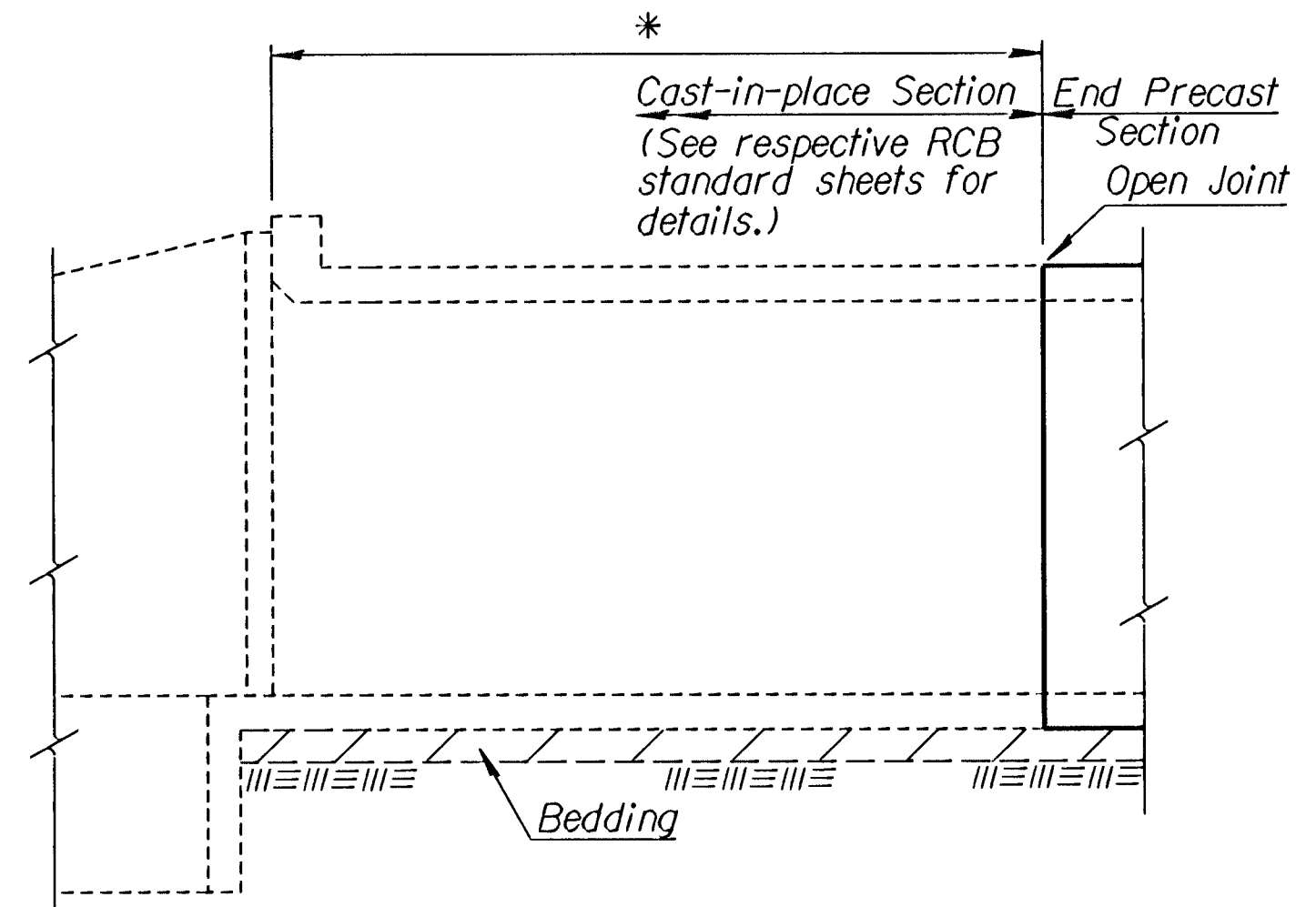


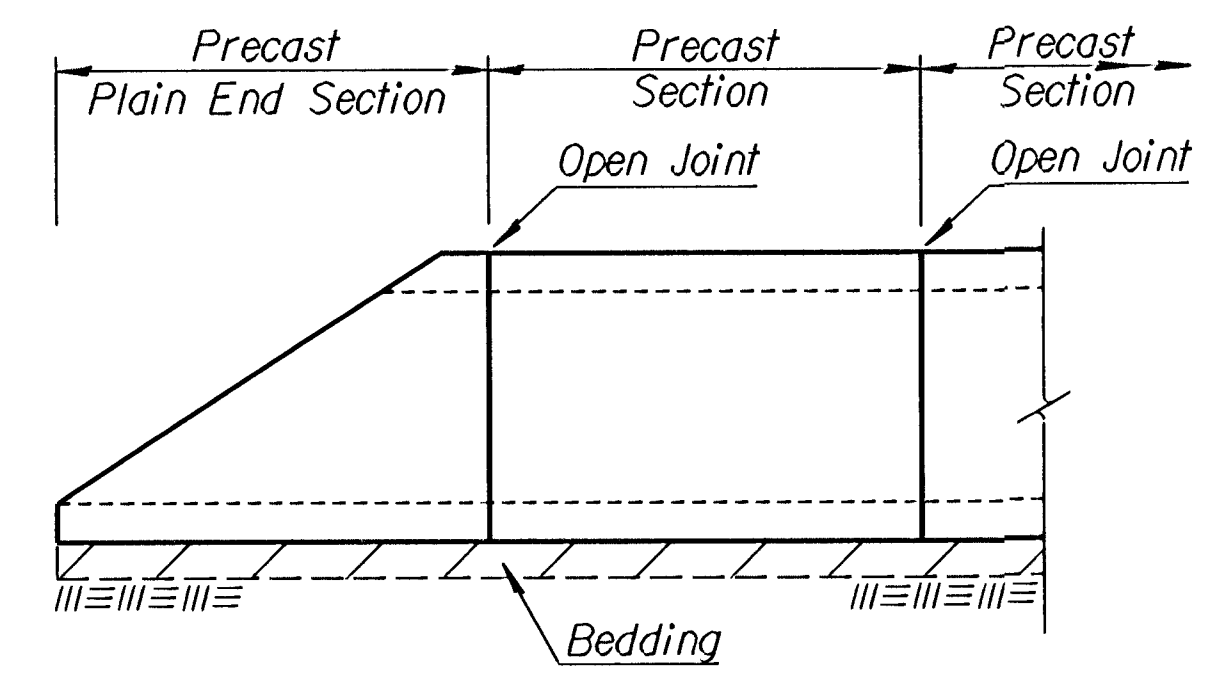
ELEVATION AT HEADWALL

(End unit using combination of cast-in-place and precast sections.)



