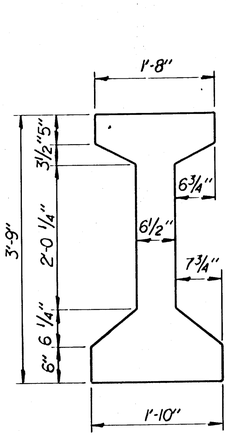
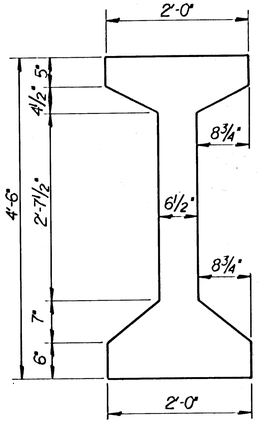
FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	87U-1247-01	1992	39	79



TYPE K3

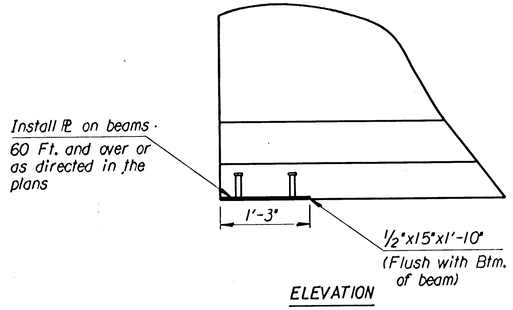
Area	525 In.²
IcG	127,490 In.⁴
Y Bot.	21.02 In.
Vol./Surf. Area	3.56 In.
Wt./Ft.	547 Lbs.



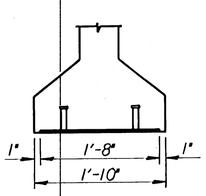
TYPE K4

Area	644 In.²
IcG	236,105 In.⁴
Y Bot.	25.89 In.
Vol./Surf. Area	3.65 In.
Wt./Ft.	671 Lbs.

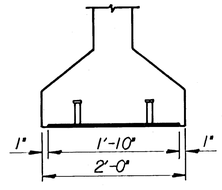
TYPICAL BEAM SECTIONS



ELEVATION



END VIEW (K3 Beam)



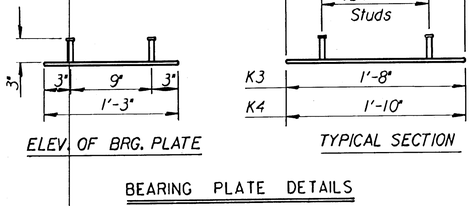
END VIEW (K4 Beam)

Note: Stud welding will be in accordance with the lastest edition of AWS D1.1.

Plate shall meet the requirements of ASTM A709 Grade 36. The stud anchors will be made of material as specified for Shear Connector Studs in the Standard Specifications.

The exposed surface of the bearing plate shall be galvanized.

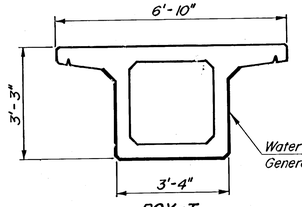
All work and material to install the bearing plates shall be subsidiary to the bid item "Prestressed Concrete Beam".



