INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 & 0.6 Sp. 3	Pier	0.5 Sp. 2
I_s	(in^4)	5360	5360	5360
$I_c(n)$	(in^4)	15441		15441
$I_c(3n)$	(in^4)	11346		11346
$I_c(cr)$	(in^4)		7615	
S_s	(in^3)	355	355	355
$S_c(n)$	(in^3)	542		542
$S_c(3n)$	(in^3)	490		490
$S_c(cr)$	(in^3)		420	
DC1	(k/')	0.84	0.84	0.84
M_{DC1}	('k)	197	334	167
DC2	(k/')	0.15	0.15	0.15
M_{DC2}	('k)	35	60	29
DW	(k/')	0.33	0.33	0.33
M_{DW}	('k)	80	138	67
M_{L+IM}	('k)	587	554	555
M_u (Strength I)	('k)	1435	1668	1315
* $\phi_f M_n$	('k)	2747	2174	2776
f_s DC1	(ksi)	6.64	11.30	5.64
f_s DC2	(ksi)	0.85	1.71	0.80
f_s DW	(ksi)	1.95	3.93	1.54
f_s (L+IM)	(ksi)	12.98	15.83	12.27
f_s (Service II)	(ksi)	26.32	37.52	23.93
0.95RhFyf	(ksi)	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-	-	-
ϕfFn	(ksi)	-	-	-
V_f	(k)	21.9	23.5	15.3

* Compact Section

INTERIOR BEAM REACTION TABLE			
		W. & E. Abut.	Pier
R_{DC1}	(k)	19	58
R_{DC2}	(k)	3	10
R_{DW}	(k)	7	24
R_{L+IM}	(k)	68	101
R_{Total}	(k)	97	193

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}). Pier

$I_c(n)$, $S_c(n)$: 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.) and appendix A criteria for negative moment.

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).
$M_{L+IM} / S_c(3n)$ 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).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_{s(L+IM)}$

$\phi_f F_n$: 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.

* TOP OF BEAM ELEVATIONS

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
℄ Brg. W. Abut.	580.43	580.56	580.67	580.67	580.56	580.43
℄ Brg. Pier 1	580.70	580.83	580.94	580.94	580.83	580.70
Splice 1	580.78	580.91	581.02	581.02	580.91	580.78
Splice 2	580.96	581.09	581.20	581.20	581.09	580.96
℄ Brg. Pier 2	581.05	581.18	581.29	581.29	581.18	581.05
℄ Brg. E. Abut.	581.36	581.49	581.60	581.60	581.49	581.36

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USER NAME = cvm	DESIGNED - OY	REVISED -	
FILE NAME = D468757-018-steel_details1.dgn	CHECKED - DA	REVISED -	
PLOT SCALE = 0:2.0000 '' / in.	DRAWN - CM	REVISED -	
PLOT DATE = 1/21/2013	CHECKED - JB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL DETAILS
STRUCTURE NO. 090 - 0178
SHEET NO. S18 OF S26 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	(119BR) BR	TAZEWELL	80	58
		CONTRACT NO. 68757		
	ILLINOIS FED. AID PROJECT			

MNL RT 9 OVER MUD CREEK\CIVIL\CADD Sheets\Structural\Final Plans\SHT\D468757-018-steel_details1.dgn