

Subchapter 8 REFERENCED STANDARDS

5:21-8.1 Referenced Standards

The following is a list of the standards referenced in this chapter. The standards are listed by the promulgating agency of the standard, the standard identification, the edition of the standard, the title of the standard, and the section(s) of this code that references the standard. The standards listed in this chapter are not adopted or to be used in their entirety unless the rules specifically so state. The use of the standards included in this chapter is limited to those specific areas of the standard for which this chapter directs the user to the standard.

American Association of State Highway and Transportation Officials (AASHTO), Suite 249, 444 North Capitol Street, N.W., Washington, D.C. 20001. Tel. (202) 624-5800 or (800) 231-3475.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
M33-93	Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type)	Figure 4.1 (Concrete Vertical Curb)
M43-88	Standard Specification for Sizes of Aggregate for Road and Bridge Construction	5:21-6.2(c)6.ii(5)
M114-91	Building Brick (Solid Masonry Units Made from Clay or Shale)	5:21-6.2(c)11.vii(1)
M213-92	Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)	Figure 4.1 (Concrete Vertical Curb)
M252-07	Standard Specification for Corrugated Drainage Pipe	5:21-7.3(h)3
M294-07	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm Diameter	5:21-7.3(h)3
T99-94	Standard Method of Test for the Moisture-Density Relations of Soils Using a 5.5-lb. (2.5 kg) Rammer and a 12-in. (305 mm) Drop	5:21-7.3(d)3
2001 Edition	A Policy on Geometric Design of Highways and Streets	5:21-4.19(b)6 5:21-4.20(a) 5:21-4.20(b)
1993 Edition	Guide for Design of Pavement Structures	Figure 4.2 Figure 4.3 Figure 4.4 Figure 4.5 Table 4.9

AASHTO continued		
STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
1999 Edition	AASHTO Guide for the Development of Bicycle Facilities	5:21-4.2(e) Table 4.3 5:21-4.18(b)1

American Concrete Pipe Association, Suite 105, 8618 Westwood Center Drive, Vienna, Virginia 22182. Tel. (703) 821-1990. **Concrete Pipe Association of New Jersey**, Post Office Box 1013, Dover, New Jersey 07802-1013. Tel. (201) 328-8723.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
Minimum Cover (Minimum Depth of Coverage over Concrete Pipe)	Published in Concrete Pipe Association of New Jersey Newsletter, "The Pipeline," September/October 1985; table derived from information provided by the American Concrete Pipe Association	Table 7.4

American Society for Testing and Materials (ASTM), 100 Barr Harbor, West Conshohocken, Pennsylvania 19428. Tel. (610) 832-9500.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
A48-92	Standard Specification for Gray Iron Castings	5:21-6.2(c)11.v 5:21-7.4(f)
A536-84	Standard Specification for Ductile Iron Castings	5:21-6.2(c)11.v

ASTM continued		
STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
C33-93	Standard Specification for Concrete Aggregates	5:21-6.2(c)6.ii(5)
C76-90	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe	5:21-6.2(c)6.i 5:21-7.3(d)1.i
C150-92	Standard Specification for Portland Cement	5:21-6.2(c)11.vii(2)
C443-85a (1990)	Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets	5:21-6.2(c)11.iv 5:21-7.3(d)1.iii
C478-90b	Standard Specification for Precast Reinforced Concrete Manhole Sections	5:21-6.2(c)11.iv 5:21-7.4(d)
C507-90	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe	5:21-7.3(d)1.ii
C700-91	Standard Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated	5:21-6.2(c)6.iv
C877-91	Standard Specification for External Sealing Bands for Noncircular Concrete Sewer, Storm Drain, and Culvert Pipe	5:21-7.3(d)1.iv
C923-89	Standard Specification for Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes, and Laterals	5:21-6.2(c)11.vi 5:21-7.4(d)
D448-86	Standard Classification for Sizes of Aggregate for Road and Bridge Construction	5:21-6.2(c)6.ii(5)
D1784-90	Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds	5:21-6.2(c)6.ii(1)

