AHSCA QLD

MARCH 2023

Wednesday 28TH MARCH 2023

OLD BUT STILL VALID

Stage 1 – Building and Development Certifiers Act 2018

From **1 July 2020**, Design and Building Practitioners working on all class's(except houses) of buildings needed to be registered as Fire Practioners

FIRE SERVICES – ALL BUILDINGS

Changes were made to the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 in December 2022

Soon to be in Force

FIRE INSTALLATION AND TESTING OF FIRE SERVICES

13 February 2025, or
18 months after an accreditation scheme is approved (whichever occurs first).

Building owners required to use accredited person(s) to certify installed fire safety measures.

NSW GOVERNMENT Fair Trading

Building Professionals Board

Certificate of Individual Accreditation

This is to certify that

Nicholas Alan Soden

OLD

is accredited as an accredited certifier in New South Wales under the *Building Professionals Act 2005* in the following categories as set out in Schedule 1 of the Building Professionals Regulation 2007

C14 - Accredited Certifier - Building Hydraulics Compliance
C15 - Accredited Certifier - Stormwater Compliance
C16 - Accredited Certifier - Speciality Hydraulic Services Compliance

This accreditation is subject to the conditions prescribed in the Building Professionals Regulation 2007 and the conditions contained in the attached Schedule.

Period of Accreditation: 12 March 2019 to 11 March 2020

Registration No:

NEW

NSW GOVERNMENT Fair Trading

Notice of Registration Granted

Dear Nicholas,

Your application for registration to the Design and Building Practitioner Scheme as a Design Practitioner Registration is **granted**.

Registration number:	DEP00000
Issued to:	Nicholas Soden
Approved Class(es):	Drainage Fire Systems (fire hydrant and fire hose reel)
Conditions (if applicable):	
Issue date:	01 Jul 2021
Expiry date: (unless surrendered or cancelled)	30 Jun 2026

Qualifications

~~**NSW Fair Trading Hydraulic Certifier -** BDC3280~~

NSW Fair Trading Design Practitioner no: DEP0000041

NEW SYSTEM TO EVENTUALLY REPLACE OLD IN STAGES

Stage 2a - Design and Building Practitioners Act 2020

What are the changes

Certain designs need to be declared for compliance with the Building Code of Australia and other relevant standards before building work can start, and declared designs will need to be lodged on the NSW Planning Portal. Builders must then construct according to those designs.

Developers will be required to rectify design issues before construction begins – saving everyone involved time and money, and avoiding disappointment and stress for customers.

Stage 2a – Design and Building Practitioners Act 2020

Nick Soden

From 1 July 2021, Design and Building Practitioners working on class 2 buildings needed to register under a new Compliance Declaration Scheme.

CLASS 2 BUILDINGS

Class 2 buildings are apartment buildings. They are typically multi-unit residential buildings where people live above and below each other. The NCC describes the space which would be considered the apartment as a sole-occupancy unit (SOU).

Class 2 buildings may also be single storey attached dwellings where there is a common space below. For example, two dwellings above a common basement or carpark.

IS IT A CLASS 1B, 2 OR 3 RESIDENTIAL BUILDING?

Classification is a process for understanding risk in a building (or part of a building) according to its use.

Where it is unclear which classification should apply, the approval authority has the discretion to decide.

Stage 2b – Design and Building Practitioners Act 2023

Class 3

From 1 July 2023, Design and Building Practitioners working on class 3 and 9C buildings need to register to design services in these buildings

CLASS 3 BUILDINGS

Class 3 buildings are residential buildings other than a Class 1 or Class 2 building. They are a common place of long term or transient living for a number of unrelated people. Examples include a boarding house, guest house, hostel or backpackers (that are larger than the limits for a Class 1b building). Class 3 buildings could also include dormitory style accommodation, or workers' quarters for shearers or fruit pickers.

Class 3 buildings may also be "care-type" facilities such as accommodation buildings for children, the elderly, or people with a disability, and which are not considered to be Class 9 buildings.

DID YOU KNOW?

A Class 3 building includes the residential parts of hotels, motels, schools, hospitals, or jails.

Stage 2b – Design and Building Practitioners Act 2023

9C

From 1 July 2023, Design and Building Practitioners working on class 3 and 9C buildings need to register to design services in these buildings

CLASS 9 BUILDINGS

Class 9 buildings are buildings of a public nature. Class 9 buildings include three sub classifications: Class 9a, Class 9b and Class 9c.

Class 9a buildings are generally hospitals which are referred to in the NCC as health-care buildings. They are buildings in which occupants or patients are undergoing medical treatment and may need physical assistance to evacuate in the case of an emergency. This includes a clinic (or day surgery) where the effects of the treatment administered would involve patients becoming unconscious or unable to move. This in turn requires supervised medical care (on the premises) for some time after treatment has been administered.

Class 9b buildings are assembly buildings in which people may gather for social, theatrical, political, religious or civil purposes. They include schools, universities, childcare centres, pre-schools, sporting facilities, night clubs, or public transport buildings.

Class 9c buildings are aged care buildings. Aged care buildings are defined as residential accommodation for elderly people who, due to varying degrees of incapacity associated with the ageing process, are provided with personal care services and 24 hour staff assistance to evacuate the building in an emergency.

DID YOU KNOW?

Laboratories which are part of health-care buildings are classified as Class 9a buildings despite the general classification of laboratories being Class 8.

Design and Building Practitioners Act 2020

Design Practitioner – HCAA Relevant Classes

- **Design Practitioner – Drainage**

Prepare regulated designs and make compliance declarations in relation to stormwater drainage and roof drainage systems for a building with a rise in any number of storeys

- **Design Practitioner – Fire Systems (fire sprinkler)**

Prepare regulated designs and make compliance declarations in relation to a fire sprinkler system for a building.

- **Design Practitioner – Fire Systems (fire hydrant and fire hose reel)**

Prepare regulated designs and make compliance declarations in relation to a fire hydrant or fire hose reel system for a building, including a portable fire extinguisher system

Design and Building Practitioners Act 2020

Relevant Qualifications and Experience

Must be registered as a Professional Engineer, Civil and/or Mechanical or have completed one of the following qualifications.

- A Diploma of Hydraulic Services Design from an NVR registered training organisation that has the qualification listed on its scope of registration on the National Register under the *National Vocational Education and Training Regulator Act 2011*; or
- A 4 year full-time or equivalent part-time undergraduate bachelor degree that has been accredited by a body that is a signatory to the Washington Accord in either Civil Engineering, Mechanical Engineering or Engineering (with a major in Civil or Mechanical)

NSW GOVERNMENT

Design and Building Practitioners Act 2020

Qualifications and Experience – Continued

Must have 5 years practical experience which is:

- Recent – being at least 5 years, or equivalent part-time, experience within the last 10 years, including at least 2 years Australian experience.
- Relevant – being experience relevant to the class of registration involving a class 2, 3, 9a or 9c building

Design and Building Practitioners Act 2020

Design Practitioner – Drainage (Restricted) – HCAA Relevant Qualifications and Experience

Must have completed the following qualifications.

- A Certificate IV in Plumbing and Services from an NVR registered training organisation that has the qualification listed on its scope of registration on the National Register under the *National Vocational Education and Training Regulator Act 2011*;

Must have 5 years practical experience which is:

- Recent – being at least 5 years, or equivalent part-time, experience within the last 10 years, including at least 2 years Australian experience.

Design and Building Practitioners Act 2020

Design Practitioner – Fire Systems (Fire Sprinkler, Fire Hydrant and Fire Hose Reel) – HCAA Relevant Qualifications and Experience

Must meet the qualification requirements of one of the three pathways.

