

## DIVISION 2

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## SECTION 200

### PRODUCTS AND MATERIALS

#### I. GENERAL

##### DESCRIPTION

These specifications cover general sampling and testing requirements, certifications for material acceptance, and quality standards for products and materials. (See also the Special Provisions for project specific requirements.)

#### II. QUALITY ASSURANCE

##### 2.1 GENERAL

The Contractor shall comply with all standards specified in this Section. Whenever a specifically named code or standard is referenced, it shall mean the latest revision of said code or standard as amended prior to the date of the Invitation to Bid. Materials that do not conform to these Standards or referenced specifications shall not be used unless specifically approved by the locality. VDOT specification references shall mean the VDOT *Road and Bridge Specifications*, latest edition, unless otherwise noted.

##### 2.2 REFERENCE STANDARDS

Reference specifications (latest edition) are hereby incorporated into this document and are referred to by the following abbreviations:

American Association of State Highway and Transportation Officials: AASHTO  
American Concrete Institute: ACI  
American National Standards Institute: ANSI  
American Railway Engineering Association: AREA  
American Society of Sanitary Engineers: ASSE  
American Society for Testing and Materials: ASTM  
American Water Works Association: AWWA  
American Welding Society: AWS  
Concrete Reinforcing Steel Institute: CRSI  
International Plumbing Code: IPC  
Manual on Uniform Traffic Control Devices (FHWA): MUTCD  
National Association of Sewer Service Companies: NASSCO  
National Sanitation Foundation: NSF  
Underwriters Laboratory: UL  
Virginia Department of Transportation: VDOT  
Virginia Erosion and Sedimentation Control Handbook: VESCH  
Virginia Sewage Collection and Treatment Regulations: VSCAT  
Virginia Test Methods: VTM  
Virginia Waterworks Regulations: VWR  
Virginia Work Area Protection Manual: VWAPM

### III. SUBMITTALS

- 3.1. Submittals shall be made by the Contractor in accordance with the procedures set forth in Section 105, and as described below.
- 3.2. Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of these and/or similar items and with a history or quality production acceptable to the Owner. Whenever possible, utilize materials from the VDOT pre-approved list of manufacturers.
- 3.3. Except as modified herein, all products shall be tested in accordance with the requirements of the referenced standards as applicable.
- 3.4. Submittals for imported aggregates shall include certification that the aggregates will be in accordance with the latest edition of the VDOT *Road and Bridge Specifications*, for each proposed source, and submittals shall represent materials tested within 90 days of the Bid opening. At a minimum, the certification will state:

“Aggregate shipped under this certification has been tested and conforms to VDOT’s requirements”.

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Signature & Title

- 3.5. Compaction testing results shall be submitted upon request by the Owner and shall be performed in accordance with Section 303, Earthwork.
- 3.6. If the Contractor desires to substitute another material for that specified, the Contractor shall submit proof that the substitute material is equal in all respects to the material specified. Proof shall be in the form of specifications for the proposed substitution that may be readily compared with the specifications for the original material. The Contractor shall also certify that this substitution will not adversely affect other elements of the Work or the construction schedule, and shall identify local maintenance service and source(s) of replacement parts and materials.
- 3.7. Submittal of designs for precast items included in the Standard Details or on VDOT’s approved list, as appropriate, will not be required provided the Contractor submits a certification that the item will be fabricated in accordance with the pre-approved design drawings. Precast units shall be provided by a Precast Concrete manufacturer that has been approved by VDOT QA/QC Program.
- 3.8. The Owner reserves the right to request, and the Contractor shall submit, all necessary design data to indicate VDOT pre-approved designs meet or exceed the Owner’s requirements. Such work shall be at no additional cost to the Owner.
- 3.9. Requests for approval of a precast design shall include detailed plans and supporting computations that have been reviewed and approved by a Professional Engineer licensed to practice engineering in the Commonwealth of Virginia having at least 5 years’ experience in structural design of the type of precast structures or components proposed. Concrete, Class A-4, shall have a design strength at 28 days of at least 4,000 pounds per square inch and an air content of 6 % (+/- 2 %). The design of the concrete mixture and the method of casting, curing, handling, and erecting shall be subject to review by the Owner.