



# MEMORANDUM

**TO:** District Engineers

**DATE:** December 5, 2006

**FROM:** William R. Cox, P.E.

**SUBJECT:** New Prestressed Concrete Box Beam Standard Drawings (English)

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New prestressed concrete box beam standard drawings with an issue date of December 2006 are posted on the TxDOT web site and are available for immediate use. The designs reflected by these standard drawings are based on HL93 live loading as required by the AASHTO *LRFD Bridge Design Specifications*.

Key features of these standard drawings include the following:

- 24-, 28-, and 30-foot roadway widths, without skew, are accommodated.
- Span details accommodate both a 5-inch minimum cast-in-place concrete slab and a 2-inch minimum overlay comprised of a two course surface treatment and an asphaltic concrete pavement (ACP). The 2-inch overlay is recommended for low volume roads only.
- Foundation options are drilled shafts (30-inch), prestressed concrete piling (16-, 18-, and 20-inch), and steel H-piling (HP14x73 and HP14x117).
- Drawings accommodate abutment header slopes of 2:1 and 3:1.

Standard drawing BBNS is provided for the remaining projects designed for HS-20 live load in accordance with the AASHTO *Standard Specifications for Highway Bridges*. Box beam detail standard drawings based on HL93 live load can be used for projects designed for HS-20 live load,

For projects designed for HL93 live load in accordance with the AASHTO *LRFD Bridge Design Specifications*, standard drawing BBND must be used in lieu of BBNS to provide project-specific beam design information. On BBND, four less strand positions are provided for the Type B28, B34, and B40 beam sections than on BBNS. The topmost 2 strand rows are removed to ensure adequate reinforcement clear cover and strand confinement in these beams. These strand positions were utilized infrequently and this change has very little to no impact on these beam types' span capability. TxDOT's prestressed concrete beam design software PSTRS14 is being revised to accommodate this change.

These and other bridge standard drawings are available on the Bridge Standards web pages in MicroStation® “dgn” and Adobe® Acrobat® “pdf” formats. See <http://www.dot.state.tx.us/business/standardplanfiles.htm> .

If you have questions or comments concerning these standard drawings, please contact John M. Holt, P.E., at (512) 416-2212, or Jon T. Ries at (512) 416-2191.

Note: Original Signed By William R. Cox

cc: Federal Highway Administration  
Bridge Design Consultants  
Administration  
Division and Office Directors  
Directors of Transportation Planning and Development  
District Bridge Engineers  
Bridge Division Employees