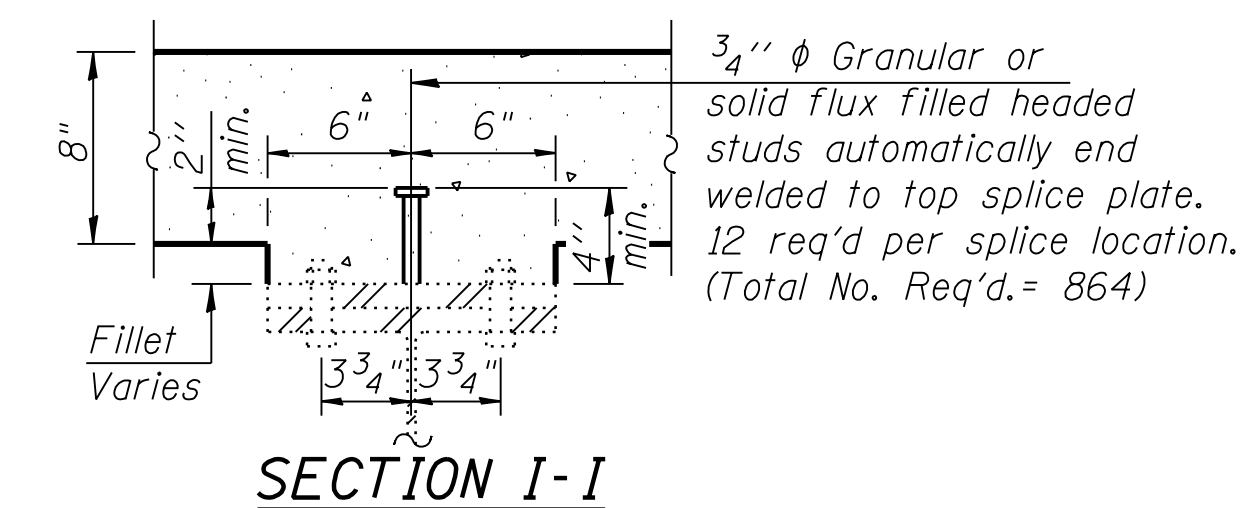
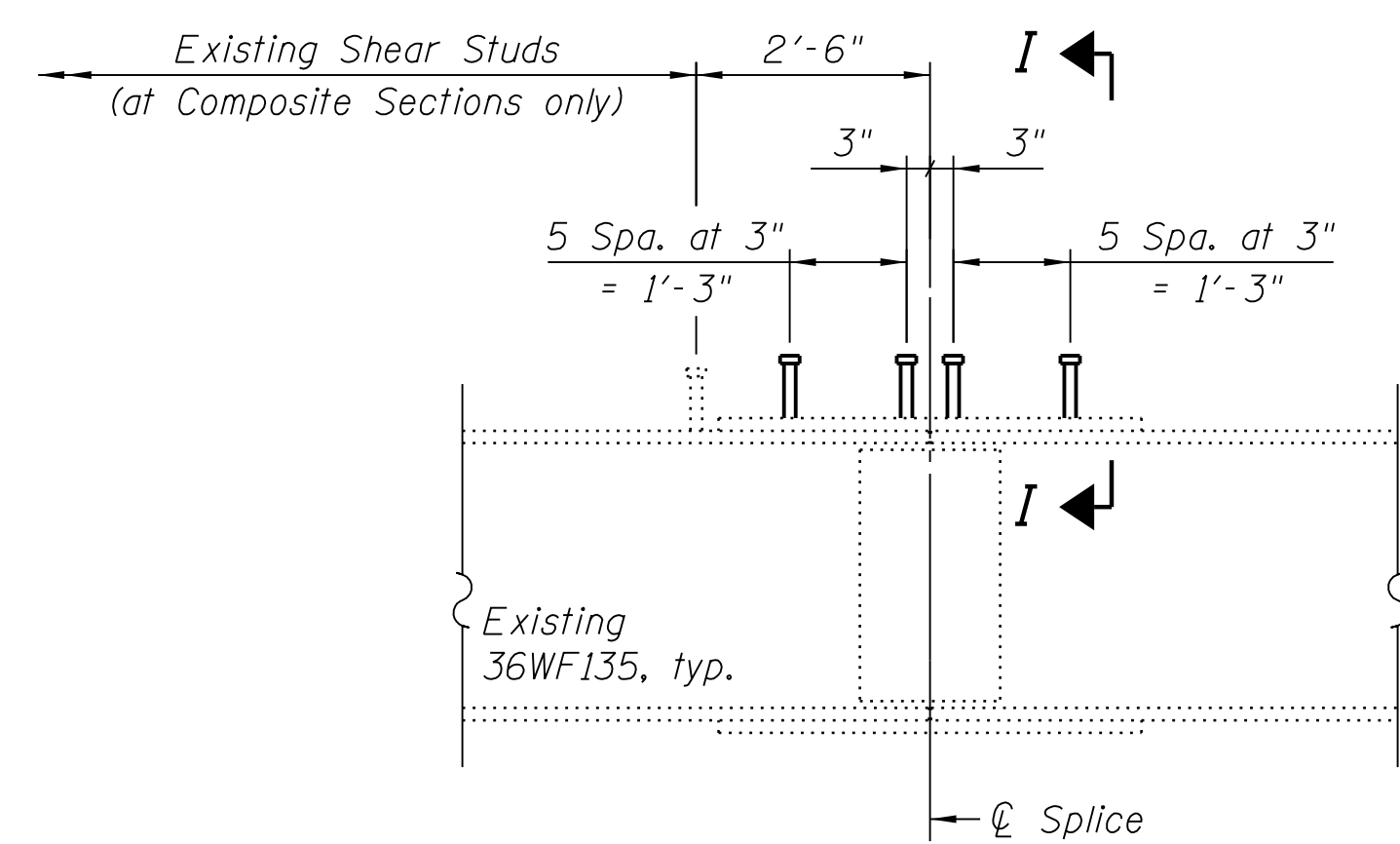
