

INTERIOR BEAM MOMENT TABLE

		0.5 Span
$I_s$	(in <sup>4</sup> )	2850
$I_c(n)$	(in <sup>4</sup> )	9156
$I_c(3n)$	(in <sup>4</sup> )	6766
$S_s$	(in <sup>3</sup> )	213
$S_c(3n)$	(in <sup>3</sup> )	346
$S_c(n)$	(in <sup>3</sup> )	312
DC1	(k/')	0.684
$M_{DC1}$	(k)	176
DC2	(k/')	0.150
$M_{DC2}$	(k)	39
DW	(k/')	0.267
$M_{DW}$	(k)	69
$M_L + IM$	(k)	509
$M_u$ (Strength I)	(k)	1263
$\phi_r M_n$	(k)	1889
$f_s$ DC1	(ksi)	9.92
$f_s$ DC2	(ksi)	1.50
$f_s$ DW	(ksi)	2.65
$f_s$ (L+IM)	(ksi)	17.65
$f_s$ (Service II)	(ksi)	37.02
$0.95R_h F_y f$	(ksi)	47.5
$V_r$	(k)	18.5

INTERIOR BEAM REACTION TABLE

	Abut.
$R_{DC1}$	(k) 16.2
$R_{DC2}$	(k) 3.4
$R_{DW}$	(k) 6.1
$R_L + IM$	(k) 63.9
$R_{Total}$	(k) 89.6

$I_s, S_s$ : 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) in uncracked sections, 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) in uncracked sections, due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).

DC1: Un-factored non-composite dead load (kips/ft.).

$M_{DC1}$ : Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

$M_{DC2}$ : 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.).

$M_{DW}$ : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_L + IM$ : Un-factored live load moment plus dynamic load allowance (impact) ((kip-ft.).

$M_u$  (Strength I): Factored design moment (kip-ft.).  
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$

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

$f_s$  DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).  
 $M_{DC1} / S_s$

$f_s$  DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).  
 $M_{DC2} / S_c(3n)$

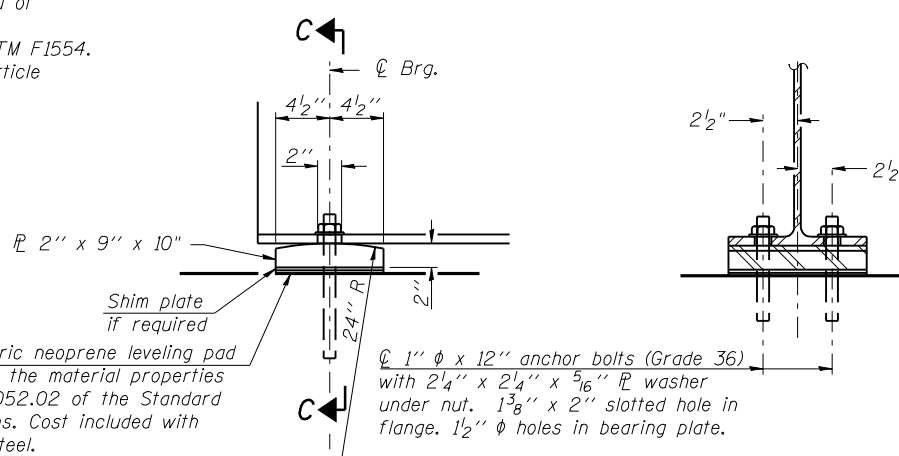
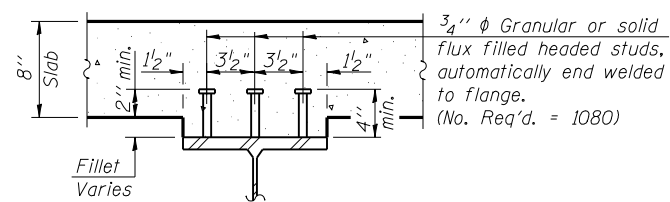
$f_s$  DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).  
 $M_{DW} / S_c(3n)$

$f_s$  (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).  
 $M_L + IM / S_c(n)$

(Service II): Sum of stresses as computed below (ksi).  
 $f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (L + IM)$

$0.95R_h F_y f$ : Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

$V_r$ : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



NOTES:

- All beams shall be W27x84 AASHTO M270 Grade 50 (NTR).
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Anchor bolts may be either cast in place or installed in holes drilled after the supported member is in place.

SHIM PLATES

Location	Beam 3
W. Abut.	1/8"

TOP OF BEAM ELEVATIONS

(For Fabrication Only)

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
CL Brg. W. Abut.	690.57	690.66	690.74	690.73	690.63	690.51
CL Brg. E. Abut.	690.42	690.52	690.61	690.61	690.52	690.42

Notes:

Two hardened washers required for each set of oversized holes and 5/16" plate washer over slotted holes.

\*C12x30 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on C12x25. The alternate, if utilized, shall be provided at no additional cost to the Department.

\*\*3/4"  $\phi$  HS bolts, 1 5/16"  $\phi$  holes. For diaphragm at stage construction line, provide 1 3/8" x 1 7/8" vertical slotted holes on north side of Beam 4 in angle and on south side of Beam 3 provide oversized holes in angle and beam. Slots shall be positioned such that the bolts start at one end with no concrete load and finish near the opposite end after the deck pour. Bolts in slotted holes shall be finger tightened and then fully tightened after second stage deck pour.

