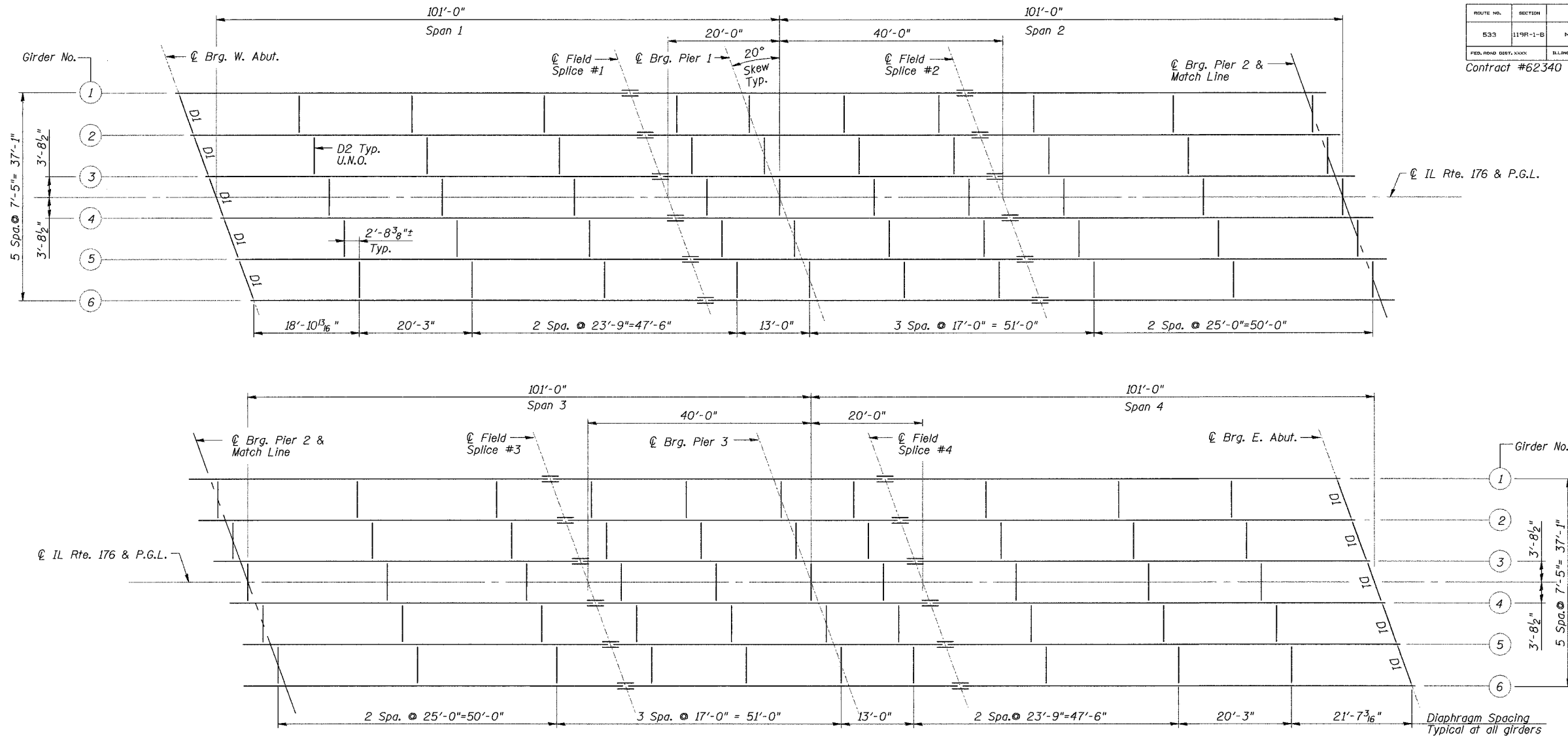


ROUTE NO.	SECTION	COUNTY	DATE SHEETS	SHEET NO.	SHEET NO. 8 OF 27 SHEETS
533	119R-1-B	McHenry	77	30	
FED. ROAD DEPT. XXXX		ILLINOIS		FED. AID PROJECT	

Contract #62340



FRAMING PLAN

		0.4 Sp. 1 & 0.6 Sp. 4	Pier 1 & Pier 3	0.5 Sp. 2 & 0.5 Sp. 3	Pier 2
$I_s$	(in <sup>4</sup> )	13635	20816	13962	13962
$I_c$ (n)	(in <sup>4</sup> )	37633	-	32950	-
$I_c$ (3n)	(in <sup>4</sup> )	27184	-	24684	-
$S_s$	(in <sup>3</sup> )	728.8	930.1	638.1	638.1
$S_c$ (n)	(in <sup>3</sup> )	1013.0	-	859.9	-
$S_c$ (3n)	(in <sup>3</sup> )	931.6	-	790.6	-
$D$	(k/ft.)	0.89	1.45	0.90	1.41
$M\ell$	(k)	642	1600	295	930
$S\ell$	(k/ft.)	0.51	-	0.51	-
$M_s\ell$	(k)	415	-	221	-
$M\ell$	(k)	869	630	750	518
$M$ (Imp)	(k)	192	139	166	115
$S_5[M\ell + M(Imp)]$	(k)	1768	1282	1527	1055
$M_a$	(k)	3678	3749	2662	2582
$M_u$	(k)	4210	-	4276	-
$f_s\ell$ non-comp	(k.s.i.)	10.58	20.65	5.56	17.48
$f_s\ell$ (comp)	(k.s.i.)	5.34	-	3.36	-
$f_s\ell$ (Imp)	(k.s.i.)	20.95	16.52	21.31	19.82
$f_s$ (Overload)	(k.s.i.)	36.87	37.17	30.23	37.30
$f_s$ (Total)	(k.s.i.)	-	48.36	-	48.55
VR	(k)	57.48	-	50.47	-

		E. & W. Abut.	Pier 1 & 3	Pier 2
$R\ell$	(k)	54.1	164.5	127.3
$R\ell$	(k)	43.2	69.1	65.3
Imp.	(k)	9.6	15.3	14.5
R (Total)	(k)	106.9	248.9	207.1

$I_s$  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.  
 VR is the maximum Live Load + Impact shear range in span.

$M_a$  (Applied Moment) =  $1.3[M\ell + M_s\ell + 5_3(M\ell + M(Imp))]$ .  
 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  $M\ell + M_s\ell + 5_3(M\ell + M(Imp))$ .  
 $f_s$  (Total) (Non-compact section) is the sum of the stresses due to  $1.3[M\ell + M_s\ell + 5_3(M\ell + M(Imp))]$ .

Note:  
Work this Sheet with Sheets 9 and 10 of 27.

DESIGNED	S.S.T.
CHECKED	S.D.H.
DRAWN	E.B.
CHECKED	S.S.T.

FRAMING PLAN  
 IL Route 176 over  
 South Branch of the Kishwaukee River  
 F.A.P. RTE 533, SECTION 119R-1-B  
 McHENRY COUNTY  
 STATION 51+50.00  
 S.N. 056-0071  
 DATE: 08-17-07  
 GRAEF, ANHALT, SCHLOEMER & ASSOCIATES INC  
 CHICAGO ILLINOIS

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