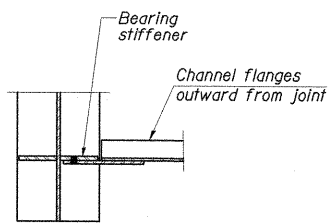


END DIAPHRAGM (D1)

Note:
Two hardened washers required for each set of oversized holes.



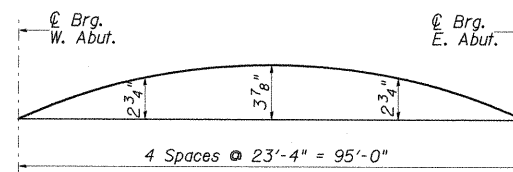
SECTION A-A

TOP OF WEB ELEVATIONS STR. NO. 100-0095							
Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7
© Brg. W. Abut.	470.55	470.73	470.91	471.06	471.20	471.08	470.93
© Brg. E. Abut.	467.89	468.07	468.25	468.40	468.54	468.42	468.27

For Fabrication only

TOP OF WEB ELEVATIONS STR. NO. 100-0096							
Location	Girder 8	Girder 9	Girder 10	Girder 11	Girder 12	Girder 13	Girder 14
© Brg. W. Abut.	470.93	471.08	471.20	471.06	470.91	470.73	470.55
© Brg. E. Abut.	468.27	468.42	468.54	468.40	468.25	468.07	467.89

For Fabrication only

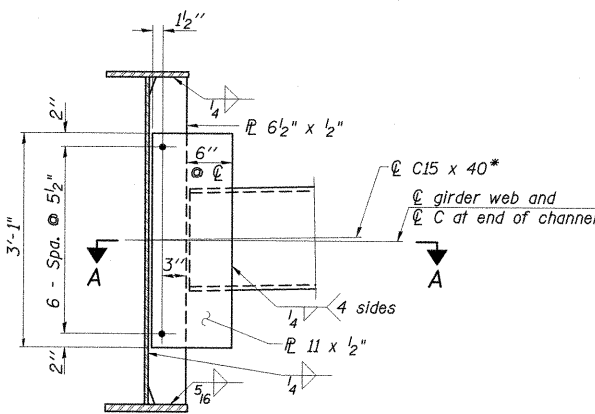


CAMBER DIAGRAM
Girders 1 thru 7 (S.N. 100-0095)
Girders 8 thru 14 (S.N. 100-0096)

INTERIOR GIRDER MOMENT TABLE	
	0.5 Span
I_s	(in ⁴) 19,010
$I_c(n)$	(in ⁴) 53,696
$I_c(3n)$	(in ⁴) 39,345
S_s	(in ³) 907
$S_c(n)$	(in ³) 1,283
$S_c(3n)$	(in ³) 1,182
Z	(in ³) 2,550
DC1	(k/ft.) 1.09
MDC1	(k) 1,199
DC2	(k/ft.) 0.15
MDC2	(k) 167
DW	(k/ft.) 0.39
MDW	(k) 435
$M_k + IM$	(k) 1,718
M_u (Strength I)	(k) 5,367
* $\phi_r M_n$	(k) 6,477
f_s DC1	(ksi) 15.86
f_s DC2	(ksi) 1.69
f_s DW	(ksi) 4.42
f_s 1.3(I+I)	(ksi) 16.07
f_s (Service II)	(ksi) 38.04
** f_s (Total)(Strength I)	(ksi) -
V_r	(k) 56.07

* Compact, Braced Section.
** Non-Compact Section.

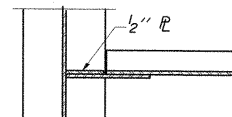
INTERIOR GIRDER REACTION TABLE	
	W. & E. Abuts.
RDC1	(k) 51.52
RDC2	(k) 7.03
RDW	(k) 18.34
$R_k + IM$	(k) 99.16
RTotal	(k) 176.05



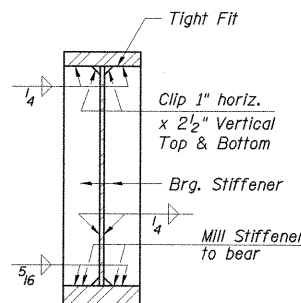
INTERIOR DIAPHRAGM (D)

Notes:
Two hardened washers required for each set of oversized holes.

*Alternate channels C15x50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on C15x40 sections. The alternate, if utilized, shall be provided at no extra cost to the department.



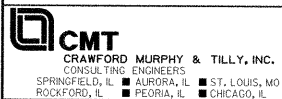
SECTION A-A



SECTION AT ABUTMENT

NOTES:

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f (Total-Strength I, and Service II) due to non-composite dead loads (in. and in.).
- $I_c(n), S_c(n)$: 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. and in.).
- $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in. and in.).
- 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.).
- 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.).
- $M_k + IM$: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
- 1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 $M_k + IM$
- $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- $\phi_r M_{nc}$: 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).
- MDC1 + MDC2 + MDW + 1.3 $M_k + IM$
- f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
- 1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 $M_k + IM$
- V_r : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



FILE NAME =	USER NAME =	DESIGNED - SF	REVISED -
I:\dot\0906603\draw\cadd\sheet\structure\al plans\marathon dr bridge\marathon_final		CHECKED - STEEL WELDER DETAILS.dgn	REVISED -
PLOT SCALE =	DRAWN - GLD		REVISED -
PLOT DATE =	CHECKED - SF		REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FRAMING DETAILS
STRUCTURE NO. 100-0095 (W.B.) & 100-0096 (E.B.)**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	226
CONTRACT NO. 98859				
ILLINOIS FED. AID PROJECT				