

SECTION 33 12 19 HYDRANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Dry-barrel fire hydrants, valves, piping and accessories.

1.2 REFERENCES

- A. AWWA C110: American National Standard for Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In., for Water and Other Liquids.
- B. AWWA C111: American National Standard for Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings.
- C. AWWA C209: AWWA Standard for Cold-Applied Tape Coatings for the Exterior of Special Section, Connections, and Fittings for Steel Water Pipelines.
- D. AWWA C210: AWWA Standard for Liquid Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines.
- E. AWWA C213: AWWA Standard for Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel water Pipelines.
- F. AWWA C214: AWWA Standard for Tape Coating Systems for the Exterior of Steel Water Pipelines.
- G. AWWA C502: AWWA Standard for Dry-Barrel Fire Hydrants.
- H. AWWA M17: AWWA Manual for Installation, Operation, and Maintenance of Fire Hydrants.

1.3 PRODUCT HANDLING

- A. Package fire hydrants, gate valves, and valve boxes for protection against dirt and damage during shipment and storage.
- B. Do not plug drain hole.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's technical product data and installation instructions.
- B. Shop Drawings: Show interface and spatial relationship between piping and adjacent structures.
- C. Field Quality Control Reports: For system commissioning.

1.5 JOB CONDITIONS

- A. Notify appropriate fire department as soon as hydrant is removed or placed in service.

PART 2 PRODUCTS

2.1 DRY-BARREL FIRE HYDRANT

- A. Cast iron compression type, AWWA C502, opening against pressure and closing with pressure, base valve design, 150 psi working pressure, with 1/4 inch diameter minimum tapping and bronze plug in standpipe.
 - 1. Size: 5-1/4 inch valve opening.
 - 2. Direction to Open Hydrant: Counterclockwise.
 - 3. Size and Shape of Operating and Cap Nuts: Pentagon. 1-1/2 inch point to flat.
 - 4. Hose Nozzles: Two 2-1/2 inch National Standard Thread, cap, gasket and chain.
 - 5. Pumper Nozzle: One 4-1/2 inch National Standard Thread, cap, gasket and chain.
 - 6. Depth of Burial: 48 inches or consistent with main depth.
 - 7. Connection to Main: 6 inches flanges or mechanical joint.
 - 8. Pressure: 150 psi working pressure and 300 psi hydrostatic pressure.
 - 9. Inlet Bottom Connection: 6 inches mechanical joint or flanged in accordance with AWWA C110 and AWWA C111, designed to allow separation at the sidewalk level when hydrant is sheared off.
 - 10. Automatic Drain: Opens as the hydrant is closed.

2.2 PIPE AND FITTINGS

- A. Ductile iron, Section 33 05 05. Standard drilling, AWWA C110.
- B. PVC, Section 33 05 07.
- C. Steel, Section 33 05 09. Standard drilling, 150 lb.
- D. Spool, Schedule 40 steel, epoxy lined, exterior wrapped with minimum 60 mil thick tape wrap, AWWA C210 or C213 and C209 or C214 with two welded in place 150 lb. steel ANSI B 16.5 slip on flanges.

2.3 VALVES

- A. Gate valve. Section 33 12 16.
- B. If indicated, furnish an auxiliary 6 inch diameter valve with end connections as required.

2.4 ACCESSORIES

- A. Bolts, Nuts, Washers: Stainless steel.
- B. Anchorages: Provide anchorages for tees, wyes, crosses, plugs, caps, bends, valves, and hydrants. After installation, apply full coat of asphalt or other acceptable corrosion-retarding material to surfaces of ferrous anchorages.
- C. Thrust Blocks: Cast-in-place concrete, Class 2000 minimum, Section 03 30 04.
- D. Valve Box, Valve Chamber: Section 33 12 19.

PART 3 EXECUTION

3.1 PREPARATION

- A. Excavation, Section 31 23 16.

3.2 INSTALLATION

- A. Install hydrants, valves, and valve boxes as indicated and located in accordance with AWWA M17. Hydrants shall not be connected to or placed within 10 feet of a sanitary sewer or storm drain.
- B. Install so bottom of hydrant base flange is even with or less than 4 inches above grade.
- C. Point 4-1/2" pumper nozzle to face the street.
- D. Drain holes at base of hydrant to remain clear with a minimum of 1 cubic yard of clean Sewer Rock (Section 32 11 23) placed around hydrant base and drain. Place sheet plastic over gravel to prevent silting.
- E. Coal tar and tape wrap steel pipe.
- F. Grease all buried nuts and bolts and wrap with 8 mil polyethylene sheet and tape.
- G. Install thrust blocks, Section 33 12 19.

3.3 BACKFILLING

- A. Secure water company permission to commence backfilling operation.
- B. Trenches, Section 33 05 20.

3.4 PAINT

- A. Paint buried portion of hydrant with two coats of coal tar enamel or asphalt.
- B. Paint hydrant barrel and caps with one coat primer and final coat per water company paint standards.

3.5 FIELD QUALITY CONTROL

- A. Commissioning, Section 33 08 00.
- B. Disinfection, Section 33 13 00.

END OF SECTION