



FRAMING PLAN

* Field drill holes in existing Girder 7. See Note 5 on Sht. S-17.

	0.3 Sp. 1 0.7 Sp. 3	Pier 1 Pier 2	0.5 Sp. 2
I_s (in ⁴)	1,330	10,500	10,500
S_s (in ³)	127	581	581
Z (in ³)	144	668	668
Q (k/')	0.903	1.041	1.041
M_Q (k)	53	318	288
M_L (k)	126	455	568
M_{IM} (k)	38	136	170
$^{5/8} [M_L + M_I]$ (k)	273	986	1,230
M_a (k)	423	1,694	1,973
M_u (k)	600	2,783	
$f_s Q$ (ksi)	5.0	6.6	5.9
$f_s ^{5/8} [M_L + M_I]$ (ksi)	25.8	20.4	25.4
f_s (Overload) (ksi)	30.8	27.0	31.3
f_s (Total) (ksi)		35.1	

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).
 Z : Plastic Section Modulus of the steel section (in³).
 Q : Un-factored non-composite dead load (kips/ft.).
 M_Q : Un-factored moment due to non-composite 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.).
 $1.3 [M_Q + \frac{5}{8} (M_L + M_I)]$
 M_u : 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).
 $M_Q + \frac{5}{8} (M_L + M_I)$
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M_Q + \frac{5}{8} (M_L + M_I)]$

	Abuts.	Piers	Hinges
R_Q (k)	9.7	63.7	9.7
R_L (k)	25.8	62.2	25.8
R_I (k)	7.7	18.7	7.7
R_{Total} (k)	43.2	144.6	43.2

Notes:

1. Work this sheet with Sht. S-16 & S-17.
2. All structural steel for girders, splices and hinges shall conform to the requirements of AASHTO M270, Grade 50. All other structural steel shall conform to the requirements of AASHTO M270, Grade 36.

\P450003-60K-90-001-FRAMING.DGN, \V\LSNUM-60K-90-001-BDD\FR.DGN, \V\LS-2011-15-27-45 HAYWARD, \V\F5-0044\AM\VAL\LD-TRANS_07-2202-21379-001\STRUCT\CAD\60K-90-001-FRAMING_SHT.DGN