

Town of LaGrange Requirements for Connection to Town Water Systems, Water Meters and Backflow Prevention

Addendum as of 2/13/25 by
DCDOH:
All water service lines are to
be buried 5 feet below grade
to top of pipe

November 11, 1998
Revised December 2, 1998
Revised July 12, 1999
Revised October 31, 2008

Prepared for:
Town of LaGrange
120 Stringham Road
LaGrangeville, New York 12540

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**TOWN OF LAGRANGE
REQUIREMENTS FOR
CONNECTION TO TOWN WATER SYSTEMS,
WATER METERS,
AND BACKFLOW PREVENTION**

TOWN OF LAGRANGE
120 STRINGHAM ROAD
LAGRANGEVILLE, NEW YORK 12540

1.0 INTRODUCTION

The purpose of this document titled Requirements for Connection to Town Water Systems, Water Meters, and Backflow Prevention is to provide the requirements for connection to Town of LaGrange public water systems. Each proposed water user is required to submit an application to the Town for hook-up to a Town public water system. Backflow prevention, which is also known as cross connection control, is required to safeguard the public water system potable water supply from potential contamination by preventing backflow from a consumer's water system into the public water system. This program has been constructed so as to comply with the requirements of the New York State Sanitary Code, Part 5, Section 5-1.31. The program establishes the roles and responsibilities of the water supplier, the Town of LaGrange and the water user, and provides requirements. Water meter installation requirements are also described within this document.

The water connection program's description and requirements are presented in subsequent sections. Steps for application for water hook-up are described in Section 2.0. Definitions of key words are in Section 3.0. Requirements for determining the proposed water user's degree of hazard are in Section 4.0. Steps for receiving the Town's approval of a backflow prevention device are described in Section 5.0. Requirements for backflow device plans and specifications are in Section 6.0. Detailed instructions for submitting plans are described in Section 7.0. All submissions shall comply with the General Notes of Section 8.0.

2.0 APPLICATION FOR WATER HOOK-UP, AND PURCHASE AND PLACEMENT OF METERS

2.1 General

Each proposed water user is required to submit an application to the Town of LaGrange for hook-up to a Town public water system. Application shall be made to the Town Administrator of Public Works by submission of the form "Application For Water Hook Up". The Town of LaGrange shall evaluate the degree of hazard that a facility poses to the public water supply system as described in Section 4.0. Non-hazardous facilities shall be subject to the "Water Hook-Up Construction Requirements for Single Family Dwelling". Hazardous and aesthetically objectionable facilities shall be subject to the Cross Connection Control Program. (See Section 5.0 Submission and Approval for Cross Connection Control Program.)

Water connection for a facility deemed hazardous or aesthetically objectionable will require the installation of a reduced pressure zone (RPZ) or double check valve (DCV) assembly per the Town of LaGrange Standard Water Connection Details (Figures). Facilities installing a service that is not in compliance with the Standard Water Connection Details (i.e. larger than 2" or a RPZ or DCV in a pit or shelter outside the facility served) will require detailed design by a New York State Licensed Professional Engineer or Architect. The procedure for the water connection application process for hazardous or aesthetically objectionable facilities is summarized within the Flow Chart for submission and approval for the cross connection control program. The process requires review by the Town and the Dutchess County Department of Health (DCDH) unless the applicant proposes a backflow prevention device that appears on the New York State Department of Health (NYSDOH) list of approved backflow prevention assemblies in Technical Reference PWS-14.

In that case, review by DCDH will not be required because DCDH approved the use of the backflow prevention devices that are listed in PWS-14. The Town Engineer will review applications that do not comply with the Standard Water Connection Details and Notes on behalf of the Town, and inform DCDH of the applications by providing a copy of the review to DCDH. It is necessary for DCDH to know when a former "private" public water supply ceases to exist due to connection to a municipal water system, so that DCDH does not unknowingly issue notices of non-compliance to a system that is no longer a public water supply.

Water connection for single-family residence facilities and non-hazardous commercial facilities will require submission of a completed water connection application only.

2.2 Non-hazardous Facilities

Non-hazardous facilities are typically single family dwellings (See Section 3.0 Definitions, and Section 4.0 Determining the Degree of Hazard). Non-hazardous facilities shall comply with the Water Hook-Up Construction Requirements for Single Family Dwellings as described Appendix A.

2.3 Hazardous and Aesthetically Objectionable Facilities

Hazardous and aesthetically objectionable facilities are typically complex multi family dwellings, commercial and industrial facilities (See Section 3.0 Definitions, Section 4.0 Determining the Degree of Hazard). Hazardous and aesthetically objectionable facilities shall be required to have the appropriate backflow prevention device (Reduced Pressure Type or Double Check Valve) installed. The proposed water user shall be subject to the Cross Connection Control Program and shall comply with Section 5.0.

2.4 Disconnection of Existing Individual Water Supply

All proposed water users shall be required to disconnect any existing individual water supply sources (e.g. groundwater wells) from the potable household and/or building plumbing. No interconnection between the Town's public water system and any other water supply is permitted by the Health Department.

Single Family Dwellings may be allowed to maintain their existing wells for outside irrigation purposes only upon notification of intent to do so and approval by the Town's Administrator of Public Works and inspection of plumbing by the Town's Water System Operator.

2.5 Purchase of Water Meters, Meter Yokes, and Adapters

All 5/8 inch by 3/4 inch; 1 inch; 1½ inch; and 2 inch water meters are to be purchased from the Town. Larger meters are to be purchased from a private distributor.

For 5/8 inch by 3/4 inch meters, a 5/8 inch meter yoke including valve and dual check valve, and a 3/4 inch adapter is also to be purchased from the Town.

For 5/8 inch by 1 inch meters, a 5/8 inch meter yoke including valve and dual check valve, and a 1 inch adapter is also to be purchased from the Town.

For 1½ and 2 inch services, no meter yoke is required, and the applicant is responsible for any necessary pipe and fittings (i.e. adapters) and back flow prevention device.

2.6 Issuance of Meters, Meter Yokes and Adapters

For single-family residences, the Town Administrator of Public Works is to issue the permit with a meter yoke including valve and dual check. The Contractor is to complete the installation of all necessary internal plumbing. Then, the meter is to be issued and installed by the Town's Water System Operator, prior to the internal plumbing inspection by the Town Building Inspector or Town's Water System Operator.

2.7 Location of Meter and Remote Readout Device

All water service lines that require more than one joint in the "K" copper tubing or High-density Polyethylene (HDPE) tubing require that the meter be installed in a meter vault near the property line with accessible remote readout.

All other meters are to be installed in an interior building location that is easily accessible for servicing. For these installations, remote readout device is to be installed exterior to the building at eye level, adjacent to the electrical meter in a location that is not obstructed from pedestrian access. Wiring to the remote readout is to be completed using 19 gage wire. PLEASE NOTE: Meters and Remote Readout Devices are now installed inside

2.8 Working Pressure within Town Water System

Upon request, the Town Water System Operator can provide an estimate of anticipated system pressure for an area of contemplated connection. Unless documented that operating pressures will be below 75 psi under all operating conditions, a pressure reducing valve is to be installed.

2.9 Flush Service Lines Prior to Placing Meter

It is required that prior to placing a new meter, the water service line is to be flushed to avoid clogging new meters. If a new meter becomes clogged, there will be a service charge to replace it.

2.10 Inspections

The water connection applicant is required to arrange for required inspections by Town Officials at the required stages. A minimum of two (2) business days prior notice is required for each inspection, as described below.

- a. The wet tap on the Town's watermain is to be completed by an experienced contractor and observed by the Town Water System Operator and Town Administrator of Public Works.
- b. The installed corporation stop, shut off valve, and service pipe in trench is to be observed by the Town Water System Operator, before the trench is backfilled.
- c. Testing of the service line is to be observed by the Town Water System Operator, prior to backfilling, where all joints are to be exposed.
- d. Placement of the meter, into the completed internal plumbing, is to be done by the Town Water System Operator.
- e. Internal plumbing inspection is to be by the Town Building Inspector and/or Town's Water System Operator.

2.11 Meter Reading

New meters will be read quarterly by the Town Water System Operator.

2.12 Pipe Type for Service Water Service Lines

External house service piping is to be type "K" soft annealed copper tube or HDPE (SDR 9) tube with tracer wire. Minimum size is to be ¾ inch "K" Copper for up to 150 feet or ¾" HDPE (SDR 9) for up to 100 feet. Maximum available lengths of rolled copper or HDPE tubing are to be used to minimize required joints. For non-residential applications with larger service line requirements, "K" copper, ductile iron, or HDPE (SDR 9) pipe is to be used.

2.13 Internal Cross Connection Control

When a non-residential facility is to house more than one tenant and use, internal backflow prevention devices will be required to contain potential contamination within the water system of each tenant space. This requirement is to be in addition to the requirements for cross connection control for the overall facility.

3.0 DEFINITIONS FOR CROSS CONNECTION CONTROL

The following definitions are used in cross connection control:

- 3.1 **Acceptable Backflow Prevention Device** - An air gap, RPZ device or DCV assembly as used to contain potential contamination within a facility that is acceptable to the New York State Department of Health (NYSDOH) as published in technical reference PWS-14.
- 3.2 **Acceptable Devices** - Devices or assemblies found to be acceptable for containment control in New York State in accordance with the New York State Department of Health requirements, published in technical reference PWS-14.
- 3.3 **Aesthetically Objectionable Facility** - A facility in which substances are present, which if introduced into the public water supply system could be a nuisance to other water customers, but would not adversely affect human health. Typical examples of such substances are: food-grade dyes, hot water, stagnant water from fire lines in which no chemical additives are used, etc.
- 3.4 **Air Gap Separation** - The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, pressure relief valve or other device and the flood level rim of the receptacle. The differential distance shall be at least double the diameter of the supply pipe. In no case shall the air gap be less than one (1) inch.
- 3.5 **Backflow** - A flow condition, induced by a differential in pressure, that causes the flow of water or other liquids and/or gases into the distribution pipes of a public water supply from any source other than its intended source.
- 3.6 **Backpressure** - The resulting backflow of contamination, polluted, or otherwise unacceptable quality water from a plumbing fixture or other customer source(s) into a public water supply system due to a greater pressure within the customer's water system.
- 3.7 **Backsiphonage** - The backflow of contaminated or polluted water, or water of questionable quality from a plumbing fixture or other customer source(s), into a public water supply system main due to a temporary negative or sub-atmospheric pressure within the public water supply system.

