

I-15.01 General

The basic requirements for highway design are outlined in 23 CFR 625, “Design Standards for Highways” and 23 CFR 650 “Bridges, Structures, and Hydraulics.” This regulation references a number of other documents and publications which are included in the Design Manual by reference. Following is a listing of specific publications that are utilized in highway design in North Dakota.

I-15.02 Reference Publications – Roadway Design

- A Policy on Geometric Design of Highways and Streets. 6th edition. AASHTO, 2011.
- A Policy on Design Standards Interstate System. 5th edition. AASHTO, 2005.
- Roadside Design Guide. 4th edition. AASHTO, 2011.
- Manual on Uniform Traffic Control Devices (MUTCD). 2009 edition, FHWA.
<http://mutcd.fhwa.dot.gov/>
- Clearview Typeface Supplement, English Version (MUTCD). FHWA, 2004.
<http://mutcd.fhwa.dot.gov/pdfs/clearviewspacingia5.pdf>
- Standard Highway Signs, English Version. 2004 edition with 2012 Supplement. FHWA.
http://mutcd.fhwa.dot.gov/ser-shs_millennium_eng.htm
- Highway Capacity Manual. 2010 edition. Transportation Research Board.
- Traffic Control Devices Handbook. Institute of Transportation Engineers, 2001.
- Traffic Engineering Handbook. 6th edition. Institute of Transportation Engineers, 2009.
- Access Management Manual. Transportation Research Board, 2003.
- Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals. 6th edition. AASHTO, 2013.
- Roadway Lighting Design Guide. AASHTO, October 2005.
- National Electric Code. Current Edition.
- Roadway Lighting, Publication RP-8-00, Illumination Engineers Society (IES), 2005.

- A Guide to Standardized Highway Barrier Hardware. 2nd edition. AASHTO, 1995.
<http://www.aashtotf13.org/Barrier-Hardware.asp>
- Standard Specifications for Road and Bridge Construction. 2014 edition. NDDOT.
<http://www.dot.nd.gov/dotnet/supplspecs/standardspecs.aspx>
- “NDDOT Design Manual.” Current Edition. NDDOT.
<http://www.dot.nd.gov/manuals/design/designmanual/designmanual.htm>
- “NDDOT CADD Standards Manual.” Current Edition. NDDOT.
<http://www.dot.nd.gov/manuals/design/designmanual/designmanual.htm>
- “NDDOT Standard Drawings.” Current Edition. NDDOT.
<http://www.dot.nd.gov/dotnet2/view/stddrawings.aspx>
- “NDDOT Right of Way Manual.” Current Edition. NDDOT.
<http://www.dot.nd.gov/manuals/manuals-publications.htm>
- “NDDOT Local Government Manual.” Current Edition. NDDOT.
<http://www.dot.nd.gov/manuals/manuals-publications.htm>
- "NDDOT Surveys and Photogrammetry Manual" Current Edition. NDDOT.
<http://www.dot.nd.gov/manuals/manuals-publications.htm>
- “A Policy for Accommodation of Utilities on State Highway Right-of-Way.” Dec. 2006. NDDOT. <http://www.dot.nd.gov/manuals/manuals-publications.htm>
- North Dakota Federal-Aid Highway Program Stewardship Agreement. November 2005, Revised July 2007 and September 2008. FHWA and NDDOT.
<http://mydot.nd.gov/manuals/StewardshipAgreementManualTag.pdf>
- Guide for Development of Bicycle Facilities. 4th edition. AASHTO, 2012.
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities. 1st edition. AASHTO, 2004.
- Proposed Guidelines for Pedestrian Facilities in the Public Rights-of-Way. 2011. United States Access Board.
- "Designing Sidewalks and Trails for Access, Part I of II: Review of Existing Guidelines for Access." 1999. Federal Highway Administration.
<http://www.fhwa.dot.gov/environment/sidewalks/>

- "Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide." 2001. Federal Highway Administration.
<http://www.fhwa.dot.gov/environment/sidewalk2/>
- "Utility Relocation and Accommodation of Federal-Aid Highway Projects." Jan. 2003. Federal Highway Administration. <http://www.fhwa.dot.gov/reports/utilguid/>
- Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP-03, U.S. Customary Units). Federal Highway Administration, 2003.
<http://www.wfl.fhwa.dot.gov/design/specs/fp03.htm>
- Guide for Design of Pavement Structures and 1998 Supplement. AASHTO, 1998.

I-15.03 Reference Publications – Structural Design

- A Policy on Geometric Design of Highways and Streets. 6th edition. AASHTO, 2011.
- AASHTO LRFD Bridge Design Specifications. 7th edition. AASHTO, 2014.
- AASHTO LRFD Bridge Construction Specifications. 3rd edition. AASHTO, 2010.
- Standard Specifications for Highway Bridges. 17th ed. AASHTO, 2002.
(for Rehabilitation only)
- Highway Structures Design Handbook. Vols. I and II. American Institute of Steel Construction.
- Standard Specifications for Road and Bridge Construction. 2014 edition. NDDOT.
<http://www.dot.nd.gov/dotnet/suplspecs/standardspecs.aspx>
- "NDDOT Design Manual." Current Edition. NDDOT.
<http://www.dot.nd.gov/manuals/design/designmanual/designmanual.htm>
- "Box Culvert Program." NDDOT.

I-15.04 Reference Publications – Other

- A. Code of Federal Regulations (CFR). The CFR is a codification of the general and permanent rules published in the Federal Register by agencies of the Federal Government. The code is divided into 50 titles representing broad areas of Federal regulations. Title 23 CFR, Highways, is the volume representing those current regulations applicable to the Federal Highway Administration and the Federal Lands Highway Program. The following are the parts of 23 CFR that are most relevant to the development and design of highways:
- Part 620, Subpart A. Highway Improvements in the Vicinity of Airports.
 - Part 625. Design Standards for Highways.
 - Part 630. Preconstruction Procedures.
 - Part 650. Bridges, Structures, and Hydraulics.
 - Part 650, Subpart B. Erosion and Sediment Control on Highway Construction Projects
 - Part 652. Pedestrian and Bicycle Accommodations and Projects.
 - Part 655. Traffic Operations.
 - Part 752. Landscape and Roadside Development.
 - Part 771. Environmental Impact and Related Procedures.
 - Part 772. Procedures for Abatement of Highway Traffic Noise and Construction Noise.

NOTE: CFR's can be viewed online at the following link:
<http://www.fhwa.dot.gov/legsregs/directives/cfr23toc.htm>

- B. Federal Lands Highway Manual (FLHM). The manual is a one-volume book of documents developed by the Federal Lands Highway Office to consolidate all basic policies, directives, standards and guides pertaining to the Federal Lands Highway operations. Link to FLHM Project Development and Design Manual:
<http://www.wfl.fhwa.dot.gov/design/manual/>

All of the above publications are readily available to persons performing design work for the department. In addition, there are many other AASHTO and FHWA publications and periodicals that are received and distributed to the various design entities.