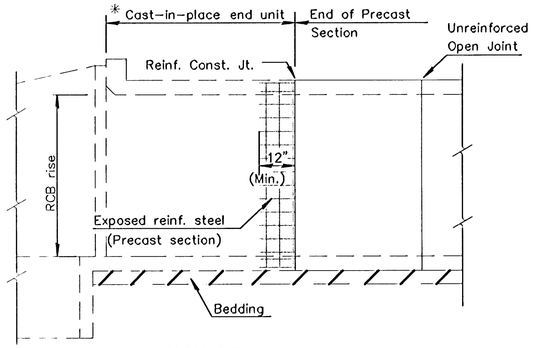
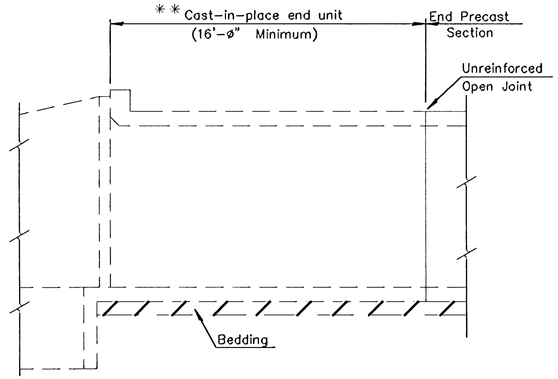
FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	472-83681	2003	23	48



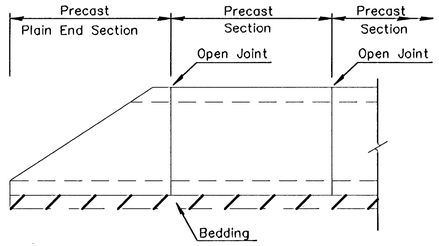
ELEVATION AT HEADWALL

* Minimum barrel length of cast-in-place end unit shall equal the RCB rise or 8'-ø", whichever is less. This length can be used when the joint between the cast-in-place end unit and the pre-cast section is reinforced as shown.



ELEVATION AT HEADWALL

** Minimum barrel length of cast-in-place end unit shall be 16'-ø" when using an unreinforced open joint at the end of the precast section.



ELEVATION AT PRECAST END SECTION

(Precast End Sections are permitted where straight wings are shown in the plans or at the downstream end for single cell RCB with a rise of six feet or less.)

GENERAL NOTES

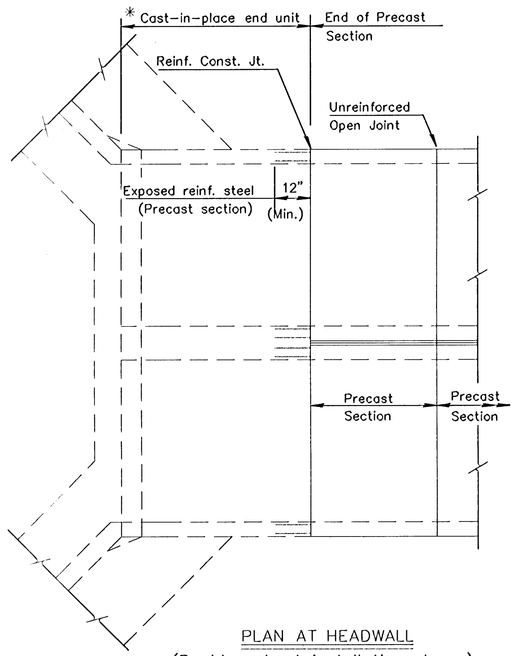
PRECAST BOX CULVERTS: If precast boxes are specified, construct them at the locations shown in the plans and according to the requirement shown on this sheet. When approved by the Engineer, precast box culverts may be used in lieu of cast-in-place box culverts. If the Contractor chooses the precast option, use the cast-in-place quantities as the cost basis. This cost includes all labor equipment, material and incidentals necessary to complete the installation.

Unless otherwise approved by the Engineer, use cast-in-place collars at horizontal and vertical changes in RCB alignment. Use cast-in-place end sections and wingwalls except as noted on this sheet. The Engineer may require cast-in-place sections at junctions of drainage structures.

Cast-in-place concrete work shall conform to the requirements of the KDOT Specifications and KDOT's "Guidelines for Structural Design and Detail of Reinforced Concrete Box Culverts". Use Class AAA concrete and Grade 6ø reinforcing steel conforming to ASTM A615M for cast-in-place construction.