Pathway 1

- A Diploma of Fire Systems Design (CPC50509) from an NVR registered training organisation that has the qualification listed on its scope of registration on the National Register under the *National Vocational Education and Training Regulator Act 2011* including successful completion of certain competency units

Design and Building Practitioners Act 2020

Regulated designs and variations

Design Practitioner Title Block

Complete successive entries upwards

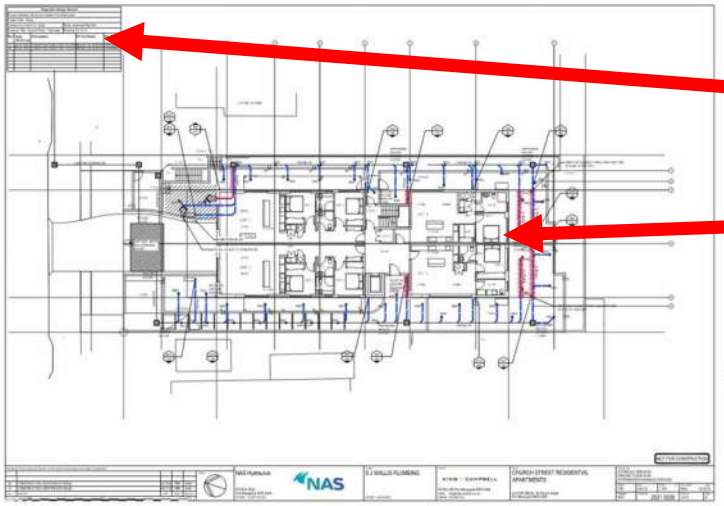
Rev. No	Date	Description	Full Name	Reg No
3	25/04/2020	Issued for construction	XXXX	DP12345
2	22/04/2020	Revised	XXXX	DP12345
1	20/04/2020	Initial draft	XXXX	DP12345

Body Corporate Reg. No: **XXXX**	Drawing Status: **FOR CONSTRUCTION**	
Project Title: **PROJECT NAME**	Scale: **X:XXX**	Sheet Size: **A1**
Project Address: **PROJECT LOCATION**	Drawing No: **XXXX**	Rev No: **3**
Drawing Title: **DESIGN WORK PACKAGE**	DA No: **XXX/XX**	Date: 25/**04/2020**
Job No: **XXXX**		

Body Corp Reg No	If the design has been prepared and declared on behalf of a registered body corporate design practitioner, the registration number of the body corporate.
Project Title:	The project name.
Project address:	The address of the project for the designed building works.
Drawing Title	Must correspond with the drawing number referenced in the Design Compliance Declaration.
Job No.	The Design Practitioner's reference for the job no.
Drawing status:	For example 'For Construction– variation'.
Scale	The scale of the drawing. This is not applicable if the design is a report.
Sheet Size	The sheet size if the design is a scaled plan/drawing. This is not applicable if the design is a report or specification.
Drawing No	Must be a unique number to identify it from other regulated designs by the Design Practitioner for the building. Must correspond with the drawing number referenced in the Design Compliance Declaration.
Rev. No.	The version of the design. The original will be 1 and the first variation will be 2.
DA No	The Development Application number.
Date	This date should be the same as the corresponding Design Compliance Declaration for the design.
Rev No.	The first design will be numbered 1, and be completed on the lowest blank cell with subsequent entries being completed above. The first variation will be numbered 2.
Date	The date of the design. Previous entries will be shown in the cells below. The most recent design will be in the highest completed cell and should correspond with the date in the cell on the bottom right corner.
Description	Description of the design and the variation.

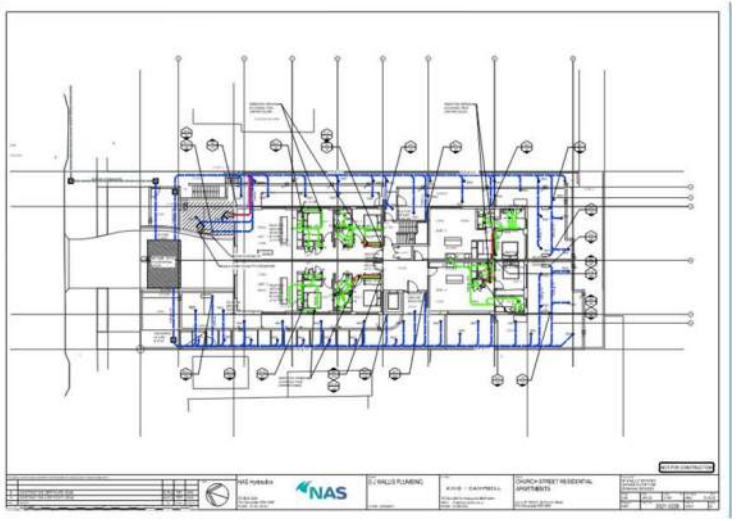
Full Name	This is the name of the individual design practitioner who has prepared the design and must be the same individual who made the declaration for the design (including where the declaration has been made on behalf of a body corporate)
Reg No	The registration number of the individual design practitioner referred to in the previous cell.

DRAWINGS



STAMP

Only BCA Services



CERTIFICATION

NSW Fair Trading

This form relates to obligations under the *Design and Building Practitioners Act 2020* and supporting Regulation

Design Compliance Declaration—multiple regulated designs

Instructions for completing this form

You must complete all Parts of this form.

This form is for multiple regulated designs, and the details must be given in Part 2 of this form in relation to each regulated design to which this form applies.

Where this form requires you to summarise information on which you intend to rely to support your answer, you must describe that information in sufficient detail for the Secretary to fully understand the basis of your answer.

Where this form indicates that material must be attached to the form, you must number each attachment sequentially and identify the number of that attachment in the relevant answer.

The drawing title, number and variation should correspond with the detail in the title block for the design to which this declaration relates.

Part 1. Details

For registered body corporates, give full names of the registered individuals and the corporation on behalf of which the declaration is made.

Design Practitioner name	Body corporate name (if applicable)
Nicholas Soden	N/A
Registration number of Design Practitioner signing	**Registration number of body corporate (if applicable)**
DEP0000041	N/A
ABN/ACN	**Phone**
13 642 934 781	0407 246 461
Email address	
nick@nashydbuilds.com.au	

Drawing title	Drawing number	Variation number
Cover Sheet	H000	3
Stormwater Drainage Plans	H100-H107	2
Fire and Water Pressure Service Plans	H200-H206	3
Detail Sheets	H300-H303	2
Schematics	H400-H402	2

1 of 3

Design Compliance Declaration—multiple regulated designs

Part 2. Declaration matters

I, Nicholas Soden
Name

Hydraulic Engineer | NAS Hydraulics Pty Ltd
Title | *acting on behalf of Corporation Name (if relevant)*

have prepared the attached regulated designs.

I declare:

1. Each regulated design for which this design compliance declaration is being made complies with the requirements of the *Building Code of Australia*.
   ☑ Yes ☐ No
2. Each regulated design for which this design compliance declaration is being made integrates details of other aspects of building work to which the design relates, and other regulated designs for the work, in order to achieve compliance with the *Building Code of Australia*.
   ☑ Yes ☐ No
   If yes, provide details or attach information about the other regulated designs that have been integrated into the regulated design for which this design compliance declaration is being made.
   Co-ordination has occurred with Structural, Civil, Architectural, Mechanical and Electrical Services Plans.
3. Other standards, codes or requirements have been applied in preparing one or more of the regulated designs.
   ☑ Yes ☐ No
   If yes, provide details or attach information about the standards, codes or requirements that have been applied.
   AS2419.1 2005 and BCA 2019 Amendment 1 Clause E1.3
   AS2441:2005 and BCA 2019 Amendment 1 Clause E1.5
   PPAA 101H 2018
   AS/NZS 3500.3 2018
4. A building product referred to in each regulated design would, if used in a manner consistent with the design, achieve compliance with the *Building Code of Australia*.
   ☑ Yes ☐ No
   If yes, describe or attach information about how the building product would achieve compliance with the *Building Code of Australia*, including the relevant provisions of the *Building Code of Australia*.
   Refer to Drawings Provided

2 of 3

Design Compliance Declaration—multiple regulated designs

5. I have sought and considered specialist advice in preparing each regulated design.
   ☑ Yes ☐ No
   If yes, provide the name and contact details of the person who provided you with the specialist advice.
   The Siphonic Design has been prepared by a specialist siphonic subcontractor, being Geberit Pty Ltd
   Unit 1, 13 Boundary Road, AU-2152 Northmead NSW, T: +61 2 9680 7866
6. The regulated designs involve a performance solution.
   ☑ Yes ☐ No
   If yes, provide details of the performance solution and the name and contact details of the person who prepared the performance solution report if this declaration is not for the report.
   The Siphonic Design has been prepared by a specialist siphonic subcontractor, being Geberit Pty Ltd
   Unit 1, 13 Boundary Road, AU-2152 Northmead NSW, T: +61 2 9680 7866
   There Performance Solution has been provided under the document name - "PSR - Church St Residential Apartment.pdf"
7. Each regulated design accords with the *Regulated Design Guidance Material* relevant to the design.
   ☑ Yes ☐ No

Part 3. Signature

GEBERIT

Performance Solution Report:
Pluvia Siphonic Roof Drainage System

Project Reference:
Church Street Residential Apartments
Church Street, Port Macquarie NSW

Drawing Reference:
Rev 2022.08.23 SDP

Introduction:

This Performance Solution report relates to the intended use of a Geberit Pluvia siphonic roof drainage system in lieu of a conventional downpipe and drainage system in accordance with AS3500.3:2021. In line with the National Construction Code, this document details the technical assessment requirements for a Performance Based Solution.

Reviewer: Lingxiao Li, a qualified Engineer and Geberit designer experienced with the Geberit Pluvia Siphonic System.

