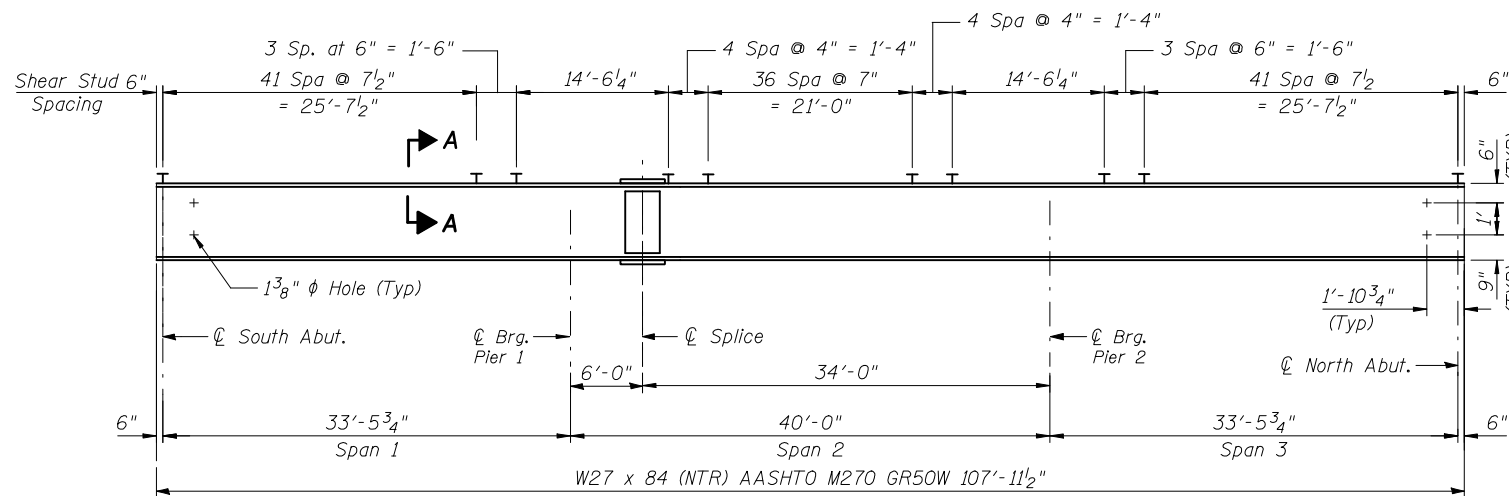
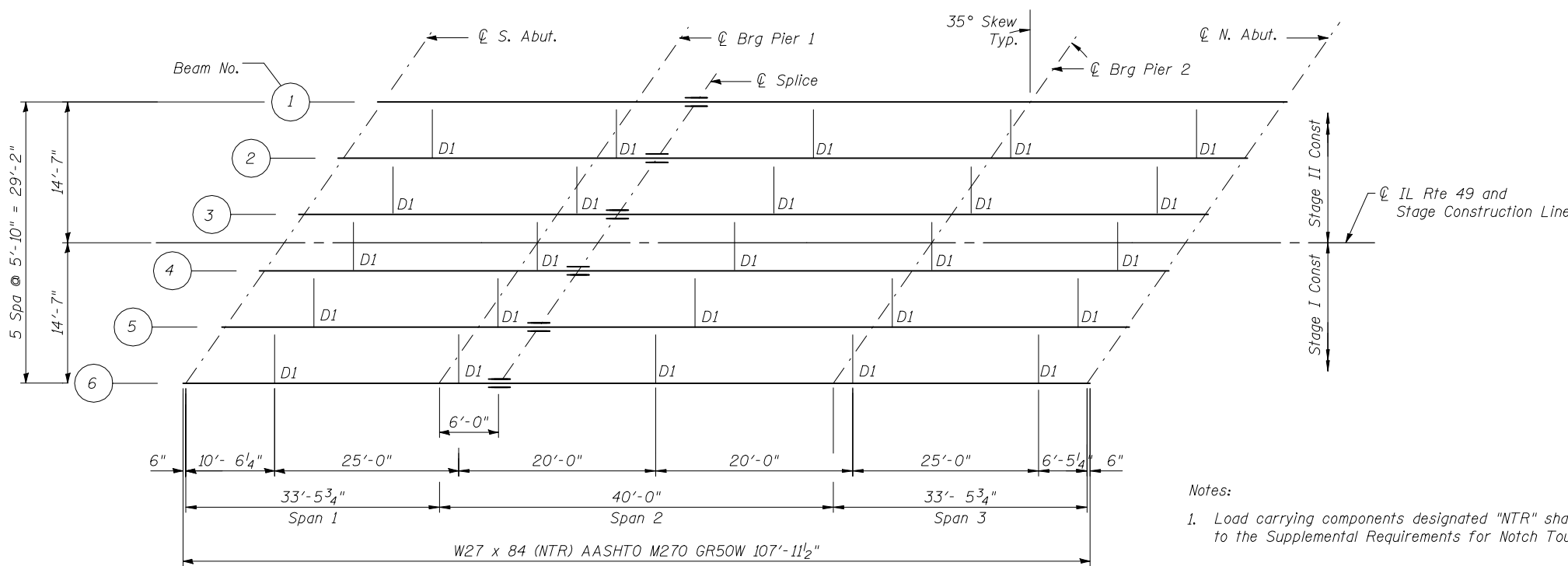


