

Water – Backflow Prevention

POLICY – WS-CP-201



Directorate	Utilities	
TRIM Ref	14/15179	
Status	Current	
Adopted	26 August 2014	Minute No: 0267

Policy Objective

To ensure the provision of safe, potable water supplies by the fitting of backflow prevention devices or by other means of preventing cross-connection of the potable water supplies with sources of other contaminants.

Griffith City Council requires the installation of backflow prevention devices at all property connections. In addition, depending on the level of hazard and risk within properties, additional prevention devices are required to prevent the contamination of potable water within the water service (i.e. zone protection). Griffith City Council reserves the right to refuse water supply (under the Local Government Act 1993) to new and existing water services that do not comply with Council's Backflow Prevention Policy.

Policy Statement

1. WHAT IS BACKFLOW PREVENTION

In the context of the potable water supply, "backflow" means the undesirable reversal of flow in water into the potable distribution and reticulation system, thereby contaminating the water supply.

Council has a duty of care to its consumers to provide a safe potable water supply. Backflow prevention is a necessary part of meeting this obligation.

Council is required to administer an ongoing backflow prevention program in accordance with the National Plumbing and Drainage Code, AS 3500.1.

2. REFERENCE DOCUMENTS

Australian Standard 3500.1-1992 and the Plumbing Code of Australia describe the requirements for device installation, licensing, testing and data recording by relevant authorities.

These Standards and Acts are:

- AS3500.1-1992 National Plumbing and Drainage Code, Part 1; Water Supply
- AS2845.1-1995 Water Supply- Backflow Prevention Devices; Part 1: Materials, design and performance requirements
- AS2845.2-1994 Water Supply- Backflow Prevention Devices; Part 2: Air gaps and break tanks.
- AS2845.3-1993 Water Supply- Backflow Prevention Devices; Part 3: Field testing and maintenance.
- Water Supply Authorities Act, 1987.

3. PREVENTION METHODS

A range of approved devices and methods exist to prevent backflow. The selection of the backflow prevention device or method depends on the degree of hazard posed by the type of property connected.

The range of devices includes:

- air gaps
- barometric loops
- vacuum breakers (both atmospheric and pressure types)
- double check valve assemblies and
- reduced pressure zone devices

As described in AS2845.1-1995, AS2845.2-1994 and AS2845.3-1993.

3.1 Identification of Hazard

AS3500.1-2003, Clause 4.3 stipulates 3 degrees of cross-connection hazard as follows:

- **High Hazard** Any condition, device or practice which in connection with the water supply system has the potential to cause death.
- **Medium hazard:** Any condition, device or practice which in connection with the water supply system could endanger health.
- **Low hazard:** Any condition, device or practice which in connection with the water supply system would constitute a nuisance but not endanger health.

Clause 4.2.1 of the Code states that all water supply systems shall be designed, installed and maintained so as to prevent contaminants from being introduced into the potable water supply system.

Table 4.1 lists the suitability of backflow prevention devices and Table 4.4 lists the hazard rating and selection of devices provided at the property boundary to protect the Authority's water supply from contamination.

4. INSTALLATION OF BACKFLOW PREVENTION DEVICES

4.1 New Water Services

All new water services are required to be fitted with backflow prevention devices or other approved methods for the isolation and prevention of cross-connection of the potable water supply with identified hazards.

4.2 Existing Low Hazard Services

These services are mostly residential connections. Low hazard devices will be progressively connected as part of the water meter installation program.

4.3 Existing High and Medium Hazard Services

These services are currently being identified in conjunction with the water meter site survey which is being carried out as part of the contract documentation for the water meter installation program.

Backflow prevention devices will then be fitted with a priority on the high hazard sites. The installation work will be done in conjunction with the meter refurbishment program where possible

5. INSPECTION OF REGISTERED BACKFLOW PREVENTION DEVICES

Generally, inspection and certification of devices shall be in accordance with:

AS2845.1-1995 Water Supply - Backflow Prevention Devices; Part 1: Materials, design and performance requirements

AS2845.2-1994 Water Supply - Backflow Prevention Devices; Part 2: Air gaps and break tanks.