ELEV. OF BRG. PLATE

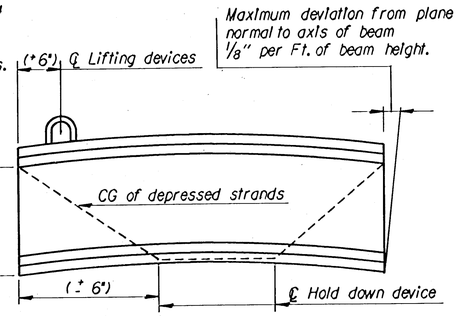
TYPICAL SECTION

BEARING PLATE DETAILS

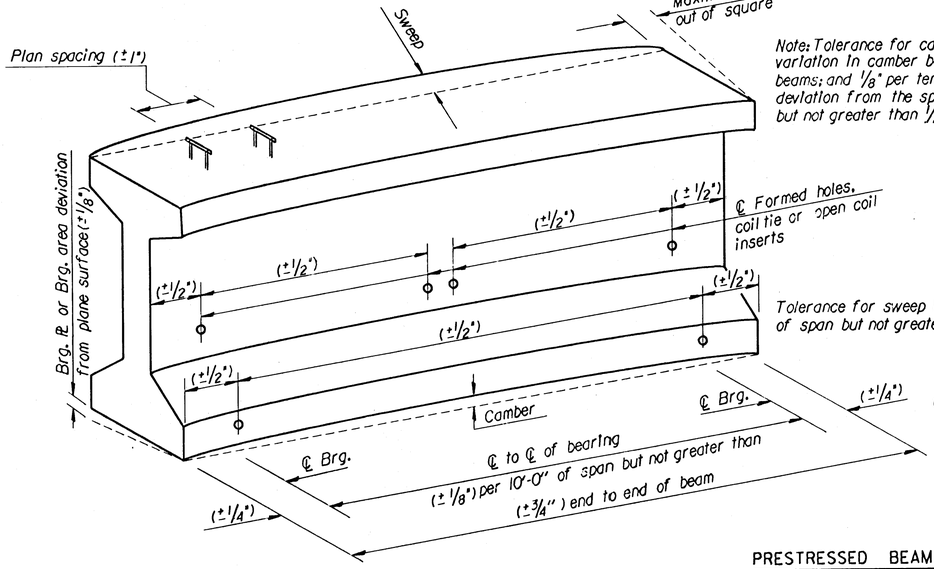


BOX-T

Area	=1,012 In.²
IcG	=193,329 In.⁴
Y Bot.	=24.44 In.²
Vol./Surface Area	=2.83 In.
Wt./Ft.	=1,054 Lbs.



ELEVATION



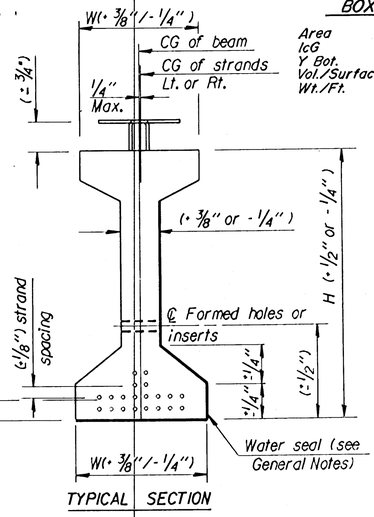
PRESTRESSED BEAM FABRICATION TOLERANCES

Note: Tolerance for camber is 1" maximum variation in camber between adjacent beams; and ⅛" per ten feet of span deviation from the specified camber but not greater than ½" deviation.

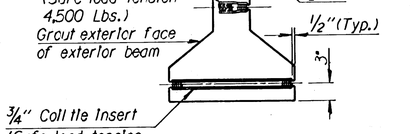
Tolerance for sweep is ⅛" per ten feet of span but not greater than 1".

CG= Center of Gravity

Note: Dimensions shown in parentheses are tolerances only.

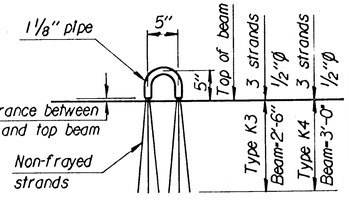


TYPICAL SECTION



DETAIL OF COIL INSERT

(See Beam Detail sheet for locations)



LIFTING DEVICE

GENERAL NOTES

The manufacture of precast prestressed concrete beams shall conform to the Kansas Department of Transportation Specifications.

The ultimate compressive strength of concrete as determined by cylinder tests at the age of 28 days shall be a minimum of 5000 PSI unless otherwise noted. Concrete shall be air entrained. The mix design shall be approved by the KDOT Materials Section.

Beam lengths shown on the design plans are net lengths measured horizontally along the beam centerline. The beam manufacturer shall make necessary allowances for grade and shortening due to elastic shortening, creep and shrinkage.

