



CITY OF LAKE CHARLES WATER DIVISION

CROSS-CONNECTION AND BACKFLOW PREVENTION CONTROL POLICY

The City of Lake Charles has an obligation to provide safe, clean drinking water to its Customers and to take every precaution to prevent contaminants from entering the water distribution system. To ensure this, all commercial and residential Customers are required to conform to the conditions of this policy and must have an Approved Backflow prevention assembly installed immediately downstream of the Service Connection when identified as being a risk to the City's distribution system.

The type of Backflow assembly will be commensurate with the Degree of Hazard and shall meet the requirements of all applicable state and local laws, codes, policies, and/or ordinances for Water Services, including the International Plumbing Code.

Section 1 Purpose

- A** To protect the public Potable Water System served by the City of Lake Charles Water Division from the possibility of Contaminations or Pollution by isolating, within its Customers' internal distribution systems, such contaminants or pollutants which could Backflow or Back-siphon into the public water system.
- B** To promote the elimination or control of Existing Cross-connections, actual or potential, between its Customers' in-plant Potable Water systems, and non-potable systems.
- C** To provide for the maintenance of a continuing program of Cross-connection control which will effectively prevent the Contamination or Pollution of all Potable Water Systems by Cross-connection.
- D** To provide for annual testing and maintenance of Cross-connection and Backflow prevention assemblies.

Section 2 Cross-Connection Control Device or Method Required

- A** All Water Services, existing and new, shall be required to implement and maintain an adequate method for Backflow prevention as mandated under this policy and existing state regulations. Where methods differ, the more stringent policy shall be upheld. All Backflow prevention devices shall be equipped with test ports and shall be located immediately downstream of the service tap or meter. If a written request is submitted to and Approved by the City of Lake Charles, under specific conditions, the location of the Backflow prevention device may be further downstream of the service tap or meter.

Section 3 Definitions

- A** The following definitions shall apply only to this policy. For those terms not defined in this policy, the definitions contained in the Louisiana State Plumbing Code 2000 edition (LSPC, 2000 Edition), and as amended, shall apply.
 - (a)** "Administrative Authority" means the City of Lake Charles Water Division, or any agent, employee, officer, department, or board of the City designated to enforce this ordinance.

- (b) “Air Gap” 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 flood-level of the receptacle.
- (c) “Approved” means accepted or acceptable under an applicable specification or standard stated or cited in the Code or accepted as suitable for the proposed use under procedures and authority of the Administrative Authority.
- (d) “Approved Backflow Prevention Assembly for Containment” means an Air Gap meeting ASME Standard A 112.1.2 - 1991 (R 1998) “Air Gaps in Plumbing Systems” or a Backflow prevention assembly which is listed by the University of Southern California-Foundation for Cross-connection Control and Hydraulic Research (USCFCCCHR) as having met the requirements of ANSI/AWWA Standard C510-97 or ASSE Standard 1015-1993, “Double Check Valve Backflow-Prevention Assemblies”, or ANSI/AWWA Standard C511-97 or ASSE Standard 1013-1993, “Reduced Pressure Principle Backflow Assemblies” for Containment. The listing shall include the limitations of use based on the Degree of Hazard. The Backflow prevention assembly must also be listed by the ASSE in Table 606 of the LSPC, 2000 Edition or other Approved Testing Agency by the Administrative Authority. This term shall additionally include those Backflow prevention assemblies meeting ANSI/ASSE Standard 1047-1995, “Backflow Preventer, Reduced Pressure Detector Assembly”, or ANSI/ASSE Standard 1048-1995, “Backflow Preventer, Double Check Detector Assembly”. (These detector assembly devices are often used on fire protection/fire sprinkler systems to detect and monitor unauthorized water usage.)
- (e) “Approved backflow prevention assembly for containment in fire protection system” means a backflow prevention assembly listed in Table 606 of the LSPC, 2000 Edition to be used in a fire protection system which also meets the requirements of Factory Mutual Research Corporation (FM) and Underwriters Laboratory (UL) and the requirement of the standard Codes adopted by the City of Lake Charles. Devices sized smaller than 2½ inches which have not been listed by Underwriters Laboratory (UL) and tested by Factory Mutual Research Corporation (FM) may be allowed if approved by the State Fire Marshal, and such device is listed in Table 606 of the LSPC, 2000 Edition. Any such device under this definition shall minimally meet the definition of an “approved backflow prevention assembly for containment”. In addition, the device to be used for a particular application/ Degree of Hazard shall be selected and installed in accord with the requirements of Table A101 of the LSPC, 2000 Edition (**See Exhibit A**).
- (f) “Approved Testing Agency” means an organization primarily established for purposes of testing to Approved standards and Approved by the Administrative Authority (e.g., American Society of Mechanical Engineers (ASME), American Society of Sanitary Engineers (ASSE), American Water Works Association (AWWA), American National Standards Institute (ANSI), Factory Mutual Research Corporation (FM), Underwriters Laboratory (UL), University of Southern California-Foundation for Cross-connection Control and Hydraulic Research (USC-FCCCHR), etc.).
- (g) “Auxiliary Water Supply” means any water supply on or available to the premises other than the Water Purveyor's Approved public water supply such as, but not limited to, a private well, pond or river.
- (h) “Backflow” means the flow of water or other liquids, mixtures, or substance into the distribution pipes of a Potable Water System from any sources other than its intended source.
- (i) “Backflow connection” means any arrangement whereby backflow can occur.
- (j) “Back-pressure Backflow” means backflow due to an increased pressure above the supply pressure. This may be due to pumps, boilers, gravity, or other sources of pressure.

