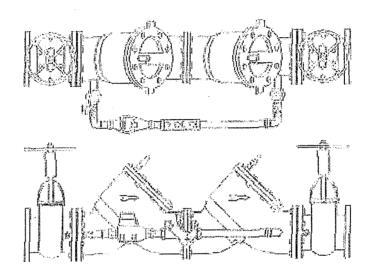


Cross Connection Control Program Information Manual

United Water New Rochelle Service Areas





INTRODUCTION

This manual provides customers within the United Water New Rochelle service area with submission information, Westchester County Department of Health regulations, fees and procedures necessary for the submission of plans for the approval of Backflow Prevention Devices by the Westchester County Department of Health.

Our plan submission and engineers' check list is designed to take you step by step through each requirement needed for your installation.

If you should have any questions or require more information on a Backflow Prevention Device Application submission, testing requirements or procedures please contact our Cross Connection Control office at (914) 637-5319.

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RESPONSIBILITIES

- A. New York State Department of Health
- B. Supplier of water: United Water New Rochelle
- C. Customer

BACKFLOW PREVENTION RESPONSIBILITIES

A. NEW YORK STATE DEPARTMENT OF HEALTH

The New York State Department of Health is authorized by the Public Health Law S 201 to supervise and regulate the sanitary aspects of water supplies. A community's water supply system must be free of all sanitary hazards, including unprotected cross-connections.

The Department requires the supplier of water to take preventive action against any water customer who may pose a threat to the public water supply system and see to it that such a customer is required by the supplier to install, test and maintain an acceptable backflow prevention device. The Department of Health also requires that customers prevent cross-connections in on-premises piping systems. These regulations are administered by the Westchester County Department of Health, 145 Huguenot Street, New Rochelle, N.Y. 10801

B. SUPPLIER OF WATER: UNITED WATER NEW ROCHELLE

The supplier of water responsibility for cross-connection control is found in Part 5 of the State Sanitary Code, Section 5-1.31 entitled, "Cross Connection Control."

The supplier of water is responsible to assure that water of questionable or unsuitable quality does not enter the public water supply system.

The supplier is required to determine the degree of hazard

that a facility poses to his water supply system, and to require that an acceptable backflow prevention containment device be installed, tested, operated and maintained and that adequate records of maintenance and repair are kept.

C. CUSTOMER

The customer has the primary responsibility of preventing contaminants from entering the potable water piping system and subsequently, the public water supply.

He shall, as required by the supplier of water per Part 5, Section 5-1.31 (a) and (b), install, test, operate, maintain and keep adequate maintenance and repair records for every backflow prevention device installed to provide containment.

Additionally, as stated in Part 5, Section 5-1.31 (c), the customer shall prevent cross-connections between the potable water piping system and any other piping system within his facility.

The customer must prepare plans, engineering report and application to the Westchester County Department of Health. These plans and applications are submitted to United Water New Rochelle for review and approval. After United Water New Rochelle approval they are forwarded

to Westchester County Department of Health for review and final approval.

PLANS & SPECIFICATIONS

A. PREPARATION

The New York State Education Law pertaining to Professional Engineers and Land Surveyors Article 145ff, Section 7200, requires that a project involving the safeguarding of life, health and property must be designed by a Registered Professional Engineer (P.E.) of the State of New York. The design of backflow prevention device installations is such a project. An architect licensed in this State may also design the installation. The installation of the device must be made by a licensed plumber. It is the responsibility of the customer to obtain all necessary plumbing permits, plans, reports and application to Department of Health.

B. SUBMISSION AND APPROVAL

The following forms and procedures must be followed:

Forms: 1. DOH347 - New York State Department of Health Application for Approval of Backflow Prevention Device(s).

Attach a "Certificate of Resolution For Authorization" or letter of authorization from the owner or officer of company.

- 2. GEN237 New York State Department of Health Certificate of Approval for Backflow Prevention Device(s).
- 3. DOH1013 Report of Testing and Maintenance of Backflow Prevention Device.

PROCEDURE:

1. Water Customer No

Notifies United Water New Rochelle Official

- a. (UWNR) of intent to make and maintain a
- b. service connection to the public water
- c. supply system.

2. UWNR

Investigates conditions at the site of

- a. proposed service connection installation
- b. requests technical advice from Westchester County Department of Health
 - Engineer (WCDOHE), if
- c. necessary.
- 3. Requests Water Customer to submit plans
 - a. and specifications and application (Form
 - b. DOH347) for proposed connection, 5 copies of each.
- 4. Water Customer

Submits plans, specifications and

- a. application (Form DOH347) 5 copies of each,
- b. to UWNR with \$55.00 application fee for each
- c. backflow device. Make check payable to:
- d. Westchester County Department of Health. A check for \$150.00 must be submitted payable to United Water New Rochelle for application review fee.

5. UWNR

Reviews submission.

- a.5(a) Transmits with recommendation to be approved by WCDOH. One copy remains on file at United Water New Rochelle.
- b. 5(b) Disapproves and returns submission

- i. to Water Customer for correction
- ii. and re-submittal.

6. WCDOH

Reviews submission.

