

# NEW SHOREHAM, RHODE ISLAND

## UTILITIES STANDARDS (WATER REQUIREMENTS)



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*SECTION B*

*WATER REQUIREMENTS*

## GENERAL WATER SYSTEM REQUIREMENTS

### 1. APPLICATION

- 1.1 The New Shoreham Board of Water Commissioners adopt the following priority among the existing enactments which affect water in the Town of New Shoreham:
- Public Acts establishing and amending the Water District: P.A. Chapter 18 (2000 as amended).
  - Current Management Agreement between the Town of New Shoreham Director of Public Works, the New Shoreham Board of Sewer Commissioners and the New Shoreham Board of Water Commissioners.
  - Regulations adopted by the Water District subsequent to the adoption by the Rhode Island General Assembly of P.A. Chapter 18 (2000).
  - Remaining provisions of enactments by the Town of New Shoreham, which are not inconsistent or superceded by the above legal enactments and documents.
- 1.2 The proposer must complete the applicable service application forms, along with all supporting documents as required for the project contemplated, to obtain approval for:
- A service extension
  - A main extension
  - A request for service to a new project
  - An upgrade or change in use or occupancy that affects the water service requirements of the existing property
- 1.3 Application for service must be made in writing on the prescribed form, and signed by the owner or duly authorized agent. The application must fully state the purpose for which the water will be used, together with the proper legal description of the property, official town or city street and property owner of the premises or property to be supplied. All accompanying design drawings, calculations and pertinent detailed project data must be attached to the application.
- 1.4 In all cases where fire services may be required, a letter of review detailing the needed fire flow demand requirements for the sprinkler system must accompany the application submission. The review letter shall be signed by the local fire chief or district authority.
- 1.5 The proposal package must be in full compliance with all the rules, regulations and utility standards, along with any pertinent state and local regulations or codes.
- Should the proposal package be found deficient in any manner during the initial review, a full re-submission shall be required.
  - All documents, along with the revised "Request for Plan Review Application" form, must be contained in the revised submission. The revised submission shall include all pertinent information from previous submissions and two (2) sets of the revised plans.

- 1.6 It is expressly understood that the developer and/or proposer is entirely responsible for providing a project proposal package and design that is in full compliance with the current rules, regulations and utility standards. The Water Board assumes no responsibility for project proposal packages or design that do not fully comply with current Water Board requirements.
- 1.7 The applicant must follow the Rules and Regulations made by the New Shoreham Water District, as amended from time to time (included as Exhibit A in Section B). The Rules and Regulations constitute a contract between the customer and Water District upon acceptance by the District of an application for water service. The customer is considered to have expressed its consent to be bound thereby and to take water only for the purposes stated in the application at the established rate.

## **2. DRAWINGS**

- 2.1 The applicant must furnish drawings showing the location of the premises to be supplied together with the location of all valves, pipes, hydrants, tanks, sprinkler heads, proposed connection points, applicable details, general notes, utility conflict corrections, and other appurtenances to be installed on the premises at the time of making the application.
- 2.2 The applicant also agrees to furnish the Water Board with drawings showing revisions to piping or appurtenances. The drawings shall become and remain the property of the Water Board.
- 2.3 Drawings shall be submitted on a maximum size of 24" by 36" prints. Two (2) sets shall be submitted at the initial submission for indication of comments during the review stage. If a project is to be implemented in stages or phases, a master plan showing the entire site development, including all future expansion areas, shall be submitted for review during the first submission.
- 2.4 Drawings shall not be at a scale less than 1-inch per 40 feet and no more than 1-inch per 20 feet.
- 2.5 All site plans shall contain contours at a minimum of 2-foot intervals based on National Geodetic Vertical Datum (N.G.V.D.) and not with assumed elevations. Site plans shall include a locus map at a scale of not less than 1 inch = 2,000 feet and a north arrow.
- 2.6 A thrust block or restrained joint pipe table shall be included on the plan reflecting the size(s) for all thrust blocks, length of all restrained pipe per fitting style and the accompanying fittings proposed.
- 2.7 All drawings are to be signed and wet-stamped by a registered, professional engineer licensed in the State of Rhode Island under whose direction the design has been prepared.
- 2.8 All applicable details shall be shown on the drawing sets.

## **3. AS-BUILT / RECORD DRAWINGS**

- 3.1 Upon completion of all water main infrastructure and appurtenance work, the developer/owner shall provide a preliminary as-built drawing documenting the record of actual construction. The preliminary as-built drawing shall be on 24" x 36" sheets (plan scale 1" = 40') for review prior to activation of the

new construction infrastructure. Upon approval by the Water Board, water service may be activated to facilitate development of the site.

- 3.2 The owner/developer shall provide a revised as-built drawing reflecting measurements from the building foundations and above grade permanent structures and/or visible accessible permanent features to water appurtenances (such as bends, valve boxes, services, and so on). Valve boxes, curb boxes and telephone poles are not considered permanent features to retain measurements from. The final as-built drawing(s) set shall accurately mark the location of each infrastructure component or appurtenance as constructed including, but not limited to:
- Measured horizontal and vertical locations of the above and below grade water main, valves, fittings, services and appurtenances referenced to permanent surface improvements, above grade permanent structures and/or permanent visible and accessible features of the installation.
  - Information concurrent with the actual construction.
  - Distance from the main to curb box at each service.
  - Three point measured swing ties from permanent surface improvements, above grade permanent structures and/or visible and accessible features of the installation to identify all bends, services and end caps.
  - Depth of main at maximum of 50-foot intervals. Ties at every 100-foot interval, each recorded service and at each bend.
  - Total overall footage.
  - Detail of water main tap connection and all utility crossings.
  - The completed water main and its proper orientation.
  - Valve opening rotation (open left).
- 3.3 Upon approval of the "blue line" submission, a 6-mil, double matte Mylar media and print of the final "as-built" record drawing(s) shall be submitted and will remain the property of the Water Board upon its approval and acceptance.
- 3.4 Upon final approval, the contractor shall also provide the "as-built" in AutoCad and PDF, latest edition digital format acceptable to the Water Board.
- 3.5 Water service will not be activated until all requirements have been met to the satisfaction of the Water Board.

## SERVICE BACKFLOW PREVENTION/CROSS CONNECTIONS

### 1. CROSS CONNECTIONS STRICTLY PROHIBITED:

- A. No person shall cause a physical connection to be made between the Water District water supply and any other water supply for any purpose, but not limited to commercial, domestic, sanitary, fire protection or boiler feed.
- B. No plumbing fixtures, devices, or construction shall be installed which may provide a cross connection between the Water District supply and a drainage system, soil or waste pipe, so as to permit or make possible the backflow of sewage or waste into the supply system. Draw-off pipes for draining sprinkler systems shall not be connected into a drainage system or a submerged pit.
- C. If the Water District water supply is delivered to a tank that is also supplied with water from any other source, the tank shall be open to atmospheric pressure and the Water District water supplied above the maximum level in the tank. The tank shall be equipped with an overflow pipe of ample size to ensure a fixed maximum water level. There shall be at least a 6-inch air gap between the invert of the pipe supplying Water District water and the maximum level of water in the tank.
- D. In the event that the Water District water supply is delivered to a tank in which there are chemicals, dyestuffs or other materials used in processing, the pipe supplying Water District water shall not be submerged. There shall be ample clearance between the invert of the Water District supply pipe and the top of the tank to prevent back-siphonage into the Water District supply.

### 2. REQUIREMENTS FOR BACKFLOW PREVENTION

- A. All commercial and industrial users shall be equipped with reduced pressure zone backflow preventer of a testable type immediately downstream of the water meter. Prior to installation and service activation, the Water District shall determine style and type.
- B. High and moderate hazards to the system are to be protected through the installation of a reduced pressure zone type of backflow device assembly. High and moderate hazard uses include, but not limited to the following: metal plating process, hospital, nursing home, clinic, hotel, mortuary, laboratory, film processing, car washing, chemical process or storage, food processing, restaurant, irrigation systems, hair salon, sewage treatment, chemical fire protection, or any commercial building with the ability for occupancy changes.
- C. Low hazards are to be protected by the installation of a double or dual check valve backflow device assembly. Low hazard operations include, but not limited to single-family residential structures.

- D. In all cases, backflow prevention shall be installed and be operational prior to connection to the Water District's system. Commercial connections shall be equipped with a reduced pressure zone style backflow preventer in order to isolate the public water system prior to service connection. Valves shall be located on both sides of the backflow preventer with drain or test plug on the valve located between the meter and backflow device.
- E. It is required that applicant's professional engineer review all piping within any proposed development building or industrial facility and identify locations where isolation backflow preventers will be needed to protect the water supply from potential contamination.
- F. All single family residential units must be equipped with residential double or dual check valve on the effluent side of the meter and non-removable vacuum breakers on all outside hose bibs prior to service connection and meter installation. Style shall be non-removable self-draining types.
- G. All commercial or residential lawn sprinkler systems must be provided with an appropriate pressure backflow device assembly where the system connects to water supply. It shall be in a location that is always free draining and cannot be submerged.
- H. All permanently connected fire sources and private hydrants shall be equipped with isolation type reduced pressure backflow preventers of a testable type (i.e., RPZ). Backflow prevention may be incorporated into the meter system piping. The device shall be placed in a location that is protected from damage by frost.
- I. Installations that require additional backflow prevention are outlined in the Block Island Water Company's Utilities Standards and should be referred to for further information and requirements.
- J. Installation of a backflow device assembly will prevent release of on site pressure to the utility water mains. It is mandatory a thermal expansion device be properly installed pursuant to all government plumbing codes to relive any excessive increase in on site pressure due to hot water heating systems or other activities systems.
- K. Backflow prevention devices shall be installed above ground, heated and lighted. Where the building point-of-entry is located more than two hundred (200) feet from the curb stop, the backflow prevention device shall be installed in an accessible location in the building at the point of entry before the first tap, and any appliance or pumping unit.  
  
Installation of backflow prevention devices in below ground pits shall be avoided whenever possible. If it is necessary that the backflow prevention device be mounted in a pit, it shall be lighted; power ventilated, heated and free draining under all conditions. Redundant pumping capable of contending with the full relief flows of the backflow and a monitoring alarm is also required for below grade applications.
- L. The installer and/or owner of the facility must employ the OSHA confined Space Entry Requirements and shall the OSHA Safety Rules and required safety equipment available

whenever anyone must enter the pit. In all cases, the backflow prevention device assembly site shall be easily accessible for testing and/or repair. Federal Occupational Safety and Health Administration (OSHA) rules, regulations and statutes are incorporated by reference and made a part herein.

## WATER SYSTEM SPECIFICATIONS

### 1. PART 1 - GENERAL

#### 1.1 DESCRIPTION OF WORK:

- A. The Contractor shall obtain all Town permits necessary to complete the installation of a water system. The work consists of furnishing and installing water pipe, pipe fittings and specials, valves, valve boxes, hydrants, water service connections, connections of existing and new piping, miscellaneous metal for strapping piping, underground line markers, accessories, miscellaneous and appurtenant work for providing construction as directed, complete in place tested, disinfected and accepted.

#### 1.2 SPECIAL REQUIREMENTS:

- A. The Superintendent of the Block Island Water Company (BIWC) shall be notified twenty-four (24) hours in advance to inspect construction, witness testing and taking water samples.

#### 1.3 SUBMITTALS:

- A. Contract Drawings: Submit three (3) sets of drawings of proposed water system or water service to the Water Superintendent for review.
- B. Record Drawings: At completion of project, submit record drawings of installed water system or water service piping showing a minimum of three ties from permanent installations such as poles, hydrants, etc., for valves, bends and service connections at main, property line and dwelling unit and distances.

### 2. PART 2 - PRODUCTS

#### 2.1 IDENTIFICATION:

- A. Underground-Type Line Markers for Non-Metallic Pippings: Manufacturer's standard permanent detection tape, bright colored, continuous-printed polyethylene tape with a metallic core for easy detection of non-metallic underground installations, intended for direct-burial service; not less than 6" wide x 4 mils thick. Provide blue detection tape with black printing reading "CAUTION WATER LINE BURIED BELOW" as manufactured by Seton or equal.
- B. Underground-Type Line Markers for Metallic Pipelines: Manufacturer's standard permanent, bright colored, continuous-printed polyethylene tape, intended for direct-burial service; not less than 6" wide x 4 mils thick. Provide blue tape with black printing reading "CAUTION WATER LINE BURIED BELOW" as manufactured by Seton or equal.

## 2.2 PIPE AND PIPE FITTINGS:

- A. Ductile iron fittings shall conform to ANSI/AWWA C153/A21.53. Foreign fittings, gasket glands and accessories are strictly forbidden. All fittings shall have a bituminous outside coating in accordance with ANSI/AWWA C151/A21.51 and ANSI/AWWA C153/A21.53 respectively. All fittings shall be cement-mortar lined and seal coated in accordance with ANSI/AWWA C104/A21.14 except the lining thickness shall be twice that specified. Joints for fittings shall be mechanical joint conforming to ANSI/AWWA C111. All mechanical joint fittings shall be supplied with glands and accessories.
1. Type: 4-inch to 12-inch Ductile Iron compact meeting ANSI/AWWA C153/A21.53.
  2. Pressure Class: Pipe fittings shall have a pressure rating of 350 for 12-inch and smaller. Fittings shall, at a minimum, have the same pressure ratings as the connecting pipe.
  3. Gaskets: Rubber meeting ANSI/AWWA C111/A21.11.  
Nitrile (in contaminated soil).
  4. Restrained Joint Pipe and Fittings: Mechanical joint restraints shall be incorporated in the design of the follower gland and shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Glands shall be manufactured of ductile iron conforming to ASTM A 536-80. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist-off nuts shall be used to insure proper actuating of the restraining devices. The mechanical joint restraint device shall have a working pressure of at least 250 psi with a minimum safety factor of 2:1 and shall be EBAA Iron, Inc. MEGALUG or equal.
- B. Couplings shall be furnished with corrosion-proof vinyl coating on middle ring and followers.
- C. Polyvinyl Chloride (P.V.C.) Piping: Piping shall be Class 150 conforming to AWWA C900 standard specification and the pipe shall have integral bell and spigot joints through 12". The P.V.C. pipe shall be supplied in lengths not in excess of 20 feet. Each pipe shall have cast on it; nominal size, AWWA pressure class, dimension production record code and seal of testing agency that verified the suitability of the pipe material for portable water.
1. Fittings: The fittings shall be cast-iron or ductile iron compiling to the requirements stated under "Ductile-Iron Piping" with mechanical joint restraints.
  2. Mechanical joint restraint shall be incorporated in the design of the follower gland. The restraint mechanism shall consist of a plurality of individually activated gripping surfaces to maximize restraint capability. Glands shall be manufactured of ductile

iron conforming to ASTM A536-80. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA A21.11/C111 and ANSI/AWWA A21.53/C153 of latest revision. Twist-off nuts, sized same as tee-head bolts, shall be used to insure proper actuating of restraining devices. The mechanical joint restraint shall have a working pressure of at least 100 psi with a minimum safety factor of 2:1 and shall be EBAA Iron, Inc., MEGALUG<sup>R</sup> or equal. The length of upstream and downstream piping requiring mechanical joint restraint from a fitting shall be in accordance with the manufacturer's requirements.

3. When it is required to restrain PVC push-on joints adjacent to restrained fittings, a harness restraint device shall be used. This harness restraint shall be split to enable installation of the restraint after the spigot has been installed into the bell. The restraint shall consist of three major parts: the first part being a split ring that fits behind the bell; the second part being a split restraint ring that installs on the spigot; the third part being a number of tie bars to connect parts one and two to facilitate joint restraint. All of these components shall be cast of ductile iron conforming to ASTM A536-80. The restraint ring shall consist of a plurality of individually activated gripping surfaces to hold the spigot and maximize restraint capability. The harness restraint shall have a working pressure of at least 100 psi with a minimum safety factor of 2:1 and shall be EBAA Iron, Inc., MEGALUG<sup>R</sup>, Series 1100HV or equal.

### 2.3 FLEXIBLE COUPLINGS:

- A. Where flexible couplings are to be installed, they shall be Dresser, Skinner, Smith Blair or equal for Class 52 Ductile Iron Pipe. Coupling shall be furnished with corrosion-proof vinyl coating on middle ring and followers. Adapters shall conform to the manufacturers specifications.

### 2.4 STRAP RODS:

- A. For purpose of anchoring pipe or fittings shall be ¾" round steel or wrought iron. Clamps shall be not less than 2" wide and ¾" round. Clamps and rods are to be protected against corrosion by heavy coat of bituminous asphalt varnish after final assembly. Where pipe or fittings will be exposed under normal conditions, joints shall be sufficiently restrained so as to prevent blow off of pipe or fittings or movement of same during normal use.

### 2.5 THRUST BLOCKS:

- A. Concrete for thrust blocks shall be 3000 psi.