Reasons for Performance Solution

The deemed-to-satisfy provisions of the National Construction Code of Australia 2019 Volume 1 Amendment 1 (BCA) Clause F1.1 require the stormwater drainage system to be designed in accordance with AS3500.3.

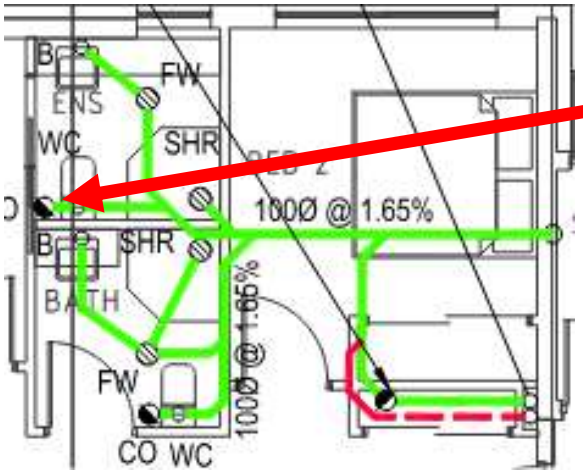
The criteria for siphonic drainage systems in AS3500.3:2021 is currently limited in capacity, information, and comprehensiveness. While the standard does currently include siphonic drainage systems as part of the Code, it is incapable of providing guidance on achieving an optimised siphonic design.

Geberit Pty Ltd, Unit 4a, 6-8 Byfield Street, Macquarie Park, NSW 2113
Phone: 02 9889 7866, Fax: 02 9889 7855, email: support.australia@geberit.com, www.geberit.com.au

Ver: September 2022

NSW GOVERNMENT

CLEAR OUTS



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HCAA ADVISORY NOTE ON CLEAROUTS, INSPECTION OPENINGS AND ACCESS PANELS

VOLUME 2: AUGUST 2022

HCAA

ADVISORY NOTE ON CLEAROUTS, INSPECTION OPENINGS AND ACCESS PANELS

Stacks and common discharge pipes must have accessible inspection openings for inspecting and testing sanitary plumbing systems, and so obstructions can be cleared as needed.

Location of inspection/testing openings
Accessible inspection openings must be installed in the following locations to comply with AS/NZS 3500.2:2018:

- at the base of every stack
- at every junction fitting that connects a common discharge pipe to a stack, or in the upstream section of the common discharge pipe
- at intervals no greater than every 30 metres in a common discharge pipe.

Accessible inspection/testing openings shall be provided at any level of a stack where required for testing/inspection and ongoing maintenance purposes.

Access to inspection openings
As illustrated over the page, all required inspection openings must be accessible via an access panel, cover, door, or similar protection (as noted in AS/NZS 3500.0 glossary of terms).

Definitions:

Inspection Opening (IO)
Access opening in a pipe or pipe fitting, arranged to facilitate inspection testing or the cleaning of obstructions and fitted with a threaded cap or plug or access cover.

Test Opening (TO)
Opening with a removable cover in the body of a fitting and of sufficient size to permit the installation of a plug for use in the hydrostatic testing of a pipeline.

Legislative requirements
The National Construction Code Series Volume 3 - Plumbing Code of Australia (PCA), Part C1 specifies the requirements for designing, constructing, installing, replacing, repairing, altering and maintaining any part of a sanitary plumbing system.

AS/NZS 3500.0 glossary of terms defines:

- an 'inspection opening is 'an opening in a pipe or pipe fitting, arranged to facilitate inspection testing or the clearing of obstructions, and fitted with a threaded cap or plug or an access cover'
- a testing opening is 'an opening with a removable cover in the body of a fitting and of sufficient size to permit the installation of a plug for use in the hydrostatic testing of a pipeline'
- accessible is 'capable of being reached for the purposes of inspection, cleaning or maintenance, repair, or replacement, but first may require removal of an access panel, cover, door or similar obstruction'

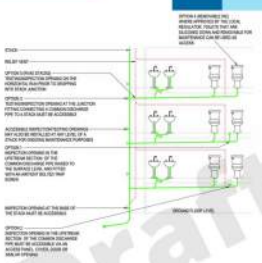
Testing openings
Testing openings must be provided where required for testing of sanitary plumbing systems, in accordance with AS/NZS 3500.2:2018 Section 10.

Inspection openings for in-ground sanitary drainage systems
For requirements related to inspection openings in sanitary drainage systems, refer to AS/NZS 3500.2 Section 4.

Inspection opening in a sanitary plumbing stack

Access hatch in a sanitary plumbing stack.

Access hatch in a ceiling for a common discharge pipe inspection opening

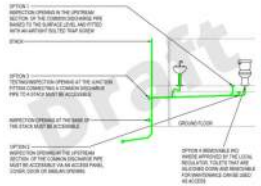


Notes

- Common discharge pipes connected to sanitary plumbing stacks must have accessible testing/inspection openings, as per the diagrams on page 3.
- Accessible testing/inspection openings in sanitary plumbing stacks may be installed on each floor level.
- An accessible testing/inspection opening must be installed at the base of all sanitary plumbing stacks.
- When testing/inspection openings are located within a tenancy that is occupied by a separate party, it is a good idea to put the inspection/testing opening into the tenancy it serves.

Class 1 residential buildings
Inspection openings must be installed and must be accessible:

- at the base of each stack and
- in the upstream section of a common discharge pipe, either raised to surface level or provided with a access to the inspection point in the ceiling below or on the junction fitting that connects a common discharge pipe to a stack.



Commercial, industrial and Class 2-9 residential buildings
Inspection openings must be installed and must be accessible:

- at the base of every stack
- at every junction fitting that connects a common discharge pipe to a stack, or in the upstream section of the common discharge pipe
- at intervals no greater than every 30 metres in a common discharge pipe

ADVISORY NOTE ON CLEAROUTS, INSPECTION OPENINGS AND ACCESS PANELS

VOLUME 2: AUGUST 2022

These suggestions are the formal position of the HCAA in regards to this matter. These statements are provided in the public interest, and the HCAA may not have any specific jurisdiction on the related matter. A responsible person or authority is expected to take relevant advice into consideration as appropriate to their given circumstance. The HCAA has issued this document for use by competent personnel deemed by their local and state/territory based engineering community and regulations. All data within this document is to be suitably verified by a suitably qualified person before use. The HCAA provides no warranty, no guarantee, or the like to the accuracy, validity or appropriateness of this data to your situation. Please be advised that you are using these documents at your own risk.

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Phone: 1300 797 101
Email: enquiries@hcaa.org.au
Website: www.hcaa.org.au

HCAA

GUIDANCE NOTES

HCAA Guidance Notes

The below Guidance Notes were created in February 2022 and are draft versions. We welcome your comments and feedback to enquiries@hcaa.org.au.

Advisory Note for Clearouts, Inspection Openings and Access Panels - Volume 2

Advisory Note on Mechanical Split System Condensate - Volume 2

Advisory Note on Certification of Siphonic Drainage Systems - Volume 2

Advisory Note on Untrapped Waterwaste Systems - Volume 2

Advisory Note on Sewer Ejector Wells in Basements and The Use of Reflux Valves - Volume 1

Please be advised, these notes are the formal position of the HCAA regarding each given matter. These statements are provided in the public interest, and the HCAA may not have any specific jurisdiction on the related matter.

A responsible person or authority is expected to take relevant advice into consideration as appropriate to their given circumstance.

