SECTION 221200 - FACILITY POTABLE-WATER STORAGE TANKS

This Section includes potable water storage tanks for hot and cold domestic water.

Manufacturers found in SpecAgent for this Section were identified as representative and not as an endorsement for meeting the requirements of this specification.

This Section includes performance, proprietary, and descriptive type specifications. Edit to avoid conflicting requirements.

This Section includes the term Architect/Engineer. "Architect" is used in AIA contract documents; "Engineer" is used in EJCDC contract documents. Retain appropriate term.

See the Drawing Coordination Considerations for information needed to coordinate this specification Section with the Drawings.

1. GENERAL
   * + 1. SUMMARY
          1. Section includes potable water storage tanks.
          2. Related Sections:

Section 220700 - Plumbing Insulation: Field applied insulation for water storage tanks.

Section 221100 - Facility Water Distribution: Supply connections to water storage tanks.

* + - 1. REFERENCES

List reference standards included within text of this section. Edit the following for Project conditions.

* + - * 1. American Society of Mechanical Engineers:

ASME Section VIII - Boiler and Pressure Vessel Code - Pressure Vessels.

* + - 1. 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.
        2. Manufacturer’s installation instructions shall be provided along with product data.
        3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
        4. Section 013300 - Submittal Procedures: Submittal procedures.
        5. Shop Drawings: Indicate dimensions of tanks, materials of construction, tank lining methods, anchors, attachments, lifting points, taps, and drains.
        6. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
      1. QUALITY ASSURANCE
         1. Conform to ASME Section VIII for construction of potable water storage tanks. Provide tanks registered with National Board of Boiler and Pressure Vessel Inspectors.
         2. Perform Work in accordance with [**State**] [**Municipality**] of <**\_\_\_\_\_\_\_\_**> [**Highways**] [**Public Works**] standard.

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

* + - * 1. Maintain one copy of each document on site.
      1. QUALIFICATIONS
         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 [**approved by manufacturer**].
      2. PRE-INSTALLATION MEETINGS
         1. Section 013000 - Administrative Requirements: Pre-installation meeting.
         2. Convene minimum [**one**] <**\_\_\_\_\_\_\_\_**> week prior to commencing work of this section.
      3. DELIVERY, STORAGE, AND HANDLING
         1. Provide temporary inlet and outlet caps. Maintain caps in place until installation.
      4. FIELD MEASUREMENTS
         1. Verify field measurements prior to fabrication.
      5. WARRANTY

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

* + - * 1. Furnish [**five**] <**\_\_\_\_\_\_\_\_**> year manufacturer warranty for potable water storage tanks.

1. PRODUCTS
   * + 1. DOMESTIC COLD WATER TANK

In this article, list manufacturers acceptable for this Project.

* + - * 1. [Manufacturers](http://www.specagent.com/LookUp/?ulid=8034&mf=04&src=wd): Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

A.O. Smith

Bell & Gossett

Norwesco

Snyder Industries

Or equal.

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

* + - * 1. Furnish materials in accordance with [**State**] [**Municipality**] of <**\_\_\_\_\_\_\_\_**> [**Highways**] [**Public Works**] standards.

Edit the following descriptive specifications to identify project requirements and to eliminate conflicts with manufacturers' products specified above.

* + - * 1. Tank: Welded steel, ASME labeled for working pressure of [**125 psig**] [**<\_\_\_\_\_\_\_\_> psig**], steel support saddles, taps for accessories, threaded connections, access manhole.
        2. Accessories: Tank drain, water inlet and outlet
        3. [**Vertical**] [**Horizontal**] storage tank:

Overall Length: <**\_\_\_\_\_\_\_\_**> inches.

Diameter: <**\_\_\_\_\_\_\_\_**> inches diameter.

Nominal capacity: <**\_\_\_\_\_\_\_\_**> gal.

Support: Two welded tank saddles not less than 4 inches wide by 1/4 inch thick, mounted on 2 inch pipe stand with minimum four cross braced legs; sheet Teflon isolation strip between tank and saddle; dielectric unions between tank and piping system.

* + - * 1. Insulation: Factory furnished [**3**] <**\_\_\_\_\_\_\_\_**> inch glass fiber insulation with [**steel**] [**aluminum**] jacket.

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

* + - * 1. Insulation: Refer to Section 220700.
      1. DOMESTIC HOT WATER STORAGE TANKS

In this article, list manufacturers acceptable for this Project.

* + - * 1. [Manufacturers](http://www.specagent.com/LookUp/?ulid=8035&mf=04&src=wd): Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

A.O. Smith

Lochinvar

Rheem Manufacturing

Or equal.

