



OHIO DEPARTMENT OF TRANSPORTATION
CENTRAL OFFICE, 1980 W. BROAD ST., COLUMBUS, OHIO 43216-0899

July 17, 2020

To: Users of the Bridge Design Manual

From: Tim Keller, Administrator, Office of Structural Engineering

By: Sean Meddles, Assistant Administrator, Office of Structural Engineering

Re: July 2020 Edition of the ODOT Bridge Design Manual

The July 2020 Edition of the ODOT Bridge Design Manual is now available. This edition shall be implemented on all Department projects that begin Stage 1 plan development date after July 17, 2020. Implementation for projects further along the development process should be considered on a project-by-project basis.

The July 2020 edition of the Bridge Design Manual may be downloaded at no cost using the following link:

<http://www.dot.state.oh.us/Divisions/Engineering/Structures/Pages/default.aspx>

Attached is a brief description of revisions in the new edition.

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Summary of Revisions to the January 2020 ODOT BDM

BDM Section	Affected Pages	Revision Description
Multiple	Multiple	Throughout the BDM, terminology for traffic railing systems has been made consistent. The term “Parapet” has been removed except for its use in the title of a Standard Bridge Drawing. The term “Barrier” is reserved for use with roadway railing systems. The term “Bridge Railing” is reserved for use with railing systems protecting bridges.
101.7	1-4	A definition of Design Loading has been added. Note: all instances of the term “Design Loading” appearing in the BDM have been capitalized.
104	1-13	A new section has been added to define the purpose and requirements of Structural Reviews in the Project Development Process.
201	2-1	When BDM Section 200 was released in January 2020, it was intended as the minimum requirements for structure submissions defined by the Staged Review Process. However, the Department does have three additional project development processes: Limited Review, Design-Build and Local-Let Local Public Agency. BDM Section 201 was added to bundle the previous contents of the section under the Staged Review Process.
201.1.1	2-1	Clarification has been added regarding the submission requirements for Structure Type Studies involving projects with multiple bridge SFN’s.
201.1.2.2.G	2-4	The Design Loading provided in the Proposed Structure Block has been divided into Vehicular Live Load and Future Wearing Surface to allow for multiple loadings on a structure.
201.1.2.2.H	2-5	The Design Loading provided in the Existing Structure Block has been clarified to Vehicular Live Load.
201.2.1	2-8	Clarification has been added regarding the submission requirements for Bridge Preliminary Design Reports involving projects with multiple bridge SFN’s.
201.2.1.3.c	2-12	This revision corrected a minor mistake in the listing of drilled shaft integrity testing methods.

BDM Section	Affected Pages	Revision Description
201.2.1.4	2-13	The requirement to add railroad traffic counts to the Supplemental Site Plan has been removed.
201.4	2-18	Clarification has been added regarding the submission requirements for Stage 2 plans involving projects with multiple bridge SFN's.
201.5	2-28	Clarification has been added regarding the submission requirements for Stage 3 plans involving projects with multiple bridge SFN's.
201.6	2-28	Clarification has been added regarding the submission requirements for Final Tracing of plans involving projects with multiple bridge SFN's.
202	2-28	Information regarding the Limited Review Process has been added.
203	2-28	Information regarding the Design-Build Review Process has been added.
204	2-28 through 2-29	Information regarding the Local-Let Local Public Agency (LPA) Project Review Process has been added.
303	3-2	The title of BDM Section 303 has been changed from "Loading Requirements" to "Design Loading" to be consistent with the new definition provided in BDM Section 101.7.
303.1.1	3-2	The term "Vehicular" has been added to the title of BDM Section 303.1.1 for clarity.
304.2.3	3-10 through 3-14	Following recommendations from the National Transportation Safety Board (NTSB) accident report for the Pedestrian Bridge Collapse Over SW 8 th Street in Miami, FL, additional requirements and design guidance have been added to the BDM regarding Construction Joints.
305.2.1	3-29	Due to a revision to LRFD Equation 10.6.3.1.2a-1, information from the BDM has been removed.
305.2.1.2.b.B	3-33	A limit was placed on the K_b term to avoid a division by zero error.
305.2.1.2.b.D	3-34	A clarification has been provided to distinguish between foundations on bedrock and those that are not.

