



# MEMORANDUM

**TO:** District Engineers

**DATE:** April 10, 2006

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

**SUBJECT:** New Miscellaneous Bridge Standard Drawings (English)

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New miscellaneous bridge standard drawings with an issue date of April 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* when applicable.

Bridge standard drawings based on the AASHTO *LRFD Bridge Design Specifications* and HL93 live load can be used for bridge designs based on the AASHTO *Standard Specifications for Highway Bridges* and HS20 or HS25 live load.

Key features of these standard drawings include the following:

- **AJ**, Armor Joint – This revision clarifies length of joint for payment purposes.
- **BAS-A**, Bridge Approach Slab for Asphaltic Concrete Pavements – This revision requires a 1-inch thick bondbreaker when the approach slab is constructed on cement-treated base or cement-stabilized backfill as recommended by the TxDOT *Pavement Design Manual*.
- **BAS-C**, Bridge Approach Slab for Concrete Pavements – This revision requires a 1-inch thick bondbreaker when the approach slab is constructed on cement-treated base or cement-stabilized backfill as recommended by the TxDOT *Pavement Design Manual*.
- **BL**, Bridge Lighting Details – This revision provides only editorial changes.
- **BMCS**, Bridge Mounted Clearance Sign Assembly – This revision provides mounting details for rail types T411, C411, and T101 rails in addition to the rail types on the previous version. It also clarifies pay items.
- **BPA**, Bridge Protective Assembly – This standard drawing has not changed.
- **BS-EJCP**, Bridge Sidewalk Expansion Joint Cover Plate – This new standard drawing provides details for fabricating and installing slip-resistant plates over bridge expansion joints in sidewalks to aid mobility-impaired pedestrians. The details allow for retrofits and new construction. Use this standard drawing for all new construction where, by design, open expansion joints greater than 0.5-inch will exist in bridge sidewalks. This standard drawing satisfies the Texas Accessibility Standards, Section 4.5.
- **CP**, Prestressed Concrete Piling – This new standard drawing replaces standard drawings CP-N and CP-S. When this standard drawing is used, General Notes

for Item 409 must note the type of concrete required for pile fabrication—Class H or Class H(HPC)—and whether the concrete must be sulfate-resistant. Contact Brian Merrill, P.E., or Kevin Pruski, P.E., of the Bridge Division for assistance in determining concrete requirements. Bid codes for Item 409 must be based on concrete type in addition to pile size. The Bridge Division will develop appropriate bid codes.

- **CRR**, Concrete Riprap and Shoulder Drains – This standard drawing has not changed.
- **CSAB**, Cement Stabilized Abutment Backfill – This new standard drawing provides details for backfilling abutments with cement-stabilized backfill. Refer to this standard drawing for restrictions on its use.
- **FD**, Common Foundation Details – This revision adds a minimum bar extension length for No. 6 reinforcing bars.
- **IBNS**, Prestressed Concrete I-Beams, Non-Standard Spans – This standard drawing has not changed. It is provided for the remaining prestressed concrete I-beam bridges designed in accordance with the AASHTO Standard Specifications and HS-20 live load. LRFD-compliant prestressed concrete I-beam designs must be shown on standard drawing IBND (not included with these miscellaneous standard drawings).
- **MEBR(S)**, Minimum Erection and Bracing Requirements for Steel Girders and Beams – This standard drawing serves as a guide to the contractor in preparation of the erection drawings required by Item 441, “Steel Structures”. It provides a partial list of items required on erection drawings. Due to unknown geometry and construction loading of individual steel girder structures, this standard drawing cannot provide specific temporary bracing details with a consistent factor of safety. Therefore, this revision removes temporary bracing details.
- **ODSR**, Optional Drilled Shaft Reinforcing – This revision highlights restrictions on use of the details depicted on this standard drawing.
- **PCP**, Prestressed Concrete Panels – This revision applies slab thickness tolerance throughout the span, not just at midspan. It defines air gaps in panel bedding strips as 0.25-inch deep V-grooves in top of bedding strips. It also clarifies the welded wire reinforcement (WWR) splice detail. General Notes for Item 421 must note the type of concrete required for panel fabrication—Class H or Class H(HPC). Do not use this LRFD-compliant standard drawing for U-beam projects until the current U-beam standard drawings are made LRFD-compliant and published.
- **PCSP**, Prestressed Concrete Sheet Piling – This revision allows for different concrete types. When it is used, General Notes for Item 409 must note the type of concrete required for pile fabrication—Class H or Class H(HPC)—and whether the concrete must be sulfate-resistant. Contact Brian Merrill, P.E., or Kevin Pruski, P.E., of the Bridge Division for assistance in determining concrete requirements. Bid codes for Item 409 must be based on concrete type in addition to pile size. The Bridge Division will develop appropriate bid codes.
- **PMDF**, Permanent Metal Deck Forms – This revision updates material terminology to reflect the current version of ASTM A 653.

- **SBMS**, Miscellaneous Slab Details for Steel Girders and Beams – This revision adds a controlled joint detail, adds a detail covering continuous slabs over inverted-T bent caps, and adds a slab end reinforcement detail when thickened slab ends are not used.
- **SBTS**, Thickened Slab End Details for Steel Girders and Beams – This standard drawing has not changed.
- **SEJ-A**, Sealed Expansion Joint Type A – This revision provides only editorial changes.
- **SEJ-P**, Sealed Expansion Joint Type P – This revision provides only editorial changes.
- **SEJ-S(O)**, Sealed Expansion Joint Type S – This revision provides only editorial changes.
- **SGEB**, Elastomeric Bearings for Steel Girders and Beams – This new standard drawing replaces standard drawing SEB. It provides details for the fabrication and construction of elastomeric bearings for steel beams and plate girders.
- **SGMD**, Miscellaneous Details for Steel Girders and Beams – This new standard drawing replaces standard drawings SBD and SPGD. It provides miscellaneous fabrication and construction details, including standard diaphragms and cross frames, for steel beams and plate girders.

These new miscellaneous standard drawings apply to construction projects beginning with the October 2006 letting. Prior application is at the option of each District.

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  
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