DATE: August 3, 2010  
TO: Bridge Manual Users  
FROM: DTSD – Bureau of Structures  
SUBJECT: July, 2010 Bridge Manual Update

The Bridge Manual revisions to text and standards are now complete for this six month cycle. Please see the attached sheets for a list, with brief explanation, of the Text and Standards that were revised. Corresponding plan insert sheets have also been updated and posted online.

Most changes are fairly minor. Please use the example calculations provided with care (follow along in AASHTO). A couple of mistakes have been pointed out. Unfortunately, due to time/resource issues, the corrections were not made at this time but will be made for the following six month cycle.

If anything in a given chapter was edited, the date for the entire chapter was updated. A vertical black bar in the left margin notes all changes. Previous black bars were not removed from chapters which were not edited in this edition.

The user’s feedback regarding the Bridge Manual is important to us as that is where we get many ideas for corrections, clarification and new ideas for enhancement.
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page Number(s)</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>32</td>
<td>Modified advice given regarding exterior girder deflections with raised sidewalks.</td>
</tr>
<tr>
<td>9</td>
<td>5</td>
<td>Minor text changes</td>
</tr>
<tr>
<td>11</td>
<td>24</td>
<td>Removed Policy Item box regarding non-displacement piles using a reduced point resistance.</td>
</tr>
<tr>
<td>12</td>
<td>7,8</td>
<td>Clarified A1 &amp; A5 abutment usage</td>
</tr>
<tr>
<td></td>
<td>21,22</td>
<td>Modified abutment selection chart.</td>
</tr>
<tr>
<td>13</td>
<td>6</td>
<td>Noted that normal pile values are allowed for open pile bents</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>Clarified tributary area for transverse forces to fixed piers</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>Moments at face of column are used for pier cap design</td>
</tr>
<tr>
<td>17</td>
<td>5</td>
<td>Note that Strength IV should be considered for spans &gt; 300 ft</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>For a raised sidewalk Design Case 3, the multiple presence is equal to 1.0, not 1.2 base on LRFD C3.6.1.1.2</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>Total Load equation had erroneously omitted Lane load</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>Clarified DL &amp; LL loading to substructure</td>
</tr>
<tr>
<td></td>
<td>67</td>
<td>&quot;first interior girder&quot; should have been &quot;exterior girder&quot;</td>
</tr>
<tr>
<td>18</td>
<td>18E1-3</td>
<td>Stated that Example is current thru AASHTO LRFD Bridge Design Specification (5th Edition - 2010)</td>
</tr>
<tr>
<td>19</td>
<td>12</td>
<td>Clarified haunch values to be used</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>Except for pedestrian bridges, use 4 girders minimum</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>Typo 'on half' corrected to 'one half'</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>Clarified allowed strand size for various girder shapes</td>
</tr>
<tr>
<td></td>
<td>41,42</td>
<td>Continuity steel not to based on girder with raised sidewalk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Warning on prestressed girder span/spacing tables being somewhat unconservative. Hopefully tables revised at a future date.</td>
</tr>
<tr>
<td>29</td>
<td>2</td>
<td>Enhanced language with regards to drain spacing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Do not block out parapet to facilitate drainage</td>
</tr>
<tr>
<td>36</td>
<td>2</td>
<td>Changed text to match terminology used in AASHTO Specifications</td>
</tr>
<tr>
<td>37</td>
<td>2,3</td>
<td>Changed reference from Bridge Special Provision to STSP for Prefabricated Steel Truss Pedestrian Bridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Updated design loads to match AASHTO Pedestrian Bridge Guide for Pedestrian Live Load and appropriate Strength Limit State</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Added reference to AASHTO Pedestrian Facility Guide for recommended minimum width for Pedestrian Bridges</td>
</tr>
<tr>
<td>40</td>
<td>12</td>
<td>Don't add intermediate lines of diaphragms for deck replacements</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>Typo, formatting</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>Don't add intermediate lines of diaphragms for widenings</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>Use survey elevations for new decks and widenings</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>Incorrect bar embedment in example note</td>
</tr>
<tr>
<td>45</td>
<td>13</td>
<td>Highlighted text regarding permit vehicles on spans &gt; 200’ by making it a policy item</td>
</tr>
</tbody>
</table>
July 2010 Standard Details Update Summary

Chapter 11
Std 11.01  Updated Pile Resistance table to match text updated in 1/10

Chapter 12
Std 12.01  Clarified fixed abutment use under Designer Notes
         Clarified bars behind semi-expansion abutment notch
         Maximum body height labeled as 8'-0"
         Give max. spacing of horiz. #6 bars in front face

Std 12.02  Clarified when wing piles are required

Chapter 13
Std 13.01  Note to fully develop footing dowels
         Showing pier cap geometry more correctly in plan view
         Clarified footing reinforcement note
         Reference to Bridge Manual for vehicular collision force

Std 13.02  Note to fully develop footing dowels
         Removed note regarding minimum column reinforcement
         Clarified footing reinforcement note

