





## Murrumbidgee COUNCIL

# BACKFLOW PREVENTION POLICY

	Name	Position	Signature	Date
Responsible Officer	Johann Pereira	Operations Manager		7/05/19
Authorised By	John Scarce	General Manager		30/4/19

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## BACKFLOW PREVENTION POLICY

### Purpose

This policy has been developed to protect Murrumbidgee Council's potable water supply and deals with the prevention of backflow of water from customer's connections back into Murrumbidgee Council's potable water reticulation system.

### Objective

The objective of this Policy is to:

- Provide clear guidelines to assist Council staff in making determinations relating to protecting the potable water supply via backflow prevention.
- Provide information to members of the public, plumbers and other stakeholders about the selection and installation of backflow prevention devices and the Council's role in backflow prevention.
- Ensure that non-complying properties are brought into line with the requirements of this Policy, Plumbing Code of Australia and the Australian Standard AS 3500
- Ensure containment devices are provided and that these devices are equal to or greater than the downstream hazard.
- Ensure annual testing is carried out by a qualified person and its results added to the Council backflow register.
- Investigate non-compliance and ensure enforcement of this policy.

### Scope

This policy applies to all new and existing customers and properties connected to, or wishing to connect to, the Murrumbidgee Council's potable water supply system.

All properties must comply with the requirements of the *Plumbing Code of Australia* and *AS/NZS 3500* or this policy whichever requires the highest protection level.

### Definitions

#### Backflow

Backflow is the reverse flow of waters or other liquids from a potentially polluted source into the town's water supply. This is caused by several conditions:-

**Backsiphonage** – is where the pressure in the reticulation system becomes less than atmospheric. It causes water from connected properties to flow backwards into the town's supply, eg watermain break.

**Backpressure** – is when the consumer's water pressure is greater than the pressure in the town's water supply.

**Cross-connection** – is a direct or indirect physical connection of a potable water supply to a line that is non-potable, eg town water supply to a rain water tank or bore.

#### Hazard Ratings

**High Hazard** - Any condition, device or practice within the water supply system and its operation, which has the potential to cause death.

**Medium Hazard** - Any condition, device or practice within the water supply system and its operation, which could endanger health.

**Low Hazard** - Any condition, device or practice within the water supply system and its operation, which would constitute a nuisance but not endanger health.

**Testable Device**

Any backflow Prevention Device that is provided with test taps for the purpose of testing its operation, and a registered break tank; or a registered air gap.

**Qualified Person**

A person who has undertaken accredited backflow training from a registered training organisation.

**Background**

Murrumbidgee Council as the supplier of potable water to the public must ensure that it meets its obligations under the Australia Drinking Water Guidelines and Murrumbidgee Council's Drinking Water Management Plan to provide safe drinking water to customers. Council ensures this by protecting the water supply system from contamination or pollution. With this in mind Council is undertaking to make all new and existing water connections compliant with the Local Government Act , Plumbing Code of Australia and Australian Standards.

**Council Responsibilities**

- Council shall install non-testable backflow prevention devices on new residential water services up to and including 25mm services. If so determined, the property owner may be responsible to provide a higher level of backflow protection under the Plumbing Code of Australia (PCA), and AS/NZS 3500
- Council shall endeavour, when replacing meters or undertaking maintenance work, to install a non-testable backflow prevention device on existing water services where one is not already fitted. This is up to and including 25mm services only. If so determined , the property owner may be responsible to provide a higher level of backflow protection under the Plumbing Code of Australia (PCA), and AS/NZS 3500.
- Council shall inform and educate consumers of the risks and hazards associated with backflow contamination, particularly consumers that require a higher degree of backflow prevention (i.e. other than a non-testable backflow prevention device).
- Council shall provide relevant training to staff to:
  - Identify potential hazards regarding backflow contamination;
  - Install, commission and maintain backflow prevention devices; and,
  - Advise and educate consumers of the risks and hazards associated with backflow contamination.
- Council will advise customers of the date when the device must be tested and test results must be forwarded to Council within 10 working days of testing the backflow prevention device.
- Council reserves the right to refuse water supply (under the Local Government Act) to new and existing water services that do not comply with Council's Backflow Prevention Policy.