BDM Section	Affected Pages	Revision Description
305.3.2	3-40 through 3-41	Restrictions to the use of the 1979 Tomlinson model have been added with requirements for the use of the 1980 Tomlinson model.
Table 305-1	3-45	Added Soil Type Description: Sandy Silt, Plastic. Modified Soil Type Description: Sandy Silt to Sandy Silt, Non-Plastic.
305.3.5.6	3-51	Added a clarifying requirement for piling driven through very dense granular soils.
305.4	3-55	Added a BDM reference to the Structure Foundation Exploration Report
305.4.1.1	3-57	Provided clarifying requirements for friction drilled shafts and drilled shafts socketed into non-scour resistant and scour resistant bedrock.
305.4.2	3-60	Provided a clarifying requirement for the unconfined compressive strength of interbedded rock types.
305.5	3-67	Added a BDM reference to the Structure Foundation Exploration Report
305.6	3-68	Added a BDM reference to the Structure Foundation Exploration Report
305.7.1	3-70	Revised the minimum dynamic load testing requirements for CFA piles.
306.2.2.5	3-80	Revised the reference to the Integral Abutment Standard Bridge Drawing reflecting the release of the updated drawing.
306.2.2.6	3-84	Removed a restriction against attaching the transition to concrete bridge railings to the superstructure.
307.6.3	3-120	Removed a redundant requirement for the minimum width of precast concrete lagging panels.
308.2.2.2.b	3-140 through 3-141	Addressed the fit condition for cross-frames/diaphragms in bays with closure pours. Added some related information and guidance to the Commentary.
309.3.2	3-170	Updated the drawing name for the single slope concrete bridge railing Standard Bridge Drawing.

BDM Section	Affected Pages	Revision Description
Figure 309-3	3-171	Added updated drawing names for single slope concrete bridge railings.
Table 309-2	3-197	Added updated drawing names for single slope concrete bridge railings. Added reference to 36-in single slope concrete bridge railing research.
309.4.3.2	3-201	Updated the drawing name for the single slope concrete median bridge railing Standard Bridge Drawing.
309.4.3.10	3-202	Added a section to address the new 36-in single slope concrete bridge railing system.
Table 309-4	3-214	Provided clarification for expansion lengths shown in the table with regard to integral and semi-integral superstructures.
310.5.2	3-223	Clarified that the Lettering and Logo review is not a structural review. Also provide some requirements for aesthetic lighting.
401.3	4-1	Added a reminder to include the Vehicular Live Load and Future Wearing Surface allowance in the Proposed Structure Block.
401.4	4-2	Clarified the purpose for the Design Exception requirements for projects involving bridge overlays. Also provided a requirement to include a statement in the General Notes when the Design Loading is approved by a Design Exception.
403.3.1	4-12	Provided information in the Commentary for how weather conditions can impact traffic control windows.
403.3.3	4-13	Provided information in the Commentary for how weather conditions can impact traffic control windows.
403.4.1.3	4-17	Provided minimum reinforcement recommendation when utilizing SDC overlays in thickness exceeding 5-in.
Figure 404-6	4-61	Identified the type of geogrid reinforcement to specify in the detail shown.
405.2.1	4-65	Added a requirement to specify the maximum removal limits for concrete patching with some guidance in the Commentary.

BDM Section	Affected Pages	Revision Description
405.3	4-67	With a recent update to C&MS 520, the compressive strength limit is 4000-psi. Commentary is provided as a reminder to utilize an “As Per Plan” pay item for higher strength applications.
405.9	4-69	The Commentary provides some information resulting from ODOT research involving deep concrete members.
405.11.1	4-71	Added requirements to consider pile corrosion for piles located in aggressive soils.
500	5-1 through 5-4	This section has been converted to 2-column format.
602.2	6-3	The Design Loading notes were revised to include: Vehicular Live Load, Future Wearing Surface and, if applicable, statement for Design Exception.
603.1	6-6	A note for Maximum Removal Limits has been added for concrete repair not requiring temporary support. This note coincides with the revision in BDM Section 405.2.1.
605.2	6-10	Added a note that was inadvertently omitted in the previous edition.
800	8-1 through 8-14	This section has been converted to 2-column format.
802.1.2.B	8-3	Correct N-values normalized to a 60-percent efficient hammer energy (N60) has been added.
802.1.2.D	8-4	Added clarification for establishing soil type.
802.2	8-7	Added aesthetic treatment requirement and added reference to the ODOT Aesthetic Design Guidelines.
803.3	8-11 through 8-12	Revised the additional detail design submission requirements.
805.2	8-13	Added some structural design requirements for manufacturer noise barrier submissions.

BDM Section	Affected Pages	Revision Description
905	9-1 through 9-4	Added a new definition for AssetWise and revised the definition for the Structure Management System (SMS). References to the SMS have been updated throughout BDM Section 900 to AssetWise.
919.3.1	9-20	Reduced the posting of signs from 90 days to 30 days with some clarification on the initiation of the posting requirement.
1013.5	10-17	The ODOT Bridge Railing System critical lengths and design resistances have been updated for SBR-1-20, SBR-2-20 and SBR-3-20.