### 2.6 HYDRANTS:

- A. Fire hydrants: Fire hydrants shall be in accordance with the requirements of the latest "Standard Specification for Fire Hydrants for Ordinary Water Works Service" as adopted by the American Water Work Association, Specification AWWA C502-64, as manufactured by

Mueller Centurion, Size 4½ inch. Hydrants shall meet the specific requirements and exceptions of the aforementioned specifications as follows:

1. Hydrants shall be so constructed that if accidentally broken off at top, i.e., above grade, the top section can readily be replaced without closing any valves outside the hydrant, and without excavation.
2. Hydrants shall be unsuitable to set in a trench 4'-6" deep, that being the distance from the ground surface to the underside of the 6" pipe connecting with the hydrant. Hydrant extension pieces, barrel type shall be furnished for depths exceeding 4'-6" as directed by the Superintendent.
3. Hydrant drain outlet shall be surrounded with not less than two (2) cubic feet of washed stone or crushed gravel.
4. Hydrants shall open **LEFT**, hydrant head shall have arrow to indicate opening direction.
5. Hydrants furnished shall be complete, i.e., with no additional fittings or conveniences (other than replacement parts) to be purchased by the Town.
6. Contractor shall paint exposed portion of hydrants with a field coat of red paint and a finish coat of high grade oil paint in colors to be selected by the Town. Below ground, hydrants shall be coated with pitch tar varnish of same composition as AWWA specifications for tar coated pipe.

B. Hydrant Wrench: One hydrant wrench shall be provided to the Town. The wrench shall be pentagonal non-adjustable and specifically for use with hydrants.

## 2.7 VALVES:

### A. Resilient Seat Gate (4-inch to 12-inch):

1. Type: Buried Service non-rising stem.  
Above grade service or pits OS&Y with hand wheel or non-rising stem with hand wheel.
2. Working Pressure: 250 psi
3. Opening: Left on system location.
4. Stem: 420 stainless steel or equal with minimum 60,000 psi yield strength.
5. Fasteners: Stainless steel, type 304 for all of the valves.

6. **Coatings:** Internal and exterior to be coated with fuse bonded holiday-free epoxy coating, minimum 8 mils nominal thickness, meeting or exceeding AWWA C550.
  7. **Wedges:** Fully rubber encapsulated cast iron, ductile iron or bronze gate meeting AWWA C509.
  8. **Opening Nut:** 2-inch square operating nut with hexagon stainless steel bolt fastener.
  9. **Stem Seal:** Minimum two (2) O-ring seals.
  10. **Connection:** Mechanical joint.
- B. **Tapping Sleeves and Valves:** Valves shall be full body and full port tapping type meeting the requirements for resilient seat gate valves. Sleeves shall be full port ductile iron or grade 18-8 type 304 stainless steel. Ductile iron sleeves shall be of the same manufacturer as of the valve and bituminous coated. All sleeves shall be manufactured to meet or exceed the design and operating characteristics of one of the following devices:
1. **Type:** Resilient seat gate valves designed specifically for tapping.
  2. **Seal:** Stainless steel sleeves shall use grid pattern virgin rubber ASTM 2000, full 360-degree pipe coverage. Ductile iron sleeves shall use mechanical joint with rubber seals.
- C. **Valve Boxes:** Valve boxes shall be two piece, buffalo type, adjustable of the sliding type, round body, heavy pattern, with at least ten inches of overlap of top section over the other and with flanged top section. The castings shall be made of gray cast-iron, true to pattern and free from flaws. They shall be thoroughly coated with an asphaltum varnish, inside and out. The covers shall be 5¼-inch diameter solid ring seat with the word "WATER" cast in the top. At the completion of the work, valve boxes shall be set plumb and flush with the road surface.
- D. The upper portion of the box shall be manufactured with a heavy flange having sufficient bearing area to prevent settlement. The lower section shall be configured to enclose the valve stuffing box with an inside diameter of at least 4¼-inch. The installed box shall be capable of vertical adjustment of a minimum of 6-inch while maintaining an overlap of at least 4-inch between sections.
- E. **Valve Key:** The Contractor shall furnish one standard valve operating key to the Town.

## 2.8 INSULATION OF UNDERGROUND PIPING:

- A. **Foamglass Insulation:** ASTM C552 "Spec. for Cellular Glass Thermal Insulation" shall be 3" thick as manufactured by Pittsburgh Corning Corporation.

- B. Jacketing: The jacketing shall be Pittwrap Jacketing as manufactured by Pittsburgh Corning Corporation.
- C. Asphalt Coating: Pittcote 300 finish by Pittsburgh Corning Corporation.
- D. Reinforcing Fabric: PC Fabric 79 by Pittsburgh Corning Corp.
- E. Strapping Tape: Glass fiber reinforced, 1" wide, Scotch Brand No. 880 by 3M.
- F. Bore Coating: Hydrocal B-11 by U.S. Gypsum.

## 2.9 SERVICE CONNECTIONS:

- A. Service pipe sizes to 2-inch shall be H.D.P.E. pipe. Color must be blue with a virgin clear natural center. Continuous identification markings over the entire length of the pipe with sealed ends and coiled in rolls from 100-ft. minimum.
  - 1. H.D.P.E. shall conform to ASTM D1248 Type III, Grade P34, Class A, Category 5, color blue with virgin clear natural center, AWWA C901, 200 psi (CTS).
- B. Corporation Stops: Corporation stops shall be lead-free brass full port ball and plug style with a thick wall cast brass body and stainless steel stem. The inlet connection shall be tapered AWWA (cc) and the outlet connection compression type. The corporation stop shall be equal to American Water Works Association standards as manufactured by Mueller, Cambridge, or Red Hed.
- C. Curb Stops: Curb stops shall be lead-free full port ball style with a thick wall cast brass body with drain and stainless steel stem. The inlet and outlet shall be compression type. The stop shall have 90° rotation with casted arrow depicting direction of flow. The curb stop shall be equal to American Water Works Association Standards as manufactured by Mueller, Cambridge or Red Hed. The Contractor shall furnish to the Town, two (2) socket wrenches suitable for operating curb stops. One end of wrench handle shall have a socket of proper size and shape to remove curb stop box cover nuts.
- D. Curb Boxes: Curb boxes shall be of cast-iron of one of the standard makes, sliding, New England Style, inside cover, with upper section 2½" or larger, and shall be coated with asphaltum varnish, inside and out. They shall have round covers with the word "WATER" cast thereon. Boxes shall be adjustable for a maximum bury of 4 feet-6 inches. Cover shall be attached to box with locknuts or lock lugs.
- E. Backflow Preventers: All devices must have been approved by the University of Southern California (FCCCHR, USC), American Water Works Association and American Society of Sanitary Engineers. Backflow device assemblies tested with manufacturers isolation valves to meet FCCCHR, USC standards shall be installed with the manufacturer valves as an assembly. Bronze or brass components shall meet or exceed the lead leaching performance

specifications of ANSI/NSF 61 Standard or be manufactured with lead-free "Environ Brass II" USN Alloy Number C89520, ASTM B584-98a.

1. Testable Double Check:

- a. Type: Watts or equal
- b. Body: Cast iron, bronze or stainless steel (depending on size)
- c. Coating: Iron components shall be epoxy coated AWWA C-500
- d. Springs: Stainless steel
- e. Pressure: Maximum 150 psi - Minimum 10 psi

2. Testable Reduced Pressure:

- a. Type: Watts or equal
- b. Body: Cast iron, bronze or stainless steel (depending on size)
- c. Coating: Iron components shall be epoxy coated AWWA C-500
- d. Springs: Stainless steel
- e. Pressure: Maximum 175 psi - Minimum 10 psi

3. Household Dual Check:

- a. Type: Watts or equal
- b. Body: Cast bronze
- c. Springs: Stainless steel
- d. Pressure: Maximum 150 psi - Minimum 10 psi

F. Saddles: Service saddles and repair saddles shall be ductile iron or type 304 stainless steel, with stainless steel bolts, washers, nuts and bands. Ductile iron components shall be coated with fusion bonded epoxy minimum 8 mils thickness meeting or exceeding AWWA C550 or nylon coated. Saddles shall be manufactured to meet or exceed the design and operating characteristics of the following:

1. Service:

- a. Type: Ford or equal.
- b. Body: Ductile iron or grade 18-8 type 304 stainless steel.
- c. Coating: Ductile iron components shall be epoxy coated AWWA C500 or nylon coated.
- d. Band: Grade 18-8 type 304 stainless steel double band.
- e. Fasteners: 304 stainless steel stud, nut and washers.
- f. Gasket: Virgin rubber ASTM 2000.
- g. Outlet: Threaded outlet tapped to AWWA C800 for the appropriate service size.

2. Repair:

- a. Type: Ford or equal.
- b. Body: Ductile iron or grade 18-8 type 304 stainless steel.
- c. Coating: Ductile iron components shall be epoxy coated AWWA C500 or nylon coated.
- d. Band: Grade 18-8 type 304 stainless steel double band.
- e. Fasteners: 304 stainless steel stud, nut and washers.
- f. Gasket: Virgin rubber ASTM 2000.
- g. Outlet: Threaded outlet tapped to AWWA C800 for the appropriate service size.

2.10 GRAVEL BASE:

- A. Gravel shall be free of foreign material such as loam, silt, clay and vegetable matter and meet the following requirements:

|                       |        |
|-----------------------|--------|
| Passing 1¼-inch sieve | 100%   |
| Passing ¾-inch sieve  | 30-65% |
| Passing No. 40        | 5-50%  |
| Passing No. 100       | 0-10%  |

2.11 BEDDING MATERIAL:

- A. Pipe bedding shall be processed borrow gravel, granular in nature, the major portion of which may be sand or gravel. It shall be free from peat, vegetable or organic matter or any other debris and readily compactable. Recycled road sweepings and contaminated material are forbidden.
- B. Selected backfill may be from excavated materials that shall be free draining, clean, granular soil suitable for backfill. It shall be free from peat, vegetable or organic matter or any other debris and shall be readily compactable to the requirements of BIWC, type 5 trench. Recycled road sweepings and contaminated material are forbidden. Up to 20 percent may be rock-like material, not to exceed 3-inches in length or diameter, and must be evenly distributed within the total volume of the fill.

2.12 SAND BLANKET:

- A. The sand shall be free from ice, snow, roots, sod, rubbish, and other deleterious or organic matter. The sand blanket shall conform to the requirement of 100-percent passing the ½-inch screen, 85 to 100-percent passing the ¾-inch screen, 60 to 85-percent passing the No. 4 sieve, 35 -60-percent passing the No. 16 sieve, 10 to 35-percent passing the No. 50 sieve and 2 to 10-percent passing the No. 100 sieve.

2.13 BACKFILL:

- A. Backfill shall be excavated material free-draining clean granular soil suitable for backfill. Up to 20-percent of backfill material may be rock-like materials not to exceed 0.05 cubic feet in volume, not more than 6-inches in length. The backfill shall not contain any debris, pavement, frozen material, organic matter, or peat.

3. PART 3 - EXECUTION

3.1 EARTHWORK:

- A. Cutting Pavement: Excavations made on pavement shall be made in a careful manner so as to cause the least amount of damage to the pavement. Pavement shall be saw cut prior to trench excavation. Pavement and/or cement concrete will be cut 12" either side of the maximum allowable trench width. Any damage to the cut line due to the excavations, backfilling or removal of temporary pavement shall be re-cut to neat lines. The width of pavement removed shall be kept as narrow as practicable. Existing pavement and base course disturbed or damaged shall be replaced by the Contractor to match existing pavement and base course. Excavated pavement shall not be mixed with other excavated material which is to be used as backfill, and shall be removed immediately from the site of the work.
- B. Trench Excavation: Trenches shall be excavated to lines and grades shown on the drawings and shall include the removal of materials such as clay, pavements, sand, gravel, soft or disintegrated rock, which in the opinion of the Superintendent can be removed without blasting or drilling, and boulders less than 1 cubic yard in volume. Wherever rock is encountered in trench excavation, rock shall be removed by a method acceptable to the Superintendent to the lines and grades indicated on the plans, or to a minimum depth of 6" beneath the pipe barrel. Final decision as to suitability of excavated material for use as backfill or fill shall be made by the Superintendent. If in the judgment of the Superintendent the excavated material is unsuitable, the Contractor shall import bank run gravel to make up the deficiency.
- C. Excavation Support System: The Contractor shall furnish, put in place, maintain and remove, as required and/or necessary for safe and proper construction in accordance with OSHA regulations, all excavation support systems which may be required to support the sides of the excavation, preventing damage to persons, adjacent property and structures.
- D. Pumping and Dewatering: The Contractor shall furnish all pumps, equipment, power and attendance to maintain and operate such pumping and dewatering systems consisting of any means and devices, including spare units in case of breakdown, which accomplish the removal and prompt disposal of all water entering the excavation. The pumping manner, method or both shall be sufficient such that the natural state of the soil is not significantly disturbed and that groundwater is controlled at levels which will permit all work to be performed in dry conditions.

E. Excavation and Backfill for Pipes:

1. The width of the trench shall be held to a minimum consistent with the space required to permit satisfactory jointing of the pipe and tamping of the bedding and backfill material under and around the pipe. In general, the maximum trench width shall be the pipe diameter plus two feet or a minimum width of three feet, whichever is greater. If necessary, sheeting and/or shoring shall be used to prevent overcutting at the level of the top of the pipe and to maintain the trench sides. The trench bottom should be smooth, level and all large stones or rocks lying on or protruding from the trench bottom shall be removed.

Over-excavation shall be refilled in six (6) lifts with approved granular material and compacted to 95-percent maximum density.

2. Where unsuitable material is encountered at the trench bottom, the material shall be excavated to a stable bottom and refilled with compacted bedding material in 6-inch lifts.
3. Backfill from the centerline of the pipe to the height 2-feet above the pipe shall be sand blanket material placed evenly the full width of the trench and compacted. The remainder of the trench shall be backfill material and compacted in 12-inch layers. Cushion and backfill material shall be compacted to 95-percent maximum density by tamping and compacting in layers (1-foot maximum) to achieve the required compaction.

3.2 IDENTIFICATION MARKERS:

- A. Install identification marker two (2) feet below grade above top of pipe or in accordance with requirements of state in which project is located.

3.3 INSPECTION:

- A. All pipe, fittings, valves and hydrants shall be carefully inspected for defects immediately prior to placing in the trench.

3.4 INSTALLATION OF PIPE:

- A. Each pipe shall be handed into the trench carefully and in a workmanlike manner. The Contractor shall furnish all slings and straps to permit satisfactory support of all parts of pipe when it is being handled. The Contractor shall take all necessary precautions to prevent movement of pipe in the event of the trench flooding. Any length of pipe broken or damaged shall be replaced.
- B. Ends of pipe shall be thoroughly cleaned before joint is made. The surface of the joint shall be painted with required lubricant applied in accordance with the manufacturer's direction. The lubricant shall be of type recommended by pipe manufacturer. Pipes shall be jointed in

strict accordance with pipe manufacturer's directions and work shall be done by skilled workmen.

- C. No pipe or fittings shall be laid in water or on a frozen trench bottom or when the trench conditions or the weather are unsuitable for such work. All joints shall be checked by feeler ring gauge to insure proper positioning of rubber gaskets.

### 3.5 FITTINGS:

- A. Fittings of the proper type shall be furnished and installed wherever shown on the drawings and as required by the Block Island Water Company.
- B. The fittings shall be supported on cement blocks to prevent settlement and resulting shear action to attached pipes. Cement blocks at fittings shall remain in place. At all plugged tees the plug shall be strapped to tee.
- C. Bends and tees shall be installed in the mains where shown on the contract drawings. Vertical bends where shown on the drawings shall be anchored in both directions with pipe-clamps and tie-rods. All other fittings shall be equipped with proper sized thrust blocks poured against undisturbed earth. The Contractor shall provide the necessary tie rods and clamps. Tie rods and clamps shall be as manufactured by the Grinnel Company, Inc. or equal.

### 3.6 RESTRAINED JOINTS:

- A. Fittings and bends may be restrained through the use of mechanical joints with MEGALUG or with thrust blocks. If mechanical joints with MEGALUG are utilized, the required length upstream and downstream pipe shall be restrained based on the manufacturer's recommendation.
- B. Thrust blocks shall be of sufficient size as shown in the details to prevent movement or the pipe shall in all cases be poured against undisturbed earth. Where thrust blocks are in contact with the pipe, concrete shall be kept clear of pipe joints.
- C. Concrete thrust blocks shall be constructed at all underground cast-iron fittings that results in a change of direction of pipe line. Thrust blocks shall be of bearing size indicated on the drawings.

### 3.7 INSTALLATION OF VALVES:

- A. Each valve shall be equipped with a gate box set vertically with top even with finished grade.

