

REGULATIONS FOR WATER MAIN EXTENSIONS

1.0 GENERAL

- 1.1 Plans for water main extensions shall be submitted to the Belforest Water System for written approval prior to any construction. Plans and specifications shall be prepared and submitted by a registered professional engineer. All pipe, valves, fire hydrants and other construction materials shall be in accordance with *Regulations For Water Main Extensions, Belforest Water System*. The plans shall show all pertinent details, including the size of adjacent existing mains, proposed connection points, ground elevation based on USGS datum, typical installation drawing, and other details as appropriate. The developer shall submit two (2) hard copies and one (1) legal size of the plans for a representative from Belforest Water System to review. The developer should also provide digital shape files, digital GIS locations and digital copies of As Built plans at the conclusion of the project to Belforest Water System.
- 1.2 All water main extensions shall be minimum 8" diameter pipe. All dead-end lines shall have a fire hydrant or flush hydrant at the end for flushing. The Belforest Water System also reserves the right to require installation of larger mains and/or alternate pipe materials in certain locations and will negotiate with the developer concerning these requirements.
- 1.3 Design of water distribution systems within new developments shall assume the Master Plan is in place throughout the system and the design shall demonstrate that fire flow will be available at each fire hydrant within the development. This design shall include water main extensions to serve the development and the overall master plan for that development. The Board's objective will be realized whenever their Master Plan is complete.

- 1.4 All taps, service connections, meter and other connections shall be made under the Belforest Water System supervision. All taps shall be made by developer or owner. The standard tapping fee, boring, and/or connection charges shall be paid to the Belforest Water System prior to any work being performed.
- 1.5 The developer shall submit to a representative from Belforest Water System copies of field verified pressure charts to demonstrate that the entire new system has been successfully pressure tested at a minimum of 150 psi for a minimum of six (6) hours.
- 1.6 Prior to completion of the extensions, it shall be the responsibility of the developer to flush and disinfect all new mains under the supervision of the Superintendent, collect bacteriological samples and deliver to the State Health Department Laboratory in Mobile. An adequate number of samples to verify the disinfection process shall be collected. The developer shall be responsible for collecting the samples, transporting them to the lab, and having the test results mailed to the Belforest Water System prior to requesting final inspection and approval.
- 1.7 Upon completion of the extensions, the developer shall request a final inspection by the Belforest Water System. Included with the written inspection request shall be a certificate issued by the registered engineer who designed the extension that all work and materials were installed in accordance with the plans and specifications as approved by the Belforest Water System, together with two sets of as-built drawings on which are shown detailed measurements to all valves, fittings, plugs and dead-end lines, and other important features. Upon receipt of this information, the Belforest Water System will make a final inspection of the extensions and formally accept ownership of the improvements in writing.
- 1.8 As a requirement the Belforest Water System shall be provided an electronic as built survey for service on all new subdivision designs. Survey and design drawings of all

water system features will be collected in the North American Datum of 1983 State Plane Coordinate System Alabama West with coordinate and altitude (MSL) units in feet. The survey accuracy standards are mapping grade quality GPS being (+) or (-) 3 feet. The as built survey will consist of all features of the water distribution system including but not limited to water valves, water mains, fittings, hydrants, water distribution junctions and water services and minimal information so to describe each feature. For instance, size, material and type of system features will be considered minimal descriptions. The as built drawings and survey data will be provided in a CAD or other compatible Geographic Information System software for input into the BWS GIS system.

- 1.9 The developer shall provide the Belforest Water System with 100% guaranty bond to replace or repair any defects in materials or workmanship that develop or are detected within one year from the date of final acceptance by the Belforest Water System. The bond shall be provided prior to final acceptance of the improvements, and the amount of the bond will be determined by the Belforest Water System.

2.0 SUBDIVISION

- 2.1 After subdivision plans have been approved by the county of Baldwin and/or the City of Daphne and meets their and Belforest Water System specifications the following requirement will need to be met by the contractor: meter boxes should be set in place, and a permanent marker “W” stamp on the concrete curbs. The service taps should be in a straight line with the “W” on the curb. There will be a landscape timber painted blue at meter box. The timber will be 3’ height and no more than a foot from meter box. The meter boxes will not be below or in sidewalk. Belforest Water System shall be notified before pressure tests are made on the completed water hook-up.
- 2.2 After service has been paid if any items have been **STOLEN**, **MISSING** or **DAMAGED** by the property owner, contractor or sub-contractor, the person with whom the original **WATER AGREEMENT** was made will be responsible for **PAYMENT** or replacement of such items.

2.3 All entrances and common areas will have a water service installed for future use for irrigation and/or other future use.

2.4 All water mains shall be 8" diameter pipe. The Belforest Water System also reserves the right to require installation or larger mains and/or require different pipe material in certain locations such as ductile instead of PVC.

3.0 MATERIALS PIPES

3.1 All water mains in the Belforest Water System shall be constructed of rigid bell and spigot type, rubber gasket joint, class 900 DR 18.

3.2 All pipe installed beneath creeks, streams or other waterways shall be constructed of ductile iron designed in accordance with AWWA C151-76, with appropriate joints as approved by the Belforest Water System. These crossings may also be accomplished using a minimum of SDR 11, Directionally Drilled HDPE pipe.

