

# **ASHBURNHAM WATER DEPARTMENT RULES AND REGULATIONS**

## Section 1.     AGREEMENT

These regulations and all subsequent changes, amendments or additions thereto shall be considered part of the agreement and contract with every water taker. Violation of any of those regulations or evidence of fraud or abuse of equipment shall be deemed sufficient cause for shutting off the water supply of the offender.

## Section 2.     MODIFICATIONS

Modifications, additions to or rescinding of these rules and regulations may take place from time to time as the Board of Selectmen may elect; printing of such in a newspaper having local circulation will constitute notice and make same a part of the foregoing rules or a modification of same.

## Section 3.     RESTRICTIONS

1. The Director of the Public Works Department shall have the right to restrict the use of lawn hoses or town sprinklers, or place any other restrictions on the use of water in any and all parts of Town if he deems necessary for the purpose of maintaining adequate pressure for fire protection or for conservation of water.
2. The Town of Ashburnham Water Department reserves the right to refuse or curtail service wherever excessive demand for water results in inadequate service to others.
3. No private well or water supply shall be connected to the Town water service.
4. Private wells may be used for irrigation but must be completely separate from the Town's Water System and must be approved by the Ashburnham Health Department.

## Section 4.     GENERAL CONDITIONS

1. The Water Department shall have free access to all premises and apparatus supplied with water.
  - 2a. No other utility line shall be installed within three (3) feet of any water pipe trench.
  - 2b. No sewer main or sewer connection shall be installed within ten (10) feet of any water service pipe or water main without the approval of the DPW Director.
3. The Water Department is not responsible for discolored water or clogged water lines on private property caused by excessive use, hydrant flushing, line breaks or for firefighting purposes.
4. No person shall tap any water main or connect any service pipe therewith, take off, or repair meters, nor turn on or shut off the water from any pipe or hydrant without permission of the Director of the Public Works Department or his authorized agent. Water may be shut off at the meter by closing a valve. If the owner shuts off the water at the curb stop or corporation, they will be responsible for any damage caused.

5. No water taker will be allowed to take water from any hydrant without the consent of the Director of the Public Works Department.
6. No water service line shall be installed to service more than one consumer.
7. When two or more parties take water through one service pipe, the provisions in regard to shutting off the water apply to the whole supply through that service, although one or more of the parties may be innocent of any cause or offense.
8. Any change in location of a meter shall be by the approval of the Water Department and at the customer's expense. All water meters must be accessible for maintenance and replacement. They must be protected from the weather or other physical damage. The owner is responsible for replacement of a damaged meter. The cost for a new meter is \$250.00 which includes labor.
9. The Town or Public Works Department shall not be held liable for now shall any claims be made against it in consequence for the breaking of any pipe or fixture.
10. There shall be a charge of \$50.00 to turn the water off and \$50.00 to turn it on unless the service has been discontinued for cause, in which case, other sections of the regulations will apply.
11. The Town of Ashburnham Water Department is not responsible for any damage to pipes or other property which may be attributed to electrical ground wires attached to water pipes. It is strongly recommended that no ground wires be attached to a water pipe.
12. No unprotected cross connection is permitted between the public water supply and any other private source of water or any process which could contaminate the public water supply without a permit issued for the same by the Commonwealth of Massachusetts, Department of Environmental Quality Engineering under (G.L. Chapter 111, Section 160A). The Water Superintendent shall be responsible for the protection of the Public Potable Water Distribution System from contamination or pollution due to the backflow or back-siphonage from contaminates or pollutants through the water service connection. If in the judgement of said Water Superintendent, an approved backflow prevention device is required at the Town's water service connection to any customer's premises, for the safety of the water system, the Director or his designated agent shall give notice in writing to said customer to install such an approved backflow prevention device at each service connection to his premises. The customer shall, within 30 days, install such approved device or devices at his own expense and failure, refusal or inability on the part of the customer to install said device or devices within 30 days shall constitute grounds for discontinuing water service to the premises until such device or devices have been properly installed.

#### **DEFINITIONS**

**Water Superintendent:** The Superintendent, or his designated agent, in charge of the Water Department is invested with the authority and responsibility for the implementation of an effective cross-connection control program and for the enforcement of the provision of this ordinance.

**Approved:** Accepted by the Superintendent as meeting an applicable specification stated or cited in this regulation, or as suitable for the proposed use.

**Auxiliary Water Supply:** Any water supply on or available to the premises other than the purveyor's approved Public Potable Water Supply.