### 3.8 METHOD OF INSTALLING SERVICES:

- A. Services shall be installed by open cut method. Under no circumstances will tunneling under surfaced roadways be permitted.

3.9 SERVICE TAPS:

- A. Taps for service connections shall be made with a standard tapping machine, using a sharp tap, the threads of which shall have the same taper as the taper of the threads on the corporation stop. Service taps shall be of the size directed by the Superintendent.

3.10 COUPLINGS AND CONNECTIONS:

- A. All couplings for service piping and connectors to corporation and curb stops shall be flared tube or compression type.

3.11 HYDRANTS:

- A. Hydrants shall set straight and true on a firm base. Bury shall be 4'-6" to centerline of inlet. Each hydrant shall be equipped with a thrust block, drain connection, and gravel drainage pocket all as shown on the contract drawings. The Contractor shall supply the necessary 3/4" threaded to copper fittings and 3/4" Type K soft copper tubing to install the hydrant drain connections.

3.12 DEFLECTION:

- A. Wherever curves are negotiated by deflecting successive lengths of pipe the deflection of each length of pipe shall not exceed 3 degrees, or as recommended by manufacturer.

3.13 INSULATION OF UNDERGROUND PIPING:

- A. Insulation and jacket shall be installed in accordance with written manufacturer's installation procedures. Prior to backfilling, roofing felt shall be placed over the Pittcote 300 coatings.

3.14 FIELD QUALITY CONTROL:

A. Pressure Testing:

1. All services, water mains, bypass piping and appurtenances must be installed prior to commencement of any test. A pressure test shall be conducted on all completed water lines prior to acceptance. The proposer, at no cost to the BIWC, shall accomplish the pressure test. An authorized representative of the BIWC shall witness the test.
2. Each valve section of the main shall be filled slowly with water at a rate no greater than one foot of pipe section per second. All air shall be released via corporation stops, hydrants, and installed automatic air release fittings. All air must be removed and the full pipe shall sit idle for a period of 24-hours prior to commencement of the pressure test. Piping installations greater than 1,000 feet shall be accomplished in sections no greater than 1,000 feet.

3. The test pressure shall be brought up to at least 50% higher than the normal anticipated working pressure, or 150 psi, whichever is greater, and maintained for a continuous two (2) hour period. An authorized representative of the BIWC shall witness the test. Any loss of pressure indicates a leak, and no pipe installation will be accepted with any leakage.
4. Proper thrusting of all pipefitting, caps, hydrants and appurtenances shall be provided to resist the imposed test pressure.

B. Chlorination/Disinfection:

1. All new or repaired potable water system distribution mains, service pipe and the necessary connecting pipes, fittings, control valves, and all appurtenances in or adjacent to any residence, building or premises shall be purged of deleterious matter and shall be disinfected prior to utilization or permanent connection to the BIWC system. That portion of the customer's service pipe after the curb stop shall be disinfected under the supervision of the local plumbing official. The owner must provide written laboratory certified documentation of the disinfection test results to the BIWC before making any permanent connection to the BIWC system or before re-activation of any existing water service can be authorized.
2. The proposer or the contractor for the proposer, in accordance with Chapter 5, Distribution System Chlorination, American Water Works Association Manual #20, shall perform chlorination. Tablet chlorination shall not be allowed.
3. The owner or customer is responsible for all costs associated with the disinfection process or procedure.
4. the disinfection must result in eliminating from the various parts of the new pipe line any evidence of the existence, therein, of bacteria indicative of any contamination, as determined by tests of the bacterial content of samples of water taken from the new water main. The disinfection may be accomplished by introducing into all the various parts of the new water mains, a liquid solution containing 1% available chlorine in such volume that the rate of dosage to the water mains shall be at least 50 parts per million of available chlorine. Tablet chlorination is not allowed. The contact period for this disinfection shall be at least 24 hours, and a longer period will be required if tests of residual chlorine show it to be necessary for proper disinfection.
5. The new water system shall be flushed out after disinfection and refilled with fresh water. All chlorinated water used in the disinfection process shall be dechlorinated prior to discharge to the surrounding area.
6. Water must sit in the main for at least 24 hours prior to taking a test sample. Water utilized for this purpose, flushing or pressure testing, which is obtained directly from the BIWC system, must flow through an isolate connection to the BIWC system via an approved meter, testable backflow prevention device and jumper line. The

contractor shall make all necessary arrangements for securing the water for test purposes and shall bear the expense of these arrangements. The installer shall furnish and install suitable temporary testing plugs, caps, pumps, pipe connections and other appurtenances, as necessary, to obtain samples at points no further than 1,000 feet apart.

7. After final flushing and before the new water main is connected to the distribution system, two consecutive sets of acceptable samples for coliform bacteria and heterotrophic plate count (HPC), taken 24 hours apart, shall be collected from the termination of the new main. At least one sample shall be collected every 1,000 ft. of new main, plus one set of two samples from the end of the line. At least one set of two samples shall be taken from each branch. Samples shall be collected by BIWC employees, given a two-day notice, and tested by a laboratory approved by the BIWC.

- C. Flushing of Main: Temporary fittings for flushing, pressure testing and chlorination are required for all newly installed mains. New mains shall be capped at each end. Each end shall be fitted with a temporary riser of sufficient length to reach finished grade and an isolation valve. The live main tap shall be fitted with an isolation valve, two feet of main that is restrained, restrained cap and temporary riser of sufficient length to reach finished grade and an isolation valve. Risers and isolation valves shall be sized to provide a flushing water velocity of at least 2.5 feet per second based on the installed main size. A meter and testable backflow preventer is required to be placed in the jumper line between the existing and new main prior to obtaining water for any process. Depending on the size of the main, multiple taps and backflow preventers may be required to provide the required velocities within the new main.

### 3.15 TEMPORARY BYPASS PIPING AND SERVICES:

#### A. Piping, Valves and Hydrants:

1. All pipe and appurtenances used in providing the temporary bypass service piping shall be in good condition and adequate to withstand at least 1½ times the normal water working pressures and all other conditions of use. The pipe and other materials shall provide adequate watertightness.

#### B. Temporary Bypass Piping and Services:

1. The Contractor shall provide temporary valved bypass piping and services as required to satisfactorily provide adequate fire protection in accordance with the Fire Department and serve all water customers serviced by the section of water main that is out of service during the performance of the work under this contract. In general, bypass pipe shall be 2-inch diameter. Dead-end bypass lines shall be provided with valves and piping for blow-offs and bleeding. The Contractor shall provide temporary building service connections to every building served by the section of water main taken out of service. Temporary building service connections shall extend from the

2-inch bypass pipe and shall be of adequate size to satisfactorily provide adequate water to the building being serviced.

2. In general, all temporary piping and services shall be provided in such a manner as to protect it from damage and to insure uninterrupted supply, and shall be located out of traveled ways where practicable, in locations where it will cause the least obstruction and inconvenience, and where it will be least subject to damage.
3. The Contractor shall furnish all work and fittings and make all necessary connections required to supply the bypass pipes (including services) with water from hydrants or existing water mains.
4. All temporary building service connections shall extend from the bypass pipe and terminate at the connection to the building plumbing. Temporary building services shall include all necessary hoses, pipes, valves and fittings, of approved size, required to service consumers. The Contractor shall make the actual connection and disconnection to the consumer's building plumbing, and shall coordinate his work with the Town of any building to be serviced so that there will be the least amount of inconvenience to the Town.
5. Once put in use, all temporary piping and services shall be maintained until the new water main is placed and in service. Any interruptions, whether caused by frost, physical damage, or otherwise, shall be immediately corrected, and the service restored or replaced without additional payment.

C. Disinfection:

1. All temporary bypass lines, services and connections shall be disinfected just before being placed into service.

D. Disconnection and Removal of Temporary Piping:

1. After the new water main is accepted and placed in service, and permanent service to consumers has been restored, and when approved, the Contractor shall remove all temporary bypass piping and building service connections, and all other temporary work, as directed; place temporary paving as required; restore to their original condition all walks, drives, curbs, grassed areas and such other parts which have been disturbed as a result of the Contractor's operations.

E. Protection:

1. The Contractor shall be responsible for taking and providing all necessary and required precautionary measures at all times during the installation and removal of the temporary bypass service piping and building service connections, to prevent any contamination of the water supply, water mains and service piping, and for the protection of public health and safety.

3.16 INSTALLATION METHODS:

- A. Installation of all water conveyances, mains, pipes or lines shall be in accordance with the Ductile Iron Pipe Research Association's installation manual and ANSI/AWWA C600 and all other requirements of the BIWC.
- B. Water main and services shall be installed with a minimum cover of 5-feet to the crown of the pipe in an American Water Works Association "Type 5 Trench". Where unsuitable material is found at or below the grade of the placement of the pipe or fitting, the undesirable material shall be removed to the required width and depth and replaced with thoroughly compacted bank run gravel above the crown of the pipe. Material shall be deposited across the full width and length of the trench in layers of not more than 12" in depth before compaction. Each layer, to within 12" or sub-grade of the permanent patch, shall be compacted to 95% Standard Proctor. The final 12" shall be processed gravel compacted in two (2) equal courses to 95% Standard Proctor.
- C. Each length of pipe and/or fitting shall be inspected for cracks, defects in coating on lining, cleanliness or any other evidence of unsuitability.
- D. Piping shall be laid straight true to line.
- E. Air release manholes shall be installed at all high points throughout the proposed installation and shall be equipped with automatic air release valves. Manholes shall be located at roadway crowns or areas where it is free draining away from manhole covers.
- F. Manholes shall be watertight precast concrete constructed with watertight cast iron manhole frame (30" clear opening) and diamond check pattern cover. Outer cover shall have the word "WATER" cast upon it in 4" capital letters. The inner cover shall be gasketed with adjustable locking bar design. The chamber, frame, cover, and structural components shall be designed to withstand an H-20 wheel loading.
- G. Manhole steps shall be of safety type, 12" on center and shall be cast into the units during the manufacturing process. The distance from the rim of the cover frame to the top step shall be no greater than 12".
- H. The manhole chamber shall be fitted with leak tight mechanical pipe connections properly sized to fit the proposed water main. Manholes shall be vacuum or hydrostatically tested for watertight integrity of the manhole installation.
- I. Horizontal joints between all barrels, top slab, bases, and entrance slab joints shall be sealed using a flexible butyl resin sealant conforming to Federal Specifications SS-S-210A and AASHTO-M-198B or equal. The exterior of the manhole shall be completely coated and void filled with an asphaltic, waterproofing compound.

- J. Line valves shall be installed at all intersections in a configuration that allows for isolation in all directions. On long lengths of main, valves shall be installed at a minimum of 800 foot intervals and at all dead end sections.
- K. Pipe may be deflected in order to make minor adjustments in the alignment. All deflections shall be a maximum of 75% of the manufacturer's safe allowable deflection per pipe length as indicated in the following tables. It is required that bends in the pipe be accomplished by fittings wherever possible.

| <b>Allowable Deflection for<br/>18-Foot Lengths D.I. Pipe</b> |                                   |                                      |
|---|-----------------------------------|--------------------------------------|
| <b>Size of Pipe<br/>(inches)</b>                              | <b>Push-On Joint<br/>(inches)</b> | <b>Mechanical Joint<br/>(inches)</b> |
| 4   | 14                                | 23                                   |
| 6   | 14                                | 20                                   |
| 8 - 12  | 14                                | 15                                   |

| <b>Allowable Deflection for<br/>20-Foot Lengths D.I. Pipe</b> |                                   |                                      |
|---|-----------------------------------|--------------------------------------|
| <b>Size of Pipe<br/>(inches)</b>                              | <b>Push-On Joint<br/>(inches)</b> | <b>Mechanical Joint<br/>(inches)</b> |
| 4   | 16                                | 26                                   |
| 6   | 16                                | 23                                   |
| 8 - 12  | 16                                | 17                                   |

- L. Whenever pipe requires cutting to fit the line, the work shall be done only by experienced (State of Rhode Island, licensed contractor) or plumber, and in such a manner as to leave a smooth end at right angles to the axis of the pipe and on pipe that is center rounded designed specifically for field cutting. The cut ends shall be beveled to conform to the manufactured spigot end. Particular care shall be exercised to prevent damaging the lining when cutting cement-lined cast or ductile iron pipe. Jointing of pipe or fittings shall be made only by persons thoroughly skilled in this work. For pipe diameters 16" and larger, pipe cutting shall be done by machine.
- M. Blocking under the pipe shall not be permitted except where a concrete cradle is proposed.
- N. Metalized detectable identification tape 2" in width or greater, blue in color and printed with "CAUTION - WATER LINE BURIED BELOW" shall be utilized over all mains. Set to a depth from finished grade of no more than 1'-0".
- O. A temporary patch shall be installed over the freshly backfilled trench in an existing street or sidewalk using hot bituminous concrete. It shall be at least 3" thick, consisting of equal

thickness layers of Modified Binder and Type I-1 Wearing Course. After sixty (60) days, the temporary patch shall be removed and replaced with a permanent patch.

- P. At all temporary cul-de-sacs and future streets, the main shall end with a full size line valve followed by a full length of pipe with an additional 3-foot section of pipe and end with a (MJ) cap, thrust block and 2-inch style blow-off assembly.
- Q. Water distribution mains shall be designed in a grid or loop type system to prevent the occurrence of dead end lines. When the potential for dead end lines exist, the contractor shall make every effort to pass the main through the development to the next existing distribution line.
  - 1. In all cases, where a dead end main is to be installed on a dead end street or cul-de-sac, the BIWC reserves the right to have the main extended to another existing main or looped back to the feeder main with proper valving to prevent a dead end main condition.
- R. Water mains shall be laid with a minimum of ten-foot horizontal clearance from any existing sewer facilities. The distance shall be measured edge to edge. Water mains crossing under sewers shall be forbidden. Water mains crossing over sewers shall be laid to provide a minimum vertical separation of eighteen (18) inches between the invert of the water main and the crown of the sewer. Re-alignment of an existing water main or relocation of the sewer may be necessary to achieve this vertical separation. The Water Superintendent must approve any deviation from these requirements. Concrete encasement shall not be allowed in the design for sewer and water main crossings.
- S. At all times, during construction, all piping and fittings shall be kept from becoming contaminated from construction materials, dirt, non-potable water, yard waste, or substances produced as a result of animals, rodents and insects. Without exception, all stored piping shall be timber cribbed above grade, and shall be fitted with watertight plugs or plastic sheet securely fastened to the pipe. All valves, fittings, and appurtenances shall be fitted with caps, plugs or plastic sheet securely fastened to the fitting. The implementation of these protective measures is required to reduce the significant loss of water and labor hours expended during multiple attempts to sufficiently clean the new mains to meet the water quality standard set by the US EPA Primary Drinking Water Regulations.
- T. Adequate, temporary provisions shall be made to care for the flow from sewers or drains interfered with by the work. All necessary measures shall be taken to prevent sewage or other contaminating matter from entering the water main. Any broken or damaged utility connection or services (water, sewer, gas, telephone, electric, etc.) shall be fully repaired at the expense of the party responsible for the damage. Underground structures shall be thoroughly supported or otherwise protected to maintain uninterrupted service.
- U. Pipe that is removed shall remain the property of the party whose responsibility it shall be to properly dispose of it. For example, if a private contractor is authorized to do this work, the contractor is the responsible party and must dispose of the pipe.

- V. No person, except an authorized representative of the BIWC or under their observation, will be allowed under any circumstances to tap the mains or distribution pipes, insert corporation stops therein, set or remove meters on service pipes, or interfere with water gates or curb stops.
  
- W. No new piping system shall be permanently connected to an existing BIWC main until after obtaining successful results from water quality tests from a State of Rhode Island certified laboratory meeting the standards set by RI Department of Health, and water quality test indicate that the samples are consistent with the quality of water in the BIWC system, including heterotrophic plate count results.

END OF SECTION

*EXHIBIT A*

*NEW SHOREHAM WATER DISTRICT  
RULES AND REGULATIONS*



The following rules and regulations made by the New Shoreham Water District constitute a contract between the customer and the Water District upon acceptance by the District of an application for water service. The customer is considered to have expressed its consent to be bound thereby and to take water only for the purposes stated in the application, at the established rates.

## **1. DEFINITIONS**

1.1 "Air Break" shall mean a physical termination and break in the connection and continuity to any piping, meter or aperture.

1.2 "ANSI" American National Standards Institute.

1.3 "ASTM" American Society for Testing Materials.

1.4 "AWWA" American Water Works Association.

1.5 "Backflow Drainage" A reversal of flow in the drainage system.

1.6 "Backflow preventor" A device or means to prevent backflow or back siphoning from the customer's property or facility into potable water system.

1.7 "Block Island Water Company" The name of the water plant that produces municipal water servicing the New Shoreham Water District.

1.8 "Board" Shall mean Board of Water Commissioners.