- (k)** “Backflow Preventer” means a device or method to prevent Backflow into the Potable Water System.
- (l)** “Backflow Prevention Assembly General Tester” means those individuals holding a testing certificate from a nationally recognized Backflow certification organization Approved by the State Health Officer. Such individuals are not required to be a licensed plumber and are authorized to perform tests of Backflow prevention devices and methods. When such devices or methods are located on private property, a Backflow Prevention Assembly General Tester is not authorized to install, repair, or maintain such devices or methods. A Backflow Prevention Assembly General Tester may perform installation, maintenance, or repairs, if the Backflow prevention device is on public property, after having obtained approval from the Water Purveyor.
- (m)** “Backflow Prevention Assembly Technician” means a water supply protection specialist licensed by the State Plumbing Board of Louisiana pursuant to LA. R.S. 37:1361, et seq., and its implementing regulations (LAC 46:LV.101, et seq.). All water supply protection specialists are Louisiana licensed plumbers who hold such a special endorsement on their plumbing license. Such individuals are authorized to test, install, repair, and maintain Backflow prevention devices and methods.
- (n)** “Back-siphon” means the flowing back of used, contaminated, or polluted water from a plumbing fixture or vessel into a water supply pipe due to a negative pressure in such pipe. (See “Backflow”)
- (o)** “Bypass” means any system of piping or other arrangement whereby the water may be diverted around any part of portion of a water supply or treatment facility including, but not limited to, around an installed Backflow Preventer.
- (p)** “Code”: the word “Code” or “this Code”, when used alone, shall mean these regulations, subsequent amendments thereto or any emergency rule or regulation which the Administrative Authority having jurisdiction may lawfully adopt.
- (q)** “Containment” means a method of Backflow prevention which requires the installation of an Air Gap or a Backflow prevention assembly immediately following the water meter or as close to that location as deemed practical by the Administrative Authority.
- (r)** “Contamination” means an impairment of the quality of the Potable Water which creates an actual hazard to the public health through poisoning or through the spread of disease by Sewage, or Industrial Waste. Also defined as “High Hazard.”
- (s)** “Cross-connection” means any connection or arrangement, physical or otherwise, between a Potable Water System and any plumbing fixture or any tank, receptacle, equipment, or device, through which it may be possible for non-potable, used, unclean, polluted or contaminated water, or other substances, to enter into any part of such Potable Water System under any condition.
- (t)** “Customer” means the owner, operator, or occupant of a building or property which has a Water Service from a public water system, or the owner or operator of a private water system which has a Water Service from a public water system. “Customer” shall not include any residential connection used for dwelling purposes, unless: i.) the residence is also used as a business premises and the home-based business or occupation involves operation of a home-based business or occupation which the Water Purveyor or City Inspector deems a potentially significant and High Hazard to the City water supply; ii.) the domestic Water Service provided is also used for a landscape irrigation system; or, iii.) a separate Water Service has been installed for landscape irrigation and other non-domestic purposes.

- (u)** “Customer Service” means the water piping downstream of the water meter, or downstream of a certain point on an unmetered line, which continues up to the building or structure being served. Generally considered to be the customer’s responsibility.
- (v)** “Degree of Hazard” means the rating of a Cross-connection or Water Service which indicates if it has the potential to cause Contamination or Pollution.
- (w)** “Domestic Sewage” means the liquid and water-borne wastes derived from the ordinary living processes, free from Industrial Wastes, and of such character as to permit satisfactory disposal, without special treatment, into the public sewer or by means of a private Sewage disposal system.
- (x)** “Double Check Valve backflow prevention Assembly” means a Backflow prevention device consisting of two independently acting internally loaded check valves, four properly located test cocks, and two isolation valves.
- (y)** “Existing” in regards to a plumbing system and/or other Cross-connections means a plumbing system, or Cross-connection, or any part thereof which has been installed prior to the effective date of this Code.
- (z)** “Fire Protection System” means any system used for fire protection or suppression with a direct connection to the public water supply, including but not limited to sprinklers, stand-pipes, and siamese connections.
- (aa)** “High Hazard”: see “Contamination”.
- (bb)** “High Hazard Cross-connection” means a Cross-connection which may cause an impairment of the quality of the Potable Water by creating an actual hazard to the public health, through poisoning or through the spread of disease by Sewage, or Industrial fluids Waste.
- (cc)** “Industrial Waste” means any and all liquid or water-borne waste from industrial or commercial processes, except Domestic Sewage.
- (dd)** “Isolation” means a method of Backflow prevention in which a Backflow prevention assembly is located at the Cross-connection rather than at the Water Service entrance.
- (ee)** “Main” means the principal artery of any system of continuous piping to which branches may be connected.
- (ff)** “Master Meter” means a meter serving multiple residential dwelling units. Individual units may or may not be sub-metered.
- (gg)** “May”: the word “May” is a permissive term in this Code.
- (hh)** “Antifreeze” means a food-grade Antifreeze such as an inhibited propylene glyco-based fluid.
- (ii)** “Point of Entry” means the point of connection to the Potable Water System.
- (jj)** “Pollution” means an impairment of the quality of the Potable Water to a degree which does not create a hazard to the public health, but which does adversely and unreasonably affect the aesthetic qualities of such Potable Waters for domestic use.
- (kk)** “Potable Water” means water which is satisfactory for drinking, culinary, and domestic purposes and meets the requirements of the state and city departments of health.
- (ll)** “Potable Water System” means a publicly owned or privately owned Water Supply System which sells or supplies Potable Water.