ASTM continued		
STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
D1785-91	Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120	5:21-6.2(c)8 Table 7.6
D2241-89	Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)	5:21-6.2(c)8 Table 7.6
D2321-05	Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications	5:21-6.2(c)6.ii(2) 5:21-6.2(c)6.ii(4) 5:21-6.2(c)6.ii(5) 5:21-7.3(h)3
D2444-92	Standard Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)	5:21-6.2(c)6.ii(2)
D3034-89	Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings	5:21-6.2(c)6.ii
D3139-89	Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals	5:21-5.3(j)3
D3212-92	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals	5:21-6.2(c)6.ii(3)
D3350-05	Standard Specification for Polyethylene Plastics Pipe and Fittings Materials	5:21-7.3(h)3
F477-90	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe	5:21-6.2(c)6.ii(3)
F679-89	Standard Specification for Poly(Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings	5:21-6.2(c)6.ii
F789-89	Standard Specification for Type PS-46 and Type PS-115 Poly(Vinyl Chloride) (PVC) Plastic Gravity-Flow Sewer Pipe and Fittings	5:21-6.2(c)6.ii

ASTM continued		
STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
F794-91	Standard Specification for Poly(Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter	5:21-6.2(c)6.ii
F949-92	Standard Specification for Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings	5:21-6.2(c)6.ii

American Society of Civil Engineers (ASCE), 345 East 47th Street, New York, New York 10017. Tel. (212) 705-7496 or (800) 548-2723.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
ASCE Manual on Engineering Practice No. 60 1982	Gravity Sanitary Sewer Design and Construction	5:21-6.2(a) 5:21-6.2(c)10 5:21-6.2(c)11
WEF Manual of Practice FD-20 ASCE Manuals and Reports of Engineering Practice No. 77 (1993) © 1992	Design and Construction of Urban Stormwater Management Systems	5:21-7.3(e)

American Water Works Association (AWWA), 6666 West Quincy Avenue, Denver, Colorado 80235. Tel. (303) 794-7711 or (800) 926-7337.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
ANSI/AWWA C104/A21.4-90	American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water	5:21-5.3(j)1 5:21-6.2(c)6.iii 5:21-7.3(d)2
ANSI/AWWA C105/A21.5-93	American National Standard for Polyethylene Encasement for Ductile- Iron Pipe Systems	5:21-5.3(j)1 5:21-6.2(c)6.iii
ANSI/AWWA C110/A21.10-93	American National Standard for Ductile-Iron and Gray-Iron Fittings, 3 In. through 48 In. (75 mm through 1200 mm) for Water and Other Liquids	5:21-5.3(j)1
ANSI/AWWA C111/A21.11-90	American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings	5:21-5.3(j)1 5:21-6.2(c)6.iii 5:21-7.3(d)2
ANSI/AWWA C115/A21.15-88	American National Standard for Flanged Ductile-Iron Pipe with Threaded Flanges	5:21-5.3(j)1 5:21-6.2(c)6.iii 5:21-7.3(d)2
ANSI/AWWA C150/A21.50-91	American National Standard for the Thickness Design of Ductile-Iron Pipe	5:21-5.3(j)1 5:21-7.3(d)2
ANSI/AWWA C151/A21.51-96	American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water and Other Liquids	5:21-5.3(j)1 5:21-6.2(c)6.iii 5:21-7.3(d)2
ANSI/AWWA C300-89	AWWA Standard for Reinforced Concrete Pressure Pipe, Steel- Cylinder Type, for Water and Other Liquids	5:21-5.3(j)2
ANSI/AWWA C301-92	AWWA Standard for Prestressed Concrete Pressure Pipe, Steel- Cylinder Type, for Water and Other Liquids	5:21-5.3(j)2
ANSI/AWWA C303-95	AWWA Standard for Concrete Pressure Pipe, Bar Wrapped, Steel- Cylinder Type	5:21-5.3(j)2
ANSI/AWWA C500-86	AWWA Standard for Gate Valves for Water and Sewerage Systems	5:21-5.3(e)
ANSI/AWWA C502-85	AWWA Standard for Dry-Barrel Fire Hydrants	5:21-5.4(b)1

