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CITY OF ELKTON

DOUGLAS COUNTY, OREGON

ORDINANCE NO. 132

AN ORDINANCE OF THE CITY OF ELKTON ESTABLISHING RULES AND REGULATIONS
FOR THE PROTECTION OF THE WATER SUPPLY SYSTEM.

WHEREAS, in order to protect the waters delivered to customers and to promote health, safety and welfare of the residents within the City, the water supply system must be carefully managed and protected.

WHEREAS, in order to operate, maintain, and protect the City system it is necessary that the connection of facilities to the City system be carefully monitored and regulated; and

WHEREAS, the following specific basic principles concerning the water supply system are true:

1. Water quality and purity are of the utmost concern to the City of Elkton Water department and its customers.

2. The City of Elkton Water Dept. is dedicated to the exercise of the utmost care to assure that the water made available to its customers is properly tested and treated for purity and quality before being released from the treatment plant.

3. Pure, properly treated water can become contaminated after it leaves the treatment plant and before it reaches the customer by deliberate or innocent conduct.

4. Contamination and pollution of the water supply is a serious concern but a concern which is preventable by the adoption of procedures and minimum standards for those utilizing the public water system.

5. Public health and safety will be improved by the adoption and implementation of a system of regulations designed for the prevention of water supply contamination.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Elkton as follows:

Section 1. CROSS-CONNECTION CONTROL - GENERAL POLITY

1.1. Purpose. The purpose of this Ordinance is:

- 1.1.1 To protect the public water supply of the City of Elkton from the possibility of contamination or pollution by isolating within the internal distribution system (s) or the consumer's private water system (s) all contaminants or pollutants which could back-flow into the public water system; and
- 1.1.2 To promote the elimination or control of existing cross-connections, actual or potential, between the consumer's in-plant potable water system (s) and non-potable water system (s), plumbing fixtures and industrial piping systems; and
- 1.1.3 To provide for the maintenance of a continuing Program of Cross-Connection Control which will systematically and effectively prevent the contamination or pollution of all potable water systems.

1.2 Responsibility. The City of Elkton superintendent shall be responsible for the protection of the public water distribution system from contamination or pollution due to the backflow of contaminants or pollutants through the water service connection. If, in the judgment of said superintendent an approved backflow prevention assembly is required for the safety of the water system, the superintendent or his designated agent shall give notice in writing to said customer to install such an approved backflow prevention assembly (s) at specific location (s) on his premises. The consumer shall immediately install such approved assembly (s) at the consumers own expenses; and, failure, refusal or inability on the part of the customer to install, have tested and maintain said assembly (s) shall constitute a ground for discontinuing water service to the premises until such requirements have been satisfactorily met.

Section 2. DEFINITIONS

2.1 Water official. The superintendent in charge of the City of Elkton Water Dept. is invested with the authority and responsibility for the implementation of an effective cross-connection control program and for the enforcement of the provisions of this ordinance.

2.2 Approved. Accepted by the superintendent as meeting an applicable specification stated or cited in this ordinance, or as suitable for the proposed use.

2.3 Auxiliary Water Supply. Any water supply on or available to the premises other than the public water supply will be considered as an auxiliary water supply. These auxiliary waters may include water from natural source (s) such as a well, spring, river, stream, harbor, etc., or "used waters" or "industrial fluids". These waters may be contaminated or polluted or they may be objectionable and constitute an unacceptable water source over which the City of Elkton Water Dept. does not have sufficient sanitary control.

2.4 Backflow. The reversal of the normal flow of water caused by either back-pressure or backsiphonage.

2.5 Backpressure. The flow of water or other liquids, mixtures or substances under pressure into the distribution pipes of the City of Elkton Water Dept. water supply system from any source or sources other than the intended source.

2.6 Backsiphonage. The flow of water or other liquids, mixtures or substances into the distribution pipes of the City of Elkton Water Dept.'s water supply system from any source other than its intended source caused by the reduction of pressure in the water supply system.

2.7 Backflow Preventer. An assembly or means designed to prevent backflow.

2.7.1 Air Gap. 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 flood level rim of said vessel. An approved air gap shall be at least double the diameter of the supply pipe, measured vertically, above the overflow rim of the vessel; and in no case less than one inch.

