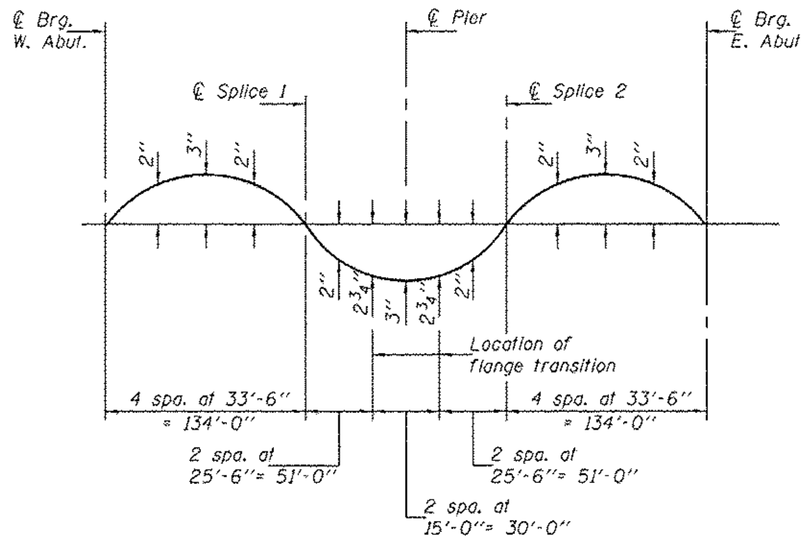

CAMBER DIAGRAM

INTERIOR GIRDER MOMENT TABLE

		0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s	(in^4)	115965	226580
$I_c(n)$	(in^4)	220413	349594
$I_c(3n)$	(in^4)	164210	278411
$I_c(cr)$	(in^4)	———	243085
S_s	(in^3)	2995	5395
$S_c(n)$	(in^3)	3780	6167
$S_c(3n)$	(in^3)	3437	5777
$S_c(cr)$	(in^3)	———	6143
DC1	(k/')	1.209	1.430
M_{DC1}	('k)	3001.0	7060.0
DC2	(k/')	0.173	0.173
M_{DC2}	('k)	441.0	973.0
DW	(k/')	0.383	0.383
M_{DW}	('k)	977.0	2154.0
M_{LL+IM}	('k)	3419.0	4126.0
M_u (Strength I)	('k)	11751.3	20492.8
$\phi_f M_n$	('k)	17754.3	24545.3
f_s DC1	(ksi)	12.0	15.7
f_s DC2	(ksi)	1.5	1.9
f_s DW	(ksi)	3.4	4.2
f_s (LL+IM)	(ksi)	10.9	8.1
f_s (Service II)	(ksi)	31.1	32.3
$0.95R_hF_{yf}$	(ksi)	47.5	47.5
f_s (Total)(Strength I)	(ksi)	———	42.4
$\phi_f F_n$	(ksi)	———	50.0
V_f	(k)	72.0	65.2

INTERIOR GIRDER REACTION TABLE

		Abutments	Pier
R_{DC1}	(k)	86.2	324.0
R_{DC2}	(k)	12.4	44.3
R_{DW}	(k)	27.5	98.1
R_{LL+IM}	(k)	123.6	245.3
R_{Total}	(k)	249.7	711.7

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 (superimposed) 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_{LL+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\,(M_{DC1} + M_{DC2}) + 1.5\,M_{DW} + 1.75\,M_{LL+IM}$

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

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

$0.95R_hF_yf$: 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).
$1.25\,(f_{sDC1} + f_{sDC2}) + 1.5\,f_{sDW} + 1.75\,f_s(LL+IM)$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

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

*TOP OF GIRDER WEB ELEVATIONS (E.B.)

Location	℄ Brg. W. Abut.	℄ Splice 1	℄ Brg. Pier	℄ Splice 2	℄ Brg. E. Abut.
Girder 1	713.24	712.25	711.77	711.39	710.66
Girder 2	713.41	712.42	711.94	711.56	710.83
Girder 3	713.55	712.56	712.08	711.70	710.97
Girder 4	713.48	712.49	712.01	711.64	710.90
Girder 5	713.38	712.39	711.91	711.53	710.80
Girder 6	713.24	712.25	711.77	711.39	710.66

*For fabrication use only.

*TOP OF GIRDER WEB ELEVATIONS (W.B.)

Location	℄ Brg. W. Abut.	℄ Splice 1	℄ Brg. Pier	℄ Splice 2	℄ Brg. E. Abut.
Girder 7	712.86	711.87	711.39	711.01	710.28
Girder 8	713.05	712.06	711.58	711.20	710.47
Girder 9	713.21	712.21	711.74	711.36	710.63
Girder 10	713.32	712.33	711.85	711.48	710.74
Girder 11	713.23	712.24	711.76	711.38	710.65
Girder 12	713.11	712.12	711.64	711.27	710.53

*For fabrication use only.

DESIGNED - Nick R. Barnett	EXAMINED	ACTING ENGINEER OF BRIDGE DESIGN	DATE - OCTOBER 4, 2013	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS STRUCTURE NO. 101-0195 (E.B.) & 101-0196 (W.B.)
CHECKED - Al-Barrae R. Shabib					
DRAWN - h.t. duong	PASSED	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		
CHECKED - NRB/GRA			REVISED		SHEET NO. 29 OF 55 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	3BR & 3BR-1	WINNEBAGO	290	128
		CONTRACT NO. 64D19		
		ILLINOIS FED. AID PROJECT		