Eastover Sanitary District

Cross Connection Control Ordinance

Eastover
SANITARY DISTRICT

Ordinance No. 2012 -01

AN ORDINANCE OF THE EASTOVER SANITARY DISTRICT CREATING A "CROSS CONNECTION CONTROL" ORDINANCE

BE IT ORDAINED, by the Board of Directors of the Eastover Sanitary District that an ordinance for cross connection control is hereby created as follows:

SECTION 1: CROSS CONNECTION CONTROL

1.1 Purpose: The purpose of this cross-connection control ordinance is:

1.1.1 To protect the public potable water supply of Eastover Sanitary District from the possibility of contamination or pollution, due to back siphonage or backpressure, by isolation within the consumer's private water system such contaminants or pollutants, which could backflow into the public water system.

1.1.2 To define the authority of Eastover Sanitary District as the water purveyor entitled to eliminating cross-connections, new or existing, within its public water system.

1.1.3 To provide a continuing inspection program of cross-connections that may be installed in the future.

1.1.4 This Ordinance will comply with the Federal Safe Drinking Water Act (P.L. 93-523), the North Carolina State Administrative Code (Title 15A, Subchapter 8C), and the North Carolina State Building Code (Volume II) as they pertain to cross-connections within the public water supply.

1.2 Responsibility: The responsibility of Eastover Sanitary District

1.2.1 Eastover Sanitary District will be primarily responsible for preventing any contamination or pollution of the public water system. This responsibility begins at the point of origin of the public water supply, includes all of the public water distribution system, including the service connection, and ends at the point of delivery (water meter) to the consumer's potable water system. The Backflow Administrator shall exercise vigilance to ensure that the consumer/customer has taken the proper steps to protect the public potable water system.

1.2.2 When it has been determined that a backflow protection assembly is required for the prevention of contamination of the public water system, the Backflow Administrator shall notify the owner, in writing, of any such building or premises, to correct within a time set by this ordinance, any plumbing installed or existing that is in violation of this ordinance.

Eastover
SANITARY DISTRICT

1.2.3 After surveying the private water system, the Backflow Administrator will select an approved backflow prevention assembly required for containment control to be installed at service.

1.2.4 Prior to the installation of any backflow prevention assembly, the owner of the private water system must be notified that the installation of a backflow prevention assembly may create a closed system, and as a result thermal expansion may occur. Under such circumstance, the customer must understand and assume all liability and responsibilities for that phenomenon.

1.3 Responsibility: Customer's Responsibility

1.3.1 The customer has the responsibility of preventing contaminants and pollutants from entering the customer's private water system or the public water system operated by Eastover Sanitary District. The customer, at his own expense, shall install, operate, and maintain all backflow prevention assemblies specified within this policy.

1.3.2 If a tenant customer does not maintain the private water system and has no authority to bring the system into compliance with the provisions of this policy, Eastover Sanitary District may assert any available action against the tenant to assure the private water system is brought into compliance with this ordinance.

SECTION 2: DEFINITIONS

2.1 Air Gap Separation: An unobstructed vertical distance through the atmosphere between the lowest opening from any pipe or faucet supplying water from any source to a tank, plumbing fixture, or other device and the flood level rim of the receptacle. An approved air gap separation shall be at least double the diameter of the supply pipe. In no case shall the air gap separation be less than one inch. An approved, air gap separation is an effective method to prevent backflow and shall be considered as a backflow prevention assembly.

2.2 Atmospheric Vacuum Breaker: A device used to prevent back-siphonage which is designed so as not to be subject to static line pressure.

2.3 Back Pressure: Any elevation of pressure in the downstream piping system caused by pumps, elevation of piping, or steam and/or air pressure above the supply pressure at the point of consideration, which would cause a reversal of the normal direction of flow.

2.4 Back Siphonage: A reversal of the normal direction of flow in the pipeline due to a negative pressure (vacuum) being created in the supply line with the backflow source subject to atmospheric pressure.

