

BACKFLOW PREVENTION POLICY



Responsible Department: Infrastructure Delivery
Responsible Section: Water Services
Responsible Officer: Manager Water Services

Objective

The objectives of the backflow prevention policy are: -

- To separate and protect the potable water supply from real or potential hazards by the installation of backflow devices.
- To minimise cross connection and thus reduce the possibility of backflow.
- To contain any real or potential hazard within the boundaries of the consumer's property.
- To ensure that non potable water from each end user does not infiltrate the Council water supply.

Introduction

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: -

- Back siphonage – is where the pressure in the reticulation system becomes less than atmospheric, this causes water from connected properties to flow backwards into the town's supply, e.g. water main 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, e.g. town water supply to a rain water supply.

Narrabri Shire Council as the supplier of water to the public undertakes to provide safe drinking water to the consumer's property. Council ensures this by protecting the systems from contamination or pollution. With this in mind Council aims to make all new and existing water connections compliant with the Local Government Acts and Australian Standards.

Policy

Property owners are to meet the full cost of complying with this policy.

All properties must comply with the requirements of the *NSW Code of Practice for Plumbing and Drainage and AS/NZS 3500:1* or this policy which ever requires the highest protection level.

All properties within Narrabri Shire Council area that are connected to a water reticulation system require a backflow prevention device for containment at the property boundary as follows;

Domestic Services: All domestic meters will have a dual check device as a minimum requirement. These are incorporated within the water meters provided by Council for 20mm and 25mm meters, larger meters will require separate devices. All dual check valves for domestic use are non-testable.

Commercial/Industrial Services: Owners of properties with meters larger than 25mm will be required to install an appropriate backflow prevention device – usually a Dual Check Valve – **subject** to an assessment of the property's water use activities.

Hose Taps: Hose taps within 18 metres of a zone protected area within the same premises shall have a backflow protection device of the same hazard rating as the zone protection adjacent to which it is installed (*AS/NZS 3500.1*). This will mainly apply to high hazard rating areas such as chemical mixing etc. All external domestic garden hose taps are to have a vacuum breaker device (*AS/NZS 3500.1*).

The device required will be identified by the hazard rating detailed below (*AS/NZS 3500:1 Section 4 table 4.1 and table F1, F2 and F3*).

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.

Customers are responsible for arranging the installation and maintenance of the backflow prevention devices in accordance with *AS/NZS 3500:1*

The maintenance and testing of backflow prevention devices shall be carried out by authorised persons, who are accredited to carry out testing procedures *AS/NZS 3500:1* at the property owner's expense.

Zone or Individual Protection

Boundary containment will have equal to or higher rated protection than any individual or zone requirement. A containment backflow prevention device is required regardless of zone or individual protection. As Narrabri Shire Council cannot guarantee the integrity of zone or individual protection on a customer's site, we 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

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 (*Code of Practice 2.2.8*) along with Narrabri Shire Council's design/compliance certificate. Backflow prevention devices reduce pressure and must be taken into account during the design process.

Existing Properties without Backflow Prevention

In cases where Council becomes aware that an existing connection does not have backflow prevention protection Council will instruct the property owner to comply with this policy within seven (7) days of receipt of Council's notice.

If the property owner fails to comply with Council's notice, Council's plumber will enter the property, under Sections 191, 191A or 192 of the Local Government Act, and install a backflow prevention device (supplementary containment, zone or individual devices). All costs incurred by Council taking this action will be met by the property owner.

Rainwater Tanks with Council Supply Back Up Connection

The Department of Health does not recommend consumption from rainwater tanks where a potable supply is provided.

Council does not recommend the interconnection of rainwater tanks with the 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 (*Code of Practice 2.2.9*).

Standpipes

Council has a number of fixed standpipes in each township available for public use where bulk water is required directly from the main (i.e. flow rates, pressure requirements etc.).

Private non-fixed standpipes are not to be used to draw water under any circumstances. If a standpipe is required a Council employee will supply, install and monitor the water supply from a Council standpipe at the applicants cost (as per Council's published fees and charges).

Testable Devices

In some circumstances, backflow devices require annual testing to ensure that they are operating appropriately (i.e. devices containing a high hazard property 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 owner's expenses.

References

The backflow policy adheres to: -

- *Local Government Act 1993 Section 124 Order 5.*
- *Local Government (Water Services) Regulation 1999 Part 4 Clause 22.*
- NSW Plumbing & Drainage Code – Refers to part 2.2.17.
- Australian Standard AS/NZS3500:1 – Section 4.

History

MINUTE NUMBER	MEETING DATE	DESCRIPTION OF CHANGE
819/2009	15 December 2009	Adopted
26/2012	21 February 2012	Reviewed
607/2013	3 September 2013	Reviewed
167/2017	15 August 2017	Reviewed