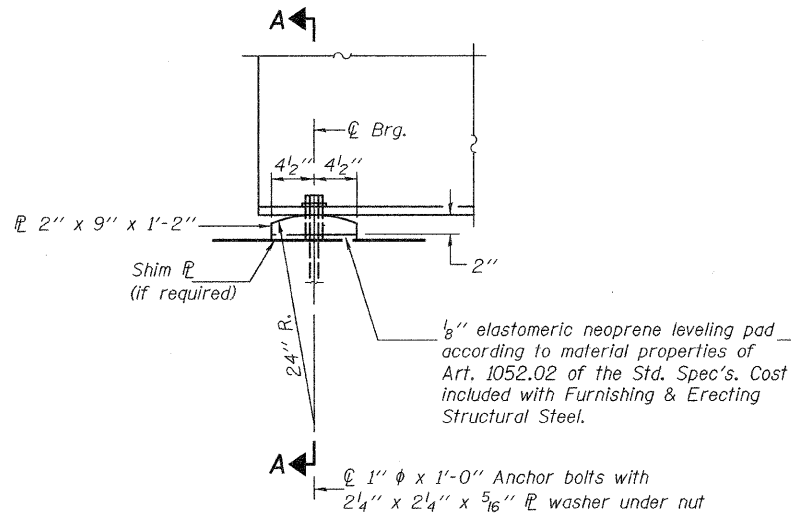


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

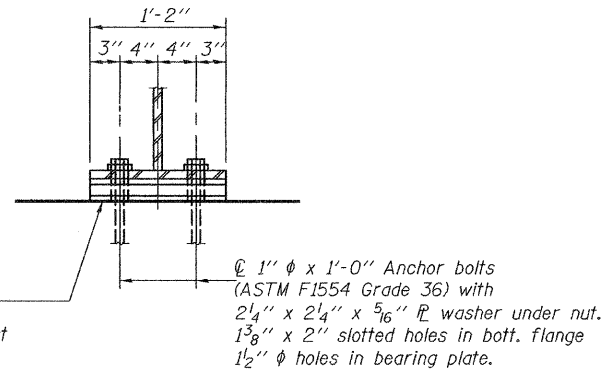
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	14BR & 14BR-1	BUREAU	219	91
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract No. 66731