**Backflow:** The flow of water or other liquids, mixtures or substances under pressure into the distributing pipes of a potable water supply system from any source or sources other than its intended source.

**Back-Siphonage:** The flow of water or other liquids, mixtures or substances into the distributing pipes of a potable water supply system from any source other than its intended source caused by the sudden reduction of pressure in the potable water supply system.

**Backflow Preventer:** A device or means designed to prevent backflow or siphonage.

**Air Gap:** The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other device and the flood rim of said vessel. An approved air-gap shall be as required by the Water Department Standards.

**Reduced Pressure Principle Device:** An assembly of two independently operating approved check valves with an automatically operating differential relief valve between two check valves, plus properly located test cocks for the testing of the check and relief valves.

**Double Check Valve Assembly:** An assembly of two independently operating approved check valves with tightly closing shut-off valves on each side of the check valves plus properly located test cocks for the testing of each check valve.

**Pressure Vacuum Breaker:** A device containing one or two independently operating loaded check valves and an independently operating loaded air inlet valve located on the discharge side of the check or checks.

**Contamination:** Means an impairment of the quality of the potable water by sewage, industrial fluids or waste liquids, compounds or other materials to a degree which creates an actual hazard to the public health through poisoning or through the spread of disease.

**Cross-Connection:** Any physical connection or arrangement of piping or fixtures between two otherwise separate piping systems one of which contains potable water and the other non-potable water or industrial fluids or questionable safety, through which, or because of which, back-flow or back-siphonage may occur into the potable water system.

**Cross-Connection Control by Containment:** The installation of any approved backflow prevention device at the water service connection to any customer's premises or the installation of an approved back-flow prevention device on the service line leading supplying a portion of a customer's water system where there are actual or potential cross-connections which cannot be effectively eliminated or controlled at the point of cross-connection.

**Cross-Connection-Controlled:** A connection between a potable water system and a non-potable water system with an approved backflow prevention device properly installed that will continuously afford the protection commensurate with the degree of hazard.

**Hazard, Degree of:** The term is derived from an evaluation of the potential risk to public health and the adverse effect of the hazard upon the potable water system.

**Hazard – Health (High Hazard):** Any condition, device or practice in the water supply system and its operation which could create, or, in the judgement of the Water Superintendent, may create a danger to the health and well-being of the water consumer.

**Hazard – Plumbing (High Hazard):** A plumbing type cross-connection in a consumer's potable water system that has not been properly protected by a vacuum breaker, air-gap separation or backflow prevention device. Unprotected plumbing type cross-connections are considered to be a health hazard.

**Hazard – Pollutonal (Low Hazard):** An actual or potential threat to the physical properties of the water system or to the potability of the public or the consumer's potable water system but which would constitute a nuisance or be aesthetically objectionable or could cause damage to the system or its appurtenances, but would not be dangerous to health.

**Industrial Fluids System:** Any system containing a fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, system, pollutonal or plumbing hazard if introduced into an approved water supply.

**Pollution:** Means the presence of any foreign substance (organic, inorganic or biological) in water which tends to degrade its quality so as to constitute a hazard or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such waters for domestic use.

**Water – Potable:** Water from a source which has been approved by the Massachusetts Water Supply and Pollution Control Commission for human consumption.

**Water – Non-Potable:** Water which is not safe for human consumption or which is of questionable potability.

**Water – Service Connections:** The terminal end of a service connection from the public potable water system; i.e., where the water purveyor loses jurisdiction and sanitary control over the water at its point of delivery to the customer's water system. If a meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the meter. Service connection shall also include water service connection from a fire hydrant and all other temporary or emergency water service connections from the public potable water system.

**Water – Used:** Any water supplied by a water purveyor from a public potable water system to a customer's water system after it has passed through the point of delivery and is no longer under the sanitary control of the water purveyor.

An approved backflow prevention device where required shall be installed on each service line to a customer's water system at or near the property line or immediately inside the building being served; but, in all cases, before the first branch line leading off the service line wherever the following conditions exist:

In the case of premises having an auxiliary water supply which is not or may not be of safe bacteriological or chemical quality and which is not acceptable as an additional source by the Water Supply and Pollution Control Commission, the public water system shall be protected against backflow from the premises by installing a backflow prevention device in the service line appropriate to the degree of hazard.

In the case of premises on which any industrial fluids or any other objectionable substance is handled in such a fashion as to create an actual or potential hazard to the public water system, the public water system shall be protected against backflow from the premises by installing a backflow prevention device in the service line appropriate to the degree of hazard.

