

**BYFIELD WATER DISTRICT**

2 Fruit Street  
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Byfield, MA 01922  
(978)462-3023

Howard Traister, Chairman  
Newbury Zoning Board of Appeals  
12 Kent Way  
Byfield, MA 01922

May 17, 2017

**RE: Byfield Estates Development**

Dear Chairman Traister:

The Byfield Water District has received a set of plans dated March 22, 2017 pertaining to the proposed development at Byfield Estates, off of Pearson Drive. We would like to provide a few comments to the utility pages and provide copies of the districts standards for water service installations and water main and accessory installations. This information should be relayed to the developer.

**Sheet CS1701**

- The connection onto the existing water main on Pearson Drive shall be made by cutting in a Tee, not by using a tapping sleeve and gate valve. The Tee will have gate valves attached to each open end (3 gate valves). The district will shut water off to the existing water main on Pearson Drive to enable this connection to be made.

**Sheet CS6021**

- Detail for "sewer pipe and water pipe crossings" shall include a comment indicating that the pipe joints of the sewer line will be a minimum 5' from where the water and sewer line intersect.

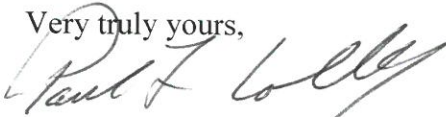
**Sheet CS6051**

- The gate valve for the fire hydrant lines shall be connected directly onto the Tee from the water main. No pipe shall be between the gate valve and Tee.
- Retaining glands shall be used at all mechanical joints.
- Fire hydrants are to open "right" not "left".

Enclosed are the standards and procedures the developer must follow for water service line installations and all work pertaining to installation of water mains and related accessories. These documents will indicate all fees the developer may anticipate will be paid to the water district. The developer should carefully read these documents to ensure the project conforms to the districts standards. A set of plans showing the corrections indicated above must be submitted to the district for review and final approval by the Board of Water Commissioners.

Questions can be directed to me at [byfieldwater@comcast.net](mailto:byfieldwater@comcast.net) or calling (978)462-3023.

Very truly yours,



Paul F. Colby, Director BWD

CC: Byfield Board of Water Commissioners  
Newbury Planning Office

## **CONNECTIONS TO THE WATER DISTRICT**

### **PERMIT**

An application for connection to the Byfield Water District water system must be obtained, filled out and returned to the District office along with a check for the appropriate fee. The Byfield Water District Board of Commissioners must approve the service application. A fee of \$4,000.00 will be charged to allow connection to our water system. This fee will include tapping of the water main and installation of the water meter (up to 1"). Tapping of the water main and water meters larger than 1" will be paid by the owner. This \$4,000.00 fee does not include the cost of any materials required for installation of the water service.

### **NOTIFICATION TO WATER DISTRICT**

The Water District shall be notified at least **48** hours before the work is to commence so that inspections can be scheduled.

### **LOCATION:**

The Water District must approve the proposed location of pipes on private property before installation is started. In general, pipes shall not be installed under paved or exposed locations subject to freezing.

### **CONDITIONS:**

The Byfield Water District shall tap all 1" or smaller service connections. No backfilling shall be started until the Water District or the Byfield Water District or his agent has approved the piping. Should a police officer be required for traffic control it is the responsibility of the homeowner to make arrangements and pay the costs.

### **CONSTRUCTION DETAILS**

1. The pipe from the water main to the curb stop shall be type K soft temper copper tubing as manufactured by Revere Copper and Brass Inc or approved equal currently being used by the Byfield Water District. Minimum size 1 inch OD or as specified by the Water District. The Water District shall approve all fittings, valves and service boxes prior to installation.
2. The water service from the curb stop into the home may be either 1 inch type K copper tubing or 1 inch high density polyethylene (copper tubing size) rated at 200 psi.
3. All taps into the water main shall be made through a service saddle. The saddle will be either bronze or epoxy coated ductile iron with 2 stainless steel straps.
4. An Erie style curb box shall be located at or near the property line.

