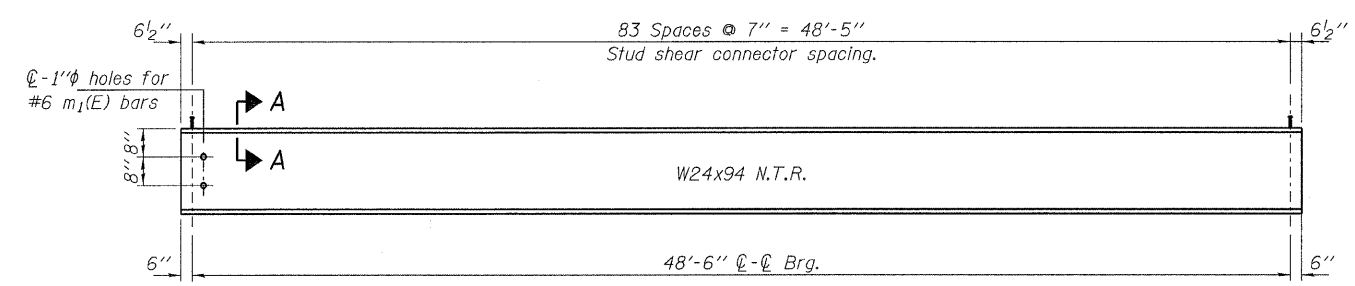
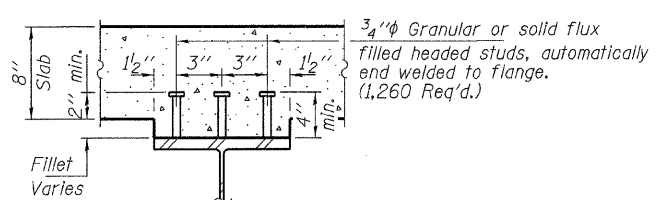


PLAN



ELEVATION

Notes:
 N.T.R. indicates Notch Toughness Requirements, Zone 2.
 All structural steel shall be M270 Grade 50 W. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
 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.



SECTION A-A

DESIGNED	- A.S.L.
CHECKED	- M.G.B.
DRAWN	- D.T.M.
CHECKED	- D.A.B.

Location	℄ Brg. W. Abut.	℄ Brg. E. Abut.
BEAM 1	742.39	742.39
BEAM 2	742.52	742.52
BEAM 3	742.64	742.64
BEAM 4	742.52	742.52
BEAM 5	742.39	742.39

TOP OF BEAM ELEVATIONS
 (For Fabrication only)
 (Does not include Dead Load Deflections)

INTERIOR GIRDER MOMENT TABLE		
0.5 Sp. 1		
I_s	(in ⁴)	2700
$I_c(n)$	(in ⁴)	8949.5
$I_c(3n)$	(in ⁴)	6589.3
S_s	(in ³)	222.13
$S_c(n)$	(in ³)	365.18
$S_c(3n)$	(in ³)	328.26
DC1	(k/')	0.749
M_{DC1}	(k)	220.23
DC2	(k/')	0.030
M_{DC2}	(k)	8.82
DW	(k/')	0.300
M_{DW}	(k)	88.21
$M_k + IM$	(k)	508.62
M_u (Strength I)	(k)	1308.72
$\phi_r M_n$	(k)	1812.4
f_s DC1	(ksi)	11.90
f_s DC2	(ksi)	0.33
f_s DW	(ksi)	3.23
f_s 1.3($k + IM$)	(ksi)	21.73
f_s (Service II)	(ksi)	37.19
V_r	(k)	44.88

INTERIOR GIRDER REACTION TABLE		
	W. Abut.	E. Abut.
R_{DC1}	(k) 18.16	18.16
R_{DC2}	(k) 0.73	0.73
R_{DW}	(k) 7.28	7.28
$R_k + IM$	(k) 69.57	69.57
R_{Total}	(k) 95.74	95.74

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 (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-Strength I, and Service II) 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-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in⁴ and in³).
 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.).
 $M_k + IM$: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).
 M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_k + IM$
 $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
 f_s (Service II): Sum of stresses as computed from the moments below (ksi).
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_k + IM$
 V_r : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

STRUCTURAL STEEL
 STRUCTURE NO. 053- 3036

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 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0125.130 DATE: 03/25/10

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	08-00161-01-BR	LIVINGSTON	23	18
CONTRACT NO. 87452				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BRS-0473(108)		