

DATE: February 2, 2022
TO: Bridge Manual Users
FROM: DTSD – Bureau of Structures
SUBJECT: **January 2022 Bridge Manual Update**

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

Of particular interest in this edition:

- **Chapters 5** – Updated Year End Structure Costs
- **Chapter 45** – Updated the process for generating the Final Bridge Maintenance Work Plan.

Note: BOS is in the process of moving to Civil 3D from MicroStation. Standard insert sheets are currently only available in MicroStation. User's will be notified once Civil 3D versions become available.

Most other changes are fairly minor. Please use the example calculations with care (follow along in AASHTO). A vertical black bar in the left margin notes all text changes.

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.

January 2022 Bridge Manual Text Update Summary

<u>Chapter</u>	<u>Page</u> <u>Number(s)</u>	<u>Change</u>
2	3	Updated Bureau of Structures organization chart
5	10,12	Updated Year End Structure Costs (2018 & 2019)
	14	Added Year End Structure Costs (2020)
6	7	Updated Structure Survey Report website link
	24	Updated Note 5 to match Std. Specs and Standards for the removal of at least one inch behind existing reinforcing steel
	24	Added Note 10 to avoid damaging the existing girder, including shear stirrups. Sawcutting of the existing shear stirrups is not allowed.
43	4-7,9-12,16	Revisions were made to the process for generating the Final Bridge Maintenance Work Plan.
45	61	Corrected Figure 45.10-3 PUP Unit axel spacing from 15'-90" to 15'-9"

January 2022 Standard Details Update Summary

Chapter 4

- Std 4.01 ■ No revisions.
- Std 4.02 ■ No revisions.
- Std 4.03 ■ No revisions.
- Std 4.04 ■ No revisions.
- Std 4.05 ■ No revisions.

Chapter 7

- Std 7.01 ■ No revisions.
- Std 7.02 ■ No revisions.
- Std 7.03 ■ No revisions.
- Std 7.04 ■ No revisions.
- Std 7.05 ■ No revisions.
- Std 7.06 ■ No revisions.
- Std 7.07 ■ No revisions.

Chapter 9

- Std 9.01 ■ No revisions.
- Std 9.02 ■ No revisions.
- Std 9.03 ■ No revisions.

Chapter 11

- Std 11.01 ■ No revisions.

Chapter 12

- Std 12.01 ■ Clarified #6 bar max. spacing (1'-6") inside stirrups, as shown. (removed "F.F.")
- Std 12.02 ■ No revisions.
- Std 12.03 ■ No revisions.
- Std 12.04 ■ No revisions.
- Std 12.07 ■ No revisions.
- Std 12.08 ■ Moved pile spacing note "One Half Pile Spa. Max." from Elevation to Plan view.
- Std 12.09 ■ No revisions.
- Std 12.10 ■ No revisions.
- Std 12.11 ■ No revisions.
- Std 12.12 ■ No revisions.
- Std 12.13 ■ No revisions.

Chapter 13

- Std 13.01 ■ No revisions.
- Std 13.02 ■ No revisions.
- Std 13.03 ■ No revisions.
- Std 13.04 ■ No revisions.
- Std 13.05 ■ No revisions.
- Std 13.06 ■ No revisions.
- Std 13.07 ■ No revisions.
- Std 13.08 ■ No revisions.
- Std 13.09 ■ No revisions.
- Std 13.10 ■ No revisions.
- Std 13.11 ■ No revisions.

Chapter 14

- Std 14.02 ■ No revisions.
- Std 14.03 ■ No revisions.
- Std 14.04 ■ No revisions.
- Std 14.05 ■ No revisions.
- Std 14.11 ■ No revisions.
- Std 14.12 ■ No revisions.
- Std 14.13 ■ No revisions.

Chapter 15

- Std 15.01 ■ No revisions.
- Std 15.02 ■ No revisions.
- Std 15.03 ■ No revisions.

Chapter 17

- Std 17.01 ■ Added deflection joint criteria for when there is a light standard at the pier.
- Std 17.02 ■ No revisions.
- Std 17.03 ■ No revisions.

Chapter 18

- Std 18.01 ■ No revisions.
- Std 18.02 ■ No revisions.

Chapter 19

- Std 19.01 ■ Corrected Standard Spec. Reference in 3rd paragraph of Notes from 503.3.3 to 503.3.4
 - Changed "Acceptance" to "Approval" in 7th paragraph of Notes to match the other Standards
 - Added to Designer Notes: "Show only one strand size on the Plans.
- Std 19.02 ■ Added Table of Values for (0.5" Dia.) Undraped Strands because Standard 19.01 "Designer Notes" states that they may be used.
- Std 19.03 ■ No revisions.
- Std 19.04 ■ No revisions.
- Std 19.11 ■ Corrected #3 stirrup pairs shown in Detail A (Bottom Flange)
 - Corrected Top Flange Thickness shown in Side View to match Thickness in Section A-A
 - Added Transverse Top Flange Reinforcement to Side View
 - Corrected size of Angle used at End of Girder for Expansion Abutments
 - Corrected Standard Spec. Reference in 3rd paragraph of Notes from 503.3.3 to 503.3.4
- Std 19.12 ■ No revisions.
- Std 19.13 ■ Corrected #3 stirrup pairs shown in Detail A (Bottom Flange)
 - Corrected Top Flange Thickness shown in Side View to match Thickness in Section A-A
 - Added Transverse Top Flange Reinforcement to Side View
 - Corrected Standard Spec. Reference in 3rd paragraph of Notes from 503.3.3 to 503.3.4
- Std 19.14 ■ No revisions.
- Std 19.15 ■ Corrected #3 stirrup pairs shown in Detail A (Bottom Flange)
 - Added Transverse Top Flange Reinforcement to Side View
 - Corrected Standard Spec. Reference in 3rd paragraph of Notes from 503.3.3 to 503.3.4