Home Owner Initials \_\_\_\_\_

5. Depth of cover for all service lines shall be a minimum of 5 feet in all directions.
6. Back filling of trenches over service lines shall be by hand for a depth of at least one-foot using fine materials. No large stones or boulders shall be used in back filling the trench. The Water District or his agent shall be present during back filling.
7. Water line is to be run through the foundation wall and patched by the homeowner.
8. No electrical or sewer lines are allowed in the same trench as the water line. A minimum of 10' shall be maintained between the trenches or the conditions of Title 5 complied with.
9. Any water service over 300 feet from the street line or where there may be an outlet between the street and the house, or on services that have no safe and convenient location, a meter pit shall be required. The service line will be a minimum of 1" in diameter. The Water District shall approve the location, size and type of construction of the meter pit. The cost and installation of the meter pit shall be the responsibility of the owner.

#### **METER INSTALLATION AND PLUMBING DETAILS**

1. The water meter up to 1" shall be furnished by the Byfield Water District. The meter shall be installed either by the Byfield Water District or an approved licensed plumber in a location selected by the Water District. Any meter over 1" will be furnished and installed by the owner. No meter shall be installed in a location subject to freezing or damage. The owner shall furnish and install a ball type valve on both sides of the water meter. The location shall be easily accessible to the Water District for maintenance and reading of the meter. The District retains ownership of the meter.
2. A residential double check valve shall be installed directly after the water meter.
3. The property owner will be responsible to consult with a plumber for the need of a pressure reducer or thermal expansion tank to be installed after the backflow preventer.
4. The water meter must be installed within three feet of the entry point of the water pipe into the home. The meter must be a minimum of 30 inches from the floor, but not more than 48 inches, and no less than 6 inches from any wall. The meter must remain accessible for inspection by the Byfield Water District.

*Home Owner Initials* \_\_\_\_\_

## PRIVATE WELLS

### Decommissioning of Existing Wells and Connection to Building

1. Upon the connection of the water service the Contractor shall remove the existing water service from the existing private well to the building being served. If the well is located outside of the structure being served the well may stay in place for the purpose of irrigation and other outside use. However, the pump and all associated piping and appurtenances shall be relocated from inside the house and installed at an exterior location.
2. All interior wells within the structure footprint shall be removed in their entirety and the void filled with grout. All interior water pumps and all associated piping and appurtenances shall be removed from the building footprint.
3. Water service may be terminated immediately upon the discovery of a private well piping being brought into a building being served with public water.

NOTE: STATE DRINKING WATER REGULATIONS (310: CMR 22.00) PROHIBIT CROSS CONNECTIONS BETWEEN PUBLIC WATER SUPPLIES AND PRIVATE WELLS. ANY VIOLATION IS SUBJECT TO FINES UP TO \$25,000 A DAY AND IMPRISONMENT.

### FINAL APPROVAL:

The water shall not be turned on until the Water District or his agent has approved the installation. No service shall be turned on by anyone except an employee of the Byfield Water District or his agent; after all applicable charges have been paid.

### SPECIAL CONDITIONS:

Special conditions encountered at the site, which may vary with conditions, as set forth here in shall be referred to the Water District or his agent who shall decide on the methods of the installation to be followed.

### WATER DEPARTMENT RULES

The water service, from the curb box to inside of the building, shall remain the property of the owner. All maintenance, repairs and upkeep of the water service, from the curb box to the building shall be the responsibility of the owner. Upon notification of a leak in the owner's water service line, the owner shall make necessary repairs within a timeline set forth by the Water District. The timeline may be as soon as immediately, depending on the severity of the leak. Failure to make required repairs within the deadline set by the Water District shall result in a fine of up to \$100 per day, and/or shut-off of water service at the curb box, until repairs are completed.

All Water District General Rules and Regulations, as most recently revised, shall apply, whether or not explicitly addressed in these regulations.

*I have read and will follow the service installation procedures of the Byfield Water District:*

\_\_\_\_\_  
Name

\_\_\_\_\_  
Date

## BYFIELD WATER DISTRICT

### STANDARD PROCEDURE FOR THE INSTALLATION OF WATER MAINS AND ACCESSORIES

The following instructions as to methods and materials for the furnishing and installation of water mains and accessories are hereby issued as a guide to a requirement for all owner, individuals and contractors engaged in this type of work and shall be followed unless otherwise approved by the Superintendent.

The **PROPERTY OWNER** shall be held responsible in insuring the following procedures and requirements are observed.

