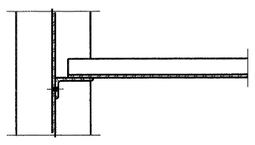
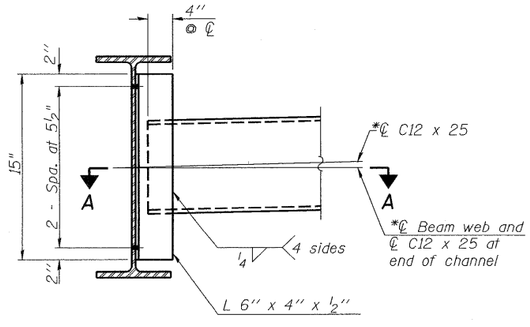
INTERIOR BEAM MOMENT TABLE			
		0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s	(in^4)	3620	3620
$I_c(n)$	(in^4)	11238	-
$I_c(3n)$	(in^4)	8153	-
$I_c(cr)$	(in^4)	-	4593
S_s	(in^3)	267	267
$S_c(n)$	(in^3)	424	-
$S_c(3n)$	(in^3)	380	-
$S_c(cr)$	(in^3)	-	298
DC1	(k/')	0.76	0.76
M_{DC1}	('k)	140.4	246.5
DC2	(k/')	0.15	0.15
M_{DC2}	('k)	27.7	48.7
DW	(k/')	0.27	0.27
M_{DW}	('k)	49.3	86.5
M_{L+IM}	('k)	487.9	370.9
M_U (Strength I)	('k)	1137.9	1147.9
$\phi_f M_n$	('k)	2142.7	1201.9
f_s DC1	(ksi)	6.3	11.1
f_s DC2	(ksi)	0.9	2.0
f_s DW	(ksi)	1.6	3.5
f_s (L+IM)	(ksi)	13.8	14.9
f_s (Service II)	(ksi)	26.7	36.0
$0.95R_hF_{yf}$	(ksi)	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-	-
$\phi_f F_n$	(ksi)	-	-
V_f	(k)	14.3	21.2

INTERIOR BEAM REACTION TABLE			
		Abut.	Pier
R_{DC1}	(k)	14.6	48.5
R_{DC2}	(k)	2.9	9.6
R_{DW}	(k)	5.1	17.0
R_{L+IM}	(k)	61.8	108.8
R_{Total}	(k)	84.4	183.9



SECTION A-A



INTERIOR DIAPHRAGM

(25 Required)

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 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.

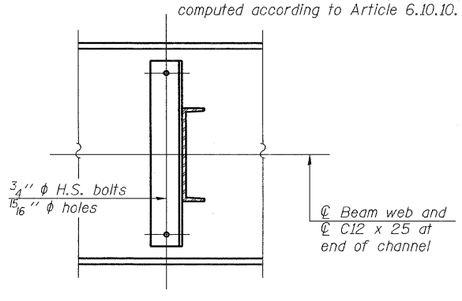
f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

$0.95R_hF_yf$: 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.

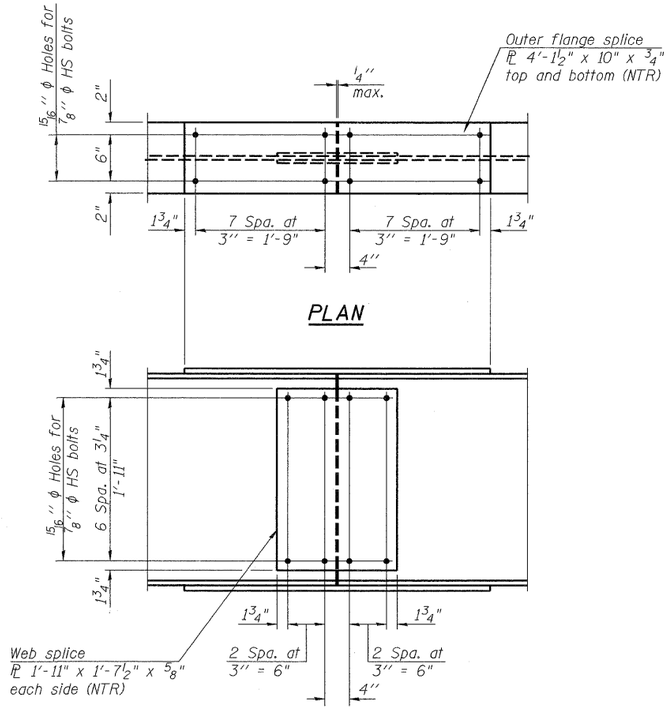


ELEVATION

TOP OF BEAM ELEVATIONS

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
℄ Brg. West Abutment	779.56	779.67	779.76	779.76	779.67	779.56
℄ Brg. Pier	779.56	779.67	779.76	779.76	779.67	779.56
℄ Splice	779.56	779.67	779.76	779.76	779.67	779.56
℄ Brg. East Abutment	779.56	779.67	779.76	779.76	779.67	779.56

Note: Top of Beam Elevations shown are for fabrication use only.



ELEVATION

FIELD SPLICE DETAIL

(6 Required)

NOTES:

All splices are symmetrical about ℄ splice except for fills.

Two hardened washers required for each set of oversized holes.

*Alternate channels C12 x 30 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.

Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.

HS bolts shall be ⅞" ϕ AASHTO M164/ASTM A325 (type 3 for weathering steel).

DELTA ENGINEERING GROUP, LLC
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111 WACKER DRIVE, SUITE 510
CHICAGO, IL 60601

USER NAME = kkhan	DESIGNED - SK	REVISED -	
	CHECKED - GBC/SMK	REVISED -	
PLOT SCALE =	DRAWN - SK	REVISED -	
PLOT DATE = 11/23/2011	CHECKED - GBC/SMK	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 006-0183
SHEET NO. 17 OF 26 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
587	(22 BR)BR	BUREAU	61	33
		CONTRACT NO. 66995		
	ILLINOIS FED. AID PROJECT			

FILE NAME = ...\Sheet 17 - Structural Steel Details.dgn