

SECTION 22 1413 – FACILITY STORM DRAINAGE PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes storm drainage inside the building up to a point 5'-0" outside the building including:
 - 1. Pipe, tube, and fittings.
 - 2. Special pipe fittings.

1.3 PERFORMANCE REQUIREMENTS

- A. Components and installation shall be capable of withstanding the following minimum working pressure, unless otherwise indicated:
 - 1. Storm Drainage Piping: 10-foot head of water.

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1. Gaskets: ASTM C 564, rubber.
- B. Hubless Cast-Iron Pipe and Fittings: ASTM A 888 or CISPI 301.
 1. Shielded Couplings: ASTM C 1277 assembly of metal shield or housing, corrosion-resistant fasteners, and rubber sleeve with integral, center pipe stop.
 - a. Standard, Shielded, Stainless-Steel Couplings: CISPI 310, with stainless-steel corrugated shield; stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve.
- C. Solid-Wall Schedule 40 PVC Pipe: ASTM D 2665, solid-wall drain, waste, and vent.
 1. Schedule 40 PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns.
 2. Solvent Cement and Adhesive Primer:
 - a. Use PVC solvent cement that has a VOC content of 510 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - b. Use adhesive primer that has a VOC content of 550 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Refer to Division 31 Section "Earth Moving" for excavating, trenching, and backfilling.

3.2 PIPING APPLICATIONS

- A. Special pipe fittings with pressure ratings at least equal to piping pressure ratings may be used in applications below, unless otherwise indicated.
- B. Aboveground storm drainage piping shall be:
 1. Hubless cast-iron soil pipe and fittings; standard, shielded, stainless-steel couplings; and coupled joints.
- C. Underground storm drainage piping to 5'-0" outside building shall be one of the following:
 1. Service class, cast-iron soil pipe and fittings; gaskets; and gasketed joints.
 2. Solid-wall Schedule 40 PVC pipe, PVC socket fittings, and solvent-cemented joints.

3.3 PIPING INSTALLATION

- A. Site storm sewer and piping to a point 5'-0" outside the building is specified in Division 33 Section "Storm Utility Drainage Piping."
- B. Basic piping installation requirements are specified in Division 22 Section "Common Work Results for Plumbing."

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C. Install cast-

1. Vertical Piping: MSS Type 8 or Type 42, clamps.
 2. Individual, Straight, Horizontal Piping Runs: According to the following:
 - a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
 - b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.
 - c. Longer Than 100 Feet, if Indicated: MSS Type 49, spring cushion rolls.
 3. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
 4. Base of Vertical Piping: MSS Type 52, spring hangers.
- B. Install supports according to Division 22 Section "Hangers and Supports for Plumbing Piping and Equipment."
- C. Support vertical piping and tubing at base and at each floor.
- D. Rod diameter may be reduced 1 size for double-rod hangers, with 3/8-inch minimum rods.
- E. Install supports for vertical cast-iron soil piping every 15 feet.
- F. Support piping and tubing not listed above according to MSS SP-69 and manufacturer's written instructions.

3.6 CONNECTIONS

- A. Connect interior storm drainage piping to exterior storm drainage piping at a point 5'-0" outside the building. Use transition fitting to join dissimilar piping materials.
- B.

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