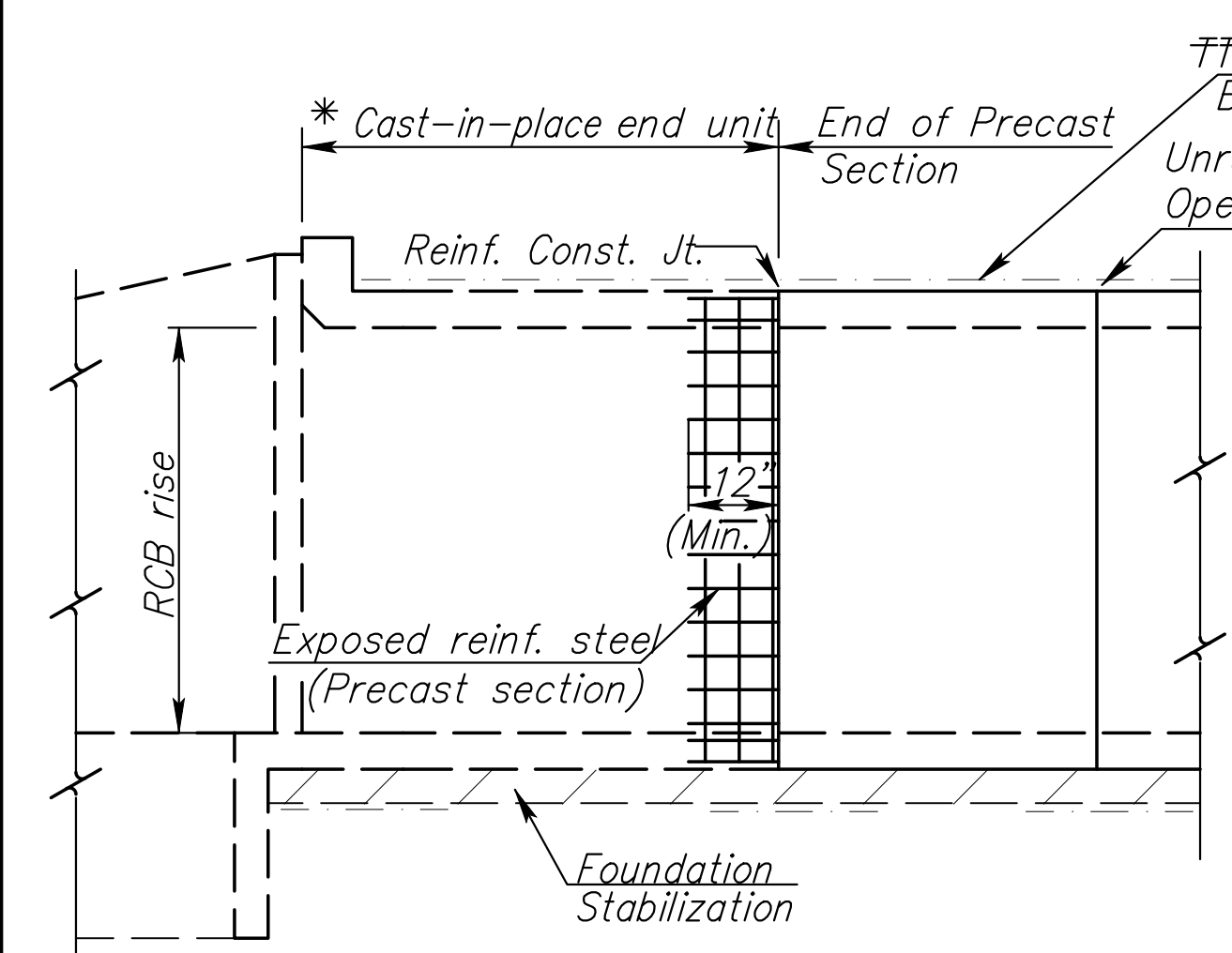
