



COMMONWEALTH of VIRGINIA
DEPARTMENT OF HEALTH
OFFICE OF DRINKING WATER

211 Nor Dan Drive, Suite 1040
Danville, Virginia 24540

Danville Field Office
July 23, 2024

Phone: 434-836-8416
Fax: 434-836-8424

SUBJECT: Bedford County
Bedford Regional Water Authority
PWSID No. 5019052
Smith Mountain Lake WTP
PWSID No. 5019400
Stewartsville Consecutive
PWSID No. 5019795
Mountain View Shores
PWSID No. 5019685
Valley Mills Crossing
PWSID No. 5019875
Paradise Pointe Estates
PWSID No. 5019735

Carissa R. Sellick, Compliance Coordinator
Via email: csellick@brwa.com
Bedford Regional Water Authority
1723 Falling Creek Road
Bedford, Virginia 24523

Dear Ms. Sellick:

We have reviewed the Cross Connection Control and Backflow Prevention Program (CCCP) for the waterworks listed above. The CCCP has been approved by VDH in accordance with the Commonwealth of Virginia *Waterworks Regulations* §12VAC5-590-580.

A copy is enclosed for your records. It is our understanding that you will be the program inspector.

If you have any questions or require any technical assistance in instituting the program, please contact Rea Prillaman, District Engineer, at 434-549-8317, or email rea.prillaman@vdh.virginia.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "K. Ray Weiland".

K. Ray Weiland, PE
Deputy Field Director

RLP:edt, Enc.

e/c: William Swain, w.swain@brwa.com

Office of Drinking Water
Danville Field Office
JUL 18 2024
RECEIVED



Bedford Regional Water Authority

Cross-Connection Control and Backflow Prevention Program

Version 2.0

Effective Date 7-26-24

Next update required 7-26-29

APPROVED
Virginia Department of Health
Office of Drinking Water - Danville Field Office

By: [Signature]
Deputy Field Director Date

7-26-24

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I. Purpose of the Program

The Bedford Regional Water Authority provides water and wastewater services to the customers of Bedford County. It is the Authority's responsibility to provide quality service to everyone and to supply clean, safe potable water. To ensure the health and well-being of our customers, compliance programs, such as the Cross-Connection Control and Backflow Prevention Program, must be established and implemented to protect the public water system.

Backflow occurs in the water distribution system when there is a reversal of the normal flow of water. The two types of backflow are:

1. Backpressure—occurs when the pressure in the non-potable system is higher than the pressure in the potable water system
2. Backsiphonage—reversal of the flow of liquid caused by a partial vacuum (line pressure falls below atmospheric pressure) in the potable water distribution system

Backpressure and backsiphonage will cause non-potable liquids to flow into the potable water supply via cross-connections, thus creating unusable or unsafe drinking water.

The purpose of the Cross-Connection Control and Backflow Prevention Program is to identify and abate/control potential cross-connection hazards to maintain optimal water quality and protect public health. The priority of the Bedford Regional Water Authority is to provide safe drinking water to every customer. The program outlines proper protective measures against cross-connections which pose a threat to the water distribution system and/or public water supply.

II. Authority for the Program

This program is dictated by the Virginia Department of Health's Waterworks Regulations, the International Plumbing Code, and the Bedford County Ordinance, Article III Sec. 18-71.-18-97, which provides for the establishment and enforcement of cross-connection control and backflow prevention by the water purveyor. Appropriate control measures shall be required and installed at each service connection where hazards are found. An approved backflow assembly or backflow elimination method shall be installed at, but not necessarily limited to, the following types of facilities:

1. Hospitals, mortuaries, clinics, veterinary establishments, nursing homes, dental offices and medical buildings;
2. Laboratories;
3. Piers, docks, waterfront facilities;
4. Sewage treatment plants, sewage pumping stations, or stormwater pumping stations;
5. Food and beverage processing plants;
6. Chemical plants, dyeing plants, and pharmaceutical plants;
7. Metal plating industries;
8. Petroleum or natural gas processing or storage plants;
9. Radioactive materials processing plants or nuclear reactors;
10. Car washes and laundries;
11. Lawn sprinkler systems and irrigation systems;
12. Fire service systems;
13. Water loading stations;
14. Lawn care companies and their vehicles with storage or mixing tanks;
15. Slaughterhouses and poultry processing plants;
16. Farms where the water is used for other than household purposes;
17. Commercial greenhouses and nurseries;
18. Health clubs with swimming pools, therapeutic baths, hot tubs or saunas;
19. Paper and paper products plants and printing plants;
20. Pesticide or exterminating companies and their vehicles with storage or mixing tanks;
21. Schools or colleges with laboratory facilities;
22. High-rise buildings (4 or more stories);
23. Multi-use commercial, office, or warehouse facilities;
24. High-density, multi-use residential complexes served through a master meter.
25. Others specified by the BRWA when reasonable cause can be shown for a potential backflow or cross-connection hazard.

The Bedford Regional Water Authority is fully responsible for maintaining water quality in the distribution system and for the construction, maintenance, and operation of the waterworks, beginning at the water source and ending at the service connection. The owner of the property served, and the BRWA have shared responsibility for water quality and for the construction, maintenance, and operation of the consumer's water supply system from the service connection to the free-flowing outlet.