- Corrected Reference to Table Number in 3rd paragraph of Designer Notes to match Bridge Manual Chapter 19
 - Added bar missing from #3 Bar Stirrup pair in Side View Right End
- Std 19.16 ■ No revisions.
- Std 19.17 ■ Corrected Standard Spec. Reference in last paragraph of Notes from 503.3.3 to 503.3.4
- Corrected #3 stirrup pairs shown in Detail A (Bottom Flange)
 - Added Transverse Top Flange Reinforcement to Side View
- Std 19.18 ■ No revisions.
- Std 19.19 ■ Corrected Standard Spec. Reference in last paragraph of Notes from 503.3.3 to 503.3.4
- Corrected #3 stirrup pairs shown in Detail A (Bottom Flange)
 - Added Transverse Top Flange Reinforcement to Side View
- Std 19.20 ■ No revisions.
- Std 19.31 ■ No revisions.
- Std 19.32 ■ No revisions.
- Std 19.33 ■ No revisions.
- Std 19.34 ■ No revisions.
- Std 19.35 ■ No revisions.
- Std 19.36 ■ No revisions.
- Std 19.37 ■ No revisions.
- Std 19.38 ■ No revisions.
- Std 19.50 ■ No revisions.
- Std 19.51 ■ No revisions.
- Std 19.52 ■ No revisions.
- Std 19.53 ■ No revisions.
- Std 19.54 ■ No revisions.
- Std 19.55 ■ No revisions.
- Std 19.56 ■ No revisions.

Chapter 23

- Std 23.01 ■ No revisions.
- Std 23.02 ■ No revisions.
- Std 23.03 ■ No revisions.

Chapter 24

- Std 24.02 ■ No revisions.
- Std 24.03 ■ No revisions.
- Std 24.04 ■ No revisions.
- Std 24.06 ■ No revisions.
- Std 24.08 ■ No revisions.
- Std 24.09 ■ No revisions.
- Std 24.10 ■ No revisions.
- Std 24.11 ■ No revisions.
- Std 24.12 ■ No revisions.

Chapter 27

- Std 27.02 ■ No revisions.
- Std 27.05 ■ No revisions.
- Std 27.06 ■ No revisions.
- Std 27.07 ■ No revisions.
- Std 27.08 ■ No revisions.

- Std 27.09 ■ No revisions.
- Std 27.10 ■ No revisions.

Chapter 28

- Std 28.01 ■ No revisions.
- Std 28.02 ■ No revisions.
- Std 28.03 ■ No revisions.
- Std 28.04 ■ No revisions.
- Std 28.05 ■ No revisions.
- Std 28.06 ■ No revisions.
- Std 28.07 ■ No revisions.
- Std 28.08 ■ No revisions.

Chapter 29

- Std 29.01 ■ No revisions.
- Std 29.02 ■ No revisions.
- Std 29.03 ■ No revisions.

Chapter 30

- Std 30.02 ■ No revisions.
- Std 30.04 ■ No revisions.
- Std 30.05 ■ No revisions.
- Std 30.07 ■ No revisions.
- Std 30.08 ■ No revisions.
- Std 30.09 ■ No revisions.
- Std 30.10 ■ No revisions.
- Std 30.11 ■ No revisions.
- Std 30.14 ■ No revisions.
- Std 30.15 ■ No revisions.
- Std 30.16 ■ No revisions.
- Std 30.17 ■ No revisions.
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- Std 30.33 ■ No revisions.
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- Std 30.35 ■ No revisions.
- Std 30.36 ■ No revisions.
- Std 30.37 ■ No revisions.

Chapter 36

- Std 36.01 ■ No revisions.
- Std 36.02 ■ No revisions.
- Std 36.03 ■ No revisions.
- Std 36.04 ■ No revisions.
- Std 36.05 ■ No revisions.
- Std 36.06 ■ No revisions.
- Std 36.07 ■ No revisions.
- Std 36.08 ■ No revisions.
- Std 36.10 ■ No revisions.
- Std 36.11 ■ No revisions.
- Std 36.12 ■ No revisions.
- Std 36.13 ■ No revisions.
- Std 36.14 ■ No revisions.
- Std 36.15 ■ No revisions.
- Std 36.16 ■ No revisions.

Chapter 37

- Std 37.01 ■ No revisions.
- Std 37.02 ■ No revisions.

Chapter 38

- Std 38.01 ■ No revisions.

Chapter 39

- Std 39.02 ■ No revisions.
- Std 39.03 ■ No revisions.
- Std 39.09 ■ No revisions.
- Std 39.10 ■ No revisions.
- Std 39.11 ■ No revisions.
- Std 39.12 ■ No revisions.
- Std 39.13 ■ No revisions.

Chapter 40

- Std 40.01 ■ No revisions.
- Std 40.02 ■ No revisions.
- Std 40.03 ■ No revisions.
- Std 40.04 ■ No revisions.
- Std 40.05 ■ No revisions.
- Std 40.06 ■ No revisions.
- Std 40.07 ■ No revisions.
- Std 40.08 ■ Changed minimum side cover on steel plate from 1/8" to 1/4".
- Std 40.09 ■ No revisions.
- Std 40.10 ■ No revisions.
- Std 40.11 ■ No revisions.
- Std 40.12 ■ No revisions.
- Std 40.13 ■ No revisions.
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- Std 40.16 ■ No revisions.
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- Std 40.33 ■ No revisions.
- Std 40.34 ■ No revisions.
- Std 40.40 ■ No revisions.
- Std 40.41 ■ No revisions.