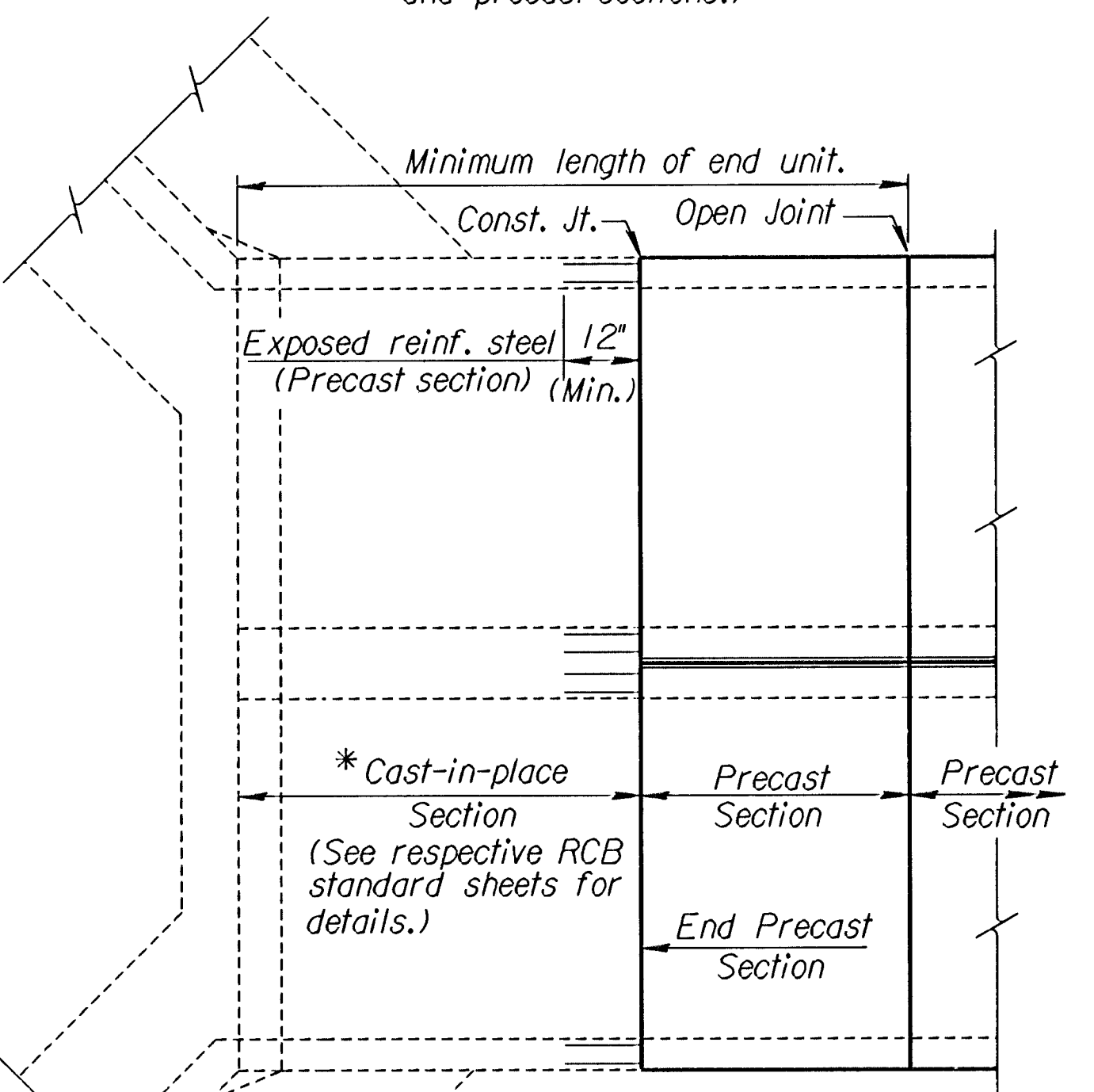
ELEVATION AT HEADWALL

(End unit using cast-in-place construction.)



