

Best Practice Note: Backflow Protection Relating to Hairdressing Salons

Introduction

In accordance with the New Zealand Building Code, water from within the property must not be able to return; or 'backflow' into the Council network system. Backflow can be especially dangerous if there is a cross connection between a drinking water supply and a source of contamination or pollution. Buildings with potential hazards must have adequate backflow prevention.

This guidance provides information about backflow protection to hairdressing salons in relation to the requirements of G12 of the Building Code and to Palmerston North City Council's infrastructure to ensure that water for human consumption is protected from contaminated water.

Note: This guidance does not apply where only hair cutting is being undertaken; in which case no hair dressing wash-hand basins are on site and no mixing of chemicals in sinks is undertaken.

What is backflow protection?

Backflow protection applies to contamination of potable water from an outside source or from cross contamination from a potable water supply and a non-potable water supply system.

This is stated in three cross connection hazards;

- High hazard (potential to cause death)
- Medium hazard (potential to injure or endanger health)
- Low hazard (constitutes a nuisance, by colour, odour or taste, but does not injure or endanger health)

Requirements:

Boundary watermain connection;

To prevent contaminated water from commercial and residential hair salons entering the Palmerston North City Council water supply as per the requirements of Council's Infrastructure Policy, a testable RPZ valve must be installed at the boundary. The backflow valve must be protected in the form of a cage around the valve or a heavy-duty plastic box in accordance with PNCC Infrastructure guidelines.

Where a hairdressing salon is in a separate tenancy, as in the Plaza or a similar set-up; high hazard protection must be installed on the incoming water main into the tenancy either from

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the Council main or the internal watermain in the complex. This will include from the RPZ valve. The relief drain must also be directed to a suitable outlet.

Back flow in property:

Within the area of the hairdressing salon where there is a sink used for chemical mixing; this must be protected to meet the requirements of 'high hazard'.

Hairdressing basins must meet the requirement of 'medium hazard'.

In each case both hot and cold-water supply must be protected.

The protection device must be in a location suitable to access for testing and all of the above must be shown on the documents / plans submitted with the building consent application.

Design for backflow protection:

The following are requirements for protection of potable water;

- **High hazard** can be achieved with an RPZ valve. The relief valve outlet drain for the RPZ valve must be sized suitably for full flow to provide protection if the valve fails. An air gap with the taps spout outlet above the sink bowl by a minimum of 25mm will achieve high hazard requirements. If the tap spout has a threaded ferul then an RPZ valve or vacuum breakers will be required on the taps. As per the Building Code, an RPZ valve at the boundary requires the relief drain from the valve to be 300mm above surrounding ground level, and suitable protection must be provided.
- **Medium hazard** can be achieved by an inline testable double check valve, an RPZ valve, air gap, pressure type vacuum breaker, or an atmospheric vacuum breaker.
- **Low pressure** can be achieved by any of the above means.

Note: All Backflow valves (RPZ, testable double check valves) must be fitted with isolating valves each side of the backflow valve with a line strainer prior to the backflow valve.

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References:

NZ Building Code G12 Water Supplies
NZ Building Code G13 Foul Water
AS/NZS 3500.1:2018 Part 1 Water Services
Ministry of Health, Water Safety Plan Guide 2014
AS 2845: Part 3:1993 Field testing and maintenance