- 3.8 Containment - Cross-connection control which isolates the customer's entire facility from the public water system so as to provide the protection necessary to prevent contamination of the public water supply in the event of backflow from the customer's facility.
- 3.9 Contamination - The presence in water of a substance that tends to degrade its quality.
- 3.10 Cross-Connection - A physical connection through which a public water supply could be contaminated.
- 3.11 Customer - A water user served by a public water system.
- 3.12 Degree of Hazard - Whether a facility is rated as Hazardous, Aesthetically Objectionable, or Non-Hazardous.
- 3.13 Double Check Valve (DCV) Assembly, Acceptable - Two single independently acting check valves, including tightly closing shutoff valves located at each end of the assembly and suitable connections for testing the watertightness of each check valve, that is acceptable to the NYSDOH.
- 3.14 Hazardous Facility - A facility in which substances may be present which if introduced into the public water system would or may endanger or have an adverse effect on the health of other water customers. Typical examples: laboratories, sewage treatment plants, chemical plants, hospitals, mortuaries (see NYS Cross Connection Control Manual).
- 3.15 Non-Hazardous Facility - A facility which does not require the installation of an acceptable backflow prevention device.
- 3.16 Reduced Pressure Zone (RPZ) Device, Acceptable - A minimum of two independently acting check valves, together with an automatically operated pressure differential relief valve located between the two check valves. During normal flow and at the cessation of normal flow the pressure between these two checks shall be less than the upstream (supply) pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, shall operate to maintain the pressure between the checks at less than the supply pressure. The unit must include tightly closing shutoff valves located at each end of the device, and each device shall be fitted with properly located test cocks, and shall be acceptable to the NYSDOH.

4.0 DETERMINING THE DEGREE OF HAZARD

The Town of LaGrange shall evaluate the degree of hazard that a proposed water user poses to the public water supply system. Consideration shall be given to the use, toxicity, and availability of contaminants at the customer's facility. The availability of a supplementary supply of water and a fire fighting system evaluation shall also be considered. Based on these considerations, a facility shall be rated as hazardous, aesthetically objectionable, or non-hazardous. The determination of the degree of hazard shall determine the appropriate backflow prevention device (Reduced Pressure Type or Double Check Valve) to be installed, or implementation of an internal plumbing control program.

- 4.1 A hazardous facility must be contained through the use of an RPZ or an air gap. The following partial listing gives examples of the types of facilities which would require an acceptable RPZ or air gap to be installed in the service connection to the public water distribution system:

Sewage & Industrial Wastewater Treatment Plants
Manufacturing or Processing Plants
Hospitals, Clinics, Laboratories, Veterinary Hospitals
Mortuaries, Embalmers
Shipyards, Marinas
Laundries, Commercial Car Washes, Dry Cleaning Establishments
Commercial Greenhouses
Apartment Buildings, Warehouses or Cooling Towers using boiler systems or fire fighting systems using corrosion control.

- 4.2 An aesthetically objectionable facility must be contained through the use of a DCV. The following partial listing gives examples of the types of facilities which would require an acceptable DCV to be installed in the service connection to the public water distribution system:

Fire Protection Loops or Storage Tanks without chemical additives
High temperature potable water systems
Complex plumbing systems in commercial buildings such as Barber Shops, Beauty Salons, Churches, Apartment Buildings, Gas Stations, Supermarkets, Nursing Homes, Construction Sites, Carnivals

- 4.3 A non-hazardous facility shall be subject to the implementation of an internal plumbing control program. The containment approach would not apply. The following partial listing gives examples of the types of non-hazardous facilities that would probably qualify:

Private Homes, Single Family Dwellings, Simple Multi-family Dwellings
"Dry" Commercial Establishments without complex plumbing systems.

5.0 SUBMISSION AND APPROVAL FOR CROSS CONNECTION CONTROL PROGRAM

Once the Town of LaGrange has determined a proposed water user is a hazardous or aesthetically objectionable facility, the water hook-up installation shall be subject to the Cross Connection Control Program. The degree of hazard that a facility poses to the potable water supply shall be evaluated to determine which of the appropriate backflow prevention devices (Reduced Pressure Type or Double Check Valve) shall be installed. Upon this determination, the customer must:

- 5.1 Applicants who are in conformance with the Standard Water Connection Details shall submit four (4) copies of the Water Hook-up Application for Non-Single Family Dwellings, site plan sketch (including but not limited to approximate location of Town watermain, sewer lateral, subsurface disposal systems, storm sewer, buildings, curb box, other underground structures and site features, and proposed water service line), and completed Application for Approval of Backflow Prevention Devices (DOH-347, Appendix B) signed and sealed by a Professional Engineer, to the Town of LaGrange, Town Administrator of Public Works for approval.

Based on the complexity of the site or potential hazards posed by the connection the Town Administrator of Public Works may require submission of a plan prepared by a Professional Engineer for review by the Town Engineer.

Applicants who deviate from the Standard Details or as determined by the Town Administrator of Public Works must submit 4 copies of the plans, reports, details and manufacturers' specifications (see Backflow Device Plans and Specifications) along with 4 copies of the New York State Health Department approval application DOH-347 (Appendix B), to the Town of LaGrange, Town Administrator of Public Works for approval. These plans, reports and specifications must be signed and sealed by a professional engineer or architect, licensed in New York State.

- 5.2 The Town of LaGrange will review applicant's submission and, if acceptable, forward them to the Dutchess County Health Department, as required.
- 5.3 The Town, and if required Dutchess County Health Department will review the submission. If acceptable, the application will be approved.

- 5.4 After the written approval has been issued, the customer may proceed with the installation. All work must be performed by Plumbers licensed in the State of New York. The water connection applicant is required to arrange for required inspections by Town Officials at the required stages as described in Section 2.8 above.
- 5.5 Within 30 days of installation, a NYS DOH-1013 Report (Appendix B) must be completed and submitted to the Town of LaGrange, Town Administrator of Public Works and the Dutchess County Health Department.
- 5.6 The customer must have all backflow devices tested annually by a NYS Certified Tester. A copy of the inspection and test report (DOH-1013) must be forwarded to the Town of LaGrange, Town Administrator of Public Works, and the Dutchess County Health Department.
- 5.7 All backflow devices must be disassembled and rebuilt every 5 years.

6.0 BACKFLOW DEVICE PLANS AND SPECIFICATIONS

If the proposed backflow prevention device is not in compliance with the Standard Water Connection Details or as determined by the Town Administrator of Public Works, the design must be done by a professional engineer or architect, licensed in the State of New York in accordance with the requirements of the State Education Law. Upon submission, the Town Engineer will provide a lump sum proposal for review of the plans and specifications.

- 6.1 Only backflow devices approved by the New York State Department of Health are acceptable for installation, including all current additions and revisions. All flow directions must be specified and shown on the plans. (The list of current NYSDOH acceptable devices is published in Technical Reference PWS-14. Future approved additions and revisions are also acceptable).
- 6.2 Pit installations are acceptable only in the case where the pit is capable of drainage by gravity to grade. The gravity drain discharge piping must be capable of taking the entire discharge of the reduced pressure zone device. The end of the discharge pipe must be adequately supported and screened to prevent the entrance of small animals. The backflow device cannot be subjected to flooding and must be protected from freezing.
- 6.3 An air gap (open space) between the reduced pressure zone relief valve and any discharge piping connected to it shall be provided for and maintained. The air gap should be a minimum 2 times the diameter of the inlet pipe. In no case shall the gap be less than one inch. Where the Reduced Pressure Zone Device

is to be piped to the waste line an appropriate air gap device must be provided. All waste discharges must drain in general to a sanitary sewer, or be disposed of in an approved manner which will be reviewed on a case by case basis.

- 6.4 The backflow prevention device is to be installed within the property line or limits of ownership by the customer. Devices shall be adequately protected from inclement weather and vandals. Protective measures of the devices shall allow for accessibility for inspection and maintenance and for proper drainage.

If the device cannot be located at or near the property line, then the device can be installed after the water meter.

- 6.5 If the water meter has a bypass line around it, the backflow device should be installed beyond the point where the bypass line is tied back into the service. If this is not feasible, the bypass line must also have a backflow preventer installed.
- 6.6 Resilient seated valves are to be installed on both sides of the backflow device.
- 6.7 A strainer should be installed before the backflow preventer device. However, a strainer is not to be used in a fire line without the approval of the Insurance Underwriters or the authority having jurisdiction.
- 6.8 The design and installation must be in accordance with the New York State Department of Health Cross Connection Control Manual including the supplemental guidelines dated January, 1992. (The Supplemental guidelines dated January 1992).

7.0 INSTRUCTIONS FOR SUBMITTAL OF PLANS USING TYPICAL DRAWINGS (Deviation from Standard or otherwise determined by Administrator of Public Works)

7.1 Plan Requirements - 4 Sets

1. Site plan showing building address location, with cross streets, water service and water meter location, and device location within premise. If a building or facility has more than one backflow preventer they may all be included on one plan provided they are clearly located and identified. If they are all typical, one detail may suffice, otherwise a separate detail for each must be provided.
2. Piping for the device must be shown in plan view and profile, clearly labeled, dimensioned, detailed and drawn at an appropriate scale.
3. The NYS approved reduced pressure zone device or double check valve that is being proposed must be indicated.
4. DOH-347 Form (See Appendix B) must be completed and submitted.
*NOTE: A separate application is required for each backflow preventer
5. Plans, reports, specifications must be signed and sealed by a professional engineer or architect, licensed in the State of New York, unless a waiver is granted as described in Section 2.1 above.

