AMENDMENT TO LINCOLN COUNTY CROSS CONNECTION ORDINANCES

WHEREAS, on April 2, 2001, the Lincoln Board of Commissioners adopted the Lincoln County Code of Ordinances as an update and consolidation of previously existing ordinances; and

WHEREAS, County staff and counsel have brought to the attention of the Board of Commissioners that certain provisions contained in the ordinances need updated to comply with Federal and State statutes and regulations or otherwise to be clarified; and

WHEREAS, the County desires to amend the ordinances to comply with the Federal Safe Drinking Water Act, being 42 U.S.C. 300f *et seq.*, the North Carolina Administrative Code (Title 15A, Subchapter 18C), and the North Carolina State Building Code (Volume II) as they pertain to cross-connections with the public water supply and to further clarify the County's standards not exceeding the minimum requirements of said Codes; and

NOW, THEREFORE, the Lincoln County Board of Commissioners hereby adopt the following amendments to the Lincoln County Code of Ordinances:

Section 1. Section 50.35 is deleted in its entirety and is repealed.

Section 2. The Appendix to the Ordinances is deleted in its entirety and is repealed.

Section 3. The numbered sections below are amended by being deleted in their entirety and by inserting in lieu thereof the following

§ 50.25 INTRODUCTION.

The purpose of this subchapter is to define the authority of the county as the water purveyor in the elimination of all cross-connections within its public potable water supply. This subchapter shall apply to all users connected to the county's public potable water supply regardless of whether the user is located within the county or outside of the county. This subchapter will comply with the Federal Safe Drinking Water Act, being 42 U.S.C. 300f *et seq.*, the North Carolina Administrative Code (Title 15A, Subchapter 18C), and the North Carolina State Building Code (Volume II) as they pertain to cross-connections with the public water supply. The minimum terms and requirements of each Act and Code, as may be amended from time to time are incorporated herein by reference thereto.

§ 50.27 RESPONSIBILITIES.

(A) *Health agency.*

(1) The North Carolina Department of Environment and Natural Resources (DENR) has the responsibility for promulgating and enforcing laws, rules, regulations, and policies to be followed in carrying out an effective cross-connection control program.

(2) DENR also has the primary responsibility of ensuring that the water purveyor operates the public potable water system free of actual or potential sanitary hazards, including unprotected cross-connections. They have the further responsibility of ensuring that the water purveyor provides an approved water supply at the service connection to the consumer's water system.

(B) *Water purveyor.*

(1) Except as otherwise provided herein, the water purveyor's responsibility to ensure a safe water supply begins at the source and includes all of the public water distribution system, including the service connection, and all ends at the point of delivery to the consumer's water system(s). In addition, the water purveyor shall exercise reasonable vigilance to ensure that the consumer has taken the proper steps to protect the public potable water system. To ensure that the proper precautions are taken, the county is required to determine the degree of hazard or potential hazard to the public potable water system; to determine the degree of protection required; and to ensure proper containment protection through an on-going inspection program.

(2) When it is determined that a backflow prevention assembly is required for the protection of the public system, the county shall require the consumer, at the consumer's expense, to install an approved backflow prevention assembly at each service connection, to test immediately upon installation and thereafter at a frequency as determined by the county, to properly repair and maintain the assembly or assemblies and to keep adequate records of each test and subsequent maintenance and repair, including materials and/or replacement parts.

(C) *Consumer.* The consumer has the primary responsibility of preventing pollutants and contaminants from entering its potable water system(s) or the public potable water system. The consumer's responsibility starts at the point of delivery from the public potable water system and includes all of its water system(s). The consumers, at their own expense, shall install, operate, test, and maintain approved backflow prevention assemblies as directed by the county. The consumer shall maintain accurate records of tests and repairs made to backflow assemblies and shall maintain the records for a minimum period of three years. The records shall be on forms approved by the county and shall include the list of materials or replacement parts used. Following any repair, overhaul, repiping, or relocation of an assembly, the consumer shall have it tested to ensure that it is in good operating condition and will prevent backflow. Tests, maintenance, and repairs of backflow prevention assemblies shall be made by a certified backflow prevention assembly tester.

(D) *Certified backflow prevention assembly tester.* When employed by the consumer to test, repair, overhaul, or maintain backflow prevention assemblies, a backflow prevention assembly tester will have the following responsibilities.