- a. 6(a) Transmits with recommendations for approval to Bureau of Public Water Supply (BPWS).
- b. 6(b). Disapproves and returns submissioni. for corrections and re-submittal.

7. BPWS

Evaluates application, plans and Specifications.

- a. recommends and approves
 - i. application, sends letter
 - ii. of approval, Certificate of Approval
 - iii. (Form GEN 237), and copy of approved
 - iv. plans to UWNR, Engineer/Architect owner.
- b. Disapproves and returns
 - i. submission for modification and
 - ii. re-submittal.
- 8. Water Customer

All devices must be installed within 90 days of the D.O.H. approval date and must be tested

- a. by a certified tester, certified by
- b. New York State Board of Health within
- c. 45 days after installation. One copy of
- d. the test must be sent to the NYS WCDOH and
- e. one copy to United Water New Rochelle.
- 9. Water Customer

Disassembles and overhauls RPZ or DCV

- a. every five years.
- 10. Submits reports of inspection, testing,
 - a. disassembly and overhaul to UWNR and
 - b. WCDOH Engineer within 30 days of completion.
 - c. One copy of each device tested must be sent
 - d. to the NYS WCDOH and one copy of each
 - e. device tested to United Water New Rochelle.

f. See: Testing & Maintenance.

11. UWNR Inspect devices after installation and maintain initial and annual test reports (DOH1013).

TESTING & MAINTENANCE

A. TESTING

Backflow prevention devices must be tested and inspected to ensure continued reliability. Tests must be made after initial installation and after each repair. The device must be tested on a yearly basis after the initial test is performed. A yearly test will be considered as the minimum. The testing is to be done by a certified tester, certified by the State of New York. Copies of all test reports must be sent to the N.Y.S. D.O.H. Westchester County) and United Water New Rochelle (UWNR).

NEW YORK STATE DEPARTMENT OF HEALTH BACKFLOW PREVENTION ASSEMBLY INSTALLATION GUIDELINES

NEW YORK STATE DEPARTMENT OF HEALTH BUREAU OF PUBLIC WATER SUPPLY PROTECTION GUIDELINES FOR DESIGNING BACKFLOW PREVENTION ASSEMBLY INSTALLATIONS SUPPLEMENT TO THE 1981 CROSS CONNECTION CONTROL MANUAL JANUARY 1992

PURPOSE

The purpose of these guidelines is to augment and/or clarify those guidelines outlined in the January 1981 Cross Connection Control Manual. These guidelines reflect accepted design considerations based on experience in implementing cross connection control programs and policies set forth by the American Water Works Association, Environmental Protection Agency, USC Foundation for Cross Connection Control and Hydraulic Research and state and local health departments. Pending revisions to the manual, these guidelines should clearly outline what an acceptable design and installation constitutes. They are to be reasonably interpreted and will be updated as new design solutions and technologies are offered.

GENERAL INSTALLATION DETAILS

I. CLEARANCES

All double check valve (DCV) and reduced pressure zone (RPZ) backflow prevention assemblies are designed for in-line service and must be installed to prevent freezing, flooding and mechanical damage with adequate space to facilitate maintenance and testing. Ideally, the installation should not require platforms, ladders or lifts for access.

Adequate clearances from floors, ceilings and walls must be provided to access the test cocks and to allow the repair and/or removal of the relief valve and check valves; as follows:

- . All assemblies shall be installed with a centerline height from 30 inches to 60 inches above the floor. Any installation at a greater height shall be provided with a fixed platform, a portable scaffold or a lift meeting OSHA standards.
- All RPZ devices must have an 18-inch minimum clearance between the bottom of the relief valve and the floor to prevent submersion and provide access for servicing the relief valve.
- . A minimum of 12 inches of clear space shall be maintained above the assembly to allow for servicing check valves and for operation of shut-off valves.
- A minimum of 30 inches of clear space shall be maintained between the front side of the device and the nearest wall or obstruction.
- At least 8 inches clearance should be maintained from the back side of the device to the nearest wall or obstruction. United Water New Rochelle requires 12" clearance from the back side of the device to any wall or obstruction. This clearance may need to be increased for models that have side mounted test cocks or relief valves that would be facing the back wall.

II. MISCELLANEOUS

- All assemblies shall be adequately supported and/or restrained to prevent lateral movement. Pipe hangers, braces, saddles, stanchions, piers, etc., should be used to support the device and should be placed in a manner that will not obstruct the function of or access to the relief valve or check's.
- Strainers are recommended prior to each backflow prevention assembly on non-fire fighting water lines. No strainer is to be used in a fire line without the approval of the insurance underwriters or the authority having jurisdiction.
- The assembly should be sized hydraulically, taking into account both the volume requirements of the service and the head loss of the assembly. The head loss of the assembly is not necessarily directly proportional to flow. (refer to the manufacturers head loss curves).
- Before selection and installation, refer to manufacturer literature for temperature ranges. All assemblies must be protected from freezing temperatures and if installed where temperatures will reach 110 degrees F or above, a hot water type assembly must be used. Consult manufacturer specifications for recommendations.
- Thermal water expansion and/or water hammer downstream of the assembly can cause excessive pressure. To avoid possible damage

to the system and assembly, use water hammer arresters, surge protectors or expansion tanks as appropriate.