8.0 GENERAL NOTES

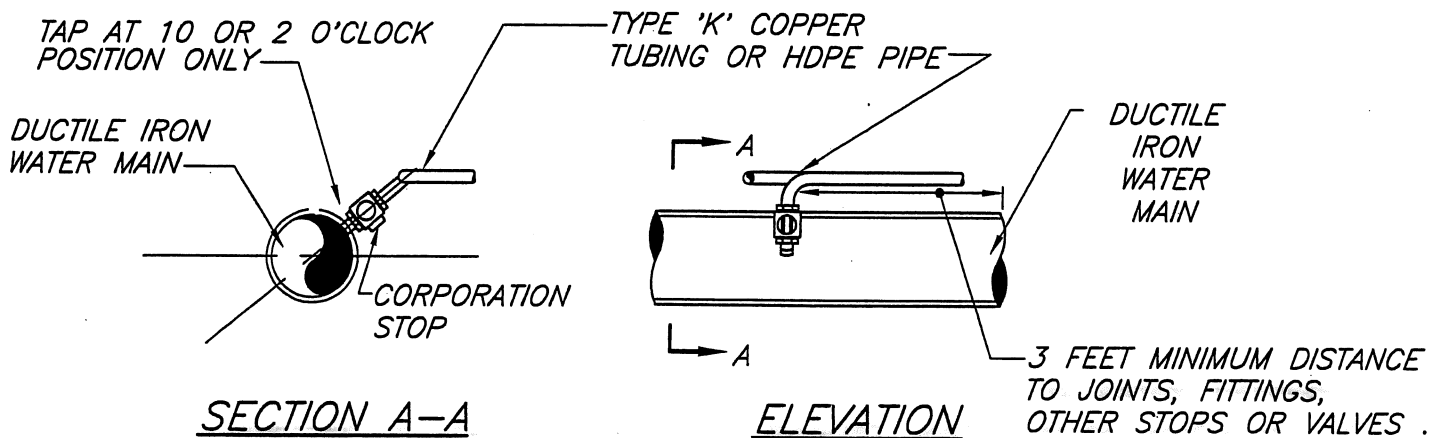
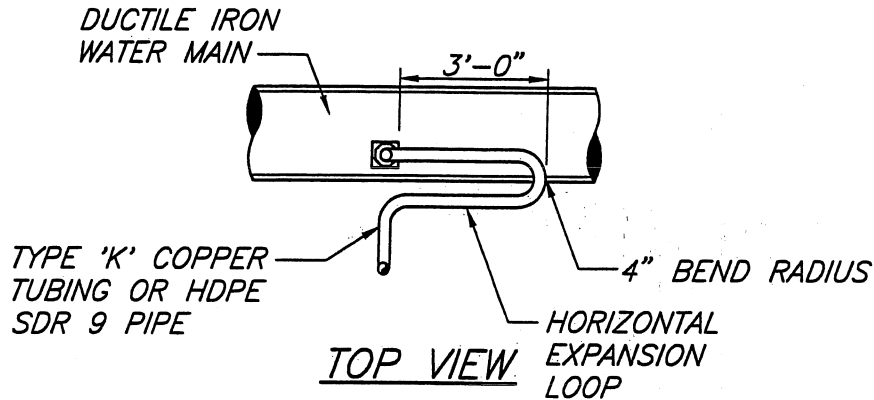
- 8.1 Backflow preventers shall be of the Reduced Pressure Principal Type, or of the Double Check Valve Type, and shall be listed as acceptable by the New York State Department of Health Bureau of Public Water Supply Protection (See Technical Reference PWS -14).
- 8.2 The most satisfactory installation is in a building that is above ground so that the unit can never be flooded. Basement installation is acceptable when it can be drained as described in item (8.3) below. The backflow preventer must be easily accessible for maintenance and testing. The whole unit should not be concealed, and discharge from the built-in pressure relief valve should be located in a highly visible place. The discharge line must never be piped directly into a sewer, sump or drainage ditch. The discharge may be piped to a visible floor drain or sump. An air-gap must be provided at the backflow preventer if discharge piping is to be provided for the pressure relief valve. There must at least 18 inches of clearance between the pressure relief valve and the floor.
- 8.3 Backflow Preventers should never be placed in pits, manholes or underground chambers unless absolutely necessary and permitted by the Building Department. Such chambers should preferably be modified and should drain to the surface of the ground so as to prevent flooding by surface water. Underground chambers should not drain to underground absorption pits and should never be directly connected to any storm or sanitary sewer. These types of installations are a deviation from the Standard Water Connection Details and Notes and must be designed by a Professional Engineer or Architect.
- 8.4 The building or shelter for the backflow preventer device must have adequate sources of heat and light.
- 8.5 An upstream strainer is recommended in constantly or frequently used lines. A strainer should not be provided in seldom-used or emergency lines (e.g., a fire sprinkler line).
- 8.6 Clearances shall be as required by New York State Department of Health, local codes, or as shown.
- 8.7 Refer to the New York State Department of Health Backflow Prevention Assembly Installations Supplement to the Cross Connection Control Manual, January 1992 for additional requirements and notes.

SITE PLAN SKETCH

SHOW: PROPOSED SERVICE & EXISTING WATER MAIN, SEPTIC, STRUCTURES, DRIVES/WALKS, OBSTRUCTIONS, ETC...)

APPROXIMATE SCALE: 1"=_____

FIGURES
(Typical Drawings)

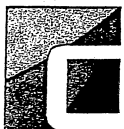


- NOTES: 1. SERVICE SADDLES ARE REQUIRED FOR SERVICE CONNECTIONS LARGER THAN 1" DIAM. TO BE INSTALLED ON D.I.P. WATERMAINS SMALLER THAN 14" DIAM..
2. SERVICE SADDLES SHALL BE DOUBLE STRAP BRONZE NYLON COATED OR STAINLESS STEEL WITH RUBBER GASKETS, RATED AT 250 PSI AND SHALL CONFORM TO ANSI/AWWA C-800 STANDARDS.

TYPICAL WATER SERVICE CONNECTION DETAIL

N.T.S.

FIGURE 1

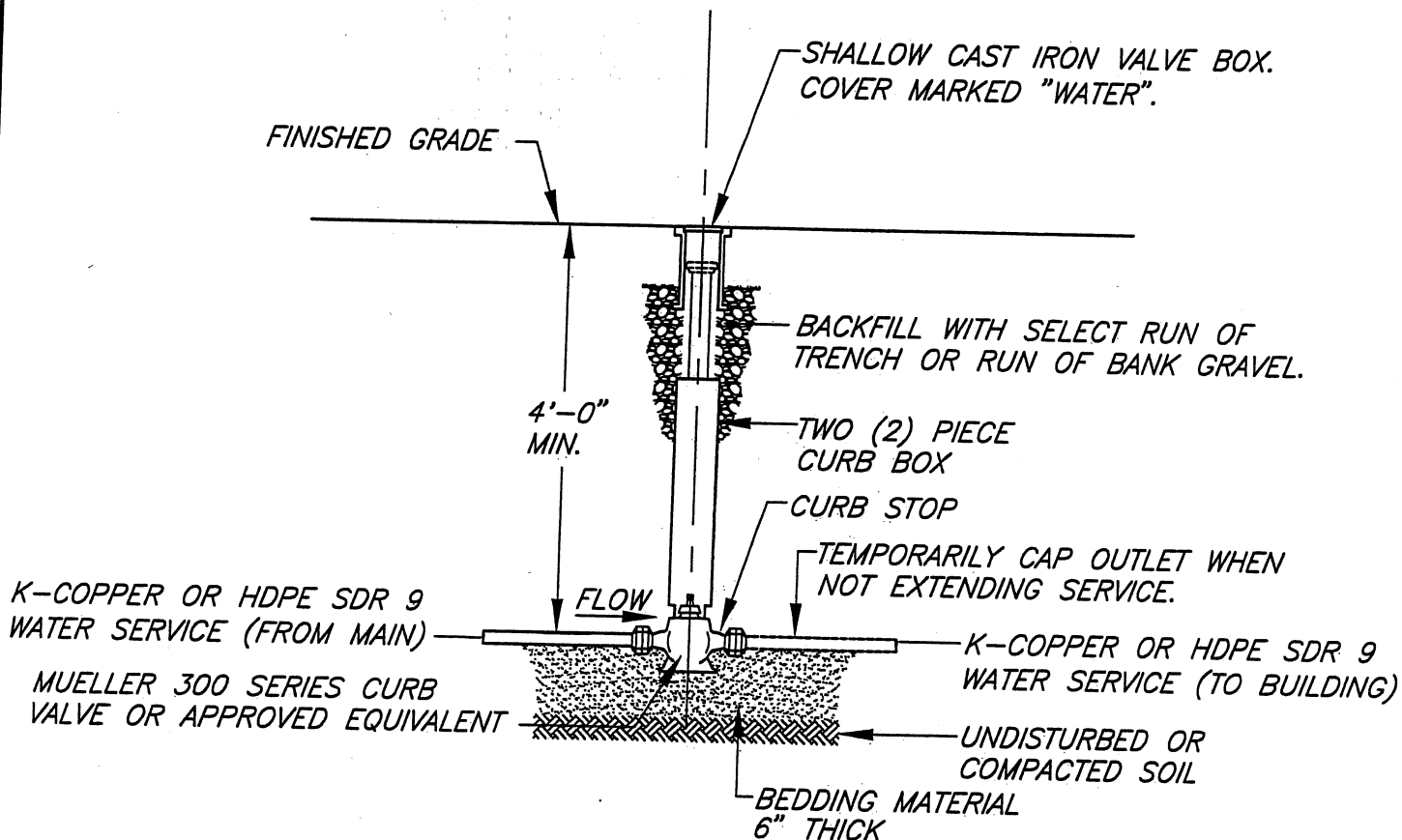


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DATE: 05/27/08
DRAWN: JDN
CHECKED: CCW
SCALE: AS NOTED
PROJ. #: 11278.35

SERVICE CONNECTION
STANDARD WATER CONNECTION DETAILS

TOWN OF LA GRANGE, NEW YORK



NOTE: 1. THIS DETAIL SHOULD BE USED WHEN CURB STOP IS
LOCATED IN A PAVED AREA OR PEDESTRIAN AREA.

DOMESTIC WATER SERVICE AND FLUSH MOUNTED CURB BOX

N.T.S.

