SECTION 400567.13 - REDUCED-PRESSURE ZONE BACKFLOW PREVENTERS FOR PROCESS SERVICE

Note that this section has only been edited for NYSOGS standardization and has not been technically edited. The designer shall make all technical edits specific to the project for this section.

This Section specifies reduced-pressure zone backflow preventers for use in piping systems for water and wastewater treatment facilities.

Process piping systems and appurtenances are specified in Divisions 40, 43, and 46.

1. GENERAL
   * + 1. SUMMARY
          1. Section Includes: Reduced-pressure zone backflow preventers.
       2. DEFINITIONS

Limit list of definitions to terms unique to this Section and not provided elsewhere.

* + - * 1. Outside Screw and Yoke (OS&Y) Valve: A valve in which the operating screw is driven by a threaded nut that is built into the handle.
      1. REFERENCE STANDARDS

List reference standards included within text of this Section, with designations, numbers, and complete document titles.

* + - * 1. American Water Works Association:

AWWA C606 - Grooved and Shouldered Joints.

* + - * 1. ASME International:

ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

* + - * 1. ASSE International:

ASSE 1013 - Performance Requirements for Reduced Pressure Principle Backflow Preventers and Reduced Pressure Principle Fire Protection Backflow Preventers.

* + - * 1. NSF International:

NSF 61 - Drinking Water System Components - Health Effects.

NSF 372 - Drinking Water System Components - Lead Content.

* + - 1. COORDINATION
         1. Coordinate Work of this Section with installation of process piping.
      2. SUBMITTALS

Only request submittals needed to verify compliance with Project requirements.

* + - * 1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the

General Conditions.

* + - * 1. Manufacturer’s installation instructions shall be provided along with product data.
        2. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
        3. Product Data: Submit manufacturer catalog information regarding backflow preventers and accessories.
        4. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

Include separate Paragraphs for additional certifications.

* + - * 1. Manufacturer Instructions: Submit special procedures and setting dimensions.
        2. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
        3. Qualifications Statements:

Coordinate following Subparagraphs with requirements specified in QUALIFICATIONS Article.

Submit qualifications for manufacturer and installer.

Submit manufacturer's approval of installer.

* + - 1. CLOSEOUT SUBMITTALS
         1. Project Record Documents: Record actual locations of backflow preventers.
      2. QUALITY ASSURANCE

Include this Article to specify compliance with overall reference standards affecting products and installation included in this Section.

* + - * 1. Materials in Contact with Potable Water: Certified to NSF Standards 61 and 372.

In following Paragraph insert "State of New York Department of Transportation," "Municipality of \_\_\_\_\_\_\_\_ Department of Public Works," or other agency as appropriate.

* + - * 1. Perform Work according to <**\_\_\_\_\_\_\_\_**> standards.

Include following Paragraph only when cost of acquiring specified standards is justified.

* + - * 1. Maintain <**\_\_\_\_\_\_\_\_**> [**copy**] [**copies**] of each standard affecting Work of this Section on Site.
      1. QUALIFICATIONS

Coordinate following Paragraph with requirements specified in SUBMITTALS Article.

* + - * 1. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum [**three**] <**\_\_\_\_\_\_\_\_**> years' [**documented**] experience.
        2. Installer: Company specializing in performing Work of this Section with minimum [**three**] <**\_\_\_\_\_\_\_\_**> years' [**documented**] experience [**and approved by manufacturer**].
      1. DELIVERY, STORAGE, AND HANDLING
         1. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
         2. Store materials according to manufacturer instructions.
         3. Protection:

Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.

Furnish temporary end caps and closures on piping and fittings and maintain in place until installation.

Provide additional protection according to manufacturer instructions.

* + - 1. EXISTING CONDITIONS
         1. Field Measurements:

Verify field measurements prior to fabrication.

Indicate field measurements on Shop Drawings.

* + - 1. WARRANTY

This Article extends warranty period beyond one year. Extended warranties may increase construction costs and Owner enforcement responsibilities. Specify warranties with caution.

* + - * 1. Furnish [**five**] <**\_\_\_\_\_\_\_\_**>-year manufacturer's warranty for backflow preventers.

1. PRODUCTS
   * + 1. REDUCED-PRESSURE ZONE BACKFLOW PREVENTERS
          1. [Manufacturers](http://www.specagent.com/LookUp/?ulid=12686&mf=04&src=wd):

designer to provide two manufacturers and approved equivalent for all listed products.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

In following Paragraph insert "State of New York Department of Transportation," "Municipality of \_\_\_\_\_\_\_\_ Department of Public Works," or other agency as appropriate.

* + - * 1. Furnish materials according to <**\_\_\_\_\_\_\_\_**> standards.

Insert descriptive specifications below to identify Project requirements and to eliminate conflicts with products specified above.

* + - * 1. Description:

Comply with ASSE 1013.

Configuration:

Two independently operating, spring-loaded check valves.

Diaphragm-type differential pressure-relief valve located between check valves.

Third check valve will open under back pressure in case of diaphragm failure.

Materials:

Body: [**Bronze**] [**Cast iron**] [**Ductile iron**].

Internal Components: [**Bronze**] [**Stainless steel**] <**\_\_\_\_\_\_\_\_**>.

Seal Rings: [**EPDM**] <**\_\_\_\_\_\_\_\_**>.

Sensing Hose Line: Braided stainless steel.

Connections: [**Grooved, AWWA C606**] [**Flanged, ASME B16.1, Class 125**].

Furnish assembly with two gate valves, strainer, and four test cocks.

Size: [**2-1/2**] [**4**] [**10**] <**\_\_\_\_\_\_\_\_**> inches.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

Size: Match connecting pipes.

Working Temperature:

Minimum: <**\_\_\_\_\_\_\_\_**> deg. F

Maximum: <**\_\_\_\_\_\_\_\_**> deg. F

Maximum Operating Pressure: [**175**] <**\_\_\_\_\_\_\_\_**> psig

* + - * 1. Accessories:

Strainer[**: Wye type**].

End Valves: [**Gate, OS&Y**] [**Butterfly**].

Air gap.

1. EXECUTION
   * + 1. EXAMINATION
          1. Verify that field dimensions are as indicated on [**Shop**] Drawings.
       2. PREPARATION
          1. Thoroughly clean end connections before installation.
          2. Close pipe and equipment openings with caps or plugs during installation.
          3. Cleaning: Clean surfaces to remove foreign substances.
       3. INSTALLATION
          1. According to manufacturer instructions and local code requirements.
          2. Repair damaged coatings with material equal to original coating.
          3. [**Do not install in vertical position.**]

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

In following Paragraph insert "State of New York Department of Transportation," "Municipality of \_\_\_\_\_\_\_\_ Department of Public Works," or other agency as appropriate.

* + - * 1. Installation Standards: Install Work according to <**\_\_\_\_\_\_\_\_**> standards.
      1. FIELD QUALITY CONTROL
         1. After installation, inspect for interferences and proper supports.
         2. Repair damaged coatings with material equal to original coating.
      2. CLEANING
         1. Keep interior of backflow preventers clean as installation progresses.
      3. DEMONSTRATION
         1. Demonstrate equipment startup, shutdown, routine maintenance, and emergency repair procedures to Director’s Representative's personnel.

END OF SECTION 400567.13