- All approved assemblies should be specified and installed with the manufacturer supplied resilient seated full flow shut off valves integral to the assembly. Unless otherwise approved by the BPWSP, these shut off valves shall be mounted directly to the assembly and shall be supplied by the assembly manufacturer.
- Water lines should be thoroughly flushed before installing the assembly. Most test failures on new installations are the result of debris fouling one of the check valves or the relief valve.
- . All assemblies must be installed horizontally per United Water New Rochelle.
- Parallel installations should be considered at those facilities where water service cannot be interrupted. Manifold installations may also be used on any water line larger than 10 inches.
- Assemblies shall not be installed in areas containing corrosive, toxic or poisonous fumes or gases, which could render the assembly inoperable or pose a safety hazard to personnel.
 - Because of the inherent design of a reduced pressure backflow assembly, fluctuating supply pressure on an extremely low flow or static flow condition may cause nuisance dripping and potential fouling of the assembly. While not effective in all cases, the installation of a soft seated check valve immediately ahead of the

RPZ will often hold the pressure constant to the assembly in times of fluctuating supply pressure.

- Where the distance between the water meter and the device is greater than 10 feet, all exposed piping should be stenciled "Feed Line To Backflow Preventer " DO NOT TAP" at 5 foot intervals.
- . When 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).

DRAINAGE

Drainage for backflow prevention assemblies shall be provided for all installations for DCV or RPZ to accommodate discharge during testing or draining of the unit and for RPZ relief valve discharges, as follows:

- . For RPZ devices, drainage capacity shall be sized to accommodate both intermittent discharges and a catastrophic failure of the relief valve. Refer to manufacturers flow curves to determine maximum discharge rate based on supply pressure or on-site pressure; whichever is greater.
- Discharge from relief valves must be readily detectable to maintenance personnel either visually or by means of water level alarms, flow indicator lights, etc.

- All drainage from RPZ's must be by gravity drains. Sump pumps are not allowed unless they are sized to accommodate the maximum discharge rate and connected to emergency power supplies.
- An air gap must be maintained between the RPZ relief valve opening and any discharge piping. The air gap must be at least twice the dimension for the effective opening of the relief valve; but in no case less than 1 inch.
- Manufacturer's air gap fittings must be utilized provided that they maintain a proper air gap and do not enclose or cover the relief valve. These fittings are only sized to handle intermittent and low flow discharges. Additional drainage capacity may be required to accommodate a catastrophic relief valve failure.
- . Discharge piping from relief valves shall be terminated a minimum of one inch above any floor drain or other receiving receptacle.
- . Discharge piping connected to a storm sewer shall be equipped with backwater check valve.
- . Discharge piping connected to a sanitary sewer shall be trapped and equipped with a backwater check valve.
- Discharge piping from pits or other structures must be terminated above grade in an area not subject to flooding (generally on foot above the 100-year flood elevation). The terminal end of the discharge piping must have a rodent screen and may need to be

supported by a headwall. Flap valves should also be considered to prevent entry of cold air.

. All exterior drains shall be kept free of snow during winter.

VAULT/PIT INSTALLATIONS

Primarily due to considerations for access, safety and gravity drainage, it is preferred that backflow prevention devices not be installed in pits. Where pit installations are proposed, however, they shall be designed:

- To be watertight with watertight access doors extending a minimum of 6 inches above grade and located to allow natural light into the pit during testing/maintenance.
- . With stairways, ladders or step irons.
- . For crane access for installing and removing large assemblies.
- . With adequate horizontal and vertical clearances to allow access to the device.
- . With a full flow screened gravity drain terminating above grade for all RPZ installations as detailed in the drainage requirements.
- . With sump pumps or gravity daylight drains for all DCVA installations.
- . With floors pitched to the drain.
- . With adequate ground cover to prevent freezing.

- . With surface grading to divert runoff away from the entranceway.
- . With Semi-buried pits or berm installations bay be necessary to satisfy gravity drainage requirements.

ABOVE GRADE INSTALLATIONS - PROTECTIVE ENCLOSURES

An above grade installation is generally necessary to provide gravity drainage for RPZ devices. The additional benefits of improved access and enhanced safety are also realized with an above grade installation. Two companies, "Hot Box" and "Hydrocowl", have designed prefabricated insulated enclosures that provide heat, gravity drainage and removable access panels for servicing and testing. As an alternate, wood frame, fiberglass, steel, masonry or precast concrete structures may be utilized. All enclosures shall be designed:

- . With a floor elevation that is at least 6 inches above finished grade.
- . To provide adequate clearances around the device to access the test clocks, shutoff valves, check valves and relief valve.
- . With electric heaters or heat trace wire for any water service used year round.
- . With provisions for natural or artificial light.
- . With full flow gravity drains according to the drainage requirements.

With security measures such as locking doors and panels, flow alarms or flow indicator lights, power indicator lights, etc.