#### 1. GENERAL

- a. Before proceeding with the work, the owner or his agent shall have provided grade stakes marked for finished grade of the road or area at intervals of 50' +/-
- b. Before proceeding with the installation of water mains or appurtenances, all drainage in said street or water main area shall be installed and completed in order to prevent breakage or rupture of said water line. In all cases the water main shall not be placed closer than 3' from the barrel of a catch basin in order to prevent freezing.
- c. The installation of Public Utilities including, but not limited to gas mains, electric cables, and telephone cables shall no be allowed in the same trench as water mains or services. Installation of utilities must be 5' away.
- d. The developer, owner or installer shall at his expense, give to the Byfield Water District and easement for the right to pass and repass over private property for inspections, observations and operations of the system, water mains and accessories. All maintenance, repairs and upkeep of the water system and accessories are the responsibility of the owner and shall meet the approval of the Byfield Water District Board of Commissioners.
- e. The water system supply shall not be turned on or off to any water main or service by anyone except an employee of the Byfield Water District.
- f. A complete set of plans and specifications, including but not limited to the size and location of all water mains, water meters, gate valves, sprinkler systems and all other accessories shall be prepared in accordance with minimum requirements of CRM 780 Sections 113.5, 113.5.1, 113.5.2 and AWWA M-31 shall be submitted to the Board of Water Commissioners for approval. In the connection plans and specifications submitted to the building department (complete and approved) will meet this requirement. Said plans must also be accompanied with an application for water main extensions and services together with the required fee.

## 2. PROTECTION

- a. Insurance certificates shall be furnished as may be required by the Board of Water Commissioners in order to save the District harmless from all claims, demands, suits and actions for or account of any and all injuries or damages occasioned. By acts or neglects in doing required work. In case where public land or ways are involved the owner or his agent must furnish and maintain all barricades, signs, warning lights and other safety devices to protect the public or operations. Wherever it is deemed necessary on heavily traveled ways to direct traffic around excavations, in the opinion of Chief of Police, the contractor shall, at his own expense obtains the services of a police officer at such times as may be designated.

## 3. PERMITS AND NOTICES

- a. In case of public ways the contractor shall secure a permit to excavate public ways from the Board of Selectmen before proceeding with work. Notice shall be given to the Highway Superintendent before cutting or excavation of public ways. Notice shall also be given to Water District at least 2 (two) days before work on any project in order to arrange for observation and inspections that are required.
- b. The Tree Warden shall be notified before tree removal proceeds on public ways. The responsibility for notifying Public Utilities Companies serving the area shall be the responsibility of the owner.
- c. An application for permission to install water mains or services within the Byfield Water District shall be submitted to and approved by the Water Commissioners together with the required fee before any construction or work on any water main begins.

## 4. MATERIALS, EQUIPMENT AND ACCESSORIES

All installations, materials, equipment and accessories must meet or exceed AWWA standards and be approved by the Board of Water Commissioners or their agent and shall include but not necessarily limited to the following:

- a. **Water pipe** shall be Ductile Iron (class 50,52) double cement lined bituminous coated, 18-20 foot length, AWWA/ANSI c-151/A21, 51 or PVC pipe (as approved by Superintendent) cast iron OD, to meet AWWA C-900 DR-18.
- b. **DI Fittings** shall be DI including tees, bends, caps, etc, class 350 with MJ connections.
- c. **Service Boxes** Erie box w/cover, 4 – 6 ft. adjust to 1 foot.
- d. **Gate Valves** shall be an approved size for mains and 6" for hydrant connections. Valves shall be double disk to meet AWWA C-500 and must achieve 100% shut off and open right. May be Darling, Waterous or approved equal.
- e. **Valve Boxes** shall be Buffalo type cast iron tar coated to meet AWWA c-500. Covers fitted flush to rims and marked with word "water". Shaft diameter to be 5 1/4" and adjust 4" – 6".

- f. **Hydrants** shall be Darling B-50 or Waterous to meet AWWA C-502 design 5 ½ of bury, and having 5" valve opening, one 4 ½ pumper connection, two 2 ½" connections. Valve shall open right.
- g. **Service Brass** shall meet AWWA C-800 and compression connections.
- h. **Back Flow preventors** shall be installed when and where required by State Statute. Dual check valves shall be installed in all domestic services after the water meter.
- i. **Sprinkler Systems** shall meet AWWA M-31.