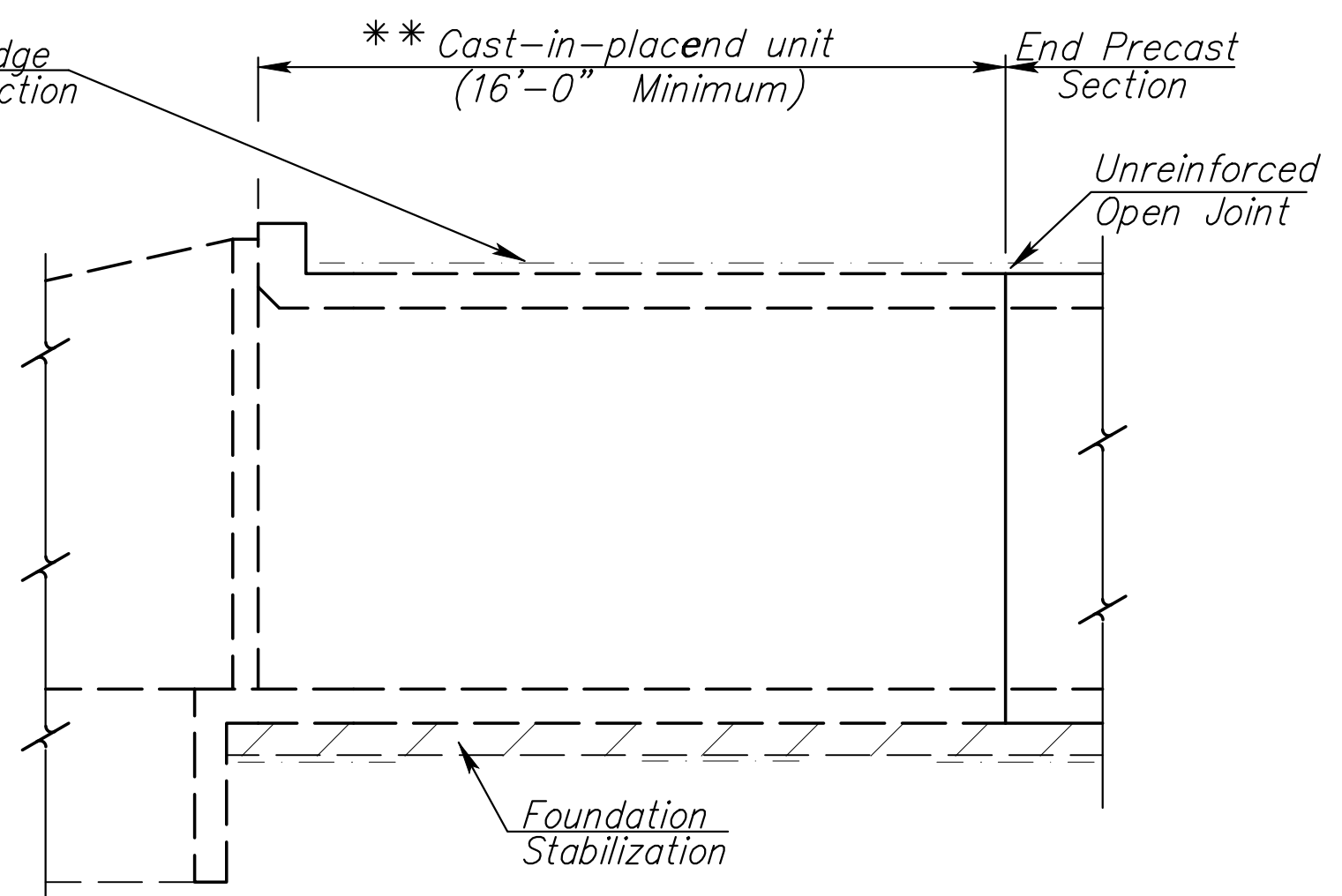


STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS				



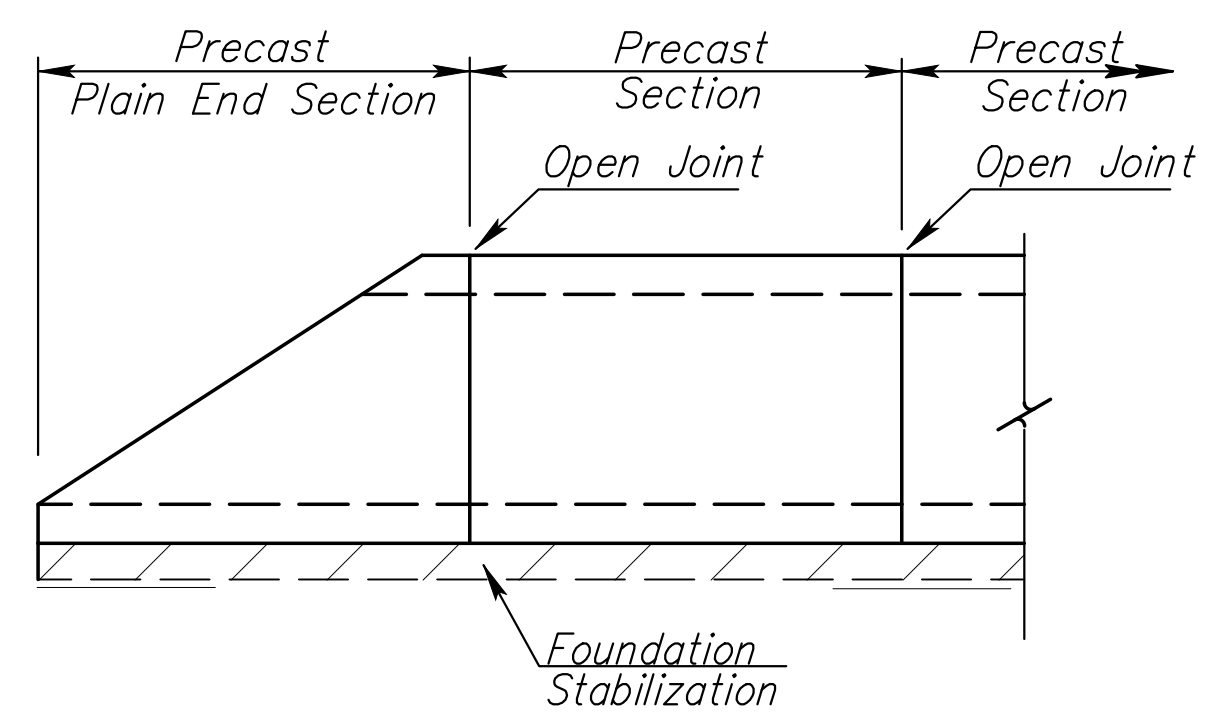
ELEVATION AT HEADWALL

* Minimum barrel length of cast-in-place end unit shall equal the RCB rise or 8'-0", whichever is less. This length can be used when the joint between the cast-in-place end unit and the precast section is reinforced as shown.



ELEVATION AT HEADWALL

** Minimum barrel length of cast-in-place end unit shall be 16'-0" 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.)

NOTE: See "Bridge Excavation" sheet, (Std. No. BR100), for excavation details and basis of payment.

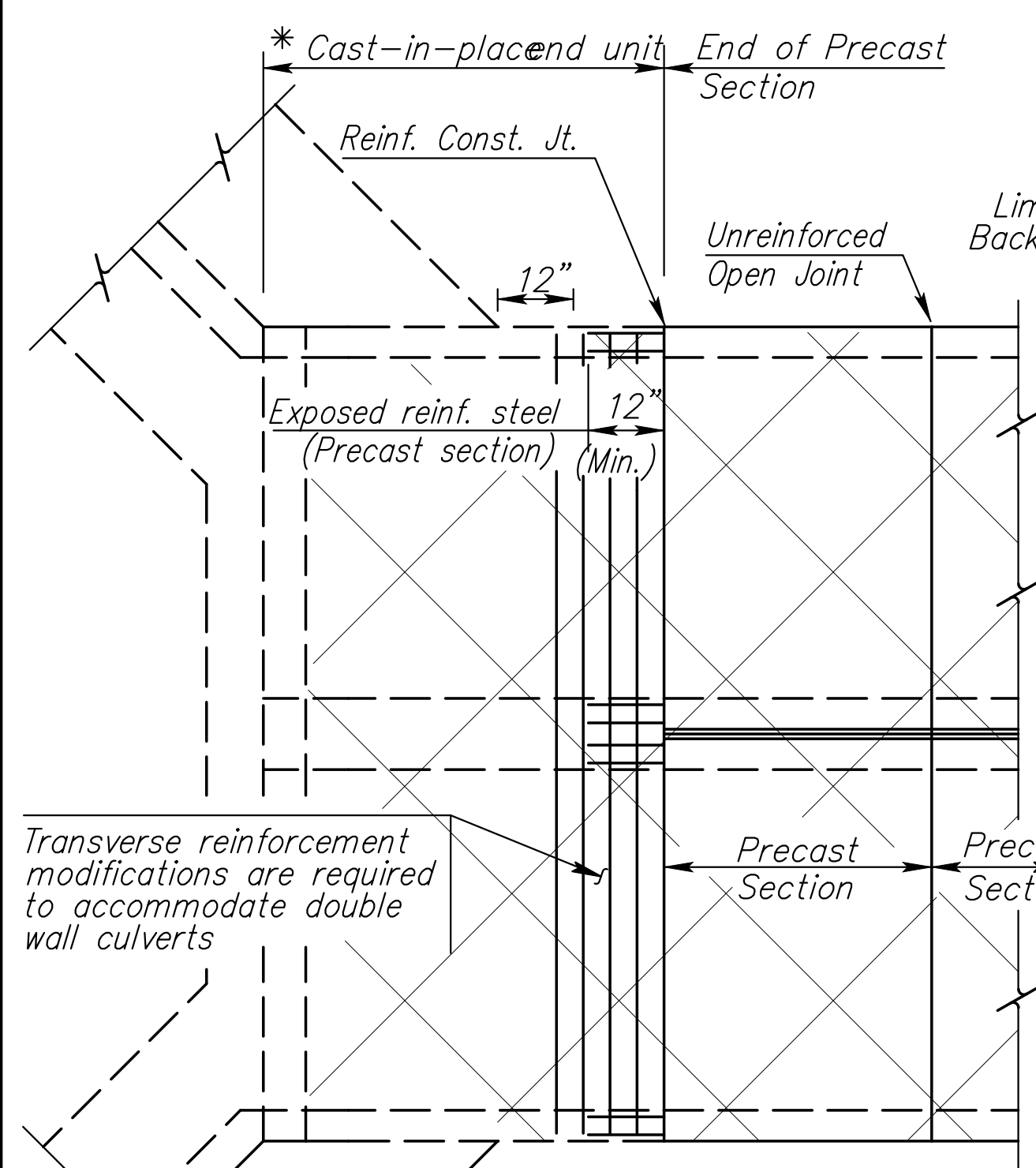
NOTE: Minimum length of precast section shall be 4'-0".