- (mm)** “Reduced Pressure Principle Backflow Prevention Assembly” means a Backflow prevention device consisting of two independently acting internally loaded check valves, a differential pressure relief valve, four properly located test cocks, and two isolation valves.
- (nn)** “Sewage” means any liquid waste containing animal or vegetable matter in suspension or solution and may include liquids containing chemicals in solution.
- (oo)** “Shall”: the word “shall” is a mandatory term in this Code.
- (pp)** “Table A101” refers to the table marked D 104 in appendix D of the Louisiana State Plumbing Code, 2000 Edition. (Known as the Containment device table)
- (qq)** “Table A102” refers to the table marked D 105 in appendix D of the Louisiana State Plumbing Code, 2000 Edition. (Known as the Fixture Isolation table)
- (rr)** “Water Service Pipe” or “Service Connection” means the pipe from the water Main, Water Supply System, or other Approved source of water supply up to and including the water meter or beginning point of an un-metered Customer supply line. Generally considered to be the Water Suppliers’ responsibility.
- (ss)** “Water Service” Depending on the context, “Water Service” means the physical connection between a public water system and a Customer’s building, property, or private water system, or the act of providing Potable Water to a Customer.
- (tt)** “Water Supplier” means a person who owns or operates a Water Supply System including, but not limited to, a person who owns or operates a public water system.
- (uu)** “Water Supply System” means the water supply system of a building or premises consisting of the building supply pipe, the water distributing pipes and the necessary connecting pipes, fittings, control valves, and all appurtenances carrying or supplying Potable Water in or adjacent to the building or premises.
- (vv)** “Water Purveyor” means the City of Lake Charles Water Division.

Section 4 Administrative Authority

- A** The Water Purveyor shall have the right to enter, with the consent of the Customer, or upon the basis of a suitable warrant issued by a court of appropriate jurisdiction, any property to inspect for Cross-connections.
- B** The State of Louisiana will approve training programs for “Backflow Prevention Assembly Technicians” and register “Backflow Prevention Assembly Technicians” who successfully complete a training program Approved by the State Plumbing Board of Louisiana as per LA. R.S. 37:1367(G) and LAC 46:LV.310, all of which applies to licensed plumbers.

In addition, the State Health Officer, through the LSPC, 2000 Edition, does accept certain persons as “general testers” per Section D108.1.1 thereof. Such individuals are known and defined herein as “Backflow Prevention Assembly General Testers”. The limitations of jurisdiction/authority of “Backflow Prevention Assembly General Testers” are described within said definition.

- C** The Administrative Authority (Water Purveyor) shall maintain records of Cross-connection hazard surveys, and the installation, testing, and repair of any Approved Backflow Prevention Assembly for Containment.

- D** Notwithstanding anything herein to the contrary, the Administrative Authority (Water Purveyor) are authorized to take additional actions which may not be specifically covered herein that are deemed necessary to protect the City of Lake Charles's water supply from potential or actual Cross-connections in accord with the requirements of the Louisiana State Plumbing Code, 2000 Edition.

Section 5 Water Services

A New Water Services

- (a) Plans shall be submitted to the Water Purveyor for review on all new Water Services in order to determine the Degree of Hazard.
- (b) The Water Purveyor shall approve the type of Backflow prevention assembly or method required for Containment based on the requirement of Table A101 and Degree of Hazard. If a Cross-connection is not listed in Table A101, the Water Purveyor shall use Table B1 of the "Manual for the Selection, Installation, Maintenance, and Field Testing of Backflow Prevention Devices" (CAN/CSA Standard B64.10-1994) as a guide to determine the type of device to require. (This document is referred to in Table 606 of the LSPC, 2000 Edition.)
- (c) The Water Purveyor shall require the installation of the appropriate Backflow prevention assembly or method for Containment before the initiation of Water Service.

B Existing Water Service

- (a) Any changes of, or additions to, existing Water Services shall be treated as new Water Services for the purpose of this ordinance.
- (b) Within six (6) months after adoption of this ordinance, the Administrative Authority shall publish and make available to each Customer a copy of the standards used to determine the Degree of Hazard.
- (c) Each Customer shall survey the activities and processes which receive Water Service and shall report to the Water Purveyor if Cross-connections exist and the Degree of Hazard. Upon a finding of hazard, the Customer shall cause the appropriate Backflow prevention assembly or method to be installed in a timely fashion.
- (d) For existing Water Services, the Water Purveyor may inspect the premises to determine the Degree of Hazard. When High Hazard Cross-connections are found the Water Purveyor shall:
- (i) Develop a schedule of compliance which the Customer shall follow, or
 - (ii) Terminate the Water Service until a Backflow prevention assembly or method for Containment required by the Water Purveyor has been installed.
- (e) Failure of the Water Purveyor to notify a Customer that the Customer has a High Hazard Cross-connection and should install Backflow prevention assemblies or methods for Containment in no way relieves the Customer of the responsibility to comply with all requirements of this section.

Section 6 Customer Duties

- A** The Customer shall be responsible for ensuring that no Cross-connections exist without Approved Backflow protection within the Customer's premises starting at the Point of Entry from the public Potable Water System.
- B** The Customer shall, at the Customer's own expense, cause installation, operation, testing, replacement, and maintenance of the Backflow prevention assemblies required by the Administrative Authority. The Customer shall advise the Water Purveyor in advance of when a device is to be tested to allow the Water Purveyor the opportunity to witness the test.

- C** The Customer is responsible for the annual maintenance and testing of any Backflow prevention device required under this policy. All records of annual testing shall be provided to the City of Lake Charles or its designee and shall be kept by the owner of the Backflow prevention device for a minimum of five (5) years.
- D** Within fifteen (15) days after testing and/or repairs are completed, the Customer shall provide the Administrative Authority with copies of records of the installation and of all tests and repairs made to the Backflow prevention assembly on a form provided by the Administrative Authority.
- E** In the event of a Backflow incident, the Customer shall immediately notify the Water Purveyor of the incident and take steps to confine the Contamination or Pollution. Water Service will not be restored until corrective action is taken and Approved after inspection by the Water Purveyor.
- F** In accordance with Section 108.3.3 of the LSPC, 2000 edition, provides that “all tests, repairs, overhauls or replacements shall be at the expense of the owner of the backflow preventer (aka Customer).” Section 108.3.4 further provides that “all records of such tests, repairs, overhauls or replacements shall be kept by the owner of the backflow preventer (aka Customer) for at least 5 years and, upon request, shall be made available to the Plumbing Official, water supplier, and/or the State Health Officer.”