This cross-connection control and backflow prevention program is approved by the State Health Commissioner, as noted by the affixed approval stamp, and will be reviewed/updated every five years.

III. Elements of the Program

There are several elements necessary to administer the Backflow and Cross-Connection program effectively and efficiently:

- A procedure for the review of site plan submittals for new connections and/or modified connections to the Bedford Regional Water Authority's water distribution system. The review process will determine the need for backflow protection and will require appropriate preventative and control measures to be installed as necessary.
- Assessments of existing construction to provide continuing identification and evaluation of all cross-connection hazards having the potential for impairing the quality of the water as delivered.
- A testing program to ensure the operational effectiveness of all assemblies installed on connections in the Bedford Regional Water Authority's water distribution system.
- A records retention system for backflow and cross-connection documentation such as inspection, installation, and annual testing records.
- Enforcement measures to ensure the protection of the water distribution system.

IV. New Construction (including Renovations/Additions)

The following steps need to be followed to comply with the program:

1. Site Plan Review Process

- o Submittal of plans for review to the Technical Review Committee (TRC) within the Bedford County Department of Community Development

2. Inspection of Site Plans

- o Review of plans by the Bedford Regional Water Authority's Engineering Department and Compliance Coordinator for plan approval
- o The Engineering Department will make recommendations and provide a list of issues for correction
- o All backflow prevention recommendations beyond the service connection will be forwarded to the Building Official for proper Building Permit reference and application

Where a backflow prevention assembly is required, such assemblies shall:

- Be the reduced pressure principle backflow prevention assembly (RPZ) for all high-hazard situations such as irrigation and non-residential connections (commercial, industrial, governmental, etc.) when it is impractical to eliminate the cross-connection by an air gap or physical disconnection
- Double gate-double check valve assembly (DCVA) may only be used for fire connections.
- **Pressure Vacuum Breakers are NOT TO BE USED in any circumstance.**
- Conform to the latest available American Water Works Association (AWWA) standards;
- Hold current University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC) approval;
- Be listed by the American Society of Sanitary Engineers (ASSE)

3. Installation of Approved Assembly

- o Installation of approved backflow assembly by the customer

Requirements for Assembly installation:

- The Assembly should be installed in accordance with the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USC) and the manufacturer's instructions.
- The USC shall approve orientation of the assembly.
- Assemblies with openings, outlets, or vents that are designed to operate or open during backflow prevention shall not be installed in areas subject to flooding or pits. They shall be installed in a free atmosphere.
- Assemblies shall not be subjected to operating conditions of working pressure, backpressure, temperature, or flow rate that exceed the test conditions of the performance evaluation standard under which the device is listed (ASSE) or the assembly is approved (USC).

Prevention and Elimination Measures for Containment—Location

- **Service Connection Containment**
A backflow prevention assembly shall be installed at the service connection to a consumer's water supply system.
- **Containment Beyond the Service Connection**
As a matter of preference or practicality, the backflow prevention assembly may be located downstream of the service connection but prior to any unprotected takeoffs. Inside the building is the preferred location.
- **Point-of-Use Isolation instead of Service Connection Containment**
Where, in the judgment of the BRWA, all actual or potential cross-connections can be quickly decreased or controlled at each point of use. Where the consumer's water supply system is not intricate or complex, point-of-use isolation protection by the application of appropriate backflow prevention assemblies may be applied in place of installing a backflow prevention assembly at the service connection.

4. Initial Assembly Inspection and Testing

- Backflow Device Registration Form (Appendix A) to be completed by the customer and submitted to the Compliance Coordinator for review
- Inspection and/or pictures submitted of the backflow device/assembly to the Compliance Coordinator
- Initial assembly testing is to be completed by a certified Backflow Tester and the test results submitted to the Compliance Coordinator

V. Existing Construction

The BRWA shall, to the extent of their jurisdiction, provide continuing identification and evaluation of all cross-connection hazards that can potentially impair the quality of the water supply. Continuous identification and assessment shall include:

- Assessment of each residential and non-residential consumer's water supply system, including any existing backflow prevention assemblies or devices or backflow elimination methods;
- A determination of the degree of hazard, if any, to the waterworks (See Appendix B, Determination of Degree of Hazard);
- Determination of the appropriateness of existing preventative and control measures

Non-Residential Assessments

Assessments of each non-residential consumer's water supply system and determining the degree of hazard, if any, to the waterworks will be made at least on a three (3) year cycle. The BRWA Compliance Coordinator may, at his/her discretion, schedule more frequent assessments at high-hazard facilities.

The non-residential consumer's water supply system owner will be advised in writing of the results of each assessment, the assigned degree of hazard, and any preventative and control measures that are required or recommended or if any existing preventative or control measures need attention.

The types of assessments are as follows:

1. On-site interview and voluntary survey
 - Available information about the premises to be assessed will be gathered prior to the interview
 - The reasons for cross-connection control and backflow prevention will be explained to the consumer's water supply system owner or representative
 - Interviews will follow a prepared questionnaire to assess the need for cross-connection control by containment.
 - Water uses after it enters the premises will be determined.
 - During these interviews, a request to conduct a voluntary survey will be made, and each installed assembly, device, or elimination method will be inspected for appropriateness, proper installation, and general appearance.
 - Plans for future expansion and possible additional protection requirements will be discussed.
 - During the voluntary survey of the premises, a determination of the need for point-of-use isolation protection for the protection of the consumer's water supply system users will be made, and consideration will be given to substituting point-of-use isolation protection for containment.