INSTALLATION WITHIN A BUILDING

Where containment at the property line cannot be achieved or is waived based on extenuating circumstances, installation within a building is often desirable as the unit can be installed in a mechanical room or other area that has heat and light. Access and drainage considerations must also be satisfied and the devices should be located to avoid electrical panels, areas of excessive heat, etc.

- 1. Above grade installations shall be provided with adequate clearances and discharge can be directed to floor drains or through a sidewall above grade via screened louvers, scuppers, pipe sleeves with flap valves, etc., in accordance with the drainage requirements.
- 2. Below grade or basement installations are acceptable for DCVA's.

 RPZ's are only allowed below grade where one or more of the following conditions can be met:
 - . Where an adequate gravity drainage system is provided to accommodate a relief valve failure.
 - . Where water level alarms are installed to detect flow from the device and alert maintenance or security personnel.

- . Where sump pumps are sized to accommodate a relief valve failure and are to be connected to emergency power.
- . Where the floor area and volume below the device could accommodate discharge from a relief valve failure. For 2 inch and smaller units, 2,000 cubic feet is generally acceptable. For larger units, the time to submerge the device based on the maximum discharge rate and floor area/volume should be no less than 8 hours.

In any of the above cases, the property owner must be made aware of the potential for water damage in the event of a discharge.

SUBMISSION AND APPROVAL OF PLANS

In accordance with Section 10 of the Cross Connection Control manual, the submission of plans and specifications for the installation of backflow prevention assemblies must include the following:

- 1. A site plan (to scale or with dimensions) of the facility containing a general location map, name and address of facility, property lines, buildings, the size and location of public water main(s) and all fire and domestic water services, meter pits, yard piping and hydrants, pumper connection(s), interconnections, and the location of the proposed backflow preventer(s);
- 2. A plumbing floor plan (plan view) or partial floor plan indicating water services, name and address of facility, water meter layout,

proposed backflow preventer(s), booster pump system, floor drain(s) and all nearby objects (examples: electrical panels, boilers, chillers, storage tanks, fire pumps, fire sprinkler risers, etc.). The plan must be drawn to scale or with dimensions indicated from walls and all nearby objects.;

- 3. A vertical cross section(s) of the proposed installation with elevations from floor, ceiling, outside grade and all nearby objects.
- 4. All drawings must include the name and address of the facility, be stamped and signed by the designer and have a clear space for approval stamps.

ENGINEER'S REPORT

An engineering report must be included with the plan submittal. The report must describe the project in detail. Items that should be included or described in the report include:

- 1. General use of water within the facility;
- 2. Size and description of all fire and domestic water services;
- 3. Number of floors within the facility;
- 4. Actual or estimated maximum flow demand;
- 5. Pressures existing and after the installation of the backflow preventer;

- 6. Description of the fire fighting system indicate the A.W.W.A.

 Manual M-14 class of sprinkler service;
- 7. Description of the proposed installation of the backflow preventer - indicate the location of backflow preventer, drainage, lighting, heating, access to unit, square footage of the floor level where the backflow preventer is to be located;
- 8. Description of the existing or proposed booster pump system, answering the following questions:
 - 1. After the installation of the proposed backflow preventer(s), will the Net Positive Suction Head (NPSH) required for the proper operation of the booster pump system be adequate?
 - 2. After the installation of the backflow preventer(s) in the suction line to the booster pump system, will the booster pump system operate properly at peak demand to deliver adequate pressure to the highest elevation and/or most remote fixture unit or any other operation requiring a certain pressure? Note: The New York State Uniform Fire Prevention and Building Code Part 902.4c requires the minimum pressure at water outlets at all times to be as follows:

Fixture - non flush valve - 8 psi

Fixture - flush valve - 15 psi

3. Does the booster pump system have a pressure cutoff switch in the suction line? What is the pressure setting of the

switch? An existing or proposed cutoff switch must be set at the following setting:

For a cutoff switch where the backflow preventer is located upstream of the booster pump(s) - set at 10 psi.

For a cutoff switch where the backflow preventer is located downstream of the booster pump(s) - set at 20 psi.

- 9. The need for dual backflow preventers. Does the facility need a continuous water supply?
- 10. The elevation and location of the 100 year flood plain in relation to the facility. A reduced pressure zone (RPZ) backflow preventer must generally be installed 1 foot above the 100-year flood plain elevation.
- 11. An inventory of any existing containment devices to include the make, model, size and serial number of the device. Current annual test reports must also be submitted. The degree of hazard for these services must be determined to insure that the device provides the correct protection.

CERTIFIED TESTING AND COMPLETED WORKS APPROVAL

After an approval of plans has been issued and the assembly has been installed, it must be tested by a certified tester. The designer (or water supplier) is then responsible to certify that the installation

was done in accordance with approved plans; or describe any changes or submit "As Built" plans as appropriate.

The initial test results and certification are then submitted to the water supplier and approving agent for issuance of a Completed Works Approval. Form DOH1013 has been designed for both the certified test results and the designer's certification of the installation.

After issuance of the Completed Works Approval, the assembly must be tested at least annually by a certified tester with the results reported to the water supplier.

UNITED WATER NEW ROCHELLE PLAN SUBMISSION CHECK LIST ENGINEERS REPORT CHECK LIST

All questions should be answered and will help you with your submission to make sure all information is on application, plans and engineers report.