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

* + - * 1. Furnish materials in accordance with [**State**] [**Municipality**] of <**\_\_\_\_\_\_\_\_**> [**Highways**] [**Public Works**] standards.

Edit the following descriptive specifications to identify Project requirements and to eliminate conflicts with manufacturers specified above.

* + - * 1. Tank: Welded steel, ASME labeled for working pressure of [**125 psig**] [**<\_\_\_\_\_\_\_\_> psig**], steel support saddles, taps for accessories, threaded connections of stainless steel, access manhole.
        2. Lining:

[**Corrosion-resistant concrete approximately 3/4 inch thick**]

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

[**0.015 inches epoxy**] [**0.024 inches self-priming polymer epoxy**] extended through flanges and couplings.

* + - * 1. Openings: Up to 3 inches, copper-silicone threaded; over 4 inches, flanged [**; flanged collar for heat exchanger**] [**; man-way fitting**].
        2. Accessories: Tank drain, water inlet and outlet, thermometer range of 40 to 200 degrees F, ASME pressure relief valve suitable for maximum working pressure.
        3. [**Vertical**] [**Horizontal**] storage tank:

Overall Length: <**\_\_\_\_\_\_\_\_**> inches.

Diameter: <**\_\_\_\_\_\_\_\_**> inches diameter.

Nominal capacity: <**\_\_\_\_\_\_\_\_**> gal.

Support: Two welded tank saddles not less than 4 inches wide by 1/4 inch thick, mounted on 2 inch pipe stand with minimum four cross braced legs; sheet teflon isolation strip between tank and saddle; dielectric unions between tank and piping system.

* + - * 1. Insulation: Factory furnished [**3**] <**\_\_\_\_\_\_\_\_**> inch glass fiber insulation with [**steel**] [**aluminum**] jacket.

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

* + - * 1. Insulation: Refer to Section 220700.
      1. DIAPHRAGM-TYPE COMPRESSION TANKS

In this article, list manufacturers acceptable for this Project.

* + - * 1. [Manufacturers](http://www.specagent.com/LookUp/?ulid=8011&mf=04&src=wd):

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

* + - * 1. Furnish materials in accordance with [**State**] [**Municipality**] of <**\_\_\_\_\_\_\_\_**> [**Highways**] [**Public Works**] standards.

Edit the following descriptive specifications to identify Project requirements and to eliminate conflicts with manufacturers specified above.

* + - * 1. Construction: Welded steel, tested and stamped in accordance with ASME Section VIII; supplied with National Board Form U-1, rated for working pressure of 125 psig, with flexible [**EPDM**] diaphragm sealed into tank, and steel legs or saddles.
        2. Accessories: Pressure gage and air-charging fitting, tank drain; pre-charge to [**12 psig**] [**<\_\_\_\_\_\_\_\_> psig**].
        3. Size: <**\_\_\_\_\_\_\_\_**> inches diameter, <**\_\_\_\_\_\_\_\_**> inches overall length, <**\_\_\_\_\_\_\_\_**> gal capacity.

1. EXECUTION
   * + 1. INSTALLATION
          1. Install Work in accordance with [**State**] [**Municipality**] of <**\_\_\_\_\_\_\_\_**> [**Highways**] [**Public Works**] standards.
          2. Provide support, independent of building structural framing members.
          3. Clean and flush [**prior to delivery to site**] [**after installation**]. Seal until pipe connections are made.
          4. Install the following piping accessories on domestic water piping connections. Refer to Section 221100.

On inlet: Thermometer and shut-off valve.

On outlet: Thermometer and shut-off valve.

* + - * 1. Install relief valve piping to nearest floor drain.
      1. SCHEDULES

Include schedule when more than one unique size tank is required. Complete schedule in conjunction with identification method used on Drawings, or include schedule on Drawings. No units of measurement are indicated; add to schedule legend or include within each insert.

Consider the following examples when developing Project schedule.

* + - * 1. Tanks:

T-1:

Location: <**\_\_\_\_\_\_\_\_**>.

Service: <**\_\_\_\_\_\_\_\_**>.

Capacity: <**\_\_\_\_\_\_\_\_**>.

Diameter: <**\_\_\_\_\_\_\_\_**>.

Length: <**\_\_\_\_\_\_\_\_**>.

T-2:

Location: <**\_\_\_\_\_\_\_\_**>.

Service: <**\_\_\_\_\_\_\_\_**>.

Capacity: <**\_\_\_\_\_\_\_\_**>.

Diameter: <**\_\_\_\_\_\_\_\_**>.

Length: <**\_\_\_\_\_\_\_\_**>.

END OF SECTION 221200