

WRIGHT WATER AND SEWER DISTRICT

2009 DESIGN STANDARDS

The Technical Specifications are included in the Wyoming Public Works Standard Specifications, 2001 Edition as amended, and are hereby incorporated by reference. Changes, amendments, and supplements, if any, to the Technical Specifications are contained in the Wright Water and Sewer District 2009 Design Standards.

WATER

1. WATER LINE

PVC pipe for water mains smaller than 12" shall meet the requirements of AWWA Specifications C-900 class 165. PVC pipe 12" and greater shall meet the requirements of AWWA Specifications C-909 class 150. PVC pipe shall be made to ductile iron O.D.'s for "Push-On" joints. Pipe joints shall be with an elastomeric gasket or joint. Gasket lube will be provided for all joints and fittings.

2. FLUSHING HYDRANTS

Flushing Hydrants shall be a Mueller 2 1/8" post type hydrant Model A-411 or approved equal. Hydrant shall be wrapped with 8-mil minimum polyethylene. Thrust blocks or restraints required. Stainless steel bolts required.

3. GATE VALVES

Valves shall be Mueller A-2360 or owner approved equal. Valves shall meet all requirements of AWWA C509. The outside and inside of the valve shall receive an epoxy coating approximately ten (10) mil thick. Thrust blocks or restraints required on all valves. Valve boxes shall be Tyler 6850 cast iron with 5-1/4" shaft-screw type with 5-1/4" drop in lid or approved equal. All valves shall close clockwise. All valves shall be wrapped with 8-mil minimum polyethylene. Anodes or mars caps will be installed for cathodic protection. The cast iron cover of the valve box shall have the word "Water" stamped thereon.

4. TEES/BENDS/END OF LINE PLUGS

Fittings shall be PVC push on, ductile iron push on or ductile iron. Ductile Iron fittings for water and other liquids or SSB Ductile Iron fittings for water mains shall be class 250 conforming to AWWA 153. The outside and inside surface of the ductile fitting shall receive a fusion bonded epoxy coating

approximately six-eight (6-8) mils thick. Fiberglass fittings will not be allowed. Thrust blocks and restraints required on all fittings. All ductile tees, bends and end of line plugs shall be wrapped with 8-mil minimum polyethylene and have anode mars caps.

5. COUPLERS

Fittings shall be mechanical joint Ductile Iron with ten (10) mil epoxy coating. Coupler shall be restrained with two mechanical joint wedge restraints and have stainless T bolts. All couplers shall be wrapped with 8-mil minimum polyethylene and have anode mars caps.

6. SERVICE SADDLES

Service saddles shall be brass Mueller BR2-5 or approved equal. Only stainless steel bolts will be allowed.

7. TAPPING SLEEVES

Tapping sleeves shall be Ford Fast stainless steel tapping sleeve with flange end. A valve with an end flange will be installed adjacent to tapping sleeve. Only stainless steel bolts will be allowed.

8. FIRE HYDRANT

Fire hydrants shall be Waterous Pacer WB-67, and shall conform to “Standard Specifications for Fire Hydrants for Ordinary Water Works Service” AWWA C-502. Hydrant shall have a push-on shoe with 304 stainless steel bolts. Thrust blocks and restraints required. Anodes or mars caps will be installed for cathodic protection. Color shall be RED. All fire hydrants shall be wrapped with 8-mil minimum polyethylene.

9. INSULATED METER PIT

This item shall be an 18” Diameter insulated meter pit with side-locking cast iron lid supplied by Mueller McCough, or approved equal, with a two inch rigid insulation block. Meter pit for air vac release assembly only.

10. COMBINATION AIR VAC/ AIR RELEASE VALVE

This item shall be epoxy coated on the inside. The outside shall be approximately ten (10) mils thick having a 1” Crispin UL 10.1 combination air valve with stainless steel float and trim with an operating range from 20 psi

to 150 psi, or approved equal.

11. CURB STOP AND BOX WITH STAINLESS STEEL ROD

The valve shall be a compression type brass valve, Mueller B-25209, and the valve box shall be a Bingham and Taylor Slide Plastic with stainless steel rods and cast iron top, or approved equal. Blocks under valves required.

12. CORPORATION STOP

This item up to and including 1" shall be a Mueller B-25008 or approved equal. This item larger than 1" shall be a Ford corporation stop or approved equal.

13. COPPER TUBING

This item shall be type K soft, conforming to Federal Specification WW-T-799 or ASTM Specification B88-62 for (1") one inch or smaller. Anything larger than (1") one inch will require type K hard copper conforming to Federal Specification WW-T-799 or ASTM Specification B88-62.

14. CHLORINATION TABLETS /FLUSHING

Chlorination and disinfection of water lines and fittings will be the responsibility of contractor.

15. METALLIC MARKING TAPE/AND TRACER WIRE

Tracer wire shall be No. 10 AWG Solid Copper, plastic coated. Marking tape shall be SETON 4" wide blue metallic marked Water Line Buried Below. Tape will be placed (18") eighteen inches above pipe in a consistent manner. Tracer wire shall be taped to the top of the pipe.

16. CARSONITE MARKERS

This item shall be Carsonite Utility Markers or WWSD approved equal. The markers shall be of a Blue Composite material and be 3.37" wide and 66" long. Markers shall be placed at all bends, tees, valves, hydrants, valve boxes, and ETC.

SEWER

1. SEWER LINE

PVC pipe for sewer main 15” and smaller shall conform to the requirements of ASTM D 3034. Larger than 15” shall conform to the requirements of ASTM F 679. All pipes shall be joined with a rubber gasket. Gasket lube will be provided for all joints and fittings. Nominal laying lengths shall be not less than twelve and half (12.5) feet, except shorter lengths may be used adjacent to manholes or other appurtenances. Each length of pipe shall be provided with a bell designed so that a watertight joint will be obtained when jointing the bell and spigot with a rubber ring. All pipe shall be clearly marked with type, class and/or, thickness as applicable. Lettering shall be legible and permanent under normal conditions of handling and storage.

Material used for manufacture of polyethylene pipe and fitting shall be PE 3408 high-density polyethylene meeting cell classification 345464C for color and stripes per ASTM D 3350. Polyethylene pipe shall be Ductile Iron Pipe Size (DIPS) sizes 8” and above shall be manufactured in accordance with ASTM F 714 and shall be marked.

2. MANHOLES

Manholes shall be constructed of precast concrete rings with frames and cover and steps. All manholes shall be designed to AASHTO HS-20. All manhole joints shall be rubber o-ring type. Adjusting rings may be used for adjusting the manhole top elevation to coincide with existing ground elevations, except the total height of adjusting rings used per manhole shall not exceed (8) eight inches. HDPE ring for manholes shall conform to ASTM D 1248. Concrete adjusting rings shall conform to ASTM C 478. All rings shall be sealed. When required, noncorrosive steps of rubber encased steel, aluminum, or nylon shall be used. Rubber boot will be allowed or need to be grouted. Covers shall be nonventilated, self-sealing Neenah R-1649 or Deeter Covers or WWSD approved equal. The cover shall have the word “Sewer” stamped thereon.

3. SERVICE SADDLE

Wye or tee fitting shall be of the same material and design and of specifications of the sewer main pipe. Jointing of the wye or tee branches on the main line pipe other than PVC shall be jointed with special joint adapters, manufactured for jointing two different types of pipe.