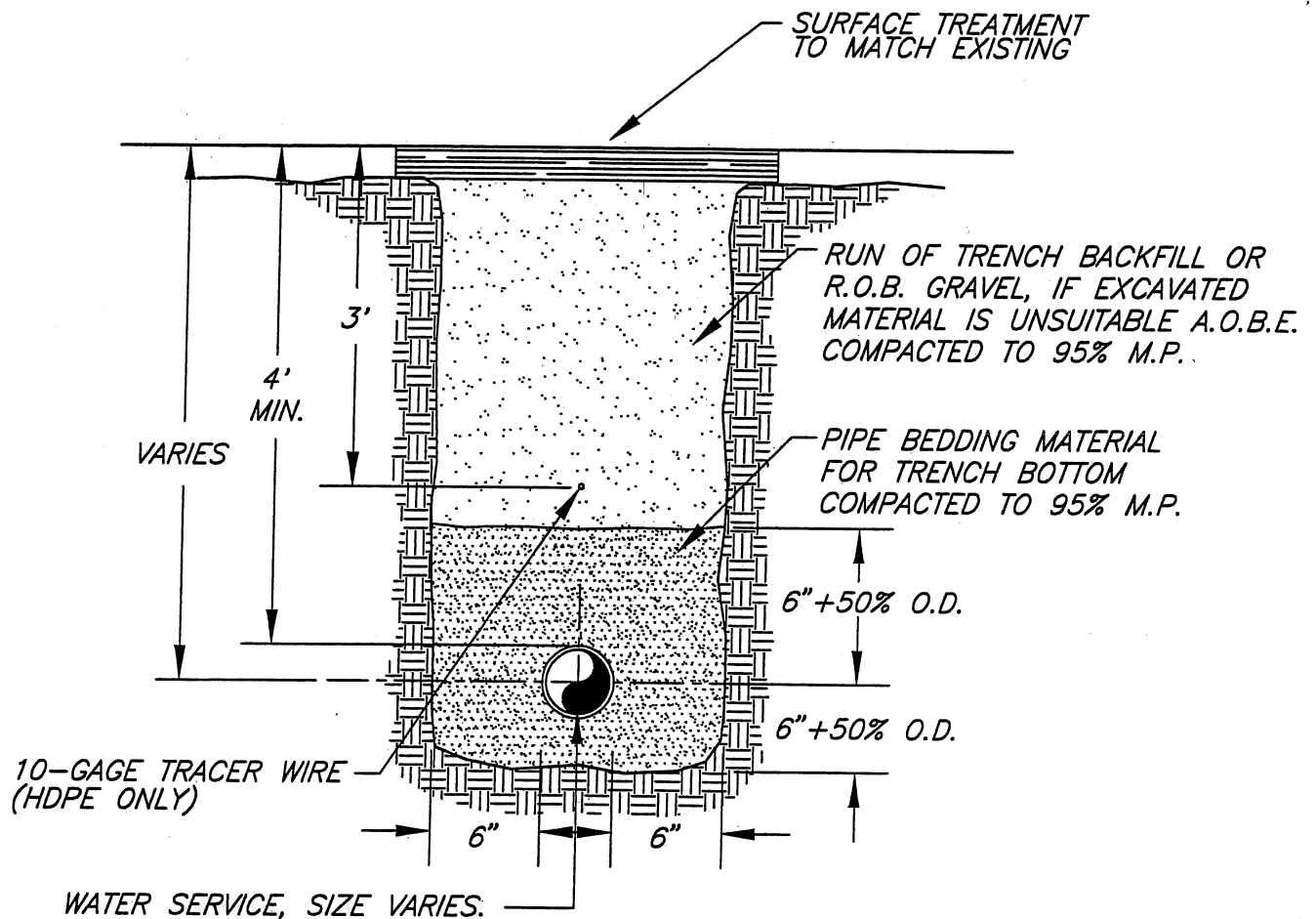
FIGURE 2

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TEL (800) 274-9000
FAX (585) 272-5876

DATE: 05/27/08
DRAWN: JDN
CHECKED: CCW
SCALE: AS NOTED

CURB BOX INSTALLATION

STANDARD WATER CONNECTION DETAILS



NOTES: 1. PIPE BEDDING SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) SAND, FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. BEDDING GRADATIONS SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

<u>SIEVE DESIGNATION</u>	<u>% PASSING</u>
3/4"	100%
NO. 40	70%
NO. 200	0-10%

2. THE PROPOSED WATERMAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF FOUR (4) FEET AND SHALL BE "K" COPPER TUPING OR HDPE PIPE.

3. INSTALL CONTINUOUS TRACER WIRE WITH PIPE (HDPE ONLY) DURING BACKFILLING OF TRENCH FOR UNDERGROUND WATER SERVICE PIPING.

4. TRENCHING SHALL BE IMPLEMENTED IN ACCORDANCE WITH O.S.H.A. STANDARDS.

TYPICAL WATER PIPE TRENCH DETAIL

N.T.S.

FIGURE 3

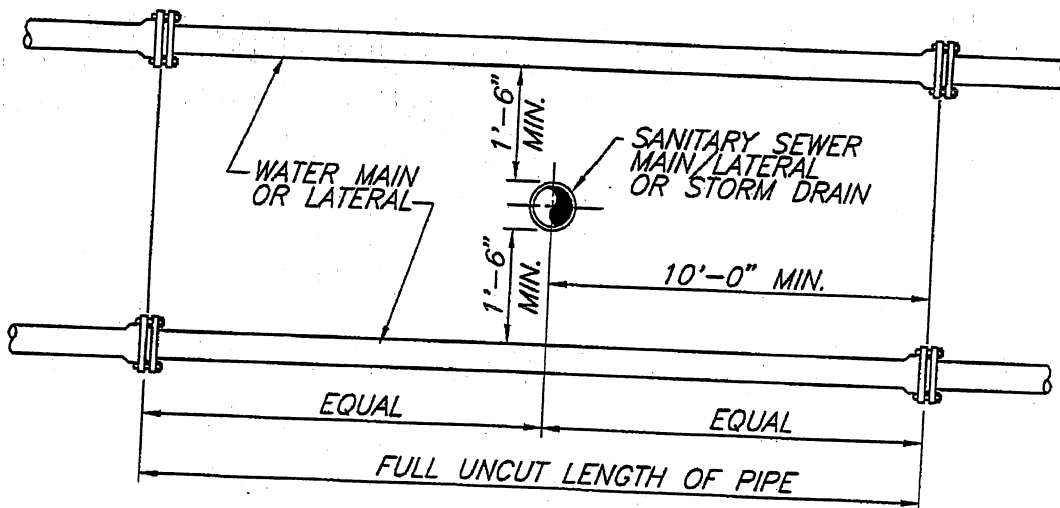


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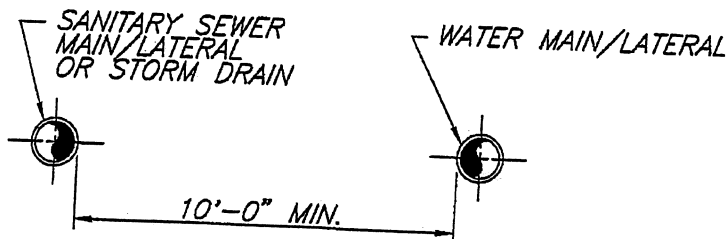
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PROJ. #:11278.35

WATER SERVICE TRENCH
STANDARD WATER CONNECTION DETAILS

TOWN OF LA GRANGE, NEW YORK



VERTICAL SEPARATION



HORIZONTAL SEPARATION

NOTE : NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT THE EXPRESS APPROVAL OF THE ENGINEER.

WHEN SEPARATION DISTANCES CANNOT BE MAINTAINED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR FURTHER INSTRUCTIONS AND DIRECTIVES.

SANITARY/STORM SEWER – WATER MAIN SEPARATION DETAIL

N.T.S.

FIGURE 4

TYPICAL SEPARATION

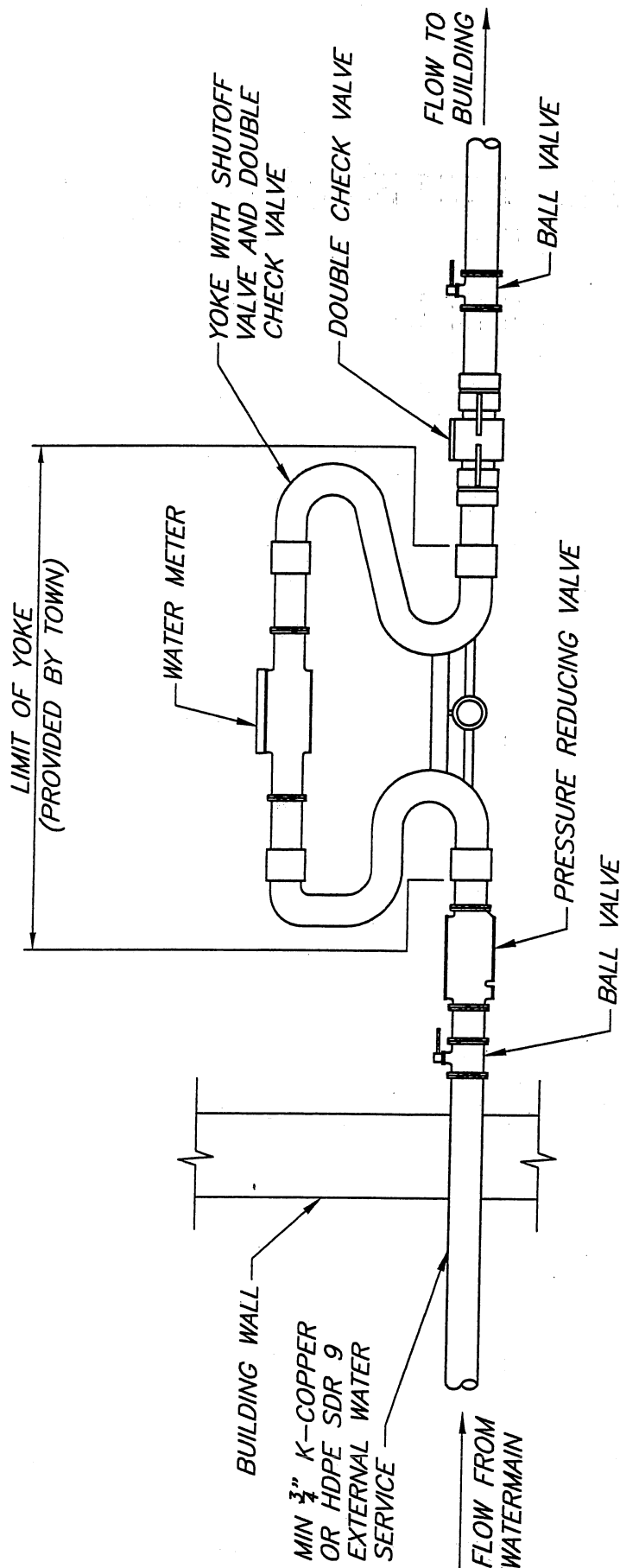
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DATE: 05/27/08
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SCALE: AS NOTED
PROJ. #:11278.35



SINGLE-FAMILY DWELLING

N.T.S.