2.5 Backflow Prevention Administrator: An employee of the Sanitary District or someone designated by the Sanitary District to administer and enforce the provisions of this ordinance.

2.6 Backflow Prevention Assembly – Approved: An assembly that has been investigated and approved by Eastover Sanitary District and has been approved to meet the design and performance standards of the American Society of Sanitary Engineers (ASSE), the American Water Works Assoc. (AWWA), or the Foundation for Cross Connection Control and Hydraulic Research of the University of Southern California.

2.7 Backflow: Any reverse flow of water, gas or any other liquid substance or combination into the public water system from any source due to an unprotected cross-connection.

2.8 Certified Tester: Any individual person who has proven his/her competency to test, repair and overhaul backflow prevention assemblies. This person must hold a certificate of completion from a certified training program in the testing and repair of backflow prevention assemblies and cross connection control.

2.9 Consumer\Customer: Any person, firm, or corporation using or receiving water from the Eastover Sanitary District public water system.

2.10 Containment: The prevention of backflow from a private water system by an approved, properly functioning backflow prevention assembly which is installed, operated and maintained in accordance with the provisions of this ordinance.

2.11 Contamination: An impairment of the quality of the water to a degree, which creates an actual hazard to the public health through poisoning or through the spread of disease.

2.12 Cross Connection: Any actual or potential connection or piping arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluids, gas or substance which could be harmful or hazardous to the potable water system.

2.13 Double Check Valve Assembly (DCVA): An assembly composed of two single, independently acting, approved check valves, including tightly closing shut-off valves located at each end of the device and suitable connections for testing the water tightness of each check valve.

2.14 Double Check-Detector Valve Assembly (DCDA): An assembly composed of an approved double check valve assembly with a bypass water meter and a meter-sized approved double check valve device. The meter shall register accurately for very low flow rates and shall register all flow rates.

2.15 Hazard-Degree: The evaluation of a hazard within a private water system as moderate or severe.

2.16 Hazard-Severe: An actual or potential threat of contamination to the public water system or to a customer's potable water system that could cause serious illness or death.

2.17 Hazard-Imminent: An actual threat of contamination to the public water system that could cause serious illness or death.

2.18 Hazard-Moderate: One that presents foreseeable and significant potential for pollution, nuisance, aesthetically objectionable or other undesirable alterations of the drinking water supply.

2.19 Health Hazard. The term "health hazard" shall mean an actual or potential threat of contamination of a physical, chemical, biological, pathogenic or toxic nature to the public consumer's potable water system to such a degree or intensity that there would be a danger to health. Examples of waterborne health hazards include but are not limited to:
Physical - radioisotopes/radionuclides;
Chemical - lead, mercury and other heavy metals, organic compounds, other toxins and hazardous substances;
Biological - microorganisms and pathogens like cryptosporidium, typhoid, cholera and E. Coli.

2.20 Pollution: An impairment of the quality of the water to a degree which does not create an actual hazard to the public health, but which does adversely and unreasonably affect such water for domestic use.

2.21 Potable Water: Water from any source which has been approved for human consumption by the appropriate agency of the State of North Carolina and Eastover Sanitary District.

2.22 Pressure Vacuum Breaker: An assembly suitable for continuous pressure, to be used to provide protection against backsiphonage.

2.23 Private Water System: Any water system located on the customer’s premise, whether supplied by public potable water or an auxiliary water supply. The system or systems may be either a potable water system or an industrial piping system.

2.24 Public Water System: The potable water system owned and operated by Eastover Sanitary District. This system includes all distribution mains, lines, pipes, connections, storage tanks, and other facilities conveying potable water to the service connections of each customer.

2.25 Reduced Pressure Zone Assembly: An approved, properly functioning assembly containing two, independently acting check valves with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The assembly must include properly located test cocks and tightly closing shut-off valves at each end of the assembly. This assembly is designed to protect against a severe hazard.

2.26 Reduced Pressure Zone-Detector Valve Assembly (RPDA): An assembly composed of an approved reduced pressure zone assembly with a bypass water meter and a meter-sized approved reduced pressure zone assemble. The meter shall register accurately for very low flow rates and shall register all flow rates.