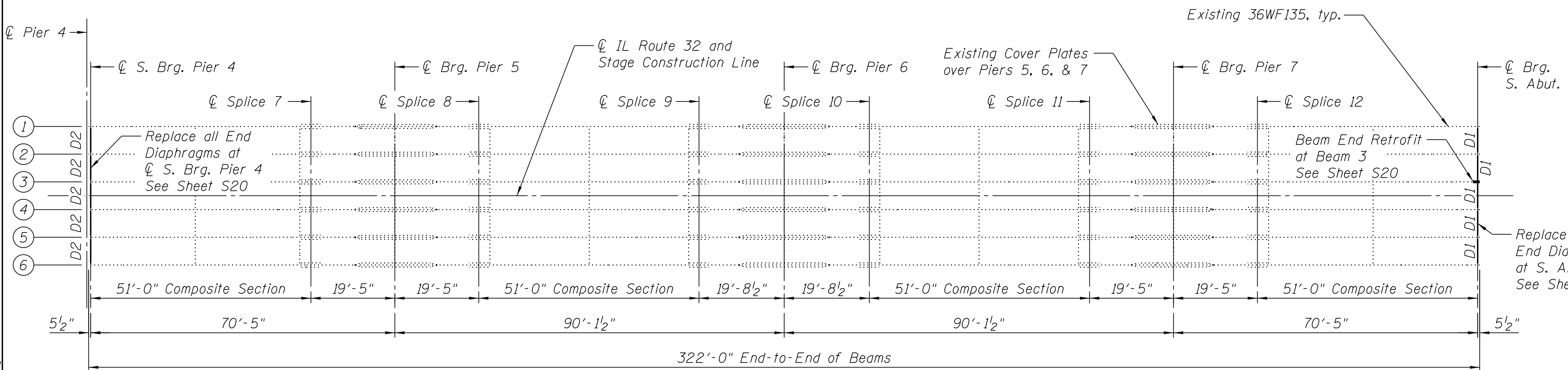
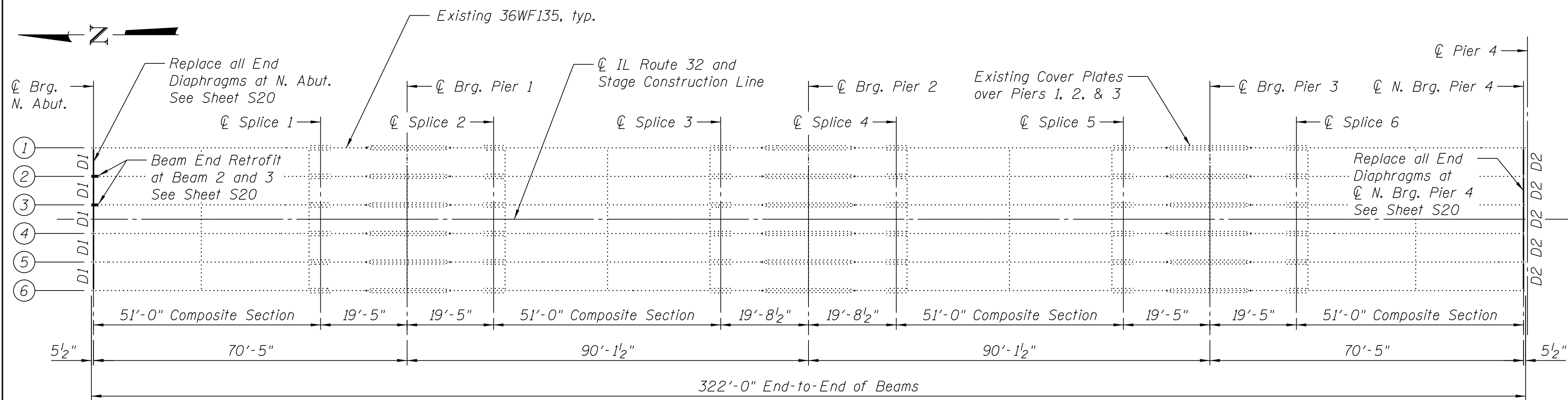


