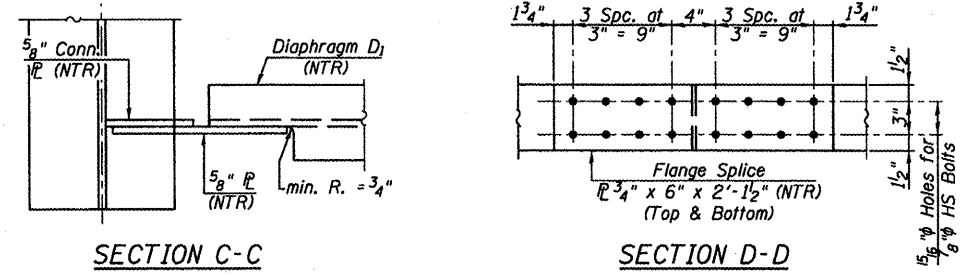
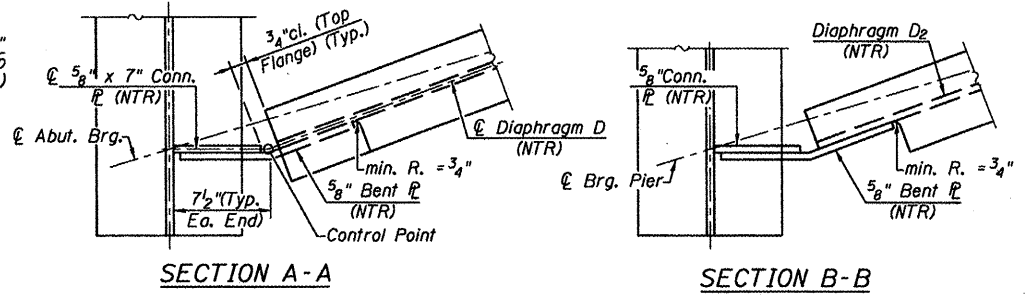


	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	6680	6680	6680	6680	6680
$I_c(n)$	16536	-	16536	-	16536
$I_c(3n)$	11996	-	11996	-	11996
S_s	435	435	435	435	435
$S_c(n)$	620	-	620	-	620
$S_c(3n)$	557	-	557	-	557
S_{xt}	-	-	-	-	-
DC1	0.75	0.75	0.75	0.75	0.75
Moc1	252.0	351.2	128.7	334.1	230.5
DC2	0.13	0.13	0.13	0.13	0.13
Moc2	45.7	51.4	29.7	49.4	42.3
DW	0.27	0.27	0.27	0.27	0.27
Mow	95.6	107.6	62.2	103.5	88.6
M \dot{L} + Imp	763.3	516.5	721.8	517.2	754.4
Mu (Strength I)	1851.3	1568.5	1554.5	1539.7	1794.1
M \dot{L}	7.5	1.49	0.3	2.61	0.3
f \dot{s} DC1	7.0	9.7	3.6	9.2	6.4
f \dot{s} DC2	1.0	1.4	0.6	1.4	0.9
f \dot{s} DW	2.1	3.0	1.3	2.9	1.9
f \dot{s} 1.3(L+I)	19.2	18.5	18.2	18.5	19.0
f \dot{r}	4.2	0.9	0.2	1.4	0.2
f \dot{s} (Service II)	29.3	32.6	23.7	32.0	28.1
f \dot{s} (Total)(Strength I)	39.0	43.4	31.7	42.5	37.4
F \dot{r} (Service II)	47.5	40.0	47.5	40.0	47.5
V \dot{r}	26.5	-	27.9	-	27.9
F \dot{r}	50.0	50.0	50.0	50.0	50.0

	N. Abut.	Pier 1	Pier 2	S. Abut.
Roc1	21.2	56.5	55.1	19.7
Roc2	3.6	9.5	9.3	3.3
R \dot{D} W	7.6	19.9	19.4	6.9
R \dot{L} + Imp	75.3	92.0	93.5	64.7
R \dot{T} otal	107.7	177.9	177.3	94.6



- DIAPHRAGM D3 CONSTRUCTION SEQUENCE**
- Order diaphragm in two sections.
 - Attach Section ① of diaphragm to Beam #3 & top flange splice \dot{L} during Stage I Construction.
 - Place timber block post between Section ① of diaphragm & abutment bearing seat.
 - Attach Section ② of diaphragm to both Beam #4 & Section ① of diaphragm during Stage II Construction.
 - Attach web splice plates to Section ① & ② of diaphragms.
 - Remove timber block posts.
 - Attach bottom flange splice plate to Section ① & ② of diaphragm.

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) 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) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

S_{xt} : 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 (in.³).

DC1: Un-factored non-composite dead load (kips/ft.).

Moc1: 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.).

Moc2: 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.).

Mow: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M \dot{L} + Imp: Un-factored live load moment plus dynamic load allowance (impact)(kip-ft.).

Mu (Strength I): Factored design moment (kip-ft.).

1.25 (Moc1 + Moc2) + 1.5 Mow + 1.75 M \dot{L} + Imp

M \dot{L} : Factored lateral bending moment for controlling flange plate (kip-ft.).

f \dot{r} : Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending (kip-ft.).

f \dot{s} (Service II): Sum of stresses as computed from the moments below (ksi).

Moc1 + Moc2 + Mow + 1.3 M \dot{L} + Imp

f \dot{s} (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).

1.25 (Moc1 + Moc2) + 1.5 Mow + 1.75 M \dot{L} + Imp

F \dot{r} (Service II): Critical flange stress at overload computed according to Article 6.10.4.2 (ksi).

F \dot{r} : Critical flange stress computed according to Article 6.10.7 or 6.10.8 (ksi).

V \dot{r} : Factored shear range computed according to Article 6.10.10.

Note:
M \dot{L} and R \dot{L} include the effects of centrifugal force and superelevation.
Diaphragms, bent plates & connection plates shall be AASHTO M 270 Gr. 50 (NTR).
Two hardened washers shall be required over all oversized holes for diaphragms.
Omit connecting plates on exterior side of exterior beams.
All connection plates shall be placed radially.
Diaphragm D1 shall be placed radially.

STRUCTURAL STEEL DETAILS
ILLINOIS ROUTE 26 OVER
COFFEE CREEK
F.A.S. ROUTE 2370
SECTION I-BR
PUTNAM COUNTY
STA. 96+59.00
STRUCTURE NO. 078-0046