Section 7 Requirements

A Water Purveyor Requirements

- (a)** On new installations, the Water Purveyor will provide onsite evaluations and/or inspections of plans in order to determine the type of Backflow Preventer, if any, that will be required, will issue, permit, and perform inspection and testing. In any case, a minimum of a dual check valve will be required on any new construction.
- (b)** For premises existing prior to the start of this program, the Water Purveyor will perform evaluations and inspections of plans and/or premises and inform the Customer by letter of any corrective action deemed necessary, the method of achieving the correction, and the time allowed for the correction to be made. Ordinarily, ninety (90) days will be allowed, however, this time period may be shortened depending upon the Degree of Hazard involved and the history of the device(s) in question.
- (c)** The Water Purveyor will not allow any Cross-connection to remain unless it is protected by an Approved Backflow Preventer or an Air Gap for which a permit has been issued and which will be regularly tested to insure satisfactory operation.
- (d)** The Water Purveyor shall notify the Customer by letter of any failure to comply at the time of the first re-inspection or immediately following the first re-inspection. The Water Purveyor will allow an additional fifteen (15) days for the correction. In the event the Customer fails to comply with the necessary correction by the time of the second re-inspection, the Water Purveyor will notify the Customer by letter that the Water Service to the Customer’s premises will be terminated within five (5) days from the Customer’s receipt of such letter. In the event that the Customer informs the Water Purveyor of extenuating circumstances as to why the correction has not been made, a time extension may be granted by the Water Purveyor but in no case will exceed an additional thirty (30) days.
- (e)** Notwithstanding anything to the contrary, if the Water Purveyor determines at any time that a serious threat to the public health exists, the Water Service will be terminated immediately.

- (f) The Water Purveyor shall have on file a list of private contractors who are certified Backflow device testers and/or repairers. All charges for these tests, repairs, etc., will be paid by the Customer who owns the building or property.
- (g) The Water Purveyor will begin initial premise inspections to determine the nature of existing or potential hazards, following the approval of this program by the city Council and Mayor, during the calendar year (2023). Initial focus will be on High Hazard industries and commercial premises.

B Customer requirements

- (a) The Customer shall be responsible for the elimination or protection of all Cross-connections on his premises.
- (b) The Customer, after having been informed by a letter from the Water Purveyor, shall at his expense, install, maintain, and test or have tested, any and all Backflow prevention devices or methods on his premises.
- (c) The Customer shall correct any malfunction of the Backflow prevention device or method which is revealed by periodic testing.
- (d) The Customer shall inform the Water Purveyor of any proposed or modified Cross-connection and also any Existing Cross-connection of which the Customer is aware but has not been found by the Water Purveyor.
- (e) The Customer shall not install a Bypass around any Backflow prevention device or method unless there is a Backflow prevention device or method of the same type on the Bypass. Customers who cannot shut down operation for testing of the device(s) or method(s) must supply additional devices or methods necessary to allow testing to take place.
- (f) The Customer shall install Backflow prevention devices or methods in a manner Approved by the Water Purveyor and in conformance with the installation requirements of Section 606 of the LSPC, 2000 Edition. In addition, devices having an atmospheric port or discharge shall be installed such that the port or discharge point is located at least 24 inches above the highest flood level which may have occurred in the previous 10-year period.
- (g) The Customer shall install only Backflow prevention devices or methods Approved by the Water Purveyor.
- (h) Any Customer having a private well, Auxiliary Water Supply or other private water source, must have a permit if the well, Auxiliary Water Supply or source is cross-connected to the Water Purveyor's system. Permission to cross-connect may be denied by the Water Purveyor. The Customer may be required to install a Backflow prevention device or method at the service entrance if a private water source is maintained, even if it is not cross-connected to the Water Purveyor's system.
- (i) In the event the Customer installs plumbing to provide Potable Water for domestic purposes, which is on the Water Purveyor's side of the Backflow prevention device or method, such plumbing must have its own Backflow Preventer installed.
- (j) The Customer shall be responsible for the payment of all fees for permits, annual or semi-annual device or method testing, re-testing in the case that the device or method fails to operate correctly, and second re-inspections for noncompliance with the Water Purveyor's requirements.

Section 8 Required Backflow Prevention Assemblies or Methods for Containment

A Water Service Assemblies:

(a) An Air Gap or an Approved Reduced Pressure Principle Backflow Prevention Assembly is required for Water Services having one or more potential Cross-connections which the Administrative Authority classifies as High Hazard as defined by Tables A101 and A102.

B Fire Protection System Assemblies:

(a) All proposed installations of fire suppression systems shall be reviewed by the City of Lake Charles to determine the appropriate type of Backflow prevention devices or methods required.

(b) For all proposed fire suppression systems using Antifreeze, a reduced pressure principle (#10 on Table A101) Backflow prevention device shall be installed at the Point of Entry. The Customer shall provide the City with the design and chemical usage of the fire suppression system.

(c) All existing fire suppression systems shall meet the requirements of Sec. 7 above. An inspection by a fire suppression specialist shall be done to determine whether Antifreeze has been utilized in the suppression system. The inspection shall be done at the expense of the Customer. If it cannot be certified that Antifreeze has been used, then a Backflow prevention device shall be installed as prescribed by Table A101 and as Approved by the City of Lake Charles. Installation shall be at the expense of the Customer. The required Backflow prevention devices or methods shall be installed at the time the system is repaired or changed, or within twelve (12) months after adoption of this ordinance, whichever occurs first.

(d) In the event Cross-connections, such as those found in using Auxiliary Water Supply systems or in providing other water additives such as foaming agents, are necessary for the proper operation of the fire suppression system, then an Air Gap or a Reduced Pressure Principle Backflow Prevention Assembly shall be installed in an Approved manner.

Section 9 Registration

A Technician Registration:

(a) Any Backflow Prevention Assembly Technician licensed by the State of Louisiana must register with the Administrative Authority before performing work within the City of Lake Charles, Louisiana. Any licensed Backflow Prevention Assembly Technician shall include his or her state registration number on all correspondence and forms required by or associated with this ordinance.

