

## **ORDINANCE NO. 3520**

### **AN ORDINANCE REPEALING ORDINANCE NO. 3048 AND REPLACING WITH ORDINANCE NO. 3520 REGARDING CROSS CONNECTION CONTROL AND BACKFLOW PREVENTION AND PROVIDING FOR PENALTIES THEREOF.**

**WHEREAS**, it is in conformity with Kansas Administrative Regulation 28-15-18 and in the public interest to protect the quality of water to the consumers City of Fort Scott, Bourbon County, Kansas, hereinafter referred to as "the City"; and,

**WHEREAS**, this public water supply system is operated by the City in compliance with the policies and regulations of the Kansas Department of Health & Environment, hereafter referred to as "KDHE"; and,

**WHEREAS**, restrictions are necessary to prevent contamination of the water provided to the consumers from cross connections with the public water supply system; and,

**NOW THEREFORE**, be it resolved by the City that the following Ordinance and Guidelines be adopted:

An Ordinance prohibiting Cross Connections between the public water supply of the City of Fort Scott, Kansas and any other water or substance of questionable or unknown quality, or any substance which would then degrade the public water supply, incorporating by reference regulations providing for enforcement thereof.

#### **Section I. Cross Connection Control Backflow Prevention Program**

##### **A. Purpose.**

1. To protect the public water supply system from contamination due to backflow or backsiphonage.
2. To prohibit, eliminate, contain, isolate, or control cross connections between the public water supply system and non-potable water systems, plumbing fixtures, and industrial process systems or other systems which introduce or may introduce contaminants into the public water system or the consumer's water system.
3. To provide policy for the maintenance of a continuing program of cross connection control which will prevent the contamination of the public water supply system.

## B. Application.

This Ordinance shall apply to all consumer's water systems. It is the intent of the City or its authorized representative to reasonably interpret the Ordinance and recognize the varying degrees of hazard and to apply the principle that the degree of protection shall be commensurate with the degree of hazard. The City may also require cross connection control devices at the service connections of other KDHE permitted public water supply systems served by the City.

### **Section II. Cross Connections Prohibited:**

A. No water service connection shall be installed or maintained to any premises where actual or potential cross connections to the public water supply system may exist unless such actual or potential cross connections are abated or controlled to the satisfaction of the City or its authorized representative.

B. No connection shall be installed or maintained whereby an auxiliary water supply may enter a public water supply system.

C. If, in the judgment of the City or its authorized representative, cross connection protection is required through either piping modification or installation of an approved backflow prevention device, due notice shall be given to the consumer. The consumers shall immediately comply by providing the required protection at their expense. Failure or refusal or inability on the part of the consumer to provide such protection shall constitute grounds for the discontinuation of water service to the premises until such protection has been provided.

### **Section III. Where Protection is Required:**

A. An approved backflow prevention device shall be installed on each service line to a consumer's water system serving premises where, in the judgment of the City or its authorized representative or the KDHE, actual or potential cross connections exist. The type and degree of protection required shall be commensurate with the degree of hazard and/or type of contamination that may enter the public water supply system.

B. An approved air gap separation or reduced pressure principle backflow prevention device shall be installed at the service connection or within any premises where, in the judgment of the City or its authorized representative or the KDHE, the nature and extent of activities on the premises, or the materials used in connection with the activities, or materials stored on the premises, would

present a health hazard or contamination of the public water supply system from a cross connection. This includes but is not limited to the following situations:

1. Premises having an auxiliary water supply, unless the quality of the auxiliary supply is acceptable to the City or its authorized representative and the KDHE.
2. Premises having internal plumbing arrangements, which make it impractical to ascertain whether or not, cross connections exist.
3. Premises where entry is restricted so that inspections for cross connections cannot be made with sufficient frequency or at sufficiently short notice to assure the cross connections do not exist.
4. Premises having a repeated history of cross connections being established or re-established.
5. Premises, which due to the nature of the enterprise therein, are subject to recurring modification or expansion.
6. Premises on which any substance is handled under pressure so as to permit entry into the public water supply system, or where a cross connection could reasonably be expected to occur. This shall include the handling of process waters and cooling waters.
7. Premises where toxic or hazardous materials are handled.

