

**RESOLUTION NO. 03-3**

**A RESOLUTION OF THE BAYVIEW WATER AND SEWER DISTRICT,  
KOOTENAI COUNTY, IDAHO, ESTABLISHING REGULATIONS FOR CROSS  
CONNECTION CONTROL**

BE IT RESOLVED by the Board of Directors of the Bayview Water and Sewer District as follows:

Sections:

- 1.0 Purpose
- 2.0 Definitions
- 3.0 Responsibility
- 4.0 Implementation
- 5.0 Severability
- 6.0 Effective Date

**Section 1.0 Purpose.** The purposes of this Resolution are to:

A. Protect the District Water System from the possibility of contamination or pollution by isolating, within customer systems, such contaminants or pollutants which could backflow or back-siphon into the District Water System; and

B. Provide for the maintenance of a continuing program for cross-connection control, which will systematically and effectively prevent the District's Water System from being compromised by any such contaminants or pollutants.

**Section 2.0 Definitions.** Whenever in this Resolution, or in any document governed by this Resolution, any of the following terms are used, said terms shall be defined as follows:

A. Approved. Accepted by the Board as meeting an applicable specification stated or cited in this Resolution, or as suitable for the proposed use.

B. Auxiliary Water Supply. Any water supply, other than the District's Water System, available to a customer's system. Such auxiliary waters may include water from another purveyor's public potable water supply, or any natural source(s) such as a well, spring, river, stream, etc. or "used waters" or "industrial fluids". Such auxiliary waters may be polluted or contaminated, or they may be objectionable, and may constitute an unacceptable water source over which the District does not have control.

C. Backflow. The flow of water (or other liquids, mixtures, or substances), under pressure, into the District's Water System from any source(s) other than the District's own source(s).

D. Backflow Preventer. A device or means designed to prevent backflow or back-siphonage.

1. Airgap. A means of backflow prevention utilizing 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 top of the rim of the vessel; provided, however, that in no case shall the air-gap be less than one (1) inch. When an air-gap is used at the service connection to prevent the contamination or pollution of the District's Water System, an emergency by-pass shall be installed around the air-gap system and an approved reduced pressure principle device shall be installed by the by-pass system.

2. Reduced Pressure Principle Device. A backflow prevention device consisting of an assembly of two (2) independently operating approved check valves with an automatically operating differential relief valve between the two (2) check valves, tightly closing shut-off valves on either side of the check valves, plus properly located test cocks for the testing of the check and relief valves. The entire assembly shall meet the design and performance specifications and approval of a recognized and approved testing agency for backflow prevention assemblies. The device shall operate to maintain the pressure in the zone between the two (2) check valves at a level less than the pressure of the inlet of the device. At cessation of normal flow, the pressure between the two (2) check valves shall be no less than the pressure at the inlet of the device. 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. When the inlet pressure is two (2) pounds per square inch (psi) or less, the relief valve shall open to the atmosphere. To be approved, these devices must be readily accessible for in-line maintenance and testing, and shall be installed in a location where no part of the device will be submerged.

3. Double Check Valve Assembly. A backflow prevention device consisting of an assembly of two (2) independently operating approved check valves with tightly closing shut-off valves on each side of the check valves, plus properly located test cocks for the testing of each check valve. The entire assembly shall meet the design and performance specifications and approval of a recognized and approved testing agency for backflow prevention devices. To be approved, the devices must be readily accessible for in-line maintenance and testing.

E. Back-Siphonage. The flow of water (or other liquids, mixtures, or substances) into the District's Water System from any source(s) other than the District's own source(s), caused by a sudden reduction of pressure in the District's Water System.

F. Board. The Board of Directors of the Bayview Water and Sewer District.

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

H. Control. The right and power over the sanitary quality of water.

I. Cross-Connection. Any physical connection, or other arrangement of piping or fixtures, between two (2) otherwise separate piping systems, one (1) of which contains potable water and the other of which contains non-potable water or industrial fluids of questionable safety, through which, or because of which, backflow or back-siphonage may occur into the District's Water System. A metered water service connection between the District's Water System and a customer system, which is cross-connected to a contaminated fixture, industrial fluid system, or with a potentially contaminated supply or auxiliary water system, constitutes a type of cross-connection. Other types of cross-connections include, but are not necessarily limited to, connectors such as swing connections, removable sections, four-way plug valves, spools, dummy sections of pipe, swivel or changeover devices, sliding multiport tube, solid connections, etc.

