

HIGHLANDS UTILITY DISTRICT
KING COUNTY, WASHINGTON

RESOLUTION NO. 2024.01

A RESOLUTION of the Board of Commissioners of the Highlands Utility District, King County, Washington, establishing and adopting the cross-connection control program for the domestic water system of the District.

BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE HIGHLANDS UTILITY DISTRICT, KING COUNTY, WASHINGTON, as follows:

Section 1. Findings and Determinations. The Board of Commissioners (the “Board”) of the Highlands Utility District, King County, Washington (the “District”), takes note of the following facts and makes the following findings and determinations:

(a) The District was formed in 1968 and began operations in 1972, when its sewer system was put into service. Since then, the District has served approximately 110 customers in a service area of approximately 450 acres. The boundaries of the District are coextensive with The Highlands (“The Highlands”), a gated community incorporated in 1907 that is populated by private residential homes and community buildings and facilities, located in the City of Shoreline, Washington.

(b) The Highlands previously owned certain domestic water system assets, facilities, infrastructure and improvements within the boundaries of the District (“Water System”). Effective July 1, 2023, the District acquired the Water System from The Highlands and now owns, maintains and operates the Water System for the purposes, among others, “... to furnish the district and inhabitants thereof and any other persons, both within and without the district, with an ample supply of water for all uses and purposes public and private with full authority to regulate and control the use, content, distribution, and price thereof...” RCW 57.08.005(3). The District also owns, maintains and operates a sanitary sewer collection and transmission system and a stormwater collection, transmission and disposal system to promote the public health, safety and welfare and to control pollution.

(c) WAC 246-290-490 requires domestic water purveyors to adopt a cross-connection control program, the purposes of which include “... to protect the public water system, as defined in WAC 246-290-010, from contamination via cross-connections.” WAC 246-290-490(1)(c).

(d) In connection with the acquisition of the Water System, the District adopted a general comprehensive water system plan, approved by the Washington State Department of Health by letter dated June 15, 2023 and ratified by the Board on July 26, 2023, that incorporated by reference the cross-connection control policy of The Highlands, effective August 1, 2020 (“The Highlands CCC Policy”).

(e) To implement the requirements of WAC 246-290-490 and protect the public water system of the District, it is in the best interests of the District and its customers and residents to repeal and replace The Highlands CCC Policy by adopting the cross-connection control program as provided in this resolution.

Section 2. Cross Connection Control Program Adopted. The Board adopts the Cross-Connection Control Program attached as Attachment A.

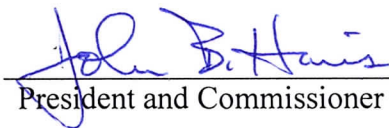
Section 3. Repealer. The Highlands CCC Policy is repealed in its entirety and has no further force or effect.

Section 4. General Authorization and Ratification. The District Administrator is authorized to take any further action necessary or advisable to implement this resolution. All actions taken prior to the effective date of this resolution and consistent with the terms of this resolution and in furtherance of the cross-connection control program adopted herein are ratified and confirmed in all respects.

Section 5. Effective Date. This resolution takes effect from and after its adoption.

ADOPTED by the Board of Commissioners of Highlands Utility District, King County, Washington, at an open public meeting thereof, this 8th day of May, 2024.

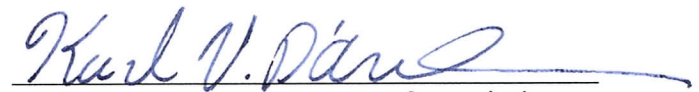
HIGHLANDS UTILITY DISTRICT



President and Commissioner



Commissioner



Commissioner



CROSS CONNECTION CONTROL PROGRAM

(Public Water System ID #32900)

May 8, 2024

PROGRAM OVERVIEW

The Highlands Utility District (HUD) is a special purpose district that operates a Public Water System (PWS) and provides drinking water to approximately 120 properties within The Highlands community. HUD operates the PWS using policies, practices and procedures that are consistent with Washington State Department of Health (DOH) and U.S. Environmental Protection Agency (EPA) requirements, as well as Washington State and federal laws.

State law grants HUD full authority to regulate and control the PWS, including to protect the PWS from contamination as a result of backflow. The Authority Having Jurisdiction (AHJ) has jurisdiction to protect consumers from potential contamination originating from sources located within a private plumbing system or within a building's premises.

HUD, as a water purveyor, is required to develop and implement a cross-connection control program under Washington Administrative Code (WAC) 246-290-490. This Cross Connection Control Program (CCC Program) is intended to reduce the risk of contamination of drinking water in the PWS by eliminating or protecting against potential hazards in the event of a backflow incident. To accomplish this, HUD provides certified trained personnel to evaluate risk factors and mandate appropriate requirements to mitigate potential hazards to the PWS. In cases where premise isolation is not present, or adequate, HUD may authorize in-premise protection until such a time adequate backflow prevention measures are provided.

"Premise isolation" is accomplished through the installation of an appropriate backflow prevention assembly installed for the sole purpose of protecting the PWS from water that has been in a customer's private service line.

