

COUNCIL POLICY

TITLE:	Backflow Prevention
EFFECTIVE DATE:	1 June 2019
REVIEW DATE:	1 June 2024
FILE REFERENCE:	40400

1. BACKGROUND

Within a water distribution system, circumstances can occur where backflow results in drinking water becoming contaminated. Water suppliers have an obligation to ensure that the actions of any one customer do not have an adverse effect upon others through the contamination of water supplies. The water supplier must therefore have clear policies on backflow prevention at the boundary between the water mains or aquifers and customers' plumbing systems.

Backflow can occur when the pressure in a customer's system exceeds the pressure in the supply system, either because of increased pressure in the customer's system (back pressure) or reduced pressure in the supply system (back siphonage), for example due to a mains break or pump failure.

2. POLICY OBJECTIVES

The objective of this policy is to protect Council's drinking water supply from potential contamination caused by backflow.

3. PRINCIPLES

The principles of back-flow prevention are described in the New Zealand Water and Wastes Association "Backflow Prevention for drinking water suppliers - Code of Practice 2006". The applicable principles are as follows:

- The protection of public health through the installation and the monitoring of **containment devices** is a primary responsibility of all **water suppliers** who supply water to customers.

- The **water supplier** is responsible for ensuring that the actions, deliberate or accidental, of any one **customer** do not have the potential to have an adverse effect on other **customers** through the contamination of water supply mains.
- The **water supplier** shall be proactive in determining what **customers** pose significant risks to the integrity of the mains water supply.
- The **water supplier** shall ensure those involved in the specifying; installation and monitoring of **backflow** devices are appropriately trained to carry out their work.
- The **water supplier** shall have clear policies on **backflow** prevention, which are easily understood by its **customers**.

4. DEFINITIONS

Backflow means a flow that is contrary to the normal intended direction of flow. In this policy it refers to flow from the customer's premises back into a common or public water supply.

Backflow prevention device means a device to prevent backflow as defined in AS/NZS 2845.1. These include:

- dual check valves (non- testable);
- air gap devices (verifiable);
- double check valves (testable); and
- reduced pressure zone devices (testable).

Back pressure refers to a situation where the pressure in the downstream (customer's) plumbing is greater than the pressure in the water supplier's mains resulting in a reversal of normal flow direction and thereby possible contamination of the mains water.

Back siphonage refers to a situation where the pressure in the water supplier's main is less than the pressure in the downstream (customer's) plumbing resulting in a reversal of normal flow direction and potential contamination of the mains water by water being sucked back into the water supplier's main.

Boundary means at or near the point of supply as defined by the water supplier, usually as close as is practical to the property boundary.

Common or public water supply means any water supply system that serves individual customers from a common system. In this policy it refers to the Council owned water supply network.

Customer refers to the owner or occupier of the property who is responsible for the purchasing and use of water supplied.

Water supplier means any organisation defined as a drinking water supplier in the Health (Drinking Water) Amendment Act 2007 (see Section 7e) that supplies water to

another organisation or individual customers. In this policy it refers to the Kawerau District Council.

5. SCOPE

This policy covers the potable water supply network operated by the Kawerau District Council.

This policy does not cover any private water supply network or a networks not owned or operated by the Kawerau District Council.

This policy addresses only “boundary” backflow prevention designed to protect the public water supply from contamination as provided for in the Health Act 1956 Section 69.

The presence of any on-property backflow prevention devices that may be required under the Building Act 2004 and the Building Code, does not alter the requirement for Council as a water supplier to ensure that appropriate boundary backflow prevention is provided and maintained.

6. POLICY STATEMENT

This policy allows the Kawerau District Council:

- To assess risks and consider appropriate backflow systems for every existing premise including the fitting of backflow preventers at the point of supply.
- To install appropriate non-testable backflow prevention devices at the point of supply for all new connections identified as a low risk.
- To install appropriate non-testable backflow prevention devices at the point of supply for all existing connections identified as a low risk when the connecting reticulation is replaced or repaired.
- To install and maintain appropriate testable backflow prevention devices at the point of supply for all connections identified as having medium or high backflow risk.
- To inspect identified properties and water connections at appropriate intervals in order to assess and evaluate backflow risk and the on-going appropriateness of existing backflow prevention systems if any.
- To require the owner of the property or the water account holder in respect of which the backflow prevention device operates, to pay the cost of installation as a lump sum.
- To maintain a register of all backflow prevention devices.

- To maintain all backflow prevention device according to an asset management plan.
- To test each testable backflow prevention device at least annually.
- To recover the cost of maintenance and annual testing of testable backflow prevention devices from the property owner or water account holder by means of an annual targeted rate or an adjustment to the existing targeted rate.

6. RELEVANT DELEGATIONS

The Manager Operations and Services has responsibility for the implementation of this policy.

7. REFERENCES AND RELEVANT LEGISLATION

Several pieces of legislation underpin the importance of backflow prevention including:

a) Health Act 1956 Section Z

Require water suppliers to prepare and implement Water Safety Plans (WSP's) for all water supplies. WSP's identify all potential risks to water supplies, and plans/actions for their mitigation. Backflow is one of these risks.

b) Health Act 1956 Section 69ZZZ

Allows water suppliers to install backflow prevention systems at the point of supply ('boundary' backflow prevention), or alternatively allows water suppliers to approve a property owner to install such backflow prevention systems with certain conditions.

Allows water suppliers to require property owners to reimburse the supplier for the cost of the backflow prevention system.

Requires water suppliers to test boundary backflow prevention systems annually.

Allows water suppliers to require property owners to pay for the cost of such annual testing.

c) Health Act 1956 Section 23

Requires local authorities to improve, promote and protect public health within their districts, including the making of bylaws for the protection of public health.

d) Building Act 2004

Requires non-residential buildings to have an annually renewable Building Warrant of Fitness which ensures that specified systems installed within the building, including backflow prevention devices, are performing as they should.

Calls upon the Building Code for minimum compliance standards for backflow prevention within properties.

e) Health (Drinking Water) Amendment Act 2007

The Health (Drinking Water) Amendment Act requires a water supplier to determine when it is desirable or necessary for backflow protection to be used to protect water supplies.