NOTES: FOR $\frac{3}{4}$ " & 1" SERVICES, DOUBLE CHECK VALVE PROVIDED BY TOWN. FOR ALL OTHER SERVICES, DOUBLE CHECK VALVE TO BE SUPPLIED BY APPLICANT.

FIGURE 5

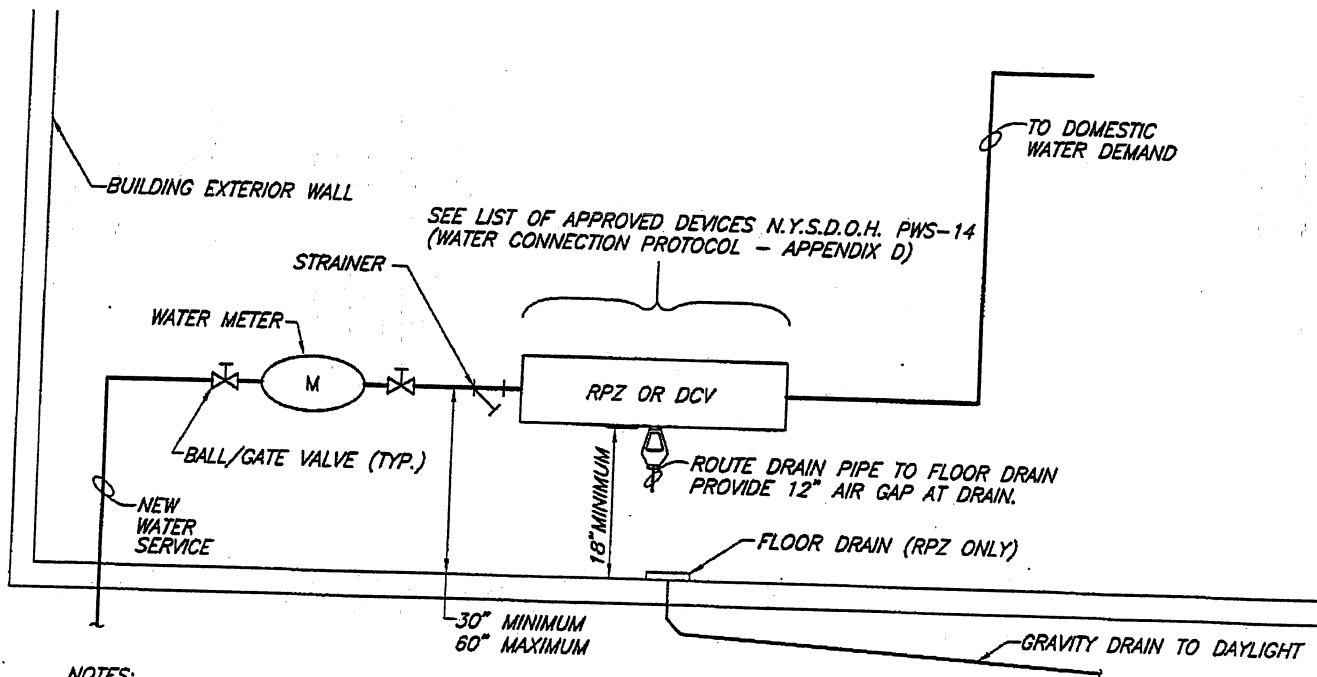


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 DESIGN PROFESSIONALS
 186 NORTH WATER STREET
 ROCHESTER, NEW YORK 14604
 TEL (800) 274-9000
 FAX (585) 232-5836
 www.clarkpatterson.com

DATE: 05/27/08
 DRAWN: JDN
 CHECKED: CCW
 SCALE: AS NOTED
 PROJ. #:11278.35

TYPICAL WATER HOOK-UP
STANDARD WATER CONNECTION DETAILS

TOWN OF LA GRANGE, NEW YORK



NOTES:

1. ALL BACKFLOW PREVENTION DEVICES MUST BE INSTALLED IN A FACILITY, ABOVE GROUND, AND BE ON THE MOST RECENT LIST OF APPROVED DEVICES BY THE N.Y.S.D.O.H.
2. THE BACKFLOW PREVENTION DEVICE MUST BE INSTALLED AS SHOWN ON THE APPROVED INSTALLATION DETAILS, IN A LIGHTED, HEATED, AREA ABOVE THE HIGHEST POSSIBLE FLOOD LEVEL.
3. THE INSTALLATION MUST BE IN CONFORMANCE WITH THE TOWN OF LA GRANGE REQUIREMENTS FOR CONNECTION TO TOWN WATER SYSTEMS, WATER METERS, AND BACKFLOW PREVENTION.
4. THE BACKFLOW PREVENTION DEVICE WILL CAUSE A PRESSURE LOSS. SEE MANUFACTURER FLOW CURVES FOR PRESSURE LOSSES. SIZING WILL BE BASED ON DISTRIBUTION PRESSURES AND ESTIMATED MAXIMUM BUILDING DEMAND.
5. ADEQUATE SUPPORT MUST BE PROVIDED FOR THE BACKFLOW PREVENTION DEVICE AND CONNECTED PIPING.
6. A THERMAL EXPANSION TANK SHOULD BE INSTALLED ON DIRECT-FIRED OR ELECTRIC-HEATED STORAGE TANKS. A WORKING PRESSURE RELIEF VALVE MUST BE MAINTAINED AT ALL TIMES.
7. WHEN THE DISTANCE BETWEEN THE METER AND BACKFLOW PREVENTION DEVICE IS GREATER THAN TEN (10) FEET STENCIL OR LABEL PIPING TO READ "FEED LINE TO BACKFLOW PREVENTER - DO NOT TAP".
8. THE BACKFLOW PREVENTION DEVICE IS TO BE TESTED BY A N.Y.S.D.O.H. CERTIFIED TESTER AT THE TIME OF INSTALLATION AND EVERY YEAR THEREAFTER. TEST RESULTS ARE TO BE SUBMITTED TO THE TOWN OF LA GRANGE WATER DEPARTMENT. THE RECOMMENDED DISASSEMBLY AND REBUILD PERIOD IS FIVE (5) YEARS.
9. MAINTENANCE AND SUBSEQUENT TESTING OF THE BACKFLOW PREVENTION DEVICE IS THE RESPONSIBILITY OF THE WATER CUSTOMER.
10. AN AIR GAP OR AIR GAP FITTING MUST BE MAINTAINED AT THE RELIEF PORT OF AN RPZ DEVICE.
11. DRAINAGE CAPACITY MUST BE ABLE TO HANDLE MAXIMUM RELIEF VALVE DISCHARGE OF THE RPZ DEVICE BASED ON THE MANUFACTURERS RELIEF VALVE DISCHARGE CURVES.
12. DIRECT DRAIN CONNECTIONS TO THE SEWER ARE PROHIBITED.
13. IT IS UNLAWFUL TO TAMPER WITH THE BACKFLOW PREVENTION DEVICE, TO INSTALL ANY OUTLET OR CONNECTION AHEAD OF THE DEVICE, TO INSTALL AN UNPROTECTED BYPASS AROUND THE DEVICE OR TO REMOVE THE DEVICE FROM SERVICE WITHOUT APPROVAL OF THE TOWN OF LA GRANGE WATER DEPARTMENT.

DOMESTIC WATER SERVICE (2" OR LESS) - METER AND RPZ OR DCV INSTALLATION ELEVATION VIEW

FIGURE 6



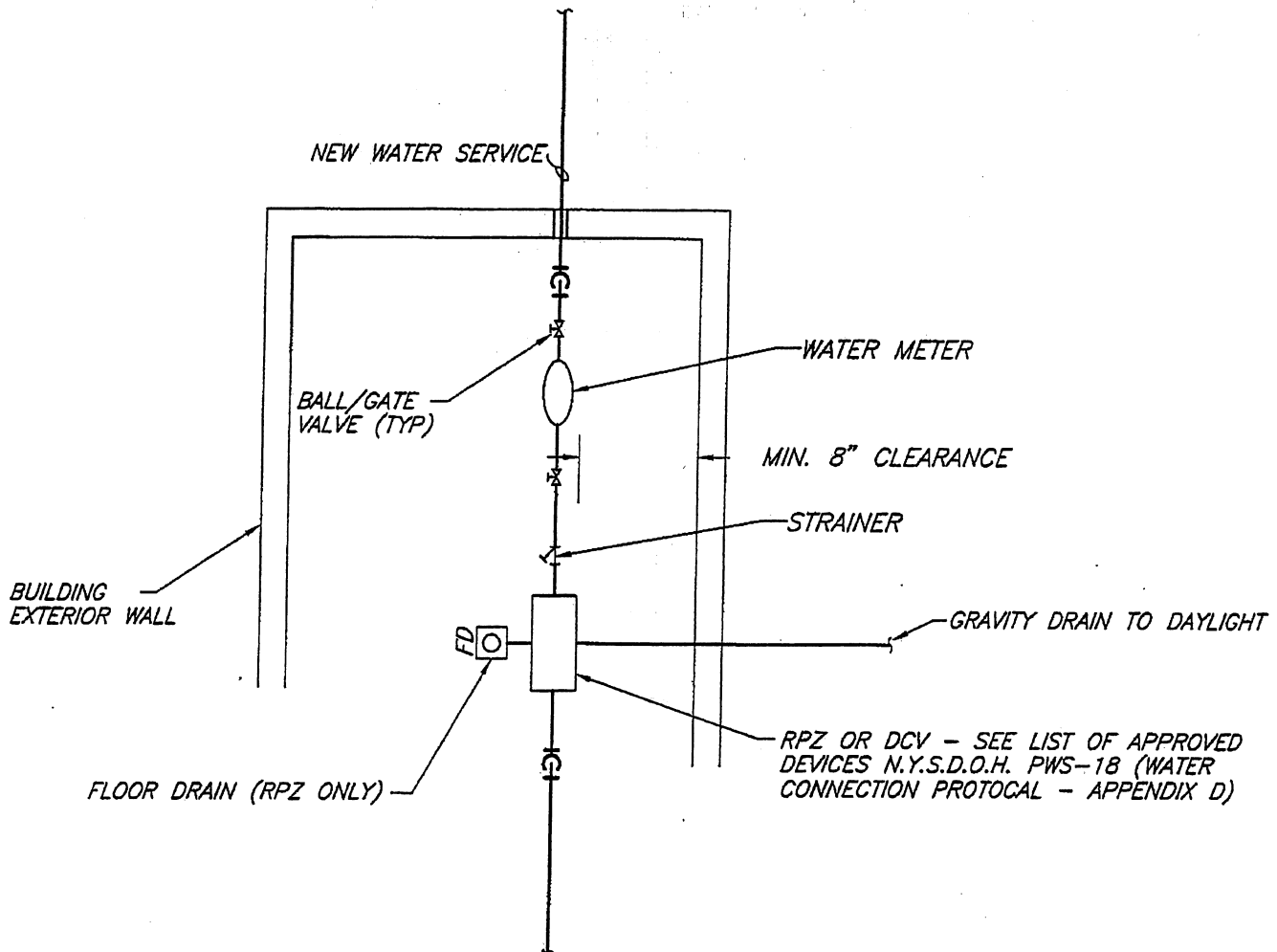
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METER AND RPZ/DCV INSTALLATION

