

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	2005-063 I	WILL	50	19
STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

GIRDER E.2 & W.2 MOMENT TABLE

(Composite in Positive Moment Areas Only)

	0.4 Span 1 & 4	Pier 1 & 3	0.5 Span 2 & 3	Pier 2
I_s	(in ⁴) 4,760	4,760	4,760	4,760
$I_c (n)$	(in ⁴) 12,620	-	12,620	-
$I_c (3n)$	(in ⁴) 9,317	-	9,317	-
S_s	(in ³) 345	345	345	345
$Sc (n)$	(in ³) 500	-	500	-
$Sc (3n)$	(in ³) 453	-	453	-
Z	(in ³) -	395	-	395
D	(k/ft.) 0.75	1.17	0.75	1.17
$M\ell$	(k) 76	241	94	279
$s\ell$	(k/ft.) 0.42	-	0.42	-
$Ms\ell$	(k) 49	-	67	-
$M\ell$	(k) 218	135	281	153
M (Imp)	(k) 66	39	79	43
$S_3[M\ell + M(Imp)]$	(k) 474	292	601	328
Ma	(k) 778	693	990	789
Mu	(k) 2,459	-	2,688	-
$fs\ell$ non-comp (k.s.i.)	2.7	8.4	3.3	9.7
$fs\ell$ (comp) (k.s.i.)	1.3	-	1.8	-
$fs^{S_3}(\ell + Imp)$ (k.s.i.)	11.4	10.2	14.4	11.4
fs (Overload) (k.s.i.)	15.4	18.6	19.5	21.1
fs (Total) (k.s.i.)	-	24.2	-	27.4
VR	(k) 50.0	-	51.0	-

TOP OF BEAM ELEVATIONS

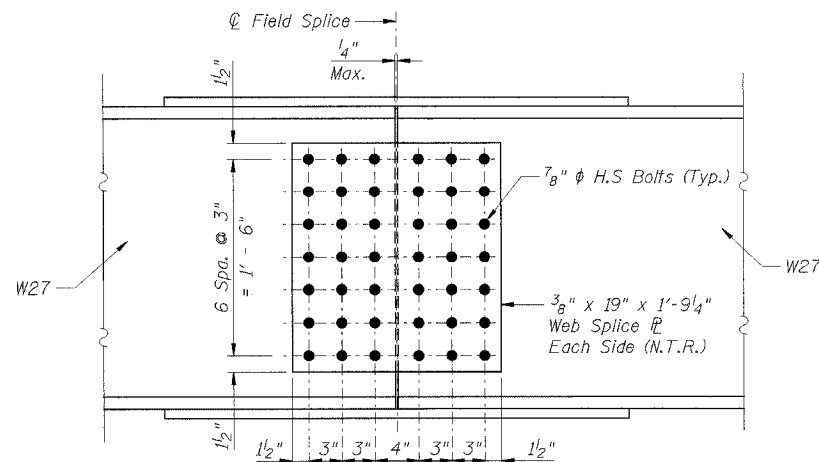
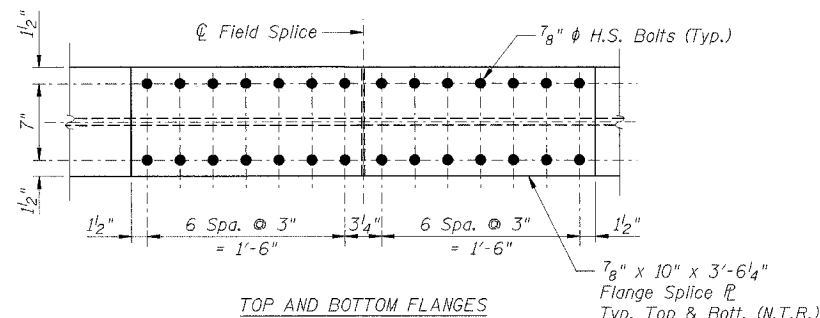
(for fabrication use only)

Beam	℄ Brg. S. Abut.	℄ Pier 1	℄ Field Splice 1	℄ Pier 2	℄ Field Splice 2	℄ Pier 3	℄ Field Splice 3	℄ Brg. N. Abut.
W.2	628.81	629.03	629.09	629.26	629.32	629.44	629.47	629.52
W.1	628.69	628.91	628.97	629.14	629.19	629.31	629.34	629.39
E.1	628.71	628.92	628.98	629.15	629.20	629.31	629.35	629.40
E.2	628.85	629.06	629.12	629.29	629.34	629.45	629.48	629.53

BEARING SEAT ELEVATIONS

(For Information Only)

Beam	S. Abut.	Pier 1	Pier 2	Pier 3	N. Abut.
W.2	626.06	626.33	626.75	626.73	626.77
W.1	625.94	626.20	626.63	626.61	626.64
E.1	625.95	626.21	626.64	626.61	626.64
E.2	626.09	626.35	626.78	626.75	626.78



SPLICE DETAILS

GIRDER E.2 & W.2 REACTION TABLE

	Abut.	Pier 1 & 3	Pier 2
$R\ell$	(k) 17.1	59.9	64.1
$R\ell$	(k) 34.8	41.1	42.1
$Imp.$	(k) 10.4	12.0	11.8
R (Total)	(k) 62.4	113.0	117.9

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 $Sc(n)$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 $I_c(3n)$ and $Sc(3n)$ 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.
 Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.
 Ma (Applied Moment) = $1.3[M\ell + Ms\ell + S_3(M\ell + M(Imp))]$.
 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 $M\ell + Ms\ell + S_3(M\ell + M(Imp))$.
 fs (Total) (Non-compact section) is the sum of the stresses due to $1.3[M\ell + Ms\ell + S_3(M\ell + M(Imp))]$.

- Notes:**
1. Work this Sheet with Sht. SC-19.
 2. N.T.R. denotes steel is subject to Supplemental Requirements for Notch Toughness (Zone 2).
 3. H.S. bolts shall be AASHTO M 164 (ASTM A 325).

SHT. SC-20 OF 38

REVISIONS	
NAME	DATE

MORCOM, N.V., INC.
 CONSULTING ENGINEERS
 CHICAGO, ILLINOIS

ILLINOIS DEPARTMENT OF TRANSPORTATION
 I-80 TO WEBER ROAD
 BEAM AND BEARING FABRICATION
 SB & NB I-55 OVER US RTE. 30, S.N. 099-0016 & 099-0017
 STA. 587+80.82, SECTION 2005-063 I
 WILL COUNTY

**SPLICE DETAILS,
 MOMENT & REACTION TABLES,
 TOP OF BEAM ELEVATIONS**

SCALE: DRAWN BY PA
 DATE 05/19/06 CHECKED BY MJK

TENG
 TENG & ASSOCIATES, INC.
 ENGINEERS/ARCHITECTS/PLANNERS
 CHICAGO, ILLINOIS

PLOT DATE = #DATE#
 FILE NAME = #FILE#
 PLOT SCALE = #SCALE#
 USER NAME = #USER#
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 5/17/2006 1:50:28 AM
 ANANTHAPZ