BACKFLOW PLAN SUBMITTAL CHECKLIST

is e

Location:			
 Application must be filled out completely (5 copies). All must have original signatures by owner, architect or engineer. All must have original seal of architect or engineer. 	Yes	No	
 2A) Certificate of Resolution for Authorization, (For corporation), must be notarized and have corporate seal. (5 copies) *(Name of person to be authorized is Architect or Engineer). **(Person signing for corporation must be the same person signing the application as the Owner). 	Yes	No	N/A
2B) Letter of Authorization if not a corporation, must be notorized (5 copies) *(Name of person to be authorized is Architect or Engineer).	Yes	No	N/A
3) Engineer's report (5 copies) All signatures must be original, signed and sealed by Architect or Engineer. Yes	No		
 5 copies of plans. All signatures must be original, signed and sealed by Architect or Engineer. 	Yes	No	
5) \$150.00 check made out to "Westchester County Department of Health" per device.	Yes	No	
**\$150.00 check made out to UWNR – per application. 11 WNR Application fee DOES NOT APPLY TO RYE/RYEBROOK/PORT CHES	Yes STER	No	
 Make, model # & size of device to be on plans Must be approved device by Westchester County Dept. of Health. Internal devices and boiler feeds must be tested annually. Must be overhauled every 5 years. Device must be installed within 90 days after DOH approval and tested by a Certified tester within 45 days of installation. Part B of Test Report must be completed by the Architect or Engineer and returned to the water supplier and the 	Yes Yes Yes Yes Yes	No No No No	
7) Location of device must be on plans. Example (Meter room)	Yes	No	
* Device to be installed right after meter and as close to point of entry as possible.	Yes	No	•
8) Show plot or site plan (must indicate cross street and north arrow and where water service enters building).	Yes	No	
*If not on plans, must be signed & sealed (original) by Architect or Engineer	Yes	No	N/A

9) Plans must include NYS Education Law note	Yes	No	
10) Must have adequate heat & light at location of device on plans	Yes	No	N/A
11) Dimensions off wall (12" min.) & floor (min. 30"-max. 60") on plans	Yes	No	N/A
* Must have 30" clearance in front of device *A Device cannot be installed closer than 24" from the ceiling * RPZ's must have 18" clearance between bottom of the relief valve and floor	Yes	No	N/A
12) 1/4 turn ball valves must be shown on both sides of device & meter. If larger than 2" must indicate type of valves used.	Yes	No	N/A
*Devices to be installed on commercial fire services must be double detector check assembly and must have O.S.&Y. Resilient Wedge valves	Yes	No	N/A
* Residential homes a double check valve is required.	Yes	No	N/A
 If antifreeze or additives are used in commercial or residential fire sprinkler system, Reduced Pressure Zone (RPZ) type device is required. Yes 	No	N/A	
* Strainer must be shown on domestic services only	Yes	No	N/A
13) Plans to show where device will drain (e.g. daylight, sanitary/storm sewer)	Yes	No	N/A
14) If device drains to san./storm sewer, line must be trapped & checked	Yes	No	N/A
15) RPZ's to show air gap 2 x diameter of pipe between device & drain line	Yes	No	N/A
16) Drain line must have appropriately sized funnel and must be sized to accommodate a catostrophic discharge at the maximum water pressure	Yes	No	N/A
17) If RPZ is located in basement a flood floor alarm must be installed	Yes	No	N/A
18) Each device to have separate application, engineer's report & check	Yes	No	N/A

Backflow Plan Checklist.DOC 10/25/2010

ENGINEER'S REPORT CHECKLIST FOR BACKFLOW PLANS

Location:			
1) General use of water within the facility	Yes	No	
2) Size and description of all fire and domestic water services	Yes	No	
3) Number of floors within the facility	Yes	No	
4) Actual or estimated maximum flow demand	Yes	No	
5) Pressures - existing and after the installation of the backflow preventer	Yes	No	
6) Hydraulic calculations which verify the existing or proposed service(s) are adequately designed to meet maximum demands. Must be submitted and accepted by UWNR engineering dept. These calculations should include losses through a meter, BFP and piping where applicable.	Yes	No	·
7) Description of the fire fighting system	Yes	No	N/A
8) Description of the proposed installation of the backflow preventer - indicate the locati drainage, lighting, heating, access to unit, square footage of the floor level where the backflow	on of ba kflow pi	ckflow p eventer i	reventer, s to be
located	Yes	No	
9) Description of the existing or proposed booster pump system, answering the following	g questio	ns:	
A) After the installation of the proposed backflow preventer(s), will the Net Pos	sitive Su	ction He	ad (NPSH)
required for the proper operation of the booster pump system be adequate?	Yes	No	N/A
B) After the installation of the backflow preventer(s) in the suction line to the b booster pump system operate properly at peak demand to deliver adequate pres and/or most remote fixture unit or any other operation requiring a certain pressunce State Uniform Fire Prevention and Building Code Part 902.4c requires the minimulation outlets at all times to be as follows:	sure to ti ure? No	ne highes te: The N	it elevation

Fixture - non flush valve - 8 psi

Fixture - flush valve - 15 psi

Yes No N/A

C) Does the booster pump system have a pressure cutoff switch in the suction line? What is the pressure setting of the switch? An existing or proposed cutoff switch must be set at the following setting:

For a cutoff switch where the backflow preventer is located upstream of the booster pump(s) - set at 10 psi

Yes No N/A

For a cutoff switch where the backflow preventer is located downstream of the booster pump(s) - set at 20

Yes No N/A

10) The need for dual backflow preventers. Does the facility need a continuous water supply?