STANDARD WATER CONNECTION DETAILS

TOWN OF LA GRANGE, NEW YORK



DOMESTIC WATER SERVICE (2" OR LESS) - METER AND RPZ OR DCV INSTALLATION PLAN VIEW

FIGURE 7



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METER AND RPZ/DCV INSTALLATION

STANDARD WATER CONNECTION DETAILS

TOWN OF LA GRANGE, NEW YORK

APPENDIX A

Water Hook-up Construction Requirements for Single-Family Dwelling

Town of LaGrange
WATER HOOK-UP CONSTRUCTION REQUIREMENTS
FOR SINGLE FAMILY DWELLING

1. External house service piping is to be type "K" soft annealed copper tube or HDPE tubing. Minimum size is to be $\frac{3}{4}$ inch "K" copper for up to 150 feet or $\frac{3}{4}$ " HDPE SDR-9 for up to 100 feet. For non-residential applications with larger service requirements, "K" copper, ductile iron or HDPE is to be used.
2. All water service lines that require more than one joint in the "K" copper or HDPE tubing require that the meter be installed in a meter vault at the property line with accessible remote readout.
3. All other meters are to be installed in an interior building location that is easily accessible for servicing. For these installations, the remote readout device is to be installed exterior to the building at eye level, adjacent to the electrical meter in a location that is not obstructed from pedestrian access. Wiring to the remote readout is to be completed using 19 gage wire.
4. Meters are to be purchased from the Town, complete with meter yoke, and adapter. Meters must be accessible for servicing, and remote readout must be accessible for meter reading.
5. For single family residences, the Town Administrator of Public Works is to issue the permit with a meter yoke including valve and dual check. The Contractor is to complete the installation of all necessary internal plumbing. Then, the meter is to be issued and installed by the Town Water System Operator, prior to the internal plumbing inspection by the Town Building Inspector or Water System Operator.
6. Upon request, the Town Water System Operator can provide an estimate of anticipated system pressure for an area of contemplated connection.
7. Bedding material is to be granular material containing stones not larger than $\frac{3}{4}$ inch in size, or concrete sand. Material must be inspected before it is used.
8. The water connection applicant is required to arrange for required inspections by Town Officials at the required stages. A minimum of 2 business days prior notice is required for each inspection, as described below.
 - a. The wet tap on the Town's watermain by an experienced contractor is to be observed by the Town Water System Operator.
 - b. The installed corporation stop, shut off valve, and service pipe in trench is to be observed by the Town Water System Operator, before the trench is backfilled.
 - c. Testing of the service line is to be observed by the Town Water System Operator, prior to backfilling, where all joints are to be exposed.

- d. Placement of the meter, into the completed internal plumbing, is to be done by the Town Water System Operator.
 - e. Internal plumbing inspection is to be the Town Building Inspector and/or the Town's Water System Operator.
9. Installation of bedding material shall be 6 inches under pipe and 12 inches over pipe. All work must be inspected before covering with fill.
10. Depth of pipe shall be a minimum of 48 inches.
11. Fittings may be flare type or compression type.
12. No joints shall be permitted in service lines between curb box and interior house shut off valve where such length is less than 100 feet. Three part flared unions may be used thereafter at maximum available intervals. All buried connections and joints shall be tested drip tight in the presence of a Town inspector before backfill is placed.
13. No interconnection between the Town's water system and any other water supply is permitted by the Health Department. The Town does not object to the Health Department's position of allowing continued use of an existing well for outside hose bib and/or irrigation provided that it does not connect in any way to the Town's system.
14. Pressure reducing valves may be required for some house services. A Watts, Model #25AUB, which reduces pressure from from 155 psi to 75 psi is recommended and can be purchased through any plumbing supply company. The Town is not responsible for providing and/or maintaining pressure reducing valves.
15. Pressurize for leak detection. Pressure test shall be the street pressure plus 20 lbs. In no case shall the pressure be less than 100 lbs. Minimum test duration is 2 hours. The end of the test must be witnessed by the Town of LaGrange Building Inspector. The Town of LaGrange Building Inspector must also inspect in-house plumbing and seal the meter.
16. Only one service connection to the Town system per building lot shall be permitted.
17. Any service for multiple dwellings on one lot needs prior approval from the Town.

APPENDIX B

New York State Department of Health Forms

NEW YORK STATE DEPARTMENT OF HEALTH
Bureau of Public Water Supply Protection

Application for Approval of
Backflow Prevention Devices

PRINT OR TYPE ALL ENTRIES EXCEPT SIGNATURES
Please completed items 1 through 12a + Block and Lot Numbers

Block #		Lot #		FOR DEPARTMENT USE ONLY Log No.	
1. Name of Facility		2. City, Village, Town		3. County	
4. Location of Facility Street		City		state	zip
4a. Phone Numbers		5. Contact Person			
5. Approx. Location of Device(s)		6. Mfg. Model #		Size of Device(s)	
# of Fire Services		# of Domestic Services		# of Combined Services	
				Total # of Services	
				Total # of Buildings	
7. Name of Owner		Title		Phone Number	
Full Mailing Address Address		street		8. Nature of works <input type="checkbox"/> Initial Device Installation <input type="checkbox"/> Replace Existing Device	
City		state		zip	
Owner's Signature		Date		8a. <input type="checkbox"/> New Service <input type="checkbox"/> Existing Service	
		M / D / Y		8b. <input type="checkbox"/> New Building <input type="checkbox"/> Existing Building <input type="checkbox"/> Major Renovations	

9. Name of Design Engineer or Architect		10. NYS License #	
Street		_____	
Address		<input type="checkbox"/> PE <input type="checkbox"/> RA <input type="checkbox"/> Other	
City		10a. Telephone Number(s)	
State		_____	
Zip		Date	
Signature		M / D / Y	
Original Ink signature and seal required on all copies			
11. Water System Pressure (psi) at Point of Connection		12. Estimate Installation Cost	
Max Avg Min		12a. Estimate Design Cost	
13. Degree of Hazard		List of processes or reasons that lead to degree of hazard checked:	
<input type="checkbox"/> Hazardous		_____	
<input type="checkbox"/> Aesthetically Objectionable		_____	
14. Public water supply name		Name of supplier's designate representative	
Mailing Address		Title	
street		_____	
City		Signature	
state		_____	
zip		M / D / Y	
Telephone No. ()			

Note: All applicants must be accompanied by plans, specifications and an engineer's report describing the project in detail. The project must first be submitted to the water supplier, who will forward it to the local public health engineer. This form must be prepared in quadruplicate with four copies of all plans, specifications and descriptive literature.

Report on Test and Maintenance of Backflow Prevention Device

PART A

Please use a separate form for each device.

For the year _____

- ☐ Initial test - Complete entire form
☐ Annual test - Complete Part A only

Public Water Supply		Account No.		County	Block	Lot
Facility Name _____ Address _____ Street City Zip				Location of Device _____ _____		
Device Information	Manufacturer	Type <input type="checkbox"/> RPZ <input type="checkbox"/> DCV	Model	Size (in inches)	Serial Number	
	Check Valve No. 1	Check Valve No. 2	Differential Pressure Relief Valve	Line Pressure _____ psi		
Test before repair	Leaked <input type="checkbox"/> Closed tight <input type="checkbox"/>	Leaked <input type="checkbox"/> Closed tight <input type="checkbox"/>	Opened at _____ psid	Date <input type="text"/> <input type="text"/> <input type="text"/> M D Y		
	Pressure drop across first check valve _____ psid					
Describe repairs and materials used				Repaired by Name _____ Lic # _____ Date repaired: <input type="text"/> <input type="text"/> <input type="text"/> M D Y		
				Date <input type="text"/> <input type="text"/> <input type="text"/> M D Y		
Final test	Closed tight <input type="checkbox"/>	Closed tight <input type="checkbox"/>	Opened at _____ psid	Date <input type="text"/> <input type="text"/> <input type="text"/> M D Y		
	Pressure drop across first check valve _____ psid					
Water Meter Number		Meter Reading	Type of Service: (check one) • Domestic • Fire • Other _____			
Remarks (Describe deficiencies: bypasses, outlets before the device, connections between the device and point of entry, missing or inadequate airgaps, etc.)						
Certification: This device <input type="checkbox"/> meets, • <input type="checkbox"/> does NOT meet, the requirements of an acceptable containment device at the time of testing I hereby certify the foregoing data to be correct.						
Print Name		Certified Tester No.	Signature	Expiration Date		
Property owners (or owners agent) certification that test was performed:						
Print Name		Title	Signature	Telephone		

PART B

Certification that installation is in accordance with the approved plans.

(To be completed by the design engineer or architect or water supplier.)

I hereby certify that this installation is in accordance with the approved plans.

Name	Title	Date	NYS DOH Log #
License Number	Phone ()	m d y	
Representing	Describe minor installation changes		
Address			
City State Zip			
Signature			

NOTE: Send one completed copy to the designated health department representative and one copy to the water supplier within 30 days of the testing device.
Notify owner and water supplier immediately if device fails test and repairs cannot immediately be made.

DOH-1013(9/91)

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection
	SUBJECT: Approved Backflow Prevention Assemblies Page 1 of 11

PURPOSE

The purpose of this Technical Reference is to provide a list of approved backflow prevention assemblies for containing potential contamination as required by Section 5-1.31 of the State Sanitary Code. This list is made available to regulatory agencies, water purveyors, consulting engineers, manufacturers, certified testers, contractors and the general public.

