

October 2009 Update  
ODOT Bridge Design & Drafting Manual

Update Summary – Revised 10/23/09, Nov. 09

**Section 1 – Design and Detailing Practices**

**1.1.1** rearrange section, move Bridge Security Design Considerations to 1.1.2.9.11

1.1.2.2 Bridge Length, (3) Scour Evaluation – add discussion on scour at bridge abutments (Also see 1.1.8.5).

1.1.2.9 Other Things To Keep In Mind – make numbered subsections into decimal numbers

1.1.2.9.10 Permits (new) add reminders for needed permits

1.1.2.9.11 (new section) move Bridge Security Design Considerations here from 1.1.1.3

1.1.2.9.12 new subsection number for Accelerated Br. Construction

1.1.2.11 (3) TS&L Narrative – add possible discussion items to Structure Features: Type of bridge bearings, Accessibility to bridge bearings & joints

1.1.2.12 Final Design – add review items for joints and bearings: inspectable, allowance for bearing replacement, inspection & maintenance of modular bridge joint systems.

1.1.5.5 Drilled Shafts –

(11) Crosshole Sonic Log (CSL) Testing – revise Fig. 1.1.5.5C: change location of tubes, add details for bundled bars. Updated 10/23/09

(12) Shaft Reinforcement – add discussion on maximum moment, remove “R” factor

(14) Cover Requirements – revised.

**1.1.7.2** Live Loads

(4) Structure Repair and/or Strengthening – add AASHTO LRFD spec’s.

**1.1.7.7** Repair and Strengthening of Bridges – new section

1.1.8.4 End Bents – (integral abutments) revise Fig. 1.1.8.4A, correct spelling

1.1.9.3 Structure Widening, Interior Bents – correct dowel length, Fig. 1.1.9.3A

1.1.9.5 Column Design, General – remove bar spacing sentences.

1.1.11.2 Information for Restrainer Design

(5) Wire Rope – terminology updated, various revisions

1.1.11.6 Use of State Stockpile Wire Rope (Cable) for Seismic Retrofit – various revisions (revisions in file 1.1.11.2 (5) ).

1.1.12.1 Concrete General – smaller aggregate size for post-tensioned box girder bottom slab and stem walls

1.1.13.1 Reinforcement, General –

(2) Minimum Bar Covering – revise Fig. 1.1.13.1B for box girders

1.1.13.3 Interim Reinf. for T-Beams and Box Girders – revise top bends of Box Girder Beam stem stirrups in Fig. 1.1.13.3A

1.1.19 Bearings – add requirements to design for future bearing maintenance and replacement

1.1.19.1 Elastomeric Bearing Pads – clarify movement formula variables

1.1.19.2 Proprietary Pot, Disc, Slide, Radial or Spherical Bearings – clarify movement formula variables

1.1.20.2 Expansion Joints – revise Fig. 1.1.20.2E: add notes and AC pattern

1.1.21.4 Temporary Bridge Rail – remove Fig. 1.1.21.4A, refer to new Standard Details

1.2.1 Steel Girders – add AASHTO exception note, add paragraph on box girder internal corrosion protection

1.2.1.2 Shop Lengths of Welded Girders – revise discussion on length and weight

1.2.1.3 Intermediate Cross Frames – requirements clarified

1.2.1.6 Cross Frames at Bents – correct Figure 1.2.1.6A reference, add requirement for skewed bents

1.2.1.10 End Bents Detailing – Fig.'s 1.2.1.10C & D: revise coating reference.

## **1.2.5** Structural Wire Rope (Cable) and Turnbuckles

- 1.2.5.1 Structural Wire Rope (Cable) and Turnbuckles, General – added discussion
  - 1.2.5.2 General Notes for Structural Wire Rope, Turnbuckles and Wire Rope Connections – new & revised general notes.
  - 1.2.5.3 Special Provisions for Wire Rope – revised & expanded
  - 1.2.5.4 Special Provisions for Turnbuckles and Socket Connections – revise & add requirements
  - 1.2.5.5 Design Properties – revised
- 1.4.9 Bridge Temporary Works –
- 1.4.9.1 Introduction – add Special Provision references
  - 1.4.9.7 Bridge Raising – add new section

**A1.1.2.9.10** Permits – Project Prospectus : add examples of Project Prospectus, Figures A1.1.2.9.10 A through D

Appendix B – Abbreviations:

add **NAVD 88 North American Vertical Datum 1988**

## **Section 2 – Drafting Practices**

2.1.3.2 What Bridge Headquarters Needs At Completion of a Design Project – add bullet items

2.4.1 Request for Drawing Numbers – add link for structure naming and numbering rules

**2.7.2** Final Plans, General – refer to A2.6 for Final Plans checklist, now included in new Bridge Design Checklist.

**2.7.3.2** Elevation – revise datum to North American Vertical Datum NAVD 88

2.7.4 Foundation Data Sheet – revised section

2.8.3.1 What Is Bridge Data System (BDS)? – Add conditions for when to request ODOT structure number

**A2.1** Text / Abbreviations – add North American Vertical Datum 1988, NAVD 88

A2.2.2 Line Work and Levels – revise Fig. A2.2.2A (overlay patterns)

**A2.6** Type, Size and Location Plan & Elevation – remove existing TS&L checklist, replace w/ new combined design checklist for TS&L, Final Design and Design Checks

**A2.7.2** Final Plans, General – remove existing Final Design checklist, refer to A2.6 from 2.7.2

A2.7.3 Plan and Elevation – General Notes: revise note and remove redundant note near beginning, revise Structural Steel notes