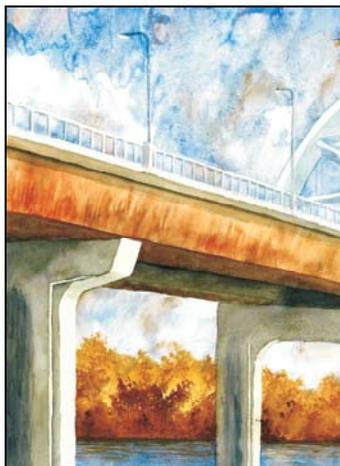
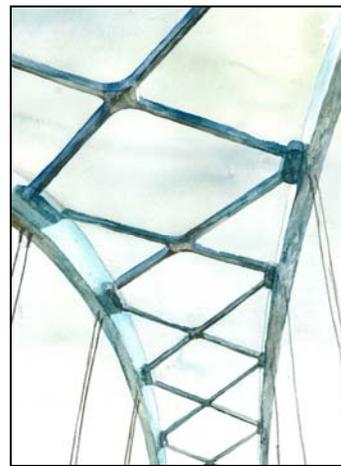




Division of Transportation
System Development
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Bridge Manual



Standard Details

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.

July 2010 Bridge Manual Text Update Summary

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

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 lamintated elastomeric bearings at section at pier
- Std 19.34 ■ Changed "Haunch" to "Diaphragm" in section at pier
■ Showing lamintated elastomeric bearings at section at pier
- Std 19.35 ■ Changed "Haunch" to "Diaphragm" in section at pier
■ Showing lamintated 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.