## **Customer Responsibilities**

- Installation of appropriate backflow prevention devices, including containment protection on their property, that has a high or medium hazard rating.
- Ensuring the type and installation of backflow prevention devices that are to be installed on properties are in accordance the Plumbing Code of Australia and AS/NZS 3500
- Ensuring satisfactory operation of all registered backflow devices
- Ensuring annual testing of all registered backflow devices by a licensed plumber with appropriate backflow accreditation in accordance with the Plumbing Code of Australia, AS/NZS 3500 and Plumbing and Drainage Act 2011.
- Ensuring testable backflow prevention devices that are to be commissioned and tested are done so by a licensed person with appropriate backflow prevention accreditation. The testable device must be registered with Council.
- Backflow prevention devices for irrigation and watering systems shall comply with the Plumbing Code of Australia and AS3500

## **Zone or Individual Protection**

Boundary containment will have equal or higher rated protection than any individual or zone requirement. A containment backflow prevention device is required regardless of zone or individual protection. As Council cannot guarantee the integrity of zone or individual protection on a customer's site, Council cannot guarantee the protection of the drinking water supply from backflow unless the site is contained at the boundary. The device to be installed on the property is determined by the hazard rating of the processes on site. If the hazard rating varies due to multiple business processes, the highest rating should be applied.

## **Cross Connection**

A hazard exists wherever it is possible for contaminants to enter a drinking water service or supply. This is via any potential cross-connection between the drinking water service and pipes, fixtures or equipment containing chemicals, liquids, gases or other substances which may be harmful to health or safety. Commercial, industrial and mixed developments can pose particular risks to public health through cross connections.

Where the hazards are unknown for a commercial, industrial or mixed development or where access for inspection is restricted, the hazard rating will be designated as High, requiring the property owner to install a testable backflow prevention device. Where multiple processes occur on a site, the hazard rating for containment should be based on the process with the highest hazard rating. In those instances where a property is served with both a drinking and non-drinking water supply, an appropriate level of backflow prevention containment should be installed.

Where, in the opinion of Council, a potential or physical cross-connection is found in the water service at any property, the property owner shall, upon written advice by Council, ensure that such a cross connection is immediately disconnected or altered to comply with Council's requirements or otherwise be removed. Failure to comply within the period nominated by the Council may result in the immediate restriction or disconnection of the property from Council's water supply.

### **Fire Services**

Separate hydrant and sprinkler services require the installation of a double check valve assembly.

On a separate hydrant and sprinkler fire service at a non-residential property, the device shall be installed close to where the water service crosses the property boundary, prior to any booster assembly.

A hydraulic design is required for any fire service assembly

- Unit demand of 4 and greater, and
- 32mm assemblies or greater.

All designs are to be submitted by a competent person (*Plumbing Code of Australia*).

Backflow prevention devices reduce pressure and must be taken into account during the design process.

### **Rainwater Tanks with Council Supply Back Up Connection**

One of the greatest risks of contamination of the drinking water supply is from cross connection with rainwater tanks. Council does not recommend consumption from rainwater tanks where a potable supply is provided.

Council does not recommend the interconnection of rainwater tanks with potable or non-potable supplies. Where interconnection does occur rainwater tanks are to have

- a dual check valve as zone and containment protection if the tank is above ground or
- a testable double check valve as zone and containment protection if fully or partially buried.

### **Testable Devices**

In some circumstances, backflow devices require annual testing to ensure that they are operating appropriately (i.e. devices containing a high hazard rating such as chemical mixing, stock drinking troughs, water tanker filling points etc).

Council will maintain a database of all registered backflow devices. All testable devices must be registered with Council, tested on installation and then annually at the owners expense.