Yes No

11) The elevation and location of the 100 year flood plain in relation to the facility. A reduced pressure zone (RPZ) backflow preventer must generally be installed 1 foot above the 100 year flood plain elevation.

Yes No N/A

12) An inventory of any existing containment devices to include the make, model, size and serial number of the device. Current annual test reports must also be submitted. The degree of hazard for these services must be determined to insure that the device provides the correct protection.

Yes No N/A

Backflow Eng Report Checklist.DOC 10/25/2010

Public Water Suply
Title 10 Updated 4/30/98
New York State Department of Health
Section 5-1.31 Cross connection control.



(a) The supplier of water shall protect the public water system by containing potential contamination within the premises of the user in the following manner:



- (1) by requiring an approved air gap, reduced pressure zone device, double check valve assembly or equivalent protective device consistent with the degree of hazard posed by any service connection;
- (2) by requiring the users of such connections to submit plans for the installation of protective devices to the supplier of water and/or the State for approval; and



- (3) by assuring that all protective devices be tested at least annually. Records of such shall be made available to and maintained by the supplier of water. Such tests shall be conducted by certified backflow prevention device testers pursuant to the following requirements.
- (i) A "general tester" certification will be issued when the applicant presents proof of satisfactory completion of a training course for testers of backflow prevention devices which has been approved by the department.
- (ii) A "limited tester" certification will be issued when the applicant presents proof of employment by a manufacturer as its agent for the servicing, maintaining and testing of backflow prevention devices.
- (iii) The department has the authority to require any person applying for certification or renewal of certification as a certified tester of backflow prevention devices to take a written, oral or practical examination, if it deems such examinations to be reasonably necessary in determining the applicant's qualifications. The results of such examinations may be the sole basis for approval or disapproval of an application for certification or renewal of certification.
- (iv) At least three months before the expiration date of a current certificate, both a general tester and a limited tester must submit proof that they are still engaged in the activity represented by their current certification.
- (v) A certification will be suspended or revoked, on due notice and an opportunity for a hearing thereon, for any of the following reasons: submission of false test reports for backflow prevention devices; proof that the person is no longer engaged in servicing, maintaining and testing backflow prevention devices; or failure to apply for recertification.
- (b) The supplier of water should not allow a user to establish a separate source of water. However, if the user justifies the need for a separate source of water, the supplier of water shall protect the public water system from a user who has a separate source of water and does not pose a hazard as detailed in subdivision (a) of this section in the following manner:
- (1) by requiring the user to regularly examine the separate water source as to its quality;
- (2) by approving the use of only those separate water sources which are properly developed, constructed, protected and found to meet the requirements of sections 5-1.51 and 5-1.52 of this Subpart; and
- (3) by filing such approvals with the State annually.
- (c) All users of a public water system shall prevent cross connections between the potable water piping system and any other piping system within the premises.
- (d) Any installation, service, maintenance, testing, repair or modification of a backflow prevention device shall be performed, in accordance with the provision of any county, city, town or village having a plumbing code. For this section, a backflow prevention device is an approved air gap, reduced pressure zone device, double check valve assembly or equivalent protective device designed to prevent or contain potential contamination of a public water system. All individuals who perform testing of backflow prevention devices shall be certified, in accordance with paragraph (3) of subdivision (a) of this section.

P.S.C. No._1____ (Gas, Electricity, Steam or Water)

UNITED WATER NEW ROCHELLE INC.

(Name of Issuing Corporation or Municipality)

Second Revised Leaf No. 98 Superseding First Revised Leaf No. 98

GENERAL INFORMATION

CROSS CONNECTION CONTROL 43.

The following provisions are intended to implement the Company's general right to protect its water supply from contamination and more specifically, to implement the cross connection control responsibilities imposed on the Company by the Public Health Law and the State Sanitary Code. A cross connection means a physical connection through which a water supply could be contaminated via the intrusion of a contaminant from the customer's premises as a Backflow is a reversal in the normal or result of backflow. intended flow of water because of a differential in pressure that causes the flow of water into the distribution system from any source other than its intended source.

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Upon determination of the Company or the State Commissioner of Health or, when duly authorized, a local Health Department, that a potential for contamination exists and that backflow prevention device is required by provisions then in force under the State Sanitary Code or under guidelines issued by the State Commissioner of Health in force at such time, such device will be provided by and installed at the expense of the customer. The State Sanitary Code essentially provides that in such event, the customer shall submit plans prepared by a professional engineer (or architect) licensed and registered in New York State. The customer shall pay a \$150.00 application fee upon the submittal of the plans to the the customer shall have the protective device submissions, maintenance, testing and reporting procedures required for the device in accordance with the State Sanitary Code. In the event that the installation of the backflow prevention device does not conform to the approved the State Sanitary Code. accordance with the State Sanitary Code, the customer shall be charged a \$50.00 surcharge for failure to perform such procedures.