B General Tester Registration:

(a) Any Backflow Prevention Assembly General Tester shall present a copy of his/her testing certificate from a nationally recognized Backflow certification organization and shall register with the Administrative Authority before performing work within the City of Lake Charles, Louisiana.

Section 10 Non-Compliance by Registered Technicians or General Testers

A The local registration of a Backflow Prevention Assembly Technician or Backflow Prevention Assembly General Tester may be revoked or suspended for a period of up to two (2) years for non-compliance with this ordinance.

B Any of the following conditions constitute non-compliance:

(a) Improper testing or repair of Backflow prevention assemblies or methods.

(b) Improper reporting of the results of testing or of repairs made to Backflow prevention assemblies or methods.

(c) Failure to meet registration requirements.

(d) Related unethical practices.

Section 11 Installation Of Backflow Prevention Assemblies or Methods

- A** The required Backflow prevention assemblies or methods for Containment shall be installed in the manner recommended by the manufacturer and in accord with the requirements of Section 606 of the LSPC, 2000 Edition, immediately following the meter or as close to that location as deemed practical by the Administrative Authority. In any case, it shall be located upstream from any branch piping. Installation at this point does not eliminate the responsibility of the Customer to protect the Water Supply System from Contamination or Pollution between the Backflow prevention assembly or methods and the water Main.
- B** Reduced Pressure Principle Backflow Prevention Assemblies shall be installed so as to be protected from flooding. The port or discharge point shall be installed such that it is located at least 24 inches above the highest flood level which may have occurred in the previous 10-year period.
- C** Reduced Pressure Principle Backflow Prevention Assemblies or methods shall not be installed in underground vaults or pits, unless a gravity drainage system (designed by a Louisiana registered engineer) for the particular site has been Approved by the state health officer. (The intent of the exception to this section is to possibly allow below grade installations on particular sites or lots having sufficiently hilly ground at the proposed location of the device such that when the vault or pit is constructed it may be equipped with positive gravity drainage openings as to prevent any part of the device from being submerged. A recommended design standard for such an installation may be found in Sections 606.4.1 and 606.4.2 of the 1994 Standard Plumbing Code.)
- D** All Backflow prevention assemblies or methods shall be protected from freezing. Those devices used for seasonal services may be removed in lieu of being protected from freezing; however, the devices must be reinstalled and tested by a registered Backflow Prevention Assembly Technician prior to service being reactivated.
- E** If hot water is used within the Water Supply System, thermal expansion shall be provided for when installing a Backflow prevention assembly or method for Containment in accordance with Section 613.2 of the LSPC, 2000 Edition.
- F** Provisions shall be made to convey the discharge of water from Reduced Pressure Principle Backflow Prevention Assemblies or methods to a suitable drain through an Air Gap.
- G** No Backflow prevention assemblies or methods shall be installed in a place where they would create a safety hazard, such as, but not limited to, over an electrical panel, or above ceiling level.
- H** If interruption of Water Service during testing and repair of Backflow prevention assemblies or methods for Containment is unacceptable to the Customer, another Backflow prevention assembly or method of equivalent or higher protection, sized to handle the temporary water flow needed during the time of testing or repair, shall be installed in parallel piping.
- I** All Backflow prevention assemblies or methods shall be installed so that they are accessible for testing.
- J** All shut-off valves shall conform with the current edition of the 2000 Edition Louisiana State Plumbing Code requirements for either ball or resilient seat gate valves. Full port ball valves shall be used on assemblies installed in piping two inches or smaller, and full port resilient wedge-type shut off valves on assemblies installed in piping larger than two inches.

Section 12 Testing Of Backflow Prevention Assemblies or Methods

- A** Testing of Backflow prevention assemblies or methods shall be performed by a Backflow Prevention Assembly Technician or by a Backflow Prevention Assembly General Tester registered with the Administrative Authority. The costs of tests required in the following paragraphs shall be borne by the Customer.
- B** Backflow prevention assemblies or methods shall be tested upon installation; when cleaned, repaired, or overhauled; when relocated; and, shall be tested and inspected at least once annually. Backflow prevention devices shall be tested in accordance with CAN/CSA Standard B64.10-1994 or ASSE Standard 5010-1998.
- C** The annual testing and report period for Backflow prevention assemblies and methods covered under this policy shall run from January 1st of each year to December 31st of each year. A letter shall be provided during the first quarter of every year to inform the Customer that testing is to be performed and documentation of the test are to be provided to the City of Lake Charles by the end of the testing and reporting period as stated above. This letter shall also provide a list of penalties and fines which shall be enforced due to non-compliance. See section 14 for further Customer non-compliance details.
- D** Backflow prevention assemblies or methods which are in place but have been out of operation for more than three (3) months, shall be tested before being put back into operation. Backflow prevention assemblies or methods used in seasonal applications shall be tested before being put into operation each season.
- E** Any Backflow prevention assembly or method which fails a periodic test shall be repaired or replaced by a Backflow Prevention Assembly Technician when such assembly is located on private property. When such a device is located on public property, a Backflow Prevention Assembly General Tester may repair or replace the device if authorized by the Water Purveyor. When Water Service has been terminated for non-compliance, the Backflow prevention assembly or method shall be repaired or replaced prior to the resumption of Water Service. Backflow prevention assemblies or methods shall be re-tested by a registered Backflow Prevention Assembly Technician or by a Backflow Prevention Assembly General Tester immediately after repair or replacement.
- F** The City of Lake Charles may require Backflow prevention assemblies or methods to be tested at any time in addition to the annual testing requirement.
- G** The registered Backflow Prevention Assembly Technician or Backflow Prevention Assembly General Tester shall report the testing of Backflow prevention assembly or method to the Customer and to the Administrative Authority within fifteen (15) days of the test.
- H** The Administrative Authority may require, at its own cost, additional tests of individual Backflow prevention assemblies or methods as it shall deem necessary to verify test procedures and results.

