



**FRAMING PLAN**  
(SB Bridge)

	0.4 Span 1 0.6 Span 2	Pier
$I$	(in <sup>4</sup> ) 545894	-
$I'$	(in <sup>4</sup> ) 977244	977244
$S_b$	(in <sup>3</sup> ) 14915	-
$S_b'$	(in <sup>3</sup> ) 19236	19236
$S_t$	(in <sup>3</sup> ) 15421	-
$S_t'$	(in <sup>3</sup> ) 46104	46104
$DC1$	(k/ft) 1.45	1.45
$M_{DC1}$	(k) 2717	-
$DC2$	(k/ft) 0.21	0.21
$M_{DC2}$	(k) 235	413
$DW$	(k/ft) 0.29	0.29
$M_{DW}$	(k) 317	556
$M_k + IM$	(k) 1797	1703

	0.4 Span 1 0.6 Span 2	Pier
$I$	(in <sup>4</sup> ) 545894	-
$I'$	(in <sup>4</sup> ) 1002942	1002942
$S_b$	(in <sup>3</sup> ) 14915	-
$S_b'$	(in <sup>3</sup> ) 19419	19419
$S_t$	(in <sup>3</sup> ) 15421	-
$S_t'$	(in <sup>3</sup> ) 49277	49277
$DC1$	(k/ft) 1.51	1.51
$M_{DC1}$	(k) 2834	-
$DC2$	(k/ft) 0.21	0.21
$M_{DC2}$	(k) 235	413
$DW$	(k/ft) 0.29	0.29
$M_{DW}$	(k) 317	556
$M_k + IM$	(k) 1870	1772

	Abutment	Pier
$R_{DC1}$	(k) 90.6	181.2
* $R_{DC2}$	(k) 10.0	33.4
* $R_{DW}$	(k) 13.5	44.8
* $R_k + IM$	(k) 89.0	179.8
$R_{Total}$	(k) 203.1	439.2

	Abutment	Pier
$R_{DC1}$	(k) 94.5	189.0
* $R_{DC2}$	(k) 10.0	33.4
* $R_{DW}$	(k) 13.5	44.8
* $R_k + IM$	(k) 75.1	153.1
$R_{Total}$	(k) 193.1	420.3

$I$ : Non-composite moment of inertia of beam section (in<sup>4</sup>).  
 $I'$ : Composite moment of inertia of beam section (in<sup>4</sup>).  
 $S_b$ : Non-composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).  
 $S_b'$ : Composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).  
 $S_t$ : Non-composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).  
 $S_t'$ : Composite section modulus for the top fiber of the prestressed beam (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.).  
 $M_k + IM$ : Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).  
 \* At continuous piers, reactions from composite loads are assumed to be equally distributed to each bearing line.