(k/')	0.41	-	0.41	-	0.41
$M_s\rho$	(k)	49.2	-	138.9	-	49.2
M_L	(k)	233.6	151.9	389.7	151.9	233.6
M_I	(k)	70.1	45.6	116.9	45.6	70.1
$^5_3 [M_L + I]$	(k)	506.2	329.2	844.33	329.2	506.2
M_o	(k)	807.8	899.9	1535.34	899.9	807.8
* M_u	(k)	2261	-	2114	-	2261
$f_s \rho$ non-comp	(ksi)	1.8	9.9	5.4	9.9	1.8
$f_s \rho$ (comp)	(ksi)	0.9	-	2.4	-	0.9
$f_s \ ^5_3 [M_L + M_I]$	(ksi)	7.8	8.9	13.0	8.9	7.8
f_s (Overload)	(ksi)	10.5	18.8	20.8	18.8	10.5
** f_s (Total)	(ksi)	-	24.4	-	24.4	-
VR	(k)	44.5	-	47.3	-	44.6

INTERIOR GIRDER REACTION TABLE					
		*** W. Abut.	Pier #1	Pier #2	*** E. Abut.
$R\rho$	(k)	17.2	76.8	76.8	17.2
R_L	(k)	35.4	42.7	42.7	35.4
R_I	(k)	10.6	12.8	12.8	10.6
R_{Total}	(k)	63.3	132.4	132.4	63.3

* Compact section
 ** Braced non-compact and partially braced section
 *** These reactions include 3 kips per foot dead load from the Approach Pavement.

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

BEAM MOMENT & REACTION TABLES
STRUCTURE NO. 022-0033

DESIGNED	JMT
CHECKED	BLB
DRAWN	JMT
CHECKED	BLB

rjngroup
 Excellence through Ownership
 200 West Front Street
 Wheaton, IL 60187

SHEET NO. 20
27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	10HB-R	Du Page	53	36
CONTRACT NO. 60B92				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				