

Council Policy

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| Policy Title: | Boundary Backflow Prevention Policy 2019 | | |
| Responsibility: | Environmental Manager | | |
| First Adopted: | June 2019 | | |
| Review Frequency: | Three yearly, or as otherwise required | | |
| Last Reviewed: | June 2019 | | |
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1 Policy Objectives

- 1.1 Council has a responsibility to protect potable water supplies from risks that may affect public health. Backflow has been identified as a risk to Council water supplies. This policy seeks to mitigate this risk by setting out:
- The measures Council will take to reduce the risk of backflow to the water supply network and thus protect the water supply from contamination.
 - Who is responsible for the installation of appropriate backflow prevention devices at the point of supply and ongoing maintenance and testing.
 - Who bears the cost of mitigating risk of backflow.

2 Definitions

- 2.1 **Backflow:** The unplanned reversal of flow of water or mixtures of water and contaminants into the water supply system.
- 2.2 **Backflow prevention device:** A device to prevent backflow as defined in AS/NZS 2845.1: 2010 Water Supply: Backflow Prevention Devices.
- 2.3 **Independently Qualified person (IQP):** A person (or firm) approved by Council as qualified to inspect, maintain and report on backflow prevention devices.
- 2.4 **RDC:** Ruapehu District Council.
- 2.5 **Water Supplier:** An organisation defined as a drinking water supplier in the HDWA Act that supplies water to another organisation or individuals.

3 Principles

- 3.1 The principles relating to management and protection of Council water supplies that underpin this policy are:
- Multiple barriers are maintained, from water supply catchment to tap, to prevent against contamination of the water supply.
 - A preventative risk management approach is to be taken to protect the public against waterborne illnesses.
 - A proactive approach is used to determine which customers might pose significant risks to the integrity of the water supply and ensure that risks are mitigated.
 - Policies are clear and easily understood by customers.

4 Background

- 4.1 The supply of safe drinking water to communities is one of the essential services Council supplies. Council is required by law to assess the need for and provide water services and has a duty to improve, promote and protect public health.
- 4.2 The Health Act 1956 sets out requirements for the supply of adequate water supplies for communities, provides for bylaws to protect public health and states the penalties and offences for parties that pollute drinking water. It also has provisions which help protect water supplies from backflow and requires every drinking water supplier to prepare and implement a water safety plan¹. Water Safety Plans must cover backflow prevention.
- 4.3 Backflow can occur because of a pressure change in the water supply system allowing water to flow backwards and enter the network. If this occurs and there are contaminants in the backflow the safety of drinking water may be compromised.
- 4.4 Backflow can also occur within buildings and can be a risk to occupants. Prevention is required by the New Zealand Building Code². Internal backflow is the responsibility of the property owner. The Building Code requires backflow prevention devices to be placed close to the potential source of contamination. While this may mitigate risks to backflow into the public water mains, it is not necessarily a replacement for backflow prevention devices at the boundary.
- 4.5 RDC has provisions in its Water Supply Bylaw to protect against backflow contamination. The Bylaw places responsibility on the customer to prevent backflow by installing appropriate devices and allows Council to install a backflow prevention device at its discretion, and at the customers cost, if the customer cannot show that risk of backflow is adequately managed.
- 4.6 However, Council has recognised that backflow prevention protection management and enforcement is currently limited³ and that backflow containment devices at the property boundary are not stringently enforced for high and medium hazard risk properties. In addition it does not have a proactive backflow programme.
- 4.7 This policy is intended to provide clarity about the backflow prevention requirements of Council at the boundary and the actions Council will take to reduce the risks of contamination of the water supply.

5 Policy Statement

5.1 GENERAL REQUIREMENTS FOR BACKFLOW PREVENTION

- 5.1.1 RDC is responsible for the management and prevention of backflow at the property boundary to protect the water supply network. To minimise the risk that the water supply becomes contaminated, Council's policy is that there is an appropriate level of backflow prevention provided on all water connections. Backflow prevention devices should be installed as follows:

¹ Sections 69Z and 69ZZZ of Health Act 1956

² Clause G12 Water Supplies (specifically G12.3.5) of the Building Regulations 1992

³ Water Supply Asset Management Plan 2018-28, Part 3, page 67

- (a) All new connections to RDC's water supplies will require backflow prevention at the point of supply.
- (b) Existing domestic use connections without backflow prevention in place will have a backflow device installed by Council.⁴
- (c) Existing non-domestic connections, without adequate backflow prevention in place (as determined by RDC) must install or upgrade backflow prevention devices. Installation and upgrading will be prioritised according to potential risk.