2.27 Residential Dual Check (RDC): A “residential dual check valve” is an assembly, without test cocks or ports, containing two independently operating spring loaded, poppet type check valves, in series, which can be easily removed and replaced. This assembly is suitable for installation in a water meter vault or pit, below ground.

2.28 Service Connection: The terminal end of a service connection from the public potable water system, i.e., where the water purveyor loses jurisdiction and sanitary control over the water at its point of delivery to the consumer’s water system.

2.29 Used Water: Any water supplied by a water purveyor from a public water system to a consumer’s water system after is has passed through the point of delivery and is no longer under the control of the water purveyor.

2.30 Water Purveyor: Owner or operator of a public potable water system providing an approved water supply to the public.

2.31 Water Supply-Auxiliary: Any water supply on or available to the customer’s premises other than the purveyor’s approved public potable water supply. The auxiliary water may include water from another purveyor’s public potable water supply or any natural source such as a well, spring, river, stream, etc., and used or objectionable.

2.32 Water Supply-Unapproved: Any water supply, which has not been approved for human consumption by the North Carolina Department of Human Resources.

SECTION 3: RIGHT OF ENTRY

3.1 Authorization:

3.1.1 Upon presentation of proper credentials and identification any authorized representative from Eastover Sanitary District shall have the right to enter any building, structure or premises during normal business hours, or at any time during the event of an emergency, to perform any duty imposed upon him/her by this ordinance. Those duties may include sampling and testing of water, or inspection and observation of all piping systems connected to the public water supply. Refusal to allow these representatives to enter for these purposes will result in EASTOVER SANITARY DISTRICT obtaining an Administrative Order for entry and potential disconnection of water service.

3.1.2 On request, the consumer shall furnish to the water purveyor any pertinent information regarding the water supply system on such property where cross-connection and backflow are deemed possible. [N.C. State Plumbing Code Appendix D104.2.3]

SECTION 4: ELIMINATION OF CROSS-CONNECTIONS

4.1 Unprotected Cross-Connection Prohibited:

4.1.1 No water service connection to any private water system shall be installed or maintained by Eastover Sanitary District unless the water supply is protected as required by this ordinance

and other applicable laws. Service of water to any premises shall be discontinued by Eastover Sanitary District if a backflow assembly, required by this ordinance, is not installed, tested, and maintained or if a backflow assembly has been removed, bypassed, or if an unprotected cross connection exists on the premises. Service will be restored after all such conditions or defects are corrected.

4.1.2 No customer shall allow an unprotected cross-connection to be made or to remain involving the customer's private water system.

4.1.3 No connection shall be made to an unapproved auxiliary water supply unless the public water supply is protected against backflow by an approved backflow assembly, appropriate to the degree of hazard.

4.1.4 No customer shall fail to maintain in good operating condition any backflow prevention assembly, which is part of the customer's private water system and is required by this ordinance.

4.1.5 No customer shall fail to submit to Eastover Sanitary District any record, which is required by this ordinance.

SECTION 5: INSTALLATION

5.1 Installation and testing of backflow prevention assembly:

5.1.1 The purpose of this section is to require that water flowing from the public water system, must flow through an approved backflow prevention assembly and that each backflow prevention assembly be properly located, installed, maintained and tested so that the backflow prevention assembly is effective in protecting the public water system from any possible contamination or pollution.

5.1.2 The installation or replacement of a backflow prevention assembly for domestic water use shall only be performed by a licensed plumber or utility contractor. The installation or repair of a backflow prevention assembly on a dedicated fire sprinkler service shall be performed by a licensed fire sprinkler contractor or utility contractor. All backflow prevention assemblies shall be tested by a certified Backflow Technician authorized by Eastover Sanitary District. Repairs to a backflow prevention assembly on a dedicated fire sprinkler system may only be performed by a fire sprinkler contractor.