POLICY

1. The New York State Department of Health, Bureau of Water Supply Protection (BWSP) will approve only those backflow prevention assemblies that have been evaluated in accordance with either of the following evaluation procedures:

- a. Laboratory and Field Evaluation

Each make, model and size of assembly shall successfully complete the Laboratory and Field Evaluation phases of the Foundation for Cross Connection Control and Hydraulic Research (FCCC&HR) approval program. Upon completion of the evaluation, the manufacturer shall submit a copy of the Certificate of Approval issued by the FCCC&HR.

- b. Laboratory Evaluation Only

Each make, model and size of assembly shall undergo a laboratory evaluation by a qualified independent testing laboratory and shall comply with the latest editions of each of the following standards, as applicable:

- FCCC&HR Manual of Cross-Connection Control, Section 10 - Specifications of Backflow Prevention Assemblies.
- American Society of Sanitary Engineering (ASSE) Standards:
 - i. 1013 - Reduced Pressure Principle Backflow Preventer
 - ii. 1015 - Double Check Backflow Prevention Assembly
 - iii. 1047 - Reduced Pressure Detector Assembly Backflow Preventer
 - iv. 1048 - Double Check Detector Assembly Backflow Preventer
- American Water Works Association (AWWA) Standards:
 - i. C510 - Double Check Valve Backflow Prevention Assembly
 - ii. C511 - Reduced Pressure Principle Backflow Prevention Assembly

Upon completion of the evaluation, the manufacturer shall submit copies of the Laboratory Evaluation Report, ASSE Certificate of Authorization and AWWA Certificate of Compliance.

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04
	Bureau of Water Supply Protection
	SUBJECT: Approved Backflow Prevention Assemblies Page 2 of 11

In addition to the requirements of 1a or 1b above, the manufacturer shall submit copies of the sales literature and installation/maintenance literature for each model and size assembly. Sample or cutaway units may also be requested for small diameter assemblies.

All information shall be submitted to the following address:

New York State Department of Health
Bureau of Water Supply Protection - Design Section
Flanigan Square
547 River Street, 4th Floor
Troy, NY 12180-2216
(518) 402-7676

2. All approved assemblies must include resilient seated, full-flow shut off valves integral to the assembly. Unless otherwise approved by the BWSP, these shut off valves shall be mounted directly to the assembly and shall be supplied by the assembly manufacturer.
3. All approved assemblies are designed for horizontal installation. Certain assemblies on this list are also specifically designed with provisions for vertical inlet/outlet piping in accordance with the manufacturers recommendations.

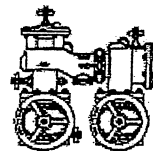
To be approved for vertical installation, where vertical refers to the device orientation, the assembly must undergo testing in a vertical position in accordance with the requirements of 1a or 1b above. Those assemblies that are approved for vertical installation are appropriately designated on the attached list.
4. The BWSP maintains and periodically updates the list of Approved Backflow Prevention Assemblies. Pages 4-11 reflect currently approved assemblies as of the date of printing. This list supersedes all previous approvals.
5. Previously approved assemblies that are out of production or for which only spare parts are available may not appear on this list. Where such assemblies are currently installed, however, they may remain in service provided that they are appropriate for the degree of hazard. When these assemblies demonstrate repeated test failures, require frequent maintenance or if spare parts cannot be readily obtained, they must be replaced by a currently approved assembly.
6. The BWSP reserves the right to remove from the list any assembly that demonstrates deficient or unsatisfactory operation.

ENVIRONMENTAL HEALTH MANUAL

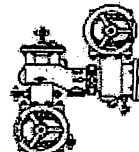
NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection
	SUBJECT: Approved Backflow Prevention Assemblies Page 3 of 11

7. The following is a partial list of typical manufacturers abbreviations that may appear with the approved model/series designation:

- AG, AGD, AGF - air gap, drain, fitting
- B - full port, resilient seated ball valves
- BB - bronze body
- BF - butterfly valves
- EL - vent elbow
- FAE - flanged adapter ends
- FDA - FDA epoxy coating
- FS - flanged strainer
- FSC - FDA epoxy coated flanged strainer
- HW - hot water unit with stainless steel check valves
- M - manifold, modification
- NRS - non-rising stem shutoffs
- OS&Y - outside stem and yoke shutoffs
- QT - quarter turn resilient seated ball valves
- R, RW - resilient seated or resilient wedge shutoffs
- S - strainer
- SS - stainless steel
- U - union connections
- V - approved for vertical installation in accordance with manufacturers instructions
- XL - high temperature service with removable plastic check seats
- N-Shape - See diagram below for an example (please note that this diagram is not intended to represent any specific manufacturer or device)



- Z-Shape - See diagram below for an example (please note that this diagram is not intended to represent any specific manufacturer or device)



The BWSP should be contacted with any questions regarding this list.

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04
	Bureau of Water Supply Protection
	SUBJECT: Approved Backflow Prevention Assemblies Page 4 of 11

REDUCED PRESSURE PRINCIPLE ASSEMBLIES

<u>Company</u>	<u>Model/Series</u>	<u>Size (In Inches)</u>
AMES	4000-RP	4.0, 6.0, 8.0, 10.0
	4000 SS	0.75, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0
	4000B	0.5, 0.75, 1.0, 1.25, 1.5, 2.0
	4000BM2	1.0
	Colt 400	2.5, 3.0, 4.0
	Maxim 400	2.5, 3.0
	Colt 400N	2.5 (↑↓o), 3.0 (↑↓o), 4.0 (↑↓o)
	Colt 400Z	2.5 (↑↑o), 3.0 (↑↑o), 4.0 (↑↑o)
	Maxim 400N	2.5 (↑↓o), 3.0 (↑↓o)
	Maxim 400Z	2.5 (↑↑o), 3.0 (↑↑o)
BUCKNER	24000	0.75, 1.0, 1.25, 1.5, 2.0
CLA-VAL	RP-2	0.75, 1.0, 1.25, 1.5
	RP-4	2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	RP4V	4.0
	RP6LW	0.75, 1.0, 1.25, 1.5, 2.0
	RP6VW	0.75, 1.0, 1.5, 2.0
	RP7L (W/Y)	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	RP8L (W/Y)	2.0, 3.0, 4.0, 6.0, 8.0, 10.0
	RP8N (W/Y) - N Shape	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	RP8V (W/Y) - Z Shape	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
CONBRACO	40-200	0.25, 0.375, 0.5, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	40-200-A2S	0.75, 1.0
FEBCO	825Y	0.75, 1.0, 1.25, 1.5, 2.0
	825YA	0.75, 1.0, 1.5, 2.0
	825YD	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	845	0.75, 1.0
	860	0.5, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0
	880 - N Shape	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	880V - Z Shape	2.5, 3.0, 4.0, 6.0, 8.0, 10.0

NOTE: All assemblies are approved for horizontal installation. The following symbols denote devices which are also approved for vertical installation (where vertical refers to the orientation of the device rotated 90 degrees (up or down) from the horizontal) or with vertical inlet/outlet piping:

↑ - vertical up only	↑↓o - vertical up inlet and vertical down outlet
↓ - vertical down only	↑↑o - vertical up inlet and vertical up outlet
↑↓ - vertical up and down	

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04
	Bureau of Water Supply Protection
	SUBJECT: Approved Backflow Prevention Assemblies Page 5 of 11

FLOMATIC	RPZ IIE	0.5, 0.75
	RPZE	0.75, 1.0, 1.5, 2.0
	RPZ	0.75, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0
	RPZII	0.5, 0.75
HERSEY/GRINNELL (BEECO)	FRP-2	0.75, 1.0, 1.25, 1.5, 2.0
	6CM	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
ORION WATTS	BRP	0.75, 1.0, 1.5, 2.0, 3.0, 4.0
	009	0.5, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0
	009QT	0.25, 0.375, 0.5
	U009A	0.75, 1.0, 1.5, 2.0
	U009AQT	0.75
	909	0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	909QT	0.75 (↑), 1.0 (↑)
	909M1QT	1.25, 1.5, 2.0
	990	4.0, 6.0, 8.0
	994	2.5, 3.0, 4.0, 6.0
	957	2.5, 3.0, 4.0
	995QT	0.5, 0.75, 1.0, 1.25, 1.5
	957N	2.5(↑i↓o), 3.0(↑i↓o), 4.0(↑i↓o)
	957Z	2.5(↑i↑o), 3.0(↑i↑o), 4.0(↑i↑o)
	U009M2AQT	1.0, 1.5, 2.0
	009M2QT	1.0, 1.25, 1.5, 2.0
	009M3QT	0.75
WILKINS	975XL	0.25, 0.375, 0.5, 0.75, 1.0, 1.25, 1.5, 2.0
	975	0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	975XLU	0.75, 1.0, 1.5, 2.0
	975XLMS	0.75, 1.0, 1.25, 1.5, 2.0
	975MS	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	975BMS	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	975XLBMS	0.75, 1.0, 1.25, 1.5, 2.0
	975XLSE	0.75 (↑i↓o), 1.0 (↑i↓o), 1.25 (↑i↓o), 1.5 (↑i↓o), 2.0 (↑i↓o)
	975XLSE	0.75 (↑i↑o), 1.0 (↑i↑o), 1.25 (↑i↑o), 1.5 (↑i↑o), 2.0 (↑i↑o)

NOTE: All assemblies are approved for horizontal installation. The following symbols denote devices which are also approved for vertical installation (where vertical refers to the orientation of the device rotated 90 degrees (up or down) from the horizontal) or with vertical inlet/outlet piping:

