INTERIOR BEAM MOMENT TABLE						
		0.4 Sp. 1	Pier No. 1	0.5 Sp. 2	Pier No. 2	0.6 Sp. 3
I_s	(in^4)	5660	5660	5660	5660	5660
$I_c(n)$	(in^4)	15065	15065	15065	15065	15065
$I_c(3n)$	(in^4)	10978	10978	10978	10978	10978
$I_c(cr)$	(in^4)		7601		7601	
S_s	(in^3)	414	414	414	414	414
$S_c(n)$	(in^3)	598	598	598	598	598
$S_c(3n)$	(in^3)	540	540	540	540	540
$S_c(cr)$	(in^3)		470		470	
DC1	(k/')	0.867	0.867	0.867	0.867	0.867
M_{DC1}	('k)	289	450	190	357	186
DC2	(k/')	0.173	0.173	0.173	0.173	0.173
M_{DC2}	('k)	58	90	38	71	37
DW	(k/')	0.317	0.317	0.317	0.317	0.317
M_{DW}	('k)	106	165	69	131	68
M_{L+IM}	('k)	772	734	671	643	633
M_u (Strength I)	('k)	1944	2207	1563	1857	1487
$\phi_f M_n$	('k)	2897	2334	2897	2334	2897
f_s DC1	(ksi)	8.4	13.0	5.5	10.3	5.4
f_s DC2	(ksi)	1.3	2.3	0.8	1.8	0.8
f_s DW	(ksi)	2.4	4.2	1.5	3.3	1.5
f_s (L+IM)	(ksi)	15.5	18.7	13.5	16.4	12.7
f_s (Service II)	(ksi)	32.2	43.9	25.4	36.8	24.2
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	42.7	58.3	33.8	48.9	32.3
V_f	(k)	34.7	34.5	35.9	35.9	32.9

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.

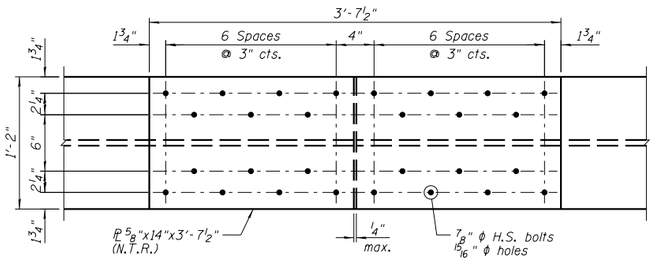
f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_{s(L+IM)}$

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

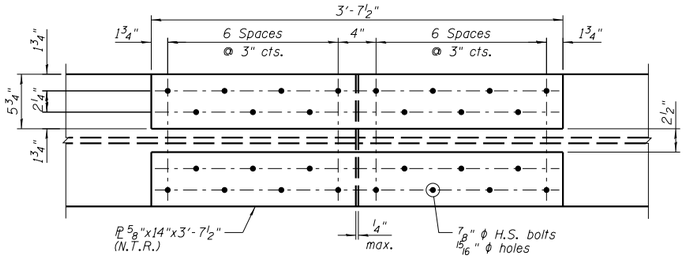
f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_{s(L+IM)}$

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

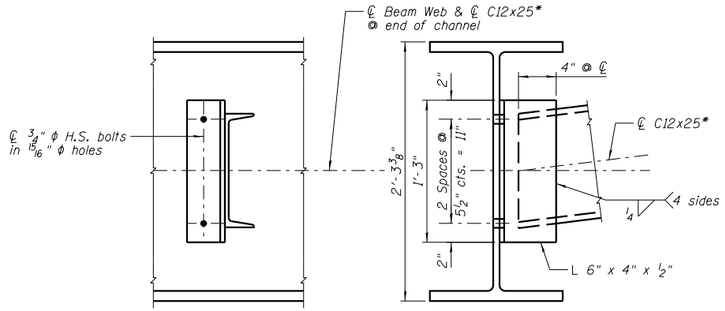
INTERIOR BEAM REACTION TABLE					
		S. Abut.	Pier 1	Pier 2	N. Abut.
R_{DC1}	(k)	23.3	69.2	61.5	18.8
R_{DC2}	(k)	4.5	13.8	12.3	3.6
R_{DW}	(k)	8.2	25.3	22.5	6.6
R_{L+IM}	(k)	77.3	107.1	103.9	73.3
R_{Total}	(k)	113.3	215.4	200.2	102.3



OUTSIDE TOP AND BOTTOM FLANGE



INSIDE TOP AND BOTTOM FLANGE

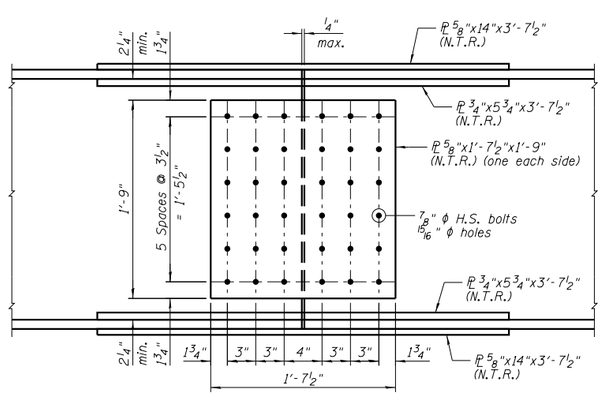


DIAPHRAGM D

(110 - Required for two bridges)

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

*Alternate channels, C12x30, are permitted to facilitate material acquisition. Calculated weight of structural steel is based on C12x25 section. The C12x30, if utilized, shall be provided at no extra cost to the department.



WEB

WEB SPLICE BOLT THREADS ARE EXCLUDED FROM THE SHEAR PLANE.

SPLICE DETAILS

(24 - Required for two bridges)

NOTES:

1.) See Sheet B21 for Splice and Diaphragm Locations.
2.) Load carrying components designated N.T.R. shall conform to the Impact Testing Requirements, Zone 2.
3.) All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

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	DESIGNED - TCR	REVISED
	CHECKED - JML	REVISED
	DRAWN - JWK/DJM	REVISED
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B22 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	155
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			