



## MEMORANDUM TO TEAMLEADERS & CONSULTANTS

**Subject :** New SCDOT Seismic Design Specifications

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Please find enclosed for your information and use the 2001 SCDOT "Seismic Design Specifications for Highway Bridges". This updated version shall replace the South Carolina DOT version of the "Standard Specifications for Highway Bridges", February 1999 Draft.

The SCDOT-Seismic Design Specifications for Highway Bridges ("Seismic Specification") have been prepared to provide the South Carolina Department of Transportation (SCDOT) Bridge Design Section with a guide to design criteria, analysis methods, and detailing procedures for the preparation of highway bridge plans.

The Specifications are not intended to be a textbook on structural or seismic engineering. They are intended to be a guide to acceptable SCDOT practice. The Specifications do not cover all conceivable problems that may arise, but are intended to be sufficiently comprehensive to, along with sound engineering judgment, provide a guide for bridge engineering.

A thorough knowledge of the contents of the Specifications is essential for a high degree of efficiency in the engineering of SCDOT highway bridge structures.

The specifications were designed for SCDOT's use by the SCDOT Bridge Seismic Engineering Section. The SCDOT does not warrant the Specifications to be standards required by any other entity or for use for purposes other than SCDOT's own purposes.

The primary function of the Specifications is to provide minimum requirements for use in bridge design to maintain public safety in an earthquake likely to occur in the State of South Carolina. The Specifications are intended to safeguard against major failures and loss of life, to minimize damage, maintain functions, and/or provide for expedited repair.

Variations from these Specifications may be necessary for special or unusual conditions or in response to new or revised source documents. Therefore, these Specifications are not intended to preclude the exercise of individual initiative and engineering judgment in reaction to site-specific conditions or application of current state of the art practices. However, it is important that any deviations from the Specifications be documented, along with the rationale for the deviations. The degree of documentation depends on the exact nature of the deviation and its degree of importance in respect to safety and good design. The Bridge Design Engineer must approve all variations and/or modifications to the Specifications.



Even though, most of the bridge projects are covered by this document, for critical and essential bridges the SCDOT may require a site-specific study, which will be included in the seismic scope of service for those particular projects.

All projects shall show on the Standard Notes Sheet the following:

*Seismic Design: Seismic Design is in accordance with the 2001 SCDOT "Seismic Design Specifications for Highway Bridges", with the following parameters:*

- *Design Method:*
- *Importance Classification:*
- *Seismic Performance Category:*
- *Acceleration Coefficient (s): S<sub>DS</sub>:*  
*S<sub>D1</sub>:*

Soil Class:

Please ensure that these new seismic specifications are implemented on future projects.



Randy R. Cannon, P. E.  
Bridge Design Engineer

cc: Assistant Bridge Design Engineers  
Bridge Seismic Engineer  
Bridge Construction Engineer  
Program Development Engineer – East  
Program Development Engineer – West  
Director of CRM Operations  
Director of Pre-Construction  
FHWA

PC/YIA