- All information will be recorded on the prepared questionnaire. This will include water use, assessment of degrees of hazard, and diagrams.
- 2. Mailed Questionnaire
 - The appropriateness, proper installation, and general appearance of each installed assembly, device, or elimination method will be evaluated by the BRWA for those facilities where a questionnaire will be mailed.
 - The results of the mailed questionnaire will be reviewed by the BRWA to reaffirm the degree of hazard and to assess the facility for new hazards. Based on the response to the questionnaires, cross-connection control interviews will be scheduled, and appropriate assemblies, devices, or elimination methods will be required, providing containment and/or point-of-use isolation where appropriate.
- 3. Telephone Interview
 - For those facilities where telephone interviews will be conducted, the questionnaire used for mailings will be completed by the caller to reaffirm the degree of hazard and assess the facility for new hazards.
 - During these interviews, each installed assembly, device, or elimination method will be discussed and evaluated to determine appropriateness, proper installation, and general appearance. Point-of-use isolation will be discussed with the owner.

Lack of Response to Assessment

No response to a questionnaire or telephone interview will prompt an on-site interview. Refusal of access for interview or provision of pertinent information will prompt the designation of a high-hazard premise and the requirement to install a high-hazard service line containment assembly or a backflow elimination method.

Residential Assessments

In place of an annual assessment of residential connections, a continuous public education program will be provided to increase the awareness of cross-connections and the public health hazards of backflow. Residential customers will be informed of potential cross-connections in and around the home through educational brochures periodically sent with the water bills and public outreach via social media such as the BRWA's website and Facebook page.

VI. Installation, Testing, and Maintenance

Installation

Approved Backflow Prevention Assemblies, Devices, and Backflow Elimination Methods for Containment:

- Be the reduced pressure principle backflow prevention assembly (RPZ) for all high-hazard situations such as irrigation and non-residential connections (commercial, industrial, governmental, etc.) when it is impractical to eliminate the cross-connection by an air gap or physical disconnection;
- Double gate-double check valve assembly (DCVA) may be used for fire connections only;
- **Pressure Vacuum Breakers (PVBs) are NOT TO BE USED in any circumstance;** PVBs that are currently installed and in use must be replaced with an RPZ unit in the event of a failed test result.

Approved Assemblies shall;

- Conform to the latest available American Water Works Association (AWWA) standards;
- Hold current University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC) approval;
- Be listed by the American Society of Sanitary Engineers (ASSE)

All backflow assemblies must be installed according to the following criteria:

- The Assembly should be installed in accordance with the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USC) and the manufacturer's instructions.
- The USC shall approve the orientation of the assembly.
- Assemblies with openings, outlets, or vents that are designed to operate or open during backflow prevention shall not be installed in areas subject to flooding or pits. They shall be installed in a free atmosphere.
- Assemblies shall not be subjected to operating conditions of working pressure, backpressure, temperature, or flow rate that exceed the test conditions of the performance evaluation standard under which the device is listed (ASSE) or the assembly is approved (USC).

Testing

- The consumer's water supply system owner (s), at their own expense, shall have operational tests made at least annually of backflow prevention assemblies, which are required by this program.
- Operational testing or work shall be performed by Backflow Prevention Device Workers certified by the Virginia Department of Professional and Occupational Regulation (DPOR), Virginia Board for Contractors, under the Tradesman Regulations to test and repair assemblies. The BRWA has a certified Backflow Prevention Device Worker list (Appendix D).

- Assembly testing procedures shall be those acceptable to the DPOR, Board of Contractors.
 - Assembly test equipment shall conform to the USC Field Test Kit Standard as test equipment is made available.
 - All testing equipment used by the certified tester is to be maintained and calibrated annually in accordance with the manufacturer's recommendations.
- BRWA test and maintenance forms (Appendix C) shall be properly completed and submitted to the BRWA Compliance Coordinator within 30 days of completion. All test reports must be submitted via Swiftcomply by the backflow tester or tester company with a fee charged by the vendor; failed test reports will not be charged. The login portal for submitting tests can be found using the following link: <https://www.bftester.com/bedfordva/>

The following methods will still accept paper test reports:

- Hand Delivered or Mailed to: 1723 Falling Creek Rd. Bedford, VA 24523
- Fax to: (540)-586-5805
- Scan to: backflow@brwa.com

All paper backflow test reports that are submitted in this manner will incur a \$7.00 fee per test report. ***NOTE: The fee will not be assessed until such a time as adopted by the Authority, and notification will be sent out at this time. ***

- All backflow assemblies or devices that PASS testing shall be tagged with a certification tag.
- The BRWA will review and track the cross-connection control operational verification reports and notify the consumer's water supply system owner in writing as to the testing requirements 30 days before their due date.
- Copies of test results, maintenance records, and overhaul records will be reviewed for completeness and accuracy, and a determination as to pass or fail will be made. The BRWA will notify the consumer's water supply system owner and/or backflow tester within ten working days of receiving such testing or work and of its acceptance.

Maintenance

Assemblies should be repaired, overhauled, or replaced within five (5) working days of a failed test result. Overhaul intervals should be by the manufacturer's recommendations.

