

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
$I_s$	(in <sup>4</sup> )	10926	15257	10926
$I_c$ (n)	(in <sup>4</sup> )	28128	-	28128
$I_c$ (3n)	(in <sup>4</sup> )	21053	-	21053
$S_s$	(in <sup>3</sup> )	502.3	689.7	502.3
$S_c$ (n)	(in <sup>3</sup> )	717.4	-	717.4
$S_c$ (3n)	(in <sup>3</sup> )	655.2	-	655.2
Z	(in <sup>3</sup> )	-	-	-
DC <sub>i</sub>	(k/')	0.82	0.85	0.82
M <sub>DCi</sub>	(k)	341	684	277
DC <sub>z</sub>	(k/')	0.15	0.15	0.15
M <sub>DCz</sub>	(k)	69	108	66
DW	(k/')	0.329	0.329	0.329
M <sub>DW</sub>	(k)	151	237	145
M <sub>LL+IMP</sub>	(k)	929	792	934
M <sub>u</sub> (Strength II)	(k)	2365	2732	2281
$\phi_r M_n$ $\phi_r M_{nc}$	(k)	3622	3185	3668
$f_s$ DC <sub>i</sub>	(ksi)	8.15	11.90	6.62
$f_s$ DC <sub>z</sub>	(ksi)	1.26	1.88	1.21
$f_s$ DW	(ksi)	2.77	4.12	2.66
$f_s$ 1.3(LL+I)	(ksi)	20.2	17.9	20.3
$f_s$ (Service II)	(ksi)	32.4	35.8	30.8
$f_s$ (Total)(Strength I)	(ksi)	-	-	-
V <sub>r</sub>	(k)	25.5	-	19.5

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(3n), S_c(3n)$ : 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-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).

Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations (in<sup>3</sup>).

DC<sub>i</sub>: Un-factored non-composite dead load (kips/ft.).

M<sub>DCi</sub>: Un-factored moment due to non-composite dead load (kip-ft.).

DC<sub>z</sub>: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M<sub>DCz</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M<sub>L</sub> + 1M: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M<sub>u</sub> (Strength I): Factored design moment (kip-ft.).  
1.25 (M<sub>DCi</sub> + M<sub>DCz</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>L</sub> + 1M

$\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_r M_{nc}$ : Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

$f_s$  (Service II): Sum of stresses as computed from the moments below (ksi).  
M<sub>DCi</sub> + M<sub>DCz</sub> + M<sub>DW</sub> + 1.3 M<sub>L</sub> + 1M

$f_s$  (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).  
1.25 (M<sub>DCi</sub> + M<sub>DCz</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>L</sub> + 1M

V<sub>r</sub>: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

INTERIOR GIRDER REACTION TABLE HL93 Loading			
		E. Abut. Pier 3 - Unit 1	Pier 1 Pier 2
R <sub>DCi</sub>	(k)	24.6	81.9
R <sub>DCz</sub>	(k)	4.5	14.5
R <sub>DW</sub>	(k)	10.0	31.8
R <sub>LL+imp</sub>	(k)	75.5	123.2
R <sub>Total</sub>	(k)	114.6	251.4

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**MOMENT TABLES - UNIT 1  
STRUCTURE NUMBER 059-0510**

SHEET NO. 28 OF 51 SHEETS	F.A.P. RTE. 761	SECTION 107B-2	COUNTY MACOUPIN	TOTAL SHEETS 98	SHEET NO. 58
	FAP ROUTE 761 (IL RT 108)			CONTRACT NO. 72A94	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			