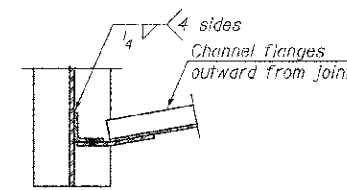


- I_s, S_x : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).
- $I_o(n), S_o(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in⁴ and in³).
- $I_o(3n), S_o(3n)$: 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 (in⁴ and in³).
- Un-factored non-composite dead load (kips/ft.).
- DC1: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- MDC1: Un-factored long term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- MDC2: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- DW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M_{DW}: Un-factored live load moment plus dynamic load allowance (impact) (kip ft.).
- M_{Σ + IM}: Factored design moment (kip-ft.).
- M_u (Strength I): $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{Σ + IM}$
Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- φ_fM_n: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
- φ_fM_{nc}: Sum of stresses as computed from the moments below (ksi).
- f_s (Service II): $M_{DC1} + M_{DC2} + M_{DW} + 1.5 M_{Σ + IM}$
Sum of stresses as computed from the moments below on non-compact section (ksi).
- f_s (Total)(Strength I): $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{Σ + IM}$
- V_f: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

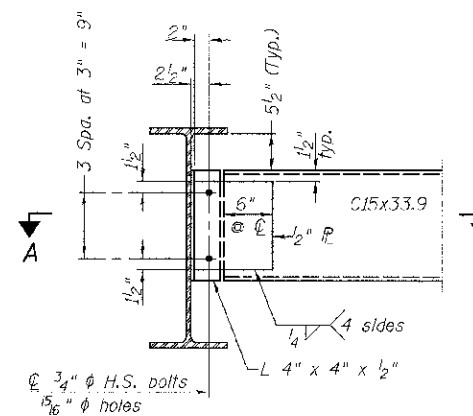
INTERIOR BEAM MOMENT TABLE				
Units		0.4 Span 1 & 0.6 Span 3	Piers 1 & 2	0.5 Span 2
I_s	(in ⁴)	5,360	5,360	5,360
$I_o(n)$	(in ⁴)	14,916	-	14,916
$I_o(3n)$	(in ⁴)	10,920	-	10,920
Z	(in ³)	355	355	355
$S_o(n)$	(in ³)	534	-	534
$S_o(3n)$	(in ³)	481	-	481
DC1	(K/ft.)	0.825	0.825	0.825
M _{DC1}	(K)	151	57	22.5
DC2	(K/ft.)	0.144	0.144	0.144
M _{DC2}	(K)	31	47	52
DW	(K/ft.)	0.325	0.325	0.325
M _{DW}	(K)	73	108	122
M _{Σ + IM}	(K)	612	427	770
M _u (Strength I)	(K)	1,409	1,414	1,874
φ _f M _n , φ _f M _{nc}	(K)	2,748	-	2,674
f _s DC1	(k.s.i.)	5.10	12.06	7.55
f _s DC2	(k.s.i.)	0.78	1.58	1.30
f _s DW	(k.s.i.)	1.82	3.65	3.03
f _s 1.3(Σ+IM)	(k.s.i.)	17.89	18.76	22.49
f _s (Service II)	(k.s.i.)	25.59	36.05	34.38
f _s (Total)(Strength I)	(k.s.i.)	-	47.78	-
V _f	(K)	41.2	-	37.4

* Compact sections
** Non-Compact and slender sections

INTERIOR BEAM REACTION TABLE			
Units	S. & N. Abuts.	Piers 1 & 2	
R _{DC1}	(K)	15.9	59.9
R _{DC2}	(K)	3.0	10.0
R _{DW}	(K)	6.9	23.2
R _{Σ + IM}	(K)	75.2	127.6
R _{Total}	(K)	101.0	220.7

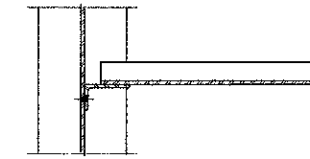


SECTION A-A

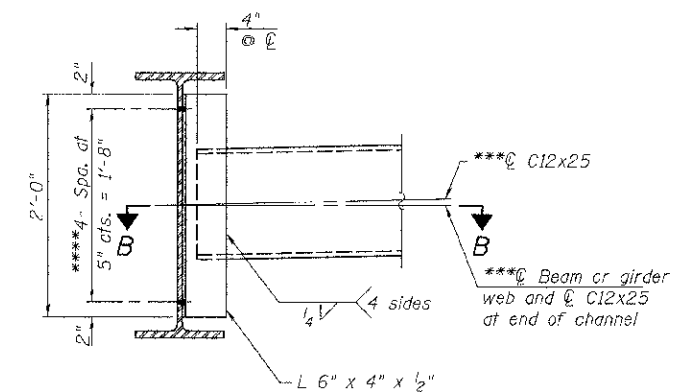


DIAPHRAGM D1

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



SECTION B-B



DIAPHRAGM D

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 the lighter section.
The alternate, if utilized, shall be provided at no additional cost to the Department.
****3/4" φ HS bolts, 15/16" φ holes

Note:
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.

FILE NAME =	USER NAME = smourst	DESIGNED BAN	REVISED -	DEKALB COUNTY C.H. 26 (FIVE POINTS RD.) OVER SOUTH BRANCH OF KISHWAUKEE RIVER	STRUCTURAL STEEL DETAILS	RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
V:\2005\CADD SHEETS\STRUCTURES Rec'd	02-27-2013\25556818.dgn	DRAWN TAC	REVISED -			CH 26	05-00044-01-BR	DEKALB	49	33	
	PLOT SCALE = NONE	CHECKED CTM	REVISED -			CONTRACT NO. 87477					
	PLOT DATE = 3/26/2013	DATE -	REVISED -			SCALE: N/A	SHEET NO. 18 OF 28 SHEETS	STA. N/A	TO STA. N/A	[ILLINOIS] FED. AID PROJECT BRS-1122(06)	