

**ALABASTER WATER BOARD
WATER SYSTEM CONSTRUCTION & MATERIALS REQUIREMENTS**

GENERAL: Water system material installed for service shall meet the requirements of the American Water Works Association (AWWA), the Insurance Services Office (ISO) and the Alabaster Fire Department. All materials will be original manufacturer parts and supplies.

DRAWINGS: The AWB requires that proposed water distribution facilities include both plane and profile drawings.

INSPECTION: Alabaster Water Board personnel must inspect and approve all materials before work begins on any new construction.

PIPE: All pipe shall be ductile iron (ANSI/AWWA C151/A21.51). All pipe shall be cement lined in accordance with ANSI/AWWA C104/A21.4. Unless a special thickness class is required for loading conditions, all pipe shall be pressure class 350. Pipe bedding shall be approved by the Board. Pipe diameters shall be 6, 8, 12, 16 or 18 inches in diameter. All pipe shall be by an approved manufacturer. United States Pipe and Foundry Company, Inc., American Cast Iron Pipe, and Griffin Pipe Product Company are approved for all sizes of pipe listed above. McWane Cast Iron Pipe Company is approved for pipe 12-inches and smaller.

DEAD END LINES: AWB discourages construction that includes dead end lines. If AWB approves new construction plans with dead end lines a fire hydrant as described below with 6" gate valves must be installed at the end of the dead end line.

FITTINGS: All mainline fittings shall be ductile iron equipped with restrained joint connections. Fittings shall be braced as approved to prevent movement of pipe or fittings.

DISTRIBUTION SYSTEM CONNECTIONS: All connections to the existing distribution system mains shall be completed with the use of ductile iron fittings or ductile iron mechanical joint tapping sleeves and valves. Tapping sleeves shall be material as designated by the Superintendent. Valves shall be as described below and designed for the use with tapping sleeves.

For new mainline connections to the existing Distribution System, the AWB will make all taps. The party requesting a connection to the existing Distribution System will provide at his expense all necessary materials for making the tap, will excavate the site where the tap is made, and backfill the site after AWB makes the tap. The Board will charge a fee for making the tap as shown in its schedule of rates and charges.

DISINFECTION REQUIREMENT: A 50 ppm solution of hypochlorite (HTH) shall be fed into new pipe installations and transported to the extremities of the pipe through the required flush valves used to clean the system. This solution will be retained in the system for a minimum of 24 hours. Alabaster Water Board Manager, Superintendent, or Inspector must be provided a minimum of 1 work day's notice before this process begins.

ROAD CROSSINGS: All pipe located under roadways shall be ductile iron (Class as required by loading). Pipe under City, County, State or Federal Highways shall be cased, backfilled, and installed in accordance with the appropriate agency's specifications. Further, pipe under driveways and other like construction shall be cased. At a minimum casing pipe will be 1/4" wall thickness, coated, and sized at double the size of the water line with casing spacers every 5' the length of casing pipe. Casing pipe should be capped with hydraulic cement or water plug material with a maximum thickness of 2".

CURB CLEARANCE: Pipe shall be located at least eight feet behind curb lines and not under existing or proposed sidewalks.

COVER: All pipe shall be installed with a minimum of 30 inches of cover from the top of the installed pipe to the final grade. The maximum depth as measured from the top of the installed pipe to the final grade shall be 48".

HORIZONTAL AND VERTICAL SEPARATION OF UTILITIES: Water lines shall be installed with a minimum horizontal separation of 5 feet from other utilities. When crossing gravity sewers or force main sewers, water lines shall be installed with a minimum vertical separation above the sewer line of 2 feet. If the owner of the utility being crossed has different requirements than those stated above, the more stringent of the requirements shall apply. If at any time a conflict is detected in the field or during design a written letter from the customer/owner to the AWB and the City Engineer shall be supplied immediately for resolution.

VALVES: All valves shall be resilient seated gate valves with mechanical joint connections (except for valves used on tapping sleeves which shall have one flanged connection and one mechanical joint connection). All valves shall be installed with cast iron valve boxes and covers. The location of all valves (except for valves on fire hydrant leads) shall be indicated using concrete valve markers properly stamped to indicated direction and distance to the valve(s). A minimum of three valves shall be located at each tee and a minimum of four valves shall be located at each cross. Valves shall also be installed at other locations as directed by the Board. A 24" wide x 24" long x 4" deep concrete square structure will be poured around each valve.

SERVICE CONNECTIONS: A "service connection" includes the pipe, fittings, and miscellaneous items required to deliver water from the main to the water meter. A service connection generally consists of a tapping saddle with corporation stop, service line, and meter box with curb stop with an approved backflow prevention device. These items are described in more detail herein below. All service fittings shall be brass fittings equipped with mechanical joint connections. The Board requires corporation cocks, manufactured by Ford Brass with Q-nut and curb stops manufactured by Ford Brass type b43-232W-Q.

