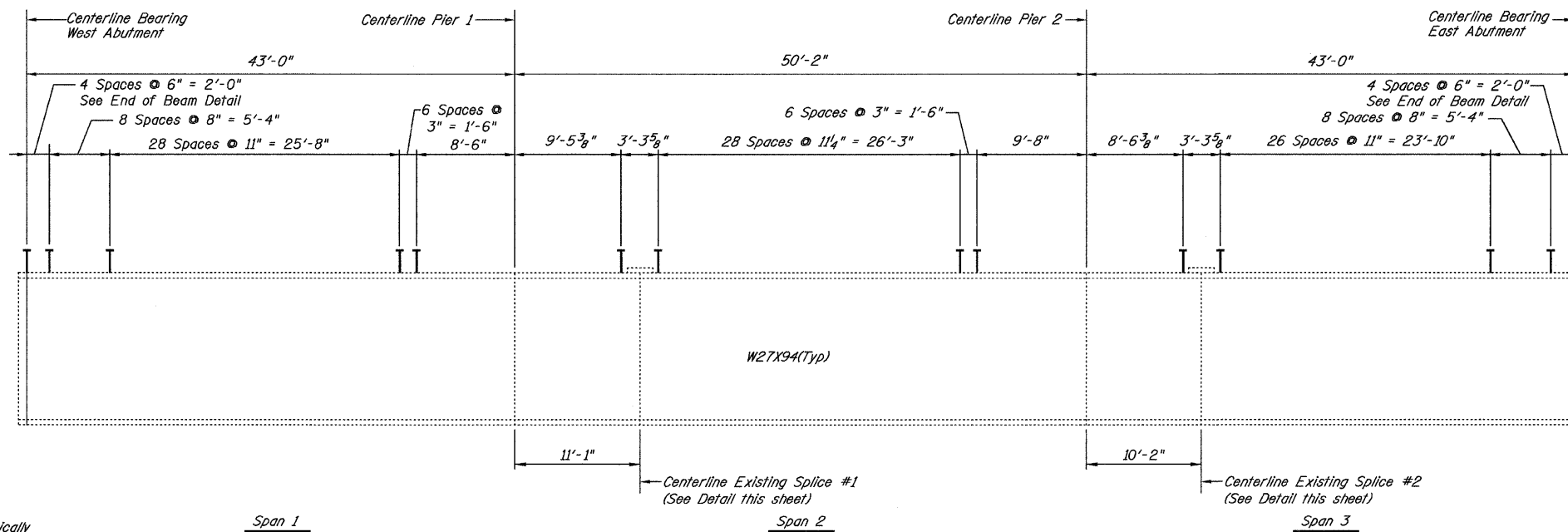


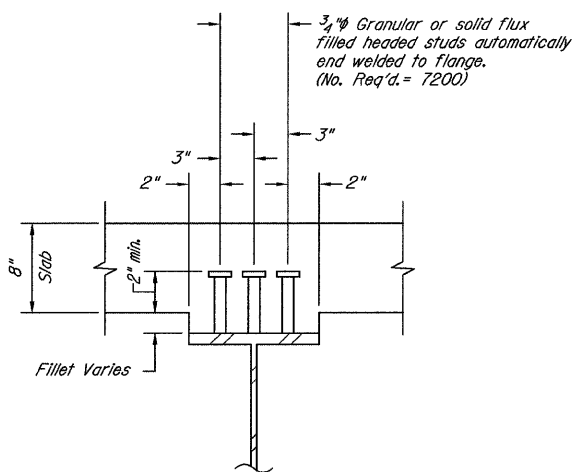
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 13 29 SHEETS
F.A.I. 80	*	BUREAU	116	62	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

