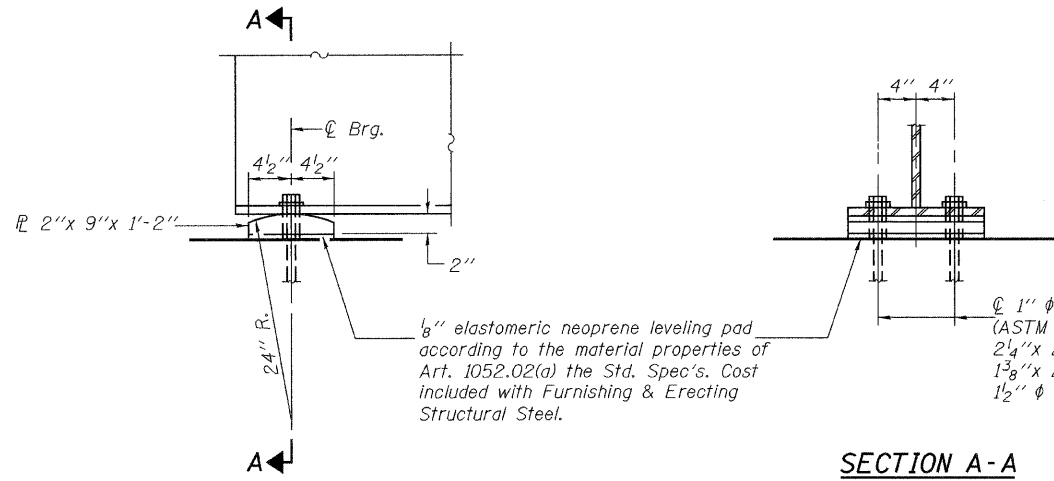
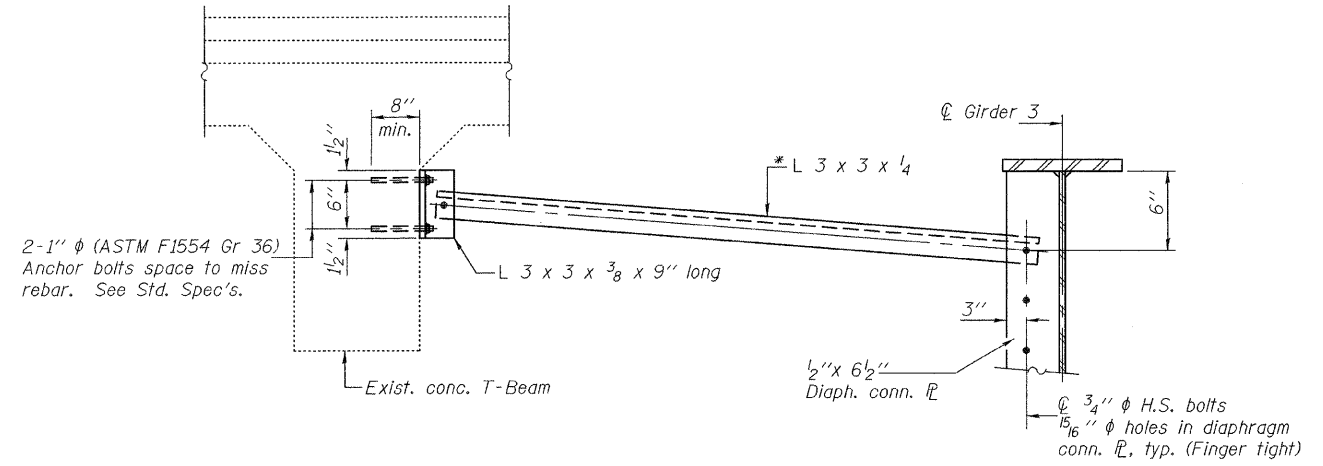


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT ABUTMENTS

ABUTMENT BEARING
(12 Required)



TEMPORARY BRACING FOR STAGE I CONSTRUCTION
(3 Required)

The horizontal dimension between the holes in the diaphragm connection plate and the L 4 x 4 shall be measured in the field. The holes in the L 4 x 4 shall be field drilled at this dimension. Cost included with Furnishing & Erecting Structural Steel.

INTERIOR GIRDER MOMENT TABLE	
	0.5 Sp.
I_s	(in ⁴) 18611
I_c (n)	(in ⁴) 42463
I_c (3n)	(in ⁴) 31723
S_s	(in ³) 792
S_c (n)	(in ³) 1058
S_c (3n)	(in ³) 970
ϕ	(k/ft.) 0.905
$M\phi$	(k) 989
$s\phi$	(k/ft.) 0.517
$Ms\phi$	(k) 565
$M\phi$	(k) 936
M (Imp)	(k) 214
$5_3[M\phi + M(\text{Imp})]$	(k) 1917
Ma	(k) 4512
Mu	(k) 5440
$fs\phi$ non-comp (k.s.i.)	15.0
$fs\phi$ (comp) (k.s.i.)	7.0
$fs 5_3(\phi + \text{Imp})$ (k.s.i.)	21.7
fs (Overload) (k.s.i.)	43.7
VR	(k) 53.1

