



South Carolina  
Department of Transportation

**BRIDGE DESIGN MEMORANDUM – DM0308**

**TO:** RPG Structural Engineers  
Structural Design Consultants

**DATE:** June 6, 2008

**RE:** Revised Prestressed Concrete Cored Slab Drawings

The Department's prestressed cored slab drawings have been revised. The revised drawings include the following changes:

- The ½-inch diameter transverse post-tensioning strands have been replaced with 1¼-inch diameter tie rods and the 2-inch diameter holes have been increased to 3 inches to accommodate the 1¼-inch diameter transverse tie rods.
- The dowel hole locations and the elastomeric bearing pad dimensions have been revised.
- A new drawing, Drawing 704-70, has been added that provides details for a 70-foot span.
- Details that are common to all of the spans have been removed from the individual span sheets and placed on a new drawing, Drawing 704-29.

Electronic copies of these drawings can be obtained from the *SCDOT Bridge Drawings and Details* at the Department's website.

When using the updated drawings, the designer should include the new detail sheets (Drawing 704-29) after the span sheet(s). The attached special provision shall be included in contracts containing these updated drawings. The designer must evaluate the design and revise the drawings when barrier parapet transitions or vertical railing walls are required. Due to the camber of the slab units, the designer must also evaluate the design and details of these spans to ensure the required finished grade profile can be maintained.

For previously completed plans that include the ½-inch diameter transverse post-tensioning strands, the designer should allow the Contractor the option of constructing the spans



using the details for the 1¼-inch diameter tie rods. However, the Contractor shall not be allowed to substitute ½-inch diameter transverse post-tensioning strands for the 1¼-inch diameter tie rods that are detailed on the revised drawings.



E. S. Eargle  
Preconstruction Support Engineer

ESE:bwb

Attachment

cc: Bridge Construction Engineer  
Bridge Maintenance Engineer  
FHWA Structural Engineer  
Preconstruction Support Managers  
Regional Production Engineers  
RPG Design Managers

File: PC/BWB

**SPECIAL PROVISION FOR PRESTRESSED CONCRETE CORED SLABS**

**(XX) SECTION 704: PRESTRESSED CORED SLABS:**

Subsection 704.4.6 is amended as follows:

Delete Paragraph 2 of Subsection 704.4.6.2 and replace it with the following:

“Provide holes and recesses at locations indicated in the Shop Plans for insertion of the 1¼ -inch diameter transverse tie rods.

Delete Subsection 704.4.6.5 and replace it with the following:

**“704.4.6.5 Transverse Tie Rods**

In each span, place 1¼-inch diameter transverse tie rods and tighten to a snug fit. After the 1¼-inch diameter transverse tie rods have been tightened in a span and before any equipment, material or barrier parapet is placed on the span, fill the shear keys, dowel holes, and tie rod recesses with the non-shrink grout as indicated on the Plans and allow curing for a minimum of 3 days. Ensure that the grout reaches a compressive strength of 5000 psi in 24 hours. Properly remove any foreign substance/materials including grease from the exposed portions of transverse tie rods before grouting the recesses.

With the approval of the RCE, material and equipment may be placed on the cored slab spans after the transverse tie rods have been tightened, the grout in shear keys has cured for 3 days minimum, and the grout has reached a compressive strength of 5000 psi.”