VII. Inventory and Records

An inventory will be maintained of all required backflow prevention assemblies and devices and backflow elimination methods. Records will be maintained on file for a period of ten (10) years and will include:

- Voluntary surveys and inspections of backflow prevention assemblies;
- Test results of backflow prevention assemblies;
- Assessments of consumer's water supply systems;
- Backflow incidence reports
- Continuous education program materials
- Documentation of public contacts

VIII. Enforcement

The BRWA shall take positive action to ensure that the waterworks is adequately protected from cross-connections and backflow at all times. Appropriate preventative and control measures shall be required and installed.

Right of Entry

As noted in Bedford County Code Chapter 18, Article III, Sec. 18.76:

a) Authorized representative(s) from the Bedford Regional Water Authority shall have the right to enter, upon presentation of proper credentials and identification, any building, structure, or premises at reasonable times to perform any duty imposed by this article. Those duties shall include but are not limited to taking photographs and video, sampling and testing water, and/or inspections and observations of all piping systems connected to the public water supply.

(b) Where a consumer has security measures in force that would require proper identification and clearance before entry into their premises, the consumer shall make necessary arrangements with security guards so that upon presentation of suitable identification, Bedford Regional Water Authority personnel will be permitted to enter, without delay, for purposes of performing their specific responsibilities. Refusal to allow entry for these purposes may result in discontinuance of water service.

(c) Upon request, the consumer shall furnish to the Bedford Regional Water Authority any pertinent information regarding the water supply system on such property where cross-connections and backflow are deemed possible.

Notice of Corrective Action (NOV)

Any consumer's water supply system owner who may be in violation of any provision of this Program shall be served a written notice sent by certified mail to the consumer's water supply system owner's last known address, stating the nature of the apparent violation, corrective action required, and providing a reasonable time limit, not to exceed 30 days, from the date of receipt of the notice, to bring the water supply system into compliance with this Program.

Enforcement Measures

If a required backflow prevention assembly is not installed, tested, and maintained in accordance with the applicable sections of this Program; or if a required backflow prevention assembly has been removed or bypassed; or if unprotected cross-connections exist of the premises and the BRWA have determined that there is inadequate backflow prevention at the service connection, the BRWA may utilize the Cross-Connection Control and Backflow Prevention Enforcement Matrix (Appendix E) and:

- Discontinue or refuse the water service to the consumer; water service shall not be restored until the deficiencies have been corrected or eliminated to the satisfaction of the BRWA. The cost of disconnection and reconnection shall be paid by the consumer prior to restoration of water services to the premises.
- Charge any consumer of properties served by a connection to the waterworks and found guilty of violating the provisions of this Program with a Class 3 misdemeanor. Upon conviction, they shall be punished by a fine of not more than five hundred dollars (\$500.00) per violation per day.

Appendix A – Backflow Registration Form



1723 Falling Creek Rd.
Bedford, VA 24523
(540) 586-7679, ext. 105
backflow@brwa.com

Backflow Prevention Device Registration Form

Company Name: _____
Contact Name: _____
Street Address: _____

Mailing Address: _____

Email Address: _____
Phone: _____

Device Information

Make: _____
Model: _____
Size: _____
Serial Number: _____
Installation Date: _____
Device Location: _____
BRWA Account Number Associated with this Device: _____

Testing of the registered backflow device is due within 30 days of the water service start date

*** Testing shall be conducted by an individual who has been certified by the Virginia Department of Professional and Occupational Regulation (DPOR), and testing must be conducted on an annual basis. ***

***If a backflow prevention assembly is not installed, tested, and maintained following the Cross Connection Control and Backflow Prevention Program, the BRWA may discontinue or refuse water services.**

***If there are multiple backflow prevention devices at this location please submit a separate form for each device.**

By signing below, the signor verifies that the information reported in this form is true, accurate and complete.

Signature Date

Name Printed Title

Appendix B – Degree of Hazard

TABLE 1 — Determination of Degree of Hazard

Cross connections that meet or may meet the following conditions shall be rated at the corresponding degree of hazard.	
High Hazard	<p>The contaminant is toxic, poisonous, noxious or unhealthy.</p> <p>In the event of backflow of the contaminant, a health hazard would exist.</p> <p>A high probability exists of a backflow occurrence either by backpressure or by backsiphonage.</p> <p>The contaminant would disrupt the service of piped water for drinking or domestic use.</p> <p>Examples — Sewage, used water, nonpotable water, auxiliary water systems and toxic or hazardous chemicals.</p>
Moderate Hazard	<p>The contaminant would only degrade the quality of the water aesthetically or impair the usefulness of the water.</p> <p>In the event of backflow of the contaminant, a health hazard would not exist.</p> <p>A moderate probability exists of a backflow occurrence either by backpressure or by backsiphonage.</p> <p>The contaminant would not seriously disrupt service of piped water for drinking or domestic use.</p> <p>Examples — Food stuff, nontoxic chemicals and non-hazardous chemicals</p>
Low Hazard	<p>The contaminant would only degrade the quality of the water aesthetically.</p> <p>In the event of backflow of the contaminant, a health hazard would not exist.</p> <p>A low probability exists of the occurrence of backflow.</p> <p>Backflow would only occur by backsiphonage.</p> <p>The contaminant would not disrupt service of piped water.</p> <p>Examples — Food stuff, nontoxic chemicals and non-hazardous chemicals.</p>