Section 13 Repair Of Backflow Prevention Assemblies or Methods

- A** All repairs to Backflow prevention assemblies or methods on private property shall be performed by a licensed plumber holding a special “water supply protection specialist” endorsement on his plumbing license, herein defined as “Backflow Prevention Assembly Technician”.
- B** After obtaining approval from the Water Purveyor, a “Backflow Prevention Assembly General Tester” may perform repairs to Backflow prevention assemblies or methods located on public property.
- C** The registered Backflow Prevention Assembly Technician or Backflow Prevention Assembly General Tester shall not change the design, material, or operational characteristics of a Backflow prevention assembly or method during repair or maintenance, and shall use only original manufacturer replacement parts, if available; if not available, shall use replacement parts Approved by the City of Lake Charles.

- D** The registered Backflow Prevention Assembly Technician or Backflow Prevention Assembly General Tester shall report the repair, overhaul, or replacement of any Backflow prevention assembly or method to the Customer and to the City of Lake Charles on the form provided by the City of Lake Charles within fifteen (15) days of the repair.

Section 14 Customer Non-Compliance

- A** The Water Service may be discontinued in the case of non-compliance with this ordinance. Non-compliance includes, but is not limited to, the following:
- (a)** Refusal to allow the Administrative Authority or Water Purveyor access to the property to inspect for Cross-connections.
 - (b)** Removal of a Backflow prevention assembly or method which has been required by the Administrative Authority.
 - (c)** Bypassing of a Backflow prevention assembly or method which has been required by the Administrative Authority.
 - (d)** Providing inadequate Backflow prevention when potential or actual Cross-connections exist.
 - (e)** Failure to install a Backflow prevention assembly or method which has been required by the Administrative Authority.
 - (f)** Failure to test and/or properly repair a Backflow prevention assembly or method as required by the Administrative Authority.
 - (g)** Failure to comply with the requirements of this ordinance.
- B** If no test results are received by the timelines illustrated in the preceding sections, the following will take place:
- (a)** A \$200.00 penalty fee shall be assessed and added to the Customer's water bill, effective January 1st of the following year.
 - (b)** If test results are not received by the last day of February, an additional penalty of \$250.00 shall be assessed and added to the Customer's water bill effective March 1st.
 - (c)** If documentation of installation, repair, testing, etc. of the Backflow prevention device or method is not received by March 31st Water Service will be terminated.
 - (d)** The City of Lake Charles reserves the right to make all decisions concerning penalties and enforcements for non-compliance.

Section 15 Penalty For Violation

- A** In addition to fines, penalties or sanctions provided by local or state laws or regulations, any person found to be in violation of any provision of this section shall be subject to the general penalty provisions of Section 1-8 of the Code of Ordinances.

EXHIBIT A – LSPC 2000 EDITION EXCERPT

Containment Practices - Backflow prevention methods or devices shall be utilized as directed by the Water Supplier or plumbing official to isolate specific Water Supply System Customers from the Water Supply System's Mains when such action is deemed necessary to protect the Water Supply System against potential Contamination caused by Backflow of water from that part of the water system owned and maintained by the Customer (e.g., the piping downstream of the water meter, if provided).

At a minimum, the following types of devices or methods shall be installed and maintained by the Water Supply System Customers immediately downstream of the water meter (if provided) or on the Water Service Pipe prior to any branch lines or connection servicing the listed Customer types and categories:

Table A101 ¹ (Containment)
Air Gap
1. Fire Protection/Sprinkler System utilizing non-Potable Water as an alternative or primary source of water
Reduced Pressure Principle Backflow Prevention Assembly
1. Hospitals, Out-Patient Surgical Facilities, Renal Dialysis Facilities, Veterinary Clinics
2. Funeral Homes, Mortuaries
3. Car Wash Systems
4. Sewage Facilities
5. Chemical or Petroleum Processing Plants
6. Animal/Poultry Feedlots or Brooding Facilities
7. Meat Processing Plants
8. Metal Plating Plants
9. Food Processing Plants, Beverage Processing Plants
10. Fire Protection/Sprinkler Systems using Antifreeze in such system (a detector type assembly is recommended on unmetered fire lines)
11. Irrigation/Lawn Sprinkler Systems with Fertilizer Injection
12. Marinas/Docks
13. Radiator Shops
14. Commercial Pesticide/Herbicide Application
15. Photo/X-ray/Film Processing Laboratories
16. Multiple Commercial Units served by a Master Meter
17. Any type of occupancy type or any other facility having one or more Single-walled Heat Exchangers which uses any chemical, additive, or corrosion inhibitor, etc., in the heating or cooling medium
18. Any type of occupancy type or any other facility having one or more Double-walled Heat Exchangers which use any chemical, additive, or corrosion inhibitor, etc., in the heating or cooling medium and which does not have a path to atmosphere with a readily visible discharge
19. Premises where access/entry is prohibited
Pressure Vacuum Breaker Assembly/ Spill Resistant Vacuum Breaker Assembly
1. Irrigation/Lawn Sprinkler Systems
Double Check Valve Assembly
1. Fire Protection/Sprinkler Systems (a detector type Double Check Valve Assembly is recommended on unmetered fire lines)
2. Two residential dwelling units served by a Master Meter, unless both units are located on a parcel or contiguous parcels of land having the same ownership and neither unit is used for commercial purposes. As used herein, the term "commercial purposes" means any use other than residential.
3. Three or more residential dwelling units served by a Master Meter

4. Multistoried Office/Commercial Buildings (over 3 floors)

5. Jails, Prisons, and Other Places of Detention or Incarceration

NOTES: Other Containment Practices – Table A101 of this Code above is not inclusive of all potential Contamination sources which may need Containment protection. For potential Contamination sources not listed in this table, Backflow prevention methods or devices shall be utilized in accordance with Table B1 (See below). When a potential Contamination source and its associated Backflow prevention method or device is not identified in Table A101 of this Code above or Table B1, Backflow prevention methods or devices shall be utilized as directed by the plumbing official or as directed by the Water Supplier. In cases of a discrepancy regarding the particular Backflow prevention assembly or method required, the assembly or method providing the higher level of protection shall be required.

