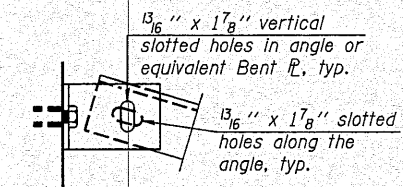
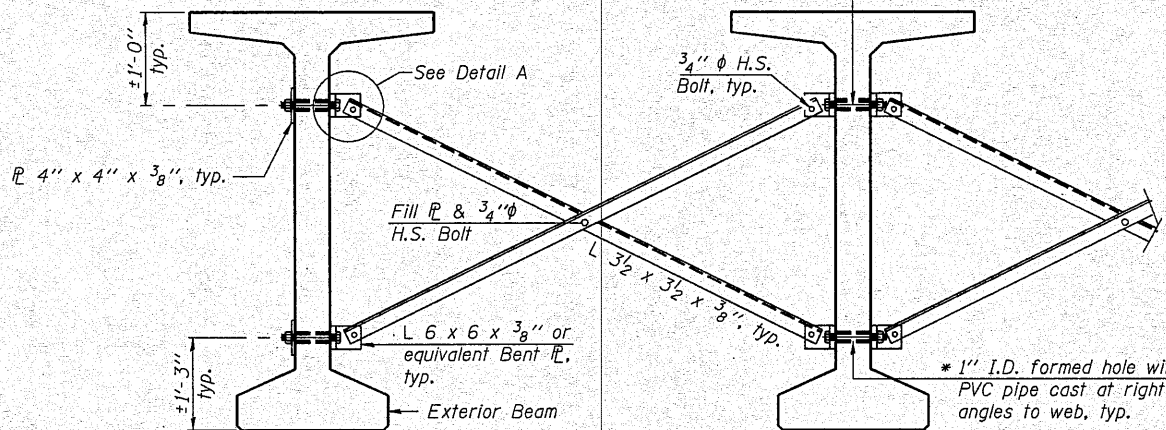


FRAMING PLAN

\* Fabricator shall locate to miss strands within permissible tolerances.



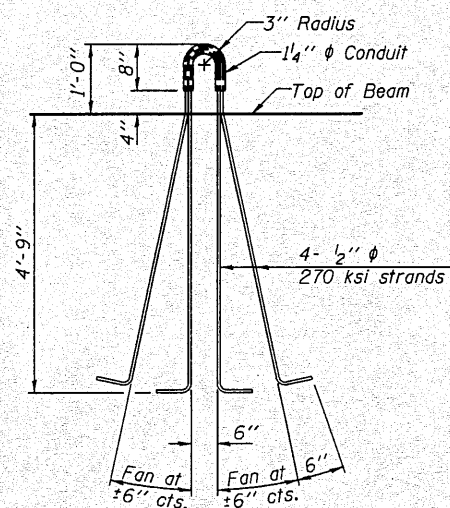
DETAIL A



PERMANENT BRACING DETAILS FOR BULB-T BEAMS

Notes:

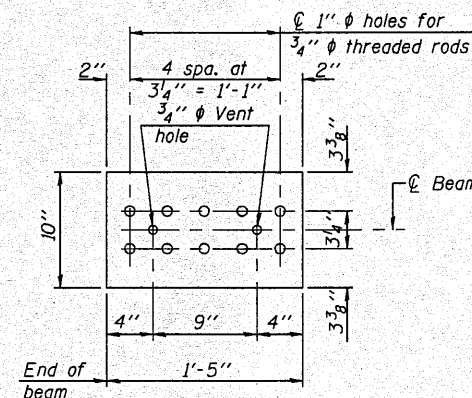
All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted. Two hardened washers are required for each set of oversized holes. All holes shall be 13/16" unless otherwise noted. 5/16" x 3" x 3" plate washers are required over all slotted holes. All bolts shall be galvanized according to AASHTO M232. Bracing shall be installed as beams are erected and tightened as soon as possible during erection. Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams.



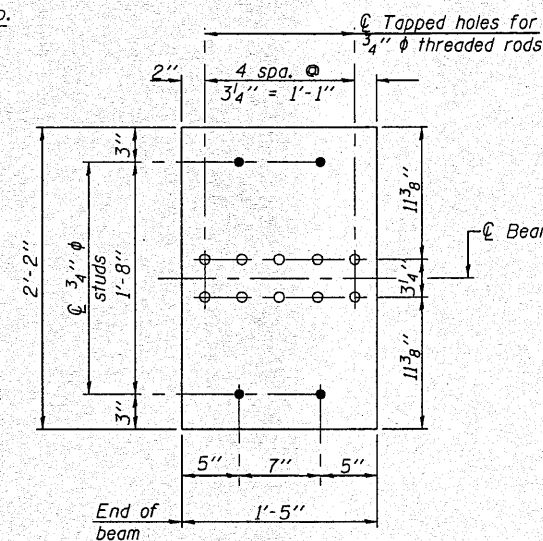
LIFTING LOOP DETAIL

NOTES

Inserts for 3/4" phi threaded dowel rods, when specified, are to be two strut ferrule type for interior beams and single ferrule, flared loop type for exterior 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. Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). A minimum 2 1/2" phi lifting pin shall be used to engage the lifting loops during handling. The top and bottom plates shall be AASHTO M270 Grade 50. The bottom plates and studs shall be galvanized according to AASHTO M111. Top plates and threaded rods need not be galvanized. Threaded rods shall be ASTM F 1554 Grade 55.



TOP PLATE



BOTTOM PLATE

INTERIOR BEAM MOMENT TABLE		
0.5 Span		
I	(in <sup>4</sup> )	392638
I'	(in <sup>4</sup> )	678176
S <sub>b</sub>	(in <sup>3</sup> )	12224
S <sub>b</sub> '	(in <sup>3</sup> )	15580
S <sub>t</sub>	(in <sup>3</sup> )	12715
S <sub>t</sub> '	(in <sup>3</sup> )	34832
DC1	(k/')	1.32
M <sub>DC1</sub>	(k)	22.15
DC2	(k/')	0.13
M <sub>DC2</sub>	(k)	2.17
DW	(k/')	0.25
M <sub>DW</sub>	(k)	4.27
M <sub>LL+IM</sub>	(k)	1735

INTERIOR BEAM REACTION TABLE		
Abut.		
R <sub>DC1</sub>	(k)	77.2
R <sub>DC2</sub>	(k)	7.6
R <sub>DW</sub>	(k)	14.6
R <sub>LL+IM</sub>	(k)	76.04
R <sub>Total</sub>	(k)	175.4

I: Non-composite moment of inertia of beam section (in<sup>4</sup>).  
 I': Composite moment of inertia of beam section (in<sup>4</sup>).  
 S<sub>b</sub>: Non-composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).  
 S<sub>b</sub>': Composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).  
 S<sub>t</sub>: Non-composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).  
 S<sub>t</sub>': Composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).  
 DC1: Un-factored non-composite dead load (kips/ft.).  
 M<sub>DC1</sub>: 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<sub>DC2</sub>: 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<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
 M<sub>LL+IM</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

FRAMING PLAN & BEAM DETAILS  
 STRUCTURE NO. 102-0069



Allen Henderson & Associates, Inc.  
 Civil and Structural Engineers Springfield, IL.  
 62703 Phone: (217)544-8033 IL Design Firm  
 No. 184-001907

SHEET NO. 12  
 19 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1360	(64-B-1)BR	WOODFORD	45	27
CONTRACT NO. 68785				
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				