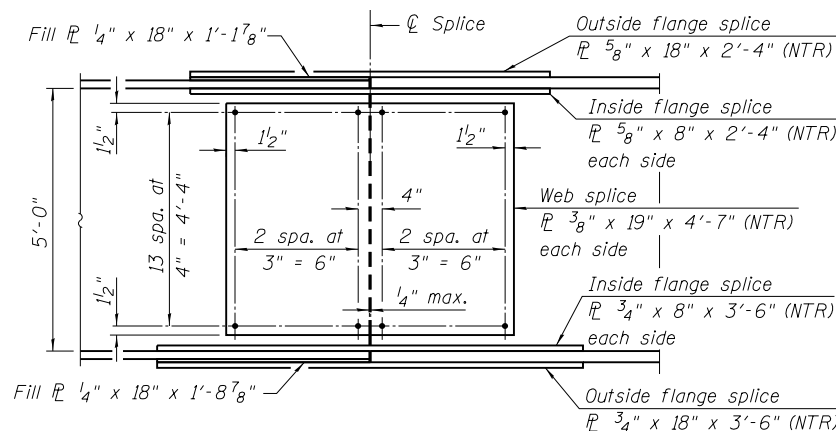
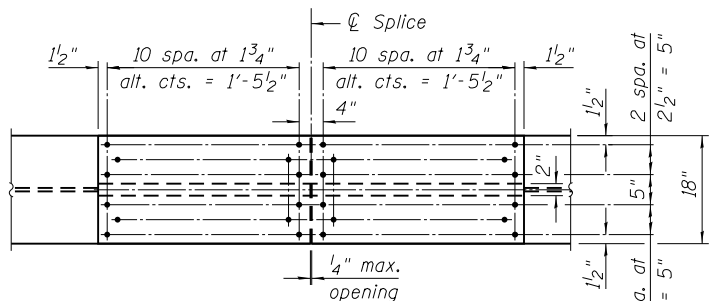


TOP FLANGE SPLICE PLATE



WEB SPLICE PLATE



BOTTOM FLANGE SPLICE PLATE

DETAILS - SPLICE 1 AND 2

(12 Required)

Notes:

- H.S. bolts shall be 7/8" ϕ ASTM A325.
- All splices are symmetrical about ϕ splice, except for fills.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- All plates composing the splices, including fill plates shall be AASHTO M270, Grade 50.

INTERIOR GIRDER REACTION TABLE			
	S. Abut.	Pier	N. Abut.
R _{DC1}	(k) 55.2	198.0	54.0
R _{DC2}	(k) 6.5	22.0	6.1
R _{DW}	(k) 19.8	69.8	19.6
R _{ϕ + IM}	(k) 90.0	173.3	89.5
R _{Total}	(k) 171.4	463.0	169.2

INTERIOR GIRDER MOMENT TABLE			
	0.4 Sp. 1	Pier	0.6 Sp. 2
I _s	(in ⁴) 47712	79341	47712
I _{c(n)}	(in ⁴) 104940	-	104940
I _{c(3n)}	(in ⁴) 80157	-	80157
I _{c(cr)}	(in ⁴) -	89612	-
S _s	(in ³) 1625.1	2479.4	1625.1
S _{c(n)}	(in ³) 2094.6	-	2094.6
S _{c(3n)}	(in ³) 1946.0	-	1946.0
S _{c(cr)}	(in ³) -	3057.4	-
S _{xc}	(in ³) 1902.9	2597.3	1917.2
DC1	(k/ft) 1.150	1.257	1.150
M _{DC1}	(k) 1205	2689	1152
DC2	(k/ft) 0.100	0.100	0.100
M _{DC2}	(k) 169	320	162
DW	(k/ft) 0.425	0.425	0.425
M _{DW}	(k) 444	932	438
M _{ϕ + IM}	(k) 1772	2219	1765
f _i (Strength I)	(k) 0.9	0.0	1.2
M _u + 1/3 f _i S _{xc}	(k) 5534	9043	5454
ϕ F _{Mn}	(k) -	-	-
f _s DC1	(ksi) 8.9	13.0	8.5
f _s DC2	(ksi) 1.0	1.3	1.0
f _s DW	(ksi) 2.7	3.7	2.7
f _s (ϕ + IM)	(ksi) 10.2	8.7	10.1
f _i (Service II)	(ksi) 0.7	0.0	0.9
f _s + f _i /2 (Service II)	(ksi) 26.2	29.3	25.8
0.95R _h F _{yr}	(ksi) 47.5	47.5	47.5
f _s + f _i /3 (Total)(Strength I)	(ksi) 34.6	38.6	34.0
ϕ F _N	(ksi) 50.0	50.0	50.0
V _r	(k) 20.7	21.3	19.9