Appendix C – BRWA Test and Maintenance Form

1723 Falling Creek Rd.
 Bedford, VA 24523
 Phone: (540) 586-7679
 Email: backflow@brwa.com



BACKFLOW PREVENTION ASSEMBLY TEST AND MAINTENANCE REPORT

CUSTOMER NAME:			
STREET ADDRESS:		SERVICE ADDRESS:	
POINT OF CONTACT:		POINT OF CONTACT PHONE #:	
IS THE ASSEMBLY:	<input type="checkbox"/> New	<input type="checkbox"/> Existing	Replacement <input type="checkbox"/> Old Assembly Serial # _____
ASSEMBLY LOCATION:			
TYPE OF ASSEMBLY:	RP <input type="checkbox"/>	DCVA <input type="checkbox"/>	PVB <input type="checkbox"/> SVB <input type="checkbox"/> SIZE:
MANUFACTURER:	MODEL:	SERIAL NO:	
GAUGE MANUF:	SERIAL NO:	DATE CALIBRATED:	

Check Valve #1	Relief Valve	Check Valve #2	PVB or SVB
<input type="checkbox"/> leaked <input type="checkbox"/> closed tight Differential pressure across check valve _____ psi	Opened at: _____ psi Or did not open <input type="checkbox"/> Outlet shut-off valve: <input type="checkbox"/> leaked <input type="checkbox"/> closed tight	<input type="checkbox"/> leaked <input type="checkbox"/> closed tight OPTIONAL TEST Differential pressure across check valve _____ psi	Air Inlet: did not open <input type="checkbox"/> or opened at _____ psi Check Valve: leaked <input type="checkbox"/> or held at _____ psi
Replaced: <input type="checkbox"/> Rubber parts kit <input type="checkbox"/> CV assembly kit <input type="checkbox"/> Seat Kit <input type="checkbox"/> Other Or <input type="checkbox"/> CV cleaned only	Replaced: <input type="checkbox"/> Rubber parts kit <input type="checkbox"/> CV assembly kit <input type="checkbox"/> Seat Kit <input type="checkbox"/> Other Or <input type="checkbox"/> RV cleaned only For DCVA Only: Inlet shut-off valve: <input type="checkbox"/> leaked <input type="checkbox"/> closed tight Outlet shut-off valve: <input type="checkbox"/> leaked <input type="checkbox"/> closed tight	Replaced: <input type="checkbox"/> Rubber parts kit <input type="checkbox"/> CV assembly kit <input type="checkbox"/> Seat Kit <input type="checkbox"/> Other Or <input type="checkbox"/> CV cleaned only	Replaced: <input type="checkbox"/> Rubber parts kit <input type="checkbox"/> CV assembly kit <input type="checkbox"/> Air Inlet Kit <input type="checkbox"/> Other Or <input type="checkbox"/> Cleaned only
Differential pressure across check valve _____ psi	Relief valve opened at _____ psi	Differential pressure across check valve _____ psi	Air inlet _____ psi Check valve _____ psi

NOTE: All repairs shall be completed within five (5) working days.

Comments: _____

I hereby certify that this data is accurate and reflects the proper operation and maintenance of the assembly.

	Date	Printed Tester Name	Signature	VA DPOR Tester No.	Passed	Failed
Initial Test and/or Certification					<input type="checkbox"/>	<input type="checkbox"/>
Repairs					<input type="checkbox"/>	<input type="checkbox"/>
Final Test					<input type="checkbox"/>	<input type="checkbox"/>

Test Reports are to be submitted to the BRWA with 30 days of completing the field test.

Appendix D – Certified Backflow Testers List



1723 Falling Creek Rd.
Bedford, VA 24523
(540) 586-7679

Certified Backflow Testers

The Bedford Regional Water Authority (BRWA) offers the following list and information to our customers only as a convenient reference list and may not be all inclusive of DPOR certified testers in the local region.

The BRWA does not endorse, guarantee or warrant any work performed by contractors listed here. All interactions between customers and contractors are private business transactions between those two entities.