5.1.3 All new construction plans and specifications which will directly affect Eastover Sanitary District Water System, and/or required by the North Carolina Building Code, the North Carolina Department of Environment and Natural Resources (NCDENR), and County Planning and Zoning Offices, shall be made available to Eastover Sanitary District Backflow Administrator for review, approval and to determine the degree of hazard.

5.1.4 All existing facilities zoned commercial or industrial and have existing water services with Eastover Sanitary District and requesting Certificate of Occupancy from the County Planning and Zoning offices, shall be inspected for compliance of backflow and cross-connection control

prevention. Any facility not having backflow protection or changing the degree of hazard shall be brought into compliance before the Backflow Administrator may release Certificate of Occupancy.

5.1.5 All backflow prevention assemblies must be installed and maintained on the customer's premises as part of the customer's private water system at or near the service connection and before the service line is connected to any other pipes except as authorized by the water purveyor.

5.1.6 If it has been determined that a backflow prevention assembly cannot be installed at the meter service or other outside location, the Backflow Administrator may allow the assembly to be installed just inside the building through a written request from the Customer.

5.1.7 Any branch of plumbing installed on a private water system that may be of a greater hazard than the supply line, (example: Chemical induced irrigation or fire systems, pump systems, etc.) shall be protected with a reduced pressure zone assembly.

5.1.8 All backflow prevention assemblies shall be installed in accordance with the Backflow and Cross-Connection Specifications furnished by Eastover Sanitary District and/or the manufacturer's instructions, whichever is most restrictive.

5.1.9 All double check valve assemblies, 2 inch or larger, must be installed in a watertight drainable pit wherever below ground installation is necessary in accordance with the Backflow and Cross-Connection Specifications furnished by Eastover Sanitary District. If a drain cannot be provided, the assembly must be installed above ground.

5.1.10 Double check valve assemblies may be installed in a vertical position with prior approval from the Backflow Administrator provided the flow of water is in an upward direction.

5.1.11 Reduce pressure principle assemblies must be installed in a horizontal position and in a location in which no portion of the assembly can become submerged in any substance under any circumstances (pit installations are prohibited).

5.1.12 Any customer installing a reduced pressure zone (RPZ), reduced pressure detector assembly (RPDA), pressure vacuum breaker (PVB), double check-detector assembly (DCDA) or double check valve assembly (DCVA) shall provide the following information on forms provided by Eastover Sanitary District to the Backflow Administrator within ten (10) days of installation: service address, owner, date of installation, type of assembly, manufacturer, model, and serial number.

5.1.13 No service shall be completed until the Backflow Administrator has been provided information or has surveyed the private water system to determine the degree of hazard and make a determination of a backflow prevention assembly to be installed to protect the public water supply.

5.1.14 The Backflow Administrator must approve each backflow assembly required by this ordinance. Specifications for backflow assemblies are furnished by Eastover Sanitary District. Any unapproved backflow assemblies must be replaced within a time set by the Administrator, with an approved backflow assembly.

5.1.15 If it has been determined that a customer must install a backflow prevention assembly, the Backflow Administrator will provide the customer with a letter of notification. The following time periods shall be set forth for the installation of the specified assemblies:
Health Hazard 60 days
Non-Health Hazard 90 days

5.1.16 If an imminent hazard or unreasonable threat of contamination or pollution to the public water system is detected, the Backflow Administrator may require the installation of the required backflow assembly immediately or within a shorter time period than specified in Sub-Section 5.1.15.

SECTION 6: TESTING AND REPAIR

6.1 Testing and repair of backflow prevention assemblies:

6.1.1 Testing and repair of backflow prevention assemblies shall be made by a certified backflow prevention technician approved by the Backflow Administrator. Such tests are to be conducted annually or at a frequency established by the Backflow Administrator. A certified backflow prevention technician shall perform any testing and the test results shall be submitted to the Backflow Administrator on an approved form within thirty (30) business days after the completion of any testing. If a repair is found necessary on an assembly it must be re-tested. A complete duplicate copy of any repair shall be sent to the Backflow Administrator within thirty (30) days of completion of the repair. Each customer must maintain a complete copy of any tests or repairs.