C. The following types of facilities fall into one or more of the categories or premises where an approved air gap separation or reduced pressure principle backflow prevention device may be required by the City or its authorized representative or the KDHE to protect the public water supply and must be installed at the following (but not limited to) facilities unless all hazardous or potentially hazardous conditions have been eliminated or corrected by other methods to the satisfaction of the City or its authorized representative and the KDHE:

1. Agricultural chemical facilities
2. Auxiliary water systems, wells
3. Boilers
4. Bulk water loading facilities
5. Car washing facilities
6. Chemical manufacturing, processing, compounding or treatment plants
7. Chill water systems

8. Cooling towers
9. Feedlots
10. Fire protection systems
11. Hazardous waste storage and disposal sites
12. Hospitals, mortuaries, clinics or others as discovered by sanitary surveys
13. Irrigation and sprinkler systems
14. Laundries and dry cleaning
15. Meat processing facilities
16. Metal manufacturing, cleaning, processing and fabricating plants
17. Oil and gas production, refining, storage or transmission properties
18. Plating plants
19. Power plants
20. Research and analytical laboratories
21. Sewage and storm drainage facilities--pumping stations and treatment plants
22. Veterinary clinics

#### **Section IV. Survey and Investigations:**

A. The consumer's premises shall be open at all reasonable times to the City or its authorized representative, for the conduction of surveys and investigations of water use practices within the consumer's premises to determine whether there are actual or potential cross connections in the consumer's water system.

B. On request by the City or its authorized representative, the consumer shall furnish requested information on water use practices within his premises and in the consumer's water system.

C. On request by the City or its authorized representative, the consumer shall conduct periodic surveys of water use practices on the premises of the consumer's water system to determine whether there are actual or potential cross connections. The consumer shall provide the survey results to the City or its authorized representative.

#### **Section V. Incorporation by Reference:**

It is incorporated by reference for the purpose of regulating cross-connections between the public water supply and any sources of potential or actual pollution or contaminates that a certain manual is adopted by the City of Fort Scott, Kansas known as "Manual of Cross-Connection Control!" latest edition, published by "USC Foundation for Cross-Connection Control and Hydraulic Research". No fewer than three copies of said manual shall be marked or stamped, "Official Copy as Adopted by Ordinance No. 3520", and which shall be

attached a copy of this Ordinance, and filed with the City Clerk to be open to inspection and available to the public at all reasonable hours.

**Section VI. Backflow Prevention Devices:**

Any backflow prevention assembly required herein shall be a make, model and size approved by KDHE and the City of Fort Scott, Kansas. The term "Approved Backflow Prevention Assembly" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association entitled: AWWA/ANSI Standard for Double Check Valve Backflow Prevention Assemblies; AWWA/ANSI Standard for Reduced Pressure Principle Backflow Prevention Assemblies; and, have met completely the laboratory and field performance standard of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California (USC FCCCHR) established in: Standards of Backflow Prevention Assemblies Chapter 10 of the most current edition of the Manual of Cross-Connection Control. Said AWWA and USC FCCCHR standards have been adopted by the City of Fort Scott, Kansas. Final approval shall be evidenced by a "Certificate of Compliance" for the said AWWA standards; or the appearance of the specific model and size on the "List of Approved Backflow Prevention Assemblies" published by the USC FCCCHR along with a "Certificate of Approval" for the said USC FCCCHR Standards; issued by an approved testing laboratory.

The following testing laboratory has been recognized and incorporated by reference by the City of Fort Scott, Kansas to test and approve backflow prevention assemblies:

Foundation for Cross-Connection Control and Hydraulic  
Research  
University of Southern California  
Los Angeles, California 90089-2531

Testing laboratories other than the laboratory listed above will be added to an approved list as they are qualified.

Backflow preventers, which may be subjected to backpressure or backsiphonage, that have been fully tested and have been granted a Certificate of Approval by said qualified laboratory and are listed on FCCCHR laboratory's current list of approved backflow prevention assemblies may be used without further test or qualification.

