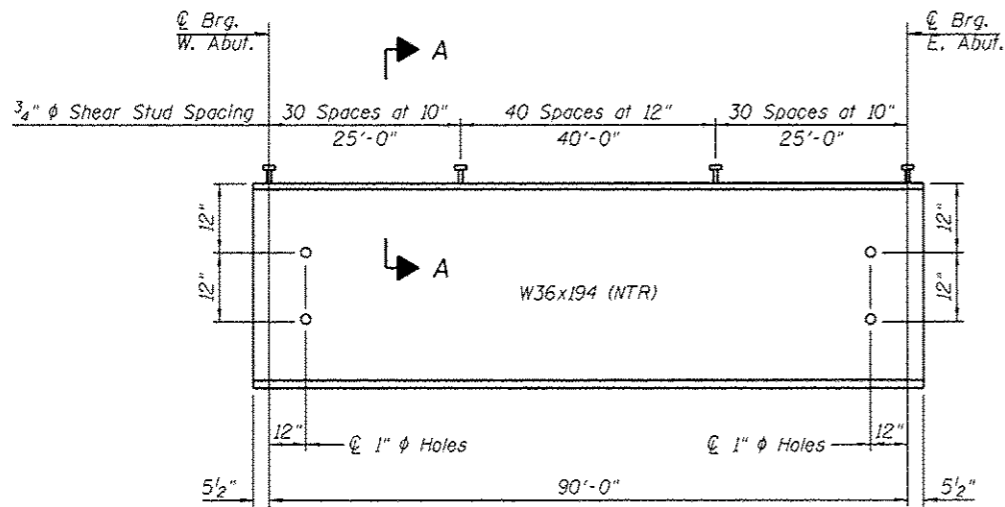
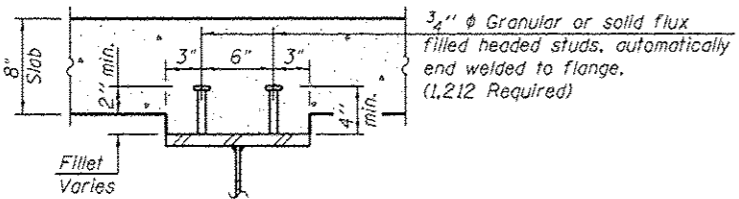


FRAMING PLAN



BEAM ELEVATION

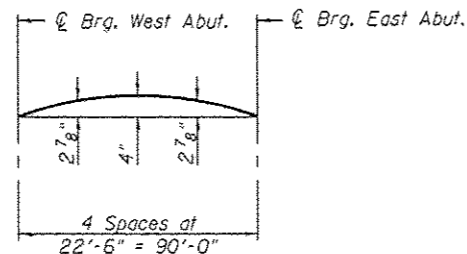


SECTION A-A

TOP OF BEAM ELEVATIONS

(For Fabrication Use Only)

Beam	Brg. W. Abut.	Brg. E. Abut.
1	578.49	576.70
2	578.64	576.84
3	578.75	576.96
4	578.75	576.96
5	578.64	576.84
6	578.49	576.70