AS2845.3-1993 Water Supply - Backflow Prevention Devices; Part 3: Field testing and maintenance.

5.1 Register to be maintained by Council

Council will maintain a register of all registered backflow prevention devices, air gaps and break tanks and test data.

5.2 Frequency of Inspections

Council shall endeavour to carry out inspections of all registered backflow prevention devices air gaps and break tanks at 12 month intervals.

5.3 Authorised Persons to be engaged for Testing

Testing is to be carried out by suitably qualified persons appointed by Council using approved equipment in accordance with Australian Standards.

Test results will be recorded by the authorised testing persons and a copy provided to the property owner/s.

6. FEES AND CHARGES

Council shall charge an annual fee for backflow prevention devices in accordance with the current revenue policy.

Council shall be the owner of the backflow prevention device and be responsible for the maintenance and annual testing. Maintenance and testing costs are incorporated into the annual fee.

The property owner shall be responsible for the cost of supplying the device. This cost is not an up-front charge, instead it is a component of the annual fee which is calculated on the purchase price amortised over the estimated life cycle of the device

Costs associated with damage to the backflow prevention device is covered in Council's policy *Council Responsibility – Water and sewerage services*.

7. IRRIGATION AND LAWN-WATERING SYSTEMS

7.1 Scope

Section 7 of the National Plumbing Code defines the types of irrigation systems for the purposes of backflow prevention and is adopted as part of Council's Backflow Prevention Policy.

7.2 System Types

Irrigation systems including hose tap connected systems shall be categorised as one of the following types:

- (a) **Type A systems:** All permanently open outlets and pipework more than 150 mm above finished ground level, not subject to ponding and not involving injection systems. No backflow prevention required (see Figure 7.1 of AS 3500.1).
- (b) **Type B systems** Any irrigation system in Class 1 or Class 2 buildings with pipework or outlets installed less than 150 mm above finished ground level and not involving injection systems (see Figures 7.2 and 7.3 of AS 3500.1)
- (c) **Type C systems** Any irrigation system in other than Class 1 or Class 2 buildings with pipework or outlets less than 150 mm above finished ground level and not involving injection systems (see Figures 7.4 and 7.5 of AS 3500.1)
- (d) **Type D systems** Any irrigation system where fertilisers, herbicides, nematicides or the like, are injected or siphoned into the system (see Figures 7.6 and 7.7 of AS 3500.1)

7.3 Backflow Protection Requirements

Type B, Type C and Type D irrigation systems shall be protected against backflow in accordance with Tables 4.2, 4.3 and 4.4 of AS 3500.1

7.4 Materials

All materials, valves and fittings on the upstream side of and including the last pressurised valve on each line, shall comply with Section 2 of AS 3500.1.