The State Health Department Guidelines regarding cross connection control, including a list of typical establishments requiring devices, are available to the customer upon request. Details of the Company's cross connection program are also available to the customer upon request.

Issued under authority of Public Service Commission, State of New York, Order 00-10 in Case No. 99-W-0948, Dated August 21, 2000.

Date of Issue: August 31, 2000

Date Effective: September 1, 2000

P.S.C. No. 1 Water (Gas, Electricity, Steam or Water)

UNITED WATER NEW ROCHELLE INC.
(Name of Issuing Corporation or Municipality)

Second Revised Leaf No. 99 Superseding First Revised Leaf No. 99

GENERAL INFORMATION

- 3. If the customer disagrees with a finding for the need of a backflow prevention device, the type of device or the amount of time given to submit plans or to install the device, the customer has the right to appeal to the State Commissioner of Health. The customer's appeal shall be submitted to the Company and the State Commissioner of Health within 30 days of the notification of the need for the device. The determination of such appeal by the State Commissioner of Health shall be conclusive.
- 4. The Company may discontinue service to a customer who fails to comply with the requirements of the State Sanitary Code or the Public Health Law pertaining to cross connections or the finding and/or determination referred to in the preceding paragraph.
- through its properly authorized The Company, assistants, may request and, upon the consent of the customer, may enter the premises of any customer who is supplied with water to examine the pipes and fixtures, backflow prevention devices, the quantity of water used, the manner and nature of water used, types of stored materials, supplies and products, processes, private wells, swimming pools, underground law irrigation systems, fire sprinkler systems, solar heating systems, or any other products or processes which may endanger the quality of the Company's water supply. Alternatively, the customer may have such an inspection performed by a professional engineer (or architect) licensed and registered in New York State who would certify the results of the Certification by non-company inspection to the Company. inspectors must be to the Company's satisfaction.
- water service may be discontinued by the Company for refusal to grant access for the aforementioned purposes, (a) where the Company has a reasonable basis to believe, from the nature or use of such premises, that a determination should be made as to the existence, non-existence or degree of contamination hazard or (b) where the activities there are comparable or similar to those of typical establishments listed in the State Department of Health guidelines as requiring protective devices. However, the customer will not be subject to discontinuance if, upon the refusal to provide access, he provides a certification by a professional engineer (or architect) licensed and registered in New

Issued under authority of Public Service Commission, State of New York, Order 00-10 in Case No. 99-W-0948, Dated August 21, 2000.

Date of Issue: August 31, 2000 Date Effective: September 1, 2000

WESTCHESTER COUNTY DEPARTMENT OF HEALTH BACKFLOW PREVENTION APPLICATION AND TESTING FORMS

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

Application For Approval of Backflow Prevention Devices

PRINT OR TYPE ALL E	NTRIES EXC Ihrough 12a	EPT SIGNATURES + Block and Lot Numb			Log No		
1. Name of Facility				ity, Village, Tow	ın	3. County	
4. Location of Facility st	reet		city	•	state	ziρ	
4a. Phone Numbers			Con	act Person			
5. Approx. Location of D	evice(s)			6, Mig. Mod	iel#	Size of Device(s)	
	1	dia Cassina	# of Combi	ned Services	Total # of Servi	ces Total # of Buildings	
# of Fire Services	# 01 D0	mestic Services					
7. Name of Owner		Title ·	Phone	Number		ure of works Initial Device Installation	
Full Mailing street					· · · · · · · · · · · · · · · · · · ·	□ Replace Existing Device □ New Service	
Address city		state		zip •		☐ Existing Service	
			<u>.</u> п	n d y		☐ New Building ☐ Existing Building	
Owner's Signature			Date			☐ Major Renovation	
Name of Design Engin	eer or Archite	ect .	•	•	10. NY	'S License #	
		Address	261			PE RA Other	
		city			10a. T	elephone Number(s)	
		state	ziŗ) '			
				· · · · · · · · · · · · · · · · · · ·			
					Date	1 /	
Original lnk signature and s	eal required o	n all copies.	signature)		m d y	
11. Water System Pressur	e (psi) at Po		12. Estima	ite installation (Cost 12a. Es	stimate Design Cost	
Max A	<u>g</u>	Min	000000000000000000000000000000000000000	reasons that le	ad to degree of	hazard checked;	
13. Degree of Hazardou			processes or				
	illy Objection	able	Name of s	unnliers design	nated represent	ative	
4. Public water supply na	:1)10		148110 01 0			l	
Mailing address			Title				
city	state	zip				m d y	
Talephone No. ()		Signature* Date				

Note: All applications 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.