2.7.2 Reduced Pressure Principle Assembly. An assembly of two independently acting approved check valves together with a hydraulically operating,

mechanically independent differential pressure relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located resilient seated test cocks and resilient seated shut-off valves at each end of the assembly. The entire assembly shall meet the design and performance specifications as determined by a laboratory and a field evaluation program resulting in an approval by a recognized and Oregon State Health Division approved testing agency for backflow prevention assemblies. The assembly shall operate to maintain the pressure in the zone between the two check valves at an acceptable level less than the pressure on the public water supply side of the assembly. At cessation of a normal flow the pressure between the two check valves shall be less than the pressure on the public water supply side of the assembly. In case of leakage of either of the check valves the differential relief valve shall operate to maintain the reduced pressure in the zone between the check valves by discharging to the atmosphere. To be approved these assemblies must be readily accessible for in-line testing and maintenance and be installed in locations where no part of the assembly will be submerged.

2.7.3 Double Check Valve Assembly. An assembly of two independently operating approved check valves with resilient seated shut-off valves on each end of the check valves, plus properly located resilient seated test cocks for the testing of each check valve. The entire assembly shall meet the design and performance specifications as determined by a recognized and Oregon State Health Division approved testing agency for backflow prevention assemblies. To be approved these assemblies must be readily accessible for in-line testing and maintenance.

2.8 Contamination. Means an impairment of the quality of the potable water by sewage, industrial fluids or waste liquids, compounds or other materials to a degree which creates an actual or potential hazard to the public health through poisoning or through the spread of disease.

2.9 Cross-Connection. Any physical connection or arrangement of piping or fixtures between two otherwise separate piping systems one of which contains potable water and the other non-potable water or industrial fluids of questionable safety,

through which, or because of which, backflow may occur into the potable water system. This would include any temporary connections, such as swing connections, removable sections, four way plug valves, spools, dummy sections of pipe, swivel or change-over devices or sliding multiport tube.

2.10 Cross-Connections - Controlled. A connection between a potable water system and non-potable water system with an approved backflow prevention assembly properly installed and maintained so that it will continuously afford the protection commensurate with the degree of hazard.

2.11 Cross-Connection Control by Containment. The installation of an approved backflow prevention assembly at the water service connection to any customer's premises where it is physically and economically feasible to find and permanently eliminate or control all actual or potential cross-connections within the customer's water system; or, it shall mean the installation of an approved backflow prevention assembly on the service line leading to and supplying a portion of a customer's water system where there are actual or potential cross-connections which cannot be effectively eliminated or controlled at the point of the cross-connection.

2.12 Hazard, Degree of. The term is derived from an evaluation of the potential risk to public health and the adverse effect of the hazard upon the potable water system.

2.12.1 Hazard - Health. Any condition, device, or practice in the water supply system and its operation which could create, or in the judgment of the superintendent may create a danger to the health and well-being of the water consumer.

2.12.2 Hazard - Plumbing. A plumbing type cross-connection in a consumer's potable water system that has not been properly protected by an approved air gap or approved backflow prevention assembly.

2.12.3 Hazard - Pollutational. An actual or potential threat to the physical properties of the water system or to the potability of the public or the consumer's potable water system which would constitute a nuisance or be aesthetically objectionable or could cause damage to the system or its appurtenances, but would not be dangerous to health.

2.12.4 Hazard - System. An actual or potential threat of severe damage to the physical properties of the public potable water system or the consumer's potable water system or of a pollution or contamination which would have an extensive or protracted affect on the quality of the potable water in the system.

2.13 Industrial Fluids System. Any system containing a fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, system, pollutional or plumbing hazard if introduced into an approved water supply. This may include, but not be limited to: polluted or contaminated waters; all types of process waters and "used waters" originating from the public potable water system which may have deteriorated in sanitary quality; chemicals in fluid form; plating acids and alkalines, circulating cooling waters connected to an open cooling tower and/or cooling towers that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from well, springs streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerine, paraffin's, caustic and acid solutions and other liquid and gaseous fluids used in industrial or other purposes or for fire-fighting purposes.

