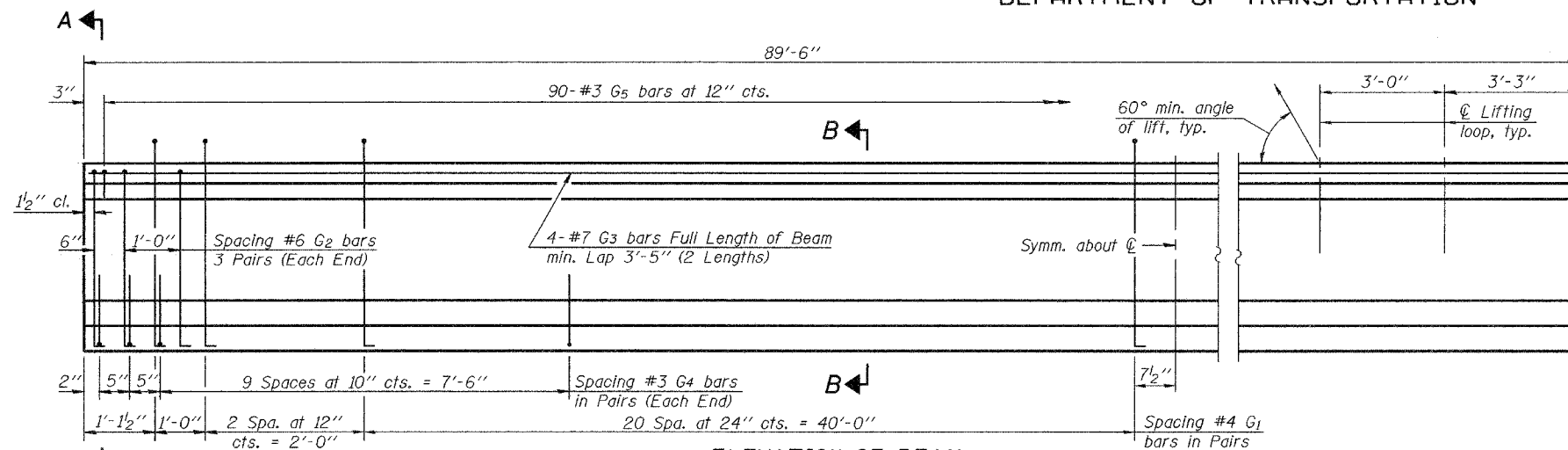


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

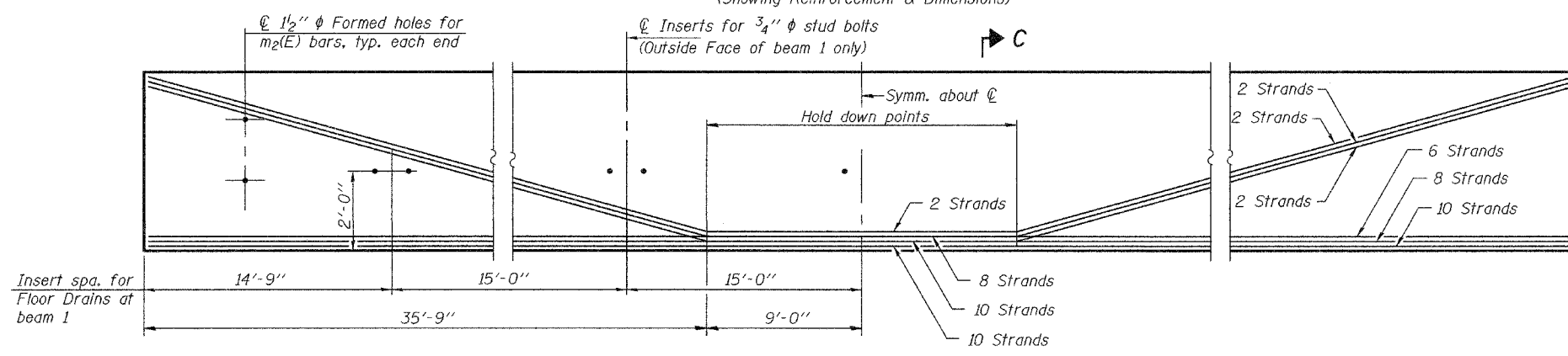
* 1/2" ϕ formed holes for $m_2(E)$ bars See Elevation

ROUTE NO.	SECTION	COUNTY	FEET	SHEET NO.
F.A.P. 315	(IBRY-1)BR	FULTON	160	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