CERTIFICATION OF RESOLUTION FOR AUTHORIZATION

The undersigned,
(name of corporation)
duly organized and validly existing under the laws ofherei
certifies that the following resolution was duly adopted by the Board of Directors,
said Corporation, at a meeting duly called and held on the day or
. 19
Be it resolved that the Board of Directors, or President if there is no Board of
Directors, of(name of corporation)
with offices at
hereby authorizes(type name of person authorized)
to execute and deliver to the Westchester County Department of Health, for and on
behalf of said Corporation, an Application for a Permit to Operate/Construct a
(type of operation/device)
and to execute and deliver any and all additional documents which may be appropriate
or desirable in connection therewith.
The undersigned further certifies that said resolution has not been revoked, re-
scinded, or modified and remains in full force and effect on the date hereof.
IN WITNESS WHEREOF, the undersigned has duly executed this Certificate this
day of
Officer's Signature:
Print Name:
Title: ACKNOWLEDGEMENT)
SS.:
on this day of, 19, before me personally came to me known, and known to me to be the the corporation referred to in the william
of
of said corporation and that (s)he signed his/her

Westchester County Department Of Health Bureau of Environmental Quality 145 Huguenot Street, 7th Floor New Rochelle, New York 10801

Dear Sir or Madam:	
I hereby authorize the installation of (a) Backflow Prevention Device	e(s) on my property, located
at	
as designated by	_ ·
Signed	
·	
Notary	
(sign & seal)	

Report on Test and Maintenance of Backflow Prevention Device

Part A	D.	•		_	⊑	For the year initial test - Complete entire
Jblic Wat	er Supply .	ease use a separa	ite form f Account N		County	Annual test - Complete Part A
Facility Nar	ne .				Location of Devic	:8
1 acmity rear	(18					
Address						•
	reet	diy	zip			
Device Information	Manufacturer	Type RP	1		Size (in inches	Serial Number
	Check Yaive No. 1	Check:Valv	re No. 2	ם	Hierential Pressur Rellef Valve	Secondaria December
Test before repair	Leaked Closed tight Closed tight Closed tight Chessure drop across firs check-valve psk			Ope	oned atpsi	
Describe repairs and materials used						Repaired by Name Lic # Date repaired
F	Closed tight Pressure drop across first heck valve psid	Closed light (Open	ed atpsid	Date d y
Lier Meter Nu	imper	Meter Reading			Service: (check of	ne) Other
endication: This	s device meets, do	es NOT meet, the re				eing or inadequate airgap, etc.) ment device at the time of testing
int Name		Certified Tester No		Sign	ame	/ / Expiration Date
pedy cwner's	(or owner's agent) certific	ation that test was p	erformed:			/ 1
nt Name ·		Title		Sign	nature	Telephone
Cantilik	cation that installation is in	accordance with the	e approved	i plans.	(To be completed by or water supplier.)	the design engineer or architect
ereby certifiy th	nat this installation has be	en made in accorda	nce with th	e aporov	ed plans.	
me	Ti	Je			Date .	NYS DOH Log #
auze Knwper	Ph	one ()	~ ~~~~		m d	у
presenting				Describ	e minor installation	changes
dress	· · · · · · · · · · · · · · · · · · ·	× × .				
<u> </u>	State	Zīρ				
.Pature						

NOTE: Send one completed copy to the designated health department representative and one copy to the water supplier within 30 days of testing of the device.

41013 (991) Notify owner and water supplier immediately if device falls test and repairs cannot immediately be made.

INSTRUCTIONS FOR COMPLETING DOH 1013 (5/91) REPORT ON TEST AND MAINTENANCE OF BACKFLOW PREVENTION DEVICE



PART A: To Be Completed by Certified Tester

- Indicate the test year and whether initial or annual test.
- Complete public water supply name, customer account number (if available) and county.
- Complete block and lot (if available) for New York City Metropolitan area tests.
- Complete facility name, address and specific location of device (e.g., meter room, etc.)
- Complete device information including manufacturer, type, model, size and serial number.
- Complete section "Test Before Repair" and indicate:
 - Whether check valve #1 leaked or closed tight. For RPZ devices, the pressure drop across the first check valve must be at least 5.0 psid.
 - Whether check valve #2 leaked or closed tight.
 - Opening of RPZ differential pressure relief valve must be at least 2.0 psid or device must be failed and/or repaired.
 - Complete water system line pressure in psi and indicate test date.
- Describe any repairs and materials used and the name and license number of the repairer and indicate repair date.
- Complete "final test" section only if repairs have been made.
- Indicate the water meter number/meter reading and the type of service (describe "other" e.g., boiler feed, irrigation line, etc.)
- Complete the Remarks section if there are any deficiencies.
- Complete the certification indicating if the device meets or does not meet the requirements at the time or testing - print and sign your name and indicate certificate number and expiration date:



Have the property owner (or owner's agent) certify that test was performed.

PART B - To Be Completed By Design Engineer, Architect or Water Supplier For Initial Tests Only 米 FOR NEW INSTALLED DEVICES **

- Complete name, title, license number, phone number, company name and address.
- Sign and date form and indicate NYSDOH (or local health department/water supplier) approval number.
- Describe minor installation changes.



After completion, submit copies of test reports to the supplier of water, customer, State or local health department and retain copies for the tester's personal records.