HCAA™

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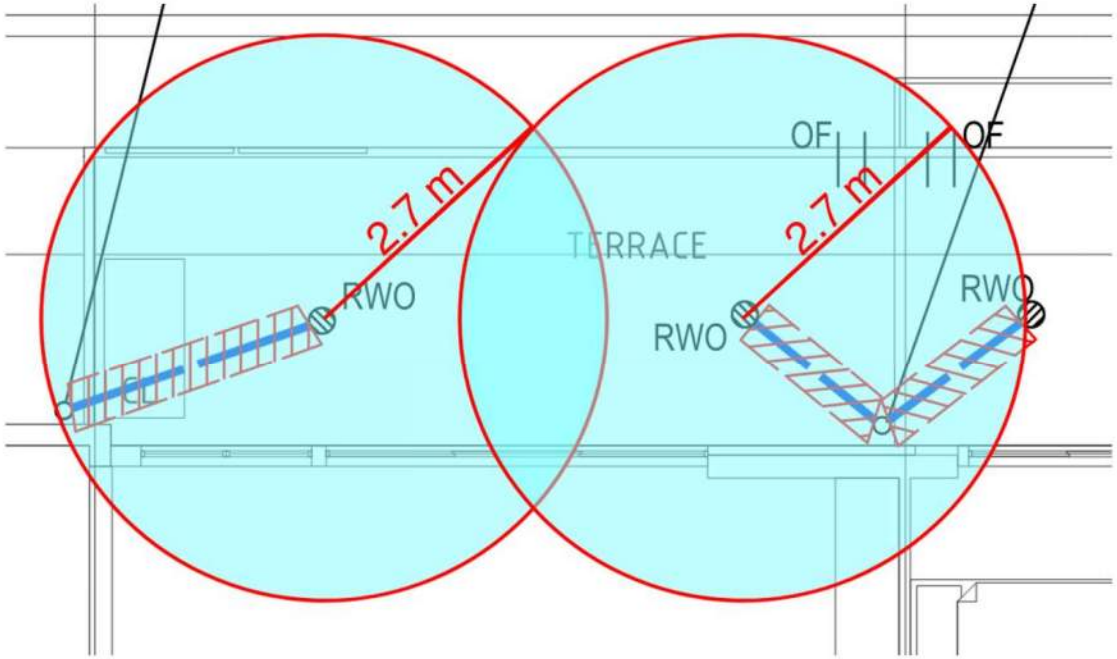
RAINWATER OUTLETS

MAX 3m / 1.25% FALL



PERFORMANCE SOLUTION TEMPLATES

Performance Solution Templates

The below Performance Solution Templates were created in May 2020 by the HCAA as a FREE downloadable tool for your use. They relate to:

Box Gutters

Your downloadable Box Gutters Performance Solution Template files are here.

Eaves Gutters

Your downloadable Eaves Gutters Performance Solution Template files are here.

Valley Gutters

Your downloadable Valley Gutters Performance Solution Template files are here.

Flat Roofs

Your downloadable Flat Roofs Performance Solution Template files are here.

Water System Pipe Sizing

Your downloadable Water System Pipe Sizing Performance Solution Template files are here.

Pipe Articulation for Unstable and Reactive Soils

The following Perforamce Solution Template has been created on behalf of the HCAA by Plastec. Your downloadable Pipe Articulation for Unstable and Reactive Soils Performance Solution Template file is here.

Geberit SuperTube Alternative

The following Performance Solution Template has been created on behalf of the HCAA by Geberit to be used during the process of compiling a Geberit SuperTube alternative solution. An updated downloadable Geberit SuperTube Alternative Performance Solution Template file will be available soon.

Warm Water Systems

For Warm Water System designs, please contact Rheem or All Valves directly with details regarding your project. You can email **Joshua Elliott** at Rheem or **Daniel Dillenbeck** at All Valves.

Carbon Filters for Sewer Pump Stations

For Carbon Filters designs for Sewer Pump Stations, please contact Saniflo directly with details regarding your project. You can email **Ravi Reddy** or **Neil Roberts**.

QLDER

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GUIDANCE NOTES

Testing and Commissioning Documents for Plumbers and Consultants

FREE

HCAA

HYDRAULIC SERVICES WITNESS TESTING

High Hazard Area

HCAA-004 – RPZD Commissioning Sheet

V2021.01 - April 2021

GENERAL NOTES: *This form is to be used for the purpose of witness testing a hydraulic installation by a suitably Qualified Hydraulic Consultant. Completion of all applicable sections is required. This form should be filed to the relevant project folder within 10 business days after witnessing has occurred.*

Notes: This series of Hydraulic Testing Procedures have been designed to assist the Hydraulic Services Consultant to carry out suitable witness testing at the end of a project. Each set of procedures details an industry accepted, list of objectives, that the Hydraulic Services Consultant should carry out to fulfil their design commission. The series of procedures will offer the client security in the knowledge that the objectives identified have been based on an industry standard, endorsed by the HCAA (National), which represents the Professional Industry of Hydraulic Services Consultants.

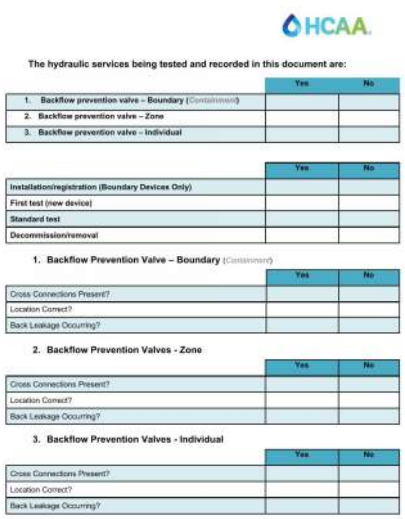
Project:		**Project Number:**	
Prepared By:		**Report Date:**	
Plumbing Company:		**Consulting Company:**	
Plumbers Name:		**Consultant's name:**	
Plumbers license number:		**Consultant's certification number:**	
Authorised testers license number:			
Date of Test/Inspection:		**Drawing Revision:**	
Equipment			
Backflow Test Kit Serial Number		Backflow Test Kit Verification Date:	

The hydraulic services elements of the Project have been tested in accordance with:

Number	Title
NCC Volume 1	Building Code of Australia 2019
PCA 2019	Plumbing Code of Australia 2019
AS/NZS 3500.1-2018	Plumbing and Drainage -Part 1: Water services

Plumbers Declaration	I hereby state that that the information provided in this form is a true and accurate record.	
	Signature:	**Date:**
Consultants Declaration	I hereby state that that the information provided in this form is a true and accurate record.	
	Signature:	**Date:**

Hydraulic Consultants Association Australasia Limited



HCAA

The hydraulic services being tested and recorded in this document are:

	Yes	No
1. **Backflow prevention valve – Boundary** (Containment)		
2. **Backflow prevention valve – Zone**		
3. **Backflow prevention valve – Individual**		

	Yes	No
Installation/registration (Boundary Devices Only)		
First test (new device)		
Standard test		
Decommission/removal		

1. Backflow Prevention Valve – Boundary (Containment)

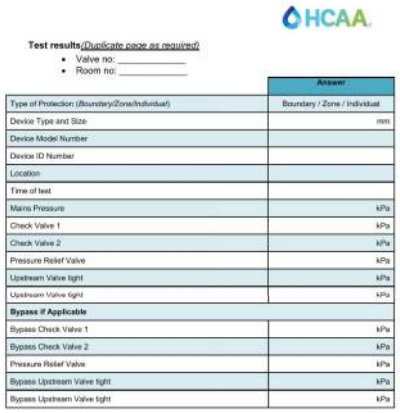
	Yes	No
Cross Connections Present?		
Location Correct?		
Back Leakage Occurring?		

2. Backflow Prevention Valves - Zone

	Yes	No
Cross Connections Present?		
Location Correct?		
Back Leakage Occurring?		

3. Backflow Prevention Valves - Individual

	Yes	No
Cross Connections Present?		
Location Correct?		
Back Leakage Occurring?		



HCAA

Test results (Duplicate page as required)

- Valve no: _____
- Room no: _____

	Answer
Type of Protection (Boundary/Zone/Individual)	Boundary / Zone / Individual
Device Type and Size	mm
Device Model Number	
Device ID Number	
Location	
Time of test	
Mains Pressure	kPa
Check Valve 1	kPa
Check Valve 2	kPa
Pressure Relief Valve	kPa
Upstream Valve tight	kPa
Upstream Valve tight	kPa
Bypass if Applicable	
Bypass Check Valve 1	kPa
Bypass Check Valve 2	kPa
Pressure Relief Valve	kPa
Bypass Upstream Valve tight	kPa
Bypass Upstream Valve tight	kPa

Design and Building Practitioners Act 2020

How to get registered

Only the person who will be declaring or lodging documents needs to register and it is done online via the NSW Governments website https://www.fairtrading.nsw.gov.au/trades-and-businesses/licensing-and-qualifications/design-practitioner-registration#dpr-eligibility-dp

Eligibility for a design practitioner

To be eligible you need to:

be aged 18 or over

hold the required qualifications and experience

have completed and passed the mandatory Construct NSW learning modules

meet insurance requirements

have a current National Police Certificate issued within 4 months from when you submit your application (name and date of birth check only)

Design and Building Practitioners Act 2020

To maintain registration

You must complete at least three hours of approved and relevant education and training each year to maintain registration.

Continuing Professional Development (CPD) hours must be earned by undertaking courses available from the Construct NSW Digital Learning Platform and the Australian Building Codes Board National Construction Code CPD system.

Written records, such as certificates of completion or records of attendance, should be kept as evidence.

Design and Building Practitioners Act 2020

Record keeping

Practitioners need to keep records in a form that can be readily inspected for at least 10 years, even if they cease to be a registered practitioner.

More information about record keeping is published in Part 7 of the Design and Building Practitioners Regulation 2021.

Design and Building Practitioners Act 2020

Insurance requirements

From 1 July 2022, registered Design Practitioners and Principal Design Practitioners must have professional indemnity insurance.