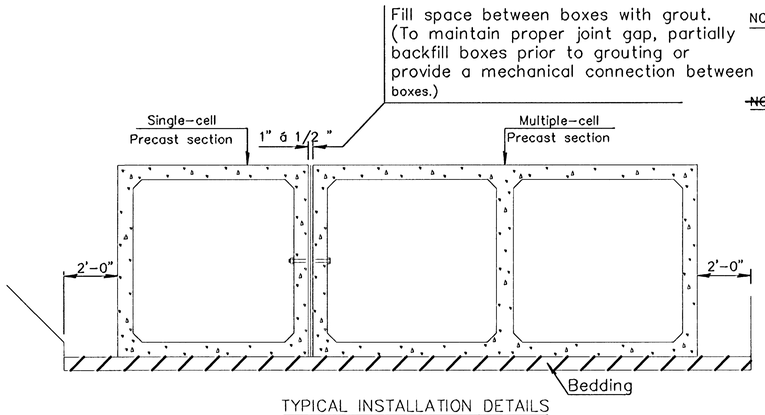
SPECIFICATIONS: Single-cell Precast Concrete Box Culverts shall conform to the requirements of the following specifications except as noted in the KDOT Specifications. Design multiple-cell precast boxes in accordance with the criteria used to develop the single-cell precast boxes. (See Appendix of ASTM Specification C 1433, Table 2 and the latest AASHTO Specifications.)

DISTRIBUTION SLAB: Fill heights less than 2 feet require a distribution slab. Precast distribution slabs may be used for fill heights over 1 foot, otherwise use cast-in-place.



PLAN AT HEADWALL

(Double culvert installation shown)



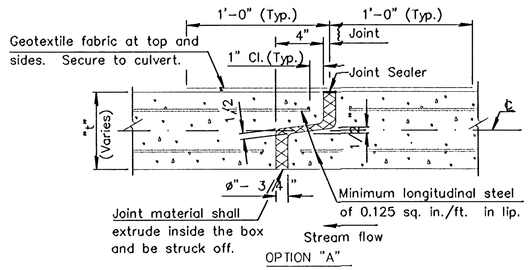
TYPICAL INSTALLATION DETAILS

NOTE: See "Bridge Excavation" sheet, (Std. No. BR1ØØ), for excavation details and basis of payment.

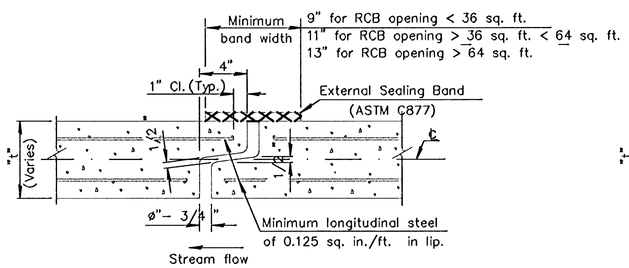
NOTE: Minimum length of precast section shall be 4'-ø".

NOTE: A single cell box of equivalent area may be substituted for a double cell box with cell spans less than or equal to 6'-ø". Two single cell boxes may be substituted for a double cell box, when approved by the Engineer.

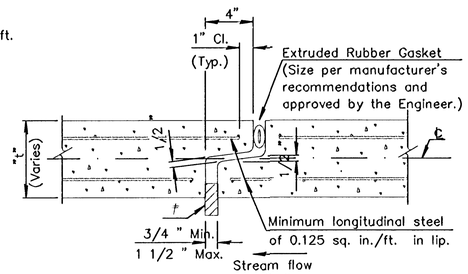
~~NOTE: See respective RCB Standard Sheets for cast in place details.~~



OPTION "A"



OPTION "B"



OPTION "C"

OPEN JOINT DETAIL

† Insert temporary, 3/4 "-1" wide, hardwood wedges to prevent over-compressing gasket.

NO.	DATE	REVISIONS	BY	APP'D
4	11-03-00	Revised ASTM / Added Note	RAM	KFH
3	12-20-96	Revised CIP end unit details.	RAM	KFH
2	1-17-95	Revised general notes	LRR	KFH
1	6-22-94	Added option 'C' & revised notes	RAM	KFH

KANSAS DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE BOX CULVERT DETAILS

BR031 28/47

FHWA APPROVAL		11-27-00	APP'D	KENNETH F. HURST
DESIGNED	DETAILED PF		QUANTITIES	CADD
DESIGN CK.	DETAIL CK. RAM		QUAN. CK.	CADD CK.