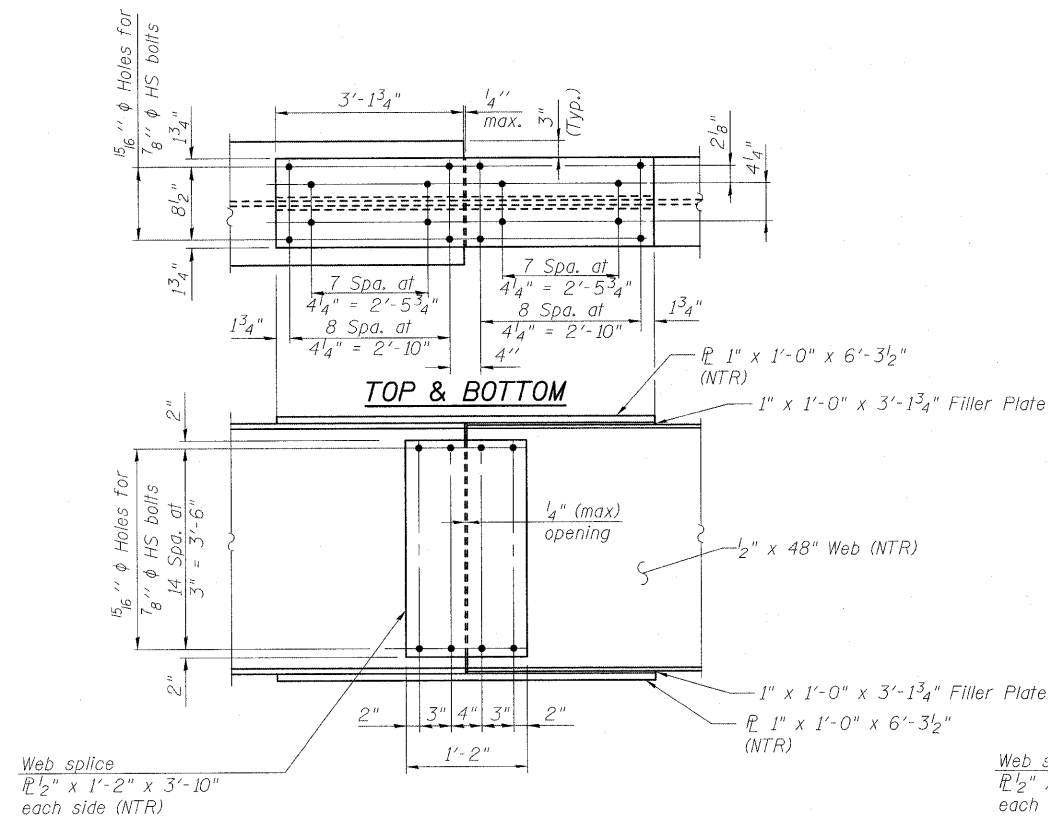
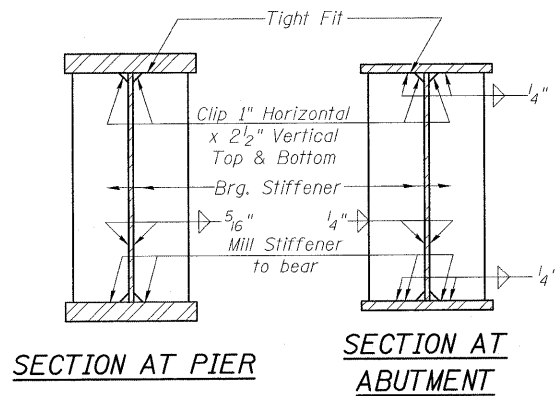