AWWA continued		
STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
ANSI/AWWA C504-94	AWWA Standard for Rubber-Seated Butterfly Valves	5:21-5.3(e)
ANSI/AWWA C509-94	AWWA Standard for Resilient Seated Gate Valves for Water Supply Service	5:21-5.3(e)
ANSI/AWWA C600-93	AWWA Standard for Installation of Ductile-Iron Water Mains and Their Appurtenances	5:21-7.3(d)2
ANSI/AWWA C900-89	AWWA Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4 in. through 12 in., for Water Distribution	5:21-5.3(j)3
ANSI/AWWA C901-88	AWWA Standard for Polyethylene (PE) Pressure Pipe and Tubing, 1/2 in. through 3 in., for Water Service	5:21-5.3(j)5
ANSI/AWWA C905-88	AWWA Standard for Polyvinyl Chloride (PVC) Water Transmission Pipe Nominal Diameters 14 in. through 36 in.	5:21-5.3(j)3
C909-98	Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 in. through 12 in. (100 mm through 300 mm), for Water Distribution	5:21-5.3(j)3 5:21-6.2(c)8
AWWA M31 © 1992 Second Edition	Manual of Water Supply Practices -- Distribution System Requirements for Fire Protection	5:21-5.2(e)

Asphalt Institute, Research Park Drive, Post Office Box 14052, Lexington, Kentucky 40512-4052. Tel. (606) 288-4960.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
MS-1, 8th Edition August 1970	Thickness Design – Full-Depth Asphalt Pavement Structures for Highways and Streets	Table 4.7

Institute of Transportation Engineers (ITE), Suite 410, 525 School Street, S.W., Washington, D.C. 20024-2729. Tel. (202) 554-8050.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
© 1989	Residential Street Design and Traffic Control	5:21-1.5(d)2
Pub. No. IR-016C 7th Edition 2003	Trip Generation	5:21-4.1(b) Table 4.1

Insurance Services Office, Inc. (ISO), 545 Washington Boulevard, Jersey City, New Jersey 07310-1686. Tel. (201) 469-2000 or (800) 888-4476.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
© 1980 Edition 6-80	Fire Suppression Rating Schedule	5:21-5.2(e)

National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, Massachusetts 02269. Tel. (617) 770-3000.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
Standard 291-1995	Fire Flow Testing and Marking of Hydrants	5:21-5.4(b)2
Standard 1963-1993	Fire Hose Connections	5:21-5.4(b)1

New Jersey Department of Agriculture, State Soil Conservation Committee, John Fitch Plaza,
PO Box 330, Trenton, New Jersey 08625. Tel. (609) 292-5540.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
April 1987	Standards for Soil Erosion and Sediment Control in New Jersey	5:21-7.1(d)9.iii 5:21-7.1(h) 5:21-7.2(a) 5:21-7.2(d) 5:21-7.3(b) 5:21-7.5(c)3 5:21-7.5(f)1.v 5:21-7.5(f)4.x 5:21-7.8(d)2.iii

New Jersey Department of Environmental Protection (NJDEP), Bureau of Revenue, Maps
and Publications Sales Office, 428 East State Street, PO Box 438, Trenton, New Jersey 08625.
Tel. (609) 777-1038.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
April 2004	New Jersey Stormwater Best Management Practices Manual	5:21-7.1(f) 5:21-7.8(a) 5:21-7.8(e)
August 1995	Pinelands Comprehensive Management Plan (New Jersey Pinelands Commission)	5:21-5.3(a) 5:21-6.2(a)
Revised September 1995	Technical Manual for Land Use Regulation Program (DEP's Bureaus of Inland and Coastal Regulations, Stream Encroachment Permits)	Table 7.2

New Jersey Department of Transportation (NJDOT), PO Box 600, 1035 Parkway Avenue, Trenton, New Jersey 08625-0600. Tel. (609) 530-2000.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
2007	Standard Specifications for Road and Bridge Construction	5:21-4.17(b) Figure 4.2 Figure 4.3 Figure 4.4 Figure 4.5 Table 4.8 5:21-6.2(c)6.ii(5) 5:21-7.3(h)1.v 5:21-7.4(a)
November 2001	Roadway Design Manual	5:21-7.2(c)2.ii(2) 5:21-7.2(c)3 Figure 7.1 Figure 7.2
April 1996	Bicycle-Compatible Roadways and Bikeways Planning Design Guidelines	5:21-4.18(b)1 5:21-7.4(b)1

New Jersey Society of Municipal Engineers (NJSME), 196 West State Street, Trenton, New Jersey 08608. Tel. (609) 393-0102.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
Second Edition November 1991	Asphalt Handbook for County and Municipal Engineers	Table 4.7

Portland Cement Association, 5420 Old Orchard Road, Skokie, Illinois 60076-0726. Tel. (847) 966-6200.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
© 1984	Thickness Design for Concrete Highway and Street Pavements	Table 4.7

