

COMMON WORK RESULTS FOR FIRE SUPPRESSION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Bidder design modification of existing fire suppression system
- B. Pipe, fittings, sleeves, escutcheons, seals, and connections for sprinkler systems.

1.02 RELATED REQUIREMENTS

- A. Section 02 1000 - Existing Conditions

1.03 REFERENCE STANDARDS

- A. ASME A112.18.1 - Plumbing Supply Fittings 2018.
- B. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250 2015.
- C. ASME B16.3 - Malleable Iron Threaded Fittings: Classes 150 and 300 2016.
- D. ASME B16.4 - Gray Iron Threaded Fittings: Classes 125 and 250 2016.
- E. ASTM A47/A47M - Standard Specification for Ferritic Malleable Iron Castings 1999, with Editorial Revision (2018).
- F. NFPA 13 - Standard for the Installation of Sprinkler Systems Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

- A. Product Data: Provide manufacturers catalogue information. Indicate valve data and ratings.
- B. Shop Drawings: Indicate pipe materials used, jointing methods, supports, floor and wall penetration seals. Indicate installation, layout, weights, mounting and support details, and piping connections.
 - 1. Review existing installation and the Drawings to determine extent of modification work to integrate the existing system into the proposed configuration, coordinating with new plumbing, HVAC, and electrical systems and architectural finish systems.
 - 2. Coordinate any suspension components with existing inserts in the structural slab.
 - 3. DO NOT utilize any insert into any structural slab, other than the provided inserts.
- C. Project Record Documents: Record actual locations of components and tag numbering.

PART 2 PRODUCTS

2.01 FIRE PROTECTION SYSTEMS

- A. Sprinkler Systems: Comply with NFPA 13.
- B. Welding Materials and Procedures: Comply with ASME BPVC-IX.

2.02 ABOVE GROUND PIPING

- A. Steel Pipe: ASTM A135 or A53
 - 1. Cast Iron Fittings: ASME B16.1, flanges and flanged fittings and ASME B16.4, threaded fittings.
 - 2. Malleable Iron Fittings: ASME B16.3, threaded fittings and ASTM A47/A47M.

2.03 ESCUTCHEONS

- A. Material:
 - 1. Fabricate from nonferrous metal.

2. Chrome-plated.
 3. Metals and Finish: Comply with ASME A112.18.1.
- B. Construction:
1. One-piece for mounting on chrome-plated pipe and one-piece type elsewhere.
 2. Internal spring tension devices or setscrews to maintain a fixed position against a surface.

2.04 PIPE HANGERS AND SUPPORTS

PART 3 EXECUTION

3.01 PREPARATION

- A. To the extent possible relocate existing components to coordinate with the new construction
- B. Remove sections of existing pipe that are to be abandoned or replaced with new components. Cap abandoned connections.

3.02 COORDINATION

- A. To the extent possible, isolate areas of work to maintain fire protection coverage in the balance of the building.
- B. Minimize total system outage, and maintain fire watch with portable fire extinguishers in other occupied areas of the building during any outage exceeding one hour in length.

3.03 INSTALLATION

- A. Install sprinkler system and service main piping, hangers, and supports in accordance with NFPA 13.
- B. Route piping in orderly manner, plumb and parallel to building structure. Maintain gradient.
- C. Install piping to conserve building space, to not interfere with use of space and other work.
- D. Group piping whenever practical at common elevations.
- E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- F. Pipe Hangers and Supports:
 1. utilize only the provided hanger connection points in the existing concrete structural slab. DO NOT install anchors at any other location in the structural slab.
 2. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
 3. Place hangers within 12 inches of each horizontal elbow.
 4. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
 5. Support vertical piping at every other floor. Support riser piping independently of connected horizontal piping.
 6. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
- G. Slope piping and arrange systems to drain at low points. Use eccentric reducers to maintain top of pipe level.

- H. Prepare pipe, fittings, supports, and accessories for finish painting. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- I. Provide sleeves when penetrating walls and partitions. Seal pipe including sleeve penetrations to achieve fire resistance equivalent to fire separation required.
- J. Escutcheons:
 - 1. Install and firmly attach escutcheons at piping penetrations into finished spaces.
 - 2. Provide escutcheons on both sides of partitions separating finished areas through which piping passes.
 - 3. Use chrome plated escutcheons in occupied spaces and to conceal openings in construction.
- K. When installing more than one piping system material, ensure system components are compatible and joined to ensure the integrity of the system. Provide necessary joining fittings. Ensure flanges, union, and couplings for servicing are consistently provided.

END OF SECTION

