

Australian/New Zealand Standard

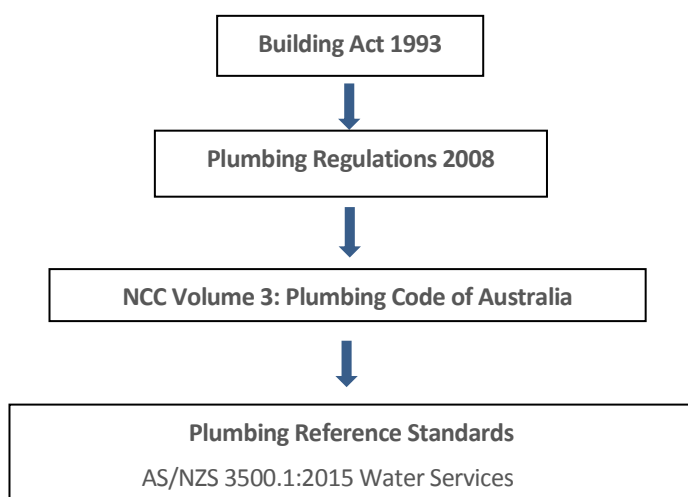
Plumbing and drainage - Part 1: Water Services

UPDATED AS/NZS 3500.1:2015

What is the scope of this Standard?

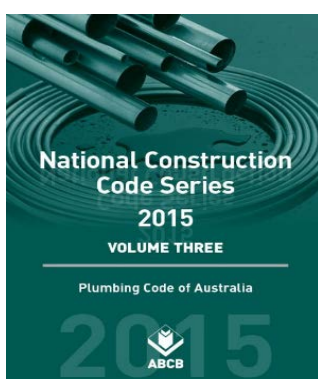
This Standard sets out “the design, installation and commissioning of cold water services”. It covers the installation from “the point of connection to the points of discharge and non-drinking water from a point of connection to the points of discharge”. It applies to all “new installations as well as alterations, additions and repairs to existing installations”.

Victorian Plumbing Regulatory Framework



Where is AS/NZS 3500.1:2015 called up?

National Construction Code Series - Volume 3
Plumbing Code of Australia (PCA)



- *PCA Part A3.1: Schedule of referenced documents.* **AS/NZS 3500.1:2015** is automatically adopted under *Plumbing Regulations 2008, Regulation 9 (2) Modifications to the PCA*¹.

- *PCA Part B1.2 Cold Water Services - General Requirements*

The design, construction, installation, replacement, repair, alteration and maintenance of *cold water services* must be in accordance with— **AS/NZS 3500.1**.

- *PCA Part B3.2 Non-Drinking Water Services – General Requirements*

The design, construction, installation, replacement, repair, alteration and maintenance of a *non-drinking water service* must be in accordance with— **AS/NZS 3500.1**.

- *PCA Part B4 Fire-Fighting Water Services – B4.2 General Requirements*

The installation of a fire-fighting water service must be in accordance with **AS/NZS 3500.1**.

- *PCA Part E1 Heating, Ventilation and Air Conditioning Systems – E1.2 Deemed-to-Satisfy Provisions General Requirements*

The design, construction, installation, replacement, repair, alteration and maintenance of mechanical ventilation and air-conditioning equipment systems must be in accordance with...**AS/NZS 3500.1**.

¹ The Victorian Plumbing Regulations 2008 can be found on the VBA website:

<http://www.vba.vic.gov.au/practitioners/legislation>

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Plumbing Code of Australia (PCA)

Victorian Variations

The Victorian *Plumbing Regulations 2008* requires practitioners to follow all mandatory requirements contained in **AS/NZS 3500.1:2015**. In addition to this there are specific variations that are not found within the Standard. These variations are contained within the PCA and have been reproduced in full in the information sheet in the Green text boxes.

All Clause reference numbers in green text are from **AS/NZS 3500.1:2003**.

AS/NZS 3500.1:2015 is part of the **AS/NZS 3500 Plumbing and drainage** suite.

Australian/New Zealand Standard™

Plumbing and drainage

Part 1: Water services

Publication Date

30 June 2015 (replaces **AS/NZS 3500.1:2003**)

Class of plumbing work affected

- Water supply work
- Sanitary work

Changes and Impact

The Standards Australia Committee has updated **AS/NZS 3500.1** to bring it into line with Australian Building Codes Board (ABCB) protocol for referenced documents and to improve the technical content. Major changes from the updated 2015 version include, but are not limited to, the following:

- The removal of references to manufacturer's specifications, qualified, competent people or engineers.

- Deleting and renumbering of Sections and Clauses.

NOTE: To avoid confusion over which Clause is discussed below, the version of AS/NZS 3500.1 that each Clause is taken from is indicated in brackets: (2003) or (2015).

Preface

In line with the changes made to the revised versions of the **AS/NZS 3500** series, **AS/NZS 3500.1** has deleted all specific requirements for practitioners to follow "manufacturer's instructions". Every Clause that required practitioners to follow manufacturer's instruction has been rewritten.

For example, *Clause 4.6.1 (g) Installation of backflow prevention devices – General Installation Requirements (2003)* required that practitioners install backflow prevention devices according to "the manufacturers written instructions". This requirement is no longer Normative.

However, the revised **AS/NZS 3500.1:2015** encourages practitioners to follow manufacturer's instructions to ensure:

- "the material or product is fit for the application;
- the performance of the system is not degraded;
- the durability of the material or product is not impaired; and
- the manufacturer's warranty remains valid."