6.1.2 Each backflow prevention assembly must function properly at time of installment. The customer will be required to test each assembly within ten (10) days following installation at his expense. A certified backflow prevention technician shall conduct the test and the results shall be submitted to the Backflow Administrator on an approved form.

6.1.3 Any time that repairs to backflow prevention assemblies are deemed necessary, whether through annual or required testing, or routine inspection by the consumer or by the Backflow Administrator, these repairs must be completed within a specified time in accordance with the degree of hazard. In no case shall this time period exceed:
Health Hazard Facilities - 7 days
Non-Health Hazard Facilities - 21 days

6.1.4 All backflow prevention assemblies with test cocks are required to be tested annually or at a frequency established by the Backflow Administrator.

6.1.5 All certified backflow prevention technicians must obtain and employ backflow prevention assembly test equipment which has been evaluated and/or approved by the Backflow

Administrator. All test equipment shall be registered with the Backflow Administrator and shall be checked for accuracy annually (at a minimum), calibrated if necessary, and certified as to such accuracy/calibration, employing a calibration method acceptable to the Backflow Administrator.

6.1.6 It shall be unlawful for any consumer or certified backflow prevention assembly tester to submit any record to the Backflow Administrator which is false or incomplete in any material respect. It shall be unlawful for any consumer or certified tester to fail to submit to the Backflow Administrator any record which is required by this Ordinance. Such violations may result in any of the enforcement actions outlined in Section 13 of this Ordinance.

6.1.7 All rubber components must be replaced every five (5) years or as often as needed.

6.1.8 If a customer does not wish for water service to be interrupted when a backflow assembly is tested, repaired, or replaced, a parallel installation must be made, at the customer's expense, using an approved assembly of the same degree of hazard. The parallel line may be of the same size or smaller.

6.1.9 No service shall be completed until the Backflow Administrator has been provided information or has surveyed the private water system to determine the degree of hazard and make a determination of a backflow prevention assembly to be installed to protect the public water supply.

6.1.10 Any customer making any modification to the private system's configuration or use of, which may change the degree of hazard, shall notify the Backflow Administrator before any modification is made. If the Backflow Administrator determines that such modification requires a different backflow prevention assembly, the assembly must be installed before the modification is made.

SECTION 7: SEVERE HAZARD FACILITIES AND METHODS OF CORRECTION

7.1 All severe hazard facilities must have an approved reduced pressure principle assembly as a minimum containment device.

7.1.1 Severe hazard facilities include, but are not limited to: any private water system used or designed pump or which may become pressurized for use with a booster for any reason to the extent that back pressure may occur; any private water system which contains water which has been or is being re-circulated; a building with five or more stories above ground level; brewery; car wash with recycling system; bottling plant; chemical plant; dentist's office; dry cleaning plant; fertilizer plant; film laboratory; fire sprinkler or standpipe system with chemical additives; fire department connections (FDC),hospital, clinic, medical building; irrigation system with chemical additives; laboratory; commercial laundry (except self-service laundry); metal processing plant; morgue or mortuary; nursing home; pharmaceutical plant; power plant; swimming pool; sewage treatment plant; tire manufacturer; veterinary hospital or clinic; restaurants; battery

manufacturers; exterminators and lawn care companies; dairies; canneries; dye works; recycling facilities.

7.1.2 If the Backflow Administrator does not have sufficient access to every portion of a private water system to permit the complete evaluation of the degree of hazard associated with such private water system, an approved reduced pressure principle assembly must be installed.

7.1.3 All assemblies and installations shall be subject to inspection and approval by Eastover Sanitary District Backflow Administrator.

7.1.4 Filling of tanks/tankers or any other container from an Eastover Sanitary District owned fire hydrant is strictly prohibited unless it has been equipped with the proper meter and backflow protection. At which point the Eastover Sanitary District will issue a permit for that tank/tanker or container. Any unauthorized connection to a fire hydrant is considered an illegal cross-connection to the public water system and will be subject to fines.