1.9 "Cross-connection" Any physical connection or arrangement between two otherwise separate physical systems, one of which contains potable water and the other either water of unknown or questionable safety or steam, gas, or chemical whereby there may be a flow from one system to the other, the direction of flow depending on the pressure differential between the two systems.

1.10 "Curb Stop" A valve and access box configuration installed at the property line in conjunction with the extension of a service line to a property or facility.

1.11 "Customer" Shall be taken to mean any person, firm, corporation, government, or governmental division supplied by the New Shoreham Water District.

1.12 "Dig Safe" Dig Safe System, Inc., a not-for-profit corporation, promotes public safety, protects vital utility services and safeguards against property and environmental damage. It is a communication network assisting excavators, contractors and property owners in complying with state law by notifying the appropriate utilities before digging so that utilities can respond to the work area to identify the location of underground facilities. (888)-DIG-SAFE.

1.13 "District" Refers to the New Shoreham Water District.

1.14 "Excavation" Means an operation for the purpose of movement or removal of earth, rock, or other materials in or on the ground, or otherwise disturbing the subsurface of the earth, by the use of powered or mechanized equipment, including but not limited to digging, blasting, auguring, back filling, test boring, drilling, pile driving, grading, plowing in, hammering, pulling in, trenching, and tunneling; excluding the movement of earth by tools manipulated only by human or animal power and the tilling of soil for agricultural purposes.

1.15 "Fire system" A separate system of water pipes or mains and their appurtenances installed solely to furnish water for extinguishing fire.



1.16 "Fire service connection" A pipe extending from a main to supply a sprinkler, standpipe yard hydrant or other fire protection systems.

1.17 "gpd" Stands for gallons per day.

1.18 "H.D.P.E." High density polyethylene service pipe material used in the water industry.

1.19 "Main" or "main pipe" Shall mean the distribution pipe from which service connections are made to supply water to customers.

1.20 "OSHA" Abbreviation for the Occupational Safety and Health Administration, US Department of Labor. OSHA develops and enforces federal safety and health regulations for businesses and industries.

1.21 "Public water system" Refers to the water system operated by the New Shoreham Water District, who provides the public water for human consumption through pipes or other constructed conveyances, such system has at least fifteen (15) service connections or regularly serves at least twenty-five (25) individuals daily at least sixty (60) days out of the year. Such term includes:

(a) Any collection, treatment, storage and distribution facilities under control of the operator of such system and is used primarily in connection with such system, and

(b) Any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

1.22 "Premises" As used herein shall be restricted to the following:

(a) A building under one roof owned or leased by one customer and occupied as one residence or one place of business

(b) A combination of buildings owned by one customer in one common enclosure, or occupied by one family, or one corporation or firm, as a residence or place of business.

(c) Each unit of a multiple house or building separated by a solid vertical partition wall, occupied by one family or one firm, as a residence or place of business.

(d) A building owned by one customer having a number of apartments, offices, or lofts which are rented to tenants, and using in common one hall and one or more means of entrance.

1.23 "Service pipe" or "service connection" Shall mean the pipe running from the main pipe to the premises of the customer.

1.24 "Seasonal use" Shall mean any intermittent use, season after season, at the same premises.

1.25 "Vacuum breaker" A type of backflow preventor installed on openings subject to normal atmospheric pressure.

## **2. APPLICATIONS FOR SERVICE**

2.1 No agreement or service shall be granted by the Water District to any applicant until all arrears and charges due by the applicant at any premises, now or heretofore occupied by it, shall have been paid in full and until all plumbing is to code.



2.2 Accepting service from the Water District shall constitute a contract between the Water District and the applicant, obligating the applicant to pay its rates as established from time to time, and to comply with these Regulations.

2.3 Applications for new service connections shall be made to the Water Superintendent and accepted subject to the availability of an existing main in a street or right-of-way abutting on the premises to be served. These Regulations in no way obligate the Water District to extend its mains in order to provide service to premises under consideration. An applicant cannot be considered until the property is added to the district.

a. Available water allocation for the next year's new or increased use is determined annually in October at the joint Annual Allocation, Priorities and Capital Budget meeting. No new or increased use may be made without application to the New Shoreham Water District. Applications shall be made to the Water District Office on a form approved by the District and shall include such plans, calculations and other information deemed necessary by the District. Each application, if received with supporting information and a processing fee (determined by the District) shall be accepted and marked with the date and time received. No application shall be accepted unless complete with all supporting information and proof of fee payment. Completed application shall be reviewed, and the requested allocation either granted or denied, based upon available capacity as determined and its priority.

An application that would be equal to or greater than the available capacity for that year shall be denied. Where an application for water allocation amounts to twenty-five (25%) of the total available allocation in a particular year or 20,000 gallons per quarter (217.4 gpd), which ever is less, the Water District and Town Council may require special conditions or cost sharing and Contributions In Aid of Construction from such applicant if it agrees to provide service. If the application involves a "public facility" under Section 19-154(1), such application shall be forwarded to the Town Council for review. Applications for allocation of 2,000 gpd or more shall be made by August 1 prior to the Annual Allocation meeting in order to be considered for the allocation for the next year.

No building permit shall be issued without payment of all water applications and permit fees.

b. Water allocation assigned to a specific Plat/Lot, shall remain with that Plat/Lot and cannot be transferred to another Plat/Lot.

c. All sprinkler applications for new service shall purchase an additional 15,000 gallons (163 gpd) of water allocation through the Water District office. The Block Island Water Company will determine the amount of water used by sprinkler activation and will charge, at the prevailing rates, for excess use over the allocation purchased.

2.4 In lieu of a twenty year assessment charge for capital projects, the District will assess to each new request for water application a fee entitled "Contribution in Aid of Construction (CAC)". The CAC will be computed annually by the District to account for prior and current capital improvement projects which have been undertaken by the District. The per gallon charges will be based on the current loan amount (principle) plus interest over the term of the loan. This cost will then be divided by the capacity of the Block Island Water Company plus any related cost associated with the wastewater treatment cost related with the production of water. All future debt service encumbered by the Water District will be incorporated into the annual user charges.

2.5 When a prospective customer has made application for a new service or has applied for the reinstatement of an existing service, that service shall comply with the Plumbing Code requirements as set forth by the State of Rhode Island Providence and Plantations and the Town of New Shoreham Utilities Standards. The District shall not be liable, in any circumstances, for any accidental breaks, or leakage arising in any way in connection with the supply of water or failure to supply same, or the freezing of water pipes or fixtures of the customer.



2.6 As security for payment of bills, the District may require any applicant or any customer, whose credit has not been established or is not in good standing with the District, to make a deposit equal to one and one-half times the estimated average bill for the third quarter of the year. In case the billing period is changed and/or the estimate of the size of the bill is found to be incorrect, an adjustment shall be made in this deposit to suit the conditions. In the case of a customer who has outstanding past due bills, and is a more than twenty-five percent owner or in control of a legal entity making application for new or increased use utility service, all past due bills, under whatever name incurred, shall be paid prior to approval being granted for considerations of additional services. Deposits of applicants shall be payable at the time the application is made and shall be paid by the prospective customer upon demand.

2.7 Deposits shall be applied against future billings.

### 3. SERVICE CONNECTIONS

3.1 The owner, customer, or other applicant for new domestic and/or fire service, shall be responsible for all costs associated with the installation of said services. These costs shall include, but not be limited to, excavation, backfill, removal and replacement of paving walks, curbs, traffic control personnel, obtaining road opening permit from the main to the facility. Once the new service has been tested and accepted by the Water District, the Water District shall own and maintain the new service connections within the public right-of-way (from the main to the curb stop). The owner shall own and maintain the new service connections from the curb stop to the facility.

3.2 For existing services, the Water District shall bear all costs to maintain and/or replace the premises in the public right-of-way (from the main to the curb stop). From the curb stop to the facility, it is the owner's responsibility to bear all costs associated with the maintenance and/or replacement of the service. All repairs made by the customer(s) must be made under the supervision of the Water Superintendent.

3.3 The control of the water supply to the customer shall be by means of a separate curb stop. Meter installations are for the exclusive use of the Water and Sewer Districts.

3.4 The District shall furnish and install in a public right-of-way, when funded as a water improvements project or considered a repair to an existing water service connection, the following equipment: Corporation stop, service pipe to the property line, curb stop and curb box. All service pipes shall have a minimum cover of at least four (4) feet. All service pipes shall not be less in size than one (1) inch inside diameter. The Superintendent shall determine and approve where the meter shall be set.

3.5 The service pipe from the property line to the premises shall be installed at the expense of the customer. For this installation, the customer shall employ a competent plumber or contractor, satisfactory to the Water District to do the work; the plumber or approved installer, shall be responsible to supply records and an "as built" drawing of what was installed to the Water Superintendent.

a. The minimum size and cover shall be the same as that used from main to property line. All new services shall be H.D.P.E. and conform to ASTM D1248 Type III, Grade P34, Class A, Category 5, color blue with virgin clear natural center, AWWA C901, 200 psi (CTS). Nylon fittings are prohibited for underground use. The Water Superintendent shall approve materials and methods of construction and if the service has not been installed in accordance with the Water District's requirements, water service will not be turned on until defects have been remedied. The customer shall maintain the service pipes between the property line to the premises and all piping and fixtures on or in the premises of the customer; a legally authorized individual shall perform any work in a manner satisfactory to the District.

b. Every service must be provided with a workable curb stop located outside the building near the service main, easily accessible and protected from freezing. All piping shall be so arranged as to permit draining whenever necessary. The customer shall make all necessary repairs as may be



necessary, from time to time, to prevent leaks and damages. The contractor or customer shall give a record of all changes to the Water Superintendent.

c. All customers having direct pressure hot water tanks must place proper vacuum and relief valves in the pipe system to prevent any damage to such tanks in the event of lack of pressure in the street mains due to shutdowns or other reasons. The Water District will not supply water to premises where hot water tanks or other appliances are subjected to direct pressure except at the risk of the owner and occupants. Any such damage resulting from failure to comply with this rule must be borne exclusively by the customer.

### 3.6 Ownership:

a. Service pipe between the curb stop or valve and main is owned and maintained by the Water District. Service pipe between the curb stop or curb valve and building or complex serviced is owned and maintained by the property owner.

b. Property owners must keep their own pipes and all fixtures connected thereto in good repair and protected from frost at their own expense. In case of a break in that section of the property owners' service pipe between the curb stop and the meter, the property owner shall immediately obtain the services of a licensed plumber to make the necessary repairs. Failure to make repairs at once or to obtain the necessary permits covering these repairs shall be sufficient cause to shut off the supply of water to the subject premises.

c. Property owner shall be responsible to ensure that the potable water system inside the premises is protected from contamination and properly maintained in compliance with the current plumbing code. Any additions, alterations or repairs shall be in full compliance with the code and shall not cause the existing system to become unsafe, unsanitary, or a threat to the public water system.

d. The property owner shall be charged at the posted service charge rate for each trip made by the Water Company to the owner's property to shut off water at the owner's or his agent's request. Shutting off and returning to turn on water will constitute one trip unless the water is being shut off for the winter season.

e. Meters are purchased and maintained by the Water Company. The Water Company shall install all meters.

f. Curb stop and curb valves shall be owned and maintained by the Water District.

g. Private hydrants installed on private property are owned and maintained by the property owner. Public hydrants installed on public rights-of-way are owned and maintained by the Water District.

### 3.7 All service pipes shall be laid as required by law and code.

3.8 On future installations or reinstallations of service lines, only one premise will be supplied through one service pipe. Where more than one premise is now supplied through one service pipe, and under the control of one curb stop, any violation of the rules of the District by either or any of the customers so supplied, shall be deemed a violation by all. The District may take such action as could be taken against a single customer, who is not in violation of the District's rules, and has been given a reasonable opportunity to attach his pipe to a separately controlled service connection.

3.9 Use of water is confined to the premises named in the contract. No customer shall supply any person not entitled to the use of water, nor shall the customer use it for any purpose not mentioned in his application. No person not entitled to the use of water shall obtain it from any hydrant, fountain, or other fixture of the District without previous consent of the District.



a. In the event that a well is permanently abandoned in the Water District, the property owner shall be responsible for disconnecting the well as set forth in Rhode Island Department of Environmental Management's Regulations, Section 9.02. The well shall be inspected and documented by the Town Building Official when the appropriate disconnection is completed.

3.10 The District shall in no event be responsible for maintenance of, or for damage done by water escaping from, the service pipe or any other pipe and fixtures on the outlet side of curb stop; and the customer shall at all times comply with state and municipal regulations in reference thereto and shall make any change thereon required on account of change of grade, relocation of mains or otherwise.

#### 4. METERED SERVICE

4.1 All customers shall be metered and an individual meter shall be required for each service connection. Any sub-metering shall be the responsibility of the owner.

4.2 All meters will be furnished by and remain the property of the District, which will authorize the size, type and make of meter to be used, as well as the location and orientation of the setting.

4.3 The officers or agents of the District shall have reasonable access with notification, unless an emergency, to properties supplied with water, at all reasonable hours, to permit the inspection of plumbing and fixtures, to set, remove or read meters, to ascertain the amount of water used and manner of use, and to enforce these Regulations.

4.4 All meters shall be maintained by and at the expense of the District insofar as ordinary wear and tear are concerned, but the customer will be held responsible for damages as a result of freezing, hot water, or other external causes. When such damage occurs, the District will furnish and set another meter to replace the one frozen or otherwise damaged, and the customer shall pay for the cost of such repairs.

4.5 The quantity recorded by the meter shall be taken to be the amount of water passing through the meter, which amount shall be accepted as conclusive by both the customer and the District, except when the meter is found to be registering inaccurately or has ceased to register. In such cases, the quantity is determined by the average registration of the meter in a corresponding past period when in order, or by the average registration of the new meter, whichever method is representative in the opinion of the District of the conditions existing during the period in question.

4.6 The District reserves the right to remove, to test any meter at any time and to substitute another meter in its place. In the case of a disputed account involving the question as to the accuracy of the meter, the District upon request of the applicant will test such meter. The customer shall pay for all fees and cost for testing such meter in advance of any test. In the event that the meter so tested is found to have an error in registration in excess of 2% at any rate of flow within normal test flow limits and to the detriment of the customer, the fee advanced for testing will be refunded and the current bill rendered, based on the last reading of such meter, shall be corrected accordingly. This correction shall apply to both over and under registration.

4.7 The customer shall permit no one, other than an agent of the District or other person lawfully authorized to do so, to remove, inspect, or tamper with the meter or other property of the District on his premises. The customer shall notify the District as soon as it comes to his knowledge of any injury to or cessation in registration of the meter.

#### 5. PAYMENT FOR SERVICE

##### 5.1 Metered Service.

a. Bills for water consumed shall be rendered in arrears monthly, quarterly, or annually, at the option of the District.



b. Bills for private fire service shall be rendered, in advance, on July 1 of each year. All bills for metered service and fire service are due and payable upon presentation.

5.2 All bills shall be payable upon receipt. Bills are rendered "due" before the closing of the last business day of the billing month. No disputed portion of a bill that relates to the proper application of approved rates and charges, or the District's compliance with these Regulations, shall be considered "due" during the pendency of any complaint, investigation, hearing or appeal under these Regulations.

a. A customer has thirty-(30)-days from receipt of a bill to make an inquiry as to the billing.

b. The billing inquiry should first be addressed to the Finance Office. Upon receipt of a timely request, the Finance Department will verify that the correct billing was sent, that the information on the bill is accurate and report that information to the customer. If the inquiry is based on the inability to pay, a referral shall be made to the Mary D Fund and the New Shoreham Welfare Director. If the inquiry is about a payment plan, the Finance Director is authorized to approve any payment plan that, in her judgment, is acceptable.

c. The customer may request the Superintendent of the utility to manually verify the actual meter reading by a written request to the Superintendent. After being provided the information, the customer may request to have the matter placed on the agenda of the Water Board. In no event shall such request be considered if it is made more than thirty (30) days after the requested information has been supplied.

d. Any timely request for a hearing shall be placed on the Commission agenda within the next thirty (30) days. The Commissioners may continue the hearing if further information is being sought, or may be continued by the customer one time for good cause shown.

e. Service may not be terminated before a hearing decision, but interest and penalties shall continue to run. Unless abated at hearing, the full amount, including interest and penalties, is due and payable within fifteen (15) days of the Commission decision. The date of the Commission decision shall be the date of the Commissioner vote unless another date is specified.

f. When an account is sixty-(60)-days or more overdue, the Commission may order that a municipal lien certificate be filed on any past due amount.

g. If payment is not received after these time limits, termination of service may occur on notice to the customer.

5.3 Whenever the customer desires to have the service contract terminated or the water service discontinued, the customer shall notify the District in writing. Until the District receives such notice, the customer shall be responsible for the payment for all service rendered by the District, including charges for meter repairs caused by damages by hot water or freezing or other external causes. A reasonable time after the receipt of such notice shall be allowed for the District to take a final reading of the meter or meters and to discontinue service.