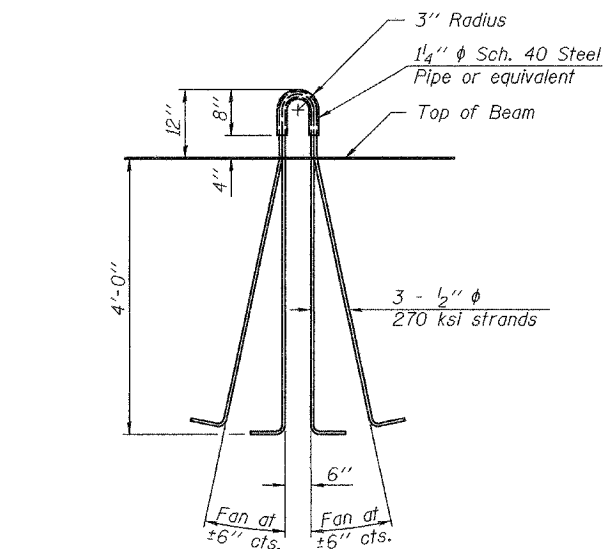
Contract #88753



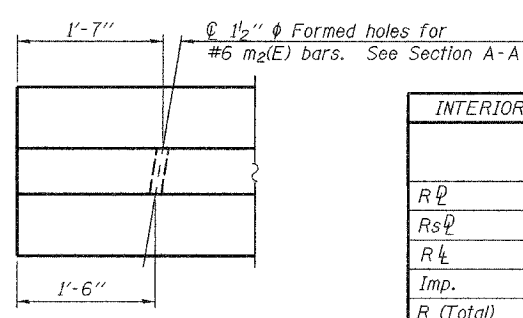
ELEVATION OF BEAM
(Showing Reinforcement & Dimensions)



ELEVATION OF BEAM
(Showing Prestressing Steel)



