

Water Main. All mains shall be ductile iron pipe, except as provided in the next paragraph, thickness Class 50, cement mortar lined, and shall conform to the provisions of AWWA C151-81 and C140-80 and shall have "Tyton" type joints; the minimum inside diameter of mains shall be 8 inches. System shall be looped whenever possible. Where future extension of water main is expected, stub end sections shall have a main valve installed at or near the end of main, or as determined by the City Engineer. Stub end sections of water main shall be constructed with a fire hydrant to facilitate flushing of that section. Standard bituminous coating shall be applied to the outside surface of pipe by the manufacturer. Thrust blocks shall be installed per City of Merced Standard Designs.

All transmission main or any water main 12 inches or larger, shall be ductile iron pipe. Distribution mains smaller than 12 inches may be PVC, as provided on sheet W16A, except where there is high groundwater or the soil is contaminated. In special cases, such as within major intersections and arterial streets, under railroad right of way or other locations at his discretion, the City Engineer may require ductile iron pipe for distribution mains. All PVC water main shall have the exterior color white (PVC pipe used for any other utilities, or purposes other than potable water, shall not be white). All fire hydrants shall be connected to the distribution main with ductile iron pipe running from the main to the hydrant.

Fittings. Unless otherwise specified, fittings for ductile iron pipe shall be Class 250 for 3-inch size and larger, mechanical joint conforming to the requirements of ANSI A21.10 (AWWA C110-77). Fittings shall be cement mortar lined in accordance with AWWA C104-80. The inside and outside of the fittings shall be bituminous coated. Nuts and bolts shall conform to the provisions of ANSI Specifications B18.2. Fittings for 2-inch diameter and smaller shall be of brass construction.

Note: ANSI is American National Standards Institute.

Valves. Valves shall be resilient wedge gate valve type conforming to ANSI/AWWA C509 standards, suitable for buried installation, Class 150. Valve turn right (clockwise) to close.

<u>Size of Valves</u>	<u>Turns to Close</u>
8 inches	20-30
12 inches	32-40
16 inches	44-50
20 inches	40

Stem shall be machined from forged manganese bronze bar stock. Fusion epoxy coating of nominal 10 mils, in compliance with AWWA C550 and certified to NSF 61. Wedge shall be ductile or cast iron, fully encapsulated in molded rubber complying with ASTM D2000. All bolts, glands and gaskets shall be of the same manufacturer as the valves supplied (Mueller 2360 or 2361 series "Resilient Wedge Gate Valves" or equal). Valves will be installed on all hydrant runs and on each leg of main line intersections.

Valve Boxes. Each valve shall be equipped with a valve box set to grade, Christy G5 Traffic Valve Box with G5C cast iron lid, Christy G4 Traffic Valve Box with G4C cast iron lid (or equal), marked "WATER". Valve boxes, etc., shall be raised to grade after paving. Paving shall be saw cut to a regular shape around all such raised castings. Valve boxes shall be set in concrete per W-2. Valve box riser pipe shall be 8" minimum diameter.

ENGINEERING DEPARTMENT

CITY OF MERCED, CA.

WATER SYSTEM - CONSTRUCTION SPECIFICATIONS

W-15

DRAWN: KGE

APPROVED BY:

DATE

DATE: 1/02

David L. Tucker

3/17/08

REVISED: 3/17/08

CITY ENGINEER

SHEET

OF