

BACKFLOW PREVENTION APPLICATION **INSTRUCTIONS**

Receive backflow device application & fact sheet.

When paperwork is returned we need:

1. **Completed application** (totally filled out & signed) (5 copies)
2. **Picture & description** of backflow prevention device (5copies)
3. **Engineer's Report** of backflow prevention device (5 copies)
4. **Location drawing** of backflow prevention device (5 copies)
5. **\$200.00 check** made out to: Orange County Department of Health
6. **\$100.00 check** made out to: Town of Newburgh Water Department

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 <small>Street</small>			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		8. Nature of works <input type="checkbox"/> Initial Device Installation <input type="checkbox"/> Replace Existing Device
Full Mailing Address <small>street</small> Address						8a. <input type="checkbox"/> New Service <input type="checkbox"/> Existing Service
City						8b. <input type="checkbox"/> New Building <input type="checkbox"/> Existing Building <input type="checkbox"/> Major Renovations
Owner's Signature						Date <u> </u> / <u> </u> / <u> </u> M D Y
9. Name of Design Engineer or Architect						10. NYS License # <input type="checkbox"/> PE <input type="checkbox"/> RA <input type="checkbox"/> Other
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <small>Street</small> Address City State Zip </div>						10a. Telephone Number(s)
						Date <u> </u> / <u> </u> / <u> </u> M D Y
11. Water System Pressure (psi) at Point of Connection Max Avg Min			12. Estimate Installation Cost		12a. Estimate Design Cost	
13. Degree of Hazard <input type="checkbox"/> Hazardous <input type="checkbox"/> Aesthetically Objectionable			List of processes or reasons that lead to degree of hazard checked: _____ _____			
14. Public water supply name				Name of supplier's designate representative		
Mailing Address <small>street</small>				Title		
City state zip				Signature _____		
Telephone No. ()				M D Y		

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.



NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Water Supply Protection

Flanigan Square, 547 River Street, Troy, New York 12180-2216

FACT SHEET

Approved Backflow Prevention Devices/Assemblies

PURPOSE

The purpose of this Fact Sheet is to provide a list of approved backflow prevention devices/assemblies for containing potential contamination as required by Section 5-1.31 of the State Sanitary Code.

POLICY

The New York State Department of Health (DOH), Bureau of Water Supply Protection, will only accept those backflow prevention devices/assemblies which appear on the current edition of the List of Approved Backflow Prevention Assemblies generated by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (FCCCHR). Please note that along with double check, double check detector, reduced pressure and reduced pressure detector assemblies, the FCCCHR list includes atmospheric and pressure vacuum breakers which do not satisfy Section 5-1.31 of the State Sanitary Code.

The FCCCHR list is copyrighted and therefore may not be freely distributed by DOH. **However, backflow prevention device/assembly manufacturers may be contacted to provide documentation of FCCCHR approval for specific device models, sizes, configurations and shut-off valves. Manufacturer provided documentation (i.e., catalog cut sheets) which indicates FCCCHR approval will satisfy Section 5-1.31 of the State Sanitary Code during the review of plans and specifications for the installation of backflow prevention devices/assemblies.**

The following backflow prevention device/assembly manufacturers are currently included in the FCCCHR list and provide FCCCHR approval status on their respective web sites: Ames, Apollo/Conbraco, Claval, Febco, Flomatic, Hersey, Watts and Wilkins.

If the required documentation cannot be obtained via a device/assembly manufacturer, individuals with questions regarding the approval status of a device/assembly can contact their local County Health Department, DOH District Office or the DOH Central Office (518-402-7676).

Devices/assemblies which are out of production, or have only spare parts available, may not appear on the FCCCHR list. If such devices/assemblies are currently installed, 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 device/assembly.

§ 179-62 Determination of type of backflow protection device.

A. Categories; rating system; regulation.

(1) An acceptable backflow prevention device must be installed in every service to a facility. Three categories shall be considered when determining the degree of hazard posed by a facility and making the subsequent determination of the type of protection device required. The Department recognizes the threat to the public water system arising from cross connections. All threats will be classified by degree of hazard and will require the installation of approved reduced pressure principle backflow prevention devices, "reduce pressure zone assembly," (RPZA) or "double-check valve assembly" (DCVA). The considerations are:

(a) Use, toxicity and availability of contaminants within the premises.

(b) Availability of a supplementary supply of water.

(c) Fire-fighting system evaluation.

(2) Based on these considerations, the Water Distribution Superintendent shall rate a facility as "hazardous," "aesthetically objectionable" or "nonhazardous."