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'-0". Any revision in the cell height from that shown on the plans will not be permitted, unless approved by the Engineer. 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.

NOTE: When the fill height is 2'-0" or less "Bridge Backwall Protection" is required.

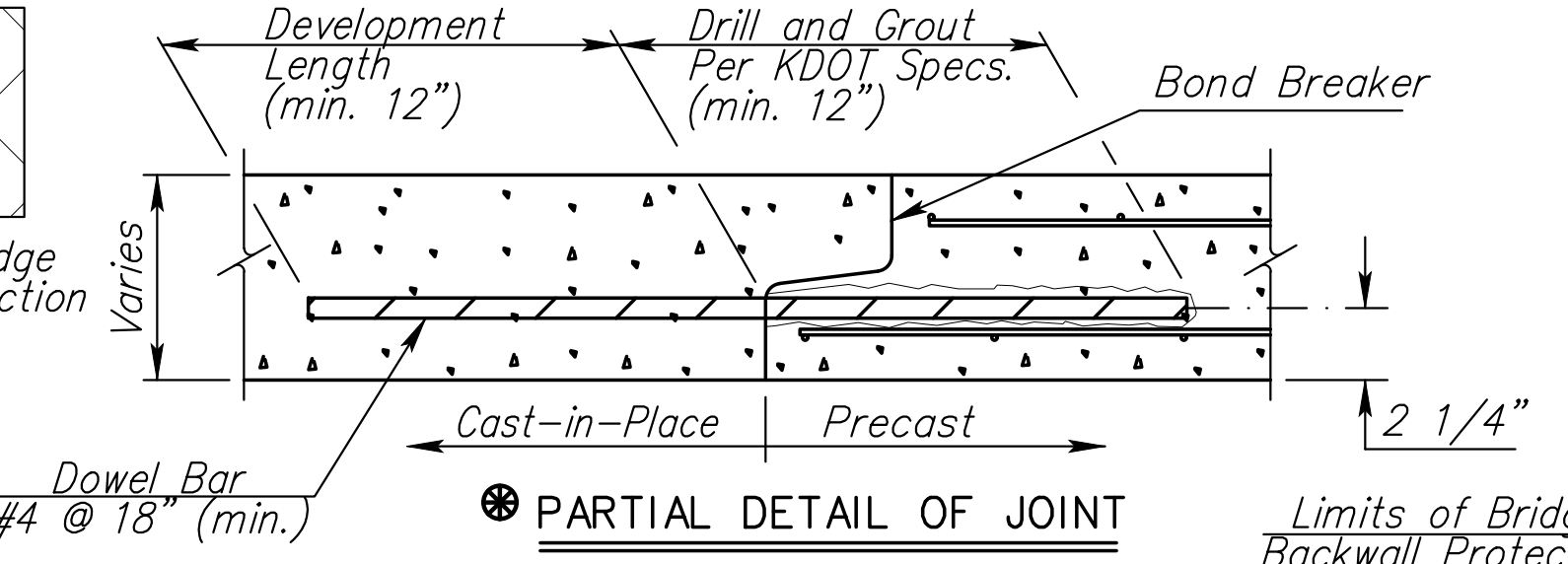
NOTE: Bridge Backwall Protection not shown for clarity