Std 13.03  Updated reference to another standard in End View

Std 13.05  Note to fully develop footing dowels
         Showing pier cap with sloped beam seats
         Removed note regarding minimum column reinforcement
         Clarified footing reinforcement note
         Reference to Bridge Manual for vehicular collision force

Std 13.06  Note to fully develop footing dowels
         Showing pier cap with sloped beam seats
         Removed note regarding minimum column reinforcement
         Side cap bars to be designed, not standard #4 bars
         Clarified footing reinforcement note

Chapter 14
Std 14.02  Better defined MSE panel embedment into anchor slab
         Changed some solid lines to appropriate hidden lines
         Clarified how bars should be shown for anchor slabs & barriers
         Clarified how bars & concrete should be shown for copings

Chapter 18
Std 18.01  Clarified note for use of optional longitudinal joint

Std 18.02  Clarified note for use of optional longitudinal joint

Chapter 19
Std 19.01  Added hole for semi-expansion abutments
         (on insert sheets for some time, never standards)

Std 19.03  Added hole for semi-expansion abutments

Std 19.11  Added hole for semi-expansion abutments

Std 19.13  Added hole for semi-expansion abutments
Std 19.15  ■ Added hole for semi-expansion abutments
Std 19.17  ■ Added hole for semi-expansion abutments
Std 19.19  ■ Added hole for semi-expansion abutments
Std 19.33  ■ Changed "Haunch" to "Diaphragm" in section at pier
            ■ Showing laminated elastomeric bearings at section at pier
Std 19.34  ■ Changed "Haunch" to "Diaphragm" in section at pier
            ■ Showing laminated elastomeric bearings at section at pier
Std 19.35  ■ Changed "Haunch" to "Diaphragm" in section at pier
            ■ Showing laminated elastomeric bearings at section at pier
Std 19.51  ■ Epoxy coat bars projecting form box girder
Std 19.52  ■ Removed "Outside beams only" for #4 bars @ 9" in Longitudinal Section at Pier

Chapter 24
Std. 24.02  ■ Showing weld in Detail A on both sides of stiffener
Std. 24.10  ■ Diaphragm layout at piers adjusted to match std 24.03
Std. 24.11  ■ Clarified notes regarding slab pouring sequence
            ■ Returned detail for keyed construction joint for decks

Chapter 27
Std. 27.08  ■ Added note to clean bearing surfaces at installation
Std. 27.09  ■ Added note to clean bearing surfaces at installation

Chapter 28
Std. 28.01  ■ Added notes pertaining to slip-resistant surface on sidewalk cover plate
Std. 28.02  ■ Added details for slip-resistant surface on sidewalk cover plate
Std. 28.03  ■ Added notes pertaining to slip-resistant surface on sidewalk cover plate
Std. 28.04  ■ Added details for slip-resistant surface on sidewalk cover plate
Std. 28.06  ■ Added details for slip-resistant surface on sidewalk cover plate

Chapter 30
Std 30.01  ■ Clarified reinforcement at post anchorage for sidewalks
            ■ Clarified rail joint opening at strip seal expansion joints and A1 abutments
Std 30.04  ■ Added reference to Standard 30.07 for post spacing
Std 30.05  ■ Added reference to Standard 30.07 for post spacing
Std 30.07  ■ Added missing dimension for 2'-8" parapet (Section B)
■ Clarified joint opening value shown
■ Added guidance for parapet bar at paving notch
■ Guidance for deflection plates when light standards at piers

Std 30.10  ■ Referenced Std. 30.11 for member sizes and Chapter 17 for maximum overhang

Std 30.11  ■ Modified nomenclature for fence member sizes to match industry usage.
■ Added references in General Notes for a Polymer(PVC)-coated fence system.
■ Separated notes into General Notes and Designer Notes

Std 30.12  ■ Added guidance for parapet bar at paving notch

Std 30.13  ■ Added guidance for parapet bar at paving notch

Std 30.15  ■ Moved lower rail upward to allow more room for placement of the nut on the anchor bolt when bent post is selected
■ Corrected shim dimensions for top rail connection detail
■ Clarified usage of top rail connection detail
■ In legend for Railing Expansion Joint Detail, corrected tube diameter references to square tube

Std 30.16  ■ Clarified rail joint opening at strip seal expansion joints and A1 abutments

Std 30.17  ■ Moved some notes over from Std. 30.18 and labeled as Designer Notes

Std 30.18  ■ Some notes removed and placed on Std.30.17, and remaining notes labeled as General Notes.

Std 30.20  ■ Added guidance for parapet bar at paving notch

Std 30.22  ■ Clarified rail joint opening at strip seal expansion joints and A1 abutments

Std 30.23  ■ Clarified rail joint opening at strip seal expansion joints and A1 abutments

**Chapter 37**

Std 37.01  ■ Referenced Std. 37.02 for member sizes.
■ Separated notes into General Notes and Designer Notes

Std 37.02  ■ Modified nomenclature for fence member sizes to match industry usage.