Fixture Isolation Practices – Water Supply System Customers shall provide and maintain Backflow prevention methods or devices as directed by the plumbing official within that part of the water system owned and maintained by the Customer (e.g., the piping downstream of the water meter, if provided, or downstream from any Containment device) to protect the on-site users of the water system against potential Contamination due to Backflow.

At a minimum, the following types of devices or methods shall be employed as appropriate for the following points of usage:

Table A102 ¹ (Fixture Isolation)
Air Gap
1. Cooling Towers
2. Chemical Tanks
3. Commercial Dishwashers in commercial establishments
4. Ornamental Fountains
5. Swimming Pools, Spas, Hot Tubs (Reduced Pressure Principle Backflow Prevention Assembly also acceptable)
6. Baptismal Fonts
7. Animal Watering Troughs
8. Agricultural Chemical Mixing Tanks
9. Water Hauling Tanks
Reduced Pressure Principle Backflow Prevention Assembly
1. Commercial Boilers
2. Air Conditioning, Chilled Water Systems
3. Air Conditioning, Condenser Water Systems
4. Pot-type Chemical Feeders
5. Swimming Pools, Spas, Hot Tubs (Air Gap also acceptable)
6. Irrigation/Lawn Sprinkler Systems with Fertilizer Injection
7. Photo/X-ray/Film Processing Equipment
8. Single-walled Heat Exchangers which use any chemical, additive, or corrosion inhibitor, etc., in the heating or cooling medium
9. Double-walled Heat Exchangers which use any chemical, additive, or corrosion inhibitor, etc., in the heating or cooling medium and which does not have a path to atmosphere with a readily visible discharge
10. Room(s) or other sub-units of a premise or facility receiving water where access is prohibited
Double Check Valve Assembly
1. Food Processing Steam Kettles
2. Individual Travel Trailer Sites
3. Single-walled Heat Exchangers which do not use any chemical, additive, or corrosion inhibitor, etc., in the heating or cooling medium

4. Double-walled Heat Exchangers which do not use any chemical, additive, or corrosion inhibitor, etc., in the heating or cooling medium and which does not have a path to atmosphere with a readily visible discharge

Atmospheric or Pressure Vacuum Breakers

1. Laboratory and/or Medical Aspirators

2. Flushing Rim Bedpan Washers

3. Garbage Can Washers

4. Laboratory or Other Sinks with threaded or serrated nozzles

5. Flushometer Operated Fixtures

6. Commercial Washing Machines

7. Irrigation/Lawn Sprinkler Systems

8. Hose Bibbs

9. Commercial Dishwashers in commercial establishments

Pressure Vacuum Breakers/Spill Resistant Vacuum Breakers

1. Mortuary/Embalming Aspirators

2. Irrigation/Lawn Sprinkler Systems with Separate Zones

NOTES: Other Containment Practices – Table A102 is not inclusive of all potential Contamination sources which may need fixture Isolation protection. For potential Contamination sources not listed in this table, Backflow prevention methods or devices shall be utilized in accordance with Table B1 and B2 (See below). When a potential Contamination source and its associated Backflow prevention method or device is not identified in Table 609.F.6 of this Code above or Table B1 and B2, Backflow prevention methods or devices shall be utilized as directed by the plumbing official. In cases of a discrepancy regarding the particular Backflow prevention device or method required, the device offering the higher level of protection shall be installed. In contested cases, the co-state plumbing official (i.e., the state health officer) shall be consulted to issue a ruling on the particular Backflow prevention device or method required, if any.

Table B.1	
Guide to Degree of Hazard - Point of Use Cross-Connection	
Agricultural chemical (sprayer)	Severe
Air compressor oil cooler	Moderate
Animal watering	Moderate
Aspirator (non-toxic)	Moderate
Aspirator (toxic)	Severe
Autoclave	Severe
Autopsy and mortuary equipment	Severe
Auxiliary water supply	Severe
Baptistery	Moderate
Basin	Moderate
Bathtub (all)	Moderate
Bedpan washer	Severe
Beverage dispensing equipment (no carbonator)	Minor
Beverage dispensing equipment (with carbonator)	Moderate
Bidet	Moderate to severe
Bottle washer	Moderate to severe
Bread making equipment	Minor to moderate
Canopy washers	Severe
Carwash	Severe
Chemical feed tank	Severe
Chiller tank (closed, no chemicals)	Moderate to severe
Chiller tank (open or with chemicals)	Severe
Chlorinator	Severe
Clothes washer (residential)	Moderate
Condensate tank	Severe
Condensate tank (top feed)	Moderate
Cooking kettle (for food only)	Minor
Cooling condenser, AC unit (solenoid downstream)	Severe
Cooling condenser, AC unit (solenoid upstream)	Minor
Cooling tower	Severe
Cuspidor	Severe
De-aerator (bottom feed)	Severe
De-aerator (top feed)	Moderate
Degreasing equipment	Severe
Dental delivery system (water supply)	Minor
Dental vacuum pump	Severe
Detergent dispenser	Severe