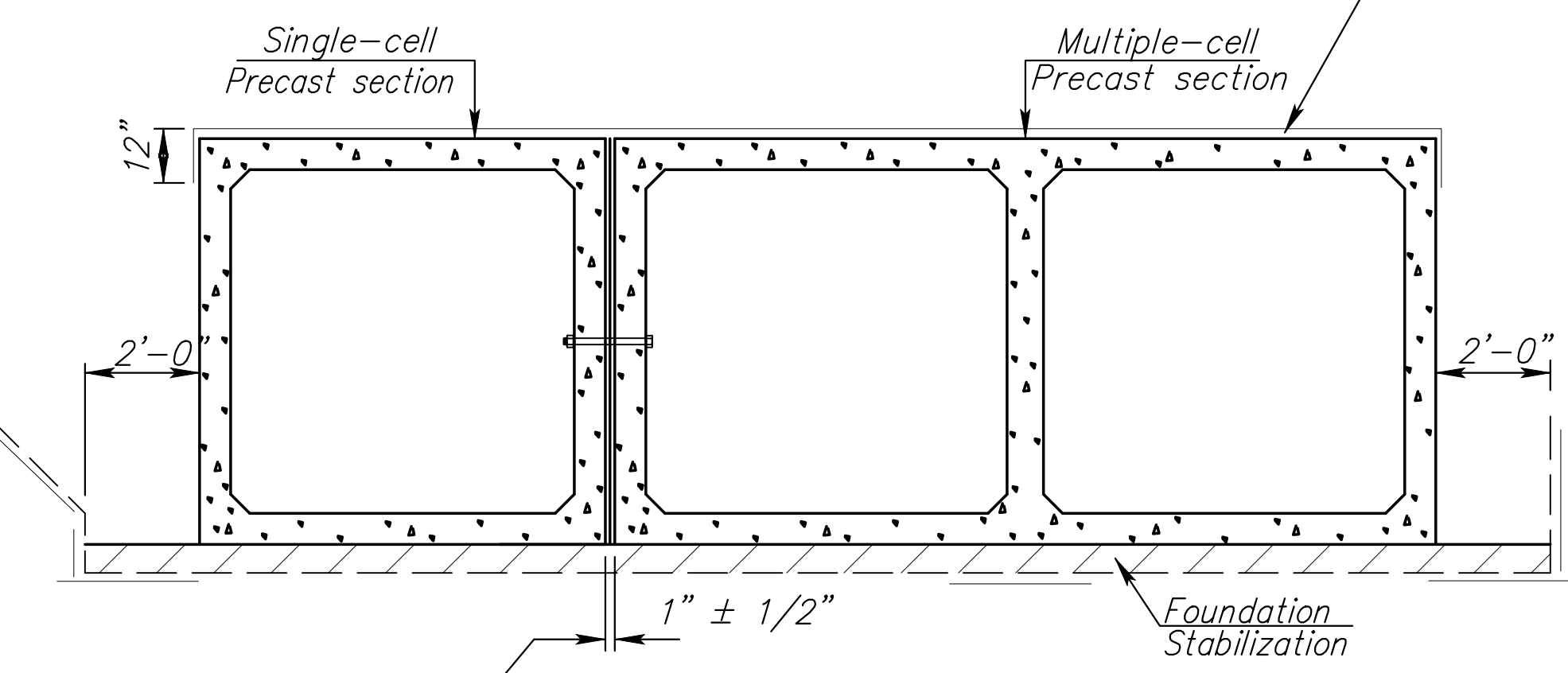
PLAN AT HEADWALL

(Double culvert installation shown)

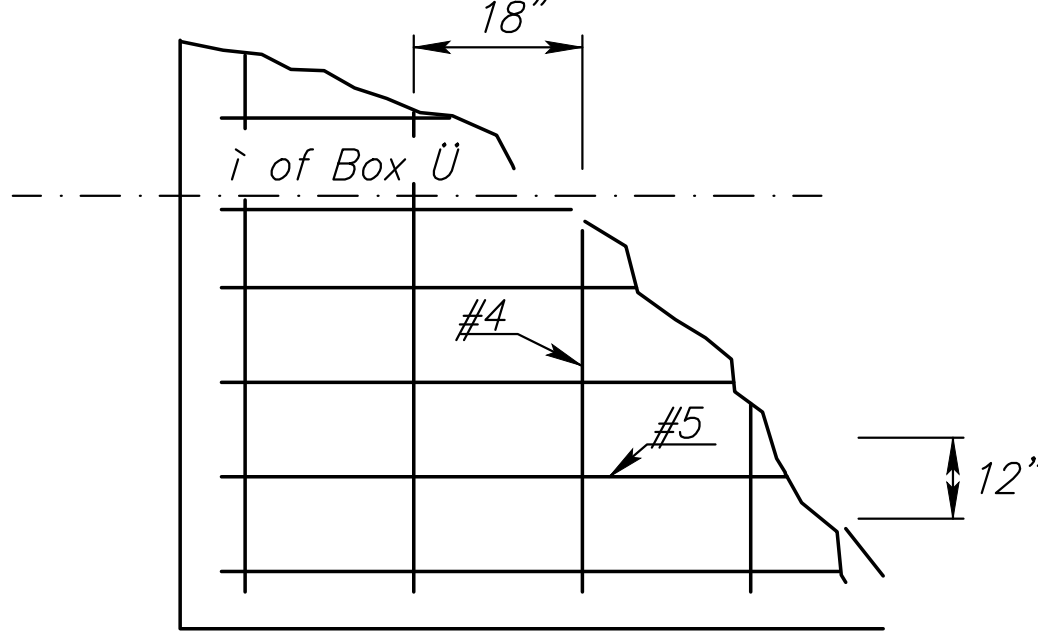
Fill space between boxes with grout. (To maintain proper joint gap, partially backfill boxes prior to grouting or provide a mechanical connection between boxes.)



