ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 14
F.A.I. 57	10-32HB -3.K	CHAMPAIGN	352	123	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #90758

Beam no.

See Detail A on sheet 12 of 27.

See Detail B on sheet 12 of 27.

N

North PG

₵ F.A.P. Rte. 807

₵ F.A.P. Rte. 807

South PG

11'-0"

11'-0"

43'-4"

43'-4"

13 Beam spaces at 6'-8" = 86'-8"

Bk. W. Abut.   ₵ W. Abut.

₵ Pier

₵ E. Abut.   Bk. E. Abut.

1'-6"

8"

108'-6"

108'-6"

8"

1'-6"

220'-0" Back to back abutments

PLAN

INTERIOR BEAM MOMENT TABLE
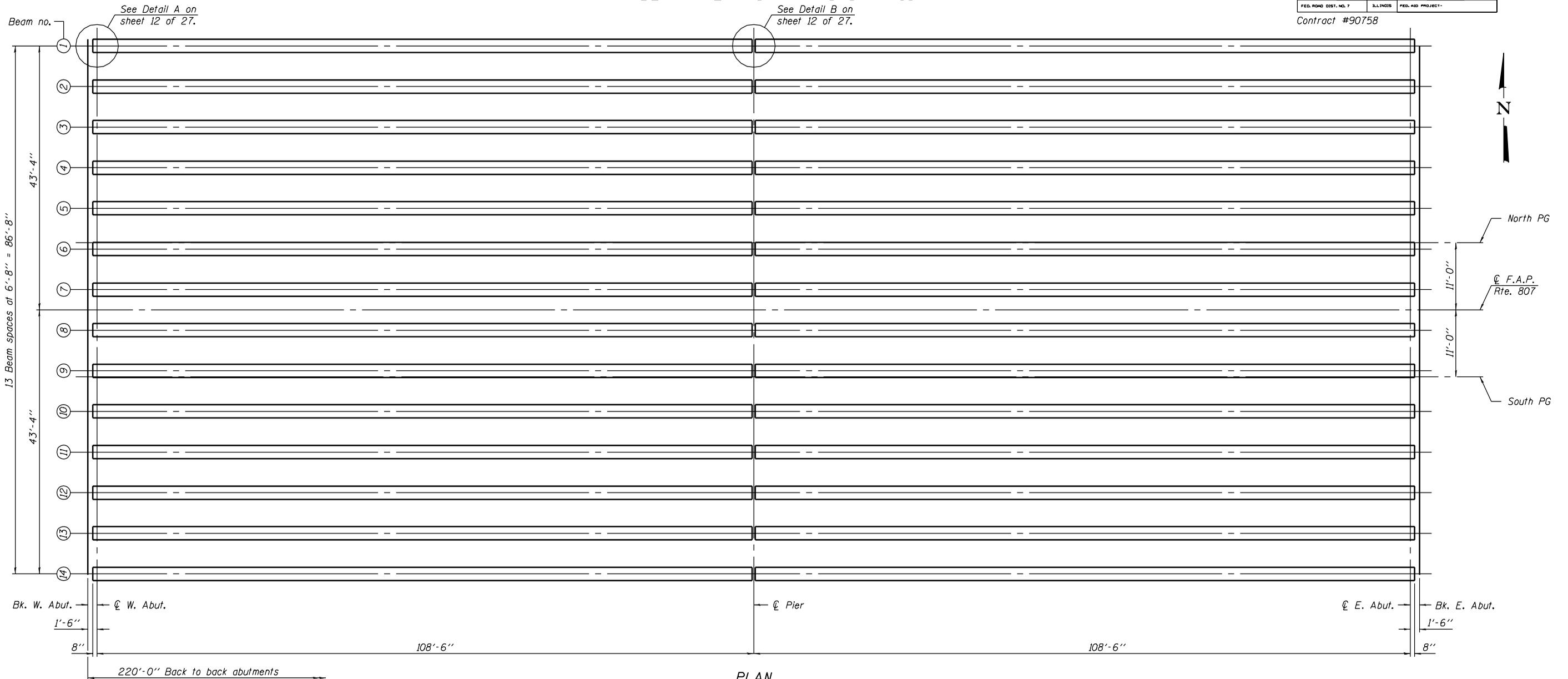
		0.4 Span 1 0.6 Span 2	Pier
I	(in⁴)	392638	
I'	(in⁴)	728314	
S_b	(in³)	12224	
S_b'	(in³)	15961	
S_t	(in³)	12715	
S_t'	(in³)	41929	
ℓ	(k/')	1.434	
Mℓ	('k)	2081	
s ℓ	(k/')	0.558	0.558
Msℓ	('k)	460	821
Mℓ	('k)	826	801
M (Imp)	('k)	173	168

INTERIOR BEAM REACTION TABLE

		Abuts.	Pier Span 1 or 2
Rℓ	(k)	77.8	77.8
Rsℓ	(k)	22.7	37.8
Rℓ	(k)	39.0	34.2
Imp.	(k)	8.2	7.2
R (Total)	(k)	147.7	157.0

I and I' are the moment of inertia and composite moment of inertia of the beam section.

S_b and S_b' are the non-composite and composite section modulus for the bottom fiber of the prestressed beam.

S_t and S_t' are the non-composite and composite section modulus for the top fiber of the prestressed beam.

Mℓ is the moment due to dead loads on the non-composite prestressed beam. It is conservatively calculated at 0.5 of the span.

Msℓ is the moment due to dead loads on the composite section.

Mℓ is the moment due to live load on the composite section.

M (Imp) is the moment due to live load impact on the composite section.

DESIGNED	Gholam R. Ahanchi
CHECKED	Rebecca L. Tharp
DRAWN	Michael B. Mossman
CHECKED	G.R.A. / R.L.T.

April 28, 2006

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

FRAMING PLAN
F.A.I. ROUTE 57   SEC. 10-32HB-3.K
CHAMPAIGN COUNTY
STATION 297+20.45
STRUCTURE NO. 010-0272