5.2 DETERMINATION OF RISK AND BACKFLOW PREVENTION DEVICE REQUIREMENTS

5.2.1 The type of backflow device will be determined by Council based on risk posed by the activity on the property. Council will assign one of three levels of risk to new and existing properties:

| Hazard Level | Description ⁵ | Device required as a minimum ⁶ |
|--------------|---|--|
| High | Any condition, device or practice which in connection with the potential to cause death. | Reduced pressure backflow prevention device. |
| Medium | Any condition, device, practice which, in connection with the potable water supply has the potential to injure or endanger health. | Reduced pressure backflow prevention device. Testable double check valve. |
| Low | Any condition, device, or practice which, in connection with the potable water supply system, would constitute a nuisance, by colour, odour or taste but not injure or endanger health. | Testable double check valve. Air gap. Hose connector vacuum breaker. |

5.2.2 Situations in which the absence of adequate backflow prevention may create a public health risk are included in Water Supplies, and NZ Drinking Water Standards Water Safety Plan Guide Distribution System – Backflow Prevention version 1, Ref 2,4 Risk Assessment Table⁷. This document may be taken as a guide by Council when assessing the risks to the water supply.

5.2.3 Council may re-categorise risks for properties if it can be demonstrated that other appropriate risk mitigation measures are in place.

5.2.4 A programme of investigation will be progressively undertaken by Council to assess all existing connections. Council will notify the property owner if a device needs to be installed or a device needs to be upgraded.

5.2.5 Where a high or medium risk hazard is identified in relation to an existing property and a backflow prevention device must be installed or upgraded, the timeframe for completing the work is as follows:

| Hazard level | Timeframe |
|--------------|---|
| High | Within three months of advice being received from Council |
| Medium | Within six months of advice being received from Council |

⁴ Council is progressively replacing all residential tobys with Accuflo tobys or similar devices. These contain a single backflow check valve and are sufficient to meet Council's obligations for backflow for residential properties without swimming pools or spas.

⁵ Definitions from Acceptable Solutions and Verification Methods For New Zealand Building Code Clause G12 Water Supplies

⁶ From WSP Guide

⁷ The risk rankings in the guide are modified from information contained in table E3 of AS/NZS 3500in

5.3 RESPONSIBILITIES FOR BACKFLOW PREVENTION DEVICES FOR NON-DOMESTIC CONNECTIONS

- 5.3.1 It is the customer's responsibility to install, maintain and test all backflow prevention devices as may be required by the relevant Acts, Regulations, Bylaws and policies.
- 5.3.2 The customer shall ensure that the backflow devices installed meet the current standards including AS/NZS 2845.1 Water Supply: Backflow Prevention devices: Materials, Design and Performance Requirements.
- 5.3.3 The backflow device must be inspected and certified by an Independently Qualified Person following installation and the results sent to Council.
- 5.3.4 Under the Building Act 2004 all internal backflow preventers are tested by an IQP. This will normally be part of the building's Compliance Schedule and submitted to Council as part of the annual building warrant of fitness.
- 5.3.5 Boundary devices that are not part of the building compliance schedule shall be tested annually by an IQP. The results of the test must be submitted to Council.
- 5.3.6 The customer shall be responsible for the payment of all fees and costs associated with permits, installation, maintenance, testing or removal of devices as may be required.

5.4 UNMANAGED RISK

- 5.4.1 Council may install a backflow prevention device at its discretion, and at the customers cost if the customer cannot show that risk of backflow is adequately managed.
- 5.4.2 Council may install a backflow prevention device at its discretion if it is efficient, and in the public interest, for Council to do so as part of its plans to upgrade or maintain network infrastructure.
- 5.4.3 Council may undertake the testing of boundary devices and recover the cost from the consumer if this is deemed necessary to manage risk.

5.5 REGISTER

- 5.5.1 Council will develop a register of backflow prevention devices that have been put in place in all high and medium risk properties as a minimum. The register will record the type of device, its location and the results of all tests undertaken on the device.

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| 6 Annotations |
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| Date | Description |
|-------------|-----------------------------|
| June 2019 | Policy adopted (doc 710035) |
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