2.14 Pollution. Means the presence of any foreign substance (organic, inorganic, or biological) in water which tends to degrade its quality so as to constitute a hazard or impair the usefulness or 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 waters for domestic use.

2.15 Water - Potable. Any water which, according to recognized standards, is safe for human consumption.

2.16 Water - Non potable. Water which is not safe for human consumption or which is of questionable potability.

2.17 Water - 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 customer's water system. If a meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the meter. There should be no unprotected takeoffs from the service line ahead of any meter or any backflow prevention assembly located at the point of delivery to the customer's water system. Service connection shall also include water

service connection from a fire hydrant and all other temporary or emergency water service connections from the public potable water system.

2.18 Water - Used. Any water supplied by a Water Purveyor from a public potable water system to a consumer's water system after it has passed through the point of delivery and is no longer under the sanitary control of the Water Purveyor.

Section 3. REQUIREMENTS

3.1 Water System

3.1.1 The water system shall be considered as made up of two parts: The Utility System and the Customer System.

3.1.2 Utility System shall consist of the source facilities and the distribution system; and shall include all those facilities of the water system under the complete control of the utility, up to the point where the customer's system begins.

3.1.3 The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system.

3.1.4 The distribution system shall include the network of conduits used for the delivery of water from the source to the customer's system.

3.1.5 The customer's system shall include those parts of the facilities beyond the termination of the utility distribution system which are utilized in conveying utility-delivered domestic water to points of use.

3.2 Policy

3.2.1 No water service connection to any premises shall be installed or maintained by the City of Elkton Water Dept. unless the water supply is protected as required by State laws and regulations and this ordinance. Service of water to any premises shall be discontinued by the City of Elkton Water Dept. if a backflow prevention assembly required by this ordinance is not installed,

tested and maintained, or if it is found that the backflow prevention assembly has been removed, by-passed, or if an unprotected cross-connection exists on the premises. Service will not be restored until such conditions or defects are corrected.

3.2.2 The customer's system should be open for inspection at all reasonable times to the authorized representatives of the City of Elkton Water Dept. to determine whether cross-connections or other structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, the superintendent shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the customer has corrected the condition (s) in conformance with the State statutes and City ordinances relating to plumbing and water supplies and the regulations adopted pursuant thereto.

Whenever a water user or the owner of the premises obtaining water from the City of Elkton Water Dept. treats the water in any way or adds any chemical or substance to the water, they shall immediately notify the superintendent.

3.2.3 An approved backflow prevention assembly shall be installed on each service line to a customer's water system at or near the property line or immediately inside the building being served, but in all cases before the first branch line leading off the service line whenever any of the following conditions exist:

3.2.3.1 In the case of premises having an auxiliary water supply which is not or may not be of safe bacteriological or chemical quality and which is not acceptable as an additional source by the superintendent, the public water system shall be protected against backflow from the premises by installing an approved backflow prevention assembly in the service line appropriate to the degree of hazard.

3.2.3.2 In the case of premises on which any industrial fluid or any other objectionable substance is handled in such a fashion as to create an actual or potential hazard to the public water system, the public system shall be protected against backflow from the premises by installing an approved backflow prevention assembly in the service line appropriate to the degree of hazard. This shall include the handling of

process waters and waters originating from the utility system which have been subject to deterioration in quality.

3.2.3.3 In the case of premises having (1) internal cross-connection that cannot be permanently corrected or controlled, or (2) intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not dangerous cross-connections exist, the public water system shall be protected against backflow from the premises by installing an approved backflow prevention assembly in the service line.

3.2.4 General Standards. The type of protective assembly required under previous subsections shall be at least commensurate with the degree of hazard which exists.

