

IOWA DEPARTMENT OF TRANSPORTATION

To Office Bridges and Structures

Date April 1, 2008

Attention All Employees

Ref No. 521.1

From Gary Novey

Office Bridges and Structures

Subject: Method's Memo No. 169 (Revision to Section 4.2, Culverts without fill)

1. Surface Finish

Use note E/M 624 to allow longitudinal tining by hand. The surface finish shall be full width between parapets.

E/M 624

THE TOP SLAB SURFACE WILL BE FINISHED IN ACCORDANCE WITH ARTICLE 2301.16. MACRO TEXTURE SHALL BE APPLIED LONGITUDINALLY (PARALLEL TO CENTERLINE OF THE ROADWAY). MACRO TEXTURE SHALL BE PLACED ON THE ENTIRE TOP SURFACE OF THE TOP SLAB EXCEPT IN THE AREA WITHIN APPROXIMATELY 2 FEET OF THE PARAPET.

2. Approach slab joint

The approach slab joint shall be tied to the culvert paving notch with a #5 (16) stainless steel dowel with a maximum spacing of 2'-0". A road standard 'E' joint shall be used. In addition, the following material note shall also be included for the stainless steel dowels.

E/M 634

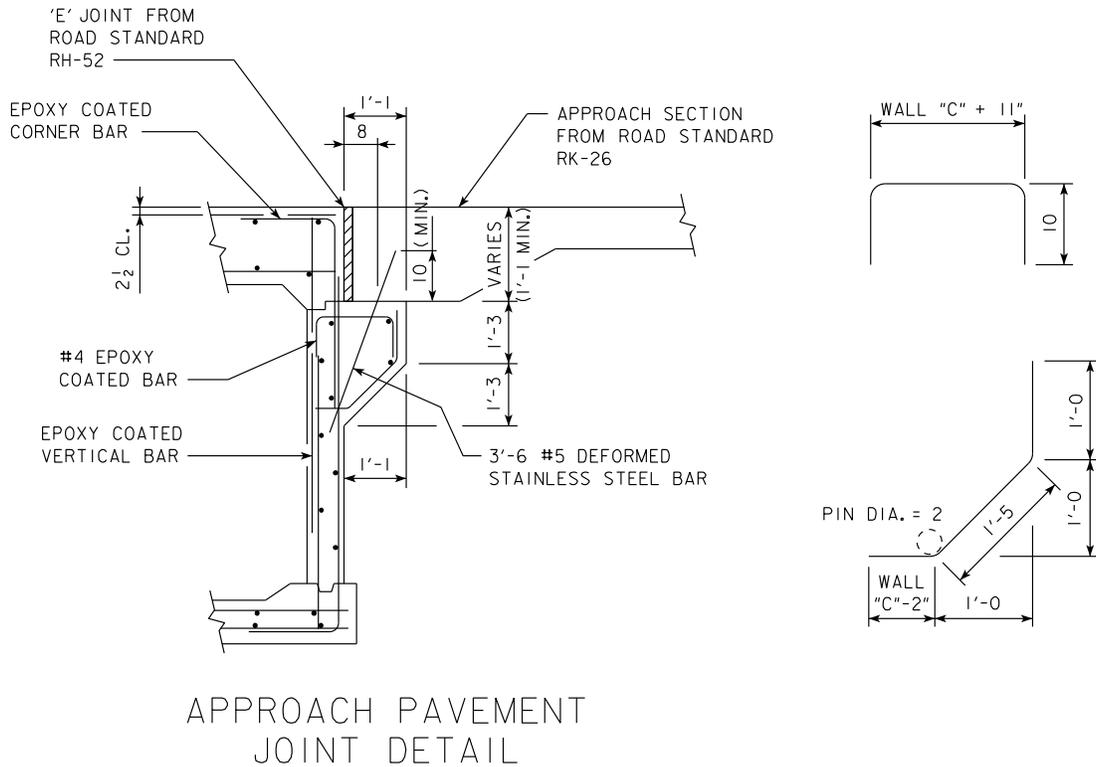
PAVING NOTCH DOWELS SHALL BE DEFORMED BAR GRADE 60, TYPE 316 LN IN ACCORDANCE WITH ASTM A955/A955M-01. THE WEIGHT OF THE STAINLESS STEEL PAVING NOTCH DOWEL BAR IS TO BE INCLUDED WITH THE WEIGHT OF THE EPOXY COATED REINFORCING STEEL. ADDITIONAL COST IS TO BE INCIDENTAL TO THE PRICE BID FOR "REINFORCING STEEL - EPOXY COATED".

The following slab protection note shall be added:

E/M 625

IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE CULVERT SLAB OR CULVERT WALLS FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE CULVERT CONTRACTOR AT NO EXTRA COST TO THE STATE.

- The following figure (see below) shall be added to the plans:



- Top Reinforcing clear cover

Clear cover for the top slab reinforcing steel shall be 2 1/2 inches (65 mm), therefore the minimum slab thickness shall be increased by 1/2 inch over the normal standard slab thickness.

- Epoxy coating of reinforcing

All top slab reinforcing, wall reinforcing extending into the slab and paving notch reinforcing shall be epoxy coated. Vertical reinforcing in walls of the culverts need to be spliced to allow for vertical adjustments of the reinforcing to maintain top and bottom clearance due to the variable slab thickness. Vertical bar lap lengths shall be

increased to provide the required lap length shown in the table below for the epoxy coating.

Minimum Lap of Epoxy Coated Vertical Reinforcing Bars	
Bar Size (Metric)	Lap Length-in (mm)
4 (13)	31 (790)
5 (15)	39 (990)
6 (19)	46 (1170)
7 (22)	62 (1575)
8 (25)	82 (2085)
9 (29)	104 (2645)

6. Epoxy Coated Paving Support Reinforcing

Spacing of the paving support reinforcing should coincide with vertical wall reinforcing for tying purposes. Maximum spacing is 1'-3.

If you have any questions on the updated sheets, please check with Thayne Sorenson or Dean Bierwagen.

GA-/dgb/bj