In the case of premises having (1) internal cross-connection that cannot be permanently corrected and controlled, or (2) intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not dangerous cross-connections exist, the public water system shall be protected against backflow from the premises by installing a backflow prevention device in the service line.

The type of protective device required shall depend upon the degree of hazard which exists as follows:

In the case of any premises where there is an auxiliary water supply; or where there is any material dangerous to health which is handled in a fashion to create an actual or potential hazard to the Public Water System; or

Where there are “incontrolled” cross-connections, either actual or potential, the public water system shall be protected by an approved air-gap separation or an approved reduced pressure principal backflow prevention device at the service connector.

In the case of any premises where there is water or substance that would be objectionable but not hazardous to health, if introduced into the public water system, the public water system shall be protected by an approved double check valve assembly.

In the case of any premises where, because of security requirements or other prohibitions or restrictions it is impossible or impractical to make a complete in-plant cross-connection survey, the public water system shall be protected against backflow or back-siphonage from the premises by the installation of a backflow prevention device in the service line. In this case, maximum protection will be required; that is, an approved air-gap separation or an approved reduced pressure principal backflow prevention device shall be installed in each service at the premises.

Any backflow prevention device required herein shall be a model and size approved by the Water Superintendent. The term “Approved Backflow Prevention Device” shall mean a device that is on the “approved list of backflow preventers and double check valves” as revised by the N.H. Water Supply and Pollution Control Commission, or is on the University of Southern California Approval List. Said Approval Lists have been adopted by the Water Superintendent.

It shall be the duty of the customer-user at any premises where backflow prevention devices are installed to have certified inspections and operational tests made at least once per year as required under Mass Regulation and this regulation. The Water Department will conduct testing on these devices twice a year. The owner of device will be charged for these tests. The Water Department may have these tests performed by a designated representative at the cost of the customer-user.

In those instances where the Water Superintendent deems the hazard to be great enough he may require certified inspections at more frequent intervals, the Water Superintendent’s review in determining if the hazard is great enough for more frequent testing intervals. This will be based on the Degree of Hazard and/or Health Hazard (High Hazard) and/or Plumbing Hazard (High Hazard) and/or Pollutional Hazard (Low Hazard) and/or Industrial Fluids Systems as defined under definitions of the Section. These inspections and tests shall be at the expense of the water user and shall be performed by

the Water Department Personnel or by a certified tester approved by the Water Superintendent and approved by the State of Massachusetts. It shall be the duty of the Water Superintendent to see that these timely tests are made. The Water Superintendent shall notify the customer-user in advance to when the tests are to be undertaken so that he or his representative may witness the test if so desired. These devices shall be repaired, overhauled or replaced at the expense of the customer-user whenever said devices are found to be defective. Records of such tests shall be kept by the Water Superintendent and the customer-user.

All presently installed backflow prevention devices which do not meet the requirements of this section but were approved devices for the purposes described herein at the time of installation and which have been properly maintained, shall, except for the inspection and maintenance requirements, be excluded from the requirements of these rules so long as the Water Superintendent is assured that they will satisfactorily protect the utility system. Whenever the existing device is moved from the present location or requires more than minimum maintenance or when the Superintendent finds that the maintenance constitutes a hazard to health, the unit shall be replaced by a backflow prevention device meeting the requirements of this section.

All decisions relating to determination of backflow devices will be made by the Ayer Water Department. Failure to comply with any directive from this office will result in the termination of service.

All testing and/or maintenance performed on backflow devices by the Water Department or its agent will be charged to the owner of the device.

#### Section 5. APPLICATION

1. All applications for service connections and the use of water must be made in writing to the Water Department on the form furnished by the Town and available at the Department of Public Works, 17 Central Street.

There shall be an application and inspection fee for this service which is designated in the Water and Sewer Rate Schedule and subject to change annually.

2. Service pipes shall be of a size and material approved by the Director of Public Works. They shall be laid by Plumbers or Private Contractors of established reputation and experience and approved by the Director of Public Works. The expense for installing said service pipe from the main to the property to be serviced shall be at the expense of the owner of the property.
3. Service line installed by a Private Contractor in a public way must be guaranteed for one (1) year from date of charge, and meet all requirements pertaining to private contractors.
4. All water line installed on public or private property must be inspected and approved by the Water Department personnel of the Town of Ashburnham's Department of Public Works before it is backfilled.
5. Work on private property shall be done by a Private Contractor.
6. No new water service will be turned on until the water meter is installed.
7. No water services will be installed after November 1<sup>st</sup> of each year, or before April 15<sup>th</sup> of each year, or in frozen ground.