3.2.4.1 An approved air gap of at least twice the inside diameter, but not less than one inch, of the incoming supply line measured vertically above the top rim of the vessel, or an approved reduced pressure backflow device (RPBD) assembly shall be installed where the substance which could backflow is hazardous to health, such as but not limited to; sewage treatment plants, sewage pumping stations, chemical manufacturing plants, plating plants, hospitals, mortuaries, car washes, medical clinics;

3.2.4.2 An approved double check valve assembly (DCVA) shall be installed where the substance which could backflow is objectionable but does not pose an unreasonable risk to health. An approved double check valve assembly shall be the minimum protection for fire sprinkler systems using piping material that is not approved for potable water use and/or which does not provide for periodic flow through during each 24 hour period.

3.2.4.4 All backflow prevention device assemblies required under this ordinance shall be of a type and model approved by the Oregon State Health Division.

3.2.4.5 All device assemblies installed after the effective date of this ordinance shall meet the specifications of construction, evaluation and approval of backflow prevention assemblies as specified in Section 10, Manual of Cross-Connection Control and Hydraulic Research, University of Southern California and AWWA Standards C510-92 and C511-92.

3.2.4.6 All backflow prevention device assemblies shall be installed in accordance with Section (1) through (4) of OAR 333-61-071. Double Check Valve and Reduced Pressure Device Assemblies shall have resilient seated gate valves or fully ported ball valves provided by the device manufacturer for both shut-off valves and for the test cocks.

3.2.5 Responsibilities

3.2.5.1 The water user or the owner of the premises where one or more reduced pressure device assembly, double check valve assembly, have been installed shall have the device tested by a certified tester at least once per year.

Devices installed at facilities which pose an extreme health risk and devices which repeatedly fail shall be tested on a more frequent basis as determined by the superintendent. Backflow prevention devices found not to be functioning properly shall be promptly repaired by the water user or owner of the device or the Water District may deny or discontinue service as provided herein. After a backflow device is installed or moved, the device shall be tested before use. Reports on the tests shall be prepared by the certified tester and copies of the reports shall be provided to the water user or the owner of the premises and to the Water District.

Tests performed by certified testers shall be in conformance with procedures established by the Foundation for Cross Connection Control and Hydraulic Research, Manual of Cross Connection Control, 8th Edition, June 1988, University of Southern California.

The customer shall notify the superintendent in advance when the tests are to be undertaken so that an official representative of the Water Dept.

may witness the tests if so desired. These assemblies shall be repaired, overhauled or replaced at the expense of the customer-user whenever said assemblies are found to be defective. Records of such tests, repairs and over-haul shall be kept and made available to the City of Elkton Water Dept.'s superintendent upon request.

3.2.5.2 In the case of any premises where there are "uncontrolled" cross connections, either actual or potential, the public water system shall be protected by an approved air gap separation or an approved reduced pressure principle backflow prevention assembly at the service connection.

3.2.5.3 In the case of any premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete in-plant cross-connection survey, the public water system shall be protected against backflow from the premises by either an approved air gap separation or an approved reduced pressure principle backflow prevention assembly on each service to the premises.

3.2.5.4 Any backflow prevention assembly required herein shall be a model and size approved by the superintendent.

Backflow preventers which may be subjected to backpressure or back-siphonage that have been fully tested and have been granted a Certificate of Approval by said qualified laboratory and are listed on the Oregon State Health Division's current list of "approved Backflow Prevention Assemblies" may be used without further test or qualification.

3.2.6 All presently installed backflow prevention assemblies which do not meet the current requirements of this section but which were approved devices for the purposes described herein at the time of installation and which have been properly maintained, shall, except for the inspection and maintenance requirements herein, be excluded from the requirements of these rules so long as the superintendent is assured that they will satisfactorily protect the water distribution system.

Whenever the existing device is moved from the present location or requires more than minimum maintenance or when the superintendent finds that the maintenance constitutes a hazard to health, the unit shall be replaced by an approved backflow prevention meeting the requirements of this section.

Section 4. The City Council of the City desires and deems it necessary and advisable for the immediate preservation of the health, peace, and safety of the City of Elkton, in Douglas County, Oregon, that this Ordinance shall become effective at once, therefore, an emergency is hereby declared to exist and this Ordinance shall be in full force and effect from and after its passage and approval.

Adopted by the City of Elkton on the 8 day of July, 1998.

CITY OF ELKTON

ATTEST:

Linda Higgins

Alfred S. Higgins