

# **CROSS CONNECTION CONTROL POLICY**

## **VILLAGE OF AVOCA**

### **SECTION 1 – CROSS CONNECTION CONTROL – GENERAL POLICY**

#### **1.1 PURPOSE**

The purpose of this policy is:

- 1.1.1 To protect the public potable water supply of the Village of Avoca from possibility of contamination or pollution by isolating within the customer's internal distribution system(s) or the customer's private water system(s) such contaminants or pollutants that could backflow into the public water system; and,
- 1.1.2 To promote the elimination and control of cross connections, actual or potential, between the customer's in-plant potable water system(s) and non potable water systems, plumbing fixtures, and industrial piping systems: and,
- 1.1.3 To provide the maintenance of a continuing program of cross connection control that will systematically and effectively prevent the contamination or pollution of all potable water systems.
- 1.1.4 To comply with the requirements of the New York State Sanitary Code, Part 5, Section 5.1.31.

#### **1.2 RESPONSIBILITY**

The Water Department Superintendent shall be responsible for the protection of the public potable water distribution system from contamination or pollution due to the backflow of contaminants or pollutants through the water service connection. If, in the judgment of said Water Department Superintendent, an approved backflow-prevention assembly is required (at the customer's water service connection; or within the customer's private water system) for the safety of the water system, the Water Department Superintendent or his/her designated agent shall give notice in writing to said customer to install such an approved backflow-prevention assembly(s) at specific location(s) on his/her premises. The customer shall immediately install such approved assembly(s) at his/her expenses; and failure, refusal or inability on the part of the customer to install, have tested, and maintain said assembly(s) shall constitute grounds for discontinuing water service to the premises until such requirements have been satisfactorily met.

### **SECTION 2 DEFINITIONS**

#### **2.1 WATER COMMISSION OR HEALTH OFFICIAL**

The Water Department Superintendent in charge of the Water Department of the Village of Avoca is invested with the authority and responsibility for the implementation of an effective cross connection control program and for the enforcement of the provisions of this policy.

## 2.2 APPROVED

Accepted by the authority responsible as meeting an applicable specification stated or cited in this policy or as suitable for the proposed use.

## 2.3 AUXILIARY WATER SUPPLY

Any water supply on or available to the premises other than the purveyor's approved public water supply. These auxiliary waters may include water from any natural source(s), such as a well, spring, river, stream, and so forth; used waters; or industrial fluids. These waters may be contaminated or polluted, or they may be objectionable and constitute an unacceptable water source over which the water purveyor does not have sanitary control.

## 2.4 BACKFLOW

The undesirable reversal of flow in a potable water distribution system as a result of a cross connection.

## 2.5 BACKPRESSURE

A pressure, higher than the supply pressure, caused by a pump, elevated tank, boiler, or any other means that may cause backflow.

## 2.6 BACKSIPHONAGE

Backflow caused by negative or reduced pressure in the supply piping.

## 2.7 BACKFLOW PREVENTER

An assembly or means designed to prevent backflow.

**2.7.1 AIR GAP-** The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet conveying water or waste to a tank, plumbing fixture, receptor, or other assembly and the flood level rim of the receptacle. These vertical, physical separations must be at least twice the diameter of the water supply outlet, never less than 1 inch (25mm).

**2.7.2 REDUCED-PRESSURE BACKFLOW-PREVENTION ASSEMBLY –** The approved reduced-pressure principle backflow-prevention assembly consists of two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and below the first check valve. These units are located between two tightly closing resilient-seated shutoff valves as an assembly and equipped with properly located resilient-seated test cocks.

**2.7.3 DOUBLE CHECK VALVE ASSEMBLY –** The approved double check valve assembly consists of two internally loaded check valves, either spring loaded or internally weighted, installed as a unit between two tightly closing resilient-

seated shutoff valves and fitted with properly located resilient-seated test cocks. This assembly shall only be used to protect against a non-health hazard (i.e., pollutant).

## 2.8 CONTAMINATION

An impairment of a potable water supply by the introduction or admission of any foreign substance that degrades the quality and creates a health hazard.

## 2.9 CROSS CONNECTION

A connection or potential connection between any part of a potable water system and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluid, gas or substance other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which backflow could or may occur are considered to be cross connections.

### 2.10 CROSS CONNECTIONS – CONTROLLED

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

### 2.11 CROSS CONNECTION – CONTROL BY CONTAINMENT

The term “service protection” shall mean the appropriate type or method of backflow protection at the service connection, commensurate with the degree of hazard of the consumer’s potable water system.

### 2.12 HAZARD, DEGREE OF

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

#### 2.12.1 HEALTH – HAZARD

A cross connection or potential cross connection involving any substance that could, if introduced in the potable water system, cause death, illness, spread disease, or have a high probability of causing such effects.

#### 2.12.2 HAZARD – PLUMBING

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

#### 2.12.3 HAZARD-NONHEALTH

A cross connection or potential cross connection involving any substance that generally would not be

a health hazard but would constitute a nuisance or be aesthetically objectionable if introduced into the potable water system.

#### 2.12.4 HAZARD – SYSTEM

An actual or potential threat of severe damage to the physical properties of the public potable water system or the consumer's potable water system or of a pollution or contamination that would have a protected effect on the quality of the potable water system.

