



CITY OF MANASSAS
UTILITIES DEPARTMENT/ WATER & SEWER
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SUMMARY OF INSTALLATION & MAINTENANCE REQUIREMENTS
FOR BACKFLOW PREVENTION DEVICES

A PLUMBING PERMIT IS REQUIRED:

1. WHEN A NEW BACKFLOW PREVENTER IS INSTALLED; AND
2. WHEN A REPLACEMENT BACKFLOW PREVENTER IS INSTALLED.

A PLUMBING PERMIT IS NOT REQUIRED:

1. WHEN A BACKFLOW PREVENTER IS REPAIRED (INCLUDING OVERHAUL); AND
2. WHEN A BACKFLOW PREVENTER IS TESTED.

OVERHAUL (REPLACEMENT OF INTERNAL RUBBER COMPONENTS, AS A MINIMUM) IS REQUIRED EVERY 5 YEARS FOR THE FOLLOWING BACKFLOW PREVENTERS:

1. ASSE 1013 – REDUCED PRESSURE ZONE (RPZ) ASSEMBLY;
2. ASSE 1015 – DOUBLE CHECK VALVE (DCV) ASSEMBLY; AND
3. ASSE 1020 – PRESSURE VACUUM BREAKER (PVB).

NOTE: REPLACEMENT INSTEAD OF OVERHAUL IS OPTIONAL.

REPLACEMENT IS REQUIRED EVERY 5 YEARS FOR THE FOLLOWING BACKFLOW PREVENTERS:

1. ASSE 1012 – DUAL CHECK WITH INTERMEDIATE ATMOSPHERIC VENT (DC/IAV); AND
2. ASSE 1024 – DUAL CHECK ASSEMBLY (DuCK).

AN OPERATIONAL TEST IS REQUIRED ON THE FOLLOWING BACKFLOW PREVENTERS:

1. ASSE 1013 (RPZ);
2. ASSE 1015 (DCV); AND
3. ASSE 1020 (PVB).

THE OPERATIONAL TEST IS REQUIRED AT THE FOLLOWING OCCURRENCES:

1. WHEN A NEW BACKFLOW PREVENTER IS INSTALLED;
2. WHEN A REPLACEMENT BACKFLOW PREVENTION IS INSTALLED;
3. WHEN A BACKFLOW PREVENTER IS REPAIRED (INCLUDING OVERHAUL); AND
4. ONCE PER YEAR, AS A MINIMUM. MORE FREQUENT TESTING MAY BE REQUIRED AT THE DISCRETION OF THE CITY.

IMPORTANT: SEE PAGE 5 FOR DETAILED TESTING INSTRUCTIONS

Summary of Installation & Maintenance Requirements for Backflow Prevention Devices, City of Manassas (Continued):

GENERAL INSTALLATION GUIDELINES (ASSE 1013 & 1015 BACKFLOW PREVENTERS ONLY):

1. IF INSTALLED INSIDE OF A BUILDING:
 - A. THE BACKFLOW PREVENTER *MUST* BE A MINIMUM OF 24-INCHES AND A MAXIMUM OF 48-INCHES ABOVE THE FINISHED FLOOR (AT THE CENTER LINE OF THE DEVICE);
 - B. THERE *MUST* BE A MINIMUM OF 30-INCHES OF UNOBSTRUCTED SPACE IN FRONT OF THE BACKFLOW PREVENTER FOR ACCESS FOR MAINTENANCE AND TESTING; AND
 - C. THERE *MUST* BE A MINIMUM OF 12-INCHES OF UNOBSTRUCTED SPACE BEHIND BACKFLOW PREVENTERS 2-INCHES OR SMALLER IN SIZE, AND A MINIMUM OF 18-INCHES FOR BACKFLOW PREVENTERS LARGER THAN 2-INCHES.
2. IF INSTALLED OUTSIDE:
 - A. NEW BACKFLOW PREVENTERS *CANNOT* BE INSTALLED IN BELOW GRADE PITS, VAULTS, OR VALVE BOXES;
 - B. THE BACKFLOW PREVENTER *MUST* BE INSTALLED IN AN ABOVE-GRADE, INSULATED & HEATED ENCLOSURE (UNLESS IT IS FOR SEASONAL USE AND WILL BE REMOVED DURING FREEZING TEMPERATURES AND REPLACED DURING WARM WEATHER SEASONS. ALSO, HEAT AND INSULATION IS NOT REQUIRED IN AN ENCLOSURE WHEN THE DEVICE WILL BE REMOVED AND REPLACED SEASONALLY);
 - C. THE BACKFLOW PREVENTER *MUST* BE A MINIMUM OF 18-INCHES AND A MAXIMUM OF 24-INCHES ABOVE GRADE (AT THE CENTERLINE OF THE DEVICE);
 - D. THE ENCLOSURE *MUST* BE SECURED AND PROTECTED TO PREVENT DAMAGE TO THE BACKFLOW PREVENTER; AND
 - E. EXISTING ASSE 1015 BACKFLOW PREVENTERS (DCV) THAT ARE INSTALLED IN BELOW GRADE PITS, VAULTS, OR VALVE BOXES *PRIOR TO JULY 1, 1997*, MAY REMAIN IN PLACE. *HOWEVER, IF INSPECTION REVEALS EXCESSIVE MOISTURE, CORROSION OF THE BACKFLOW PREVENTER, STANDING WATER, OR OTHER POTENTIALLY HARMFUL OR THREATENING CONDITIONS IN THE EXISTING BELOW-GRADE LOCATION, THEN RELOCATION ABOVE GROUND MAY BE REQUIRED AT THE DISCRETION OF THE CITY. IN SUCH CASES, THE BACKFLOW PREVENTER MUST BE RELOCATED AND INSTALLED IN ACCORDANCE WITH B, C, AND D ABOVE.*