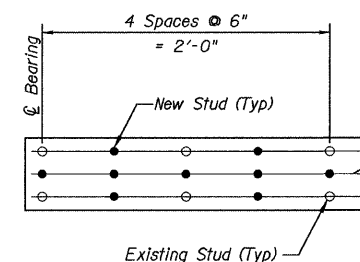
Contract #66623  
\* (06-1, 2)RS-3, I



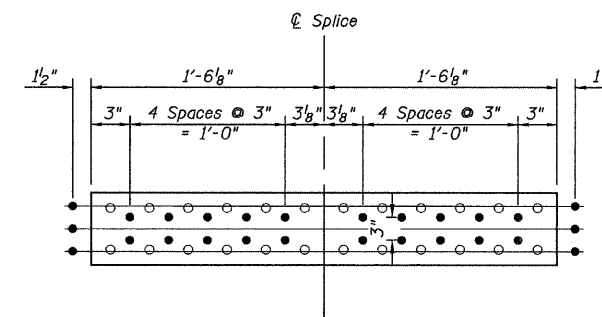
**BEAM ELEVATION SHOWING STUDS**  
(400 Studs Req'd / Beam)



**SHEAR CONNECTOR DETAIL**



**END OF BEAM DETAIL**



**STUD SHEAR CONNECTOR ATTACHED TO SPLICE PLATE DETAIL**  
(Splice 1 & 2)

	0.4 Sp. 1 & 0.6 Sp. 3	Piers 1 & 2	0.5 Sp. 2
$I_s$ (in <sup>4</sup> )	3270	3270	3270
$I_c$ (in <sup>4</sup> )	9645	-	9645
$I_c$ (3n) (in <sup>4</sup> )	7134	-	7134
$S_s$ (in <sup>3</sup> )	242.9	242.9	242.9
$S_c$ (in <sup>3</sup> )	374.3	-	374.3
$S_c$ (3n) (in <sup>3</sup> )	337.9	-	337.9
$Z$ (in <sup>3</sup> )	-	-	-
$Q$ (k/')	0.64	0.96	0.64
$M_R$ (k)	86.2	197.2	62.1
$s_R$ (k/')	0.32	-	0.32
$M_s R$ (k)	49.0	-	44.2
$M_L$ (k)	205.8	105.0	209.5
$M$ (Imp) (k)	61.7	31.5	62.8
$S_{21}(M_L + M(imp))$ (k)	445.9	227.5	453.9
$M_a$ (k)	755.4	552.1	728.3
$M_u$ (k)	1431.6	-	1431.6
$f_s R$ (non-comp) (ksi)	4.26	9.74	3.06
$f_s R$ (comp) (ksi)	1.74	-	1.57
$f_s S_{21}(L + imp)$ (ksi)	14.30	11.24	14.55
$f_s$ (Overload) (ksi)	20.29	20.98	19.20
$f_s$ (Total) (ksi)	-	27.28	-
$VR$ (k)	42.3	-	44.6

	Abut.	Pier 1 & 2
$R_R$ (k)	16.2	49.5
$R_L$ (k)	30.5	34.3
$Imp.$ (k)	9.1	10.0
$R$ (Total) (k)	55.8	93.8

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total & Overload).  
 $I_c$  and  $S_{c3n}$  are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.  
 $I_c$  and  $S_{c3n}$  are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)  
 $VR$  is the maximum Live Load + Impact shear range in span.  
 $Z$  is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.  
 $M_a$  (Applied Moment) =  $1.3(M_R + M_s R + S_{21}(M_L + M(imp)))$ .  
The Plastic Moment capacity ( $M_u$ ) is computed according to AASHTO 10.48.1 and 10.50.1.1.  
 $f_s$  (Overload) is the sum of the stresses due to  $M_R + M_s R + S_{21}(M_L + M(imp))$ .  
 $f_s$  (Total) (Non-comp section) is the sum of the stresses due to  $1.3(M_R + M_s R + S_{21}(M_L + M(imp)))$ .

DESIGNED	JKC
CHECKED	JLS
DRAWN	NOE
CHECKED	JKC

FRAMING DETAILS  
F.A.I. 80 (I-80) OVER COAL CREEK  
SECTION (06-1, 2)RS-3, I  
BUREAU COUNTY  
SN 006-0007 (EB)  
SN 006-0008 (WB)  
STA. 202+80

**CHAMLIN & ASSOCIATES**  
PERU ILLINOIS MORRIS