### 2.13 INDUTRIAL FLUIDS

Any system containing a fluid or solution that may be chemically, biologically, or otherwise contaminated or polluted in a form or connection, such as would constitute a health, system, pollution, or plumbing hazard, if introduced into an approved water supply. This may include, but not limited to: Polluted or contaminated waters; all types of process waters and used waters originating from the public water system that may have deteriorated in sanitary quality; chemicals in fluid form; plating acids or alkalies; contaminated natural waters, such as wells, springs, streams, rivers, etc.

### 2.14 POLLUTION

The presence of any foreign substance in water that tends to degrade its quality so as to constitute a non-health hazard or impair the usefulness of the water.

### 2.15 WATER – POTABLE

Water that is safe for human consumption as described by the public health authority having jurisdiction.

### 2.16 WATER – NONPOTABLE

Water that is not safe for human consumption or that is of questionable quality.

### 2.17 SERVICE CONNECTION

The terminal end of a service connection from the public potable water system (i.e. where the water purveyor may lose jurisdiction and sanitary control of the water at its point of delivery to the consumer's water system). If a water meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the water meter.

### 2.18 WATER- USED

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

## SECTION 3 REQUIREMENTS

### 3.1 WATER SYSTEM

- 3.1.1 The water system shall be considered as made up of two parts: the utility system and the customer system.
- 3.1.2 Utility system shall consist of the source facilities and the distributing system and shall include all those facilities of the water system under complete control of the utility, up to the point where the customer's system begins
- 3.1.3 The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system.
- 3.1.4 The distribution system shall include the network of conduits used for the delivery of water from the source to the customer's system.
- 3.1.5 The customer's system shall include those parts of the facilities beyond the termination of the utility distribution system that are utilized in conveying utility-delivered domestic water to points of use.

### 3.2 POLICY

- 3.2.1 No water service connection to any premises shall be installed or maintained by the water purveyor unless the water supply is protected as required by state laws and regulations and this policy. Service of water to any premises shall be discontinued by the water purveyor if a backflow-prevention assembly has been removed, bypassed, or if an unprotected cross connection exists on the premises. Service will not be restored until such conditions or defects are corrected.
- 3.2.2 The customer's system shall be open for inspection at all reasonable times to authorized representatives of the Village of Avoca Water Department to determine whether cross connections or other structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, the Village of Avoca Water Department Superintendent shall deny or immediately discontinue service to the premises by providing for a physical break or separation in the service line until the customer has corrected the condition(s) in conformance with state, city, and village statutes relating to plumbing and water supplies and the regulations adopted pursuant thereto.
- 3.2.3 An approved backflow-prevention assembly shall be installed on each service line to a customer's water system at or near the property line, or immediately inside the building being served; but, in all cases, before the first branch line leading off the service line wherever the following conditions exist.
  - a. In the case of premises having an auxiliary water supply that is not or may not be of safe bacteriological or chemical quality and that is not acceptable as an additional source by the Water Department Superintendent, the public water system shall be protected against backflow from the premises by installing an approved backflow-prevention

assembly in the service line, appropriate to the degree of hazard.

- b. In the case of premises on which any industrial fluids or any other objectionable substances are handled in such a fashion as to create an actual or potential hazard to the public water system, the public water system shall be protected against backflow from the premises by installing an approved backflow-prevention assembly in the service line, appropriate to the degree of hazard.
- c. In the case of premises having; (1) internal cross connections that cannot be permanently corrected and controlled, or (2) intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not dangerous cross connections exist, the public water system shall be protected against backflow from the premises by installing an approved backflow-prevention assembly in the service line at the terminal end of the service connection, appropriate to the degree of hazard.

3.2.4 The type of protection assembly required under Subsection 3.2.3 a, b, and c shall depend upon the degree of hazard that exists as follows.

- a. In the case of any premises where there is an auxiliary water supply as stated in Subsection 3.2.3 a of this section and it is not subject to any of the following rules, the public water system shall be protected by an approved air-gap separation or an approved reduced-pressure principle backflow-prevention assembly.
- b. In the case of any premises where there is water or substance that would be objectionable but not hazardous to health, if introduced into the public water system, the public water system shall be protected by an approved double check valve assembly.
- c. In the case of any premises where there is any material dangerous to health that is handled in such a fashion as to create an actual or potential hazard to the public water system, the public water system shall be protected by an approved air-gap separation or an approved reduced-pressure principle backflow prevention assembly. Examples of premises where these conditions could exist, but are limited to, sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, mortuaries, and plating plants.
- d. In the case of any premises where there are “uncontrolled” cross connections, either actual or potential, the public water system shall be protected by an approved air-gap separation or an approved reduced-pressure principle backflow-prevention assembly at the service connection.

- e. In the case of any premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete in-plant cross connection survey, the public water system shall be protected against backflow from the premises by either an approved air-gap separation or an approved reduced-pressure principle backflow-prevention assembly on each service connection to the premises.
- f. In the case of any premises where, in the opinion of the Water Department Superintendent, an undue health threat is posed because of the presence of extremely toxic substances, the Superintendent may require air gap at the service connection to protect the public water system. This requirement will be at the discretion of the Superintendent and is dependent on the degree of hazard.