

506 CROSS CONNECTIONS AND BACKFLOW PREVENTION  
(Revised January 2024)

506.1 GENERAL

- 506.1.1 Cross connections from any well or other source of water to any piping system connected to the Des Moines Water Works distribution mains are prohibited.
- 506.1.2 The customer shall be responsible for ensuring that no cross connections exist within their premises starting at the water service entrance unless approved backflow prevention is installed.
- 506.1.3 The customer shall prevent pollutants and contaminants from entering their facility's potable water supply system or the Des Moines Water Works distribution mains by all means necessary to prevent backflow.
- 506.1.4 All water-using devices must be so designed that backflow to the distribution system cannot occur.
- 506.1.5 Where harmful contaminants or pollutants are used with any device or process connected to the water system, the customer must install and maintain an approved testable reduced pressure backflow prevention assembly in accordance with these Rules and Regulations and any applicable plumbing code requirements.
- 506.1.6 All permanently installed underground irrigation systems shall contain an approved testable backflow prevention assembly at the water service entrance designed to prevent backflow to the Des Moines Water Works distribution system.
- 506.1.7 Decommissioning an irrigation system must be done in a manner that does not create a potential future cross connection. Capping an irrigation system outside the building does not meet the requirements. The system must be permanently terminated in the basement at the tee that serves the irrigation line by removing the tee or permanently capping the tee, not by just installing a threaded fitting or push on SharkBite fittings. All notices and late fees will continue until either the backflow device is tested, or correct termination can be confirmed by Des Moines Water Works. See Figures 13-D, 13-E.

506.1.8 All newly constructed fire suppression systems shall contain an approved testable backflow prevention assembly at the water service entrance designed to prevent backflow to the Des Moines Water Works distribution system.

Wet pipe fire systems without chemicals require a minimum of a double check assembly. Wet pipe that contains chemicals such as anti-freeze, fire extinguishing foams, any hazardous substance, or any similar substance, is a contamination hazard and should be protected with a reduced pressure principle assembly.

## 506.2 BACKFLOW PREVENTION (Revised January 2024)

506.2.1 All new and existing service lines are subject to the requirements of the State of Iowa and any applicable local Plumbing Codes respecting backflow prevention and in addition are also subject to the specific requirements set forth in these Rules and Regulations. State of Iowa requirements are set forth in the Rules of the Public Health Department, Chapter 25 State Plumbing Code, Rule 25.1, 641 I.A.C 25.5. City of Des Moines requirements are set forth in Section 26-614 of the Des Moines Municipal Code. The Des Moines Water Works acts as an administrative authority under the State of Iowa, City of Des Moines, and other municipal and county plumbing codes, and also under its own authority under Chapter 388, Code of Iowa. The backflow protection requirements of these Rules and Regulations are in addition to any applicable Plumbing Code.

506.2.2 An approved backflow prevention assembly for containment as defined in applicable State and local plumbing codes shall be installed at the domestic water service entrance as a condition of service to all newly constructed or remodeled commercial buildings. For the purposes of these Rules and Regulations, any upgrade to an existing service line is deemed a new service.

506.2.3 An approved backflow prevention assembly for containment shall be installed at the water service entrance in any existing service where an actual or potential cross connection to non-potable or hazardous substances exists, is created, or is identified by the Des Moines Water Works. All commercial, multi-tenant properties are deemed to have a potential for cross connections to non-potable or hazardous substances.

- 506.2.4 Properties using non-testable Backflow devices on boilers will be required to have a Reduced Pressure Zone device installed immediately after the water meter on the incoming water service.
- 506.2.5 Private wells and any piping served by a private well shall be physically disconnected from any plumbing pipes and fixtures that will be connected to Des Moines Water Works' distribution system. If a well will be left in service, no well equipment or piping shall be allowed to remain in the building even if it is physically separated or isolated with a valve. An approved reduced pressure zone backflow prevention assembly will be required at the service entrance.

### 506.3 INTERCONNECTED SERVICES AND/OR FIRE LINES

Where a customer is served by two or more inter-connected services and/or fire lines connected to different Des Moines Water Works distribution mains or different sections of distribution mains, the customer shall install and maintain, at customer's expense, on each service and/or fire line, an approved check valve according to the latest edition of the AWWA Standard C508.