8. All water service lines must be 1" copper bedded in sand and have 5' of cover.
- 9a. Plumbers and Private Contractors of established reputation and experience will be licensed by the Superintendent of Public Works as an authorized water main and water service installer.
- 9b. Applicants for licenses are required to pay a filing fee of \$100.00 as water main and water service installers payable to the Town, all of which will be refunded to the applicants if rejected.
- 9c. If approved by the Director of Public Works applicants for licenses as water main and water service installers shall obtain a License and Permit Bond in the amount of Five Thousand Dollars (\$5,000.00) or an amount equal to 100% of the construction cost of any proposed water connection located within or on public property or an amount approved by the Director of Public Works whichever is greater and shall remain in full force and effect for a period of one (1) year from date of acceptance by the Town of the contractor's last service connection. This Bond will guarantee that the Contractor will comply with the statutes, regulations, or ordinances of the Town of Ashburnham's by-laws and "Water Rules & Regulations". The license and permit bond shall be duly executed by the Principal of the Contractor and by a Surety Company qualified to do business under the laws of the Commonwealth of Massachusetts and satisfactory to the Director of Public Works shall be submitted to the Director of Public Works within thirty (30) days from date of written notice that the contractor is approved as a licensed water main and water service installer.
- 9d. In order for a Private Contractor to do any work in, on, under or around streets, sidewalks and property belonging to the Town of Ashburnham, it will be necessary for him to furnish simultaneously with the submittal of the License and Permit Bond, a Certificate of Insurance with the following coverages:
- General Liability - \$100,000 Property Damages  
\$100,000 - \$300,000 Bodily Injury
  - Automobile Liability - \$100,000 Property Damages  
\$100,000 - \$300,000 Bodily Injury
  - Workmen's Compensation and Employer's Liability
  - Insurance shall include coverage for collapse and underground structures.
  - Insurance shall include coverage for projects/completed operations.

All above insurance coverage shall remain in full force and effect for a period of at least one (1) year from the date of acceptance by the Town of the last service connection installed by the contractor. The Contractor shall take all responsibility for the work, and take all precautions for preventing injuries to persons and property in or about the work. The Contractor shall pay all debts for labor and materials contracted for or by him on account of the work and shall assume the defense of, and indemnify and save harmless, the Town of Ashburnham and its Officers and Agents, from all claims relating to labor and or alleged infringement of inventions, patents, or from injuries to any person or corporation or to damages to any property or any person or corporation caused by the acts of negligence of the Contractor or any of his agents or employees, or any subcontractor or any agents or employees of any subcontractor in doing the work or in consequence of any improper materials, implements or labor used therein.

- 9e. The Contractor shall NOT perform any work in, on, under or around streets, sidewalks and property belonging to the Town of Ashburnham until a License and Permit Bond and a Certificate of Insurance is approved by the Director of Public Works and the Contractor has received written notice that they are approved and are on file at the Department of Public Works Office.
- 9f. Approved applicants will renew Licenses, License and Permit Bond and Insurance by January 1<sup>st</sup> of each ensuing year.
10. An engineering firm which will be an independent contractor will be designated by the Town of Ashburnham and will represent the interest of the Town during construction of the subdivisions and/or residential dwellings with four (4) or more and/or commercial developments with five (5) or more water closets or whenever the Director deems it to be for the best interest of the Town of Ashburnham so to do and/or industrial's utilities installations (water, sewer, drainage and highway) and will supervise, monitor, and inspect the on-going progress of the work (full-time observation is required). The costs for the services performed by said Town Engineers will be borne by the developer or owner of the subdivision and/or residential dwellings with four (4) or more dwelling units and/or commercial developments with five (5) or more water closets or whenever the Director deems it to be for the best interest of the Town so to do and/or industrial project. The utilities of the subdivision and/or residential dwelling with four (4) or more dwelling units and/or commercial developments with five (5) or more water closets or whenever the Director deems it to be for the best interest of the Town so to do and/or industrial project will not be accepted and no flows will be permitted to be discharged from the development until a Certificate of Compliance is submitted by the Town's Engineer and reviewed by the Town and all outstanding invoices of the Town's Engineer have been paid. Outstanding invoices not paid within 30 days from billing date will be charged interest at 1.5% per month starting from date of billing.
11. After completion of the subdivision and/or residential dwellings with four (4) or more dwelling units and/or commercial developments with five (5) or more water closets or whenever the Director deems it to be for the best interest of the Town of Ashburnham so to do and/or industrial project the developer or owner will furnish a completed reproducible mylar "as-built" map (40' = 1") to the Department of Public Works. The map shall contain highway layouts, drainage layouts with profiles, water layouts with a description of the services to each building, curb stops, main gates and hydrant gates, using building or other marks as reference points and sewer layouts with profiles, force mains, force main gates, pump stations, pump station details and description of the services to each building showing the depth of all connections, using buildings or other marks as reference points. The map shall also contain any information deemed necessary by the Department of Public Works.