(1) The tester will be responsible for making competent inspections, for repairing or overhauling backflow prevention assemblies and making reports of the repair to the consumer and responsible authorities on forms approved by the county. The tester shall include the list of materials or replacement parts used. The tester shall be equipped with and be competent to use all the necessary tools, gauges, manometers, and prevention assemblies. It will be the tester's responsibility to ensure that original manufactured parts are used in the repair of or replacement of parts in a backflow prevention assembly. It will be the tester's further responsibility not to change the design, material, or operational characteristics of an assembly during repair or maintenance without prior approval of the county. A certified tester shall perform the work and be responsible for the competency and accuracy of all test and reports. A certified tester shall provide a copy of all test and repair reports to the consumer and to Public Works Department within ten business days of any completed test or repair work. A certified tester shall maintain the records for a minimum period of three years.

(2) All certified backflow prevention assembly testers must obtain and employ backflow prevention assembly test equipment, which has been evaluated and/or approved by the county. All test equipment shall be registered with the Public Works Department. All test equipment shall be checked for accuracy annually, calibrated, if necessary and certified to the county as to the calibration, employing an accuracy/calibration method acceptable to the county.

(3) All certified backflow prevention assembly testers must become re-certified every two years through an approved backflow prevention certification program.

Penalty, see § 50.99

§ 50.28 DEFINITIONS.

For the purpose of this subchapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

AIR-GAP SEPARATION. A physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An ***APPROVED AIR-GAP SEPARATION*** shall be at least double the diameter of the supply pipe measured vertically above the overflow rim of the receiving vessel; in no case less than one inch.

APPROVED. As herein used in reference to a water supply, shall mean a water supply that has been approved by the North Carolina Department of Environment and Natural Resources. The term ***APPROVED*** as herein used in reference to air-gap separation, a pressure vacuum breaker, an ASSE approved dual check valve assembly, a double check valve assembly, a double check detector assembly, a reduced pressure principal backflow prevention assembly, a reduced pressure principal detector assembly or other backflow prevention assemblies or methods shall mean an approval by the county.

BACKFLOW. The undesirable reversal of flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of the consumer or public potable water system from any source or sources.

BACKFLOW PREVENTION ASSEMBLY, APPROVED. An assembly used for containment and/or isolation purposes that has been investigated and approved by the county and has been shown to meet design and performance standards of the American Society of Sanitary Engineers (ASSE), the American Water Works Association (AWWA), or the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California.

BACKFLOW PREVENTION DEVICE, APPROVED. A device used for isolation purposes that has been shown to meet the design and performance standards of the American Society of Sanitary Engineers (ASSE) and the American Water Works Association (AWWA).

BACK-PRESSURE BACKFLOW. Any elevation in the consumer's water system (by pump, elevation of piping or steam and/or air pressure) above the supply pressure at the point of delivery, which would cause, or tend to cause, a reversal of the normal direction of flow.

BACK-SIPHONAGE BACKFLOW. 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.

CONSUMER. Any person, firm, and corporation using or receiving water from the county potable water system.

CONSUMER'S WATER SYSTEM. Any water system commencing at the point of delivery and continuing throughout the consumer's plumbing system, located on the consumer's premises, whether supplied by a public potable water or an auxiliary water supply. The system(s) may be either a potable water system or an industrial piping system.

CONTAINMENT. Preventing the impairment of the public potable water supply by installing an approved backflow prevention assembly at the service connection.

CONTAMINATION. An impairment of the quality of the water which creates a potential or actual hazard to the public health through the introduction of hazardous or toxic substances or through the spread of disease by sewage, industrial fluids, or waste.

CROSS-CONNECTION. Any unprotected actual or potential connection or structural arrangement between a public or a consumer's water system and any other source or system through which it is possible to introduce any contamination or pollution, other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or changeover devices, and other temporary or permanent devices through which or because of which "backflow " can or may occur are considered to be cross-connections.

DOUBLE CHECK DETECTOR ASSEMBLY (DCDA). A specially designed assembly composed of a line-size approved double check valve assembly with a specific bypass water meter and a meter-sized approved double check valve assembly. The meter shall register (in U.S. gallons) accurately for only very low rates of flow and shall show a registration for all rates of flow. This assembly shall only be used to protect against a non-health hazard (i.e., pollutant).

DOUBLE CHECK VALVE ASSEMBLY (DCVA). An assembly composed of two independently acting, approved check valves, including tightly closing shut-off valves attached at each end of the assembly and fitted with properly located test cocks.

HAZARD, DEGREE OF. Derived from the evaluation of conditions within a system, which can be classified as either Moderate ("pollutional" (non-health hazard)) or Severe("contaminant" (health) hazard).

INDUSTRIAL FLUIDS. Any fluid or solution which may be chemically, biologically, or otherwise contaminated or polluted in a form or concentration such as would constitute a health, or non-health hazard if introduced into a public or consumer potable water system. The fluids may include, but are not limited to, process waters; chemicals; in fluid form; acids and alkalis; oils, gases; and the like.