SECTION 8: MODERATE HAZARD:

8.1 All moderate hazard facilities must have a double check valve assembly as a minimum containment device.

8.1.1 Moderate hazard facilities include, but are not limited to connections to tanks, lines and vessels that handle non-toxic substances; lawn sprinkler systems without chemical injection or, booster pumps; all industrial and most commercial facilities not identified as high hazard facilities.

8.1.2 Only a backflow prevention assembly offering a greater degree of protection may be installed in place of a specified assembly required by this ordinance.

SECTION 9: IMMINENT HAZARD

9.1 If it has been determined a customer's private water system has an imminent hazard; such customer must install a backflow prevention assembly specified by the Backflow Administrator and this ordinance. This assembly must be installed within twenty-four (24) hours of notification from the Administrator. If the customer fails to install the specified assembly within the allowed time limit, water service to the customer's private water system will be terminated and may be subject to specified civil penalties. In the event the Backflow Administrator is unable to notify the customer in twenty-four (24) hours of determining an imminent hazard exists the Backflow Administrator may terminate water service until the specified assembly is installed. These actions may be carried out under the Safe Drinking Water Act (Title XIV Section 1431) and the N.C. State Plumbing Code (appendix D104.2.6).

SECTION 10: LAWN IRRIGATION SYSTEMS

10.1 All proposed lawn irrigation systems will be served through a separate meter and must have a reduced pressure zone assembly as a minimum containment device.

10.2 Only a backflow prevention assembly offering a greater degree of protection may be installed in place of a specified assembly required by this ordinance.

SECTION 11: FIRE SPRINKLER SYSTEMS

11.1 All fire sprinkler systems with Fire Department Connections (FDCs), booster facilities, or chemical additives must have a reduced pressure zone assembly as a minimum containment device.

SECTION 12: NOTICES:

12.1 Notice of Contamination of Pollution:

12.1.1 In the event the customer's private water system becomes contaminated or polluted the customer shall notify Eastover Sanitary District immediately.

12.1.2 In the event a customer has reason to believe that a backflow incident has occurred between the customer's private water system and the public water system the customer must notify Eastover Sanitary District immediately in order that appropriate measures may be taken to isolate and remove the contamination of pollution.

SECTION 13: VIOLATIONS:

13.1 Notification of Violation:

13.1.1 A written notice must be presented to any customer/person who has been found to be in violation of any part of this ordinance.

13.1.2 Such notice must explain the violation and give the time period within which the violation must be corrected. The time period set to correct a violation shall not exceed thirty (30) days after receiving notice unless otherwise specified. If the violation has been determined by the Backflow Administrator to be an imminent hazard the customer shall be required to correct the violation immediately.

13.1.3 In the event a customer is found in violation of this ordinance and fails to correct the violation in a timely manner, or to pay any civil penalty or expense assessed under this section, water service will be terminated.

13.2 The violation of any section of this ordinance may be punished by a civil penalty listed as followed:

13.2.1 Unprotected cross connection involving a private water system, which has an imminent hazard-$1000 per day not to exceed $10,000.

13.2.2 Unprotected cross connection involving a private water system which is of a moderate or severe hazard-$500 per day not to exceed $10,000.

13.2.3 Submitting false records or failure to submit records, which are required by this ordinance-$1,000 per incident.

13.2.4 Failure to test or maintain backflow prevention assemblies as required-$100 per day.

13.3 Reduction of Penalty:

13.3.1 The Backflow Administrator may reduce or dismiss any civil penalty imposed under this section if the Backflow Administrator has determined that the person charged with the violation has no past history of violation in a timely manner assessed by the Backflow Administrator.

13.3.2 No civil penalty shall be reduced if it has been determined the violation was intentional.

13.3.3 Any person violating any part of this ordinance must reimburse Eastover Sanitary District for any expenses in repairing damage to the public water system caused by any violation and any expenses incurred for investigating a violation.

Approved this 24th day of May, 2012.

Eastover SANITARY DISTRICT