



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

MEMORANDUM TO: Project Engineers
Project Design Engineers

FROM: G. R. Perfetti, P. E.
State Structures Engineer

DATE: August 24, 2012

SUBJECT: DESIGN MANUAL REVISION

Chapters 2, 3, 4 and 5 of the Design Manual have been revised. The revisions entailed reorganizing the chapters and incorporating policy memoranda issued after November 2007. However, the sections listed below contain revisions that provide clarification and/or new guidance on current design practice.

Section	Comment
2.1.2.1	Provided guidance on distributing composite concentrated line loads in the bridge deck. Updated design weights for all standard barrier rails.
2.1.8	Provided guidance on torsion in bent caps.
2.3.5	Clarified LRFD cross-section type to be used when computing distribution factors for cored slab and box beam bridges.
2.3.6	Added requirements for refined methods of analysis.
2.3.7	Clarified application of LRFD specifications for skin reinforcement to bent caps with a depth $\leq 4'-0"$.
2.3.10	Clarified application of LRFD specifications to culvert slabs and walls.
2.3.12	Clarified when maximum rebar size in the deck may be exceeded in the negative moment region.
2.3.14	Disallowed use of empirical design for bridge decks.
2.3.15	Added pile embedment for caps depth $\geq 4'-0"$.
2.3.17	Provided design shear modulus values for elastomeric bearings.
3.2	Provided guidance on the use of sand-lightweight concrete for new construction bridges.
5.1.2.2	Added requirement to show Point of Minimum Vertical Clearance in the plan view of the General Drawing.
5.1.3 & 5.2.8	Added FEMA stream crossing requirements.
5.1.4	Added railroad shoring requirements.
5.2.1	Added note to require the Contractor verify pavement elevations at the point of minimum vertical clearance for structures spanning existing pavement.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
STRUCTURE MANAGEMENT UNIT
1581 MAIL SERVICE CENTER
RALEIGH NC 27699-1581

TELEPHONE: 919-707-6400
FAX: 919-250-4082

WEBSITE: WWW.NCDOT.ORG

LOCATION:
CENTURY CENTER COMPLEX
BUILDING A
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

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The Design Manual is available online.

GRP/BCH/GM/gdt

Cc: T. K. Koch, P. E.
R. A. Raynor, Jr., P. E.
E. B. Nelson, P. E.
H. Black, P. E.
J. A. Bennett, P. E.
D. S. Chang, P. E.
N. W. Wainaina, P. E.
C. A. Peoples, PE
R. A. Hancock, P. E., Attn: M. S. Robinson, P. E.
R. D. Rochelle, P. E.
E. E. Dubin, P. E., FHWA