J. Cross-Connection Control by Containment. The installation of an approved backflow prevention device in any customer system at the metered water service connection.

K. Designee or Designate. An employee of the District designated by the Board to enforce the provisions of this Resolution.

L. District. The Bayview Water and Sewer District.

M. Hazard, Degree of. This term is derived from an evaluation of the potential risk to the public health and the adverse effect of the hazard upon the District's Water System.

1. Hazard - Health. Any condition, device, or practice in the District's Water System or its operation, which could create, or in the judgment of the Board may create, a danger to the health and well-being of any water customer.

a. Hazard - Plumbing. A plumbing type cross-connection in a customer system that has not been properly protected by an air-gap separation or back-flow prevention device is deemed to constitute a health hazard.

2. Hazard - Pollutant. An actual or potential threat to the physical properties, or to the potability, of the District's Water System, which could constitute a nuisance, or be aesthetically objectionable, or could cause damage to the District's Water System, but would not be dangerous to health.

3. Hazard - System. An actual or potential threat of severe damage to the physical properties of the system, or of a pollution or contamination which would have a protracted effect on the quality of the potable water in the District's Water System.

N. 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, pollutant, or plumbing hazard if introduced into the District's Water System. "Industrial Fluids Systems" include, but are not necessarily limited to: polluted or contaminated waters; all types of process waters and "used waters" originating from the District's Water System which may have deteriorated in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulated cooling waters connected to an open cool tower and/or cooling towers that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from wells, springs, streams, rivers, irrigation canals or systems, etc.; oils, gases, glycerin, paraffin, caustic and acid solutions, and the liquid and gaseous fluids used for industrial or other purposes or for fire-fighting purposes.

O. Master. The Water Master of the District, appointed by the Board.

P. Pollution. 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.

Q. Water - Metered Water Service Connection. The terminal end of a service connection from the District's Water System (that is, where the District loses control over the water at its point of delivery to the customer's system), being the downstream end of the meter. There should be no unprotected takeoffs from the service line ahead of any backflow prevention device. Service connections shall also include metered or un-metered water service connections from a fire hydrant and all other temporary or emergency water service connections to the District's Water System.

R. Water - Nonpotable. Water which is not safe for human consumption or which is of questionable potability.

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

T. Water System. The water system is made up of two (2) parts; namely, the District's Water System and the District's customer's system.

1. The District's Water System consists of the source and the distribution system under the complete control of the District, up to the point where the customer systems begin.

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

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

2. The customer system consists of all water components beyond the metered water service connections.

U. Water - Used. Any water supplied by the District from the District's Water System to a customer system after it has passed through the metered water service connection and is no longer under the control of the District.

### **Section 3.0 Responsibility.**

A. The Board shall be responsible for the protection of the District's Water System from contamination or pollution due to the backflow or back-siphonage of contaminants or pollutants through the metered water service connections.

B. If, in the judgment of the Board or Water Master, or any other designee of the Board, an approved back-flow prevention device is required at any metered water service connection for the safety of the District's Water System, the Board, Water Master, or any other authorized designee of the Board shall give notice, in writing, to the affected customer to install an approved backflow prevention device at each of such customer's metered water service connections. Within the time prescribed by the Board, Water Master, or other authorized designee, the customer shall install such approved device or devices at the customer's own expense. Any failure, refusal, or inability on the part of the customer to install said device or devices shall immediately constitute grounds for discontinuing water service to such metered water service connections until such device or devices have been properly installed to the District's satisfaction.

C. If the customer files with the District a written protest of the degree of hazard involved and commensurate degree of protection required to be provided, the

matter shall be referred by the District to the appropriate health agency. If the protest involves a new meter installation, the District shall not commence water service until after the health agency has delivered its written decision to the District. The written decision of the health agency shall be final.

#### **Section 4.0 Implementation.**

A. No metered, un-metered, or any form of water service connection to any premises shall be placed into service by the District unless the District's Water System is protected as required by State laws and regulations and by this Resolution. Service of water to any premises shall be immediately discontinued by the District if a backflow prevention device required by this Resolution is not installed, tested and maintained, or if it is found that a backflow prevention device has been removed, by-passed, or if any unprotected cross-connection exists on the premises. Service shall not be restored until such conditions or defects are corrected to the satisfaction of the District.

B. All customer systems shall be open for inspection at all reasonable times to authorized representatives of the District to enable the District to ascertain the existence of cross-connection or other structural or sanitary hazards, including violations of this Resolution. When such a condition becomes known, the District 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 State laws and District resolutions relating to plumbing and water supplies, and in conformance with any other regulations adopted pursuant thereto.