MODERATE HAZARD. An actual or potential threat to the quality of the public or the consumer's potable water system. A ***MODERATE HAZARD*** is one that, if introduced into the public water supply system, could be a nuisance to water customers, but would not adversely affect human health.

POINT OF DELIVERY. Shall generally be at a point on the customer's property where the meter is located or in the case of an un-metered connection, at the customer's property line. The customer shall be responsible for all water piping and control devices located on the customer's side of the point of delivery.

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 the aesthetic qualities of the waters for domestic use.

POTABLE WATER. Water from any source which has been investigated by DENR and which has been approved for human consumption.

REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY (RP or ***RPZ).*** An assembly containing within its structure a minimum of two independently acting, approved check valves, together 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 first check valve reduces the supply pressure a predetermined amount so that during normal flow and at cessation of normal flow, the pressure between the checks shall be less than the supply pressure. In case of leakage of either check valve, the pressure differential relief valve, by discharge to atmosphere, shall operate to maintain the pressure between the checks less than the supply pressure. The unit shall include tightly closing shut-off

valves located at each end of the assembly and each assembly shall be fitted with properly located test cocks.

REDUCED PRESSURE PRINCIPAL DETECTOR ASSEMBLY (RPDA). A specially designed assembly composed of a line-size approved reduced pressure principal backflow prevention assembly with a specific bypass water meter and a meter-sized approved reduced pressure principal backflow prevention assembly. The meter shall register (in U.S. gallons) accurately for only very low rates of flow and shall show a registration for all rates of flow

SERVICE CONNECTION. The terminal end of a service connection from the public potable water system, i.e., where the county loses jurisdiction and sanitary control over the water at its point of delivery to the consumer's water system.

SEVERE HAZARD. An actual or potential threat of contamination of a physical, hazardous, or toxic nature to the public or consumer's potable water system to such a degree or intensity that there would be a danger to health.

WATER PURVEYOR. The owner or operator of a public potable water system, providing an approved water supply to the public.

WATER SUPPLY, APPROVED. Any public potable water supply, which has been investigated and approved by the North Carolina Department of Environment, and Natural Resources. The system must be operating under a valid health permit.

WATER SUPPLY, AUXILIARY. Any water supply on or available to the premises other than the purveyor's approved public potable water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source such as a well, spring, river, stream, or industrial fluids. These waters may be polluted, contaminated, or objectionable and constitute an unacceptable water source over which the water purveyor does

§ 50.30 ELIMINATION OF CROSS-CONNECTIONS; DEGREE OF HAZARD.

(A) When cross-connections are found to exist, the owner, agent, occupant, or tenant will be notified in writing to disconnect the same within the time limit established by the county. Degree of protection required and maximum time allowed for compliance will be based upon potential degree of hazard to the public water supply system. The point of service shall be immediately disconnected if the corrective action has not occurred within the maximum time limit allowed. No additional notification shall be given other than the original notification. The maximum time allowed shall begin with the issuance of the written notification of the violation.

(B) The maximum time limits are as follows:

(1) Cross-connections with private wells or other auxiliary water supplies - immediate disconnection;

(2) All facilities which pose a Severe hazard to the potable water system must have an approved backflow assembly within 60 days;

(3) All facilities which pose a Moderate hazard to the potable water system must have a backflow assembly within 90 days;

(4) If, in the judgment of the county, an imminent health hazard exists, water service to the building or premises where a cross-connection exists will be terminated unless an air gap is immediately provided, or the cross-connection is immediately eliminated;

(5) Based upon recommendation from the county, the consumer is responsible for installing sufficient internal isolation backflow prevention assemblies;

(6) No person shall fill any bulk water tanks or tankers from the public water system except when equipped with an air gap or an approved double check valve assembly properly installed, at the consumer's expense, and inspected by the county. Bulk water tanks or tankers shall be filled at sites in the county designated by the Director of Public Services; and

(7) No person shall fill special use tanks or tankers containing pesticides, fertilizers, other toxic chemicals, or their residues from the public water system, except when equipped with an air gap or an approved reduced pressure principal backflow prevention assembly properly installed, at the consumers expense, and inspected by the county. Special use tanks or tankers containing pesticides, fertilizers, other toxic chemicals, or their residues shall be filled only at sites in the county designated by the Director of Public Works.

§ 50.31 INSTALLATION OF ASSEMBLIES.

(A) All backflow prevention assemblies shall be installed in accordance with the specifications furnished by the Public Works Department and/or the manufacturer's installation instructions and/or in the latest edition of the State Building Code, whichever is most restrictive.

(B) Ownership, testing, and maintenance of the assembly shall be the responsibility of the customer.

