



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

ROY COOPER  
GOVERNOR

JAMES H. TROGDON, III  
SECRETARY

MEMORANDUM TO: Project Engineers  
Project Design Engineers

FROM: B. C. Hanks, P. E.  
State Structures Engineer

DATE: June 27, 2019

SUBJECT: REVISIONS TO STANDARD DRAWINGS

The following Standard Drawing has been added:

<b>Standard No.</b>	<b>Summary of Revision(s)</b>
LRFR7	LRFR Summary for culverts where live load is neglected. See Design Manual Section 9.2.4

The following Standard Drawings have been revised:

<b>Standard No.</b>	<b>Summary of Revision(s)</b>
GRA 1	Revised for clarity.
Various CW	Added counterfort details to wing standards pertaining to multiple barrels, barrel heights of 8 feet or more, and 45°/135° skewes.
Various CW	Added example wing standard for precast box culverts.
CB	Revised live load note to HL-93 loading.
BOM	Revised superstructure splice length chart to incorporate revisions to Chapter 10 of the Design Manual.

The Standard Drawings are available on both the network drive and the Structures Management Unit website.

BCH/THC/ksl

Revisions to Standard Drawings

Page 2

June 27, 2019

Cc: G. Muchane, P. E.  
W. K. Fischer, P. E.  
T. M. Bruton, P. E.  
M. L. Sylvester, P. E.  
T. W. Whittington, P. E.  
D. C. Muller, P. E., FHWA  
Division Bridge Program Managers  
Regional Bridge Construction Engineers  
Area Construction Engineers