

SECTION 02280 HYDRANTS

A. Description

Hydrants shall be U.S. Pipe Metropolitan M-94 with a Mechanical Joint Shoe. Hydrants are to be manufactured in accordance to ANSI/AWWA C5.

Hydrants shall conform to the following specifications:

- (1) Hydrants shall have a 5-1/4" Main Valve Opening.
- (2) Hydrants shall have BRONZE Seat Ring & Sub-Seat.
- (3) Hydrants shall have Two (2) 2-1/2" Hose Nozzles (National Standard Threads).
- (4) Hydrants shall have One (1) 4-1/2" Pumper Nozzle (National Standard Threads).
- (5) Hydrants shall have 1-1/2" Pentagon Operating Nuts.
- (6) Hydrants shall Open Left.
- (7) Hydrants shall have a 6" Mechanical Joint Shoe, which shall be held together by stainless steel nuts and bolts.
- (8) Hydrants shall be painted OSHA Safety Yellow.
- (9) On water mains 12" and larger, the M-94 hydrant shall be a double-pumper hydrant.

B. Installation

Examination of Material:

All hydrants shall be inspected for direction of opening, nozzle threading, operating-nut and cap-nut dimensions, tightness of pressure-containing bolting, cleanliness of inlet elbow, handling damage and cracks.

Placement:

All hydrants shall stand plumb and shall have their nozzles parallel with or at right angles to the curb, with pumper nozzle facing the curb.

Hydrants shall be set to the established grade, with the centerline of the lowest nozzle at least 12 inches above the ground. Traffic model hydrants shall be installed such that the breakaway flange shall be installed no less than 2 inches, nor more than 6 inches above established grade.

Each hydrant shall be connected to the main with a 6-inch or larger diameter branch controlled by an independent valve. The valve shall be restrained to allow shutoff when the hydrant is to be removed.

When a dry-barrel hydrant is set in soil that is pervious, drainage shall be provided at the base of the hydrant by placing pea gravel or clean lime stone mixed with coarse sand from the bottom of the trench to at least 6 inches above the drain-port opening in the

hydrant and to a distance of 1 foot around the elbow. Where groundwater rises above the drain port or when the hydrant is located within 8 feet of a sanitary sewer main, the drain port shall be plugged and water pumped from a hydrant when freezing may occur.

When a dry-barrel hydrant with an open drain port is set in clay or other impervious soil, a drainage pit 2 feet by 2 feet by 2 feet shall be excavated below each hydrant. The drainage pit shall be filled with coarse gravel or crushed stone mixed with coarse sand under and around the elbow of the hydrant and to a level of 6 inches above the drain port.

Corrosion Protection:

Fire Hydrants shall be encased in polyethylene in accordance with AWWA C105. Wrap shall be taped off 6-inches above and below the drain port and wrap removed in this area to allow for proper barrel drainage.

Location:

Hydrants shall be located as shown on the plans or as directed by the owner. No hydrant shall be located in access of 10 feet from the curb or no closer than 2 feet to curb.

Protection:

In the case of hydrants that are intended to fail at the ground line joint upon vehicle impact (traffic hydrants), specified care must be taken to provide adequate soil resistance to avoid transmitting shock movement to the lower barrel and inlet connection. In loose or poor load-bearing soil, this may be accomplished by pouring a concrete collar approximately 6 inches thick to a diameter of 2 feet at or near the ground line around the hydrant barrel.

Additional Information:

Any additional information regarding installation of hydrants can be found in AWWA Manual M17.

Hydrant Detail:

Please refer to Section 02290 – Detail “A” for a Hydrant Detail.

END OF SECTION