PARTIAL DETAIL OF JOINT



TYPICAL INSTALLATION DETAILS



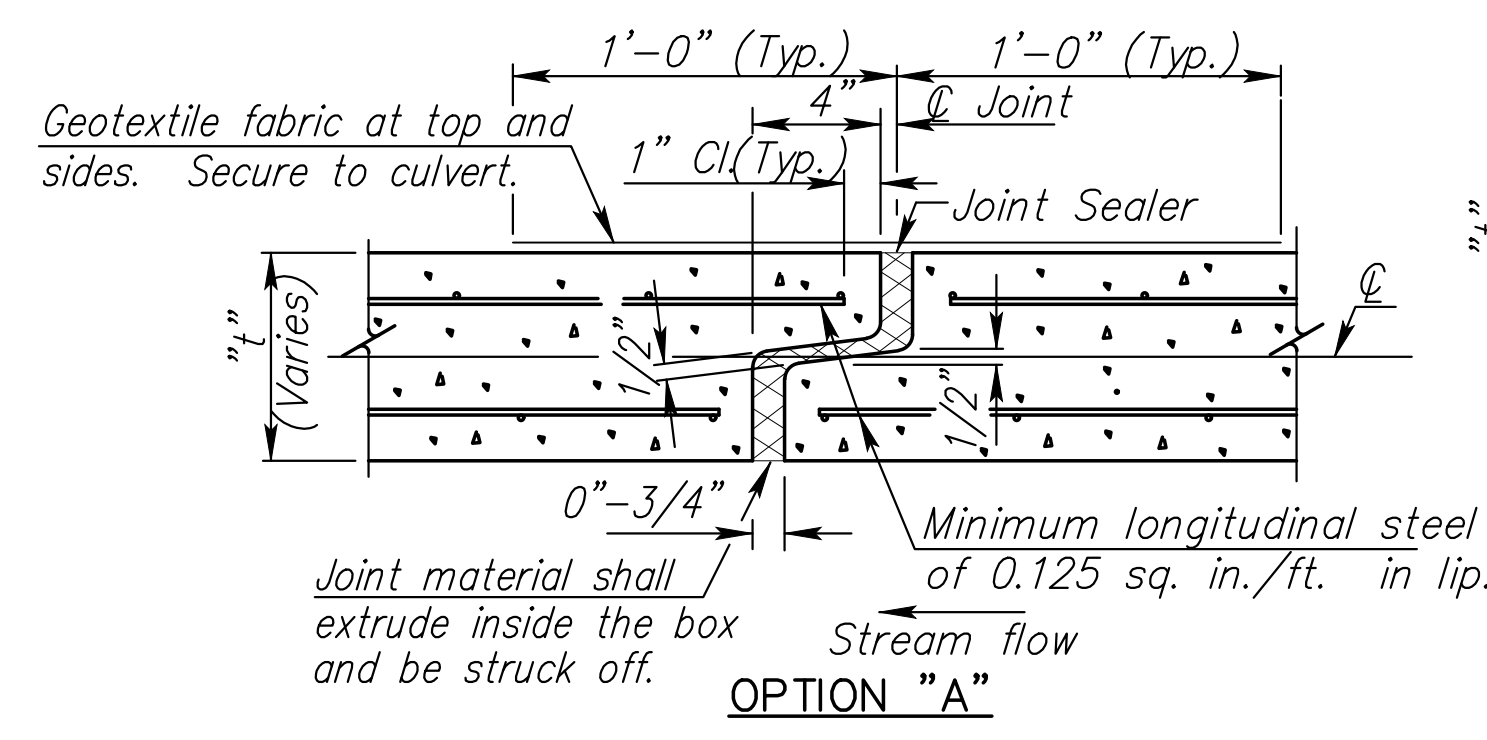
CAST IN PLACE DISTRIBUTION SLAB
(Partial plan of reinforcement)

If the fill height is less than or equal to one foot then:
A distribution slab shall be a minimum of 6 inches thick, reinforced with #4 bars spaced at 18 inches, placed perpendicular to centerline of the box and with #5 bars spaced at 12 inches, placed parallel to centerline of the box. Substitution of an equivalent welded wire fabric is acceptable. Place a min. of 3" of granular material between the box and slab.