Section 2 Materials and Products

Clause 2.2 Authorisation

Reference to the WaterMark Scheme has been removed as it now contained in the PCA. However, **Part A2 Acceptance of Design and Construction** of the PCA still requires practitioners to install WaterMark certified

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products.

Section 3 Sizing of Water Services

Clauses 3.2.3.1 Single dwelling & 3.2.3.2 Multiple dwellings. (2003)

These Clauses have been deleted.

Instead both Tables have been altered to allow practitioners to precisely calculate:

- The Probable Simultaneous Demand (PSD) for Single or Multiple Dwellings; and
- The Probable Simultaneous Flow Rates (PSFR's) for Single or Multiple Dwellings.

The flow rate units and loading units remain the same.

Section 4 Cross Connection Control and Backflow Prevention

Clause 4.2.5 Alternative Water Supplies (2003)

Clause (A) (ii) that required practitioners to seek authorization from the “responsible regulatory authority” as part of installing any system where “water supplied from one source” that is connected “to another source” has been deleted.

Section 5 Installation of Cold Water Services

Clause 5.9.3 Construction of thrust blocks (2003)

The requirement to place thrust blocks according to the “design instructions and in conjunction with a qualified soil engineer” has been deleted.

Practitioners are now required to follow the prescribed installation outlined in **AS/NZS 3500.1**.

Clause 5.15 Pipes in Water Charged or Filled Ground (2003)

The Clause has been re-drafted. There is no

longer a Deemed-to-Satisfy solution provided for installing pipes greater than DN 40. Installations of DN 40 or greater installed according as an Alternative Solution to meet the Performance Requirements of the PCA.

Section 6 Fire Services

Clauses 6.5 Metering of Fire Hydrant or Sprinkler Service (2003)

This Clause has been deleted as it references network utility operators. For information on metering of hydrant/sprinkler systems refer to your Network Utility Operators Guidelines on metering.

Clause 6.7 Pressure Reduction (2003)

This Clause has been deleted. However, practitioners should ensure that fire service systems are not subjected to excessive pressure. See Section 18 of AS/NZS 3500.1:2015

Section 9 Non-Drinking Water Services

Clause 9.2 General (2003)

The paragraph requiring practitioners to avoid installing “non-drinking water services” where they may contaminate drinking water has been deleted.

However practitioners are still required under the PCA **Part B3 Non-Drinking Water Services** to:

“Avoid the likelihood of contamination of drinking water”.

However, the second paragraph that required practitioners to reference the “local supplier, the health authority and the environmental protection authority for the requirements” has been made advisory.

Plumbing Code of Australia (PCA)

Victorian Variations

Clause 9.5.2.3 External hose tap outlets other than those installed as part of a fire service

External hose tap outlets shall comply with the following:

- (b) be of a type that has a removable handle;
- (d) they shall have a non-standard inlet connecting thread and a standard hose connection outlet.

Section 9A Treated Greywater Services (2003)

This Section has been renumbered *Section 10 Treated Grey Water Services*

Clause 9A.2 General (2003)

This Clause has been deleted. However, practitioners must still abide by the conditions demanded by the Environmental Protection Authority (EPA) and the requirements of the local council. These are available from Council offices and on the EPA's website:

<http://www.epa.vic.gov.au/our-work/publications/publication/2013/february/891-3>

The VBA has also produced **Technical Solution Sheet 91.04: Grey or Recycled Water**.

Clause 9A.4 Protection of other water supplies from treated greywater (2003)

The specific requirement to install "backflow protection" to prevent potential contamination of "another supply" that is

augmenting treated grey water supplies has been deleted.

However, under the PCA's **Part B3 Non-Drinking Water Services** practitioners must still:

"Avoid the likelihood of contamination of drinking water".

The VBA reminds practitioners to install back flow prevention devices as the safest and most reliable method of achieving this outcome. Complying with sections 4 and 9 of AS/NZS 3500.1:2015

Section 10 Water for Sanitary Flushing (2003)

This Section has been renumbered *Section 11 Water for Sanitary Flushing*

Clause 10.3.1 Flushing volumes (2003) & Clause 10.3.2 Performance compatibility of cisterns and pans (2003)

Table 10.1 Manual Type Urinal Cisterns has been deleted.

These Clauses have been deleted. Practitioners must consult **Section 2 of AS/NZS 1172.2:2014 Flushing devices and cistern inlet and outlet valves** to establish the compatibility and appropriate flushing volume for the cistern.

Clause 10.6.5 Urinal type flush valves (2003) & Table 10.3 Flush Valve (2003)

Table 10.3 has been deleted and Clause 10.6.5 to become 11.6.5 of AS/NZS 3500.1:2015 has been rewritten. The requirement that "The discharge of water from a flush valve shall be not more than 2.5 L for each separate urinal stall" has been deleted. It has been put into Table 11.7 for the plumber to calculate.

Section 13 Water Meters (2003)

This Section has been renumbered *Section 15 Water for Sanitary Flushing*

Clause 13.2 (d) Location of Water Meters (2003)

There is no longer a requirement for water meters to be located on the property contained within the Standard.

Practitioners should consult the *Water Metering and Servicing Guidelines* published by the relevant Water Authority.

The VBA strongly encourages practitioners to consult the complete standard in order to ensure they comply with all Deemed-to-Satisfy requirements.

The full text of AS/NZS 3500.1:2015 can be found at the SAI Global website:

<http://www.saiglobal.com/>