<u>Company</u>	<u>Phone</u>	<u>Street 1</u>	<u>City, State, Zip</u>
Automatic Lawn Sprinkler Company, Inc.	(434) 385-6456	302 Leewood Drive	Lynchburg, VA 24503
Backflow Services	(804) 366-2094	2543 Georges Rd.	Powhatan, VA 23219
Backflow Test Pro	(804) 873-8061	3348 Medway Lane	Powhatan, VA 23139
Blue Ridge Plumbing	(434) 610-3646	PO Box 87	Amherst, VA 24521
Central Virginia Irrigation & Landscaping	(434) 444-3432	2287 Eagle Point Road	Hudleston, VA 24104
Eagle Fire, Inc.	(804) 743-2500	7459 White Pine Road	Richmond, VA 23237
Fire Safety Products, Inc.	(540) 382-7261	203 Depot St.	Christiansburg, VA 24073
Fire & Life Safety America, Inc	(540) 378-6160	1407 Mill Race Drive	Salem, VA 24153
Fire & Safety Equipment Company	(434) 993-2425	7854 Stage Road	Concord, VA 24538
Fire Sprinkler, Ltd	(434) 432-0938	8142 Wards Road	Rustburg, VA 24588
Full Blast Plumbing and Drain Cleaning	(434) 439-8536	12685 RockFord School Rd.	Gretna, VA 24557
Layman's Contracting, Inc.	(540) 334-5395	1050 Benbrook Road	Wirtz, VA 24184
Magic City Sprinkler, Inc.	(540) 345-9818	1601 Granby St., N.E.	Roanoke, VA 24012
Mallard Irrigation Services, LLC	(434) 525-0511	37 Johnnys Lane	Evington, VA 24550
Moore's Electrical and Mechanical	(434) 309-2498	101 Edgewood Avenue	Altavista, VA 24517
Roanoke Sprinkler, Inc.	(540) 981-0009	1334 7 th Street NE	Roanoke, VA 24012
Rosenthal Enterprises, LLC	(434) 841-3112	107 Cupola Street	Lynchburg, VA 24502
Roto Rooter	(434) 525-2315	311 Brook Park Place	Forest, VA 24551
RSG Landscaping & Lawn Care, Inc.	(434) 993-2753	PO BOX 110	Concord, VA 24538
S. J. Conner and Sons, Inc.	(540) 344-8383	1639 Seibel Drive, N.E.	Roanoke, VA 24012
SimplexGrinnell	(540) 389-7276	88 St John Rd	Salem, VA 24153

SkipMow Inc.	(888) 754-7669	305 Meadows Drive	Forest, VA 24551
Southern Air	(434) 385-1253	2655 Lakeside Drive	Lynchburg, VA 24501
Southern Landscape Group, Inc.	(434) 821-6004	PO BOX 397	Evington, VA 24550
VSC Fire & Security	(540) 765-1300	773 Union Street	Salem, VA 24153

-
- Only Commonwealth of Virginia Department of Professional & Occupational Regulation (DPOR) certified backflow device workers may test backflow in the BRWA Service Area. Other licensed backflow contractors, not listed, may also test backflow preventers provided they are Virginia DPOR certified. The BRWA does not accept backflow testing certifications issued by local municipalities.
 - **Backflow Preventer tests are required annually. The test results are to be recorded on the BRWA test form(s) and the original is to be returned to the address supplied on the test form.** BRWA Backflow Prevention Assembly Test Forms and the most current list of certified testers are also available on the internet at www.brwa.com (click the "Public Information" link).
 - Please include the **customer's address and phone number** on each test form.
 - The BRWA highly recommends that whenever customers prepare to hire someone to test their device they should inquire of the proper State approval backflow inspection credentials of those being considered, as certifications are subject to suspension, revocation and expiration. Customers may also check the current status of the contractor's license at the Commonwealth's DPOR website (click on "License Lookup" at www.dpor.virginia.gov) or by calling (804) 367-8511.
 - Virginia licensed backflow testers with the appropriate credentials for testing backflow devices who are interested in being listed here should contact the Cross Connection Control coordinator for the BRWA, at (540) 586-7679. An application form is located on the BRWA website for companies or contractors requesting to be added to the list (click the "Public Information" link).

Appendix E – Cross-Connection and Backflow Prevention Enforcement Matrix

Violations	1 st Offense	2 nd Offense	3 rd + Offense
Failure to register backflow prevention assembly	Notice of Violation: Submit registration and backflow assembly testing within 15 calendar days.	2nd Notice of Violation: Discontinuance of water service within 30 days if compliance is not achieved	Civil penalty \$500.00 per violation, per day
Failure to complete annual backflow assembly testing	Notice of Violation: Submit report within 15 calendar days.	2nd Notice of Violation: Discontinuance of water service within 30 days if compliance is not achieved	Civil penalty \$500.00 per violation, per day
Failure to maintain backflow prevention assembly or repair a backflow prevention assembly	Notice of Violation: Initiate within 5 business days.	2nd Notice of Violation: Discontinuance of water service within 30 days if compliance is not achieved	Civil penalty \$500.00 per violation, per day
Required backflow prevention assembly has been removed or bypassed	Notice of Violation: Install within 15 calendar days	2nd Notice of Violation: Discontinuance of water service within 30 days if compliance is not achieved	Civil penalty \$500.00 per violation, per day
Delay in allowing inspection or hindrance of the inspection.	Notice of Violation	2nd Notice of Violation: Discontinuance of water service within 30 days if compliance is not achieved	Civil penalty \$500.00 per violation, per day

Unprotected cross connections exist on premises and the BRWA have determined the need for backflow prevention	Notice of Violation: Install within 15 calendar days	2nd Notice of Violation: Discontinuance of water service within 30 days if compliance is not achieved	Civil penalty \$500.00 per violation, per day
Falsifying information pertaining to any provision outlined in the Cross-Connection and Backflow Prevention Program	Notice of Violation; Civil penalty \$500.00 per violation, per day	N/A	N/A
Backflow event occurs due to the neglect of backflow prevention assembly (ies) located on consumer's water supply owner's premises	Notice of Violation; Civil penalty \$500.00 per violation, per day	N/A	N/A
Additional Fee: The cost of disconnection and reconnection shall be paid by the consumer			

Appendix F – REFERENCES

- Virginia Administrative Code from the Virginia Department of Health Chapter 590: Waterworks Regulations
- International Plumbing Code, Chapter 6
- University of Southern California Manual of Cross-Connection Control 10th Edition
- Backflow Prevention Theory and Practice, University of Florida 2nd Edition
- AWWA Recommended Practice for Backflow Prevention and Cross-Control Connection: Manual of Water Supply Practices M14 Third Edition