This check valve shall be installed in an access manhole and shall be located on private property just inside the property line. Even though the check valve is located on private property, Des Moines Water Works personnel shall at all times have the right of access to it and the installation of such check valve shall be deemed to grant a license for such access.

### 506.4 ADMINISTRATION & ANNUAL TESTING (Revised January 2024)

- 506.4.1 Backflow protection requirements shall be administered by the Utility Incident Manager of the Des Moines Water Works (the "Backflow Program Manager").
- 506.4.2 The Backflow Program Manager may withhold approval to commence water service to a new service line until all backflow requirements are met.

- 506.4.3 The Backflow Program Manager shall investigate service provided to existing service lines to determine the degree of cross contamination hazard that may exist or potentially exist and may require customers to provide a Water Usage Inventory to allow evaluation of degree of hazard at any existing service line or may request access to the location served for purposes of inspection of water usage. If a customer fails to timely and fully complete a Water Usage Inventory, or fails to provide access upon request, a high hazard condition shall be deemed to exist.
- 506.4.4 If the Backflow Program Manager finds a high hazard condition or other cause to require installation of backflow protection, the Backflow Program Manager shall order installation of the required backflow protection device or devices and shall give written notice by mail or hand delivery to the customer of such order (the "Installation Notice").
- 506.4.5 If the customer fails to complete installation pursuant to an Installation Notice, or to notify the Backflow Manager of appeal pursuant to Rule 500.2 within fifteen (15) days of the date the Installation Notice is mailed or delivered, then the water service at the affected service line shall be terminated until such time as the required installation is made.
- 506.4.6 The customer shall cause each backflow prevention assembly installed in his, her or its facility to be tested annually by a backflow prevention assembly technician registered with the Iowa Department of Public Health. Such test shall be due on an annual testing date for such premises specified by the Backflow Program Manager to the customer (the "Annual Backflow Test Date"). A report of each such annual test shall be submitted to the Backflow Program Manager using the method prescribed by the Backflow Program Manager. The required test and report shall be past due if the test is not performed, and the report of the test received by the Backflow Program Manager by the Annual Backflow Test Due Date.

- 506.4.7 An administration fee will be applied to the customer's account annually for each backflow prevention assembly installed at the property as provided in the Schedule of Charges.
- 506.4.8 Any failure to have backflow devices that are categorized as containment backflow prevention assemblies to be tested and a report thereof to be received by the Backflow Program Manager by the Annual Backflow Test Due Date will result in the imposition of late fees as provided in the Schedule of Charges. If there is continued non-compliance with the rules, then water service may be terminated due to failure to submit passing backflow test.
- 506.4.9 DMWW may refuse to accept backflow test reports from certain technicians or companies even if the technicians are registered with the Iowa Department of Public Health when, in the experience of the Backflow Program Manager, the technician or company that employs the technician has established a pattern of failing to provide timely, complete, legible, consistent, or accurate test reports to DMWW on behalf of DMWW customers. The Backflow Program Manager may also refuse to accept backflow test reports from certain technicians or companies if it becomes apparent to DMWW that the technician or company are not actually performing backflow tests or are otherwise improperly reporting the results of testing or repairs made to backflow prevention assemblies. DMWW will only disallow test reports from a particular technician or company that employs technicians after DMWW provides notice to the company or the technician, and DMWW provides the company or technician a reasonable opportunity to correct the deficient test procedures.

If the customer, or a company or technician on behalf of a customer, provides a test report from a technician or company that DMWW has determined does not provide acceptable backflow test reports, DMWW will provide the customer with written notice that the test report submitted for the customer is insufficient, and the customer must obtain a backflow test report from another technician or company. DMWW will give the customer an extension of 30 days from the date the customer receives the notice specified in this section, or 30 days from the Annual Backflow Test Date, whichever is later, to provide a backflow test report from another technician or company. The deadline for providing a complete and accurate test report may be extended in the discretion of the Backflow Program Manager for good cause.