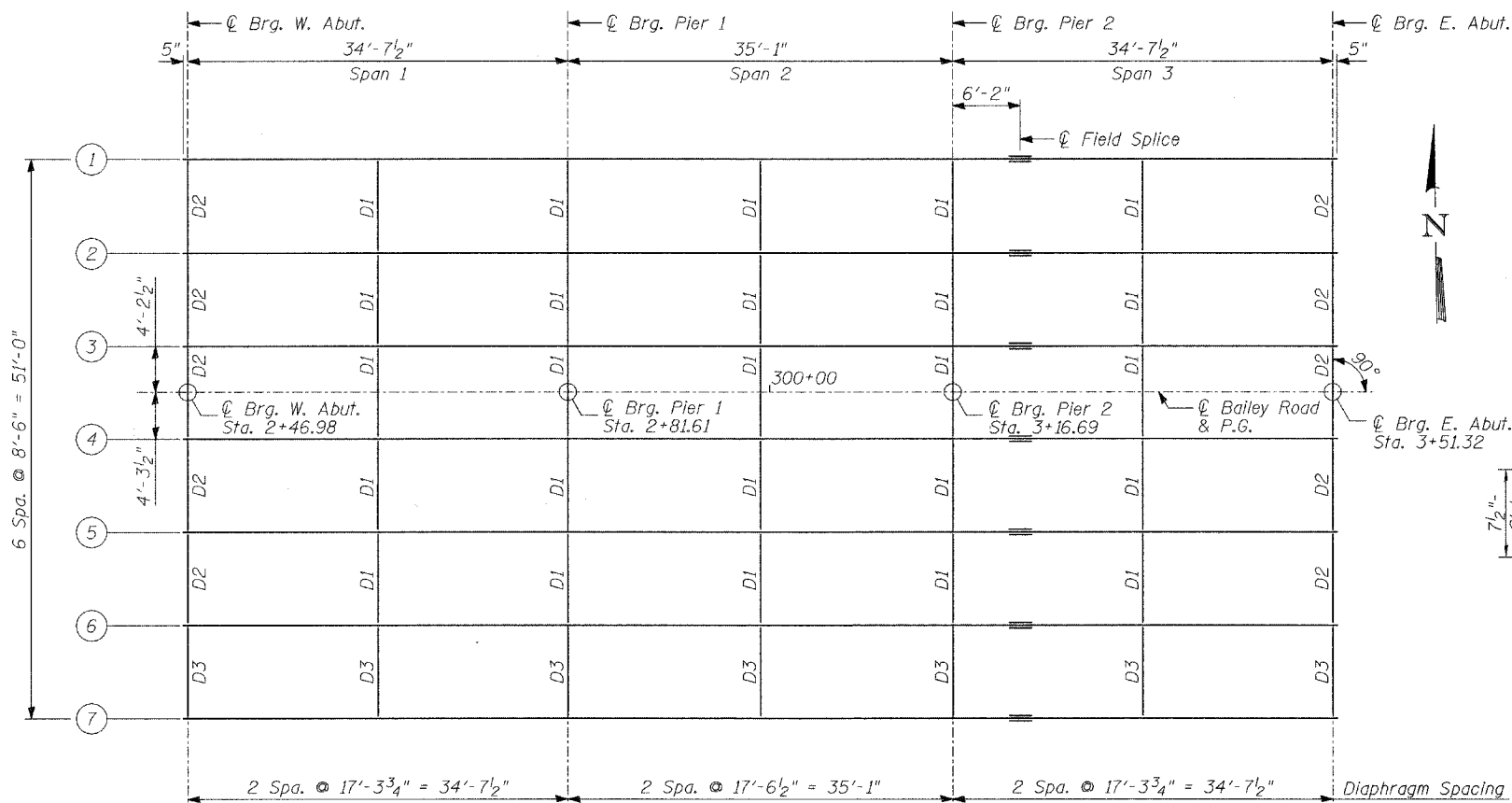
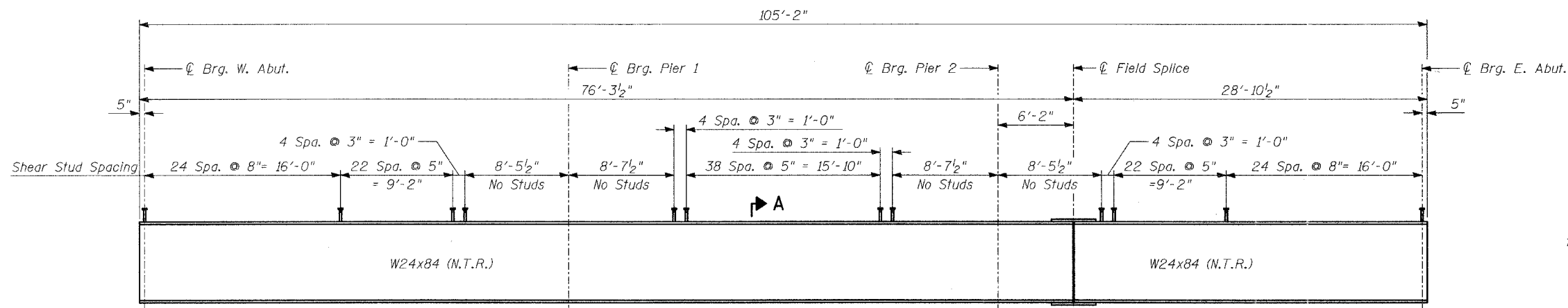