All presently installed backflow prevention assemblies which do not meet the requirements of this section but were approved devices for the purposes described herein at the time of installation and which have been properly maintained, shall, except for the field testing and maintenance requirements, be excluded from the requirements of these rules so long as the City is assured that they will satisfactorily protect the water purveyor's system. Whenever the existing device is moved from the present location or requires more than minimum maintenance or when the City finds that the maintenance constitutes a hazard to health, the unit shall be replaced by an approved backflow prevention assembly meeting the requirements of this section.

### **Section VII. Installation:**

A. Backflow prevention devices shall be installed at a location and in a manner approved by the City or its authorized agent. All devices shall be installed at the expense of the water consumer, unless the City or its authorized representative agrees otherwise.

B. Backflow prevention devices installed at the service connection shall be located on the consumer's side of the water meter, as close to the meter as is reasonably practical, and prior to any other connection.

C. Backflow prevention devices shall be conveniently accessible for maintenance and testing, protected from freezing, and where no part of the device will be submerged or subject to flooding by any fluid. All devices shall be installed according to manufacturers' recommendations.

### **Section VIII. Inspection and Maintenance:**

A. Cross connection control devices must be inspected, tested and repaired by a trained technician. All devices should be installed such that they will be accessible for regular inspecting and testing.

B. The consumer is required by this regulation to inspect, test, and overhaul backflow prevention devices in accordance with the following schedule or more often as determined by the City or its authorized representative.

1. Air gap separations shall be inspected at the time of installation and at least annually.

2. Double check valve assemblies shall be inspected and tested for tightness at the time of installation and at least every twelve months

thereafter. They shall be dismantled, inspected internally, cleaned, and repaired whenever needed.

3. Reduced pressure principle backflow prevention devices shall be inspected and tested for tightness at the time of installation and at least every twelve months thereafter. They shall be dismantled, inspected internally, cleaned, and repaired whenever needed.

C. Inspections, tests, and overhauls of backflow prevention devices shall be made at the expense of the consumer and shall be performed by an approved tester.

D. Whenever backflow prevention devices required by this policy are found to be defective, they shall be repaired or replaced without delay at the expense of the consumer.

E. The consumer must maintain a complete record of each backflow prevention device from purchase to retirement. This shall include a comprehensive listing that includes a record of all tests, inspections, and repairs. All records of inspections, tests, repairs, and overhauls shall be provided to City or its authorized representative.

F. All backflow prevention devices shall have a tag showing the date of the last inspection, test, or overhaul or other maintenance.

G. Backflow prevention devices shall not be bypassed, made inoperative, removed, or otherwise made ineffective without specific authorization by the City or its authorized representative.

#### **Section IX. Violation and Penalties:**

A. The City or its authorized representative shall deny or discontinue the water service to any premises or any consumer wherein any backflow prevention device required by this ordinance is not installed, tested, and maintained in a manner acceptable to the City or its authorized representative, or if it is found that the backflow prevention device has been removed or bypassed, or if an unprotected cross connection exists, at any time and is determined that a serious threat to the public health exists.

B. The City or its authorized representative may impose fines and penalties or take other reasonable measures to enforce compliance.

C. Water service to such premises shall not be restored until the consumer is in compliance with this cross-connection regulation to the satisfaction of the City or its authorized representative.

D. The City of Fort Scott, Kansas Water Department is authorized to make all

necessary and reasonable rules and policies with respect to the enforcement of this ordinance. All such rules and policies shall be consistent with the provisions of this Ordinance.

**Section X Definitions:**

The following definitions shall apply in the interpretation and enforcement of this policy:

1. Air gap separation means the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other device and the overflow level rim of the receptacle, and shall be at least double the diameter of the supply pipe measured vertically above the flood level rim of the vessel, but in no case less than one inch.
2. Approved tester means a person qualified to make inspections; to test and repair backflow prevention/cross connection control devices; and who is approved by the City.
3. Authorized representative means any person designated by the City to administer this cross-connection control regulation.
4. Auxiliary water supply means any water source or system, other than the City, that may be available in the building or premises. This does not include other KDHE permitted public water supply systems.
5. Backflow means the flow other than the intended direction of flow, of any foreign liquids, gases, used water or substances into the distribution system of a public water supply system.
6. Backflow prevention device means any device, method, or type of construction intended to prevent backflow into the public water supply system.
7. Consumer means any individual, firm, partnership, corporation, or agency or their authorized agent receiving water from the City.
8. Contamination means an introduction of any sewage, process fluids, chemicals, wastes or any other substance that would be objectionable. Contamination may be a threat to life or health, or may cause an esthetic deterioration, color, taste or odor.
9. Cross connection means any physical connection or arrangement between two (2) otherwise separate piping systems; one of which contains potable water of the public water supply system, and the second, water of unknown or questionable safety, or steam, gases, chemicals, or substances whereby there may be backflow from the second system to the public water supply system. No physical cross connection shall be permitted between a public water supply system and an auxiliary water supply system.