3.3 All PVC pipe shall have a 16-gauge wire or larger installed along the entire length of the pipeline and be brought to the surface through the valve boxes. This wire strip shall be readily located with the use of electronic devices as normally used for locating pipelines. This wire should be a minimum of 3" above the pipe and shall not be taped to or touch the pipe.

3.4 All pipes shall be installed with 36" minimum cover.

FITTING

3.5 Fittings for use with PVC pipe and ductile iron pipe shall be ductile iron or cast iron. No PVC fittings allowed. All fittings valves and fire hydrants shall be equipped with mechanical restraints.

3.6 All fire hydrant tees shall be provided with mechanical joints, restrained joints and high strength cast iron nuts and bolts.

3.7 All fittings shall be provided with adequate thrust blocking consisting of 2500 lb. concrete.

VALVES

3.8 Resilient seat gate valves shall be provided at all line intersections or at maximum intervals of 2000 feet. All valves shall be provided with a valve box screwed type. A concrete donut should be placed around all valve boxes and painted blue.

3.9 Gate valves shall be iron body, brass mounted and shall be of the wedge gate, resilient seat type. Gate valves shall have a non-rising bronze stem, "O ring" stem seal, an AWWA 2" square operating nut and shall open by turning to the left (right-hand closing.) Gate valves shall be manufactured in accordance with AWWA C509-80. Gate valves shall be suitable for a working pressure of 200 psig and shall have been tested to 400 psig.

FIRE HYDRANTS

3.10 Fire Hydrants shall be manufactured in accordance with AWWA C502 and shall be M&H Model 129T or equivalent. Hydrants shall be spaced at intervals of 600 feet.

3.11 Fire Hydrants shall have a main valve opening of not less than 5 ¼," two 2 ½" hose connections and one 4 ½" pumper connection. Hydrants shall be of the traffic model type provided with a breakaway feature on the barrel and stem hydrants shall be provided with a permanent lubricating device and "O ring" packing seals. Hydrants shall open by turning to the left. Operating nuts shall be of the National Standard pentagon type, 1 ½" point to flat. Hydrants shall be provided with a 6" mechanical joint shoe and shall be equipped with a retainer gland. Hose and pumper connections shall be furnished with UNS threads.

3.12 Hydrants shall be provided with a 6" gate valve between the main and the hydrant, the hydrant tee, cut-off valve and hydrant shall be provided with locked retainer glands or Mega Lug restrained joint follower glands.

- 3.13 Each hydrant shall be installed truly plumb on a precast concrete block 12” square and 3” thick and with not less than three cubic feet of gravel about 1” in size shall be placed around the hydrant base before backfilling.
- 3.14 All piping between the hydrant tee on the main, the cut-ff valve, and the hydrant shall be constructed of the 6” Class 50 ductile iron pipe equipped with retainer glands.
- 3.15 Fire Hydrants shall be installed on the same side of the road as main.
- 3.16 Flush Hydrants shall be of the post type and shall be M&H Style 33 or equivalent and shall be set near the end of dead-end mains. When distribution mains are extended Flush Hydrants may be reset to a dead-end location.

SERVICE CONNECTION

- 3.17 All service connections shall consist of a corporation stop at the main, type “K” copper service tubing, a curb stop, Ford or equivalent, a meter box as specified, and a separate out-of-the-box cut-off valve shall be installed. Where connecting to a PVC water main, a service clamp shall also be provided.

At the option of the Superintendent the install service connection shall consist of a service clamp where required, the corporation stop at the main, type “K” copper service tubing, curb-stop and meter box. The service connection should line up from the service ta to the meter box in line with the “W” on the curb.

SERVICE PIPE

3.18 Copper Tubing shall conform to the Federal Specifications WW-T799, Type K. Copper tubing shall be used for all service lines.

3.19 Service lines shall be laid with 24" minimum cover.

BRASS GOODS

3.20 Corporation stops shall be ¾" Ford F 1000-3G or equivalent unless otherwise noted.

3.21 Curbs stops shall be full ¾" Ford B43-332 WG or equivalent.

3.22 Service clamps shall be used when connecting to PVC mains, Ford Bronze Service Clamps specifically designed for use on PVC pipe and provided with corporation stops.

3.23 When making meter sets, all meters shall have Ford HHS38-323 double check or equivalent backflow preventor. Subdivision does not supply meters.

METER BOXES

3.24 Meter boxes should all be jumbo size with plastic top and hinged plastic lid. The plastic shall be of the fiber reinforced polyolefin type. Meters should be set no deeper than 10 inches from the top of the box. During development, construction and home building, there must be a blue landscape timber, no shorter than 36" inches tall and painted blue installed in the ground as the place of the meter/service line. These can be removed after receiving a "Certificate of Occupancy" from the appropriate governing authority.



4.0 VIOLATIONS

- 4.1 The failure or anyone to comply with any provision contained in the Regulations for Water Main Extensions shall constitute a violation of the Regulations and shall subject the violator to a fine pursuant to the then current rate and fee schedule of the Belforest Water System.

- 4.2 The failure or anyone to pay any fines when imposed shall result in the water being shut off from the Member's property, and/or the property that is the subject of the violation, until all fines are paid in full and all violations have been remedied to the satisfaction of Belforest Water System.