STANDARD SPECIFICATIONS

SECTION 15139

FIRE HYDRANTS

PART 1 - GENERAL

A. Description

This section includes the materials, installation and testing of fire hydrants.

Hydrants shall be supplied and installed per MNWD standard drawing W-7, AWWA C 503 and as described herein.

B. Related Work Described Elsewhere

All related work specified elsewhere, or in other codes or standards, will be as last revised, unless a specific date of issuance is called out in opposition to later revision date(s).

Other sections of the technical specifications, not referenced below, shall also apply to the extent required for proper performance of this work.

1.	Trenching, Backfilling, and Compacting:	02223
2.	Concrete:	03300
3.	Painting and Coating:	09900
4.	Hydrostatic Testing of Pressure Pipelines:	15042
5.	Ductile Iron Pipe and Fittings:	15056
6.	Manual Valves:	15100

C. Approved Wet Barrel Hydrants

1. Residential Use
James Jones 3700 (Hydrant Head and Fluted Spool),
Clow 2050

2. Commercial and Industrial Use
James Jones 3775 (Hydrant Head and Fluted Spool)
Clow 2065

PART 2 - MATERIALS

A. Wet Barrel Hydrant

1. Hydrant Top Section

a. Fire hydrants shall have individual valves for each outlet opening counter clockwise. Fire hydrants for residential use shall have one 2-1/2 inch hose nozzle and one 4-inch pumper nozzle. Fire hydrants for commercial or industrial developments shall have one 2-1/2 inch hose nozzle and two (2) 4-inch pumper nozzles.

b. All outlets shall have National Standard Hose Threads.

c. The hydrant top section shall be manufactured of bronze conforming to ASTM B 62.

d. All interior working parts, including stems, shall be of bronze containing no more than 7% zinc or 2% aluminum.

e. Hydrants are to be provided with:

1-1/2-inch sized pentagon-shaped operating nut, and
1-1/2-inch capnuts.

f. All fire hydrants shall have the name of the manufacturer cast onto the hydrant body or shown on a permanently attached plate.

g. Plastic outlet nozzle caps shall be provided for all outlets. Caps shall be securely chained to the barrel with non-kinking metal chain in a manner to permit free rotation of the cap.

h. All hydrant flanges shall be eight-hole regular, Class 125, American Standard cast iron flange drilling.

2. Bury Section

a. The bury section shall be 6-inch cast iron long radius bury elbow and shall be cement lined in conformance with Section 15056. Bury inlet shall be 6-inch rubber-ring hub bell connection for C900 PVC pressure pipe.

b. A flanged ductile iron spool shall be installed to position the hydrant flange 4 inches above the concrete pad (finish grade).

c. All wet-barrel fire hydrant cast-iron buries are to be cement lined.

d. When using a riser spool, bolts shall be stainless steel 316, standard non break-away.

e. Bury section outlet and riser spool flanges shall be eight-hole regular, Class 125, American Standard cast-iron flange drilling.

C. Break-Away Bolts

1. Break-away bolts shall be used to join the spool section to the hydrant top section.

2. All bolts, and nuts, shall be stainless steel 316.

D. Valve

The shut-off valve shall be a resilient-seated gate valve per Section 15100, including the valve box. Butterfly valves will not be permitted on fire hydrant laterals.

E. Ductile Iron Pipe

Ductile iron pipe shall be per Section 15056.

F. Ductile Iron Pipe and Fittings

Ductile-iron Pipe and fittings shall be in accordance with Section 15056.

G. Concrete

Concrete pads and supports shall be Class B concrete conforming with Section 03300.

H. Gaskets

Gaskets shall be of rubber composition per Section 15056.

PART 3 - EXECUTION

A. General

1. Fire hydrant assemblies shall be installed in accordance with the standard drawing and as specified herein, and shall include the connection to the main, the fire hydrant, hydrant bury, shutoff valve, valve well and valve box, connection piping, concrete thrust blocks, and appurtenances.

2. Refer to MNWD standard drawing W-7.

B. Location

Fire hydrant assemblies shall be located as shown on the plans or as approved by the District representative. The center of the fire hydrant shall be, except as otherwise approved by the District representative, located as described below:

1. Where concrete curb or asphalt concrete (A.C.) berm exists or is to be constructed, and the sidewalk is next to the property line; 1 feet 6 inches back of the back edge of the curb.

2. Where 6-foot-wide or narrower sidewalk is to be installed or exists next to the curb; 12 inches back of sidewalk edge. Where there is insufficient public right-of-way behind the sidewalk, an easement will be required. For sidewalks wider than 6 feet; 18 inches back of the curb face.

3. Where there is no curb or berm, the location shall be designated by the District representative.

4. The flange elevation at the base of the hydrant shall be set 4-inches above the curb or sidewalk, or the surrounding graded area, or as approved by the District representative. Spools additional will not be permitted when correcting the flange elevation.

C. Trenching, Backfilling, and Compacting

1. All trenching, backfilling, compaction and other excavation shall be in accordance with Section 02223.

2. All backfill within 24 inches of a valve shall be imported sand.

D. Valve and Valve Box

The valve and valve box shall be installed in accordance with Section 15100.

E. Ductile Iron Pipe

Ductile iron pipe shall be installed in conformance with Section 15056.

F. Break-Away Bolts

Break-away bolts shall be installed with the threads away from the top of the hydrant.

G. Concrete

The concrete pad shall be Class B concrete and thrust blocker shall be Class A concrete and shall be placed per Section 03300.

H. Painting

All public fire hydrants shall be painted with one prime coat and two finish coats of yellow paint at the place of manufacture. Before the fire hydrant has been installed in accordance with Section 09900. A final touch-up coat shall be applied just prior to the final inspection.

I. Testing

Test hydrants at the same time that the connecting pipeline is pressure tested. See Section 15042 for pressure testing requirements.

END OF SECTION