10. Degree of hazard means an evaluation of the potential risk to public health and the adverse effect of the hazard upon anyone using the water.

11. Health hazard means any condition, device, or practice in the public water supply system that could create or may create a danger to the health and well-being of anyone using the water or allow contamination of the water.

12. Public water system means the water supply source, distribution system and appurtenances to the service meter operated as a public utility that supplies potable water to the consumers' water systems.

13. Public water supply system means the public water system and the consumers' water systems.

14. Consumer's water system means all service pipes, all distribution piping and all appurtenances beyond the service meter of the public water system.

15. Service connection means the terminal end of the service line from the public water system. If a meter is installed at the end of the service, then the service connection means the downstream end of the meter.

## **State of Kansas Regulations and Statues for Cross-Connection Control Backflow Prevention**

### **K.A.R. 28-15-18h**

#### **(KS Department of Health & Environment)**

(h) All community water systems and any high risk non-community systems designated by the department shall have a regular program, approved by the department, for the detection and elimination of cross connection and prevention of backflow and back siphonage.

### **K.A.R. 49-50-4**

#### **(KS Dept. of Human Resources)**

(a) A person shall not install any water-operated equipment or mechanism, or use any water-treating chemical or substance if it is found such equipment, mechanism, chemical or substance may cause pollution of the domestic water supply. The equipment or mechanism may be permitted only when equipped with an approved backflow prevention device.

(b) Each backflow prevention device installed in a potable water supply system shall be maintained in good working condition by the person or persons having control of the device. The devices may be inspected by authorized inspectors and, if found to be defective or inoperative, shall be repaired or replaced as directed by the inspector. Any device shall not be removed from use or relocated or another device substituted without formal notification to the office of the responsible authorized inspection agency.

© Potable water piping shall not be installed or maintained within any piping or device conveying sewage, wastes or other material hazardous to health and safety.

(d) Steam and steam boiler connections shall be protected by an approved backflow prevention device as set forth in subsection (e) of this section.

(e) Non-Potable water piping. If it is impractical to correct individual cross-connections on the domestic water line, the line supplying such outlets shall be considered a non-potable water line. Drinking or domestic water outlets shall not be connected to the non-potable water line. Backflow or back siphonage from the non-potable water line into the domestic water line shall be prevented by the installation of a gravity tank or by a tank having a pump designated for non-potable water. The domestic water inlets to the non-potable water tank shall have an approved air-gap as with the ASME code in effect on January 1, 1987. Where it is impractical to install such a tank, an approved pressure-type backflow or back-siphonage prevention device shall be installed as follows:

1. Where reverse flow is possible only as a result of a vacuum within the line, an approved pressure-type vacuum breaker unit or other approved backflow prevention device shall be installed in the supply line.

2. Each pressure-type vacuum breaker unit shall be installed at a height of at least 12 inches (.3m) above the highest tank, equipment or other point at which the non-potable water is used.

Other approved backflow prevention devices shall be installed in a manner satisfactory to the responsible authorized inspection agency, but in no case less than 12 inches (.3m) above the surrounding ground on floor.

**K.A.R. 49-50-4**

**(KS Dept. of Human Resources)**

**(Continued)**

3. Where backflow can occur (creating a higher pressure in the non-potable water line) an approved backflow prevention device shall be installed in the supply line. The backflow prevention device shall be installed at least 12 inches (.3M) above the surrounding ground or floor.