FILE NAME = \\N1736\active\173630009_1.DOT_IL32_cover_LakeShelby\11a\structural\Ndr\drwg\0700015_74357_019_Steel.dgn



	0.4 Sp. 1 0.6 Sp. 4 0.4 Sp. 5 0.6 Sp. 8	Pier 1 Pier 3 Pier 5 Pier 7	0.5 Sp. 2 0.5 Sp. 3 0.5 Sp. 6 0.5 Sp. 7	Pier 2 Pier 6
I_s	(in ⁴) 7800	11835	7800	13236
$I_c(n)$	(in ⁴) 20605		20605	
$I_c(3n)$	(in ⁴) 15456		15456	
S_s	(in ³) 439	645	439	715
$S_c(n)$	(in ³) 638		638	
$S_c(3n)$	(in ³) 581		581	
Z	(in ³)	509		509
Q	(k/')	0.886	0.913	0.886
M_Q	(k)	284	627	270
s_Q	(k/')	0.027		0.027
M_{sQ}	(k)	9		10
M_L	(k)	485	386	526
M_I	(k)	124	94	122
M_1	(k)	1018	802	1082
M_a	(k)	1705	1858	1771
M_u	(k)	3076		3076
f_s non-comp	(ksi)	7.8	11.7	7.4
f_s comp	(ksi)	0.2		0.2
f_s [M _L + M _I]	(ksi)	19.2	14.9	20.4
f_s (Overload)	(ksi)	27.1	26.6	27.9
f_s (Total)	(ksi)		34.5	34.4
VR	(k)	41.2	58.7	41.2

	Abutments or Pier 4	Pier 1, Pier 3, Pier 5 or Pier 7	Pier 2 or Pier 6
R_Q	(k) 24.0	82.6	84.9
R_L	(k) 39.8	47.7	49.8
R_I	(k) 10.2	11.6	11.6
R_{Total}	(k) 74.0	141.9	146.3

* Compact section
** Braced non-compact and partially braced section

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).
 $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).
 $I_c(3n), S_c(3n)$: 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 and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).
 Z : Plastic Section Modulus of the steel section in non-composite areas (in³).
 Q : Un-factored non-composite dead load (kips/ft.).
 M_Q : Un-factored moment due to non-composite dead load (kip-ft.).
 s_Q : Un-factored long-term composite (superimposed) dead load (kips/ft.).
 M_{sQ} : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 M_L : Un-factored live load moment (kip-ft.).
 M_I : Un-factored moment due to impact (kip-ft.).
 M_a : Factored design moment (kip-ft.).
 $1.3 [M_Q + M_{sQ} + \frac{5}{3} (M_L + M_I)]$
 M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M_Q + M_{sQ} + \frac{5}{3} (M_L + M_I)$
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M_Q + M_{sQ} + \frac{5}{3} (M_L + M_I)]$
 VR: Maximum $L +$ impact shear range within the composite portion of the span for stud shear connector design (kips).