Section 6. INSTALLATION OF WATER SERVICE CONNECTION AND DUCTILE IRON WATER PIPES

PLANS AND SPECIFICATIONS

Plans and specifications for the installation of water mains and pipes that are to be connected to the Town's system shall be submitted simultaneously with the submittal of the application for the connection to water mains to the Director of Public Works for approval. All labor and materials, except meters less than one inch required for the installation shall be furnished by the owners of the property at no cost to the Town.

Drawings indicating gate and curb box locations, in relation to nearby structures, must be furnished to the Department on completion of the installation and prior to the testing of the lines and final acceptance by the Town and before the water line is charged.

WATER PIPE

Under this item the Contractor shall furnish, lay, join and test all water pipe and fittings, and appurtenant material and equipment as indicated on the Drawings and in accordance with the Relevant Provisions of Section 230, 300 and M5.05.3 of the Commonwealth of Massachusetts Standard Specifications, and/or amended.

CONTRACTOR'S RESPONSIBILITY

The Contractor shall be responsible for notifying the Ashburnham Water Department, Fire Department and all water users affected by his shut down of service 36 hours prior to the actual shut down.

LINES AND GRADES

Piping shall be installed at the locations indicated on the drawings and as designated in these Specifications. Unless otherwise shown or stated. The minimum total of finished cover over the top of the barrel of all water pipes shall be 5 feet with a minimum of 12" of sand above and below the water pipe.

ADAPTERS

Where it is necessary to join pipes of different types, the Contractor shall notify the Ashburnham Water Department for approval, furnish and install the necessary adapters as required or as indicated on the drawings. Adapters shall have ends conforming to specifications for the appropriate type of joint to receive the adjoining pipe.

TEMPORARY PLUGS

At all times when pipe laying is not actually in progress, the open ends of pipe shall be closed by temporary watertight plugs or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe is passed.

PIPE SUPPORTS

The Contractor shall furnish and install all supports necessary to hold the piping and appurtenance in a firm, substantial manner at the lines and grades indicated on the drawings or specified.

Where required, bends, tees and other fittings in pipe lines buried in the ground shall be backed up with Class A concrete placed against undisturbed earth where firm support can be obtained. If the soil does not provide firm support, then suitable bridle rods, clamps and accessories to brace the fittings properly shall be provided. Such bridle rods, etc. shall be coated thoroughly and heavily with an approved bituminous paint after assembly or if necessary, before assembly.

#### CONNECTIONS TO OTHER FACILITIES

The water pipe shall be connected to existing or new structures and piping as shown on the drawings. The Contractor shall furnish and install all such fittings and appurtenances as are necessary to make the connections shown whether all such fittings are detailed or not.

#### FIELD TESTING

The water pipe shall be given pressure and leakage tests in sections of approved length. For these tests, the Contractor shall furnish a water meter and a pressure gauge. The Contractor shall also furnish and install suitable temporary testing plugs or caps for the pipeline; and all labor required. The meter and gauge shall be installed by the Contractor in such a manner that all water entering the section under test will be measured and the pressure in the section indicated, and they shall be kept in use during both tests.

The scheduling of pressure and leakage tests shall be as approved and attended by the Town of Ashburnham Water Department.

Unless it has already been done, the section of pipe to be tested shall be filled with water of approved quality, and all air shall be expelled from the pipe. If air release assemblies are not available at high points for releasing air, the Contractor shall make the necessary excavations and do the necessary back filling, and the Contractor shall make the necessary taps at such points and shall plug said holes after completion of the test with brass or bronze plugs.

#### ASSEMBLING SLEEVE-TYPE COUPLING

Prior to the installation of sleeve-type couplings, the pipe ends shall be cleaned thoroughly for a distance of 8 inches. Soapy water may be used as a gasket lubricant. A follower and gasket, in that order shall be slipped over each pipe to a distance of about 6 inches from the ends, and the middle ring shall be placed on the already laid pipe end until it reaches the pipe stop or is properly centered over the joint. The other pipe end shall be inserted into or in relation to the pipe already laid. The gaskets and follower shall then be pressed evenly and firmly into the middle ring flares. After the bolts have been inserted and all nuts have been made up finger-tight, diametrically opposite nuts shall be progressively and uniformly tightened all around the joints, preferably by use of a torque wrench of the appropriate size and torque for the bolts.

