

TYPICAL BEAM ELEVATION

* 3 spa. @ 4" o.c. = 1'-0"

** See Top Plan of Splice Plate Detail

	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3	Pier 3	0.6 Sp. 4
I_s (in ⁴)	9739	9739	9736	13416	9736	9736	9736
I_c (n) (in ⁴)	25039	-	25039	-	25039	-	25039
I_c (3n) (in ⁴)	17932	-	17392	-	17392	-	17392
S_s (in ³)	541	541	541	725	541	541	541
S_c (n) (in ³)	794	-	794	-	794	-	794
S_c (3n) (in ³)	709	-	709	-	709	-	709
ρ (k/ft.)	0.845	1.025	0.845	1.025	0.845	1.025	0.845
M_R (k)	88	459	275	703	269	471	119
s_p (k/ft.)	0.180	-	0.180	-	0.180	-	0.180
M_{sR} (k)	24	-	73	-	72	-	30
M_t (k)	312	270	535	370	537	275	344
M (Imp) (k)	89	70	127	88	127	71	96
$S_3[M_t + M(imp)]$ (k)	668	567	1103	763	1107	577	733
M_a (k)	1018	1333	1888	1907	1886	1362	1151
M_u (k)	3078	-	2574	-	2575	-	2426
f_s non-comp (k.s.i.)	1.95	10.15	6.08	12.65	5.96	10.43	2.64
f_s comp (k.s.i.)	0.40	-	1.23	-	1.21	-	0.52
f_s (k + Imp) (k.s.i.)	10.14	12.55	16.70	12.62	16.77	12.77	11.11
f_s (Overload) (k.s.i.)	12.49	22.70	24.61	25.27	23.94	23.20	14.27
f_s (Total) (k.s.i.)	-	29.51	-	32.85	-	30.16	-
VR (k)	49.6	-	45.8	-	43.3	-	49.6

* Compact, Braced Section

** Non-Compact Section

	W. Abut.	Pier 1	Pier 2	Pier 3	E. Abut.
R_R (k)	15.5	74.3	91.8	75.8	17.7
R_L (k)	33.4	45.3	51.3	45.8	34.0
$Imp.$ (k)	9.6	11.8	12.2	11.8	9.5
R (Total) (k)	58.5	131.4	155.3	133.4	61.2

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).

$I_{c(n)}$ and $S_{c(n)}$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

$I_{c(3n)}$ and $S_{c(3n)}$ are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads.

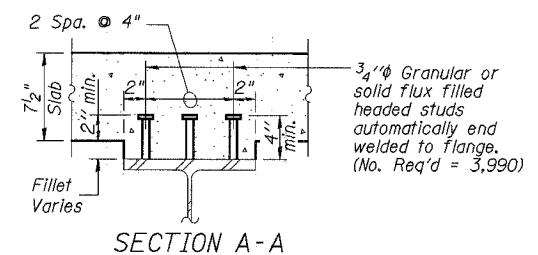
VR is the maximum Live Load + Impact shear range in span.

M_a (Applied Moment) = $1.3IM_R + M_{sR} + S_3(M_t + M(imp))$.

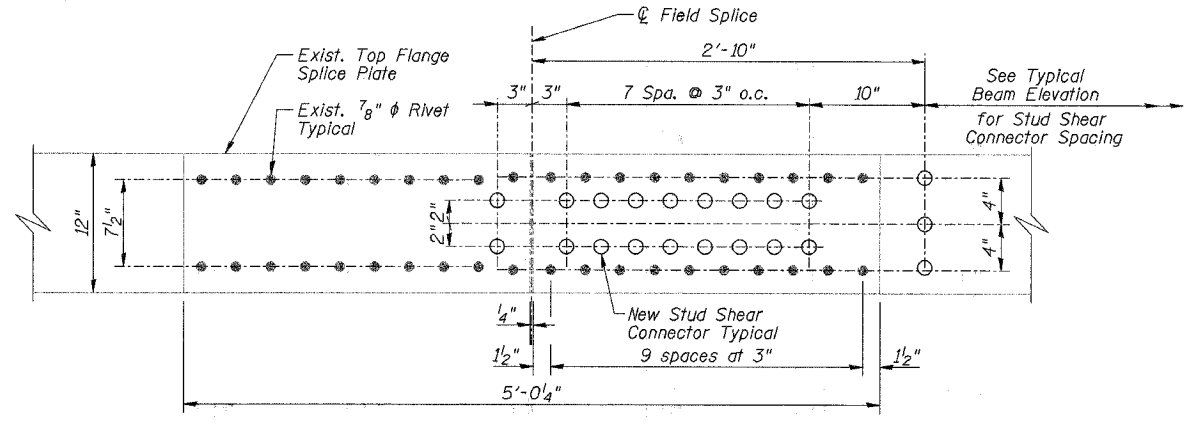
The Plastic Moment capacity (M_u) is computed according to AASHTO 10.48.1 and 10.50.1.1.

f_s (Overload) is the sum of the stresses due to $M_R + M_{sR} + S_3(M_t + M(imp))$.

f_s (Total) (Non-compact section) is the sum of the stresses due to $1.3IM_R + M_{sR} + S_3(M_t + M(imp))$.



SECTION A-A



TOP PLAN OF SPLICE PLATE DETAIL

DESIGNED	D.F.W.
CHECKED	J.A.Z.
DRAWN	B.S.S.
CHECKED	D.F.W.

STRUCTURAL STEEL ELEVATION
 BACKBONE ROAD OVER I-80
 F.A.I. ROUTE 80
 SECTION (06-4HB-11D)
 BUREAU COUNTY
 STATION 2289+07.63 (F.A.I. 80)
 S.N. 006-0116
 DATE: JANUARY 30, 2006
 GRAEF, ANHALT, SCHLOEMER & ASSOCIATES INC
 CHICAGO ILLINOIS

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