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	20
FED. ROAD DIST. NO. 5		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 9
21 SHEETS



ELEVATION



FRAMING PLAN

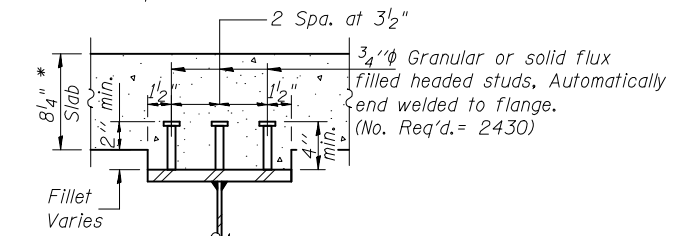
- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) 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-Strength I, and Service II) 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. Omit line in Moment Table if not used in design calculations (in.³).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M \ddot{L} + imp: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M \ddot{L} + imp
- $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- $\phi_r M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
- f_s (Service II): Sum of stresses as computed from the moments below (ksi).
M_{DC1} + M_{DC2} + M_{DW} + 1.3 M \ddot{L} + imp
- f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M \ddot{L} + imp
- V_r: Factored shear range computed according to Article 6.10.10.

		0.4 Sp 1	Pier	0.5 Sp 2
I_s	(in. ⁴)	2850	2850	2850
$I_c(n)$	(in. ⁴)	8523		8523
$I_c(3n)$	(in. ⁴)	6363		6363
S_s	(in. ³)	213	213	213
$S_c(n)$	(in. ³)	331		331
$S_c(3n)$	(in. ³)	299		299
Z	(in. ³)			
DC1	(k/')	0.694	0.694	0.694
M _{DC1}	(k)	56	94	45
DC2	(k/')	0.147	0.147	0.147
M _{DC2}	(k)	14	15	14
DW	(k/')	0.267	0.267	0.267
M _{DW}	(k)	25	27	26
M \ddot{L} + imp	(k)	313	172	331
M _u (Strength I)	(k)	673	477	692
$\phi_r M_n, \phi_r M_{nc}$	(k)	1796	750	1796
f_s DC1	(ksi)	3.2	5.3	2.5
f_s DC2	(ksi)	0.6	0.8	0.6
f_s DW	(ksi)	1.0	1.5	1.1
f_s 1.3(L+I)	(ksi)	14.8	12.6	15.6
f_s (Service II)	(ksi)	19.6	20.2	19.8
f_s (Total)(Strength I)	(ksi)		26.8	
V _r	(k)	23		20

	Abut.	Pier
R _{DC1}	(k) 9.2	29.5
R _{DC2}	(k) 2.0	5.8
R _{DW}	(k) 3.7	10.6
R \ddot{L} + imp	(k) 57.2	72.5
R _{Total}	(k) 72.1	118.4

	S. Abut.	Q Pier 1	Q Splice	Q Pier 2	N. Abut.
Beam 1	678.46	678.46	678.46	678.44	678.43
Beam 2	678.57	678.57	678.57	678.56	678.55
Beam 3	678.65	678.65	678.65	678.65	678.65
Beam 4	678.65	678.65	678.65	678.65	678.65
Beam 5	678.55	678.55	678.55	678.56	678.57
Beam 6	678.43	678.43	678.43	678.46	678.48

* Before grinding according to Bridge Smoothness Specifications.



SECTION A-A

Notes:

- 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 except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FRAMING PLAN
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284

SCALE: VERT. HORIZ.
DATE MAY 2008

DRAWN BY GEW
CHECKED BY MJS

TUG PROJ. # 3107012-01
PLOT DATE = 8/19/2008 4:10:02 PM
FILE NAME = ...bridge\1\br-Framing.dgn