7.5 Irrigation Systems Diagrams

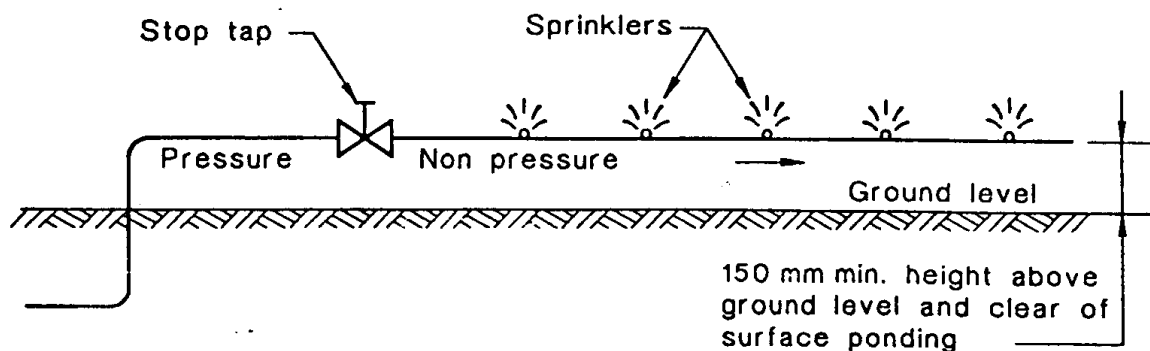


FIGURE 7.1 TYPE A SYSTEM—NO BACKFLOW PREVENTION REQUIRED

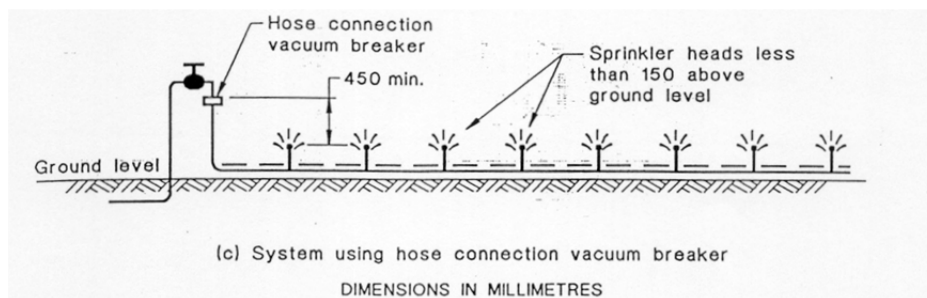


FIGURE 7.2 (in part) TYPE B SYSTEM NON-TESTABLE DEVICES—NO BACKPRESSURE

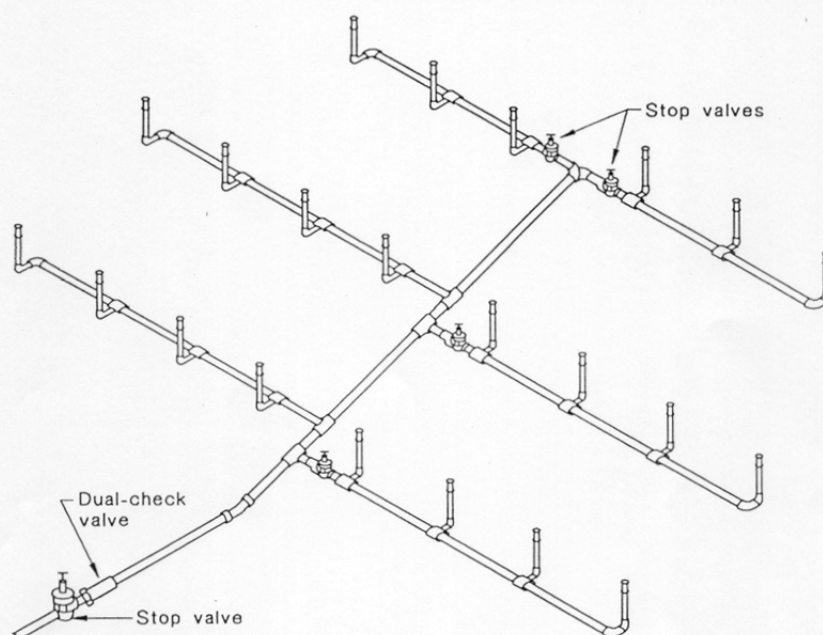


FIGURE 7.3 TYPE B SYSTEM—NON-TESTABLE DEVICES—SUITABLE FOR BACKPRESSURE

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8. ADMINISTRATION OF POLICY

The Utilities Directorate shall be responsible for the classification of the level of hazard, the installation of backflow prevention devices and creation of a register.

The Sustainable Development Directorate will be responsible for ensuring all new premises are fitted with appropriate backflow prevention devices.

The Business, Cultural & Financial Services Directorate will be responsible for collection of annual fees.

Definitions

None

Exceptions

None

Legislation

AS/NZS 3500 National Plumbing & Drainage Code
AS/NZS 2845 Water Supply – Backflow Prevention Devices
Plumbing Code of Australia

Policy Owner

Water & Sewerage

Related Documents

Policy - Council Responsibility – Utilities Directorate
Revenue Policy

Policy History

Revision Number	Date of Adoption/Amendment	Minute Number
1	28/09/97	725
2	14/01/03	25
3	11/05/10	0142
4	26/08/14	0267