5.4 The presentation or non-presentation of a bill is not a waiver of any of the above rules.

5.5. Conditions for Mandatory Connection.

a. Properties with wells within the water district, which wells are otherwise lawful, shall not be required to connect to the District system, however, if the property connects to the public water system for a sprinkler system, the owner must connect the domestic water system as well. The owner must remove all piping and appurtenances to and from any well supply within that structure.



b. If a property is required to connect to the District system by Federal, State, or Local authorities, it may not again have a private drinking water well, unless the appropriate authorities approve of such well in writing.

c. All new construction or renovation (as defined by the State Building Code at the time of application) of commercial, residential, public, or private premises within the Water District must connect to the municipal water supply if the property abuts on any street, alley or right-of-way in which there is now located, or in the future may be located a municipal supply line. The owner is required, at their expense, to connect to the municipal water supply in accordance with the provisions of this article provided that said municipal water is determined to be accessible and available by the Water Superintendent.

#### 5.6 Standby and Minimum Charges.

a. The standby charge shall be annually determined as part of the District's budget process. The District shall adopt standards for when a standby charge shall be incurred.

b. The full standby annual minimum charge shall be assessed to customers reconnecting to the system.

c. All customers may be subject to a minimum charge.

d. Minimum charges shall be based on the annual fixed costs of District divided by the gallons sold in the third quarter of the previous year. The minimum charge shall be determined as part of the annual budget process.

e. The minimum charge for "public facilities", as defined in the sewer allocation regulations, shall be one quarter of the otherwise applicable minimum charge.

f. The minimum charge shall be credited against the usage charges otherwise applicable, but shall not be credited against allocation charges or penalties.

#### 5.7 Private Water Mains and Lines.

a. Any customer agrees to allow any other customer, within the Water District, to use a private water main line, which the customer may own, or which goes over or on its property, for connection to the water distribution system.

b. The Water District shall determine whether a private line is adequate to serve any additional customers. If it is adequate, then the new user of the line shall pay its proportionate share of the documented cost of the line to the owner of the line. The proportionate cost shall be mutually agreed to among the owner(s) and new customer(s); the Board shall act as final mediator as to the proportionate cost if needed.

c. In the event a private water main is inadequate or the condition of the line cannot be established, the Water District shall require improvement or replacement of the line, at the expense of the new user, with appropriate assessments to the abutters.

d. In the event of any dispute as to a private line, by the owner or proposed user, the Water District shall hold a hearing and make a determination on the amounts owed. Such determination shall be final and shall be treated as an assessment for purposes of appeal.

e. Extension of water lines in the public right-of-way: The Water District shall not allow private water lines to be installed under a public right-of-way. When new water service includes an extension of a water main, it shall be the responsibility of the person applying for water service to design and install the main in accordance with the Town of New Shoreham Utilities Standards, the Water District's



Rules and Regulations and with the approval of the Water Superintendent. After testing, and with approval of the Water Superintendent, private water lines shall become property of the Block Island Water Company.

f. Existing private water lines in public right-of-ways: The Water Superintendent shall determine whether the condition of private lines meet the prevailing standards of construction in order to preserve the quality of the municipal water supply in accordance with the RI Department of Health's principles. All costs for improvements to private lines shall be borne by those who are serviced by the line. All upgrades must provide lateral connections for future customers. The Water District reserves oversight approvals to designs, installations and contractors and may initiate improvements to water line at any time for the health and safety of its customers. Private water lines, tested and approved by the Water Superintendent, shall be turned over to the Block Island Water Company. Future customers connecting to this line shall follow the provisions regarding proportionate cost stated in section 5.7(b).

g. All customers on private water lines on private rights-of-way are responsible for the maintenance of that water line from the valve on the public water main to the termination point within the private right-of-way. Each location where multiple customers are attached to a private water line, an elected body, board, or association must assume liability for that private line. The Water District shall require a signed document stating the aforementioned stipulations prior to water service becoming available. The Block Island Water Company shall have a standard form of agreement for service that shall be used. The Water Superintendent may allow variances in the agreement language, consistent with these regulations.

h. The Water District reserves the right to shut off any private water main connected to the public water supply found to be deficient and/or until corrective action is taken.

## 6. TERMINATION OF SERVICE

6.1 Service may be discontinued, or suspended, for any one of the following reasons:

- a. Use of water for purposes other than described in the application.
- b. Misrepresentation in application.
- c. Willful wastes of water.
- d. Molesting District property or seals on appliances.
- e. For vacancy.
- f. Water service turned off to any property for non-payment of a bill shall not be reinstated until all financial obligations to the Water District for water service, meter charges, and other water service debts in connection with water service to the property have been paid in full.
- g. In the case of a customer who has outstanding past due bills, and is a more than twenty-five percent owner or in control of a legal entity making application for utility service, all past due bills, under whatever name incurred, shall be paid prior to connecting service.
- h. For cross connecting the District service pipe with any other supply source.
- i. Refusal of reasonable access to property.



j. Request for Turn-On: After a service has been shut off for any reason except repairs, the service shall not be re-established to the property unless the owner, or owner's authorized agent, submits a written or oral request for restoration of service to the Water District. The owner, or owner's authorized agent, must be present at said property at time of physical service reactivation.

6.2 The District may terminate service to a household in which all residents are sixty-five (65) years of age or older only after such District first notifies any appropriate agencies. At this time, only the Town Welfare Officer and the Mary D. Fund are known to be appropriate agencies.

6.3 When water has been turned off from any premises for any of the above reasons, or for any other violation of the District's rules, charges will be made for disconnecting and the restoration of service, to be paid in advance by the party requesting restoration of service. When water has been turned off at the customer's request for seasonal purposes, charges will be made for disconnecting and restoring service. These charges shall be set annually.

6.4 In case of vacancy of a customer's premise, the customer must notify the District in writing of such vacancy and upon his failure to do so, he will become responsible for any damage to the property of the Districts and/or the property of the customer arising from such failure.

6.5 In the event the District intends to suspend or terminate service, it shall give thirty days prior written notice and an opportunity to be heard before the Commissioners before suspension or termination. The appropriate staff persons shall review the situation to determine whether any error has been made or whether a reasonable time for payment should be granted.

6.6 Accounts sixty-days (60) past due will be sent a notice that "shut off" of service may be initiated and that a Municipal Lien Certificate has been filed and they are notified that they must respond to the Finance Office within ten-days (10) in order to prevent service being terminated. A customer, who does not respond, shall be sent a letter with a specific date to terminate service, ten-days (10). One day prior to termination, a shut-off notice, signed by the superintendent, shall be physically placed at the delinquent property.

6.7 The Water District shall have the right to cut off the water supply to make repairs, changes or connections to its mains and other equipment. It shall use reasonable effort to notify the customer in advance of such discontinuance of service, but it shall not be liable for any damage or inconvenience suffered by the customer because of such discontinuance of service, or because of failure to notify the customer in advance of its intention to discontinue service.

6.8 The Water District shall not be liable for any damage or inconvenience suffered by the customer as a result of interruption of service, quantity of supply, inadequate or changing pressure, quality of water, or any cause beyond its control.

6.9 The District shall have the right to reserve a sufficient supply of water at all times, in its storage resources, to provide for fire or any other emergencies, and may restrict or regulate the quantity of water used by its customers in case of scarcity, or whenever the public welfare may require it.

## 7. FIRE SERVICE

7.1 Applicants desiring private fire service should consult with the Water District as to the availability of such service.

a. The Water District has the right to determine the necessity for and the advisability of granting any application for this special service and has the right to determine the size of the service pipe which will be utilized. This will depend upon the size of the street main available, the available pressure and volume on the main, the impact on the existing customers, and capacity of the fire protection equipment within the building.



b. Any building/premise connecting to the public water supply for a sprinkler system as of April 12, 2005 is required to connect to the public supply for all uses and must remove all piping and appurtenance to and from any well supplies within that structure.

c. Connection between a fire protection water supply system shall be separate from the water supply for human consumption to any premises. Any fire protection water system shall be isolated from the domestic water supply system, in all premises, to prevent any possibility of contamination of the domestic water supply.

**7.2 Inspection of Fire Service:**

a. All fire services shall be subjected to periodic inspection by an authorized representative of the Water District. The property owner shall give the District representative assistance and use of the facilities for making this survey, and provide any information that the District representative may need to complete his/her inspection requirements.

b. Violation of any of the rules governing fire supplies may result in immediate termination of service.

7.3 Water from fire hydrants or other fire systems shall be used only for fire protection purposes, except that water from public fire hydrants may be used in a reasonable amount and at such times as the Superintendent may permit, for testing the hydrants and fire fighting apparatus. Such test to be conducted only by the properly authorized agents of the Block Island Volunteer Fire Department after the consent of the Superintendent has been obtained and back flow prevention is in place. No pumps are permitted to be connected with the water pipes to draw water directly from any main or service pipe, except for fire purposes, without specific permission from the Superintendent.

7.4 The Block Island Volunteer Fire Department shall use the fire hydrants with reasonable care and shall compensate the Water District for any injury which may result from any carelessness or negligence on the part of any officer, servant or agent of the Town, or any member of the Fire Department using the same.

**8. GENERAL**

8.1 No customer, unless specially authorized to do so, shall open or close any of the District's stopcocks or valves in any public or private line.

a. No person shall break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment. Any persons violating this provision shall be subject to immediate arrest under the appropriate criminal charge and is liable for all damages caused through his actions as aforesaid.

8.2 No agent or employee of the District shall have the right or authority to bind it by any promise, agreement or representation, contrary to the letter or intent of these Regulations.

**8.3 Cross Connections Strictly Prohibited:**

a. No person shall cause a physical connection to be made between the Water District water supply and any other water supply for any purpose.

b. No plumbing fixtures, devices, or construction shall be installed which may provide a cross connection between the Water District supply and a drainage system, soil or waste pipe, so as to permit or make possible the backflow of sewage or waste into the supply system. Draw-off pipes for draining sprinkler systems shall not be connected into a drainage system or a submerged pit.



c. If the Water District water supply is delivered to a tank that is also supplied with water from any other source, the tank shall be open to atmospheric pressure and the Water District water supplied above the maximum level in the tank. The tank shall be equipped with an overflow pipe of ample size to ensure a fixed maximum water level. There shall be at least a 6-inch air gap between the invert of the pipe supplying Water District water and the maximum level of water in the tank.

#### 8.4 Requirements for Backflow Prevention:

a. All commercial and industrial users shall be equipped with reduced pressure zone backflow preventor of a testable type immediately downstream of the water meter. Prior to installation and service activation, the Water District shall determine style and type.

b. High and moderate hazards to the system are to be protected through the installation of a reduced pressure zone type of backflow device assembly. High and moderate hazard uses include, but not limited to the following: nursing home, clinic, hotel, laboratory, film processing, food processing, restaurant, irrigation systems, hair salon, sewage treatment, chemical fire protection, or any commercial building with the ability for occupancy changes.

c. Low hazards are to be protected by the installation of a double or dual check valve backflow device assembly. Low hazard operations include, but not limited to single-family residential structures.

d. In all cases, backflow prevention shall be installed and be operational prior to connection to the Water District's system. Commercial connections shall be equipped with a reduced pressure zone style backflow preventer in order to isolate the public water system prior to service connection. Valves shall be located on both sides of the backflow preventer with drain or test plug on the valve located between the meter and backflow device.

e. It is required that applicant's professional engineer review all piping within any proposed development building or industrial facility and identify locations where isolation backflow preventers will be needed to protect the water supply from potential contamination.

f. All residential units and marinas must be equipped with double or dual check valve on the effluent side of the meter and non-removable vacuum breakers on all outside hose bibs prior to service connection and meter installation. Style shall be non-removable self-draining types.

g. All commercial or residential lawn sprinkler systems must be provided with an appropriate pressure backflow device assembly where the system connects to water supply. It shall be in a location that is always free draining and cannot be submerged.

h. All permanently connected fire sources and private hydrants shall be equipped with isolation type reduced pressure backflow preventers of a testable type (i.e., RPZ). Backflow prevention may be incorporated into the meter system piping. The device shall be placed in a location that is protected from damage by frost.

i. Installations that require additional backflow prevention are outlined in the New Shoreham Utilities Standards which were adopted by the Board and should be referred to for further information and requirements.

j. Installation of a backflow device assembly will prevent release of on site pressure to the utility water mains. It is mandatory a thermal expansion device be properly installed pursuant to all government plumbing codes to relieve any excessive increase in on site pressure due to hot water heating systems or other activities systems.

k. The installer and/or owner of the facility must employ the OSHA confined Space Entry Requirements and shall have OSHA Safety Rules and required safety equipment available whenever



anyone must enter the pit. In all cases, the backflow prevention device assembly site shall be easily accessible for testing and/or repair. Federal Occupational Safety and Health Administration rules, regulations and statutes are incorporated by reference and made a part herein.

8.5 In the event that any section or subsection of these regulations is held unlawful, then all other provisions shall remain in full force and effect unless it shall be inconsistent with the overall purpose of a section.

8.6 All regular locate requests to locate Water Company infrastructures shall be performed by any operator are to be conducted under the in compliance with DIGSAFE system standards and regulations.

a. Excavations within the boundaries of the New Shoreham Water District are to be conducted only during normal working hours unless otherwise approved by the Water Superintendent at least 72 hours ahead of the scheduled excavation, unless it is an emergency. Normal workings hours are Monday through Friday, 7:00 AM to 3:00 PM - excluding Town of New Shoreham holidays. No work can continue beyond this time without the approval of the Water Company.

Advisory: NS Town Council, September 12, 2001 with change.