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

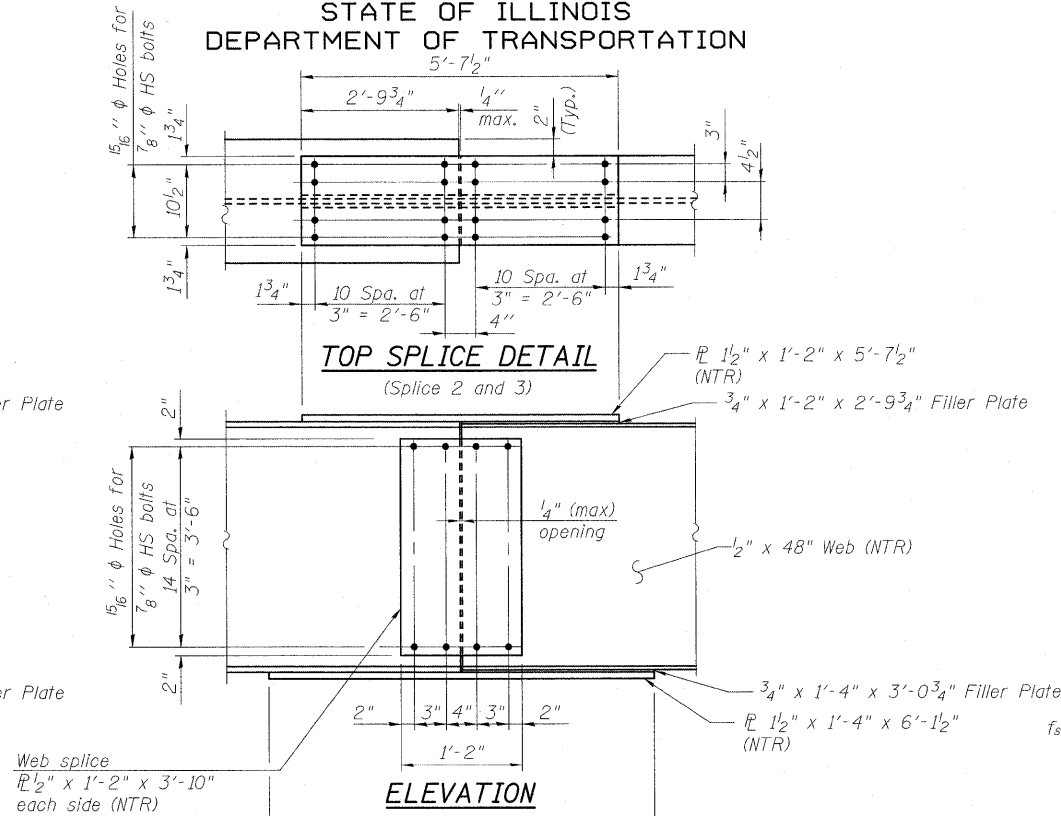


**ELEVATION  
SPLICE DETAIL**  
(Splice 1 and 4)



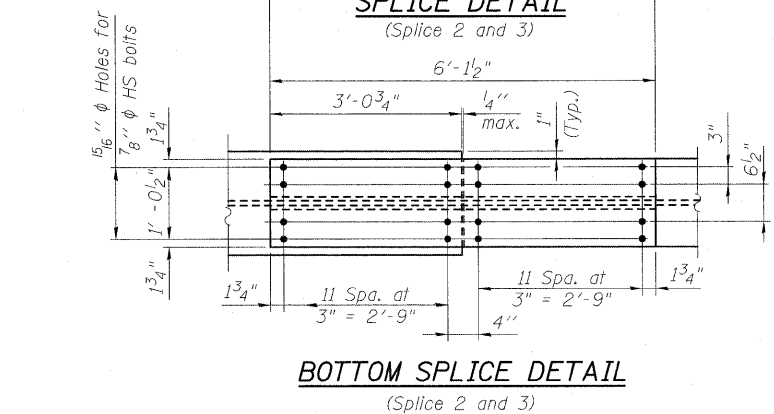
**SECTION AT PIER**

**SECTION AT ABUTMENT**

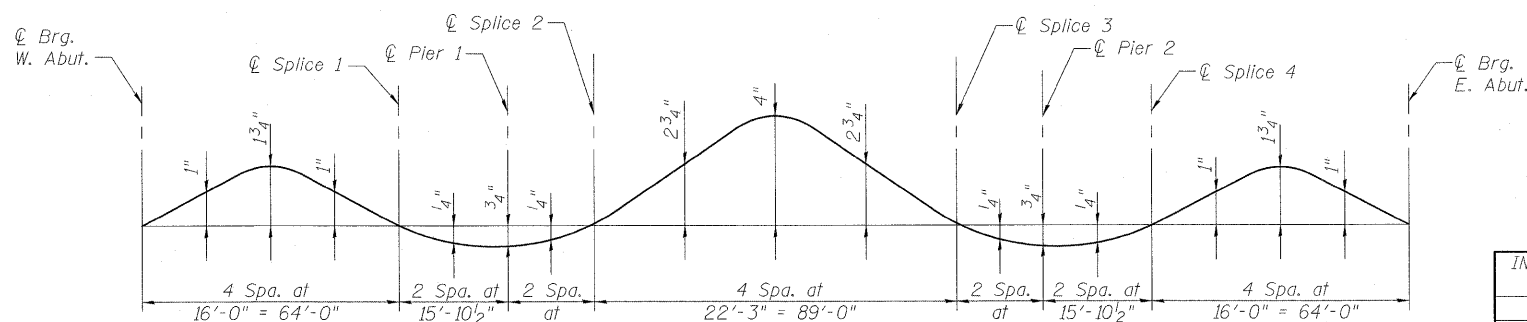


**TOP SPLICE DETAIL**  
(Splice 2 and 3)

**ELEVATION  
SPLICE DETAIL**  
(Splice 2 and 3)



**BOTTOM SPLICE DETAIL**  
(Splice 2 and 3)



**CAMBER DIAGRAM**

**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	12
Anchor Bolts, 1"	Each	48

Notes:  
Two hardened washers required for each set of oversized holes.  
See Sheet 11 of 27 for "NTR"



**BERNARD  
LOCHMUELLER &  
ASSOCIATES, INC.**

3 Oak Drive  
Maryville, IL 62062-5635  
Local (618) 282-4665  
Fax 618-282-4666

- $I_s, S_s$ : 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  $in^3$ ).
- DC1: Un-factored non-composite dead load (kips/ft.).
- MDC1: 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.).
- MDC2: 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.).
- MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M_L + Imp$ : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- $M_u$  (Strength I): Factored design moment (kip-ft.).  
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + Imp$
- $\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- $\phi_r M_{nc}$ : Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
- $f_s$  (Service II): Sum of stresses as computed from the moments below (ksi).  
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_L + Imp$