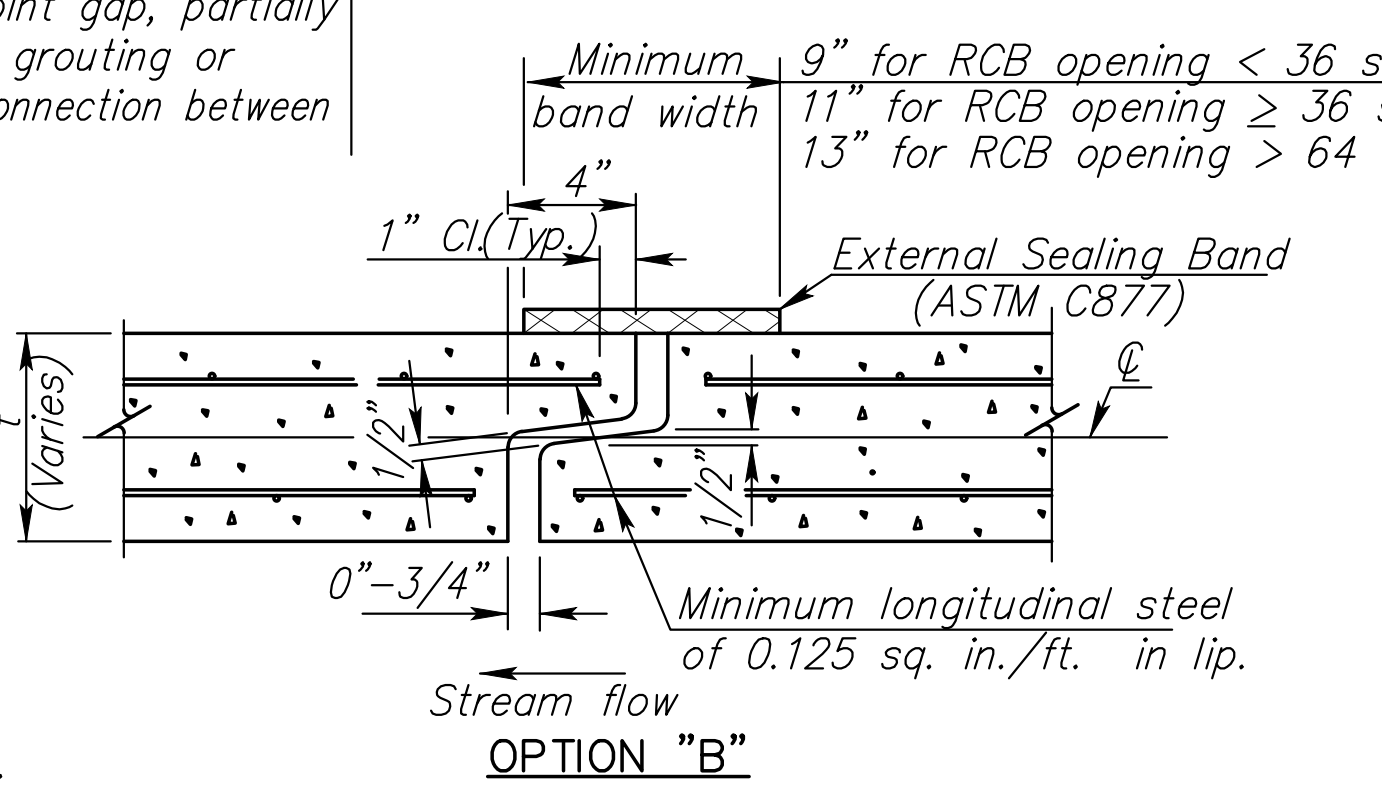
If the fill height is greater than one foot then:
(Use one of the following options)

- 1) Use the cast-in-place criteria above.
- 2) Use precast distribution slabs with same criteria as the cast-in-place above. Center the joints in slabs over the box segments. Provide a minimum of 3 inches of granular material between the box and the slabs.
- 3) Reinforced concrete pavement (min. 6 inches thick) will meet the requirements of a distribution slab. Reinforce as noted above. Provide a minimum of 3 inches of granular material between the concrete pavement and the precast boxes.
- 4) Asphalt pavement (min. 6 inches thick) will meet the requirements of a distribution slab. Provide a minimum of 6 inches of granular material between the asphalt and the precast boxes. Also provide geogrid with 4" of cover to the asphalt within the granular material.

A special design will be required when the above options are not geometrically possible.