Posted: September 21, 2001

Public Hearing: September 25, 2001

Adopted: September 25, 2001

Effective: September 25, 2001

Amended: January 8, 2002

Amended: May 6, 2003

Amended: June 11, 2003

Amended: April 12, 2005

Amended: September 13, 2005

Amended: April 18, 2006

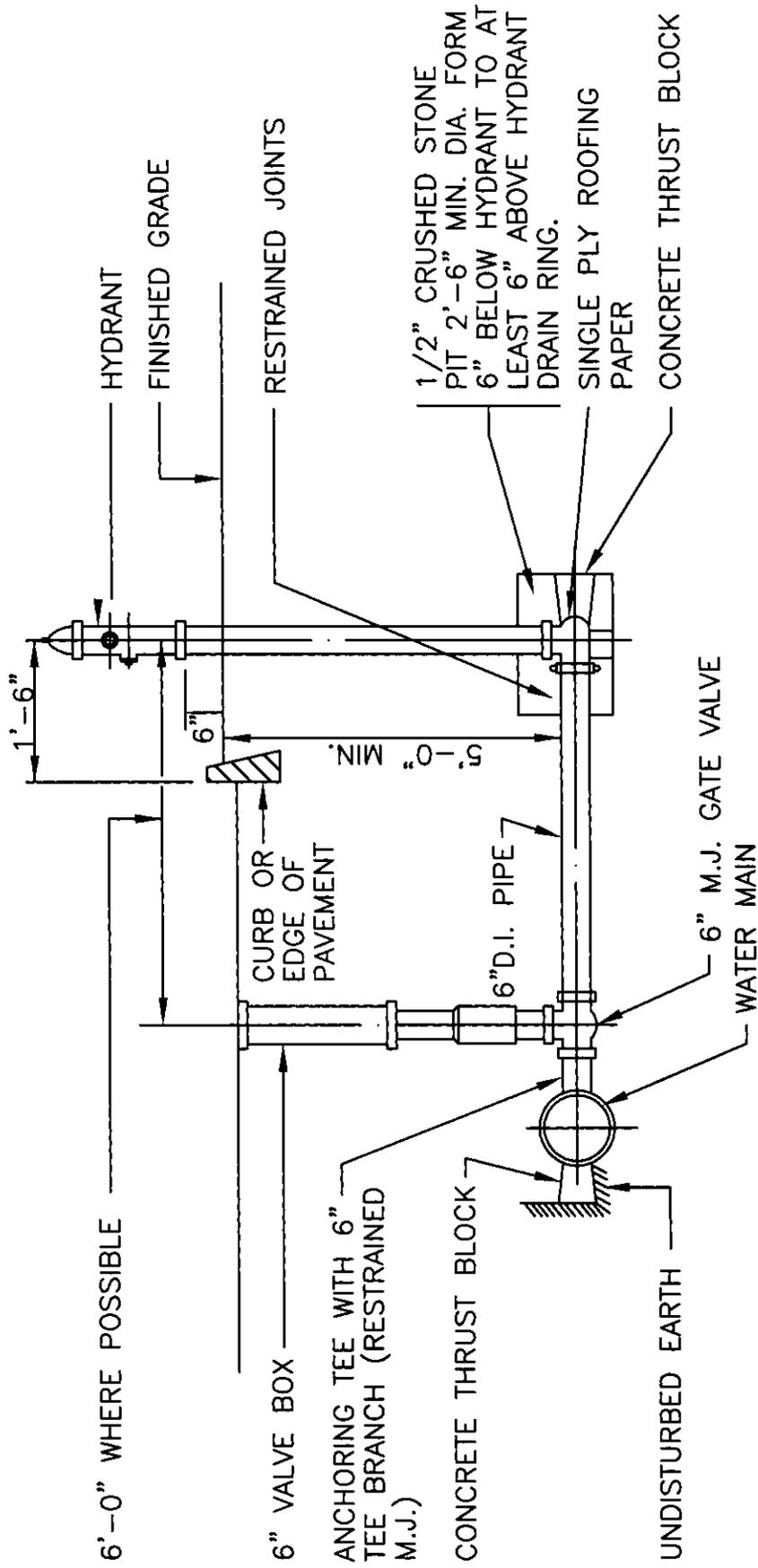
Amended: January 9, 2007

Attest: Janet Ziegler, NS Water District Clerk

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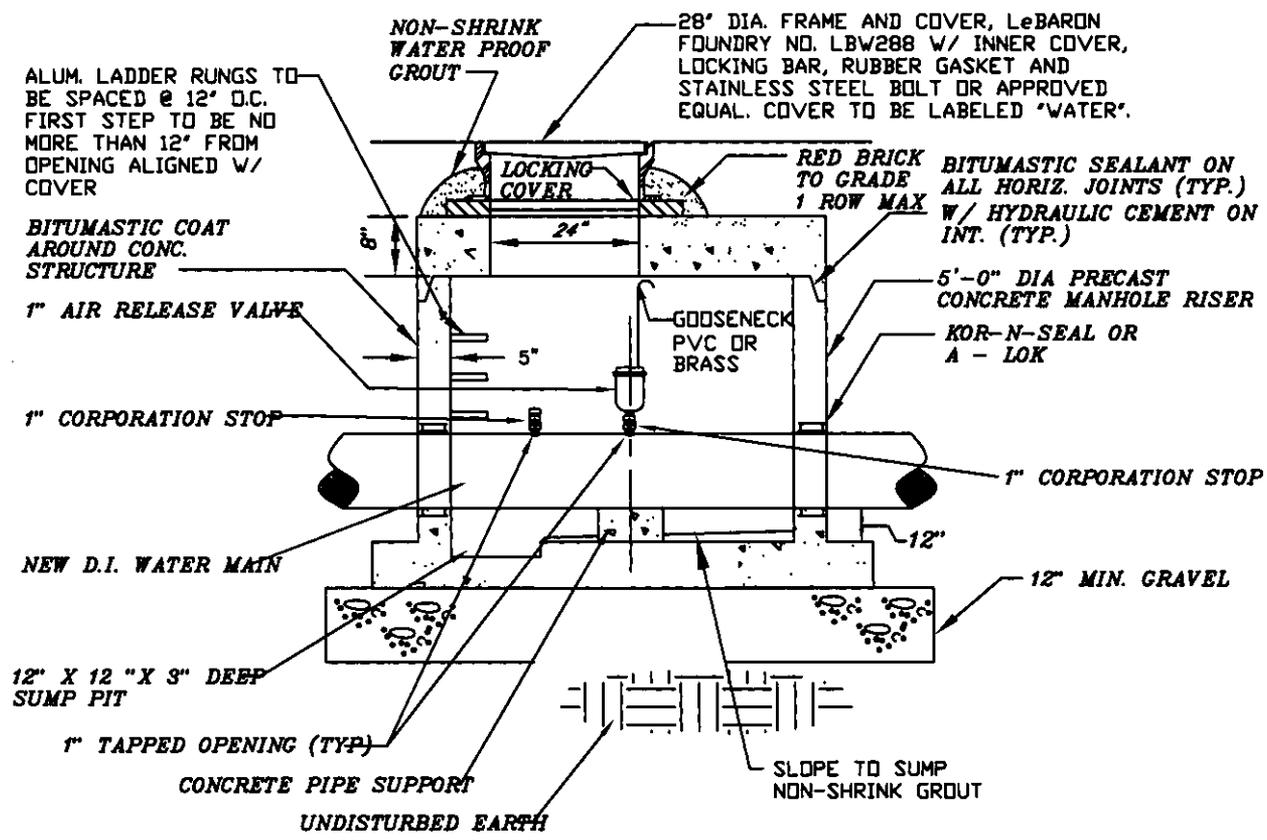
*WATER REQUIREMENTS*

*DETAILS*



### Town of New Shoreham Water Regulations

### TYPICAL HYDRANT DETAILS

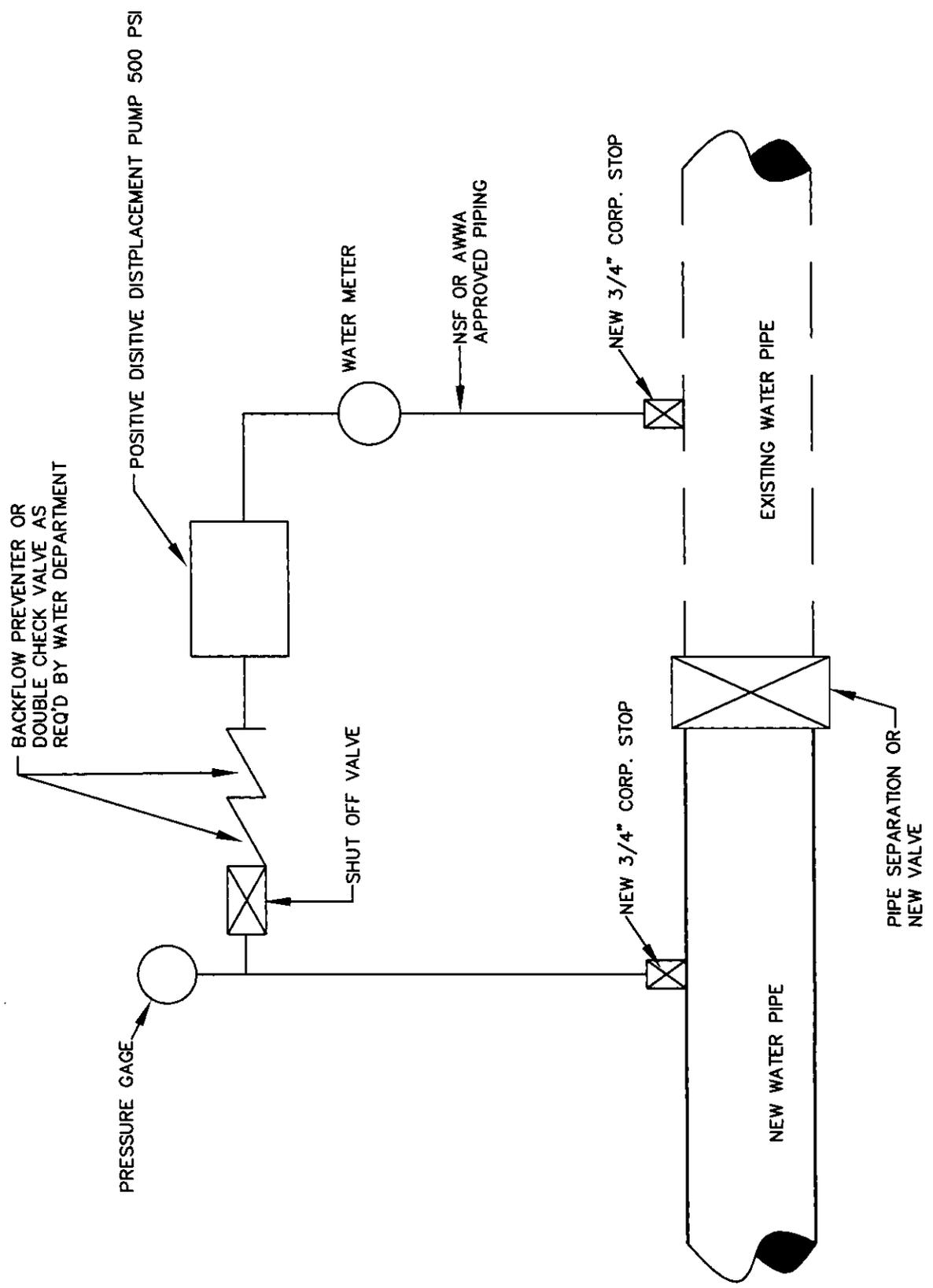


Town of New Shoreham  
Water Regulations

AUTOMATIC AIR RELEASE MANHOLE

Date: 01-07 | NOT TO SCALE | FIG: W-2

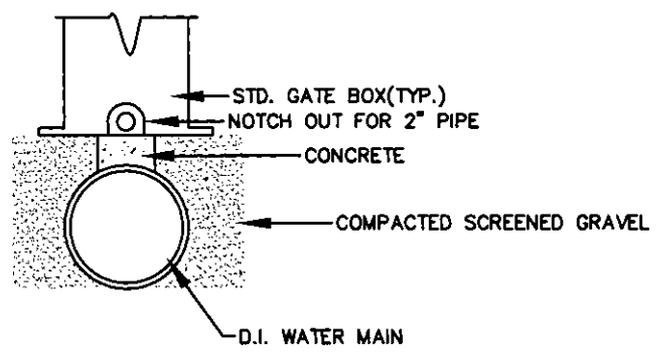
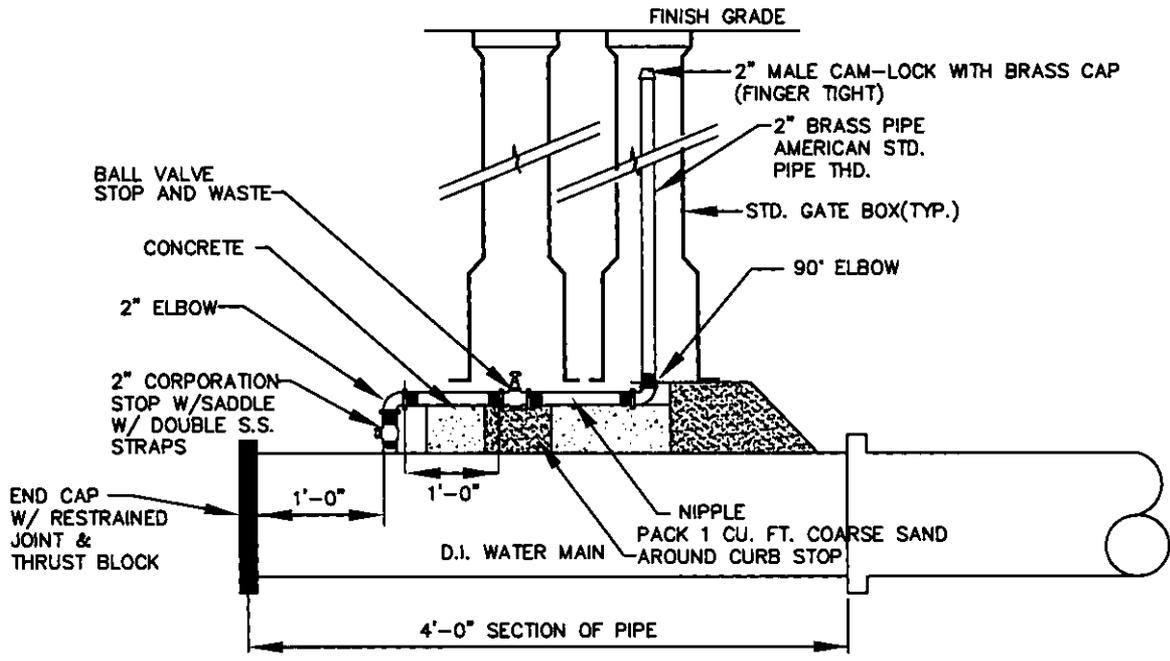
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**Town of New Shoreham**  
**Water Regulations**