#### HANDLING AND CUTTING PIPE

The Contractor's attention is directed to the fact that the cement lining is comparatively brittle. Every care shall be taken in handling and laying pipe and fittings to avoid damaging the pipe or lining, scratching or marring machined surfaces, and abrasion of the pipe coating or lining.

Any fitting showing a crack and any fittings or pipe which has received a severe blow that may have caused an incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work.

If any pipe showing a distinct crack and in which it is believed there is no incipient fracture beyond the limits of the visible crack, the cracked portion, if so approved, may be cut off by and at the expense of the Contractor before the pipe is laid so that the pipe used may be perfectly sound. The cut shall be made in the sound barrel at a point at least 12 inches from the visible limits of the crack.

#### LAYING PIPE AND FITTINGS

Gasket type joints shall be made up by first inserting the gasket into the groove of the bell and applying a thin film of special non-toxic gasket lubricant uniformly over the inner surface of the gasket which will be in contact with the spigot end of the pipe. The end of the plain pipe shall be chamfered to facilitate assembly. The end shall be inserted into the gasket and then forced passed it until it seats against the bottom of the socket.

#### TAPPED CONNECTIONS TO DUCTILE IRON PIPE & A.C. PIPE

The connection at the junction of the Town's water main to the proposed service connection shall be made by the Contractor at the owner's expense.

A tapping saddle will be used on asbestos/cement pipe and plastic only by the Contractor to connect a water service less than 2 inches to the Town's water main.

#### INSTALLATION OF PIPE FITTINGS

All pipe and fittings shall be carefully handled by equipment of sufficient capacity and proper design to avoid damage to the pipe and fittings. No defective pipe or fittings shall be laid or placed in the piping. Any piece discovered to be defective after having been laid shall be removed and replaced by a sound and satisfactory piece at the expense of the Contractor.

Each pipe and fitting shall be cleaned of all debris, dirt, etc., before being laid and shall be kept clean until accepted in the complete work.

Pipe and fittings shall be laid accurately to the lines and grades indicated on the drawings. Care shall be taken to ensure alignment both horizontally and vertically, and to give buried pipe a firm bearing along its entire length. Pipe shall not be laid in water, nor shall water be allowed to flow through them. The contractor shall take all necessary precautions to prevent flotation to the pipe in the trench.

Backfilling of the pipe trench shall be done as specified under Section 230 and 300 of the Commonwealth of Massachusetts Standard Specifications, and the Town of Ayer's Specifications. All asphalt shall be saw cut and repaired at owner's expense. The trench shall be the Contractor's responsibility for a 2-year period. If the trench settles, it must be repaired within a reasonable time period (1 week). Failure to comply will result in loss of license to do work in Ashburnham.

Following chlorination, the pipe shall be flushed again to remove any evidence of the contamination, as determined by bacteriological analysis. The bacteriological test and analysis shall be acceptable when a zero (0) count is achieved.

For this work, the Contractor shall furnish all equipment, material and labor required.

## FLEXIBLE CONNECTIONS

Where flexible connections in the piping are specified or indicated on the drawings, they shall be obtained by the use of sleeve-type couplings. Such couplings, pipe, and/or fittings shall be as herein specified.

## SLEEVE TYPE COUPLINGS

Sleeve type couplings shall be equal to Style 38 steel couplings for plain-end ductile iron pipe, made by Dresser Manufacturing Division, Bradford, Pennsylvania, Style 248 Clow Corp., or approved equal. The couplings shall be furnished with the pipe stop removed. Couplings shall be provided with plain, Grade 27, rubber gaskets and with black steel, track-head bolts with nuts. When buried in the ground, the bolts and nuts shall be thoroughly coated with an approved bituminous paint.

A tap and sleeve and gate or tee and gate, will be used for connection larger than 2 inches. If a tap and sleeve and gate is used the tapping sleeve shall encompass the entire barrel of the main to be tapped so that a water tight joint is formed around the entire pipe barrel. Tapping sleeve shall be approved by the Superintendent of Public Works prior to installation.

Direct taps on ductile or cast pipe only.

No taps shall be scheduled on a Friday or the day before a holiday.

Connection to the Town's water main is not to be made without a representative of the Public Works Department being present to inspect the work.

