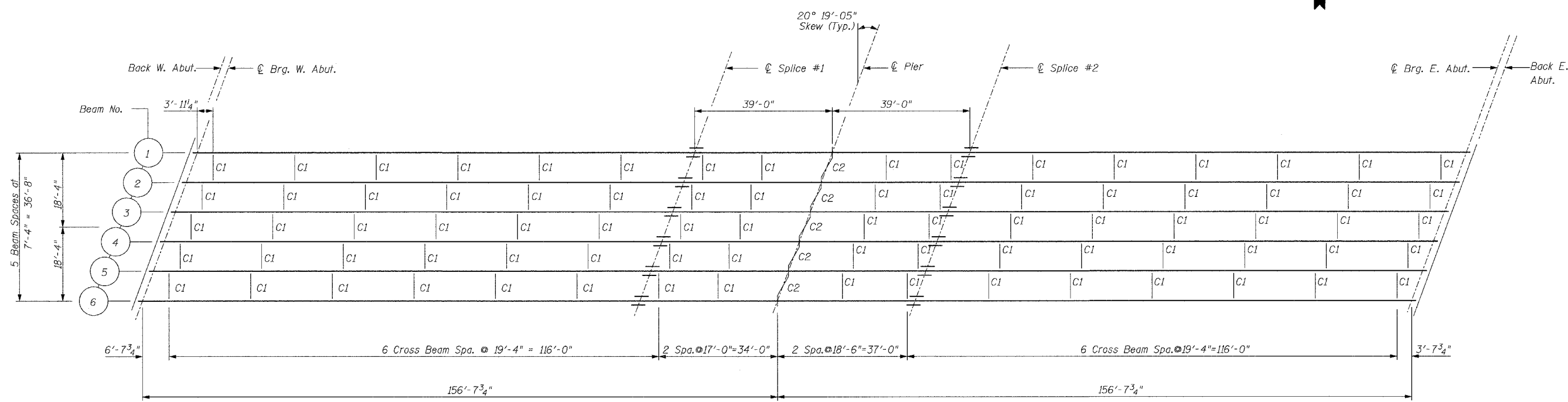


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
642	99-00124-01-PV	COLES	157	93
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



**FRAMING PLAN**

		0.4 Sp. 1 & 0.6 Sp. 2	Pier
$I_s$	(in <sup>4</sup> )	46969	89952
$I_c$ (n)	(in <sup>4</sup> )	110449	
$I_c$ (3n)	(in <sup>4</sup> )	80101	
$S_s$	(in <sup>3</sup> )	1432	2448
$S_c$ (n)	(in <sup>3</sup> )	1957	
$S_c$ (3n)	(in <sup>3</sup> )	1774	
$Z$	(in <sup>3</sup> )		
$\phi$	(K/ft.)	0.92	1.53
$M\ell$	(K)	1510	4612
$s\ell$	(K/ft.)	0.48	
$Ms\ell$	(K)	858	
$M\ell$	(K)	1430	1439
$M$ (Imp)	(K)	254	255
$s_3(M\ell + I)$	(K)	2807	2823
$Ma$	(K)	6728	9674
$Mu$	(K)	9768	
$f_s\ell$ non-comp (k.s.i.)		12.65	22.61
$f_s\ell$ (comp)	(k.s.i.)	5.80	
$f_s s_3 (\ell + I)$	(k.s.i.)	17.21	13.84
$f_s$ (Overload)	(k.s.i.)	35.66	36.45
$f_s$ (Total)	(k.s.i.)		47.39
$VR$	(K)	63.5	

		Abut.	Pier
$R\ell$	(k)	82.4	286.7
$R\ell$	(k)	49.4	98.5
$Imp$	(k)	8.8	17.5
$R$ (Total)	(k)	140.6	402.7

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total & Overload).  
 $I_c(n)$  and  $S_c(n)$  are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.  
 $I_c(3n)$  and  $S_c(3n)$  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.  
 $Ma$  (Applied Moment) =  $1.3[M\ell + Ms\ell + s_3(M\ell + M_{imp})]$ .  
 The plastic moment capacity ( $Mu$ ) is computed according to ASSHTO 10.48.1 and 10.50.1.1.  
 $f_s$  (Overload) is the sum of the stresses due to  $M\ell + Ms\ell + s_3(M\ell + M_{imp})$ .  
 $f_s$  (Total) (Non-compact section) is the sum of the stresses due to  $1.3[M\ell + Ms\ell + s_3(M\ell + M_{imp})]$ .

- Notes:**
1. For Girder and Splice Details see Sheet 11 of 21.
  2. For Cross Frame Details see Sheet 12 of 21.

**THE UPCHURCH GROUP**  
 HILLSIDE, IL. (708) 449-2321  
 MATTOON, IL. (217) 235-3177

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**FRAMING PLAN**  
 CH 18 OVER US 45 AND CN/IC RR  
 FAS 642 SECTION 99-00124-01-PV  
 COLES COUNTY  
 STA. 121+87.25 STR. No. 015-3400  
 SCALE: DRAWN BY LMP  
 DATE: 1-21-2004 CHECKED BY MJS