(C) All double check valve assemblies must be installed in drainable vaults, with 18 inches of clearance on all sides wherever below ground installation is necessary, in accordance with detailed specifications provided by the Public Works Department. Double check valve assemblies may be installed in a vertical position with prior approval from the Public Works Department, provided the flow of water is in an upward direction.

(D) Reduced pressure principal assemblies must be installed in a horizontal position only and shall be installed in a vault that provides a minimum of 18 inches of clearance on all sides and is provided with adequate drainage, to the atmosphere, so as not to allow submersion or shall be installed above ground with adequate freeze protection.

(E) The installation of a backflow prevention assembly, which is not approved, must be replaced with an approved backflow prevention assembly.

(F) The installer is responsible to make sure a backflow prevention assembly is working properly upon installation and is required to furnish the following information to the Public Works Department within 15 days after installation:

(1) Service address where assembly is located;

(2) Owner (and address, if different from service address);

(3) Description of assembly's location;

(4) Date of installation;

(5) Installer (include name, plumbing company represented, plumber's license number, and project permit number);

(6) Type of assembly and size of assembly;

(7) Manufacturer, model number, and serial number of assembly; and

(8) Test results and report.

(G) When it is not possible to interrupt water service, provisions shall be made for a "parallel installation" of backflow prevention assemblies. The county will not accept an unprotected bypass around a backflow preventer when the assembly is in need of testing, repair, or replacement.

(H) The consumer shall, upon notification, install the appropriate containment assembly not to exceed the following time frame:

(1) SEVERE hazard - 60 days; and

(2) MODERATE hazard - 90 days.

Penalty, see § 50.99

§ 50.32 TESTING AND REPAIR OF ASSEMBLIES.

(A) Testing of backflow prevention assemblies shall be made by a certified backflow prevention assembly tester, as further provided herein. Herein, tests are to be conducted upon installation and thereafter pursuant to this section. Those systems classified by 15A 18C .0406, as a "Severe Hazard," as may be amended, shall be tested annually from the date of installation. Those systems classified as a "Moderate Hazard" by 15A 18C .0406, as may be amended, shall be tested once every three years from the date of installation. Notwithstanding the foregoing,

however, residential lawn sprinkler systems shall not require testing except upon installation or replacement of the backflow prevention device.

(B) Any time that repairs to backflow prevention assemblies are deemed necessary, whether through testing or routine inspection by the owner or by the county, these repairs must be completed within a specified time in accordance with the degree of hazard. If these repairs are not completed within the specified time period, water service will be terminated. In no case shall this time period exceed:

(1) SEVERE HAZARD - 14 days;

(2) MODERATE HAZARD - 21 days.

(C) All certified backflow prevention assembly testers must obtain and employ backflow prevention assembly test equipment, which has been evaluated and/or approved by the county. All test equipment shall be checked for accuracy annually (at a minimum), calibrated, if necessary, and certified to the county as such.

(D) It shall be unlawful for any customer or certified tester to submit any record to the county, which is false or incomplete in any material respect. It shall be unlawful for any customer or certified tester to fail to submit to the county any record, which is required by this subchapter. The violations may result in the termination of service.

Penalty, see § 50.99

§ 50.33 FACILITIES REQUIRING PROTECTION.

Approved backflow prevention assemblies shall be installed on the service line to any premises that the Public Works Department has identified as having a potential for backflow. All customers shall refer to the *North Carolina Guidelines for Cross-Connection Control in Water Distribution Systems* as published by DENR, as may be amended from time to time, which are incorporated herein by reference thereto.

§ 50.34 CONNECTIONS WITH UNAPPROVED SOURCES OF SUPPLY.

(A) No person shall connect or cause to be connected any supply of water not approved by the North Carolina Department of Environment and Natural Resources to the water system supplied by the county. Any such connection allowed by the Public Works Department must be in conformance with the backflow prevention requirements of this subchapter.

(B) In the event of contamination or pollution of a public or consumer potable water system, the consumer shall notify the Public Works Department immediately in order that appropriate measures may be taken to overcome and eliminate the contamination or pollution.

Penalty, see § 50.99

§ 50.99 PENALTY.

(A) *Generally.* Any person violating any provision of this chapter for which no specific penalty is prescribed shall be subject to § 10.99.

(B) In addition to, or in lieu of, the foregoing, pursuant to G.S. § 153A-123, the county may seek a mandatory or prohibitory injunction and/or an order of abatement commanding the offender to correct the unlawful condition or cease the unlawful activity.

The above remedies are cumulative and the county may pursue any or all of the same at its discretion

Section 4. These amendments, deletions and appeals are effective upon adoption.

This ___ day of April, 2011

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Alex E. Patton, Chairman

Board of Commissioners

ATTEST:

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Amy S. Atkins

Clerk to the Board