(a) A hazardous facility must be contained through the use of an RPZA or properly designed air gap.

(b) An aesthetically objectionable facility must be contained through the use of a DCVA, RPZA or air gap.

(c) Nonhazardous facilities should be protected through an internal plumbing control program to ensure that plumbing cross connections are adequately protected or eliminated; or through the use of a DCVA, RPZA or air gap.

B. The Water Supply Superintendent or designee shall determine the type of device required for each property and facility. In making this determination, the Water Supply Superintendent may utilize the Sample List of Facilities Requiring Backflow Prevention, prepared by the Department of Health and, if necessary, shall consult with the Orange County Department of Health.

C. Cross-connection control by facility type.

(1) Hazardous types of facilities which shall require installation of an approved reduce pressure zone assembly (RPZA) or air gap in the service connection to the public water distribution system include but are not limited to:

(a) Sewage and industrial wastewater treatment plants and pumping stations and sewer flushers.

(b) Paper manufacturing or processing, dye plants, petroleum processing, printing Plant, chemical manufacturing or processing, industrial fluid systems, steam generation, rubber processing and tanneries.

(c) Canneries, breweries, food processing, milk processing, ice manufacturing, meat packers, poultry processing and rendering companies.

- (d) Hospitals, clinics, laboratories, veterinary hospitals, mortuaries and embalmers.
 - (e) Metal plating, photo processing, laundries, commercial car washes, commercial refrigeration systems and dry-cleaning establishments.
 - (f) Commercial greenhouses, spraying and irrigation systems using weedicides, herbicides and exterminators.
 - (g) Boiler systems, cooling towers or internal firefighter systems using conditioners, inhibitors and corrosion control chemicals.
 - (h) Residential units with lawn and irrigation systems with chemical injection.
 - (i) Residential units or facilities with service provided by both the village water distribution system and private well or water supply.
- (2) Aesthetically objectionable types of facilities which shall require installation of an approved double-check valve, RPZA or air gap in the service connection of the public water distribution system are those which include but are not limited to:
- (a) Customer fire protection loops and fire storage tanks with no chemical additives.
 - (b) High temperature potable water.
 - (c) Utilization for food-grade dyes.
 - (d) Complex plumbing systems in commercial buildings, such as but not limited to beauty salons, churches, apartment buildings, gas stations, supermarkets, nursing homes, construction sites and carnivals.
 - (e) Residential units with lawn and irrigation systems.
- (3) The above lists are not all-inclusive. The type of backflow prevention device required for each facility shall be determined by the Water Supply Superintendent or designee as set forth above.
- (4) Strainers. The Department strongly recommends that all new retrofit installation of reduced pressure principle devices and double-check valve backflow preventers include the installation of strainers located immediately upstream of the backflow device, except on fire lines. The installation strainers will preclude the fouling of backflow devices due to both foreseen and unforeseen circumstances occurring to the water supply system, such as water main repairs, water main breaks, fires, periodic cleaning and flushing of mains, etc. These occurrences may stir up debris within the water main that will cause fouling of backflow devices installed without the benefit of strainers. No strainer is to be used on a fire line without the approval of the insurance underwriters having jurisdiction.

§ 179-63 **Testing; owner liability for costs.**

- A. The testing of backflow prevention devices shall be performed on an annual basis by the owner of any system requiring the same, and the cost of such testing shall be borne by the owner of the system. The testing procedures shall conform to the requirements of the New York State Department of Health and the Orange County Department of Health. Test results shall be submitted to the Water Supply Superintendent within 30 days of the completion of such testing. Late submissions of annual test results shall be subject to an administrative processing fee as set forth in Chapter 104, Fees.
- B. Any backflow preventer which fails during a periodic test will be repaired or replaced. When repairs are necessary, upon completion of the repair the device will be retested at the owner's expense to ensure correct operation. High-hazard situations will not be allowed to continue unprotected if the backflow preventer fails the test and cannot be repaired immediately. In other situations, a compliance date of not more than 30 days after the test date will be established. The owner is responsible for spare parts, repair tools or a replacement device. Parallel installation of two devices is an effective means of the owner ensuring that uninterrupted water service during testing or repair of devices and is strongly recommended when the owner desires such continuity.
- C. Backflow prevention devices will be tested more frequently than specified above in cases where there is a history of test failures and the Department feels that, due to the degree of hazard involved, additional testing is warranted. Cost of the additional testing will be borne by the owner.