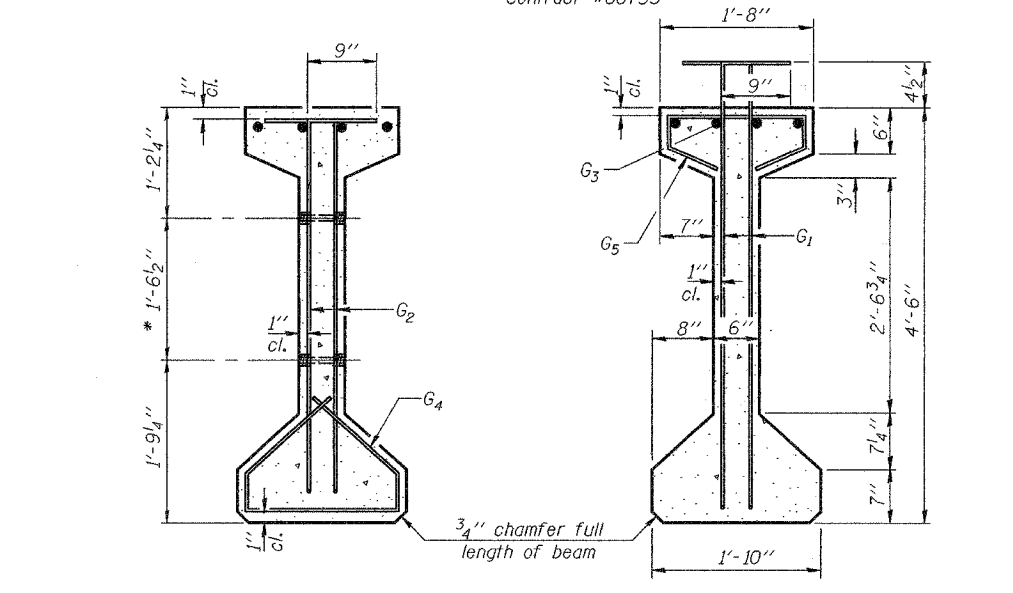
LIFTING LOOP DETAIL



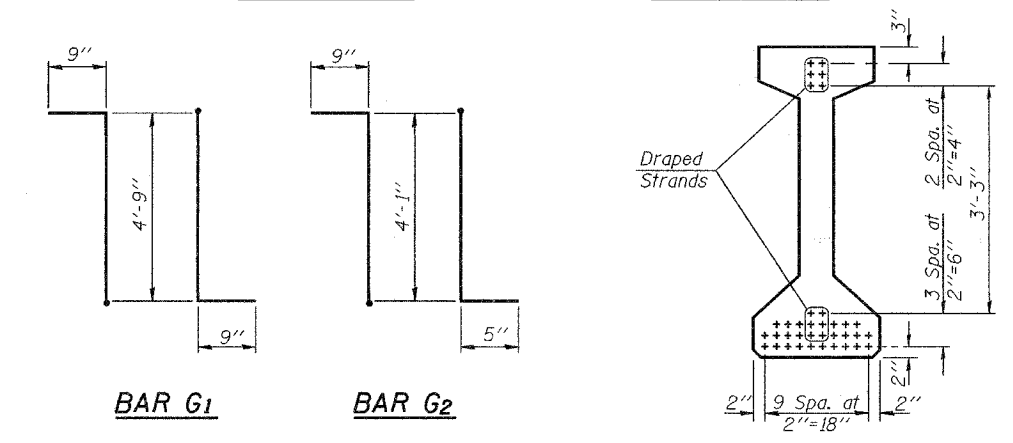
END OF BEAM PLAN
(At abutments)

	Abutment
$R \downarrow$	(k) 58.1
$R_s \downarrow$	(k) 22.7
$R \uparrow$	(k) 44.1
Imp.	(k) 10.3
R (Total)	(k) 135.2

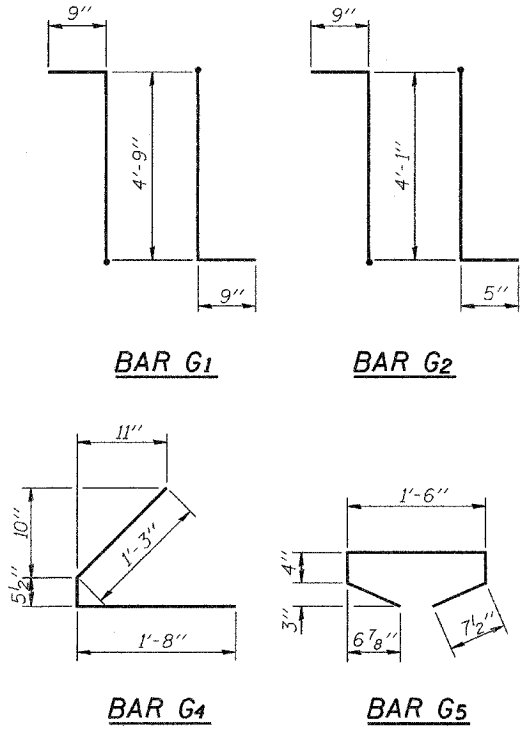
	0.5 Span
I	(in ⁴) 213715
I'	(in ⁴) 507557
S_b	(in ³) 8559
S_b'	(in ³) 12746
S_1	(in ³) 7362
S_1'	(in ³) 35794
\bar{I}	(k/')
$M \downarrow$	(k) 1286
$s \downarrow$	(k/')
$M_s \downarrow$	(k) 502
$M \uparrow$	(k) 899
$M (Imp)$	(k) 2.10



SECTION A-A **SECTION B-B**



SECTION C-C



***BAR LIST**

Bar	No.	Size	Length	Shape
G1	96	#4	6'-3"	TL
G2	12	#6	5'-3"	TL
G3	8	#7	46'-4"	—
G4	48	#3	3'-4 1/2"	—
G5	90	#3	3'-5"	—

*For one beam only.

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54"	Ft.	537

BEAM DETAILS
F.A.P. ROUTE 315 - SECTION (IBRY-1)BR
FULTON COUNTY
STATION 64+99.00
STRUCTURE NO. 029-0067

NOTES

Inserts for 3/4" ϕ threaded dowel rods are to be two strut, coil type for interior I-Beams and single coil, flared loop type for exterior I-Beams. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Non-prestressing steel shall conform to AASHTO designation M-31 or M 322, Grade 60. A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling. Required release strength, f'_{ci} , shall be 5,000 psi. Reinforcement bars designated (E) shall be epoxy coated.

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_1 and S_1' are the non-composite and composite section modulus for the top fiber of the prestressed beam.
 $M \downarrow$ is the moment due to dead loads on the non-composite prestressed beam.
 $M_s \downarrow$ is the moment due to dead loads on the composite section.
 $M \uparrow$ 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 Alan M. Johnson	EXAMINED Thomas Demagaki
CHECKED Philip E. Copperrill	PASSED Ralph E. Anderson
DRAWN Michael B. Mossman	
CHECKED AMJ PEC	

April 25, 2005