- $f_s$  (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).  
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + Imp$
- $V_f$ : Factored shear range computed according to Article 6.10.10.

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or 2	0.5 SP 2
$I_s$	( $in^4$ )	19016	49632	27291
$I_c(n)$	( $in^4$ )	43289	-	57631
$I_c(3n)$	( $in^4$ )	32268	-	42876
$S_s$	( $in^3$ )	761	1909	1125
$S_c(n)$	( $in^3$ )	1012	-	1394
$S_c(3n)$	( $in^3$ )	928	-	1278
DC1	( $k/ft$ )	0.849	1.040	0.903
MDC1	( $k$ )	358	1611	719
DC2	( $k/ft$ )	0.150	0.150	0.150
MDC2	( $k$ )	71	234	134
DW	( $k/ft$ )	0.325	0.325	0.325
MDW	( $k$ )	155	507	289
$M_L + Imp$	( $k$ )	1177	1477	1468
$M_u$ (Strength I)	( $k$ )	2829	5651	4069
$\phi_r M_n, \phi_r M_{nc}$	( $k$ )	5505	-	5949
$f_s$ DC1	(ksi)	5.6	10.1	7.7
$f_s$ DC2	(ksi)	0.9	1.5	1.3
$f_s$ DW	(ksi)	2.0	3.2	2.7
$f_s$ 1.3( $L+I$ )	(ksi)	18.1	12.1	16.4
$f_s$ (Service II)	(ksi)	26.7	26.9	28.1
$f_s$ (Total)(Strength I)	(ksi)	-	35.5	-
$V_f$	( $k$ )	18.9	-	22.4

INTERIOR GIRDER REACTION TABLE HL93 Loading		
	Abut.	Pier 1 or 2
$R_{DC1}$	( $k$ ) 26.8	127.3
$R_{DC2}$	( $k$ ) 4.7	20.1
$R_{DW}$	( $k$ ) 10.3	43.7
$R_L + Imp$	( $k$ ) 95.5	166.8
$R_{Total}$	( $k$ ) 137.3	357.9

**STRUCTURAL STEEL  
ILLINOIS ROUTE 1  
OVER NORFOLK SOUTHERN RR  
STA. 757+97.66**

Rev. Sheet 9-7-10

DESIGNED	B.B.
CHECKED	C.J.F.
DRAWN	J.G.
CHECKED	C.J.F. & B.B.

SHEET NO. 12 27 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	332	103B-1	WABASH	90	46
SN 093-0023			CONTRACT NO. 94754		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT 332					