You must always make sure you have enough insurance for the work you do.

As part of your application you might need to prove you have taken adequate steps to get the right insurance. For example, you sought independent advice from an insurance professional.

$10million

Design and Building Practitioners Act 2020

Design practitioner – other classes

The cost to renew your registration for the classes below is:

- $344 for 1 year
- $774 for 3 years
- $1292 for 5 years.

Design practitioner – other classes

The cost of a new application for the classes below is:

- $460 for 1 year
- $1033 for 3 year
- $1723 for 5 years.

These fees apply to Design Practitioners in the following classes:

- Building Design (low rise)
- Building Design (medium rise)
- Drainage
- Drainage (restricted)
- Façade
- Fire Systems (detection and alarm systems)
- Fire Systems (fire hydrant and fire hose reel)

FPAS have removed costs from the web but last I saw it was $1,200 for Renewal for your first category =then $600 per additional = $2,400 Per year!
For FH/FH/Sprinklers.
The government pathway is much cheaper.

Transitional Accreditation

From **1 July, 2021,** the Transitional Accreditation pathway for NSW Fire Systems Designs closed and all new applicants must meet the Qualified Accreditation requirements.

Pathway 3 for Fire Hydrants and Hose Reels

You must have completed a **Diploma of Hydraulic Services Design**, or an *equivalent qualification, from an NVR registered training organisation that has the qualification listed on its scope of registration on the National Register under the *National Vocational Education and Training Regulator Act 2011* **including these units of competency** (or a more recent equivalent version of these units of competency):

•CPCSFS5002 (current) / CPCSFS5002A Research and interpret detailed fire systems design project requirements

•CPCSFS5003 (current) / CPCSFS5003A Develop plans and methodology for fire systems design projects

•CPCSFS5005 (current) / CPCSFS5005A Research and evaluate fire system technologies and components

•CPCSFS5007 (current) / CPCSFS5007A Create detailed designs for hydrant and hose reel systems

•CPCSFS5009 (current) / CPCSFS5009A Create detailed designs for fire systems' water supplies

•CPCSFS5011 (current) / CPCSFS5011A Provide design documentation and review and support fire system installation processes

•CPCSFS5013 (current) / CPCSFS5013A Support commissioning processes and finalise fire systems design projects.

* The following superseded qualifications are considered equivalent to the Diploma of Hydraulic Services Design:

•Certificate in Plumbing Services Design (TAFE NSW course number 1417)

•Associate Diploma in Engineering (Plumbing Services) (TAFE NSW course number 1480)

•Associate Diploma of Plumbing and Services (TAFE NSW course number 1400/V1/A1)

•Diploma of Plumbing and Services (Release 1) (CPC50412)

•Diploma of Hydraulic Services Design (Release 1) (CPC50611).

Design and Building Practitioners Act 2020

Complete the online learning modules

Before registering, Design and Building Practitioners must complete and pass two online learning modules:

1. The value of Australian Standards module
2. Navigating the Design and Building Practitioner (DBP) legislation module

The modules aren't mandatory for Professional Engineers, but you can complete them to learn more about the changes.

Tip: Make sure to **keep your module certificates** as proof of completion – you'll need these when you register.

Complete the modules online

4

Design and Building Practitioners Act 2020

Gather your documents for registration

To register online from 1 July, you'll need to **submit documents** including:

- Proof of identity
- A police check
- A copy of your degree or other qualifications

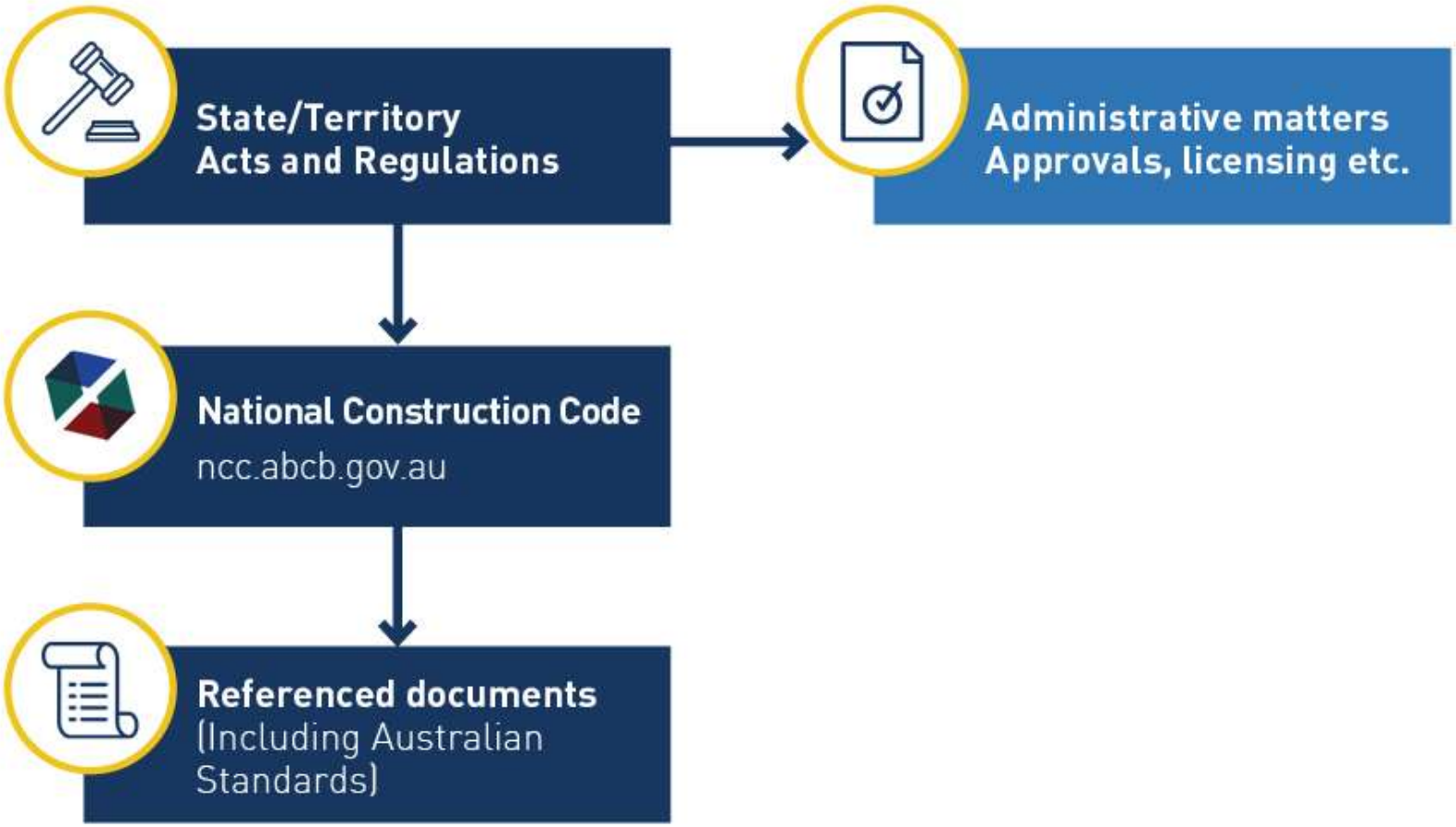
You'll also need to provide evidence of your recent and relevant work experience.

Read registration information for Design and Building Practitioners

Read registration information for Engineers

5

5


State/Territory
Acts and Regulations
Administrative matters
Approvals, licensing etc.
National Construction Code
ncc.abcb.gov.au
Referenced documents
(Including Australian
Standards)

NATIONAL CONSTRUCTION CODES

AUS/NZ STANDARDS

SUB - STANDARDS

NCC

NATIONAL CONSTRUCITON CODE

- NCC's are published every 3 years – the date of DA outlines the NCC to be used (always use current)

