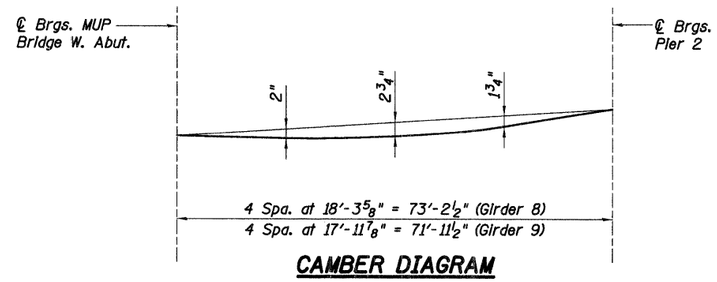
GIRDER 8 & 9 MOMENT TABLE			0.5 Sp. 2
	I_s	(in^4)	5,582
	$I_c(n)$	(in^4)	13,846
	$I_c(3n)$	(in^4)	10,293
	S_s	(in^3)	388
	$S_c(n)$	(in^3)	534
	$S_c(3n)$	(in^3)	489
	Z	(in^3)	--
	DC1	(k/')	1
	M_{DC1}	('k)	47
	DC2	(k/')	0
	M_{DC2}	('k)	11
	DW	(k/')	0
	M_{DW}	('k)	0
	M_{LL+IM}	('k)	29
	M_u (Strength I)	('k)	123
*	$\phi_f M_n$, $\phi_f M_{nc}$	('k)	2,618
	f_s DC1	(ksi)	2
	f_s DC2	(ksi)	0
	f_s DW	(ksi)	0
	f_s 1.3(LL+IM)	(ksi)	1
	f_s (Service II)	(ksi)	3
**	f_s (Total)(Strength I)	(ksi)	--
	V_f	(k)	0

* Compact sections
** Non-Compact and slender sections

GIRDER 8 & 9 REACTION TABLE		MUP Bridge W. Abut.	Brgs. Pier 2
R_{DC1}	(k)	28	25
R_{DC2}	(k)	8	8
R_{DW}	(k)	0	0
R_{LL+IM}	(k)	23	20
R_{Total}	(k)	59	53



CAMBER DIAGRAM

(Camber Not Req'd for Girders 10 & 11)

TOP OF WEB ELEVATIONS

Girder Number	℄ Brg. MUP Bridge W. Abut.	End of Girder @ Girder 9	℄ Pier 2
8	700.67	--	702.77
9	700.54	--	702.64
10	700.44	700.56	--
11	700.33	700.63	--

(For Fabrication Only)

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 ($in.^4$ and $in.^3$).
$I_c(n)$, $S_c(n)$: 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 ($in.^4$ and $in.^3$).
$I_c(3n)$, $S_c(3n)$: 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 ($in.^4$ and $in.^3$).
Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations ($in.^3$).
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_{LL+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
M_u (Strength I): Factored design moment (kip-ft.). $1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{LL+IM}$
$\phi_f M_n$: 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). $M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{LL+IM}$
Sum of stresses as computed from the moments below on non-compact section (ksi).
f_s (Total)(Strength I): $1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{LL+IM}$
V_f: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

Notes:

1. For additional Framing Plan and Girder Elevation information, see sheets S64 and S66 of S108.
2. All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
3. Load carrying components designated "NTR" shall conform to the Supplemental Requirements Notch Toughness, Zone 2.
4. For Diaphragm details, see sheet S66 of S108.
5. For Connection details for the connection between Girder 10 & 11 to Girder 9, see sheet S66 of S108.
6. The structural steel for girders, bearing stiffeners, and splice plate material except fill plates shall conform to the requirements of AASHTO M270, Gr. 50.

REVISIONS	
NAME	DATE

Baker
Baker Engineering, Inc.

ILLINOIS DEPARTMENT OF TRANSPORTATION

MUP BRIDGE - STEEL DETAILS I

MULTI-USE PATH BRIDGE OVER THE FOX RIVER
STRUCTURE NUMBER 045-3164

PUBLIC WATERS

KANE COUNTY — FAP 361 SECTION 06-00214-20-BR
STATION 572+37.71
DATE: JANUARY 16, 2009
DESIGNED: GWG — DRAWN: GWG
CHECKED: KPZ — CHECKED: KPZ

h:\13005\3.0 phase II deliverables\3.3 structure\drawings\final\045-3164 MUP Bridge SteelDetails.dgn
1/16/2009