"In-premise" backflow prevention measures protect a customer's private potable water lines from contamination from sources on a customer's property, for example if a customer's irrigation system is connected both to potable water and a well. In-premise backflow prevention measures must be coordinated with the AHJ and be compliant with maintenance, repair, testing and inspection requirements. HUD may elect to maintain in-premise records and communicate known compliance-related issues to the AHJ.

HUD's CCC Program is designed to protect its PWS through education, inspection, evaluation of hazards, uniform policies, clearly defined procedures, and enforcement of requirements.

DEFINITIONS AND TERMS

Approved Air Gap: A physical separation between the free-flowing end of a potable water supply pipeline and the overflow rim of an open or non-pressurized receiving vessel as approved by the Washington State Department of Health.:

Approved Backflow Preventer: An approved air gap and an approved backflow prevention assembly. The terms 'approved backflow preventer', 'approved air gap', or 'approved backflow prevention assembly' refer only to those approved backflow preventers relied upon by the purveyor for the protection of the public water system.

Authority Having Jurisdiction (AHJ): The lead agency authorized to administer and enforce the provisions of the Uniform Plumbing Code (UPC) as adopted under RCW 19.27. Within HUD's service area the City of Shoreline is the AHJ except for two properties within the City of Seattle jurisdiction.

Backflow: The undesirable reversal of flow of water or other substances through a cross-connection into the public water system, or consumer's potable water system.

Backpressure: A pressure (caused by a pump, elevated tank or piping, boiler, or other means) on the consumer's side of the service connection that is greater than the pressure provided by the public water system.

Back-siphonage: Backflow due to a reduction in system pressure in the purveyor's distribution system and/or consumer's water system.

Consumer: Any person receiving water from a PWS from a meter. For purposes of cross-connection control, "consumer" means the owner or operator of a private water system connected to HUD's water system through a service connection.

Contaminant: A substance present in drinking water that may adversely affect the health of the consumer or the aesthetic qualities of the water.

Cross-connection: Any actual or potential physical connection between a PWS or the consumer's water system and any source of non-potable liquid, solid or gas that could contaminate the potable water supply by backflow.

Cross-Connection Control (CCC) Program: The administrative and technical procedures the purveyor implements to protect the PWS from contamination via cross-connections.

Cross-Connection Control Specialist (CCS): A person with a valid Cross Connection Control Specialist certificate.

DOH: The Washington State Department of Health or health officer as identified in a joint plan of operation in accordance with WAC 246-290-030(1).

Double Check Valve Assembly (DCVA): A backflow prevention assembly, which consists of two independently acting internally loaded check valves, four properly located test cocks and two isolation valves typically required for low health hazard applications.

High Health Cross-Connection Hazard: A cross-connection which could impair the quality of potable water and create an actual public health hazard through poisoning or spread of disease by sewage, industrial liquids, or waste. Under WAC 246-290-490(4)(b)(iv), High Health Cross-Connection Hazards include premises with an unapproved auxiliary water supply interconnected with the potable water system (for example, an irrigation system that can be supplied with potable water or a well).

In-premise: means the practice of protecting the health of consumers served by a customer's plumbing system by installing an air gap or backflow prevention assembly at the point of hazard typically within the property lines or within the confines of the customer's facility.

Irrigation Systems: Water service, the sole purpose of which is to provide water to vegetation to the property or area in the right of way that it serves.

Low Cross-Connection Hazard: A cross-connection that could cause an impairment of the quality of potable water to a degree that does not create a hazard to the public health but does adversely and unreasonably affect the aesthetic qualities of potable water for domestic use.

Municipal Corporation: Municipal corporation includes state, county, cities, special purpose districts, or other units of local government which are authorized to issue obligations.

Potable: Water suitable for drinking by the public.

Premise Isolation (Service): A method of protecting a PWS from the water consumer by the installation of approved air gaps or approved backflow prevention assemblies at the point of delineation between HUD's PWS and the customer's service line or plumbing systems. (See Figure 1)

Purveyor: An agency, subdivision of the state, municipal corporation, firm, company, mutual or cooperative association, institution, partnership, person, or other entity owning or operating a PWS. Purveyor also means the authorized agents of such entities. For purposes of this CCC Program, HUD is the Purveyor.

Reduced Pressure Backflow Assembly (RPBA): A backflow prevention assembly which consists of two independently acting internally loaded check valves, a differential pressure relief valve, four test cocks and two isolation valves typically required for high health hazard applications.

Unapproved Auxiliary Water Supply: A water supply (other than the Purveyor's water supply) on or available to the consumer's premises that is either not approved for human consumption by the health agency having jurisdiction (the DOH) or is not otherwise acceptable to the Purveyor.

Uniform Plumbing Code (UPC): The code adopted under RCW 19.27.031(4) and amended under chapter 51-56 WAC. This code establishes statewide minimum plumbing standards applicable within the property lines of the consumer's premises.

Used Water: Water which has left the control of the Purveyor.

ROLES

Controlling cross-connections successfully is dependent upon the efforts of the Purveyor, the Authority Having Jurisdiction, and the Consumer.