STANDARDS Australia

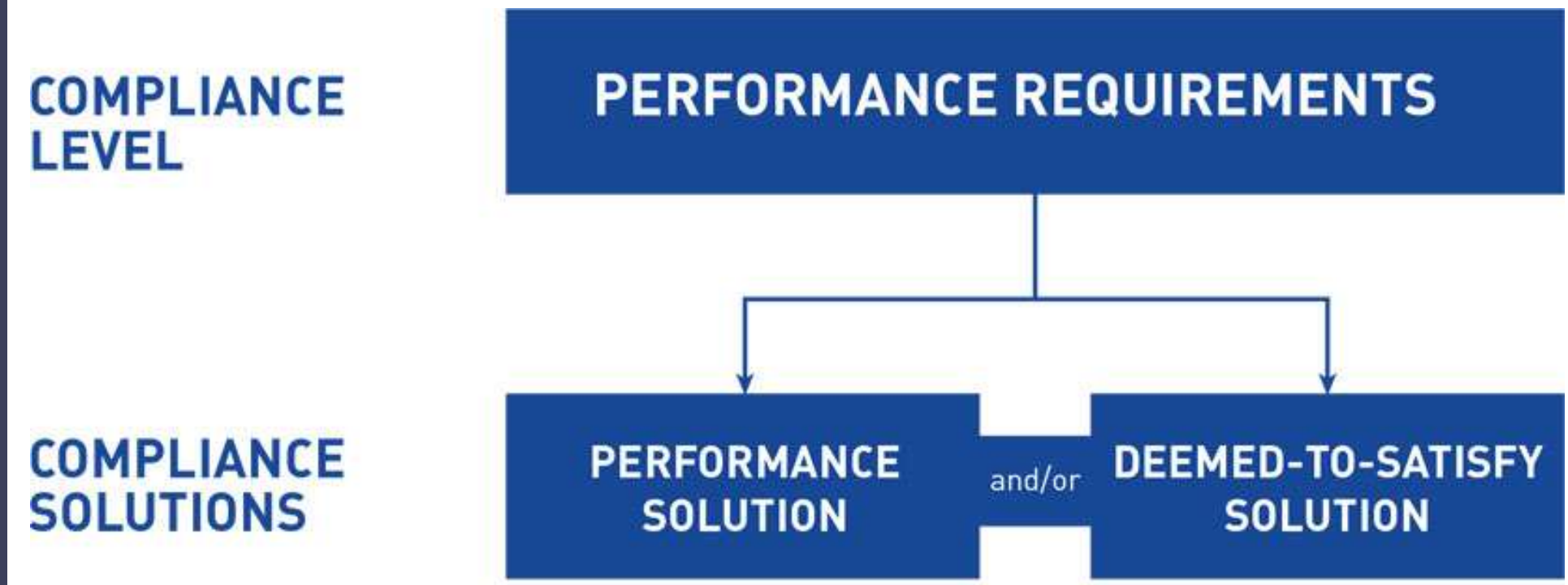
REFERENCED AUSTRALIAN STANDARD

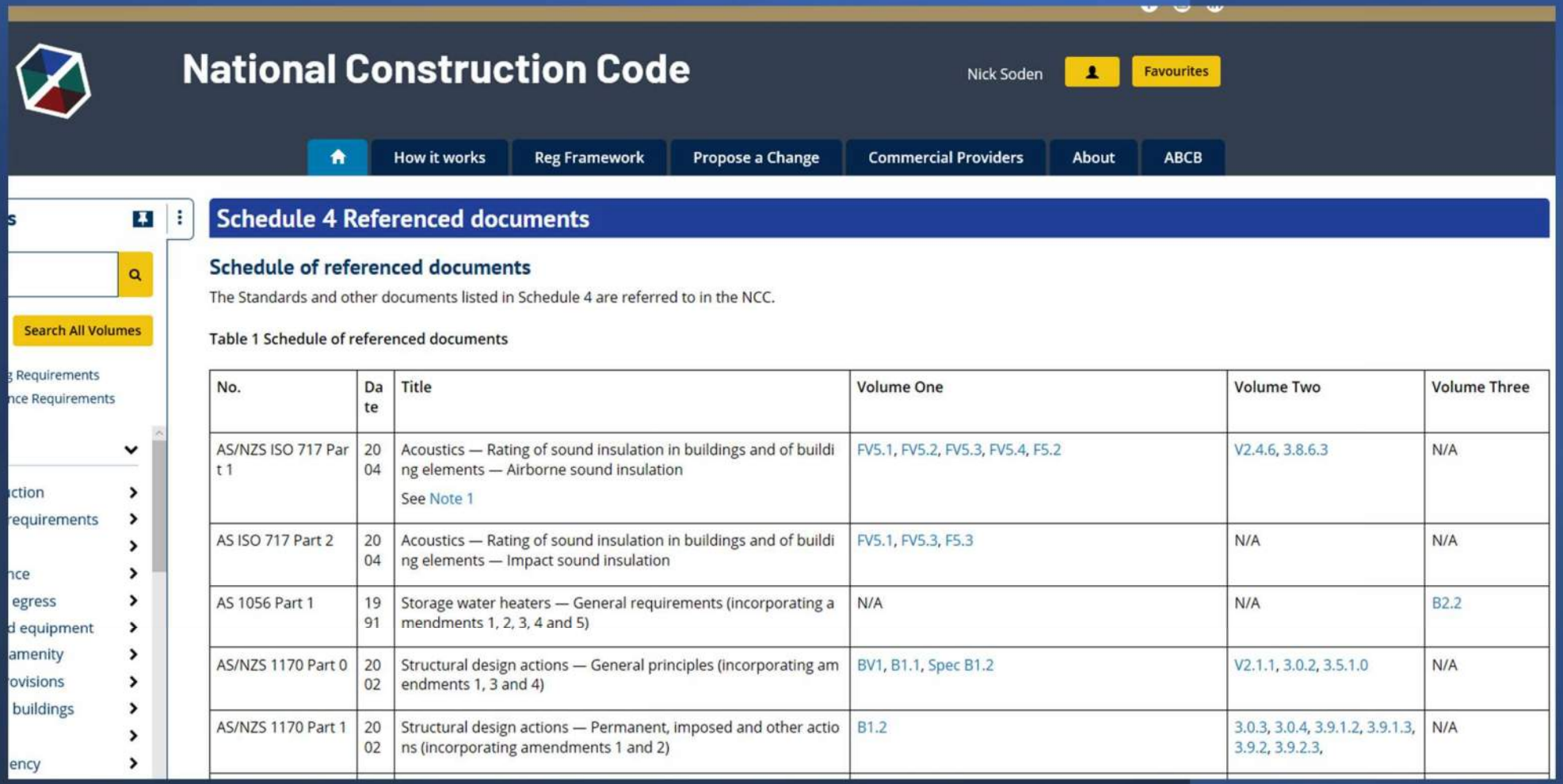
- The current NCC outlines the Australian Standard that must be followed

STANDARDS Australia

SUB - REFERENCED AUSTRALIAN STANDARD

- The Sub-Standard used must pre date the Australian Standard outlined within the current NCC


COMPLIANCE LEVEL
PERFORMANCE REQUIREMENTS
COMPLIANCE SOLUTIONS
PERFORMANCE SOLUTION
and/or
DEEMED-TO-SATISFY SOLUTION


National Construction Code
Nick Soden
Favourites
How it works
Reg Framework
Propose a Change
Commercial Providers
About
ABCB
Search All Volumes
Schedule 4 Referenced documents
Schedule of referenced documents
The Standards and other documents listed in Schedule 4 are referred to in the NCC.
Table 1 Schedule of referenced documents
No.
Date
Title
Volume One
Volume Two
Volume Three
AS/NZS ISO 717 Part 1
2004
Acoustics — Rating of sound insulation in buildings and of building elements — Airborne sound insulation
See Note 1
FV5.1, FV5.2, FV5.3, FV5.4, F5.2
V2.4.6, 3.8.6.3
N/A
AS ISO 717 Part 2
2004
Acoustics — Rating of sound insulation in buildings and of building elements — Impact sound insulation
FV5.1, FV5.3, F5.3
N/A
N/A
AS 1056 Part 1
1991
Storage water heaters — General requirements (incorporating amendments 1, 2, 3, 4 and 5)
N/A
N/A
B2.2
AS/NZS 1170 Part 0
2002
Structural design actions — General principles (incorporating amendments 1, 3 and 4)
BV1, B1.1, Spec B1.2
V2.1.1, 3.0.2, 3.5.1.0
N/A
AS/NZS 1170 Part 1
2002
Structural design actions — Permanent, imposed and other actions (incorporating amendments 1 and 2)
B1.2
3.0.3, 3.0.4, 3.9.1.2, 3.9.1.3, 3.9.2, 3.9.2.3,
N/A