Dipper well in ice cream parlour or restaurant	Moderate
Dish rinse unit with flex hose	Moderate
Dishwasher (commercial)	Moderate
Dishwasher (residential)	Moderate
Distiller	Minor
Dockside marine facility	Severe
Emergency eyewash/shower	Eyewash/shower to be installed upstream of the zone isolation
Flexible shower head with hose	Minor to severe
Floor drain with flushing rim	Severe
Flush tank	Moderate
Flushing equipment device	Severe
Flushometer	Severe
Fountain, ornamental	Moderate to severe
Fountain, ornamental (chemicals added)	Severe
Fume hood	Severe
Garbage can washer	Severe
Garbage disposal unit	Severe
Heat exchanger	Moderate to severe
Heating system (chemicals added)	Severe
Heating system (no chemicals added)	Moderate
Heating system (residential; boiler with copper or plastic piping; no chemicals added)	Minor to moderate
Hose connection (other than residential)	Moderate to severe
Hose connection (residential)	Minor to moderate
Hospital (active treatment area)	Severe
Hospital (non-treatment area)	Moderate
Hot tub or spa	Moderate
Humidifier	Moderate
Humidifier with sump (chemicals added)	Severe
Hydrotherapy bath	Moderate
Ice machine for commercial restaurant	Moderate to severe
Ice making equipment for sports arena	Severe
Industrial fluid system	Severe
Irrigation system (chemicals injected)	Severe
Irrigation system (no chemicals injected)	Moderate
Lab bench equipment (non-toxic)	Minor
Lab bench equipment (toxic)	Severe
Lab faucet	Moderate to severe
Laboratory	Severe
Laundry machine	Moderate
Lavatory	Moderate

Lethal substance	Severe
Livestock equipment	Severe
Mixing tee with steam and water	Moderate
Mortuary or morgue	Severe
Non-potable water	Severe
Optician or ophthalmology equipment	Minor to moderate
Photo lab sink	Severe
Pipette washer	Severe
Piping to chemical dispensers	Minor to severe
Plating tank	Severe
Potato peeler	Moderate
Poultry barn	Severe
Pressure washer (no aspirator)	Minor
Pressure washer (with aspirator)	Severe
Private fire hydrants	Moderate
Private water source	Severe
Pump primer line (non-toxic)	Moderate
Pump primer line (toxic)	Severe
Radiator flushing equipment	Severe
Restricted area	Severe
Reverse osmosis equipment	Minor
Reverse osmosis equipment with backwashing	Moderate
Reverse osmosis equipment with chemical cleaning	Severe
Serrated faucets	Severe
Sewage ejectors	Severe
Sewage pump	Severe
Shampoo sinks	Moderate
Sizing vats	Severe
Solar energy units	Severe
Solution tanks	Severe
Spa or hot tub	Moderate
Specimen tank	Severe
Steam boiler	Severe
Steam cleaner	Moderate
Steam generator	Moderate
Steam table	Minor to moderate
Sterilizer (condensate cooling only)	Moderate
Sterilizer (connection into chamber)	Severe
Still	Minor
Swimming pool (direct connection)	Moderate

Swimming pool (other than residential)	Moderate
Swimming pool (residential)	Minor
Swimming pool makeup tank	Moderate
Teeth cleaning equipment (veterinary type)	Moderate
Trap primer	Severe
Vending machine with no carbonators	Minor
Wash rack	Severe
Wash tank	Moderate
Wash tanks (toxic)	Severe
Water closet (flushometer type)	Moderate
Water closet (tank type)	Moderate
Water hauling equipment (see Annex C)	Severe
Water softener	Minor
Water softener drain	Severe
Wok table (for Oriental cooking) with submerged inlet	Severe
Moderate X-ray equipment	Severe

Table B.2	
Guide to Degree of Hazard - Premises	
Airport	Moderate
Animal feed lot	Moderate to severe
Animal stock yard	Moderate to severe
Apartment building	Moderate
Aquaculture farm	Severe
Aquarium (public)	Severe
Arena	Moderate
Asphalt plant	Severe
Auto body shop	Severe
Auto dealership	Moderate
Automotive repair	Severe
Automotive repair shop	Severe
Beverage processing plant (includes distillery and brewery)	Severe
Blood Clinic	Severe
Campsite	Moderate
Campsite with RV hook-ups or dump-stations	Severe
Severe	Severe
Chemical plant	Severe
Church	Minor to moderate
Commercial premises	Moderate to severe
Concrete plant	Severe
Dental office	Moderate
Dental surgery facility	Severe
Dock and marine facility	Severe
Dry cleaning plant	Severe
Duplex housing with shared service	Minor
Dye plant	Severe
Exhibition ground	Severe
Farm	Moderate to severe
Film processing facility	Severe
Fire station	Moderate to severe
Fish farms or hatchery	Severe
Food processing plant	Severe
Fuel dispensing facility	Moderate
Funeral home	Moderate to severe
Garbage transfer facility	Severe
Golf course	Moderate to severe
Grocer	Moderate

Hair salon	Moderate
Hospital	Severe
Hotel	Moderate
Industrial and institutional premises	Moderate to severe
Kennel	Moderate
Laboratory	Severe
Laundry (commercial)	Severe
Laundry (commercial, coin-operated)	Moderate
Manufacturing plant (not specified)	Moderate
Marina (pleasure-boat)	Moderate to severe
Meat packing plant	Severe
Medical clinic (non surgical)	Moderate
Medical clinic (surgical)	Severe
Milk processing plant	Severe
Mining facility	Severe
Mobile home park	Moderate
Mortuary or morgue	Severe
Motel	Moderate
Motorcycle repair facility	Severe
Nursing home	Moderate
Oil refinery	Severe
Paint manufacturing plant	Severe
Penitentiary	Moderate
Petroleum processing or storage facility	Severe
Pharmaceutical manufacturing facility	Severe
Photo processing facility	Severe
Plants using radioactive material	Severe
Plastic manufacturing plant	Severe
Plating shop	Severe
Poultry farm	Severe
Power generating facility	Severe
Premises where access is prohibited	Severe
Printing plant	Severe
Pulp and/or paper plant	Severe
Radiator shop	Severe
Recycling facility	Severe
Refinery, petroleum processing	Severe
Rendering facility	Severe
Research building	Severe
Residential premises	Minor

Restaurant	Moderate
School (elementary, junior high, and senior high)	Moderate
Sewage dump station	Severe
Sewage treatment plant	Severe
Steel manufacturing plant	Severe
Swimming pool facility	Moderate
Townhouse (shared services)	Minor
University	Moderate to severe
Veterinary clinic	Moderate to severe
Waste disposal plant	Moderate to severe
Wastewater facility	Severe
Wastewater pump station	Severe
Wastewater treatment plant	Severe