- 1) Tapping Saddle shall be a brass double strapped type with bolted connections on the straps for sizes 3/4" up to 2" size. The tapping saddle shall be of type approved by the Board. A corporation stop (minimum 3/4 inch size) shall be installed on the tapping saddle.

- 2) Service Line shall be type "K" copper or other material as designated by the Superintendent and shall extend from the corporation stop on the tapping saddle to the meter box. Service lines that extend under roadways or driveways will be placed inside a PVC casing with ends sealed with spray foam. Such casing shall extend at least six feet beyond the back of the curb on each side of the roadway or driveway. The trench for casings shall be completely backfilled with crushed stone. The diameter of the service lines shall be as follows:
 - A) Standard Residential Development
Service lines will supply only one meter. Service lines shall be at least 3/4 inch in diameter. Water shut-off valves on all service lines shall be 3/4 inch brass / lock-wing device. A separate shut-off valve will be installed immediately outside the meter box on the customer's side of the meter.
 - B) Estate Lot Development
Service lines may only serve one meter and shall be at least one inch in diameter. Water shut-off valves on service lines shall be 1 inch brass w/lock-wing devices. A separate shut-off valve will be installed immediately outside the meter box on the customer's side of the meter.
 - C) Commercial Development
Service lines will only supply one meter and will be at least one inch in diameter. Water shut-off valves on all service lines shall be one-inch brass / lock-wing devices. A separate shut-off valve will be installed immediately outside the meter box on the customer's side of the meter.

The Board may require a large diameter service line should it be required by the conditions at a particular service.

- 3) Meter Box shall meet the current Board requirements for materials and size. A locking type curb stop (see above for size) shall be installed at the end of the service line in the meter box. The meter box shall be located at the right-of-way boundary. In Estate Lot Developments the meter box shall also be located at the center of the lot frontage. The water meter will be installed by the Board.
- 4) All 3/4" and 1" fire lines are required to be metered. For larger size fire lines the Superintendent must approved proposed plans.
- 5) Backflow prevention devices must be installed at a location as directed by the Superintendent.
- 6) All 2" and larger size meters located in vaults must have equal size meter bypass lines with valve located outside of vault.

House service lines from the meter to the customer are the property of the customer. The customer shall be responsible for sizing and maintaining house service lines to meet his own needs. The Board shall not be responsible for water service problems associated with improperly sized, installed, or maintained house service lines.

FIRE HYDRANTS: Fire hydrants shall be three-way with two 2-1/2" nozzles and one pumper nozzle. Nozzles to be threaded with National Standard Hose Coupling Threading, and equipped with caps and chains. Hydrants shall be factory yellow in accordance with Alabaster Fire Department requirements. Hydrants shall be either Mueller - Super Centurian Model 200, American Darling Model B84B, or M&H fire hydrants. Each hydrant installation shall consist of a ductile iron hydrant tee, valve, fire hydrant and anchor coupling as an assembled unit, a concrete thrust block, and a minimum of one cubic foot of gravel (3/4 inch or larger) around the weep hole to allow drainage. Hydrants shall be placed on the right-of-way boundary at a spacing as designated by the currently effective International Fire Code and as required by the Alabaster Fire Chief.

FIRE SUPPRESSION METERS: The Board requires the installation of appropriately sized fire suppression meters or magnetic-type meters on fire suppression lines as approved by the Board.

DRAWINGS: Prior to construction of water system additions for a residential development, drawings must be submitted to the Board and approved. The following items must appear on the drawings before approval by the Board can be given to begin construction.

- 1) The location, size, and materials of all pipe and fittings
- 2) The locations of valves, fire hydrants, and service connections
- 3) Fire Hydrant Detail
- 4) Service Connection Detail
- 5) List of fittings, valves, and miscellaneous items required at connections to the existing water system.
- 6) A note which states that the water system additions shall be installed in accordance with the Board's requirements.
- 7) Maps shall have all contour and elevations shown.

WATER PRESSURE: A pump must be installed on any lot that has a pressure at the meter of 40 psi or less based on Paul B. Krebs and Associates' model of the Alabaster Water system. The requirement for a pump shall be recorded in the deed to the contractor and then to the homeowner and stay with the land. The pump will never be the responsibility of the Alabaster Water Board. When a low-pressure area is encountered in a development, a written agreement with the Alabaster Water Board must be signed by the developer agreeing to the above terms.

RESERVE: The AWB reserves the right based upon individual site and field conditions to change or modify previously approved construction requirements for individual residential and commercial developments.