ELEVATION AT PRECAST END SECTION

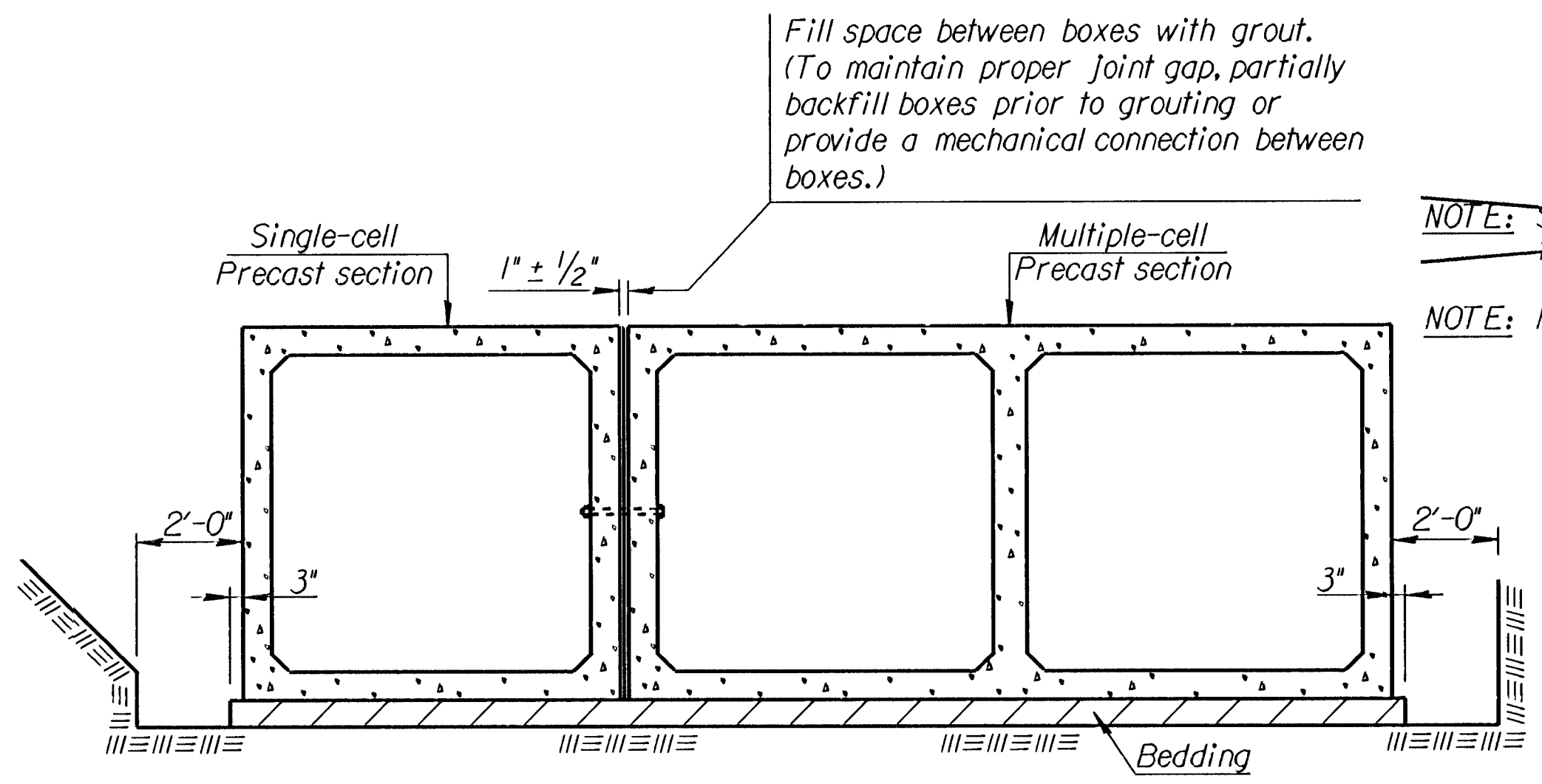
(Precast End Sections are permitted where straight wings are shown in the plans or at the downstream end for single cell RCB with a rise of six feet or less.)



PLAN DOUBLE CULVERT INSTALLATION

(End unit using combination of cast-in-place and precast sections.)