NCC 2019 states AS2419.1 2005 Is to be used for fire hydrant design

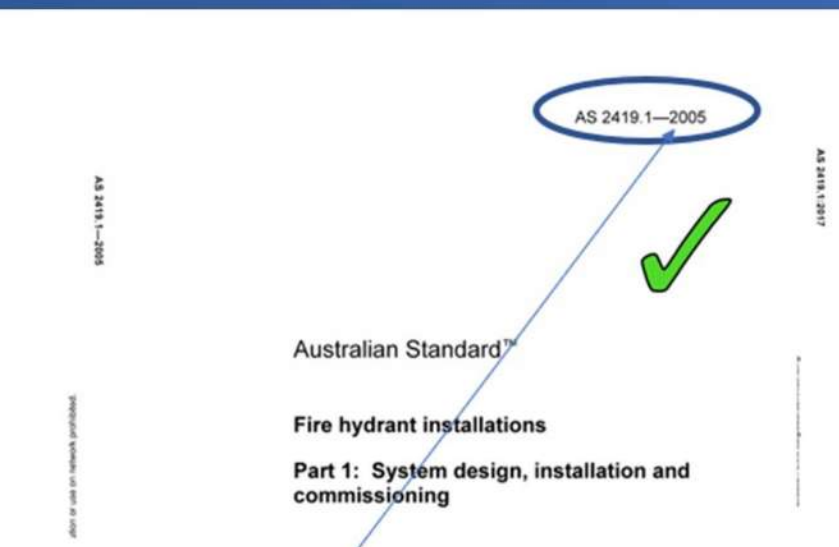
- Although Standards Australia published a new standard in 2017 and 2021

AS2419.1 2005 MUST BE USED

A Sub-reference Australian Standard published prior to 2005 MUST BE USED

The Sub-referenced Standard must pre-date the standard used

If the AS2419.1 2005 is recommended by the NCC



AS/NZS 2327	2017	Composite structures — Composite steel-concrete construction in buildings	B1.4, Schedule 5	3.0.4, Schedule 5	Schedule 5
AS 2419 Part 1	2005	Fire hydrant installations — System design, installation and commissioning (incorporating amendment 1)	C2.12, E1.3, Spec E1.5a, H3.9	N/A	N/A
AS 2441	2005	Installation of fire hose reels (incorporating amendment 1)	E1.4	N/A	N/A
AS 2444	2001	Portable fire extinguishers and fire blankets — Selection and location	E1.6, H3.11	N/A	N/A
AS 2665	2001	Smoke/heat venting systems — Design, installation and commissioning	Spec E2.2c, Spec G3.8	N/A	N/A
AS/NZS 2699 Part 1	2000	Built-in components for masonry construction — Wall ties	N/A	3.3.5.10	N/A

By law the Sub-Referenced Standard must pre-date the referenced

AS 2941-2002 Fixed fire protection installations - Pumpset systems	Date modified: 9/12/2002 9:52 AM	Size: 1.09 MB
AS 2941-2008 Fixed fire protection installations - Pumpset systems	Date modified: 30/01/2013 2:28 PM	Size: 1.58 MB
AS 2941-2013 Fixed fire protection installations - Pumpset systems - PDF (Copy Paste)	Date modified: 26/11/2013 2:42 PM	Size: 3.33 MB

AS 2419.1—2005

AS 2870	2011	Residential slabs and footings	F1.10
AS/NZS 2890 Part 6	2009	Parking facilities — Off-street parking for people with disabilities	D3.5
AS/NZS 2904	1995	Damp-proof courses and flashings (incorporating amendments 1 and 2)	F1.9
AS/NZS 2908 Part 1	2000	Cellulose-cement products — Corrugated sheets	B1.4, F1.5
AS/NZS 2908 Part		se-cement products — Flat sheets	Schedule 3
AS/NZS 2918		tic solid fuel burning appliances — Installation	G2.2
AS/NZS 3013	20	Electrical installations — Classification of the fire and mechanical performance of wiring system elements	C2.13

AS 2419.1—2005

Australian Standard™

Fire hydrant installations

Part 1: System design, installation and commissioning

BCA 2019

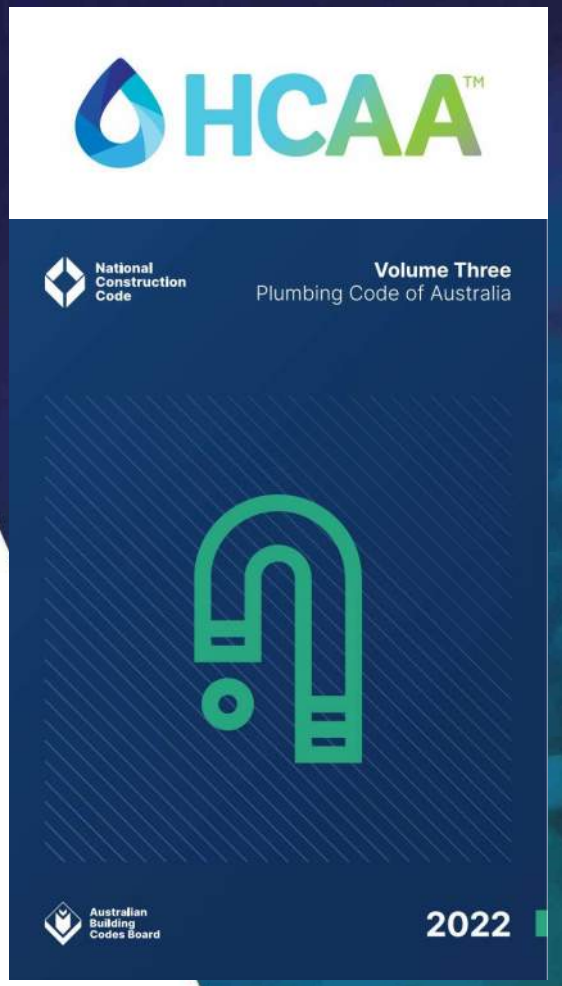
Booster within 10m of a building

(b) The fire hydrant system—
(i) must be installed in accordance with AS 2419.1, except—
(A) a Class 8 electricity network substation need not comply with clause 4.2 of AS 2419.1 if—
(aa) it cannot be connected to a town main supply; and
(bb) one hour water storage is provided for fire-fighting; and
(B) where a sprinkler system is installed throughout a building in accordance with AS 2118.1, AS 2118.4, AS 2118.6, FPAA101H or FPAA101D the fire hydrant booster protection requirements of clauses 7.3(c)(ii) and 7.3(d)(iii) of AS 2419.1 do not apply; and
(C) a fire hydrant booster assembly may be located between 3.5 m and 10 m of the building, and need not comply with clause 7.3(d)(iii) of AS 2419.1 where the assembly is protected by an adjacent fire-rated freestanding wall that—
(aa) achieves an FRL of not less than 90/90/90; and
(bb) extends not less than 1 m each side of the outermost fire hydrant booster risers within the assembly and is not less than 3 m wide; and
(cc) extends to a height of not less than 2 m above finished ground level; and

BCA 2022 / PCA 2022 / AS3500 2021 / AS5601.1 2022 / AS2419.1 2021

- From 1 May 2023, THE BCA AND PCA 2022 come into effect on which call up the new version of AS 2419.1:2021 and all new versions AS/NZS 3500: 2021.

- From 30 March 2023, the new version of the Australian Standard AS/NZS 5601.1:2022 will be in place for all new gas installations in NSW. The revision of the Gas Standard was published on 30 September 2022. Under the Gas and Electricity (Consumer Safety) Regulation 2018, a 6-month transition period is in place. This ends, midnight 30 March 2023.



Deemed-to-Satisfy Provisions

PCA 2022 AND BACKFLOW PREVENTION

- From 1 May 2023, PCA 2022 comes into effect and all your backflow requirements will now come from here

B5D1 Deemed-to-Satisfy Provisions

[2019: B5.1]

(1) Where a *Deemed-to-Satisfy Solution* is proposed, *Performance Requirement* B5P1 is satisfied by complying with B5D2 to B5D6.

(2) Where a *Performance Solution* is proposed, the relevant *Performance Requirements* must be determined in accordance with A2G2(3) and A2G4(3) as applicable.

B5D2 Drinking water service

[2019: B5.2]

(1) A hazard exists wherever it is possible for water or *contaminants* to enter a *drinking water* service or supply via any potential *cross-connection* between—

- (a) the *drinking water* service; and
- (b) any of the following:
  - (i) A *non-drinking water* service.
  - (ii) A *rainwater service*.
  - (iii) An alternative water supply.
  - (iv) A *swimming pool*.
  - (v) Pipes, fixtures or specialist equipment (including *boilers* and pumps) containing chemicals, liquids, gases or other substances which may be harmful to health or safety.

(2) Each hazard must—

- (a) be assigned an *Individual protection Hazard Rating* or *Zone protection Hazard Rating* in accordance with S41C4 and S41C5 ; and
- (b) be isolated from the *drinking water* service by an appropriate *backflow prevention device* which is selected and installed in accordance with Section 4 of AS/NZS 3500.1.

(3) Where a *site* is served by a *Network Utility Operator's drinking water* supply, appropriate *containment protection* must be selected and installed in accordance with Section 4 of AS/NZS 3500.1.

S41C5 Zone protection

(1) The following are *Low Hazard* for the purpose of *zone protection*:

- (a) Fire-fighting water storage tanks without chemical additives.
- (b) Food storage tanks, vats or vessels.
- (c) Hair salon basins or troughs.
- (d) Type B *irrigation systems*.
- (e) Water filtration equipment.