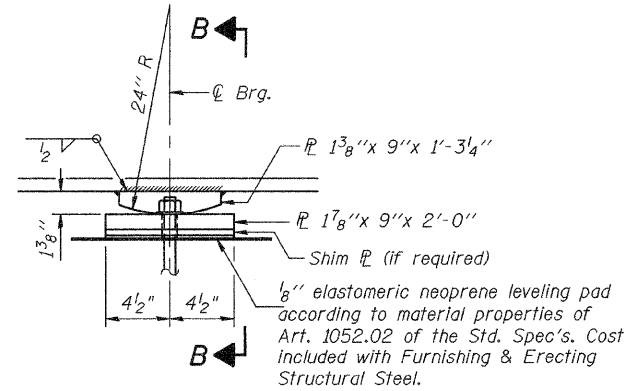
SHEET NO. 19
32 SHEETS



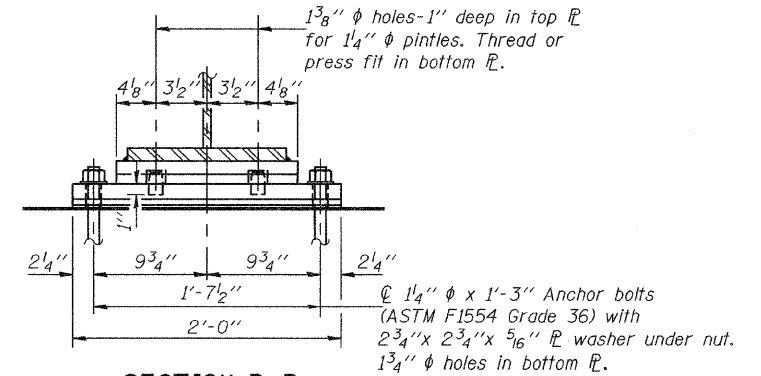
ELEVATION AT ABUTMENTS



SECTION A-A



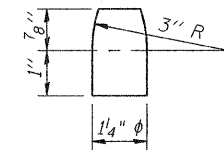
ELEVATION AT PIER



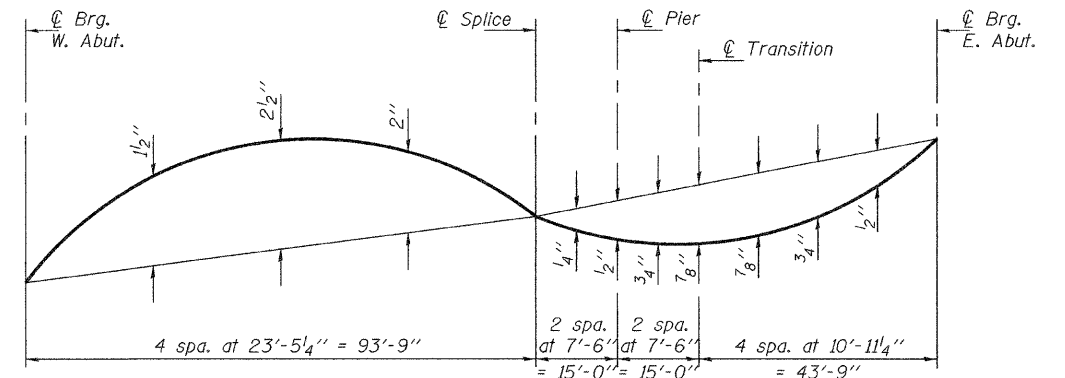
SECTION B-B

ABUTMENT BEARING
(24 Required)

FIXED BEARING
(12 Required)



PINTLE



CAMBER DIAGRAM

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1	Pier	*0.6 Sp. 2
I_s	(in ⁴)	21390	27381	14436
$I_c(n)$	(in ⁴)	49149		
$I_c(3n)$	(in ⁴)	35934		
S_s	(in ³)	1071	1245	687
$S_c(n)$	(in ³)	1390		
$S_c(3n)$	(in ³)	1280		
DC1	(k/ft)	1.004	1.054	0.940
MDC1	(k)	961.0	1165.2	-71.6
DC2	(k/ft)	0.150	0.150	0.150
MDC2	(k)	160.2	131.6	9.5
DW	(k/ft)	0.367	0.367	0.367
MDW	(k)	392.0	322.0	23.2
M _ℓ + Imp	(k)	1504.8	1070.3	655.9
M _u (Strength I)	(k)	4622.9	3977.0	1130.0
φ _r M _n	(k)	6652.8		
f _s DC1	(ksi)	10.8	11.2	-1.3
f _s DC2	(ksi)	1.5	1.3	0.2
f _s DW	(ksi)	3.7	3.1	0.4
f _s 1.3(ℓ+I)	(ksi)	16.9	13.4	14.9
f _s (Service II)	(ksi)	32.9	29.0	14.2
f _s (Total)(Strength I)	(ksi)	43.7	38.3	**19.7
V _r	(k)	28.4		

- 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.).
- MDC1: 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.).
- MDC2: 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.).
- MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M_ℓ + Imp: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
- φ_rM_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).
- f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
- **f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
- 0.9 MDC1 + 1.25 MDC2 + 1.5 MDW + 1.75 M_ℓ + Imp
- V_r: Factored shear range computed according to Article 6.10.10.

*TOP OF GIRDER WEB ELEVATIONS (E.B.)

Location	ℓ Brg. W. Abut.	ℓ Splice	ℓ Brg. Pier	ℓ Brg. E. Abut.
Girder 1	602.48	604.19	604.52	606.03
Girder 2	602.62	604.33	604.66	606.17
Girder 3	602.73	604.44	604.77	606.28
Girder 4	602.67	604.38	604.71	606.22
Girder 5	602.55	604.26	604.59	606.10
Girder 6	602.40	604.11	604.44	605.95

*For fabrication use only.

*TOP OF GIRDER WEB ELEVATIONS (W.B.)

Location	ℓ Brg. W. Abut.	ℓ Splice	ℓ Brg. Pier	ℓ Brg. E. Abut.
Girder 7	602.40	604.11	604.44	605.95
Girder 8	602.55	604.26	604.59	606.10
Girder 9	602.67	604.38	604.71	606.22
Girder 10	602.73	604.44	604.77	606.28
Girder 11	602.62	604.33	604.66	606.17
Girder 12	602.48	604.19	604.52	606.03

*For fabrication use only.

- Notes:
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- All bearing plates and pintles shall be AASHTO M270 Grade 50W.
- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

BEARING DETAILS
F.A.I. RTE. 80 - SEC. 14BR & 14BR-1
BUREAU COUNTY
STATION 400+22.07
STRUCTURE NO. 006-0165 (E.B.)
STRUCTURE NO. 006-0166 (W.B.)

DESIGNED	Nicholas R. Barnett
CHECKED	Ray Ahanchi
DRAWN	h.t. duong
CHECKED	NRB/GRA

EXAMINED	Thomas J. Domagalabik
PASSED	Radak E. Anderson

*Span 2 was designed non-composite. Stud shear connectors shown on sheet 18 of 32 were only added to resist fatigue.