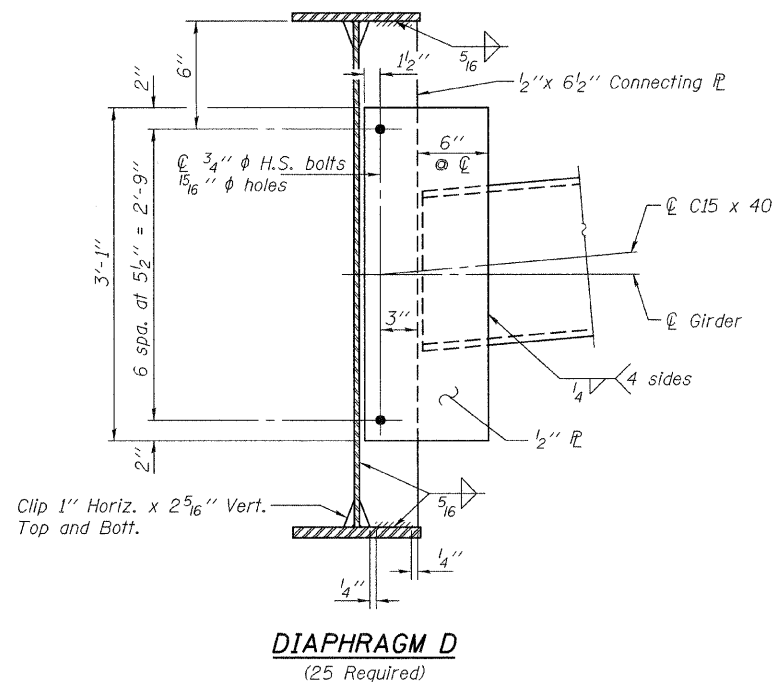
I_s and S_s are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).
 $I_c(n)$ and $S_c(n)$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 $I_c(3n)$ and $S_c(3n)$ are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)
 VR is the maximum Live Load + Impact shear range in span.
 Ma (Applied Moment) = $1.3[M\phi + Ms\phi + 5_3(M\phi + M(\text{Imp}))]$.
 The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.
 fs (Overload) is the sum of the stresses due to $M\phi + Ms\phi + 5_3(M\phi + M(\text{Imp}))$.
 fs (Total) (Non-compact section) is the sum of the stresses due to $1.3[M\phi + Ms\phi + 5_3(M\phi + M(\text{Imp}))]$.

*TOP OF WEB ELEVATIONS

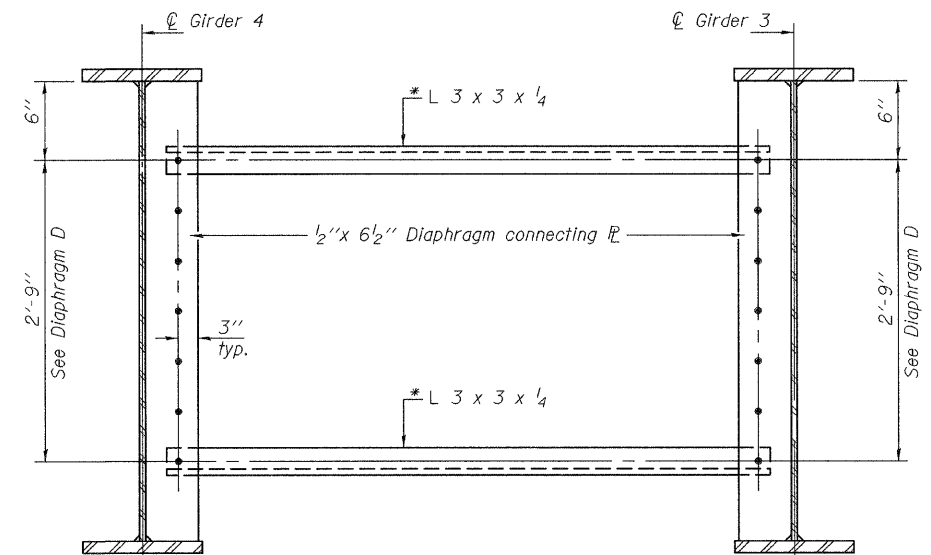
	☉ Brg. S. Abut.	☉ Brg. N. Abut.
Beam 1	457.472	457.549
Beam 2	457.620	457.696
Beam 3	457.734	457.811
Beam 4	457.734	457.811
Beam 5	457.620	457.696
Beam 6	457.472	457.549

* For fabrication use only.

INTERIOR GIRDER REACTION TABLE	
	Abut.
$R\phi$	(k) 66.5
$R\phi$	(k) 43.2
Imp.	(k) 9.9
R (Total)	(k) 119.6



DIAPHRAGM D
(25 Required)



TEMPORARY BRACING FOR STAGE II CONSTRUCTION
(3 Required)

* L 3 x 3 x 1/4 to be used as temporary bracing during Stage I and Stage II deck pour. Remove and replace with diaphragm D after Stage II deck pour is completed. Use between girder 3 and 4 only. Cost included with Furnishing & Erecting Structural Steel.

DESIGNED J.E. KRAMER
 CHECKED P.E. COPPERNOLL
 DRAWN AMBER SEIBER htd
 CHECKED GRA

March 2, 2010
 EXAMINED Thomas J. Domagalaki
 PASSED Ralph E. Anderson

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 079-0050

SHEET NO. 13	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
21 SHEETS	682	21BR, 21-I-1	RANDOLPH	77	52
			CONTRACT NO. 76126		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					