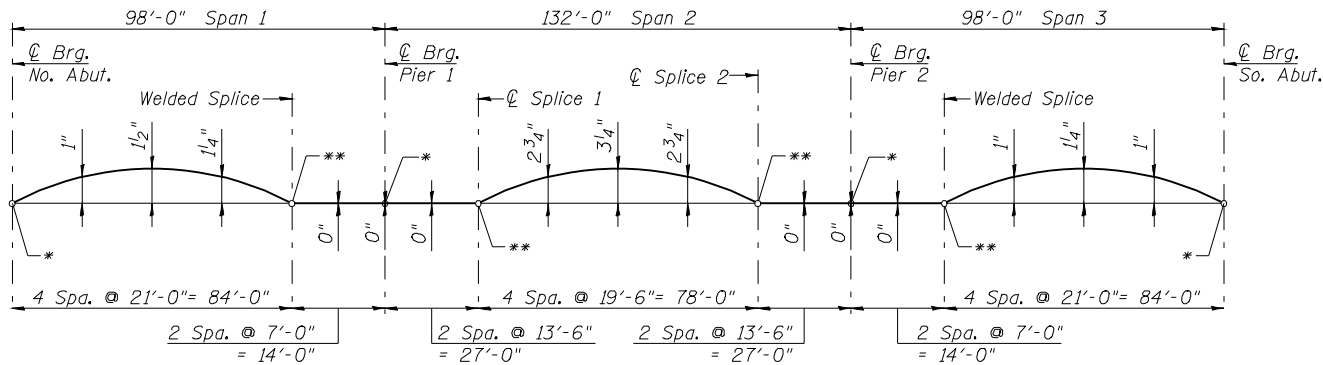


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



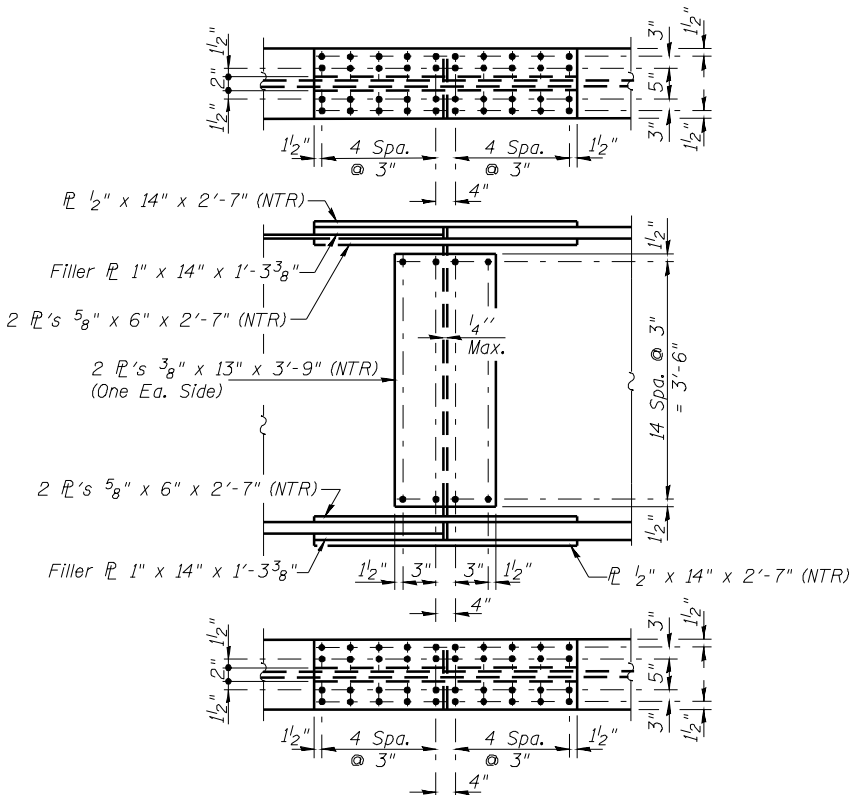
CAMBER DIAGRAM

* See Table for Final Top of Web Elevations at abutments and piers.
** Theoretical Top of Web Elevations before dead load deflections.