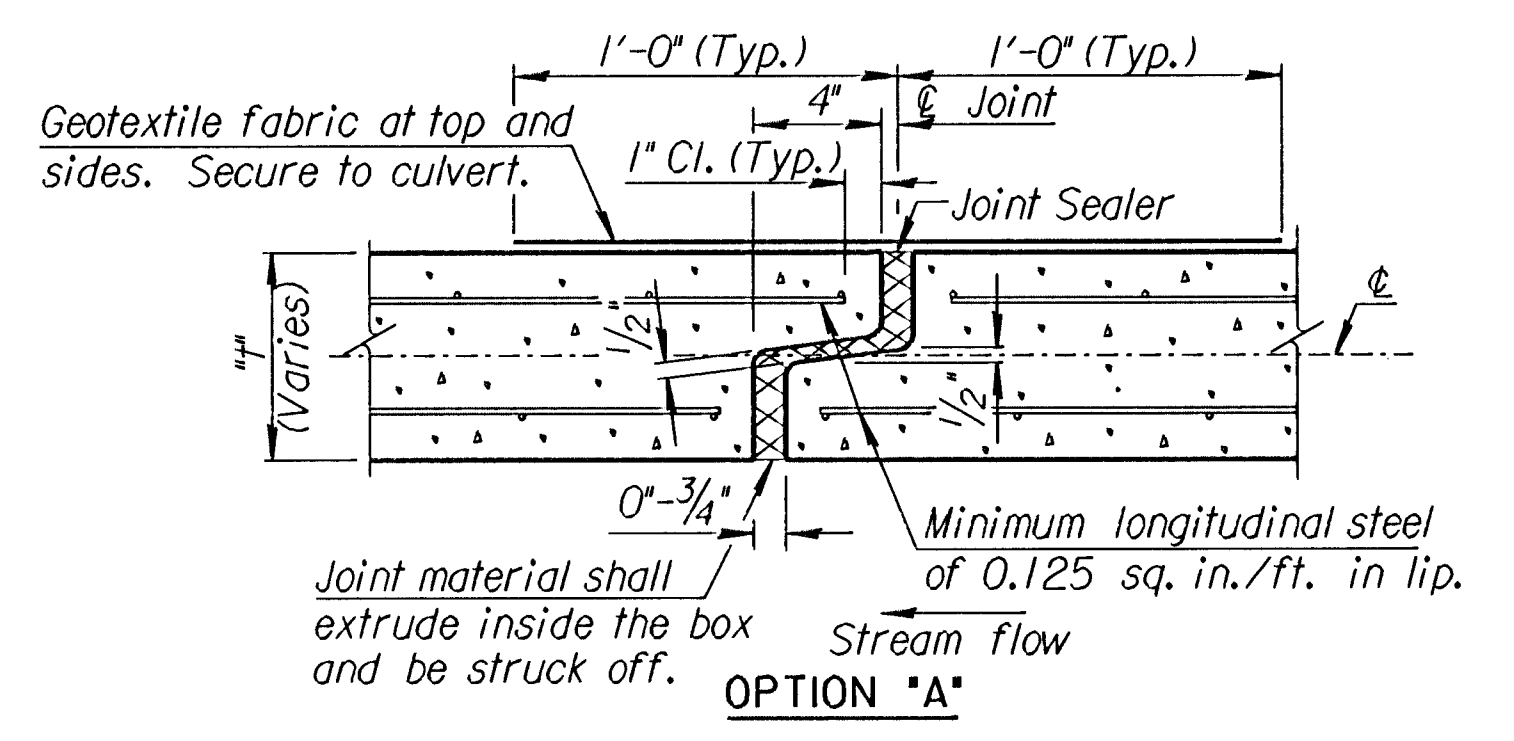
* See Sheet No. 3 (General Notes) for minimum Cast-In-Place length.