(f) Whenever possible, all portions of the non-potable water line shall be exposed and all exposed portions shall be properly identified in a manner satisfactory to the responsible authorized inspection agency. Each outlet on the non-potable line which could be used for drinking or domestic purposes shall be posted with the following sign:

**DANGER---WATER UNSAFE.**

(g) An approved backflow prevention device shall conform to the requirements of the American Society of Sanitary Engineering Code as in effect on December 31, 1986.

**K.S.A. 65-163 a**

Cessation of water delivery to avoid contamination; order of cessation by secretary; appeal.

(a.) Any supplier of water may refuse to deliver water through pipes and mains to any premises where a condition exists which might lead to the contamination of the public water supply system and may continue to refuse the delivery of water to the premises until the condition is remedied.

(b.) The secretary may order the supplier of water:

1. To cease the delivery of water through pipes and mains to a premise or premises where a condition exists which might lead to the contamination of the public water supply system, or,
2. To cease an activity which would result in a violation of the state primary drinking water standards, or;
3. To cease an activity which results in a continuing violation of the state primary drinking water standards, or;
4. To comply with any combination of these orders. The supplier of water shall immediately comply with an order issued by the secretary under this section.

(c.) If a supplier of water considers the terms of such order to be illegal, unjust or unreasonable, the operator may appeal within thirty (30) days after the issuance of the order to the district court of the county in which the public water supply system is located or, if the water supply system is located in more than one county, to the district court of any such county. The court shall hear the appeal without delay and shall approve, set aside or modify the order.

**K.S.A. 65-171 g**

Protection of water and air from sewage contamination. Water supply shall be protected against contamination from sewage by the prohibition of any connection between sewage and water systems which provide the possibility of water contamination by means of back siphonage or direct connection. Air in enclosed spaces shall be protected against contamination from toxic explosive or disagreeable gases or vapors from a sewage system by providing leak tight and substantial waste and ventilation connections, and liquid sealed traps on all plumbing fixtures discharging into any type of sewage disposal systems.

**K.S.A. 65-171 I (j,k)**

The following acts are prohibited:

(j) The application of fertilizers, pesticides or other chemicals by any person through any lawn irrigation system connected to a public water supply system except in areas where the public water supply system has adopted a program for the detection and elimination of cross-connections and preventions of backflow and back siphonage which has been approved by the secretary of health and environment, such application may be permitted by the public water supply system upon its periodic inspection and current approval of the installed air-gap or reduced pressure zone backflow prevention device which isolates the irrigation system.

(k) The use by any person of a public water supply system as a source of make-up for bulk chemical application tanks except that:

1. in areas where the public water supply system has adopted a program for the detection and elimination of cross-connections and prevention of backflow and back siphonage which has been approved by the secretary of health and environment, may be permitted by the public water supply system upon its periodic inspection and current of an air gap or reduced pressure zone backflow prevention device to protect the public water supply; and

2. in areas where the public water supply system has not adopted a program approved by the secretary of health and environment, such use may be permitted if an air gap or reduced pressure zone backflow prevention device is used and such device meets nationally recognized standards, as determined by the secretary of health and environment.

**K.S.A. 65-171 y**

(a), subject to the provisions of subsection

(b), any lawn irrigation system which is not used for the application of fertilizers, pesticides, or other chemicals shall not be deemed to be a high hazard water system and shall not be required to be equipped with a high-hazard backflow prevention device. Any such lawn irrigation system installed, renovated, replaced or extended on or after July 1, 1994, shall have at least a low-hazard double check valve assembly as a minimum level of backflow prevention and any such valve on a new system installed after July 1, 1994, shall be installed in such a manner as to be easily accessible for inspection.

(b) a public water supply system operated a city or county may impose any requirement, in addition to that provided by subsection (a), for backflow protection or prevention on lawn irrigation systems that are not used for the application of fertilizers, pesticides, or other chemicals and which are connected to the public water supply system.

**SECTION XI:** Effective Date: This Ordinance shall become effective upon passage and publication of the Ordinance summary in the official City newspaper as provided by State law.

**PASSED** by the Governing Body this **21<sup>st</sup>** day of **November, 2017**.

**CITY OF FORT SCOTT, KANSAS**



  
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**JOLYNNE MITCHELL, MAYOR**

  
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**DIANE K. CLAY, CITY CLERK**