**WATER TESTING DETAIL**

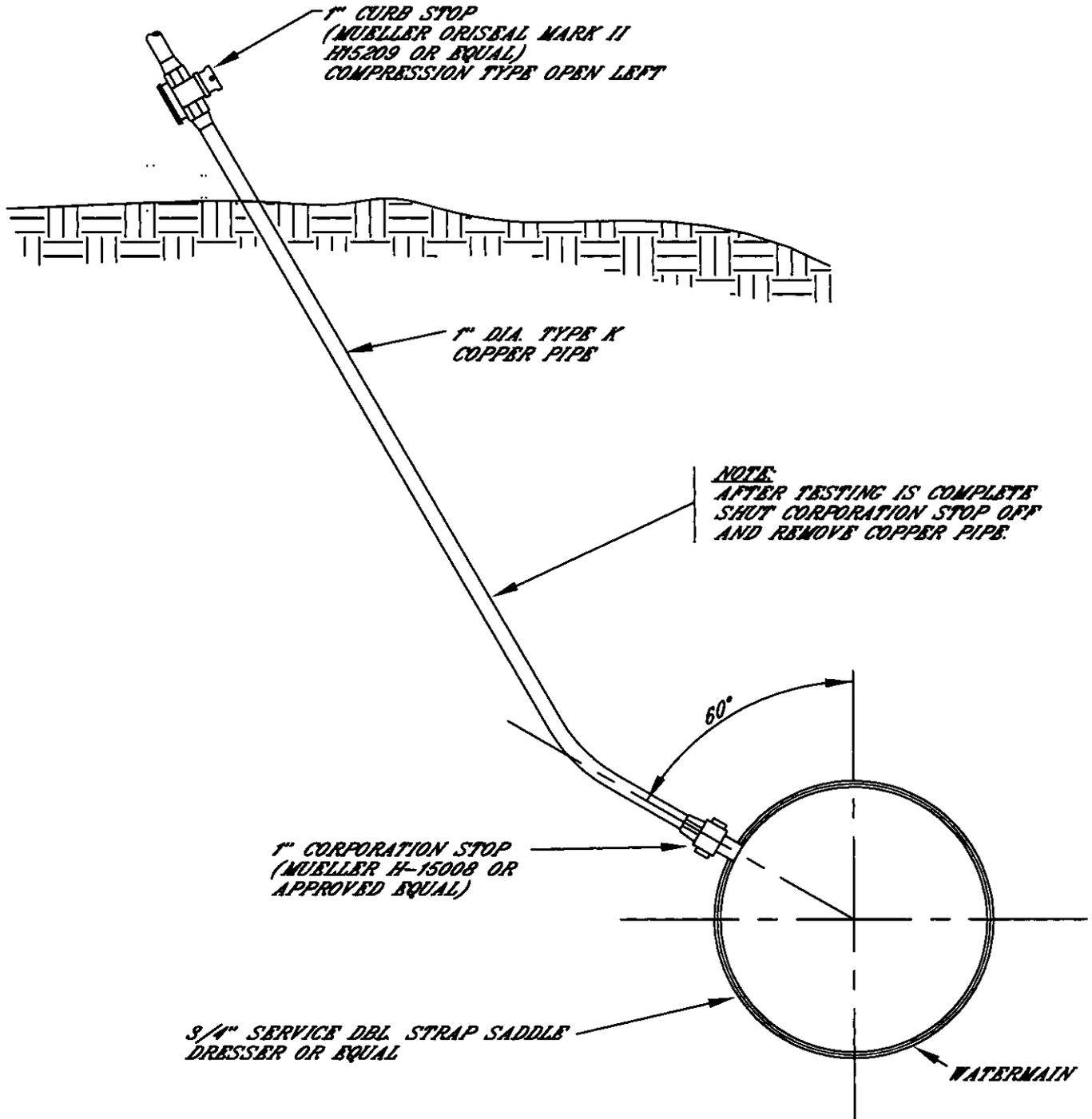
Date: 01-07 | NOT TO SCALE | FIG: W-3



*Town of New Shoreham  
Water Regulations*

*PERMANENT BLOW-OFF ASSEMBLY*

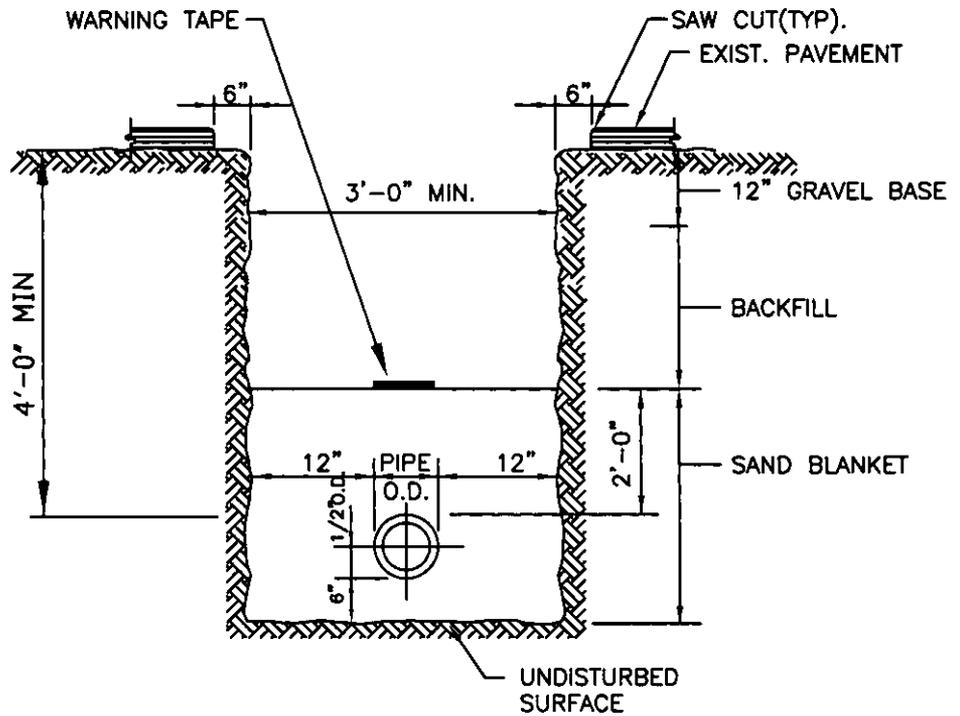
Date: 01-07 | NOT TO SCALE | FIG: W-4



*Town of New Shoreham  
Water Regulations*

*TEMPORARY BLOW-OFF DETAIL*

Date: 01-07 | NOT TO SCALE | FIG: W-5



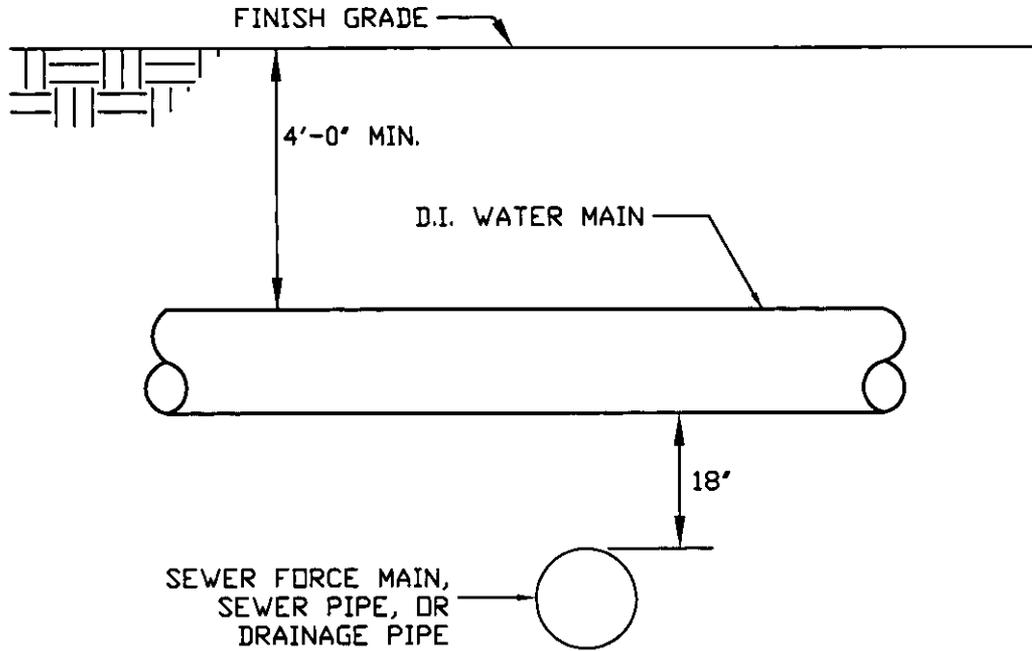
PRINTED: 11-04 ONLY ISSUES: 04/09-2/04/09 REVISION: 1-05



**Town of New Shoreham**  
**Water Regulations**

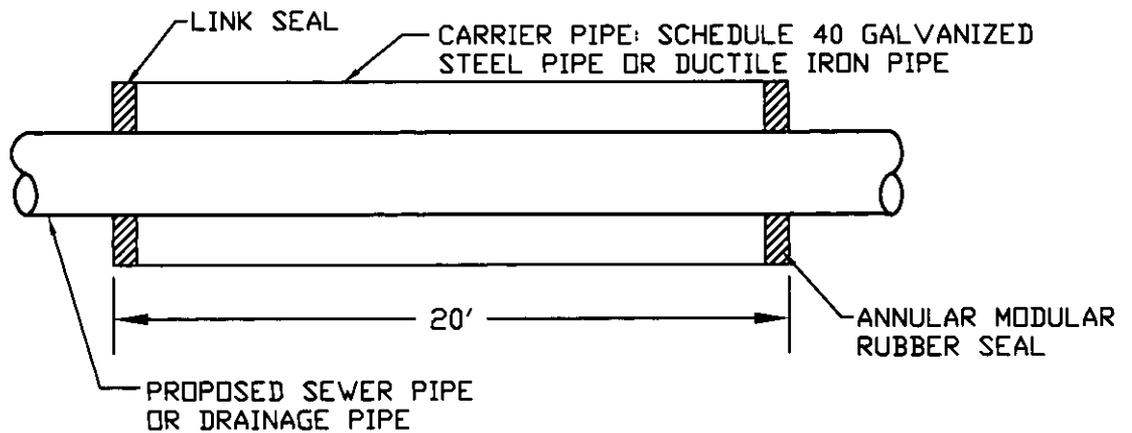
**WATER MAIN TRENCH DETAIL**

Date: 01-07 NOT TO SCALE FIG: W-6



**NOTES:**

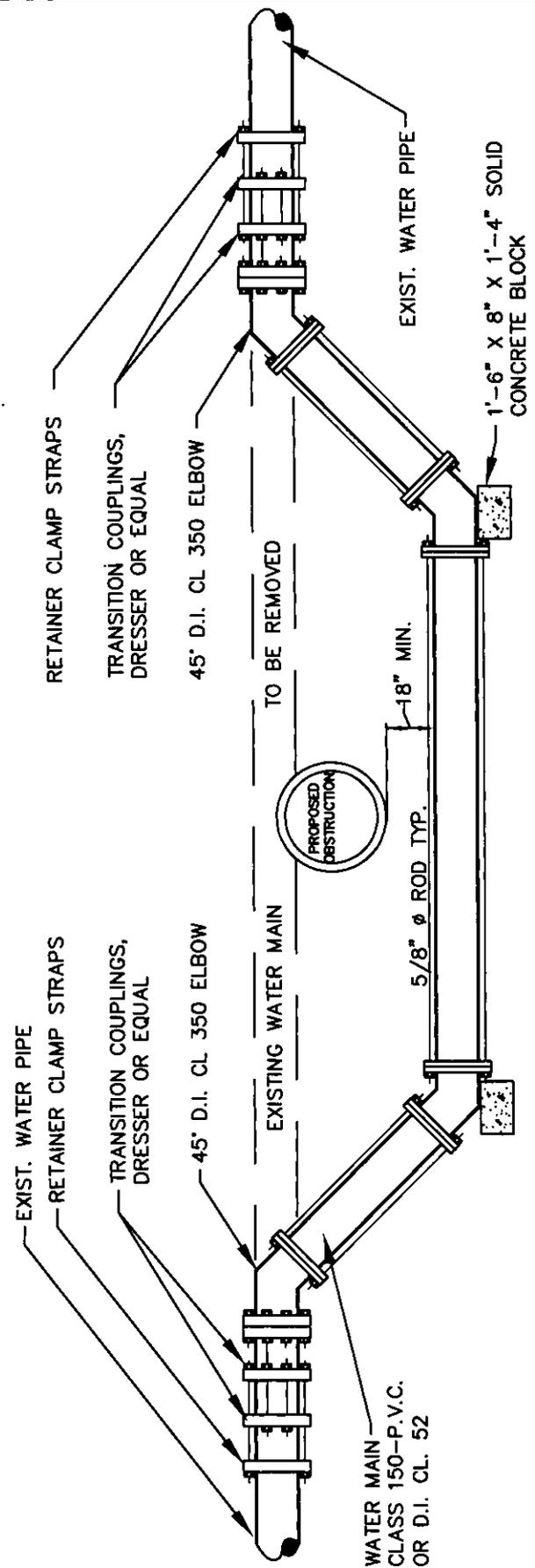
1. THE VERTICAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 18 INCHES.
2. THE HORIZONTAL SEPARATION BETWEEN THE WATER MAIN AND THE PROPOSED UTILITY SHALL BE A MINIMUM OF 10 FEET.
3. IF 1 OR 2 CANNOT BE MAINTAINED THE PROPOSED UTILITY SHALL BE INSTALLED WITHIN A CARRIER PIPE UPON WRITTEN APPROVAL BY THE B.I.W.C.
4. SEWER MAIN AND SERVICES ARE NOT ALLOWED TO CROSS OVER THE TOP OF WATER MAIN.
5. CONCRETE ENCASEMENT IS NOT ALLOWED.



**CARRIER PIPE DETAIL**



FOR TRENCH SPECIFICATIONS REFER TO:  
"TYPICAL PIPE BEDDING AND TRENCH DETAILS"



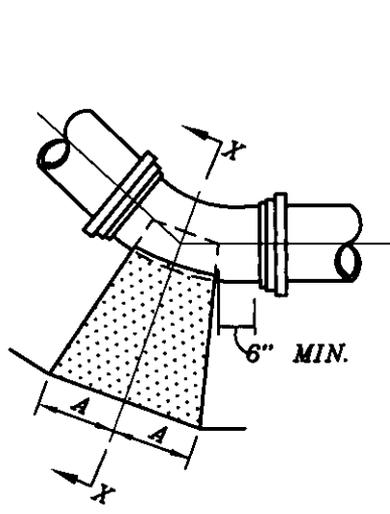
NOTE:  
ALL RODS TO BE 5/8" DIAMETER  
AND COATED WITH BITUMISTIC



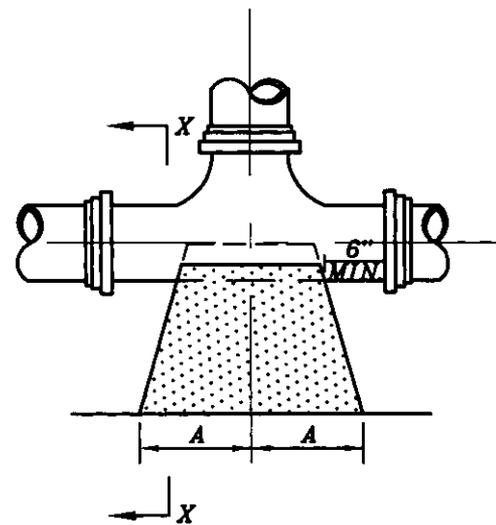
### Town of New Shoreham Water Regulations

### WATER MAIN HORIZONTAL OR VERTICAL RELOCATION

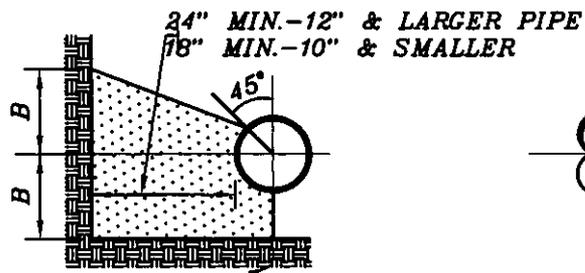
Date: 01-07 | NOT TO SCALE | FIG: W-8



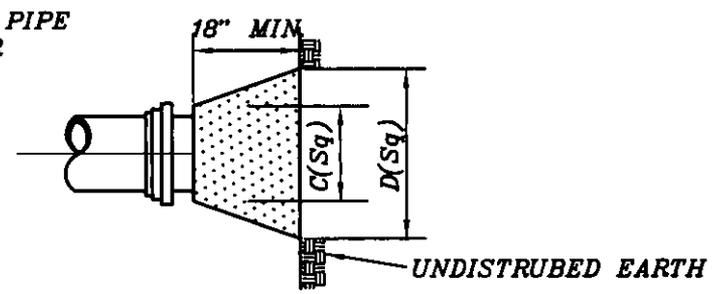
PLAN  
BENDS



PLAN  
TEES



SECTION X-X  
BENDS & TEES



PLAN & ELEVATION  
PLUGS

| TYPE                    | SIZE | 1/4 BENDS |     | 1/8 BENDS |     | 1/16 BENDS |     | TEES |     | PLUGS |     |
|-------------------------|------|-----------|-----|-----------|-----|------------|-----|------|-----|-------|-----|
|                         |      | A         | B   | A         | B   | A          | B   | A    | B   | C     | D   |
| TYPE 1<br>4000 PSF SOIL | 6"   | 5"        | 10" | 6"        | 8"  | 3"         | 8"  | 8"   | 8"  | 10"   | 15" |
|                         | 8"   | 12"       | 12" | 8"        | 10" | 5"         | 9"  | 9"   | 12" | 12"   | 20" |
|                         | 10"  | 16"       | 14" | 10"       | 12" | 6"         | 10" | 11"  | 14" | 14"   | 25" |
|                         | 12"  | 19"       | 16" | 12"       | 14" | 8"         | 11" | 14"  | 16" | 16"   | 30" |
|                         | 14"  | 23"       | 18" | 14"       | 16" | 10"        | 12" | 16"  | 18" | 18"   | 34" |
| TYPE 2<br>2000 PSF SOIL | 6"   | 16"       | 10" | 9"        | 10" | 6"         | 8"  | 10"  | 12" | 10"   | 21" |
|                         | 8"   | 22"       | 13" | 12"       | 13" | 8"         | 10" | 13"  | 16" | 12"   | 29" |
|                         | 10"  | 26"       | 17" | 14"       | 17" | 10"        | 13" | 16"  | 20" | 14"   | 36" |
|                         | 12"  | 29"       | 21" | 16"       | 21" | 11"        | 16" | 18"  | 24" | 16"   | 41" |
|                         | 14"  | 35"       | 24" | 19"       | 24" | 12"        | 20" | 22"  | 27" | 18"   | 48" |
|                         | 16"  | 38"       | 27" | 21"       | 27" | 12"        | 24" | 24"  | 30" | 20"   | 54" |