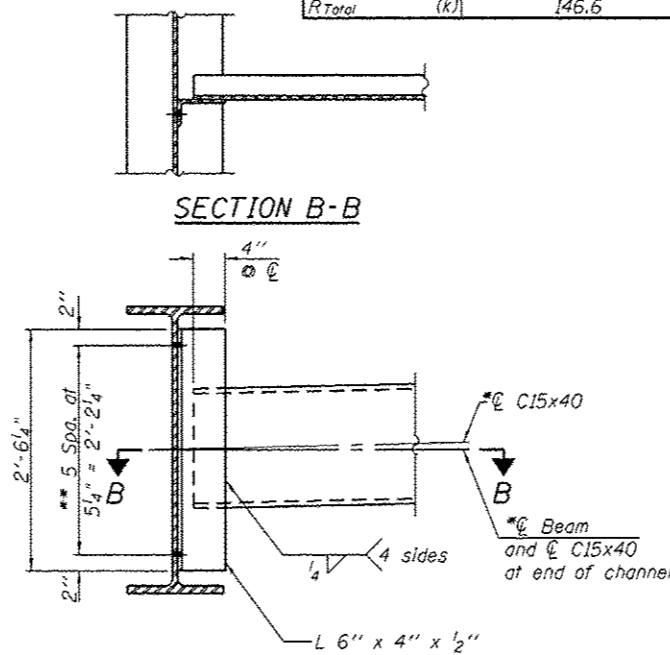


CAMBER DIAGRAM

INTERIOR BEAM MOMENT TABLE		0.5 Span
$I_s$	(in <sup>4</sup> )	12,100
$I_c(n)$	(in <sup>4</sup> )	29,075
$I_c(3n)$	(in <sup>4</sup> )	21,297
$S_s$	(in <sup>3</sup> )	663
$S_c(n)$	(in <sup>3</sup> )	929
$S_c(3n)$	(in <sup>3</sup> )	839
DC1	(k/')	0.957
MDC1	(k)	969
DC2	(k/')	0.025
MDC2	(k)	25
DW	(k/')	0.330
MDW	(k)	334
$M_L + IM$	(k)	1,362
$M_u$ (Strength I)	(k)	4,127
$\phi_r M_n$	(k)	4,630
$f_s$ DC1	(ksi)	17.5
$f_s$ DC2	(ksi)	0.4
$f_s$ DW	(ksi)	4.8
$f_s$ 1.3(L+IM)	(ksi)	22.9
$f_s$ (Service II)	(ksi)	45.6
0.95R <sub>n</sub> F <sub>y</sub>	(ksi)	47.5
$f_s$ (Total)(Strength I)	(ksi)	-
V <sub>r</sub>	(k)	26.1

\* Compact sections  
\*\* Non-Compact and slender sections

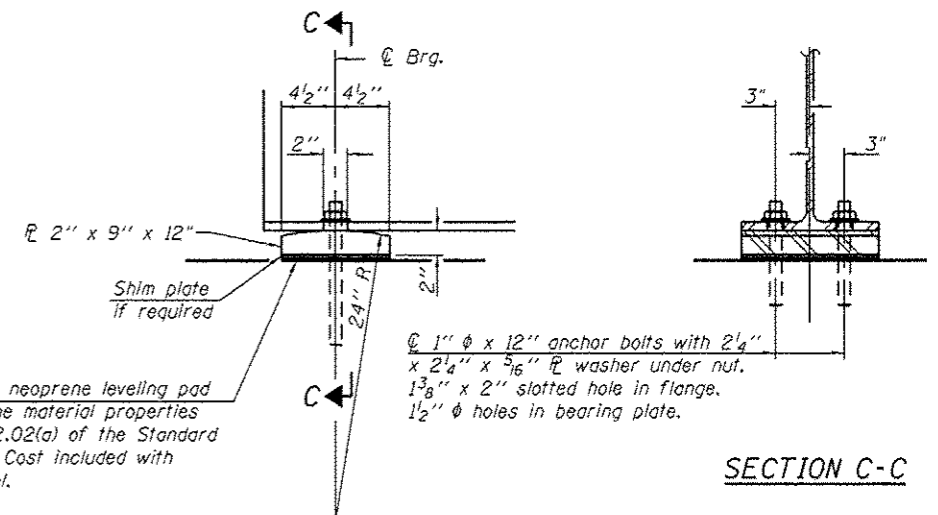
INTERIOR BEAM REACTION TABLE		Abutment
R <sub>DC1</sub>	(k)	44.0
R <sub>DC2</sub>	(k)	1.1
R <sub>DW</sub>	(k)	14.9
R <sub>L + IM</sub>	(k)	86.6
R <sub>Total</sub>	(k)	146.6



INTERIOR DIAPHRAGM

Notes:  
Two hardened washers required for each set of oversized holes.  
\* Alternate channel C15x50 permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.  
The alternate, if utilized, shall be provided at no additional cost to the Department.  
\*\* 3/4" φ HS bolts. 1 5/8" φ holes.  
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted.

$I_s, S_s$ : 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>).  
DC1: Un-factored non-composite dead load (kips/ft.).  
MDC1: 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.).  
MDC2: 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.).  
MDW: 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.).  
 $f_s$  (Service II): Sum of stresses as computed from the moments below on non-compact section (ksi).  
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{L + IM}$   
0.95R<sub>n</sub>F<sub>y</sub>: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).  
 $f_s$  (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).  
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{L + IM}$   
V<sub>r</sub>: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



ELEVATION AT ABUTMENT

FIXED BEARING

Notes:  
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 (F<sub>y</sub>=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.  
Anchor bolts of fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.  
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.  
Load carrying components designated "NTR" shall conform to the supplemental Requirements for Notch Toughness, Zone 2.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	24

10/24/2012 5:01:53 PM P:\P-10-2356 - Smithville Road Bridge\072148-2356-011-Framing-Steel\Bledun