Backflow Prevention Device Testing, Maintenance, and Inspection Report

Cross Connection Control Certificate

To be completed by a Certified Backflow Prevention Worker

Address of Device:	_____
Owner / Manager:	_____
Telephone:	_____
Mailing Address:	_____
Contact Person:	_____

Make & Model #:	_____
Size:	_____
Type of Device:	<input type="checkbox"/> RP <input type="checkbox"/> DC <input type="checkbox"/> DGDC
Serial #:	_____
Location of Device:	_____
Device connected to:	<input type="checkbox"/> Irrigation <input type="checkbox"/> Fire System <input type="checkbox"/> Main Service <input type="checkbox"/> Other (please list): _____

OPERATIONAL TEST					
<u>CHECK VALVE</u>	1.	<u>CHECK VALVE</u>	2.	<u>GATE VALVE</u>	3.
LEAKED		LEAKED		LEAKED	
CLOSED TIGHT		CLOSED TIGHT		CLOSED TIGHT	
*****PSI READINGS REQUIRED *****					
RECORD DIFF PSI		RECORD DIFF PSI		RECORD DIFF PSI RELIEF VALVE OPEN AT:	

OPERATIONAL TEST AFTER REPAIR					
<u>CHECK VALVE</u>	1.	<u>CHECK VALVE</u>	2.	<u>GATE VALVE</u>	3.
LEAKED		LEAKED		LEAKED	
CLOSED TIGHT		CLOSED TIGHT		CLOSED TIGHT	
RECORD DIFF PSI		RECORD DIFF PSI		RECORD DIFF PSI RELIEF VALVE OPEN AT:	

Repair Date: _____	Repair Remarks:
---------------------------	------------------------

Tested By: _____	BF Certificate #: _____
Company: _____	Business Phone #: _____
Signature: _____	Date: _____

CROSS CONNECTION CONTROL SURVEY

Commercial, Institutional, Multi-Family and Industrial Facilities

Customer Name: _____

Date: _____ Water Service Account: _____

Address: _____

Business Name: _____

Water Service Type: (Circle ONE) Apartment Complex or Duplex (Total # of Units) _____

Mobile Home Park (Total # of Trailers) Commercial Industrial Govt. or School

Temporary Bldg./Construction Multi-Story Bldg. (# of Stories) _____

YARD IRRIGATION / SPRINKLER SERVICES

In-Ground Irrigation System: Spigot/Faucet & Garden Hose Use Only:

Type of Heads: Pop-Up Shrub Soaker Other _____

Will your irrigation system be designed to add fertilizer, weed control, or other additives by using pressure, injection, or aspiration methods either manually or automatically? Yes No

Will your irrigation system need or use a booster pump? Yes No

Will this water meter used to fill a Swimming Pool, Hot Tub or Spa? Yes No

COMMERCIAL OR INDUSTRIAL SERVICES

Type of business: medical, restaurant, catering, video rental/sales, auto-detail shop, clothing, office, commercial, industrial, gas station, Laundromat, grocery/deli, dry cleaners, sweet shop, other: (Describe)

Water will be used for: cooking/drinking boilers chillers cooling tower equipment

What Type? Please Define: _____

Are cooling inhibitors, chemical treatments or other additives used in processing; boilers; chillers; or cooling towers? Yes No Does your water service use pressure water? Yes No

FIRE SPRINKLER SERVICES

Answer "Yes" or "No" as appropriate

Is your proposed fire sprinkler system a wet system or a dry system?

Is it used to supply private fire hydrants or a wall-mounted fire hose cabinet only?

Will your fire sprinkler system contain/use anti-freeze or foaming agents?

Will your fire sprinkler system use a booster or jockey pump?

If there is any other type of fire sprinkler system that is not listed above, please describe:

CROSS CONNECTION CONTROL SURVEY

Residential Water Customer

Date: _____

Customer Name: _____

Address: _____

Please indicate if your Residence has any of the following (*Check all that apply*):

- Landscape Irrigation System / Inground Sprinkler System
 - Can you add chemicals to the system? Yes No
- Fire Sprinkler System
 - Can you add chemicals to the system? Yes No
- Home Dialysis Machine and/or radiant floor heating system connected to water supply
- Solar System (*Check All that Apply*)
 - Heat Exchangers Panels Boilers
- Livestock Watering
 - Hose Filled Automated
- Water Treatment Equipment (i.e. Water Softener)
 - Is Backwash / Cleaning Cycle Air Gapped? Yes No
- Auxiliary source of supply facilities (*Check all that apply*)
 - Well or Surface Water Storage Tank Reclaimed Water Other: _____
- Swimming Pool / Hot Tub / Decorative Pond - Filled with a hose? Yes No
- Rain Catchment System connection to water supply
- Dock or Piers with potable water supply
- On-site Sewage (Septic) Pump Station (*This is pumping equipment that pumps raw sewage to a municipal sewer or pumps effluent from a septic tank to a drain field*)
- Home Based Business – Type of Business: _____
- Do you currently have air vacuum breakers or check valves on your outside faucets? Yes No
- Do you currently have a back flow prevention device installed? Yes No
If yes, please provide the following:
Make: _____ Model: _____ Serial #: _____ Size: _____ inch
Location of Assembly: _____
- Date of Last Test:** _____ please attach a copy of the test form and return with this survey.
- NONE OF THE ABOVE