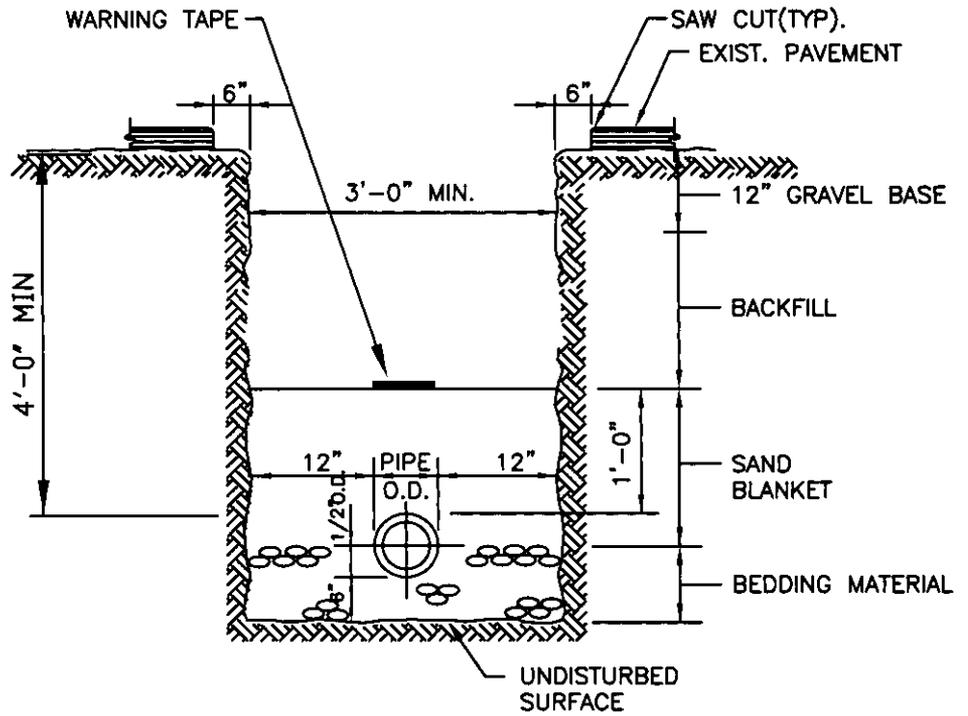
*THRUST BLOCKS*



Town of New Shoreham  
Water Regulations

THRUST BLOCKS

Date: 01-07 | NOT TO SCALE | FIG: W-9



PRINTED: 11-01 FILE NUMBER: WATER-PLUMBING-DESIGN: 1-05

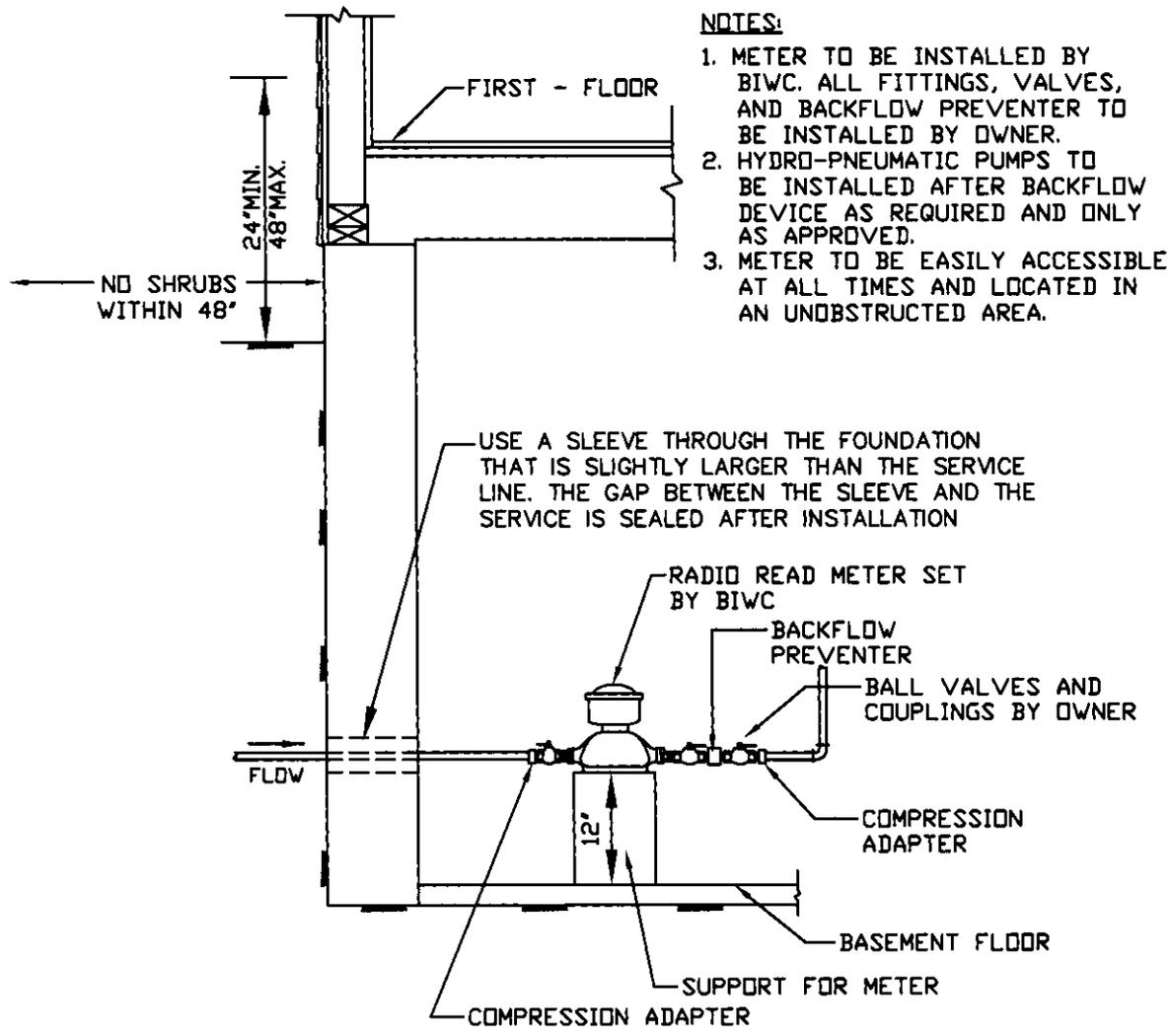


**Town of New Shoreham**  
**Water Regulations**

**WATER SERVICE TRENCH DETAIL**

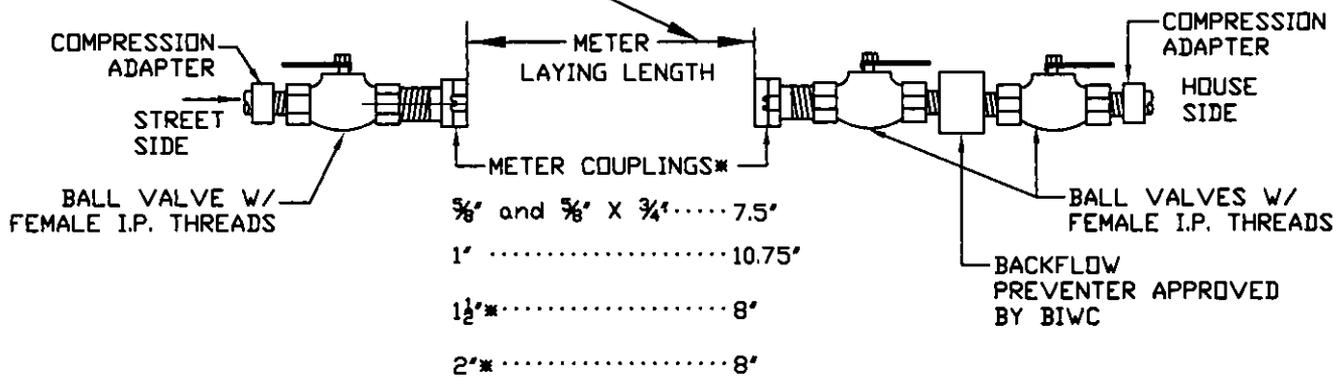
Date: 01-07 | NOT TO SCALE | FIG: W-10





**WATER METER INSTALLATION**

THE METER LAY LENGTH SHOULD NOT INCLUDE THE METER COUPLINGS



\*NOTE: METERS GREATER THAN ONE INCH REQUIRE FLANGED ENDS

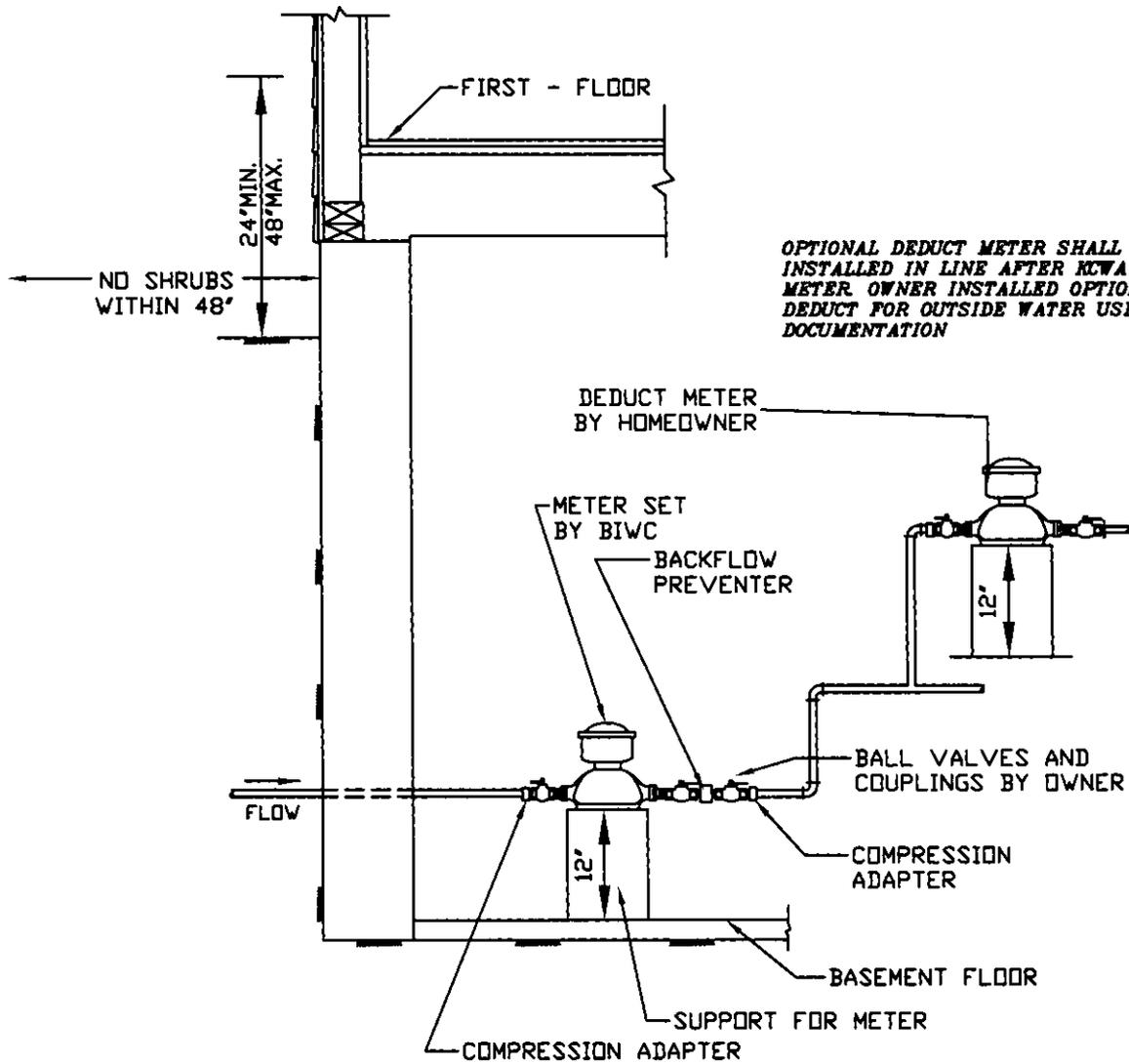
**WATER METER SETTINGS WITH FITTINGS**



*Town of New Shoreham  
Water Regulations*

**WATER METER**

PRINTED: 11-04 FILE NUMBER: 0000000000

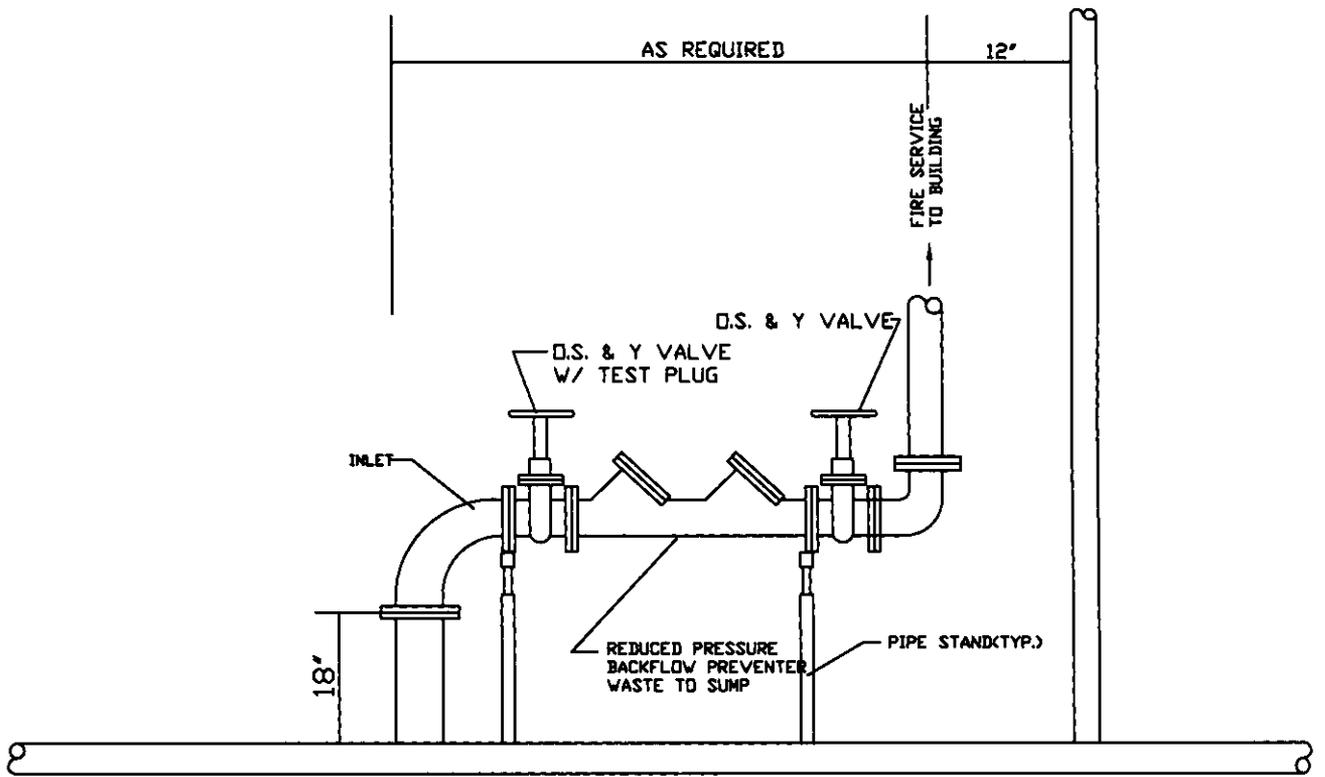


OPTIONAL DEDUCT METER SHALL BE INSTALLED IN LINE AFTER KCWA METER. OWNER INSTALLED OPTIONAL DEDUCT FOR OUTSIDE WATER USE DOCUMENTATION



*Town of New Shoreham  
Water Regulations*

*DEDUCT METER INSTALLATION  
HOMEOWNERS RESPONSIBILITY*

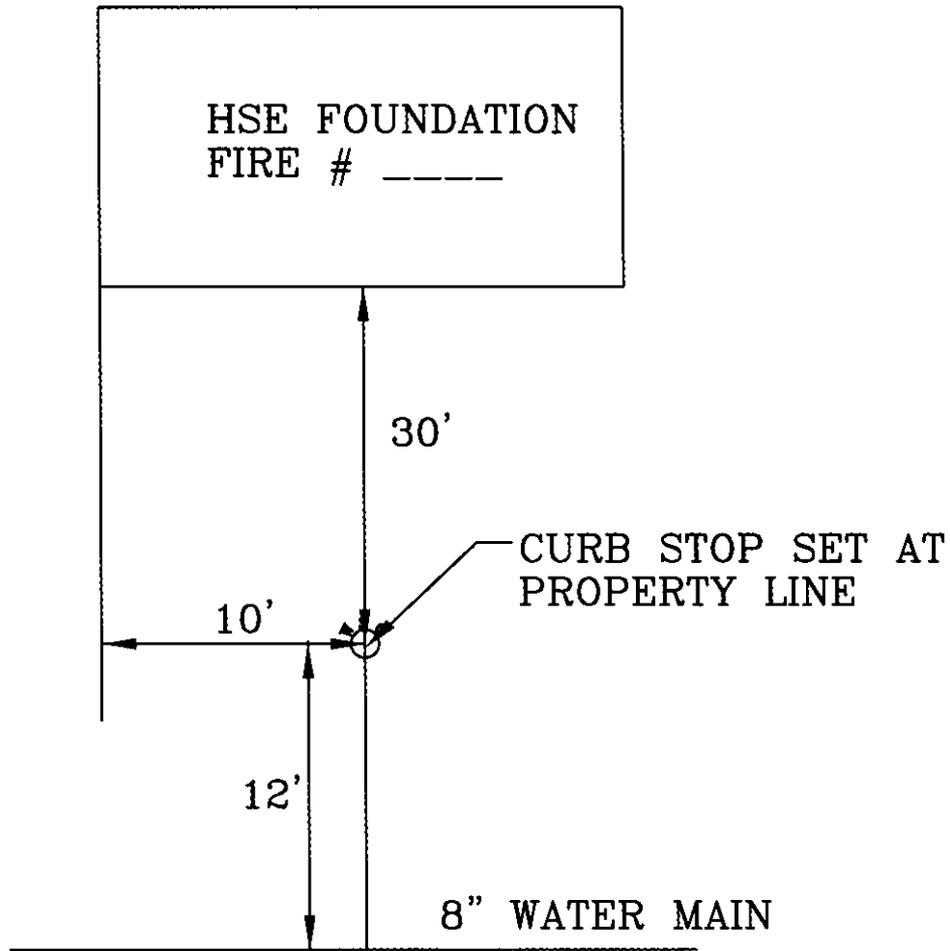


*Town of New Shoreham  
Water Regulations*

*ABOVE GRADE FIRE INSTALLATION*

Date: 01-07 | NOT TO SCALE | FIG: W-14

EXAMPLE OF HOUSE  
SERVICE AS- BUILTS



DEPTH OF MAIN = 4'  
STANDARD SIZE OF SERVICE = 1"



*Town of New Shoreham*  
*Water Regulations*

*AS-BUILT EXAMPLE FOR WATER SERVICE*

Date: 01-07 | NOT TO SCALE | FIG: W-15