

## **SECTION 15406 - STORM WATER PIPING SYSTEM**

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### **PART 1 – GENERAL**

#### **1.1 SUMMARY**

- A. Extent of storm water piping work including, but not necessarily limited to pipe, fittings, valves, and cleanouts is indicated by requirements of this section.
- B. Applications for storm water piping include the following:
  - 1. Conductor piping from canopy roof drains to existing conductor piping from existing canopy roof drains.

#### **1.2 SYSTEM DESCRIPTION**

- A. Basic piping materials and equipment required for work of this section are specified in Sections 15060, 15080, and 15090.

#### **1.3 DELIVERY, STORAGE, AND HANDLING**

- A. Handle pipe carefully to prevent bending and end-damage, and also avoid cracking and scoring finish.
- B. Store pipe inside and protect from weather. When necessary to store outdoors, elevate above grade and enclosed with durable, watertight wrapping.
- C. Deliver and store storm water piping products in factory-wrapped packages which properly protect products against weather, dirt, and damage.

### **PART 2 – PRODUCTS**

#### **2.1 MATERIALS**

- A. Provide piping materials and factory-fabricated piping products of sizes, types, pressure ratings, and capacities as indicated. Provide sizes and types matching piping and equipment connections; provide fittings of materials which match pipe materials used in storm water piping systems. Where more than one type is indicated, selection is Installer's option.

#### **2.2 BASIC PIPE, TUBE, AND FITTINGS:**

- A. Provide pipe, tube, and fittings complying with Section 15060 in accordance with the following listing of pipe, tube, and fittings.
  - 1. Piping Within Buildings:
    - a. 3” Canopy Drains: Cast Iron Hubless Soil Pipe; PVC
    - b. Pipe Class: Service weight. Schedule 40 with solvent joints and fittings.
    - c. Fittings: Cast-iron hubless soil pipe fittings, no-hub joints or Cast-iron, hub-and-spigot soil pipe fittings, compression joints; socket type fitting.

#### **2.3 PIPING ACCESSORIES:**

- A. Provide piping accessories complying with Section 15080 in accordance with the following listing of piping accessories:
  - 1. Escutcheon Plates
  - 2. Steel-Pipe Sleeves
  - 3. Iron-Pipe Sleeves

## 2.4 HANGERS, SUPPORTS AND ANCHORS:

- A. Provide factory-fabricated drainage piping products of size and type indicated, in accordance with Section 15090.
  - 1. Adjustable clevis hanger for horizontal piping hanger and supports.
  - 2. Two-bolt Riser Clamp for vertical piping clamps.
  - 3. Clevises for hanger rod attachments.
  - 4. Concrete for hanger rod attachments.
  - 5. Top beam C-clamp for building attachments.

## 2.5 DRAINAGE PIPING PRODUCTS:

- A. Provide factory-fabricated drainage piping products of size and type indicated. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements and governing regulations.
- B. Flashing Flanges: Cast-iron water tight stack or wall sleeve with membrane flashing ring. Provide under deck clamp and sleeve length as required.
- C. Expansion Joints: Cast-iron body, adjustable bronze sleeve, and bronze bolts with wing nuts. Vertical installation only.
- D. Available Manufacturers: Subject to compliance with requirements, manufactures offering drainage piping products which may be incorporated in the work include, but are not limited to, the following:
  - 1. Josam Manufacturing Co.
  - 2. Smith (Jay R.) Manufacturing Co.
  - 3. Wade Div., Tyler Pipe.
  - 4. Zurn Industries, Hydromechanics Div.

## PART 3 – EXECUTION

### 3.1 INSTALLATION

- A. Install storm water piping in accordance with the Maine State Internal Plumbing Code and recognized industry practices which will achieve permanently leakproof systems, capable of performing each indicated service without piping failure.
- B. Install each run with minimum joints and couplings. Align piping accurately at connections, within 1/16" misalignment tolerance.
- C. Locate conductor piping runs, except as otherwise indicated, vertically and horizontally and avoid diagonal runs where possible. Orient horizontal runs parallel with walls and column lines. Locate runs as shown or described by diagrams, details and notations or, if not otherwise indicated, run piping in shortest route which does not obstruct usable space or block access for servicing building and its equipment. Hold piping close to overhead construction, columns, and other structural and permanent-enclosures elements of building.
- D. Install canopy storm drains as indicated and in accordance with the Maine State Internal Plumbing Code. Lay canopy storm drains beginning at low point of systems, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install required gaskets in accordance with manufacturer's recommendations for use of lubricants, cements, and other special installation requirements. Clear interior of piping of dirt and other superfluous material as work progresses. Maintain swab or drag in line and pull past each joint as it is completed. Place plugs in ends of uncompleted piping at end of day or whenever work stops.
- E. Install storm water piping pitched to drain at minimum slope of 1/4" per foot (2%), unless otherwise noted.

3.2 INSTALLATION OF PIPING ACCESSORIES:

- A. Install piping accessories in accordance with requirements of Section 15060.

3.3 INSTALLATION OF HANGERS, SUPPORTS AND ANCHORS:

- A. Install hangers, supports and anchors in accordance with requirements of Division 15 Basic Piping Materials and Equipment, Section 15090.

3.4 INSTALLATION OF DRAINAGE PIPING PRODUCTS:

- A. Cleanouts: Install in storm building drain piping as indicated, as required by applicable Plumbing Code or Local Administrative Authority, and at each change in direction of piping, and at minimum intervals of 50' for piping 3" and smaller and 100' for piping 4" and larger. Install floor and wall cleanout covers for concealed piping, select type to match adjacent building finish.
- B. Flashing Flanges: Install flashing flange and clamping device with each cleanout passing through waterproof membranes.
- C. Expansion Joints: Install expansion joints on vertical risers as indicated, and as required by the Maine State Internal Plumbing Code.

3.5 PIPING TESTS:

- A. Test storm water piping system in accordance with requirements of the Maine State Internal Plumbing Code.

3.6 CLEANING, FLUSHING, AND INSPECTING:

- A. Clean, flush, and inspect storm water piping in accordance with requirements of Section 15060.

**END OF SECTION 15406**