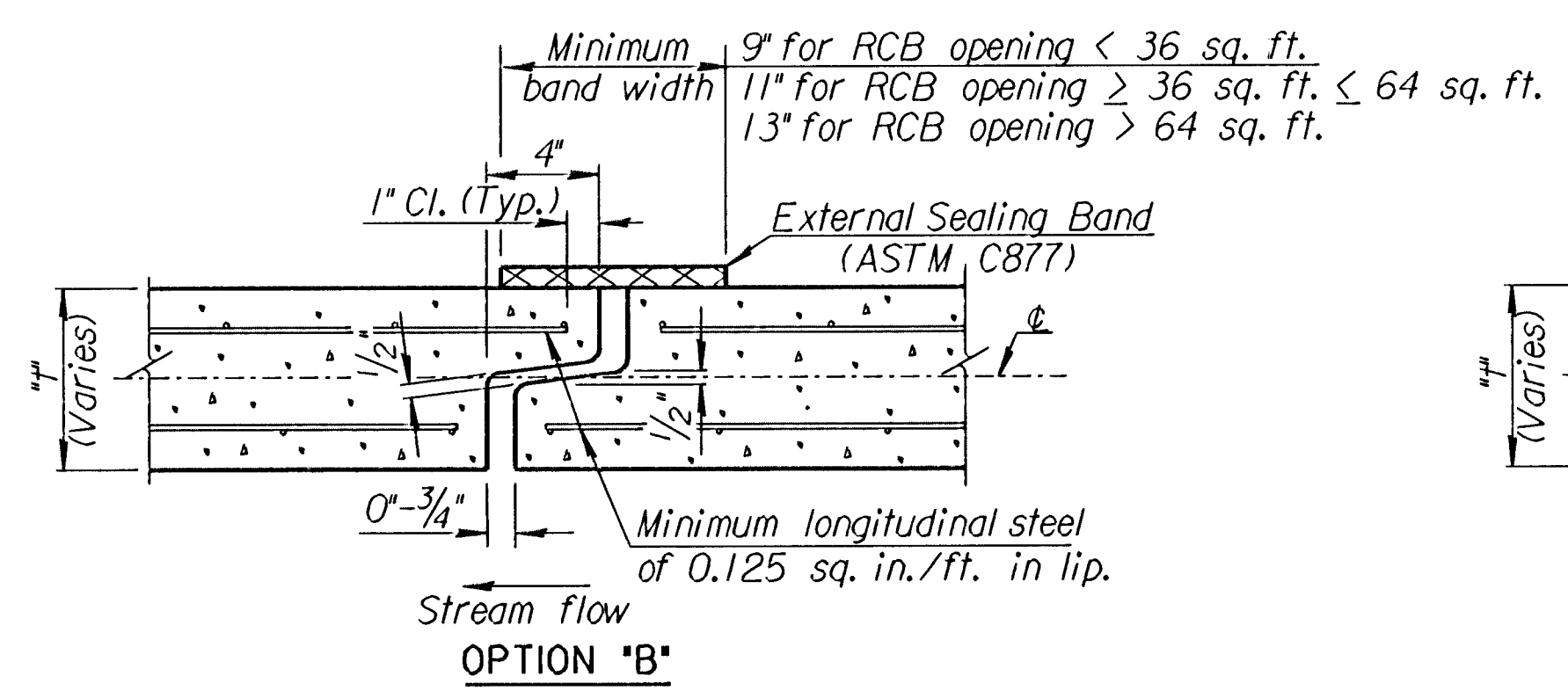
TYPICAL INSTALLATION DETAILS

NOTE: See "Bridge Excavation" sheet, (Std. No. 100), for excavation details and basis of payment.