TOP of WEB ELEVATIONS TABLE

For Fabrication Only

Girder Number	C Brg. No. Abut.	Weld Splice	C Brg. Pier 1	C Splice No. 1	C Splice No. 2	C Brg. Pier 2	Weld Splice	C Brg. So. Abut.
Girder 1	463.86	463.44	463.37	463.23	462.77	462.65	462.59	462.22
Girder 2	463.98	463.56	463.49	463.35	462.89	462.77	462.71	462.34
Girder 3	464.08	463.66	463.59	463.45	462.99	462.87	462.81	462.44
Girder 4	464.08	463.66	463.59	463.45	462.99	462.87	462.81	462.44
Girder 5	463.98	463.56	463.49	463.35	462.89	462.77	462.71	462.34
Girder 6	463.86	463.44	463.37	463.23	462.77	462.65	462.59	462.22



DETAIL - FIELD SPLICE

Note:

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
Use 7/8" ϕ H.S. Bolts with 15/16" ϕ holes for all splice connections.

INTERIOR GIRDER MOMENT TABLE			
	0.4 Span 1 or 0.6 Span 3	Pier 1 or Pier 2	0.5 Span 2
I_s	(in ⁴) 16510	34364	16510
$I_c(n)$	(in ⁴) 38608	-	38608
$I_c(3n)$	(in ⁴) 29058	-	29058
S_s	(in ³) 667	1335	667
$S_c(n)$	(in ³) 903	-	903
$S_c(3n)$	(in ³) 829	-	829
DC1	(k/ft) 0.853	1.332	0.882
M _{DC1}	(k) 438	1989	559
DC2	(k/ft) 0.150	-	0.150
M _{DC2}	(k) 89	-	118
DW	(k/ft) 0.300	-	0.300
M _{DW}	(k) 179	-	235
M _{L + IM}	(k) 1185	1321	1344
M _u (Strength I)	(k) 3000	4902	3551
$\phi_f M_{n+}$, $\phi_f M_{nc}$	(k) 4596	-	4513
f_s DC1	(ksi) 7.88	17.89	10.06
f_s DC2	(ksi) 1.29	-	1.70
f_s DW	(ksi) 2.58	-	3.40
f_s 1.3(L+IM)	(ksi) 20.46	15.44	23.21
f_s (Service II)	(ksi) 32.21	33.32	38.37
f_s (Total)(Strength I)	(ksi) -	44.08	-
V _r	(k) 27.9	-	24.6

*** Compact Sections.

**** Non-compact and Slender Sections.

INTERIOR GIRDER REACTION TABLE HL93 Loading		
	No. Abut. or So. Abut.	Pier 1 or Pier 2
R _{DC1}	(k) 27.9	113.9
R _{DC2}	(k) 5.2	19.4
R _{DW}	(k) 10.4	38.8
R _{L + IM}	(k) 80.6	151.3
R _{Total}	(k) 124.1	323.4

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 (in⁴ and in³).

$I_c(n)$, $S_c(n)$: 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 (in⁴ and in³).

$I_c(3n)$, $S_c(3n)$: 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 (in⁴ and in³).

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_{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}

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_f M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{L + IM}

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_r: Maximum Factored shear range computed according to Article 6.10.10.

STRUCTURAL STEEL DETAILS (Sheet 2 of 2)

F.A.P. 614 (IL 78) OVER WOLF LAKE

(PUBLIC BODY OF WATER)

SECTION 144 (B-2)

MASON COUNTY

STA. 862+41.25

STRUCTURE NUMBER 063-0500

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	DATE 03/27/09		CONTRACT NO. 72A76				
		FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

Min: 3/1/2009 07:57:57 AM
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LAYOUT	TEH	10/25/08
DRAWN	Rod	12/08/08
REVIEWED	TEH	12/11/08