**ORANGE COUNTY DEPARTMENT OF HEALTH
BACKFLOW PREVENTION DEVICE CHECKLIST**

SUBMISSION:

1. Plans must be prepared by a NYS registered Professional Engineer or Architect.
2. The application DOH-347 must be signed by the water supplier or his designated representative, prior to submission. Application must also be signed and sealed by the engineer or architect.
3. Include review fee of \$100.00 per device made payable to the Orange County Dept. of Health.
4. The Design Professional will be required to submit scanned copies of the approved documents to the OCHD within 30 days following OCHD approval. Please provide an email address that will be used to submit these documents so that it can be entered in our Sharefile system. Failure to submit these documents may delay our review and/or approval of subsequent projects.

ENGINEER'S REPORT:

1. Describe the degree of hazard and the type of device selected.
2. Describe system conditions including flows and pressures as appropriate.
3. Address sizing of the unit, based on hydraulic requirements.
4. Ensure that devices appear on the list generated by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (FCCCHR).
5. Estimate maximum possible discharge from any RPZ drain. Ensure adequate drainage is provided.
6. Appropriate protection for fire systems according to system classification (AWWA M-14).
7. Parallel units should be considered at facilities where water service cannot be interrupted.

PLAN REVIEW:

1. GENERAL:

- a. The preferred installation is a separate building as close as possible to the property line, with a floor 6" minimum above grade. Where containment at the property line cannot be achieved or is waived, installation of the device may be done immediately inside the building.
- b. Site plans must be provided to demonstrate that containment is achieved and the location of the device is satisfactory.
- c. Ideally, no platforms or ladders should be required for access.
- d. Provide adequate heat to prevent freezing.
- e. Provide adequate lighting to facilitate servicing.
- f. Below grade or basement installations are acceptable for DCVA's. RPZ's are allowed below grade only if at least one of the following conditions is met:
 - i. Adequate gravity drainage system to accommodate relief valve on RPZ's.
 - ii. Level alarms are installed to detect flow from the device.
 - iii. Sump pumps are sized to accommodate a relief valve failure and are connected to an auxiliary power supply.
 - iv. Floor area and volume below device could handle discharge from a relief valve failure. For 2" and smaller units, 2000 cu.ft. is acceptable. For larger units, the time to submerge the unit based on maximum discharge rate shall not be less than 8 hours.

2. CLEARANCES:

- a. All assemblies must be installed with a centerline height of 30-60" above the floor.
- b. All RPZ devices must have 18" minimum clearance between bottom of relief valve and floor to prevent submersion and provide access for servicing.
- c. A minimum of 12 inches clearance must be provided above and behind the device for servicing.
- d. 30 inches minimum clearance shall be provided in front of the device to the nearest wall or obstruction.
- e. Devices shall be adequately supported and/or restrained to prevent movement.

3. DRAINAGE:

- a. Drainage shall be provided to accommodate discharge during testing or relief valve discharge.
- b. For RPZ devices, drainage must be sized to accommodate intermittent discharge and catastrophic failure of the relief valve.
- c. Discharge from relief valves must be readily visible. Adequate lighting must be provided.
- d. All drainage from RPZ's must be by gravity drains through a properly designed air gap. Sump pumps are not allowed unless they are sized to accommodate maximum discharge and they are connected to emergency power sources. Manufacturer's air gap fittings may not be sized to accommodate catastrophic discharge. Confirm capacity.
- e. Discharge piping from any relief valve must terminate at least 1 inch above grade or receiving receptacle.
- f. In pit installations, floors pitched to drain, and discharge piping must terminate above grade in an area not subject to flooding. The end of the pipe must be equipped with a rodent screen.

4. INSTALLATION NOTES:

- a. Strainers are recommended prior to each backflow device on non-fire fighting lines **ONLY!** No strainer is to be used on a fire line without Insurance Underwriter approval.
- b. Assemblies should be specified and installed with manufacturer supplied valves.
- c. Water lines should be thoroughly flushed before installation of device to prevent debris fouling the device check valves.
- d. Devices must be mounted horizontally unless approved for vertical installation.
- e. Assemblies should not be installed in areas containing corrosive or toxic gases which could render the device inoperable.
- f. Due to inherent design of RPZ assemblies, fluctuating supply pressure on a low flow condition may cause nuisance dripping. Installation of a soft seated check valve ahead of the RPZ will often hold pressure constant during periods of low flow.
- g. Where the distance between the water meter and device is greater than 10 feet, all exposed piping should be marked "Feed line to Backflow Preventer – Do Not Tap" at 5 foot intervals.