## 5. CONSTRUCTION DETAILS

- a. **Pipe installation** all water mains and services shall be installed in a trench and bedded in sand as approved by the Water District, free from stones and at such depths as will provide not less than 5' of cover below the finished grade of the street or area. Sand shall be used for at least 12" on all sides of the pipe or tubing before back filling the trench by machinery. All sand shall be free of any rock. Pipe or tubing shall be kept at least 3' away from catch basins or culverts to prevent freezing. All water mains shall be tested for pressure and leakage to exceed tolerances as set forth in AWWA standards.
- b. **Hydrants** shall be installed in locations as indicated on approved plans and in accordance with the drawing for such work as attached hereto provided proper concrete anchorage for valves and hydrants with not less than 7 cu. Ft. of crushed stone and extending same for a height of at least 6" above the drain holes.
- c. **Gate Valves** shall be furnished and set in locations indicated and in accordance with detail attached hereto and anchored with rods in concrete if required by the inspector. All gate valves to open right.
- d. **Retaining Glands** shall be used at all mechanical joints.
- e. **Bleeder Lines** shall be provided and installed in locations as required by the Superintendent and shall be constructed as detailed and attached hereto.
- f. **Water Service Lines** may be included as part of the operation, in which case the construction and installation shall be done in accordance with instructions and procedures as set forth by the Water District.
- g. **New Water Mains** installed along public ways must meet the provisions of M.G.L Chapter 40 Sections 42 G,H and I as adopted by the District pertaining to water main installations and the payment of costs by special assessments.
- h. **Cutting and Patching** of existing street surfaces shall be done in accordance with the requirements of the Highway Superintendent. All approved materials for backfilling shall be thoroughly tamped in trenches in layers to not more than 8" in thickness in order to insure maximum compaction.

- i. **Trenches of pavement** on the shoulders shall be topped out with gravel, not less than 12" in depth well compacted and left mounded for settlement.

**Disinfection and Pressure Testing** of mains and services shall be the

- j. responsibility of the owner and must be done in conformity with AWWA C 601 and as required by the Water District. The locations of chlorination sampling points shall be determined by the Water District and taps for such work shall be installed by the contractor as required. All mains shall be flushed out of dirty or discolored water and chlorine introduced in approved dosages through the tap at one end while water is being held at the other end. The chlorine solution shall remain in the pipe for at least 24 hours. Following chlorination all treated water shall be flushed from the lines and replaced with water from the distribution system. Bacterial sampling and analysis of the replacement water shall be made and done by a laboratory certified by the Department of Environmental Protection. Water lines shall not be placed in service until all health requirements have been met and the line approved by the Superintendent of the Water District. A copy of all test results must be forwarded to the Superintendent for his files. A qualified person is to pressure test to 150 PSI. Fire sprinkler mains at 200 PSI for 2 hours per N.F.P.A. 1.11.2.1.
- k. **Site Clean-up:** The contractor shall confine his operations to a small an area as possible and shall keep the area free from waste materials and excess earth. Pavements shall be kept clear of earth and rock as work progresses and shall meet the requirements and approval of the Highway Superintendent on completion of work

## 6 INSPECTION

- 7 a. During the period of construction of the water lines in the sub-division, the **Byfield Water District will furnish an inspector to insure that the construction is** satisfactorily done at all times. The cost of such inspector shall be paid by the developer at the current rate based on an eight (8) hour day. All inspection charges shall be paid before any building is serviced within the sub-division. No work is to commence before 7:00 AM or to continue after 3:00 PM., Monday thru Friday, unless otherwise agreed upon by the district. No Saturday or Sunday work is allowed.
- b. The Water District shall be notified at least two (2) working Days before work is to commence. No work shall be done until all materials to be used have been inspected and approved by the Water District. No backfilling shall be started until the piping installation has been approved by the Water District.
- c. The developer shall, at his expense, give to the Byfield Water District an easement for the care, maintenance and reconstruction of all parts of the water system which are installed in the proposed roadway as shown on his map, which shall become part of the distribution system of the Byfield Water District.
- d. The water shall not be turned on into any new mains by anyone except an employee of the Byfield Water District.

**7. SPECIFICATIONS:**

- a. No installation of pipes may be started until the proposed roadway has been cleared to its proper width and graded to proper sub-grade. Engineers side-lines and grade stakes must be in place to insure the proper location and depth of the pipes and hydrants.

**8. FINAL PLANS**

- a. Final as built plans shall be submitted to the Byfield Water District upon completion of all construction, installations and approvals.

**9. WATER DISTRICT RULES**

- a. All Water District general rules and regulations, as most recently revised, shall apply, whether or not explicitly addressed in these regulations.