United States Army Corps of Engineers, Water Resources Support Center, The Hydrologic Engineering Center, 609 Second Street, Davis, California 95616. Tel. (916) 756-1104.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
† Version 2.2 May 2003	HEC-HMS Hydrologic Modeling System	5:21-7.2(c)1.v 5:21-7.2(d)

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Post Office Box 2890, Washington, D.C. 20013. Tel. (202) 205-0026. Documents can be downloaded from the following Internet address:
<http://www.info.usda.gov/CED/Default.cfm?xSbj=ALL&xAud=24>.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
April 2002	National Engineering Handbook, Part 630	5:21-7.2(c)4 5:21-7.8(d)4.vii(2)
Technical Release No. 20 PB83-223768 May 1982	Computer Program for Project Formulation -- Hydrology	5:21-7.2(c)1.iv 5:21-7.2(d)
Technical Release No. 55 PB87-101580/AS 2nd Edition June 1986	Urban Hydrology for Small Watersheds	5:21-7.2(a) 5:21-7.2(c)1.iii 5:21-7.2(c)3 5:21-7.2(c)7 5:21-7.2(d) 5:21-7.2(e)

USDA continued		
Technical Release No. 56 PB85-239622 December 1974	Guide for Design and Layout of Vegetative Wave Protection for Earth Dam Embankments	5:21-7.8(d)4.ii(5)
Technical Release No. 69 PB85-245165 February 1983	Riprap for Slope Protection Against Wave Action	5:21-7.8(d)4.ii(5)
PB96-111570 June 1, 1990	Engineering Field Handbook, Chapter 2 – Estimating Runoff and Peak Discharges (corrected version)	5:21-7.2(c)4
PB85-175164/LT July 1, 1984	Engineering Field Handbook, Chapter 6 -- Structures	5:21-7.8(d)4.vii(2)
PB 243 644/AS PB 243 645/LT PB 279 759/LT	National Engineering Handbook, Section 5 -- Hydraulics Section 11 -- Drop Spillways Section 14 -- Chute Spillways	5:21-7.2(c)4 5:21-7.8(d)4.vii(2)
New Jersey Bulletin No. NJ210-3-1 September 8, 2003	Engineering Field Handbook Supplement – Dimensionless (Delmarva) Unit Hydrograph	5:21-7.2(c)1.vi
New Jersey Bulletin No. NJ210-4-1 September 8, 2004	Engineering Field Handbook Supplement – Rainfall Frequency Data	5:21-7.2(c)1.vi

United States Department of Commerce (USDoC), Bureau of the Census, Washington, D.C.
20233. Tel. (202) 482-2000.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
1975-1980 (Data tabulated by Rutgers University)	Public Use File -- New Jersey	Table 4.4 Table 5.1

United States Department of Transportation (USDOT), Federal Highway Administration (FHWA), 820 First Street, S.E., Washington, D.C. 20002. Tel. (301) 322-4961.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
† Hydraulic Engineering Circular No. 15 Report No. FHWA-EPD-86-111 PB86-184835 October 1975	Design of Stable Channels with Flexible Linings	5:21-7.8(d)2.iii
† Report No. FHWA-TS-79-225 PB83-259903 August 1979	Design of Urban Highway Drainage, The State of the Art	Table 7.3
† Second Edition FHWA-NHI-01-021 August 2001	HEC 22 – Urban Drainage Design Manual	5:21-7.2(c)2.ii(1)
† Hydraulic Design Series No. 5 Report No. FHWA-IP-85-15 PB86-196961 September 1985	Hydraulic Design of Highway Culverts	5:21-7.3(d)
‡ 1988 Edition	Manual on Uniform Traffic Control Devices for Streets and Highways	5:21-4.13(a)

Urban Land Institute (ULI), Suite 500 West, 1025 Thomas Jefferson Street, N.W., Washington, D.C. 20007-5201. Tel. (800) 321-5011.

STANDARD REFERENCE NUMBER	TITLE	REFERENCED IN N.J.A.C. SECTION NUMBER
ULI-ASCE-NAHB 1975	Residential Storm Water Management: Objectives, Principles, and Design Considerations	Table 7.5

† Documents obtainable from the **National Technical Information Service**, Springfield, Virginia 22161. Tel. (703) 605-6000 or (800) 553-6847.

‡ Documents obtainable from the **United States Government Printing Office**, Superintendent of Documents, PO Box 371954, Pittsburgh, Pennsylvania 15250-7954. Tel. (202) 512-1800 or (866) 512-1800.