Summary of Installation & Maintenance Requirements for Backflow Prevention Devices, City of Manassas (Continued):

GENERAL INSTALLATION GUIDELINES (ATMOSPHERIC AND PRESSURE VACUUM BREAKER DEVICES ONLY):

1. ASSE 1001 – ATMOSPHERIC VACUUM BREAKER (AVB):
 - A. *MUST* BE INSTALLED A MINIMUM OF 6-INCHES ABOVE ALL DOWNSTREAM PIPING AND THE HIGHEST DOWNSTREAM OUTLET, FLOOD LEVEL RIM, OR POINT OF USE;
 - B. *NO VALVES* (OF ANY KIND) *ARE ALLOWED DOWNSTREAM OF THE DEVICE*;
 - C. *CANNOT* BE INSTALLED WHERE IT WILL BE IN CONTINUOUS OPERATION FOR MORE THAN 12 HOURS IN A 24-HOUR PERIOD; AND
 - D. *MUST* BE INSTALLED IN AN AREA WHERE OCCASIONAL WATER SPILLAGE WILL NOT BE OBJECTIONABLE.
2. ASSE 1020 – PRESSURE VACUUM BREAKER (PVB):
 - A. *MUST* BE INSTALLED A MINIMUM OF 12" ABOVE ALL DOWNSTREAM PIPING AND THE HIGHEST DOWNSTREAM OUTLET, FLOOD LEVEL RIM, OR POINT OF USE;
 - B. *CAN BE USED UNDER CONTINUOUS PRESSURE FOR LONG PERIODS OF TIME*;
 - C. *MUST* BE INSTALLED IN AN AREA WHERE OCCASIONAL WATER SPILLAGE WILL NOT BE OBJECTIONABLE.

FREEZE AND SPILL PROOF MODELS OF ASSE 1001 & 1020 BACKFLOW PREVENTION DEVICES ARE AVAILABLE FROM SOME MANUFACTURERS.

NOTES

1. The requirements listed on this summary paper do not negate additional requirements or details, if any, specified in applicable regulations, ordinances, plumbing codes, and standards. The customer or his representative (contractor) is responsible for determining and complying with all specific requirements.
2. All backflow prevention devices installed within the boundaries of the City of Manassas must be listed in the most current *SEAL AUTHORIZATIONS* booklet published quarterly by the American Society of Sanitary Engineering (ASSE).
3. All backflow prevention devices must be installed in a location that is readily accessible for inspection and maintenance.
4. The application and installation of backflow prevention devices shall be in accordance with the *2000 Edition of the International Plumbing Code* and the *2004 Edition of the City of Manassas Design and Construction Standards Manual*.

Summary of Installation & Maintenance Requirements for Backflow Prevention Devices, City of Manassas (Continued):

5. Additional technical guidelines recommended include the following:
 - A. *Manual of Cross-Connection Control*, Ninth Edition, Foundation for Cross-Connection Control and Hydraulics Research (FCCCHR), University of Southern California (USC);
 - B. *Recommended Practice for Backflow Prevention and Cross-Connection Control*, Manual M-14, American Water Works Association (AWWA);
 - C. *Cross-Connection Control Manual*, EPA 570/9-89-007, United States Environmental Protection Agency (USEPA); and
 - D. *Cross-Connection Protection Devices*, Sixth Edition, American Society of Sanitary Engineering (ASSE).