C. An approved backflow prevention device shall be installed on each metered water service connection to a customer system at or near the property line or immediately inside the building being served; but, in all cases, such device shall be installed before the first branch line leading off the service wherever the following conditions exist:

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 District, the District's Water System shall be protected against backflow from the premises by the installation of a backflow prevention device in the customer's system appropriate to the degree of hazard.

2. Whenever backflow protection has been found necessary on a customer's system, then all metered water service connections shall be protected by an approved backflow device, regardless of whether any are not being used.

3. 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 District's Water System, including the handling of process waters and waters

originating from the District's Water System which have been subject to deterioration in quality, the installation of a backflow prevention device appropriate to the degree of hazard shall be required.

4. Whenever the following conditions exist on any premises, the District's Water System shall be protected against backflow by the installation of a backflow prevention device:

- a. Internal cross-connections that cannot be permanently corrected or controlled; or
- b. Intricate plumbing and piping arrangements; or
- c. Where entry to all portions of the premises is not readily accessible for inspection purposes, making it impractical or impossible to ascertain whether or not dangerous cross-connections exist.

D. The type of protective device required under the foregoing paragraph "C" shall depend upon the degree of hazard, which exists as follows:

1. In the case of any premises where there is an auxiliary water supply as stated in subsection C.1 of this Section, and such supply is not subject to any of the following rules, the District's Water System shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention device.

2. In the case of any premises where there is water or a substance that would be objectionable, but not hazardous to health, if introduced into the District's Water System, the District's Water System shall be protected by an approved double check valve assembly.

3. In the case of premises where there is any material dangerous to health which is handled in such a fashion as to create an actual or potential hazard to the District's Water System, the District's Water System shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention device. Examples of premises where these conditions will exist include sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, mortuaries, and plating plants.

4. In the case of any premises where there are "uncontrolled" cross-connections, either actual or potential, the District's Water System shall be protected by an approved air-gap water separation or an approved reduced pressure principle backflow prevention device.

5. 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 District's Water System shall be protected against backflow or back-siphonage from the premises by the installation of a backflow prevention device. In this case, maximum protection will be required; that means an approved air-gap separation or an approved reduced pressure principle backflow prevention device shall be installed in each metered (or other) water service connection to the premises.

6. In general, a double check-valve will be deemed sufficient when any one (1) of the following conditions exist:

- a. Pressure in the customer system may, at any time, exceed the water pressure in the District's Water System.
- b. The customer system includes more than one (1) metered water service connection.
- c. Where a swimming pool is maintained.
- d. Where a closed elevated storage tank is maintained.
- e. Auxiliary water system (not interconnected).
- f. The customer system is so extensive that it is not easily observed or checked as to maintenance and use.
- g. Building with house pump and/or storage tank.
- h. Chemically treated potable water system.
- i. Commercial laundry.
- j. Dairy or other cold storage plant.
- k. Fire system with pumps and/or water storage tank.
- l. Manufacturing, processing, or fabricating plant using nontoxic materials.
- m. Manufactured and/or mobile home parks.
- n. Irrigation systems where nothing is injected into the customer's systems.

- o. Apartments and other multi-family accommodations (rental or owner occupied).
- p. Churches, temples, and similar places of religious worship.
- q. Any connection that the District or its designee may consider a cross-connection.

7. A reduced pressure backflow preventer, as near to the metered water service connection as possible will be required where sewage, toxic wastes, or other injurious materials are pumped, processed, or treated. In general, a reduced pressure backflow preventer will be required when any one (1) of the following conditions exist:

- a. Sewage treatment plant or pump station.
- b. Auxiliary water system (interconnected)
- c. Winery.
- d. Building with sewage ejectors.
- e. Cannery, parking house, or reduction plant.
- f. Car wash with water reclamation system.
- g. Centralized heating and air-conditioning plant.
- h. Chemical plant.
- i. Civil works (not subject to State inspection)
- j. Dye works.
- k. Film processing or other laboratory.
- l. Fire system with auxiliary supply.
- m. Hospital, mortuary, or crematorium.
- n. High school or college and other such secondary school and higher education facilities.
- o. Food processing plant.