The beam shall reasonably conform to the lines and dimensions shown on the design plans and be within the tolerances specified in the lastest publication of AASHTO, "Tentative Standards for Prestressed Piles, Slab, I-Beams and Box Bridges and an Interim Manual for Inspection of Such Construction," except as modified by this sheet or as modified by the KDOT Specifications.

All exposed edges of beams except top and ends shall be beveled with a ¾ inch triangular moulding or rounded to a ¾ inch radius. The angle of intersection between web and flange shall be rounded.

Tops of beams are to be struck off level and given a wire brush or stiff broom finish, applied in the direction transverse to the length of the beam. At approximately the time of initial set the top of beam shall be brushed transversely with a coarse wire brush to remove all laitance.

Unless otherwise shown on the design plans, the prestressing steel shall be ½" nominal diameter Grade 270 "Uncoated Seven Wire Stress-Relieved Low Relaxation Strands for Prestressed Concrete" ASTM Designation A416. Minimum ultimate strength of strands shall be 41,300 pounds.

Unless otherwise shown on the design plans, ultimate compressive cyclinder strength of concrete shall be 4,000 PSI mimimum before detensioning of prestressing strands.

An initial tensile force of 1,000 to 3,000 pounds shall be applied to each strand to take up any slack in the cables. Unless otherwise noted in the plans, a tensile force of 31,000 pounds shall be applied to each strand. Strands which are to be deflected shall be stressed to a magnitude such that after deflection they are tensioned to 31,000 pounds.

Trapped air holes and surface voids on the exterior face of the exterior beams shall be filled and the surface covered with an approved 2 part cement based acrylic polymer water seal that leaves no noticeable discoloration. The sealer shall be mixed and applied according to the manufacturer's recommendations. This work shall be subsidiary to the bid item "Prestressed Concrete Beams". (Do for Box-T Girders.)

Detensioning of strands shall be performed in a sequence to minimize lateral eccentricity. Method and sequence of release shall be shown on shop details. Extreme care shall be exercised in lifting, handling, storage and transportation of the beam to prevent damage. They shall be lifted by means of the device shown or by an alternate approved design. The beam shall be maintained in an upright position at all times and shall be supported on bearing points positioned below the designated lifting points or below the designated bearing points.

During transportation only, the beam may be supported by bearing points below the girders at a maximum of 5'-0" from the beam end. If this is done, additional shear reinforcement (end stirrup bars) shall be added for a distance of one beam depth measured from point of support toward center of span.

Beam shall have a minimum age of 28 days before placing of bridge slab. Diaphragms shall be poured as noted on the design plans.

Each beam shall have the following information stenciled by painting on the webs approximately 5 feet from beam end: date of strand release, date of concrete placement and beam mark.

Coil ties and bolts shall have an ultimate strength of 50 percent in excess of the manufacturer's safe load and shall be approved by the Engineer. Coil ties that touch prestressing strands shall be coated with an approved epoxy coating. Details will be shown on the shop details. Coil ties and bolts will not be paid for directly but shall be subsidiary to the bid item "Prestressed Concrete Beams".

Shop drawings shall be submitted in accordance with the Standard Specifications except that nine (9) sets will be required.

Elastomeric Bearing Pads shall conform to KDOT Specifications. Bearing pad and Type B expansion joint material will not be paid for directly but shall be subsidiary to the bid item "Prestressed Concrete Beams".

NO.	DATE	REVISIONS	BY	APP'D
3	6-22-90	Change bearing plate	LRR	KFH
2	3-10-89	Add air entrainment to concrete	LRR	KFH
1	11-8-88	Water seal on exterior girder	LRR	KFH

KANSAS DEPARTMENT OF TRANSPORTATION

STANDARD PRESTRESSED CONCRETE BEAM DETAILS

STD. NO. 300

FHWA APPROVAL			7-2-90	APP'D	KENNETH F. HURST
DESIGNED		DETAILED	RCF	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.	LRR	QUAN.CK.	TRACE CK.

K3331

BRIDGE
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17-MAY-1991 15:49
View= PLOT1

DESIGN	DATE	DETAILED	DATE	QUANTITIES	DATE	TRACING	DATE	RECTIFIED	DATE	CO. CHECK	DATE	PROJ. ENGR. APPR.	DATE