↑ - vertical up only

↓ - vertical down only

↑↓ - vertical up and down

↑i↓o - vertical up inlet and vertical down outlet

↑i↑o - vertical up inlet and vertical up outlet

ENVIRONMENTAL HEALTH MANUAL

<p style="text-align: center;">NEW YORK STATE DEPARTMENT OF HEALTH</p> <p style="text-align: center;">OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH</p> <p style="text-align: center;">TECHNICAL REFERENCE</p>	<p>ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection</p> <hr/> <p>SUBJECT: Approved Backflow Prevention Assemblies</p> <p style="text-align: center;">Page 6 of 11</p>
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WILKINS (cont.)	975XLSEU	0.75 (↑i↑o), 1.0 (↑i↑o), 1.25 (↑i↑o),
		1.5 (↑i↑o), 2.0 (↑i↑o)
	375	2.5, 3.0, 4.0, 6.0, 8.0
	375A	4.0, 6.0, 8.0
	375DA	2.5, 3.0
	475	2.5 (↑i↓o), 3.0 (↑i↓o), 4.0 (↑i↓o),
		6.0 (↑i↓o), 8.0 (↑i↓o)
	475V	2.5 (↑i↑o), 3.0 (↑i↑o), 4.0 (↑i↑o),
		6.0 (↑i↑o), 8.0 (↑i↑o)
	975XLV	0.75 (↑i↑o), 1.0 (↑i↑o)
	975XLV	0.75 (↑i↓o), 1.0 (↑i↓o),

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↑ - vertical up only

↓ - vertical down only

↑ ↓ - vertical up and down

↑i↓o - vertical up inlet and vertical down outlet

↑i↑o - vertical up inlet and vertical up outlet

ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection <hr/> SUBJECT: Approved Backflow Prevention Assemblies Page 7 of 11
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DOUBLE CHECK VALVE ASSEMBLIES

<u>Company</u>	<u>Model/Series</u>	<u>Size (In Inches)</u>
AMES	2000-DCA	4.0, 6.0, 8.0, 10.0
	2000 SE	2.5, 6.0 (↑), 8.0 (↑)
	2000 SS	0.75 (↑), 1.0 (↑) 1.5, 2.0, 2.5 (↑), 3.0 (↑),
		4.0(↑), 6.0 (↑), 8.0, 10.0
	2000B	0.5 (↑), 0.75 (↑) 1.0, 1.25 (↑), 1.5 (↑),
		2.0 (↑)
	2000CIV	4.0, 6.0, 8.0, 10.0
	2001 SS	3.0 (↑), 4.0 (↑)
	Colt 200a	2.5 (↑), 3.0 (↑), 4.0 (↑)
	Maxim 200a	2.5 (↑), 3.0 (↑)
	Colt 200Na	2.5(↑↓o), 3.0(↑↓o), 4.0(↑↓o)
	Maxim 200Na	2.5(↑↓o), 3.0(↑↓o)
BUCKNER CLA-VAL	24100	0.75, 1.0, 1.25, 1.5, 2.0
	D-2	0.75, 1.0, 1.25, 1.5
	D-4	2.0, 2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	DC6LW	0.75 (↑), 1.0, 1.5, 2.0
	DC7L (W/Y)	2.5, 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0, 10.0
	DC8L (W/Y)	4.0 (↑), 6.0 (↑), 8.0 (↑)
	DC8N (W/Y) - N Shape	2.5, 3.0, 4.0 (↑), 6.0 (↑), 8.0
	DC8V (W/Y) - Z Shape	2.5, 3.0, 4.0, 6.0, 8.0
CONBRACO	40-100	0.75, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0,
		10.0
	DC (a/k/a 4S-100)	0.5 (↑), 2.5 (↑), 3.0 (↑), 4.0 0 (↑), 6.0(↑),
		8.0 (↑),10.0 (↑)
FEBCO	40-106-A2	1.25
	40-106-997	1.25
	805Y	0.75 (↑), 1.0, 1.5, 2.0
	805YD	2.5, 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0, 10.0
	850	0.5 (↑), 0.75 (↑), 1.0 (↑), 1.25 (↑), 1.5 (↑),
		2.0 (↑), 2.5 (↑), 3.0 (↑), 4.0 (↑), 6.0 (↑),
	851	8.0 (↑)
	870	4.0 (↑), 6.0 (↑), 8.0
	870V	4.0 (↑), 6.0 (↑), 8.0 (↑)
	870 - N Shape	2.5, 3.0, 10.0
	870V - Z Shape	2.5, 3.0

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FLOMATIC	DCVE	0.75, 1.0, 1.5, 2.0
	DCV	0.75, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 6.0, 8.0
HERSEY/GRINNELL (BEECO)	FDC	0.75, 1.5, 2.0
	HDC	0.75, 1.0, 1.5, 2.0
KENNEDY	No. 2	3.0, 4.0, 6.0, 8.0, 10.0
	1373	4.0, 6.0, 8.0, 10.0
ORION	BDC	0.75, 1.0, 1.5, 2.0, 3.0, 4.0
WATTS	007	0.50 (↑), 0.75 (↑↓), 1.0 (↑↓), 1.5 (↑↓), 2.0 (↑↓), 2.50 (↑↓), 3.0 (↑↓)
	007M1Qt	1.0(↑), 2.0 (↑)
	007M2Qt	1.25 (↑), 1.5 (↑)
	709	0.75 (↑↓), 1.0 (↑↓), 1.25 (↑↓), 1.5 (↑↓), 2.0 (↑↓), 2.5 (↑↓), 3.0 (↑↓), 4.0 (↑↓),
		6.0 (↑), 8.0 (↑), 10.0 (↑)
	774	0.75, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0, 4.0 (↑), 6.0 (↑), 8.0(↑), 10.0
	774X	6.0 (↑), 8.0 (↑)
	775	3.0 (↑), 4.0 (↑)
	775QT	0.5 (↑) 0.75 (↑), 1.0 (↑), 1.25 (↑), 1.5 (↑), 2.0(↑)
	757a	2.5 (↑), 3.0(↑), 4.0(↑), 6.0 (↑)
	757Na	2.5(↑↓o), 3.0 (↑↓o), 4.0 (↑↓o), 6.0 (↑↓o)
	950	0.75, 1.0, 1.25, 1.5, 2.0, 2.5 (↑), 3.0(↑), 4.0 (↑), 6.0 (↑), 8.0 (↑), 10.0 (↑)
WILKINS	950XL	0.75 (↑), 1.0, 1.25, 1.5, 2.0
	950XLT	0.75, 1.0
	950XLU	0.75, 1.0, 1.5, 2.0
	350	2.5(↑), 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0 (↑), 10.0 (↑)
	350A	4.0 (↑), 6.0 (↑), 8.0 (↑)
	350DA	2.5(↑), 3.0(↑), 8.0(↑), 10.0(↑)
	450	2.5(↑↓o), 3.0(↑↓o), 4.0 (↑↓o), 6.1 (↑↓o), 8.0(↑↓o), 10.0 (↑↓o),

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ENVIRONMENTAL HEALTH MANUAL

NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection SUBJECT: Approved Backflow Prevention Assemblies Page 9 of 11
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DOUBLE CHECK DETECTOR ASSEMBLIES

<u>Company</u>	<u>Model/Series</u>	<u>Size (In Inches)</u>
AMES	3000 DCDA	4.0, 6.0, 8.0, 10.0
	3000 SE	2.5, 6.0(↑), 8.0(↑)
	3000 SS	2.5 (↑),, 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0, 10.0
	3000B	2.0
	3000CIV	4.0 (↑), 6.0 (↑), 8.0 (↑), 10.0 (↑)
	3001 SS	3.0 (↑), 4.0 (↑)
CLA-VAL	DD7LY	3.0, 4.0 (↑), 6.0 (↑), 8.0, 10.0
	DD8LY	4.0 (↑), 6.0 (↑), 8.0 (↑)
	DD8NY - N Shape	4.0 (↑), 6.0 (↑), 8.0
	DD8VY - Z Shape	4.0, 6.0, 8.0
CONBRACO	40-600	3.0, 4.0, 6.0, 8.0, 10.0
	DCDA (a/k/a 4S-600)	2.5 (↑), 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0(↑), 10.0(↑)
FEBCO	806YD	3.0, 4.0 (↑), 6.0 (↑), 8.0, 10.0
	856	2.5, 3.0, 4.0 (↑), 6.0 (↑), 8.0 (↑)
	876	2.5, 3.0, 4.0 (↑), 6.0 (↑), 8.0, 10.0
	876V	2.5, 3.0, 4.0 (↑), 6.0 (↑), 8.0 (↑)
HERSEY/GRINNELL (BEECO)	DDC-II	3.0, 4.0, 6.0, 8.0, 10.0
WATTS	007 DCDA	2.0 (↑), 2.5 (↑), 3.0
	709 DCDA	3.0 (↑ ↓), 4.0 (↑ ↓), 6.0 (↑), 8.0 (↑), 10.0 (↑)
	774 DCDA	3.0, 4.0 (↑), 6.0 (↑), 8.0, 10.0
	774 XDCDA	6.0 (↑), 8.0 (↑)
	775 DCDA	3.0 (↑), 4.0 (↑)
	757a - DCDA - BF	2.5 (↑), 3.0 (↑), 4.0 (↑)
	757a - DCDA - GV	2.5 (↑), 3.0 (↑), 4.0 (↑)

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NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection SUBJECT: Approved Backflow Prevention Assemblies Page 10 of 11
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WILKINS	950DA	2.5 (↑), 3.0 (↑), 4.0 (↑), 6.0 (↑), 8.0 (↑),
		10.0 (↑)
	350DA	4.0 (↑), 6.0 (↑)
	350ADA	4.0 (↑), 6.0 (↑), 8.0 (↑)
	450DA	4.0 (↑↓o), 6.0 (↑↓o)

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NEW YORK STATE DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH CENTER FOR ENVIRONMENTAL HEALTH TECHNICAL REFERENCE	ITEM NO: PWS-14 DATE: 9/1/04 Bureau of Water Supply Protection SUBJECT: Approved Backflow Prevention Assemblies Page 11 of 11
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REDUCED PRESSURE DETECTOR ASSEMBLIES

<u>Company</u>	<u>Model/Series</u>	<u>Size (In Inches)</u>
AMES	5000 CIV	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	5000 RPDA	4.0, 6.0, 8.0, 10.0
CLA-VAL	18	10.0
	RD7LY	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
CONBRACO	40-700	3.0, 4.0, 6.0, 8.0, 10.0
FEBCO	826YD	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
HERSEY/GRINNELL (BEECO)	6CM-RPDA	4.0, 6.0, 8.0, 10.0
WATTS	909 RPDA	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
WILKINS	375DA	4.0, 6.0, 8.0
	375ADA	4.0, 6.0, 8.0
	475DA	4.0 (↑↓o), 6.0 (↑↓o)
	475DAV	4.0 (↑↑o), 8.0 (↑↑o)
	975DA	2.5, 3.0, 4.0, 6.0, 8.0, 10.0
	975MS	8.0, 10.0

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