



South Carolina  
Department of Transportation

DM0698

October 29, 1998

## MEMORANDUM TO GROUP LEADERS & CONSULTANTS

SUBJECT: Approach Slabs

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This memorandum replaces the previous April 8, 1987 memorandum.

The standard approach slab length, measured parallel to the roadway, shall be 20 feet (6 m). Approach slab thickness shall be 12 inches (300 mm) with 2 inches (50 mm) concrete cover to top steel and 3 inches (75 mm) concrete cover to bottom steel. Concrete shall be Class D (Class 30) and reinforcing steel shall be ASTM A615M-96a (Grade 420).

Approach slabs shall be detailed with the top surface of concrete at grade when the plans indicate concrete pavement and detailed 2 inches (50 mm) below grade when road plans indicate asphalt pavement.

The main (longitudinal) reinforcing in the bottom of approach slabs shall be #22 bar at 6 inches (150 mm) on center. The main (longitudinal) reinforcing in the top of approach slabs shall be #22 bar at 12 inches (300 mm) on center. Top and bottom (transverse) distribution steel shall be #16 bar at 12 inches (300 mm) on center.

The outside edges shall be detailed as an 18 inch (450 mm) wide longitudinal edge beam reinforced with #22 bar located 3 inches (75 mm) from the edge and with three adjacent rows of #22 bar spaced at 5 inches (125 mm) on center.

When any of the following special conditions exist, the designer shall evaluate the above requirements and redesign and/or redetail approach slabs accordingly.

- 1) Seismic category C or D (See Attached seismic category listing)
- 2) Skews 30° or greater
- 3) Deep end spans where structure depth equals or exceeds ½ of approach slab length.
- 4) Sidewalks on bridge

These requirements apply to all future projects and no changes will be made in projects that have been previously detailed.

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Bridge Design Engineer

Attachment  
cc: Assistant Bridge Design Engineers  
File: PC/REL

TABLE 3.1. Spectral Acceleration Coefficient and  
Seismic Performance Categories  
in South Carolina by County

| COUNTY       | CODE | Acceleration |         | Seismic Performance Categories (SPC) |        |
|--------------|------|--------------|---------|--------------------------------------|--------|
|              |      | Sa(0.3)      | Sa(1.0) | ESSENTIAL                            | NORMAL |
| Abbeville    | 1    | 0.24         | 0.09    | A                                    | A      |
| Aiken        | 2    | 0.35         | 0.13    | B                                    | B      |
| Allendale    | 3    | 0.37         | 0.15    | B                                    | B      |
| Anderson     | 4    | 0.23         | 0.09    | A                                    | A      |
| Bamberg      | 5    | 0.51         | 0.18    | B                                    | B      |
| Barnwell     | 6    | 0.33         | 0.13    | B                                    | B      |
| Beaufort     | 7    | 0.47         | 0.19    | B                                    | B      |
| Berkeley     | 8    | 1.07         | 0.33    | D                                    | C      |
| Calhoun      | 9    | 0.55         | 0.19    | B                                    | B      |
| Charleston   | 10   | 1.07         | 0.33    | D                                    | C      |
| Cherokee     | 11   | 0.23         | 0.1     | B                                    | B      |
| Chester      | 12   | 0.26         | 0.11    | B                                    | B      |
| Chesterfield | 13   | 0.31         | 0.13    | B                                    | B      |
| Clarendon    | 14   | 0.73         | 0.27    | C                                    | C      |
| Colleton     | 15   | 0.77         | 0.26    | C                                    | C      |
| Darlington   | 16   | 0.43         | 0.18    | B                                    | B      |
| Dillon       | 17   | 0.37         | 0.17    | B                                    | B      |
| Dorchester   | 18   | 1.07         | 0.33    | D                                    | C      |
| Edgefield    | 19   | 0.27         | 0.11    | B                                    | B      |
| Fairfield    | 20   | 0.31         | 0.13    | B                                    | B      |
| Florence     | 21   | 0.71         | 0.27    | C                                    | C      |
| Georgetown   | 22   | 1.07         | 0.33    | D                                    | C      |
| Greenville   | 23   | 0.23         | 0.1     | B                                    | B      |
| Greenwood    | 24   | 0.25         | 0.11    | B                                    | B      |
| Hampton      | 25   | 0.41         | 0.17    | B                                    | B      |
| Horry        | 26   | 0.63         | 0.23    | C                                    | C      |
| Jasper       | 27   | 0.37         | 0.16    | B                                    | B      |
| Kershaw      | 28   | 0.35         | 0.15    | B                                    | B      |
| Lancaster    | 29   | 0.27         | 0.12    | B                                    | B      |
| Laurens      | 30   | 0.25         | 0.11    | B                                    | B      |
| Lee          | 31   | 0.48         | 0.19    | B                                    | B      |
| Lexington    | 32   | 0.38         | 0.15    | B                                    | B      |
| McCormick    | 33   | 0.25         | 0.1     | B                                    | B      |
| Marion       | 34   | 0.68         | 0.25    | C                                    | C      |
| Marlboro     | 35   | 0.37         | 0.15    | B                                    | B      |
| Newberry     | 36   | 0.29         | 0.11    | B                                    | B      |
| Oconee       | 37   | 0.23         | 0.09    | A                                    | A      |
| Orangeburg   | 38   | 0.77         | 0.27    | C                                    | C      |
| Pickens      | 39   | 0.23         | 0.09    | A                                    | A      |
| Richland     | 40   | 0.42         | 0.17    | B                                    | B      |
| Saluda       | 41   | 0.29         | 0.11    | B                                    | B      |
| Spartanburg  | 42   | 0.23         | 0.1     | B                                    | B      |
| Sumter       | 43   | 0.57         | 0.21    | C                                    | C      |
| Union        | 44   | 0.25         | 0.11    | B                                    | B      |
| Williamsburg | 45   | 1.07         | 0.33    | D                                    | C      |
| York         | 46   | 0.23         | 0.1     | B                                    | B      |