All drilling and tapping of the water main shall be done normal to longitudinal axis of the pipe (2 o'clock); fittings shall be drilled and tapped similarly, as appropriate. Drilling and tapping shall be done only by skilled mechanics. Tools shall be adapted to the work and in good condition so as to produce good, clean-cut threads of the correct size, pitch and taper.

## CONNECTION SERVICE SHUT OFF

A curb stop with stainless steel rod or gate shall be installed at the property line between the street layout and the property to be served.

All gates and valves must be readily accessible and in good working order before final acceptance of the installation is made by the Department.

All installations shall be made in a neat and workman like manner and be subject to the inspection and approval of the authorized representative of the Public Works Department. Before back-filling is commenced, all bends in the pipe and all hydrants shall be backed with 2000# concrete to a solid unbroken trench wall. When laying pipe on soft or swampy ground or through ledge at least 12" of approved gravel or crushed stone shall be placed under and around the pipe. When, in the opinion of the Public Works Department Inspector, the excavated material is not suitable for back-filling, it shall be removed and clean gravel substituted.

## MATERIALS

### Ductile Iron Pipe

All mains along proposed streets and ways shall not be less than 8-inch inside diameter and shall be constructed in accordance with the requirements of the Underwriters Laboratories, Inc., and the standards of the American Water Works Association specifications covering pipes for public water supply systems.

All water pipe shall be Class 52 Cement lined ductile iron pipe, and conform to the ANSI A21.50, A21.51 Specification for Ductile Iron Pipe.

The pressure and leakage tests shall be as specified in Section 300 of the Commonwealth of Massachusetts Standard Specifications.

The Contractor shall make a leakage test metering the flow of water into the pipe while maintaining in the section being tested a pressure equal to 1.5 times average pressure to which the pipe will be subjected under normal conditions of service or 150 p.s.i, whichever is greater. This shall be done by placing the section under system pressure or by pumping. This test must run for 2 hours.

The lengths of joint to be used in determining the allowable leakage shall be based on the nominal diameter of the pipe. The allowable leakage shall be less than 30 gallons per inch diameter per mile of water main to be tested per day.

If the section shall fail to pass the pressure test, the Contractor shall repair or replace the defective pipe, fitting, or joint, all at his own expense.

If, in the judgement of the Engineer, it is impracticable to follow the foregoing procedure exactly for any reason, modifications in the procedures shall be made as required or approved, but in any event the Contractor shall be responsible for the ultimate tightness of the line within the above leakage requirements.

### DISINFECTION AND FLUSHING

After the pipe has been tested and found acceptable, it shall be flushed thoroughly by the Contractor. After completion of the flushing operation, the Contractor shall disinfect the pipe with a solution consisting of 50 ppm of chlorine in accordance with the AWWA Specifications for Disinfecting Water Mains (C601). This work shall be done with the attendance of a representative of the Ashburnham Water Department.

### PIPE FOUNDATIONS

All pipe, fittings and appurtenances to be laid in open trench excavations shall be bedded in and uniformly supported over its full length, 12" above and below the pipe.

### INSPECTION OF PIPE BEFORE INSTALLATION

All pipe fittings and appurtenances shall be carefully inspected in the field before lowering into the trench. All pieces found to be defective, as determined by the Town's Engineer, shall be removed from the work. Such rejected pipe shall be clearly tagged in such a manner as not to deface or damage it, and the pipe shall then be removed from the job site by the Contractor at his own expense. Results of shop tests which are required in the following Material Specifications shall be submitted to the Town's Engineer prior to this installation of the pipe for which such test results were ordered.

Jointing shall be of the rubber ring push on type, field locking gaskets conforming to ANSI A21.11.

Cast iron fittings shall be Class 250, cement lined, and shall meet the requirements of ANSI A21.4 and A21.10.

### Ductile Iron Lining and Coating

#### LINING AND COATING

The inside of ductile iron pipe and fittings shall be given a cement lining in accordance with ANSI A21.4.

The inside and outside of the pipe shall receive a bituminous seal coat in accordance with ANSI A21.4.

Machined surfaces shall be cleaned and coated with a suitable rust preventative coating at the shop immediately after being machined.

#### COPPER PIPE AND TUBING

House service to the meter shall be of Type "K" copper tubing having a 1" minimum inside diameter.

All hydrants, gates, fittings, corporation cocks, tapping saddle, tapping sleeves, curb cocks, meter horns and house shut off valves shall in general conform to A.W.W.A. Specifications and be of the same make and type as now used in the Ashburnham Public Works Department. All gates and hydrants must open clockwise/right.