FAILURE TO COMPLY WITH THESE REQUIREMENTS MAY RESULT IN THE FOLLOWING ACTIONS:

- 1. REVOCATION OF YOUR CITY BACKFLOW PREVENTION DEVICE WORKER REGISTRATION AND APPROVAL;**
- 2. NOTIFICATION OF NONCOMPLIANCE TO THE BOARD FOR CONTRACTORS, DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION, COMMONWEALTH OF VIRGINIA; AND**
- 3. DISCIPLINARY ACTIONS.**

DETAILED INSTRUCTIONS FOR BACKFLOW PREVENTION DEVICE TESTING, PERMITTING, REPORTING AND RECORDKEEPING

1. **PERSONS TESTING BACKFLOW PREVENTION DEVICES IN THE CITY OF MANASSAS MUST HOLD A VALID “BACKFLOW PREVENTION DEVICE WORKER” TRADESMAN CERTIFICATE ISSUED BY THE BOARD FOR CONTRACTORS, DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION, COMMONWEALTH OF VIRGINIA. IN ADDITION, THESE PERSONS MUST ALSO REGISTER WITH THE CITY OF MANASSAS WATER AND SEWER DEPARTMENT AND CARRY A VALID CITY “BACKFLOW WORKER” CARD.**
2. **PERSONS TESTING BACKFLOW PREVENTION DEVICES IN THE CITY OF MANASSAS MUST COMPLETE A BACKFLOW PREVENTION DEVICE REPORT FORM FOR EACH BACKFLOW PREVENTION DEVICE TEST.** BLANK FORMS ARE AVAILABLE AT THE WATER AND SEWER DEPARTMENT, 8500 PUBLIC WORKS DRIVE, OR THE INSPECTIONS OFFICE, 9027 CENTER STREET, MANASSAS, VIRGINIA.
3. **FORMS MUST BE COMPLETE (ALL REQUIRED INFORMATION AND TEST DATA FILLED-IN).** IF NO DESIGNATED SPACE IS PROVIDED ON THE FORM FOR THE NECESSARY INFORMATION, IT MUST BE WRITTEN ON THE FORM IN A CONVENIENT (BLANK) SPACE. INCOMPLETE REPORT FORMS WILL NOT BE ACCEPTED.
3. **A PERMIT IS REQUIRED FOR INSTALLATION OR REPLACEMENT OF BACKFLOW PREVENTION DEVICES.** THE PERMIT MUST BE OBTAINED FROM THE INSPECTIONS OFFICE, 9027 CENTER STREET, MANASSAS, VIRGINIA. A PERMIT FEE OF \$25.00 IS REQUIRED FOR THE FIRST 3 BACKFLOW PREVENTION DEVICES AND \$10.00 FOR EACH ADDITIONAL BACKFLOW PREVENTION DEVICE.
4. **THE PERMIT NUMBER AND DATE OF TEST MUST BE WRITTEN ONTO THE BACKFLOW PREVENTION DEVICE TEST REPORT FORM.** IF NO DESIGNATED AREA FOR THESE ITEMS IS PROVIDED ON THE FORM, WRITE THEM ON THE FORM IN A CONVENIENT (BLANK) SPACE.
5. **COPIES OF THE BACKFLOW PREVENTION DEVICE TEST REPORT FORM MUST BE MAINTAINED AS FOLLOWS:**
 - A. ONE (1) COPY (A CUSTOMER COPY) MUST BE MAINTAINED ON-SITE AND AVAILABLE FOR REVIEW BY CITY AND STATE REPRESENTATIVES, FOR A PERIOD NOT LESS THAN 5 YEARS;
 - B. TWO (2) COPIES (THE CITY’S COPIES) MUST BE MAINTAINED ON-SITE AND GIVEN TO THE INSPECTOR AT THE TIME OF THE FINAL INSPECTION (IF A PERMIT WAS REQUIRED).
 - C. IF NO PERMIT WAS REQUIRED (BECAUSE ONLY A TEST OR A BASIC OVERHAUL WAS PERFORMED ON AN EXISTING BACKFLOW PREVENTION DEVICE), FORWARD THE TWO (2) CITY COPIES TO: CITY OF MANASSAS UTILITIES, WATER AND SEWER DEPARTMENT, ATTN: CROSS-CONNECTION CONTROL COORDINATOR, 8500 PUBLIC WORKS DRIVE, MANASSAS, VA 20110.
6. **NON-COMPLIANCE WITH THE ABOVE INSTRUCTIONS WILL RESULT IN THE FOLLOWING CONSEQUENCES:**
 - A. UNACCEPTABLE TESTS AND REPORTS WILL REQUIRE ADDITIONAL TESTING AND REPORTING, AT THE CONSUMER’S EXPENSE;
 - B. **FAILURE TO HAVE PERMITS OR INSPECTION REPORTS AVAILABLE AT THE TIME OF THE FINAL INSPECTION WILL RESULT IN A FAILURE OF THE INSPECTION AND A RE-INSPECTION FEE WILL BE ASSESSED;** AND
 - C. **CONTRACTOR/TESTER NON-COMPLIANCE WILL BE REPORTED TO THE BOARD FOR CONTRACTORS, COMMONWEALTH OF VIRGINIA. DISCIPLINARY ACTIONS MAY RESULT.**