EXTERIOR GIRDER MOMENT TABLE			
	0.4 Sp. 1	Pier	0.6 Sp. 2
I _s	(in ⁴) 47712	79341	47712
I _{c(n)}	(in ⁴) 98790	-	98790
I _{c(3n)}	(in ⁴) 75141	-	75141
I _{c(cr)}	(in ⁴) -	87509	-
S _s	(in ³) 1625.1	2479.4	1625.1
S _{c(n)}	(in ³) 2062.4	-	2062.4
S _{c(3n)}	(in ³) 1909.1	-	1909.1
S _{c(cr)}	(in ³) -	2930.6	-
S _{xc}	(in ³) 1893.4	2548.6	1900.8
DC1	(k/ft) 1.105	1.212	1.105
M _{DC1}	(k) 1185	2605	1137
DC2	(k/ft) 0.600	0.600	0.600
M _{DC2}	(k) 559	1183	535
DW	(k/ft) 0.033	0.033	0.033
M _{DW}	(k) 137	236	134
M _{ϕ + IM}	(k) 1736	2247	1711
f _i (Strength I)	(k) 0.5	0.0	0.1
M _u + 1/3 f _i S _{xc}	(k) 5449	9021	5288
ϕ F _{Mn}	(k) -	-	-
f _s DC1	(ksi) 8.8	12.6	8.4
f _s DC2	(ksi) 3.5	4.8	3.4
f _s DW	(ksi) 0.9	1.0	0.8
f _s (ϕ + IM)	(ksi) 10.1	9.2	10.0
f _i (Service II)	(ksi) 0.4	0.0	0.0
f _s + f _i /2 (Service II)	(ksi) 26.4	30.4	25.6
0.95R _h F _{yr}	(ksi) 47.5	47.5	47.5
f _s + f _i /3 (Total)(Strength I)	(ksi) 34.5	39.4	33.4
ϕ F _N	(ksi) 50.0	50.0	50.0
V _r	(k) 15.4	15.3	14.2

EXTERIOR GIRDER REACTION TABLE			
	S. Abut.	Pier	N. Abut.
R _{DC1}	(k) 53.8	185.1	52.6
R _{DC2}	(k) 26.5	88.3	25.4
R _{DW}	(k) 4.3	14.0	4.3
R _{ϕ + IM}	(k) 66.9	160.7	62.0
R _{Total}	(k) 151.5	448.1	144.3

- 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 (in⁴ and in³).
- 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 (in⁴ and in³).
- 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 (in⁴ and in³).
- 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 (in⁴ and in³).
- S_{xc}: Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in³).
- 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 ϕ + 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 ϕ + IM
- f_i: Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending, Strength I or Service II as applicable (kip-ft.).
- ϕ F_{Mn}: 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 (ϕ + 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 ϕ + IM / S_{c(n)} or M_{DW} / S_{c(cr)} as applicable.
- f_s + f_i/2 (Service II): Sum of stresses as computed below (ksi).
f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (ϕ + IM) + f_i/2
- 0.95R_hF_{yr}: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- f_s + f_i/3 (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (ϕ + IM) + f_i/3
- ϕ 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_r: Maximum factored shear range in span computed according to Article 6.10.10.
- Note:
M ϕ and R ϕ include the effects of centrifugal force and superelevation.



USER NAME = dheberling	DESIGNED - SBC	REVISED
FILE NAME = 0430028-64E08.dgn	CHECKED - BRD	REVISED
PLOT SCALE = 0:2.00000 '1' / in.	DRAWN - DLH	REVISED
PLOT DATE = 9/26/2013	CHECKED - SBC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING DETAILS
STRUCTURE NO. 043-0080

SHEET NO. 30 OF 60 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
308	103BR-4	JoDAVISS	159	80
CONTRACT NO. 64E08				

ILLINOIS FED. AID PROJECT