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INTERIOR BEAM MOMENT TABLE		
		0.5 Sp. 1
I_s	(in^4)	7800
$I_c(n)$	(in^4)	25860
$I_c(3n)$	(in^4)	18982
$I_c(cr)$	(in^4)	·
S_s	(in^3)	439
$S_c(n)$	(in^3)	734
$S_c(3n)$	(in^3)	656
$S_c(cr)$	(in^3)	·
DC1	(k/')	1.111
M_{DC1}	('k)	518
DC2	(k/')	0.372
M_{DC2}	('k)	182
DW	(k/')	0:0
M_{DW}	('k)	0:0
M_{L+IM}	('k)	858
M_u (Strength I)	('k)	2377
$\phi_f M_n$	('k)	4003
f_s DC1	(ksi)	14.2
f_s DC2	(ksi)	3:3
f_s DW	(ksi)	0:0
f_s (L+IM)	(ksi)	14.0
f_s (Service II)	(ksi)	35.7
$0.95R_hF_{yf}$	(ksi)	47.5
f_s (Total)(Strength I)	(ksi)	46.4
$\phi_f F_n$	(ksi)	·
V_f	(k)	48.8

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INTERIOR BEAM MOMENT TABLE		
		0.5 Sp. 1
I_s	(in^4)	7800
$I_c(n)$	(in^4)	26014
$I_c(3n)$	(in^4)	19144
$I_c(cr)$	(in^4)	·
S_s	(in^3)	439
$S_c(n)$	(in^3)	735
$S_c(3n)$	(in^3)	658
$S_c(cr)$	(in^3)	·
DC1	(k/')	1.136
M_{DC1}	('k)	535
DC2	(k/')	0.372
M_{DC2}	('k)	181
DW	(k/')	0:0
M_{DW}	('k)	0:0
M_{L+IM}	('k)	865
M_u (Strength I)	('k)	2409
$\phi_f M_n$	('k)	4034
f_s DC1	(ksi)	14.6
f_s DC2	(ksi)	3:3
f_s DW	(ksi)	0:0
f_s (L+IM)	(ksi)	14.1
f_s (Service II)	(ksi)	36.3
$0.95R_hF_{yf}$	(ksi)	47.5
f_s (Total)(Strength I)	(ksi)	47.1
$\phi_f F_n$	(ksi)	·
V_f	(k)	47.1

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INTERIOR BEAM REACTION TABLE		
		Abut.
R_{DC1}	(k)	35.2
R_{DC2}	(k)	11:4
R_{DW}	(k)	0:0
R_{L+IM}	(k)	86.1
R_{Total}	(k)	132.7

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INTERIOR BEAM REACTION TABLE		
		Abut.
R_{DC1}	(k)	36.1
R_{DC2}	(k)	11:4
R_{DW}	(k)	0:0
R_{L+IM}	(k)	83.3
R_{Total}	(k)	130.8

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) in uncracked sections, 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) in uncracked sections, due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite dead loads ($in.^4$ and $in.^3$).

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_{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.) or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{L+IM} / S_c(cr)$ as applicable.

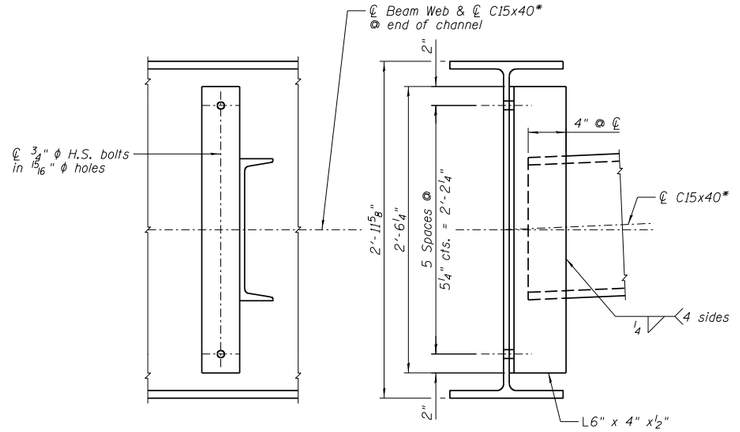
f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_{sL+IM}$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7.2 (ksi).

V_f: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



DIAPHRAGM D

(36 - Required for two bridges)

Note:
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 section. The C15x50, if utilized, shall be provided at no extra cost to the department.

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	DESIGNED - TCR/JCZ	REVISED
	CHECKED - JML	REVISED
	DRAWN - DJM/JWK	REVISED
DATE - 06/26/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL
STRUCTURE NO. 082-0385 NB & 082-0386 SB
SHEET NO. A26 OF 48 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2B	ST. CLAIR	94	57
		CONTRACT NO. 76F69		
	ILLINOIS FED. AID PROJECT			

24-8621