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SECTION 221423 - STORM DRAINAGE PIPING SPECIALTIES

1. GENERAL
   * + 1. SUMMARY
          1. Section Includes:

General-purpose roof drains.

Promenade roof drains.

Deck roof drains

Cleanouts.

Backwater valves.

Polymer-concrete channel drainage system.

* + - * 1. Related Requirements:

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 076200 "Sheet Metal Flashing and Trim" for penetrations of roofs.

Section 078413 "Penetration Firestopping" for firestopping roof penetrations.

* + - 1. ACTION SUBMITTALS

Action submittals are submittals requiring responsive action and return of reviewed documents to Contractor.

* + - * 1. Product Data:

For each type of product.

* + - 1. QUALITY ASSURANCE
         1. Provide drainage piping specialties are to bear label, stamp, or other markings of specified testing agency.

1. PRODUCTS
   * + 1. GENERAL-PURPOSE ROOF DRAINS

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product. Not all manufacturers offer all options and not all options are available in each combination. Consult manufacturers.

* + - * 1. Cast-Iron Roof Drains:

Roof drains in "Cast-Iron Cornice and Gutter Roof Drains" Subparagraph below are available in at least NPS 2 to NPS 3 (DN 50 to DN 75). If only one type is required, drawing designation may be omitted.

Cast-Iron Cornice and Gutter Roof Drains :

Retain "Basis-of-Design Product" Subparagraph and list of manufacturers below to identify a specific product or a comparable product from manufacturers listed.

Basis-of-Design Product: Subject to compliance with requirements, provide **Zurn Industries, LLC; Z185** or comparable product by one of the following:

<**Insert manufacturer's name**>

Source Limitations: Obtain cast-iron cornice and gutter roof drains from single manufacturer.

Standard: ASME A112.6.4.

Body Material: Cast iron.

Dimension of Body: Nominal 6-inch diameter.

Dome Material: [**Bronze**] <**Insert material and finish**>.

Outlet: [**Bottom**] [**Side**] [**45-degree angle**].

Outlet Type: [**Threaded**] <**Insert type**>.

In "Options" Subparagraph below, not all manufacturers offer all options and not all options are available in each combination. Consult manufacturers. Retain options below to suit Project.

Options:

Wire Mesh: Stainless steel or brass over dome.

Vandal-proof dome.

<**Insert option**>.

1. EXECUTION
   * + 1. INSTALLATION OF STORM DRAINAGE PIPING SPECIALTIES

Additional instructions may be required for special applications. Indicate locations of specialties in plans, details, and schematics on Drawings.

* + - * 1. Install roof drains in accordance with roof membrane manufacturer's written installation instructions at low points of roof areas.

Install flashing collar or flange of roof drain to maintain integrity of waterproof membranes where penetrated.

Install expansion joints, if indicated, in roof drain outlets.

Position roof drains for easy access and maintenance.

* + - * 1. Install downspout adapters on outlet of back-outlet parapet roof drains and connect to sheet metal downspouts.
        2. Install downspout boots at grade with top [**6 inches**] [**12 inches**] [**18 inches**] <**Insert dimension**> above grade. Secure to building wall.
        3. Install downspout nozzles at exposed bottom of conductors where they spill onto grade.
        4. Install cleanouts in aboveground piping and building drain piping in accordance with the following instructions unless otherwise indicated:

Use cleanouts the same size as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.

Locate cleanouts at each change in direction of piping greater than 45 degrees.

Locate cleanouts at minimum intervals of [**50 ft.**] <**Insert dimension**> for piping NPS 4 and smaller and 100 ft. for larger piping.

Locate cleanouts at base of each vertical storm piping conductor.

* + - * 1. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.
        2. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.
        3. Install horizontal backwater valves in floor with cover flush with floor.
        4. Install drain-outlet backwater valves in outlet of drains.
        5. Install test tees in vertical conductors and near floor.
        6. Install wall cleanouts in vertical conductors. Install access door in wall if indicated.
        7. Install trench drains at low points of surface areas to be drained. Set grates of drains flush with finished surface unless otherwise indicated.
        8. Assemble channel drainage system components in accordance with manufacturer's written instructions. Install on support devices so that top will be flush with adjacent surface.
        9. Install through-penetration firestop assemblies for penetrations of fire- and smoke-rated assemblies.

Comply with requirements in Section 078413 "Penetration Firestopping."

* + - 1. CONNECTIONS

Coordinate piping installations and specialty arrangements with Drawings and with requirements specified in piping systems. If Drawings are explicit enough, these requirements may be reduced or omitted.

* + - * 1. Comply with requirements for piping specified in Section 221414 "Storm Drainage Piping." Drawings indicate general arrangement of piping, fittings, and specialties.
      1. INSTALLATION OF FLASHING
         1. Fabricate flashing from single piece of metal unless large pans, sumps, or other drainage shapes are required.
         2. Install sheet flashing on pipes, sleeves, and specialties passing through or embedded in floors and roofs with waterproof membrane.
         3. Set flashing on floors and roofs in solid coating of bituminous cement.
         4. Secure flashing into sleeve and specialty clamping ring or device.
      2. CLEANING
         1. Clean piping specialties of dirt and superfluous materials.[ **Flush with potable water.**]
      3. PROTECTION
         1. Protect piping specialties during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic and construction work.
         2. Place plugs in ends of uncompleted piping at end of each day and when work stops.

END OF SECTION 221423