Signature of Person Completing This Survey: _____

APPENDIX D
NEW ANNUAL FIRST TEST

Date

Customer Name
Address
Address

Account:
Meter #:
Test Due:

Serial #:
Device:
Reference:

SERVICE LOCATION: Street Address

Dear Customer:

This is a reminder that the backflow prevention device(s) installed on your water service(s) as indicated above must be tested within one year of installation and then on an annual basis. According to our records, it is time for the annual testing of the device(s) at the above-referenced service address. The annual test is required by both the Waterworks Name and the Virginia Department of Health, and is the responsibility of the owner or occupant. [12VAC5-590-600]

A successful test of the device(s) must be completed by a Virginia State Certified Backflow Prevention Device Tester possessing a valid certification. You can find Certified Testers online under "Plumbing Contractors" or "Backflow Testers."

Please have your Certified Tester complete the enclosed backflow assembly test report and mail or email the completed form to me within thirty (30) calendar days of the noted "Test Due" date shown on this letter.

If your records indicate that the referenced device has recently been successfully tested and you believe that testing at this time is not warranted, please submit a copy of the most current backflow assembly test report.

If you have any questions or concerns, please contact me at phone number or email address.

Sincerely,

Cross Connection Specialist

APPENDIX E
NON-COMPLIANCE LETTER

Date

Customer Name
Address
Address

Account:
Meter #:
Test Due:

Serial #:
Device:
Reference:

SERVICE LOCATION: Street Address

Dear Customer:

To date, Waterworks Name has not received a copy of your annual test report showing the proper functioning of the backflow device(s) located on your water service(s) at the above-referenced address. This annual inspection is required by both Waterworks Name and the Virginia Waterworks Regulations, and is the responsibility of the owner or occupant. [12 VAC 5-590-600]

In order to avoid possible disconnection of water service to your property, or other corrective measures, please mail or email a copy of your annual test report to me within fifteen (15) business days of the date of this letter.

If you have any questions or concerns, please contact me at phone number or email address.

Sincerely,

Cross Connection Specialist

APPENDIX F
FAILURE LETTER FIRST NOTICE

Date

Customer Name
Address
Address

Account:	Serial #:
Meter #:	Device:
Test Due:	Reference:

SERVICE LOCATION: Street Address

Dear Customer:

Per information furnished to our office, your Backflow Prevention Device at the above address has failed the testing specifications required by the Waterworks Name Cross Connection Control Program and the Virginia Waterworks Regulations. [12 VAC 5-590-600]

In order to avoid possible disconnection of water service to your property, or other corrective measures, please mail or email a copy of a test report prepared by a Certified Tester, showing compliance with the testing specifications to me within thirty (30) calendar days of the date of this letter.

If your records indicate that the device has recently been successfully tested and you believe that testing at this time is not warranted, please submit a copy of the most current backflow assembly test report.

If you have any questions or concerns, please contact me at phone number or email address.

Sincerely,

Cross Connection Specialist

APPENDIX G
FAILURE LETTER SECOND NOTICE

Date

Customer Name
Address
Address

Account:	Serial #:
Meter #:	Device:
Test Due:	Reference:

SERVICE LOCATION: Street Address

Dear Customer:

Waterworks Name is sending you this SECOND NOTICE to inform you that according to our records, your Backflow Prevention Device at the above address has failed the testing specifications required by the Waterworks Name Cross Connection Control Program and the Virginia Waterworks Regulations. [12 VAC 5-590-600]

In order to avoid possible disconnection of water service to your property, or other corrective measures, please mail or email a copy of a test report prepared by a Certified Tester, showing compliance with the testing specifications to me within fifteen (15) business days of the date of this letter.

If your records indicate that the device has recently been successfully tested and you believe that testing at this time is not warranted, please submit a copy of the most current backflow assembly test report.

If you have any questions or concerns, please contact me at phone number or email address.

Sincerely,

Cross Connection Specialist

APPENDIX H
NEED BACKFLOW DEVICE NOTICE

Date

Customer Name
Address
Address

Account:
Meter #:
Test Due:

Serial #:
Device:
Reference:

SERVICE LOCATION: Street Address

Dear Customer:

Waterworks Name has identified the need for installation of a Backflow Prevention Device on the water service at your property listed above, pursuant to the Waterworks Name Cross Connection Control Program and the Virginia Waterworks Regulations [12VAC5-590-600]. In order to avoid possible disconnection of water service to your property, or other corrective measures, please arrange to have a Backflow Prevention Device properly installed on the water service at your property as soon as possible.

A successful test of the device(s) must be completed by a Virginia State Certified Backflow Prevention Device Tester possessing a valid certification. You can find Certified Testers online under "Plumbing Contractors" or "Backflow Testers."

Please have the required device installed and have your Certified Tester complete the enclosed backflow assembly test report and mail or email the completed form to me no later than thirty (30) calendar days from the date of this letter.

If a device has been installed and successful tested, please submit a copy of the most current backflow assembly test report.

If you have any questions or concerns, please contact me at phone number or email address.

Sincerely,

Cross Connection Specialist