

THE METROPOLITAN GOVERNMENT OF  
NASHVILLE AND DAVIDSON COUNTY

WATER DISTRIBUTION SYSTEM

APPROVED MATERIALS  
CONSTRUCTION SPECIFICATIONS  
&  
DETAILS



1600 SECOND AVENUE NORTH  
NASHVILLE, TN 37208-2298

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## INTRODUCTION

The Metropolitan Government of Nashville and Davidson County, through its Department of Water Services, presents this manual listing the approved manufacturers and distributors of various materials that may be used for construction of Water Distribution System lines and appurtenances.

Standard specification information is also presented as a guideline to architects and engineers in the preparation of detailed plans and specifications. Private contractors are encouraged to use the manual as a guideline in the purchase of materials for installation in the Water Distribution System.

We encourage users to notify Tommy Dodson at (615) 862-4857 of any inaccuracies, problems of performance of materials, or any changes or modifications necessary for the proper function of MWS facilities.

*Manufacturers claiming equal status with listed organizations should apply to Metro Water Services, 1600 Second Avenue North, Nashville, TN 37208 ATTN: Tommy Dodson (615) 862-4857.*

## FIRE HYDRANTS

AWWA C502 "American Water Works Association Standard for Dry Barrel Fire Hydrants" shall apply except where the following supplementary specifications supersede. Bury length shall be 3-1/2 feet unless otherwise indicated. The hydrant outlets shall consist of one 4-1/2" outlet and two 2-1/2" outlets with nozzles and caps meeting NFPA No. 194-1974 "National Fire Protection Standard for Screw Threads and Gaskets for Hose Connections." All fire hydrants shall be compression post type, opening against the pressure (AWWA C502).

Some approved method shall be provided to prevent the breaking of the expensive casting containing hydrant outlets in case of impact. Other expensive or hard to replace parts such as the stem shall likewise be protected.

The manufacturer shall furnish the drawings and data outlined in AWWA C502, and shall furnish 5 sets of certified drawings. The Engineer shall be furnished with certificates of inspection, sworn to by the factory inspector in the presence of a Notary Public, stating that the hydrant and all material used in its construction conform to the applicable requirements of AWWA C502 and these supplementary specifications, that all tests specified therein have been performed and all tests requirements have been met. Records of such test shall be provided upon request.

The size of the hydrant's main valve shall be 4-1/2 inches. The hydrant barrel is to be made in two sections with revolving upper section to provide for adjusting position of hydrant outlets. The upper flange connection must be at such a distance above ground line so as to easily remove bolts and revolve head part of hydrant. All hydrants must be fitted with a mechanical joint inlet. Lubrication must be possible without removing stem nut. Hydrants shall have a 1" square operating nut on top of stem and on nozzle caps. The nozzle caps shall be chained or cabled to the barrel of the hydrant with a chain or cable constructed of material not less than 1/8" in diameter. The opening between the stem nut and the top of the bonnet shall be protected by a weather shield cap. There must be cast on top of the hydrant in characters raised 1/8" an arrow at 1-1/4 inches long and the word "open" in letters 1/2" high and 1/8" relief, indicating direction to turn to open the hydrant. Hydrants must open to the left (counterclockwise). No stuffing boxes or glands shall be used. O-rings or other approved seals of equal ease of operation shall be used. Corners shall have good radius in accordance with good foundry practice. Asphalt varnish and not primer shall be used for coatings. Red paint shall be used for the final coat on the hydrant barrel top or head section.

## FIRE HYDRANTS - INSTALLATION

This item shall include furnishing and installing fire hydrants of the type specified at the locations as shown on the plans and/or in compliance with these specifications. It shall include all excavation and backfill, concrete for blocking, and rodding required for complete installation of fire hydrant.

It shall not include furnishing and installing valves, valve boxes, nor the tee on the water main, or other items of work set out in the Bidding Schedule of the Proposal and Agreement of this Contract.

AWWA C600 "American Water Works Association Standard for Installation of Cast-Iron Water Mains," sections entitles, "Hydrant Installation," and "Thrust Restraint," shall apply except where the following supplementary specifications supersede.

The material required for drainage around a fire hydrant shall be a minimum of 2 cubic feet of 2" broken stone. Crushed rock or sand shall not be used. The drain port shall not be plugged under any circumstances.

Concrete block a minimum of 12" x 12" x 4" thick, shall be required to wedge between hydrant base and back of trench and around the hydrant. Concrete blocks 12" x 12" x 4" minimum, shall be used underneath hydrant. These slabs shall be wedged firmly behind and extending around the hydrant to undisturbed earth. The equivalent of poured concrete may be used, but the drain hole must not be clogged. Where such blocks or concrete restraints lack sufficient backing in the Engineer's opinion, the shoe or bowl of the hydrant shall be rodded to the valve.

#### **Approved Manufacturers of Dry Barrel Fire Hydrants**

Mueller Company - Mueller A-421 Centurion

M & H Valve Company - Dresser Style 129 (M & H Traffic Model)

American Valve & Hydrant Division (American Cast Iron Pipe Company) -

American - Darling Mark 73

Kennedy Valve and Mfg. Co., Inc.

Matthews Modernized and Guardian (Catalogue FH-87) - **(Parts only)**

Clow Corporation (now owned by McWane) - Clow AWWA F-2545

Main purpose is to provide fire protection and can be used to flush section of mains.