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- p. Restaurant, bar, cafe, lounge, and other such eating and/or drinking establishments.
- q. Rendering plant.
- r. Veterinary or pet hospital.
- s. Steam boiler.
- t. Plating facility or metal finisher.
- u. Irrigation system where anything is injected into the customer system.
- v. Manufacturing, processing, or other fabricating plant using toxic material.
- w. Paper production plant.
- x. Restricted, classified, or other closed facility.
- y. Sand and/or gravel plant.
- z. Where a cross-connection is maintained.
- aa. Any connection that the District may consider to be a cross-connection.

E. Any backflow prevention device required by this Resolution shall be of a model and size approved by the District. The term "Approved Backflow Prevention Device" shall mean a device that has been manufactured in full conformance with the standards established by the American Water Works Association, as set forth in its publication entitled "AWWA C506-78 Standards for Reduced Pressure Principle and Double Check Valve Backflow Prevention Devices" (or the most current update thereof) and, that has met completely the laboratory and field performance specifications of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California, as set forth in its Manual of "Specifications of Backflow Prevention Devices" and said publications, including any amendments or revisions thereto, which are hereby adopted and incorporated into this Resolution as fully as if set out at length herein. Final approval shall be evidenced by a "Certificate of Approval" issued by an approved testing laboratory, certifying full compliance with said AWWA Standards and FCCC and HR Specifications.

F. The following testing laboratory is hereby approved by the Board to test and certify backflow preventers:

Foundation for Cross-Connection Control and Hydraulic Research  
University of Southern California  
University Park  
Los Angeles, CA 90007

1. Testing laboratories other than the laboratory listed herein will be added to an approved list as they are approved by the Board.

2. Backflow preventers which may be subjected to back pressure or back-siphonage that have been fully tested and have been granted a Certificate of Approval by said approved laboratory and are listed on the laboratory's current list of "Approved Devices" may be used.

G. The District will make available a list of approved backflow device testers. The list is not to be construed to be restrictive or recommended by the District. Anyone desiring inclusion on the list shall provide the District with valid certification acceptable to the District.

H. It shall be the duty of the customer/user at any premises where backflow prevention devices are installed to have certified inspections and operational tests made once per year. In those instances where the District deems the hazard to be great enough, it may require certified inspections at more frequent intervals. These inspections and tests shall be at the expense of the customer/user, and shall be performed by a qualified manufacturer's representative, by an approved certified tester, or by Certified District personnel. It shall be the duty of the District to see that these timely tests are made. The customer/user shall notify the District, in advance, when the tests are to be undertaken by anyone other than the District, so that District personnel may witness the tests if it is so desired. These devices shall be repaired, overhauled, or replaced at the expense of the customer/user whenever said devices are found to be defective. Records of such tests, repairs, and overhaul shall be kept and made available to the District.

I. All presently installed backflow prevention devices which do not meet the requirements of this Resolution shall be replaced by a backflow prevention device meeting the requirements of the Resolution when the District finds that the device constitutes a hazard to health.

**Section 5.0 Severability.** If any clause, sentence, paragraph, section, or part of this Resolution or the application thereof to any person or circumstances shall be adjudged by any court of competent jurisdiction to be invalid, such order or judgment shall be confined in its operation the controversy in which it was rendered and shall not affect or invalidate

the remainder of any part thereof to any other person or circumstances and to this end, the provisions of each clause, sentence, paragraph, section, or part of this Resolution are hereby declared to be severable.

**Section 6.0 Effective Date.** This Resolution shall take effect and be in force immediately upon its adoption. This Resolution, or a summary thereof, shall be published once in a newspaper of general circulation within ten (10) days of its adoption.

Adopted this 12th day of August, 2003.

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Charles Waller, Chairman  
Board of Directors  
Bayview Water and Sewer District

ATTEST:

I, Debra Peck, Secretary/Treasurer of the Bayview Water and Sewer District, certify that the foregoing resolution was passed by the Board of Directors of the Bayview Water and Sewer District, by a vote of a majority of the members thereof, at a regular meeting held on the 12th day of August, 2003, of which all directors were duly notified, and said Resolution was adopted by the following vote:

AYES, and in favor thereof,	Board members: _____
NOES,	Board members: _____
ABSENT,	Board members: _____
ABSTAIN,	Board members: _____

I further certify that I have carefully compared the same with the original Resolution on file and of record in my office; that said Resolution is a full, true, and correct copy of the original Resolution adopted at said meeting; and that said Resolution has not been amended, modified, or rescinded since the date of its adoption, and is now in full force and effect.

IN WITNESS WHEREOF, I have set my hand and affixed the official seal of the BAYVIEW WATER AND SEWER DISTRICT on August 12, 2003.

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Debra Peck, Secretary/Treasurer BWSD

SEAL