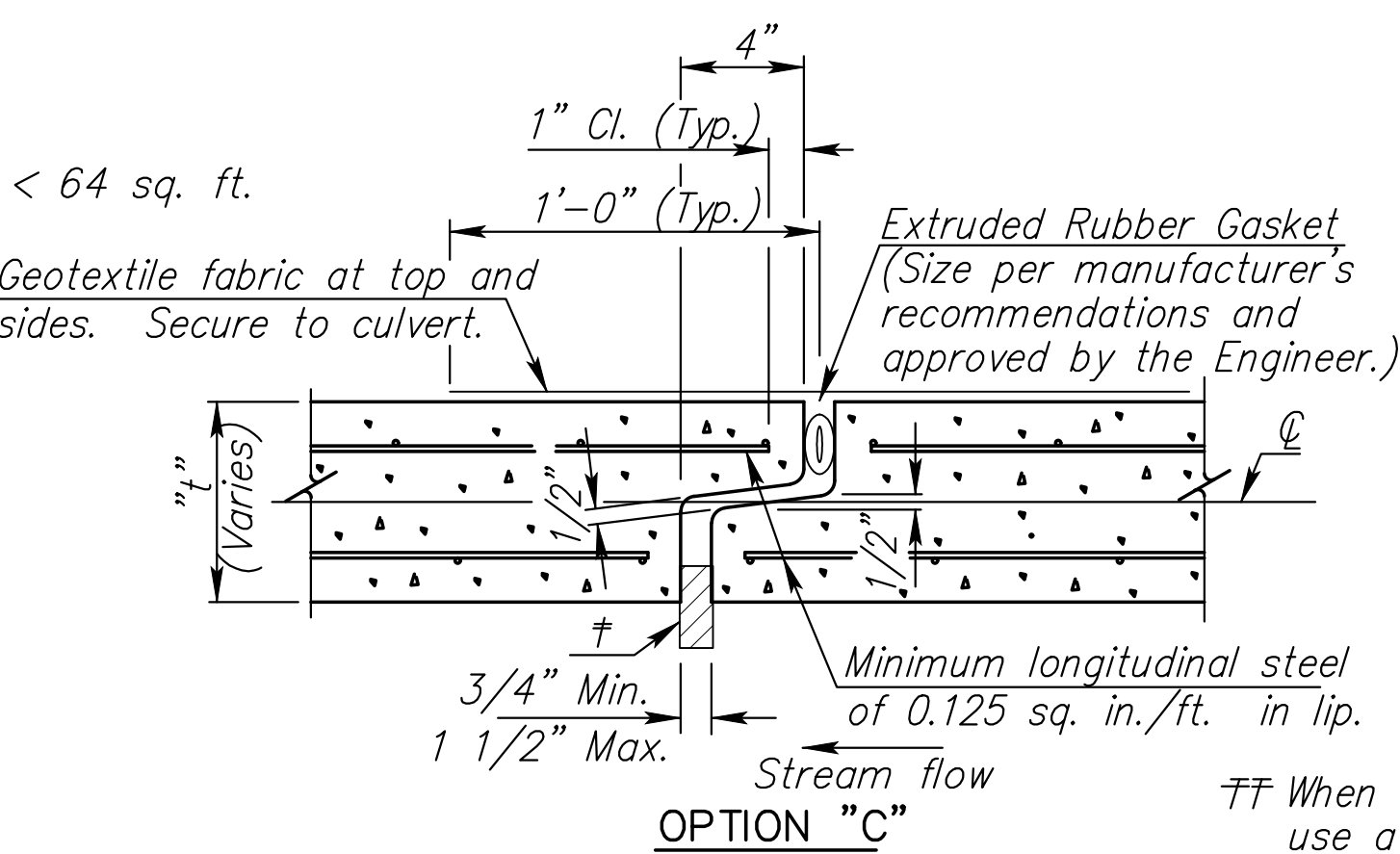


OPTION "A"



OPTION "B"

OPEN JOINT DETAIL



OPTION "C"

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

†† When shown on the shop details use a Bridge Backwall Protection conforming to Section 1700 of the KDOT Specifications.

NO.	DATE	REVISIONS	BY	APP'D
5	08-19-13	Edit Geogrid Placement	JPJ	TLF
4	07-28-11	Added Bridge Backwall Protection	JPJ	KFH
3	03-10-10	Clarification of Extension	JPJ	KFH
2	12-03-09	Revised ASTM / Added Note	JPJ	LRR
1	4-07-09	Clarified Distribution Slab	RAM	KFH

KANSAS DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE BOX CULVERT DETAILS

BR031	9-20-11	APP'D	KENNETH F. HURST
DESIGNED	DETAILED	PF QUANTITIES	CADD
DESIGN CK.	DETAIL CK.	RAM QUAN CK.	CADD CK.