#### Section 7. PRIVATE FIRE SERVICE

1. Private fire service pipes may be installed by an industry at the owner's expense including the street connection. The layout of check valves, type and size of pipe, control valves and meter shall be subject to the approval of the Director of Public Works Department, the Fire Department, the Fire Underwriter and the Mass. Dept. of Environmental Quality Engineering.
2. Cross-connection and backflow device will be installed on the fire service line wherever they are required under Item 13 of Section 4 General Conditions of these Water Rules and Regulations.
3. No service line or tap is to be taken from any private fire line. Failure to comply with this regulation will subject the customer to discontinuance of service, or payment for quantity of water used as estimated by the Town of Ashburnham Water Department.
4. No consumption is permitted through fire connections except for the extinguishing of fires.
5. The Ashburnham Water Department is not responsible for the maintenance of pressures, volume or supply of water. The service may be subject to shut downs or variations in pressure as system operations require.

Section 8.     HYDRANTS

1. The Fire Department will have control of the hydrants in case of fire; in no other case will any person be allowed to handle hydrants or other water apparatus without permission of the Director of the Public Works Department or his authorized agent.
2. Any connection to a hydrant must be metered and receive the approval of the Director of the Public Works Department, and all use must be controlled by a separate valve other than the hydrant valve. The installing and supplying of said meter and valve will be at the owner's expense. The installation will be inspected by the Water Department before the Water Department puts it into service.
3. Each hydrant shall be served directly from the water main through a six-inch lateral connection. A six-inch open left (counter clockwise) gate valve will be located at the tap of water main. Hydrant valve opening shall be a bottom valve with an area of at least equal to that area of a 5¼ inch minimum diameter circle and be obstructed only by the valve rod. Each hydrant shall be able to deliver 500 gallons minimum through its two 2½ inch hose nozzles when opened together with a loss of not more than two psi in the hydrant. The hydrant shall be equipped with one five inch pump outlet. Make a hydrant shall be approved by the Director of Public Works Department. Hydrant shall be located no more than one thousand (1,000) feet apart. Valves shall be located in such a manner and number so that lines by individual block may be isolated for maintenance purposes. Length of water main shall not exceed one thousand (1,000) feet between valves.

Section 9.     METERS

1. All water must be metered. The Town will furnish the approved type of meter 1" or smaller. All meters must be approved by the Director of Public Works. Meters larger than 1" shall be purchased by the property owner and must be a type acceptable to the Director of Public Works.
2. All water that passes through a meter will be charged for whether used or wasted. If a meter fails to register, the charge for water will be based on the average daily amount recorded by the meter when registering correctly.
3. Any meter over 1½ " shall have an approved bypass installed by the applicant and approved by the Superintendent of the Public Works Department of his authorized representative.
4. All persons taking water through a meter larger than 1" must keep their meter and fixtures in thorough repair and protected from frost at their own expense, and they will be held liable for all damages resulting from their failure to do so.
5. All persons taking water through a meter less than 1" must keep their meter protected from frost at their own expense, and they will be held liable for all damages resulting from their failure to do so.

6. The owner shall provide a location for a meter easily available for reading and for repair, said location to be subject to approval of the Water Department. Wherever circumstances do not permit a suitable location for the meter within the property, the meter will be placed within a manhole, at the expense of the owner.
7. All meters are owned by the Water Department and remain the property of the Water Department, except such extra meters as customers may have purchased for their own account or deduct meters.
8. Meters may be removed for repairs at any reasonable time by the Director or his authorized agents and may enter any property served by the Town of Ashburnham Water Department at reasonable hours for purposes of inspection or repair.
9. No meter shall be disconnected or moved except by Water Department employees or a licensed plumber with the approval of the Ashburnham Water Department.
10. The Water Department will test meters upon written application by the customer accompanied by a deposit of \$100.00 subject to the following conditions:
  - a. If meter is found to over-register by an average amount exceeding two percent (2%), a tested meter will be furnished and proper reduction made on water bill, for a period not exceeding six (6) months. No charge for test of meter in error over 2% will be made.
  - b. If meter does not over-register by an amount exceeding two percent (2%) it will be returned to service. The \$100.00 deposit will be retained to cover the expense of the test. Any cost over \$100.00 for testing meter over 1" will be at the owner's expense.
11. If a meter installed on the consumers premises is stolen, or is damaged in any other way due to the act of neglect of the consumer, the cost of repairs or replacement shall be paid for by the consumer.
12. The Water Department is not responsible for leaks on the customer's premises.