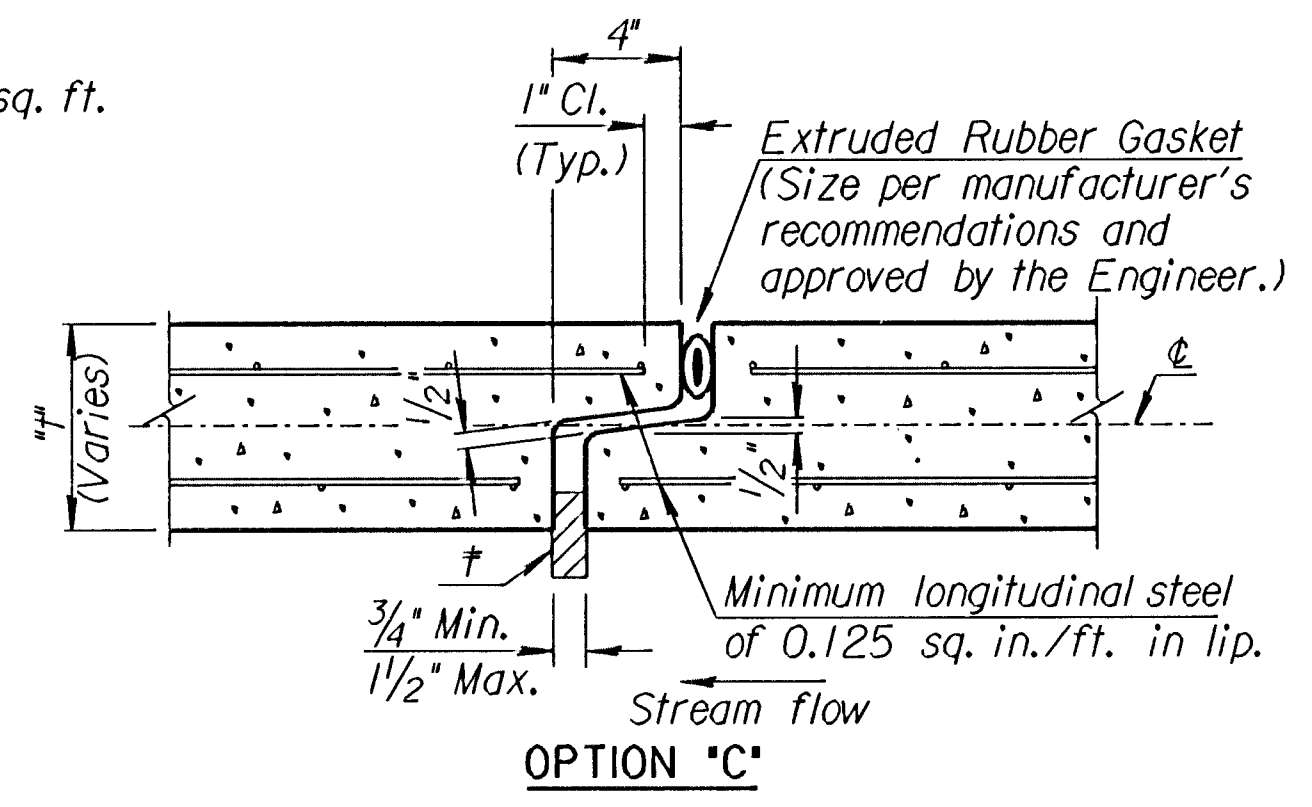
NOTE: Minimum length of precast section shall be 4'-0".



OPTION "A"



OPTION "B"



OPTION "C"

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

OPEN JOINT DETAIL

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 60 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 Appendices of ASTM Specification C789M and C850M and the latest AASHTO Specifications.)

Condition	Min. Fill	AASHTO	Equiv. ASTM
≥ 2'-0" fill	2'-0"	M259, Table 2	C789, Table 2
< 2'-0" fill	0	M273, Table 2	C850, Table 2

Note: No cast-in-place end sections are required for this project.

NO.	DATE	REVISIONS	BY	APP'D
4	1-17-95	Revised general notes	LRR	KFH
3	6-22-94	Added option 'C' & revised notes	RAM	KFH
2	3-1-93	Revised general notes	RAM	KFH
1	9-1-92	Revised general notes & detail notes	RAM	KFH

KANSAS DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE BOX CULVERT DETAILS

BR031

DESIGNED	DETAILS	1-26-95	APP'D	KENNETH F. HURST
DESIGN CK.	DETAIL CK.	RAM	QUAN. CK.	CADD CK.

Plotted By : wil
 Plot File : i:\1995\95088\Douglas\Standard\br031.dgn
 Plot Date : 8-26-97
 Server File : /usr
 Server : wjch
 View = PLOT1
 Std. Base File : /usr2/stand/us/br031.dgn