

SECTION 15100 – VALVES - GENERAL

PART 1 - GENERAL

1.1 DESCRIPTION

This section includes general requirements for all valves to be used on the project.

1.2 RELATED WORK SPECIFIED ELSEWHERE

1. Section 01300 – Record Drawings and Submittals.
2. City of Oceanside Water, Wastewater, and Recycled Water Design and Construction Manual (Water Utilities Manual) Approved Materials List.

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following standards apply to the work of this section:

ANSI/ASME B16.1	Cast Iron Pipe Flanges and Flanged Fittings
ANSI/ASME B16.5	Pipe Flanges and Flanged Fittings
ANSI/ASME B1.20.1	Pipe Threads (Inch), General Purpose
ANSI/ASME B31.1	Power Piping
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A126	Standard Specification for Gray Iron Castings
ASTM A395	Standard Specification for Ferritic Ductile Iron Pressure Retaining Castings for Use at Elevated Temperatures
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A743	Standard Specification for Castings, Iron Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Purposes
ASTM B61	Standard Specification for Stream or Valve Bronze Castings
ASTM B62	Standard Specification for Composition Bronze or Ounce Metal Castings
ASTM B148	Standard Specification for Aluminum-Bronze Sand Castings
ASTM B584	Specification for Copper Alloy Sand Castings for General Applications
ANSI/AWWA C504	Rubber-Seated Butterfly Valves

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ANSI/AWWA C512	Air-Release, Air/Vacuum, and Combination Air Valves for Waterworks Service
ANSI/AWWA C550	Protective Epoxy Interior Coatings for Valves and Hydrants
SSPC SP 2	Hand Tool Cleaning
SSPC SP 5	Joint Surface Preparation White Metal Blast Cleaning
MSS SP25	Standard Marking Systems for Valves, Fittings, Flanges, and Unions

1.4 CONTRACTOR SUBMITTALS

CONTRACTOR shall furnish submittals in accordance with the requirements of the standard specifications. The following submittals are required:

- A. Submit Shop Drawings, manufacturer's catalog data and detail construction sheets showing all valve parts and describing material of construction by material and specification (such as AISI, ASTM, SAE, or CDA). Submittal shall include valve dimensions including laying lengths and dimensions and orientation of valve operators. Information shall be submitted on valve handles, handwheels, position indicators, limit switches, integral control systems, needle valves, and control systems. Submittals shall also indicate valve linings and coatings with manufacturer's and paint numbers listed. CONTRACTOR shall indicate the size, quantity and pressure rating of valves, including the class and drilling pattern of the flanges where applicable.
- B. Manufacturer's certification that products comply with the requirements set forth in the Water Utilities Manual.
- C. Manufacturer's certification that all linings and coatings have been factory tested and comply with the indicated requirements.
- D. A schedule of valves to be labeled, indicating in each case the valve location and the proposed wording for the label.
- E. All valves require certified tests. Submit certified test results to the AGENCY.
- F. Operation and maintenance data shall be submitted, and shall include, but not be limited to, the following information:
 - 1. Manufacturer's installation and operating instructions.
 - 2. Manufacturer's maintenance procedures.
 - 3. List of special tools.
 - 4. Schedule of valves indicating valve identification and location.

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5. Spare Parts List: A spare parts list shall be provided with information for each valve assembly.
6. Factory Test Data: Where indicated, signed, dated, and certified factory test data for each valve requiring certification shall be submitted before shipment of the valve. The data shall also include certification of quality and test results for factory-applied coatings.

PART 2 - MATERIALS

2.1 GENERAL

- A. Valves shall be in accordance with the Water Utilities Manual.
- B. All valves shall be new and of current manufacture. Valves shall be furnished and installed by the CONTRACTOR at the location and in accordance with the type of ends as shown on the approved plans and as herein specified.
- C. Valves shall be provided with stem extension per the Water Utilities Manual. Valve extensions shall not be pinned to the valve operating nut.
- D. The manufacturer shall have manufactured tight-closing valves of the valve type intended for use for a period of at least five years.
- E. The CONTRACTOR shall furnish and install each specific type of valve from a single manufacturer and use it throughout the work.
- F. All valves shall have a rated working pressure in accordance with the Water Utilities Manual. All valves shall be certified to meet the test pressure as specified and shall have a rated working pressure that exceeds the full working pressure specified.
 1. Connections: Valves shall have flanged or special connector ends as shown on the Plans. Where not indicated, the valves shall have the same type of connection as the pipeline in which valves are to be installed and conform to the Specifications.
 2. Bolts, Nuts and Washers: Bolts, Nuts and Washers shall be in accordance with the Water Utilities Manual.
 4. All aboveground bolt threads shall be lubricated with graphite and oil. Flanged faces shall be wire brushed and cleaned prior to joining each flange.
 5. Wax tape primer, wax tape and plastic wrapper: All valve flanges for underground installation shall be coated with wax tape primer, wax tape and plastic wrapper in accordance with the Water Utilities Manual.

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6. Polyethylene Encasement: All valves for underground installation shall be encased in two layers of 8 mil polyethylene wrap in accordance with the Water Utilities Manual.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Flanges shall be cleaned by wire brushing before installing flanged valves. Flange bolts and nuts shall be cleaned by wire brushing, and threads coated with anti-seize. Nuts shall be tightened uniformly and progressively. If flanges leak under pressure testing, nuts and bolts shall be loosened or removed, the gasket reseated or replaced, the bolts and nuts reinstalled or retightened, and joints retested. Joints shall be watertight.

3.2 VALVE PRESSURE TESTING

- A. Hydrostatic pressure testing against closed valves is not permitted. All valves shall be hydrostatically tested in conjunction with the pipeline in which it is connected in accordance with the Water Utilities Manual.

****END OF SECTION****