Water Purveyor (HUD)

HUD will administer and manage this CCC Program by:

- Engaging a certified Cross Connection Control Specialist.
- Evaluation of all service connections and existing premise isolation backflow preventers.
- Determination of the appropriate premise isolation device (i.e., backflow preventer) in coordination with the CCS.
- Installation of appropriate premise isolation devices (i.e., backflow preventers) under the supervision of the Operator.
- Inspection and testing of premise isolation backflow preventers by a certified backflow assembly tester (BAT).
- Completion and submittal of the Annual Summary Report to the DOH.
- Review and maintain backflow testing reports and records.
- Completion of backflow incident reports and notification of proper authorities, such as the DOH or AHJ.

Authority Having Jurisdiction

The Authority Having Jurisdiction (AHJ) is the building official of the City of Shoreline for all properties within HUD's service area, except for two properties (Lots 29 a portion of Lot 31) that are within the City of Seattle. The AHJ approves layout drawings, equipment, and the installation of the private plumbing system to ensure compliance with plumbing, fire, and building codes.

Water Consumer

Customers are responsible for the following cross-connection control requirements:

- Responsible for 'in-premise' backflow assembly maintenance, testing and repairs. HUD recommends that all in-premise backflow prevention devices be tested annually.
- Notify HUD when an 'in-premise' assembly has been installed, moved, removed, repaired, or replaced.
- Provide HUD with access for the installation of premise isolation devices (backflow preventers).
- Provide unobstructed access for inspection, maintenance and testing purposes of premise isolation devices.

POLICY REQUIREMENTS AND PROCEDURES

The purpose of this section is to establish a uniform policy and procedure in which cross-connection control requirements are applied to reduce the threat of contamination to the PWS.

Evaluating risk of cross-connections shall be in accordance with the State of Washington Administrative Code WAC 246-290-490; and the most recent version of the *Cross-Connection Control Manual: Accepted Procedure and Practice*, published by the Pacific Northwest Section of the American Water Works Association (latest edition); and the *Manual of Cross-Connection Control*, published by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (latest edition), unless otherwise identified by HUD policy or procedures.

Metered Connections

HUD will install and maintain, including testing, all metered connections to the PWS. Each connection includes the meter and the premise isolation device (i.e., backflow preventer), if any. HUD's standard metered connection includes a DCVA backflow preventer. If a high hazard has been determined to exist by HUD's CCS, an RPBA will be installed instead of the DCVA.

Additional Hazards That Require Backflow Protection

Temporary Connection (Fire Hydrants and Water Services)

Fire hydrants are for the explicit authorized emergency use by fire department personnel. All other use shall be approved by HUD prior to such use. Temporary connections are to be metered and provided with RPBA protection.

Irrigation system connection

The use of a well of surface water, which by definition is an unapproved auxiliary water supply, for a property's irrigation purposes is considered a high health hazard. A premise isolation PRBA will be installed on properties with unapproved auxiliary water supplies which either is connected or potentially could be connected to the potable water service line.

Fire Protection System Connection

Fire Marshall approved fire protection system separate from domestic water service shall include a back flow prevention device appropriate for the approved system.

Used Water

The introduction of used water from consumer's private plumbing back into the PWS is not allowed. If used water is found to be returning to the PWS, immediate action from the property owner will be required and subject to enforcement by HUD.

Grey Water / Rainwater

No grey water or rainwater shall be allowed to be connected to any potable system that is connected to the PWS. The use of grey water or rainwater will be treated as an unapproved auxiliary water supply.

Booster Pumps

Facilities/residences equipped with a booster pump system shall be required to have the appropriate backflow protection associated with the degree of hazard on the premise, as determined by HUD's CCS. Booster pumps include, for example, premises with radiator heating systems.

Construction Water

Water used for construction purposes, as determined by HUD, is considered a high health hazard. The minimum level of protection shall be a RPBA.

Backflow Incident Response Procedure

The District may investigate potential backflow incidents and take appropriate immediate corrective action to protect the PWS. In such incidences, HUD personnel will complete an incident investigation and consult with the DOH. HUD may initiate other appropriate measures and actions as deemed appropriate. The following outlines the response measures to a backflow incident.

1. Investigate and isolate the source of the problem and take corrective action.
2. Contain extent of affected area.
3. Notify the King County Department of Health.
4. Notify all affected customers of the incident and give instructions to boil water that is being used for consumption and cooking or issue a no use warning.
5. Notify appropriate AHJ and affected parties.
6. Confirm that all backflow devices are tested to confirm their working order.
7. Conduct a cross-connection audit of facility to reassess the need for additional backflow protection.
8. Flush all affected water facilities and internal plumbing of affected area to remove contaminants.
9. Analyze water quality around isolated area to ensure contamination was contained.
10. Coordinate with AHJ if internal plumbing to any facility is affected by the backflow incident.

MANAGEMENT OF FILES AND DATABASE RECORDS

The management of files and records is a key component in the administration of HUD's CCC Program. Files are maintained electronically or in hard copy format. HUD maintains testing records of each device for five years or the life of the device, whichever is shorter. HUD will complete and deliver the Annual Summary Report (ASR) to the DOH.