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. - 19 39 - SHEETS
1545	•	DUPAGE	97	40	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJ. NO.	00-00115-00-BR		CONTRACT NO. 83961



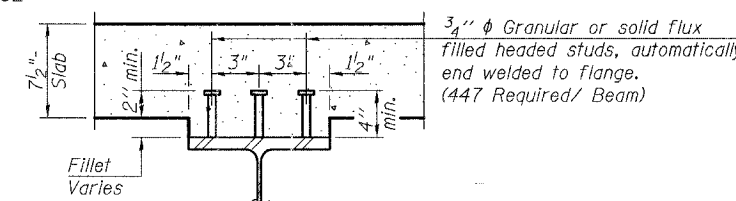
FRAMING PLAN



BEAM ELEVATION

	Abut.	Pier
R _D (k)	21.9	59.0
R _L (k)	39.0	48.2
Imp. (k)	11.7	12.4
R Total (k)	72.6	119.6

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I _s (in ⁴)	2,370	2,370	2,370
I _c (n) (in ⁴)	7,361	--	7,361
I _c (3n) (in ⁴)	5,589	--	5,589
S _s (in ³)	197	197	197
S _c (n) (in ³)	307	--	307
S _c (3n) (in ³)	279	--	279
Z (in ³)	--	224	--
Q (k/ft)	0.92	1.55	0.92
M _D (k-ft)	88	173	31
s _D (k/ft)	0.63	--	0.63
M _{sD} (k-ft)	66	--	35
M _L (k-ft)	235	121	193
M _{Imp} (k-ft)	70	36	58
1.3 [M _D + M _{Imp}] (k-ft)	508	262	418
M _u (k-ft)	861	565	630
f _s (non-comp) (ksi)	5.36	10.54	1.89
f _s (comp) (ksi)	2.84	--	1.51
f _s [M _L + M _{Imp}] (ksi)	19.86	15.96	16.34
f _s (Overload) (ksi)	28.06	26.50	19.74
f _s (Total) (ksi)	--	34.45	--
VR (k)	54.3	--	44.5



SECTION A-A

- * Compact section
- ** Braced non-compact
- 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 (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 and Overload) 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 and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
- Z: Plastic Section Modulus of the steel section in non-composite areas (in.³).
- Q: Un-factored non-composite dead load (kips/ft.).
- M_D: Un-factored moment due to non-composite dead load (kip-ft.).
- s_D: Un-factored long-term composite (superimposed) dead load (kips/ft.).
- M_{sD}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
- M_L: Un-factored live load moment (kip-ft.).
- M_{Imp}: Un-factored moment due to impact (kip-ft.).
- M_u: Factored design moment (kip-ft.).
- 1.3 [M_D + M_{Imp} + 5/3 (M_L + M_{Imp})]
- 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_D + M_{sD} + 5/3 (M_L + M_{Imp})
- f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi). 1.3 [M_D + M_{sD} + 5/3 (M_L + M_{Imp})]
- VR: Maximum L + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

- NOTES:**
- All structural steel for stringers and splice plates shall conform to the requirements of AASHTO M270, Grade 50W. All other structural steel shall conform to the requirements of AASHTO M270, Grade 36W.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
 - All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing and Erecting Structural Steel	L SUM	1
Stud Shear Connectors	EACH	3,129

FRAMING PLAN

BAILEY ROAD OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAU 1545
SECTION 00-00115-00-BR STA. 2+99.15
DUPAGE COUNTY
S.N. 022-3028