(2) The following are *Medium Hazard* for the purpose of *zone protection*:

- (a) Type C *irrigation systems*.
- (b) Beauty spas and foot salons.

(3) The following are *High Hazard* for the purpose of *zone protection*:

- (a) Photographic laboratories.
- (b) Aircraft facilities.
- (c) Secondary *school* laboratories, including fume cupboards.
- (d) Dental and medical procedure rooms and equipment using *drinking water*.
- (e) Clean-in-place systems.
- (f) Commercial laundries.
- (g) Cooling or heating systems with recirculating water.
- (h) Dockside facilities.
- (i) Drinking nipples and troughs (agricultural).
- (j) Food preparation or food storage tanks, vats or vessels.
- (k) Vats and vessels (clean-in-place systems).
- (l) In a Class 9 building—
  - (i) dissecting rooms; and
  - (ii) utility rooms which contain fixtures other than hand basins; and
  - (iii) operating theatres.
- (m) Industrial and teaching laboratories.
- (n) Industrial process water that has been recirculated.
- (o) Mortuary equipment used in funeral parlours, mortuaries and autopsy areas.
- (p) Sanitary dump points.
- (q) Tanks, vats or vessels associated with electroplating, degreasing, descaling, stripping, pickling, dipping or the like.
- (r) Type D *irrigation systems* injected with fertilisers, herbicides, nematicides, insecticides or weedicides.

S41C4 Individual protection

[2019: BS5.1.4]

(1) The following are *Low Hazard* for the purpose of *individual protection*:

- (a) Carbonated drink dispensing machines.
- (b) Drinking fountains and bottle fillers.
- (c) Coils and jackets in heat exchangers, in sealed and non-toxic environments only.
- (d) Drink dispensing equipment including vending machines and coffee machines.
- (e) External hose taps, with no hazards within 18 m.
- (f) Fixtures used for ablutions including baths, basins, showers and bidettes with a minimum 25 mm air gap.
- (g) Toilet douche seats where the outlet in all positions is at least 25 mm above the overflow level of the pan.
- (h) Fixtures used for food preparation, including sinks.
- (i) Flexible connections over domestic fixtures.
- (j) Haemodialysis machines in Class 1, Class 2 and Class 10 buildings.

[2019: BS5.1.5]

- (k) Hair salon basins or troughs.
- (l) In-line water softeners and filters.
- (m) Photographic processing machines without developer mixing.
- (n) Emergency eye wash and shower stations for use with *drinking water*.
- (o) Food preparation or food storage tanks, vats or vessels (without clean-in-place systems).

(2) The following are *Medium Hazard* for the purpose of *individual protection*:

- (a) Chemical dispensers (low toxicity).
- (b) Dental consoles.

VIC S41C4(3)

(3) The following are *High Hazard* for the purpose of *individual protection*:

- (a) Chlorinators.
- (b) Coils and jackets in heat exchangers, in unsealed and toxic environments.
- (c) Steam calorifiers.
- (d) Steam *boilers*.
- (e) Antibiotic injectors (agricultural).
- (f) Bidets and toilet douche seats where the outlet in any position is not 25 mm above the overflow level of the pan.
- (g) Bidettes installed without a minimum 25 mm air gap.
- (h) Handheld bidet hoses and trigger sprays.
- (i) Chemical dispensers (high toxicity).
- (j) Cooling towers.
- (k) Demineralising equipment using ion-exchange resins with acid and alkali regeneration.
- (l) Equipment used for handling, mixing, measuring and processing chemical and microbiological substances.
- (m) Fogging and cleaning sprays with chemical injection or additives.
- (n) Mixing of chemicals.
- (o) Pan washing apparatus.
- (p) Photographic developers with *drinking water* supply rinse tanks or mixing facilities.
- (q) Plants with auxiliary *non-drinking water* supplies.
- (r) Type D *irrigation system* injected with fertilisers, herbicides, nematicides, insecticides or weedicides.
- (s) Weed and pest spraying and water cartage tanks.
- (t) Portable and mobile tankers.
- (u) Placenta / surgical waste disposal units.
- (v) Food preparation or food storage tanks, vats or vessels (with clean-in-place systems).

Verification Methods

PCA 2022 AND BACKFLOW PREVENTION

- From 1 May 2023, PCA 2022 comes into effect and all your backflow requirements will now come from here

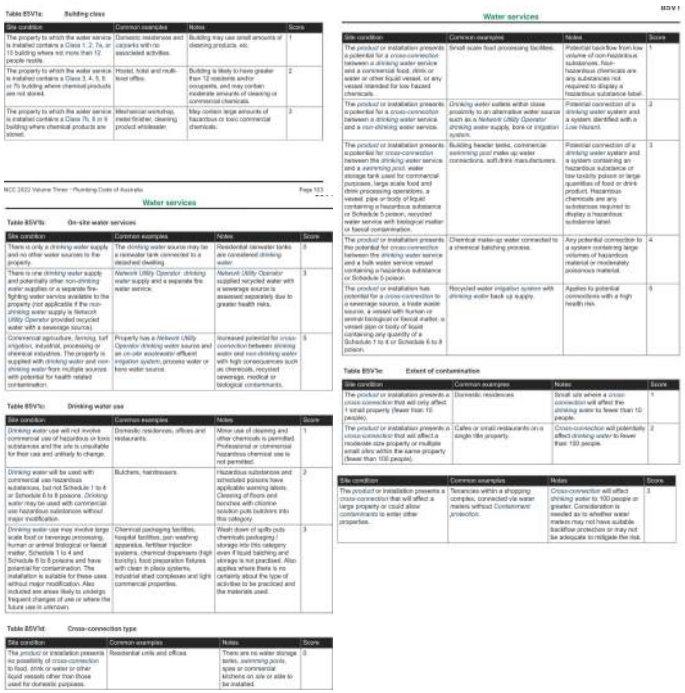


Table B5V1e Building class

Site condition	Common examples	Notes	Score
The property to which the water service is installed contains a Class 1, 2, 7a, or 10 building where not more than 12 people reside.	Domestic residences and carparks with no associated activities.	Building may use small amounts of cleaning products, etc.	1
The property to which the water service is installed contains a Class 3, 4, 5, 6 or 7b building where chemical products are not stored.	Hostel, hotel and multi-level office.	Building is likely to have greater than 12 residents and/or occupants, and may contain moderate amounts of cleaning or commercial chemicals.	2
The property to which the water service is installed contains a Class 7b, 8 or 9 building where chemical products are stored.	Mechanical workshop, metal finisher, cleaning product wholesaler.	May contain large amounts of hazardous or toxic commercial chemicals.	3

NCC 2022 Volume Three - Plumbing Code of Australia — Page 123

Water services

Table B5V1b On-site water services

Site condition	Common examples	Notes	Score
There is only a drinking water supply and no other water sources to the property.	The drinking water source may be a rainwater tank connected to a detached dwelling.	Residential rainwater tanks are considered drinking water.	0
There is one drinking water supply and potentially other non-drinking water supplies or a separate fire-fighting water service available to the property (not applicable if the non-drinking water supply is Network Utility Operator provided recycled water with a sewerage source).	Network Utility Operator drinking water supply and a separate fire water service.	Network Utility Operator supplied recycled water with a sewerage source is assessed separately due to greater health risks.	3
Commercial agriculture, farming, turf irrigation, industrial, processing or chemical industries. The property is supplied with drinking water and non-drinking water from multiple sources with potential for health related contamination.	Property has a Network Utility Operator drinking water source and an on-site wastewater effluent irrigation system, process water or bore water source.	Increased potential for cross-connection between drinking water and non-drinking water with high consequences such as chemicals, recycled sewerage, medical or biological contaminants.	5

Table B5V1c Drinking water use

Site condition	Common examples	Notes	Score
Drinking water use will not involve commercial use of hazardous or toxic substances and the site is unsuitable for their use and unlikely to change.	Domestic residences, offices and restaurants.	Minor use of cleaning and other chemicals is permitted. Professional or commercial hazardous chemical use is not permitted.	1
Drinking water will be used with commercial use hazardous substances, but not Schedule 1 to 4 or Schedule 6 to 9 poisons. Drinking water may be used with commercial use hazardous substances without major modification.	Butchers, hairdressers.	Hazardous substances and scheduled poisons have applicable warning labels. Cleaning of floors and benches with chlorine solution puts butchers into this category.	2
Drinking water use may involve large scale food or beverage processing, human or animal biological or faecal matter, Schedule 1 to 4 and Schedule 6 to 9 poisons and have potential for contamination. The installation is suitable for these uses without major modification. Also included are areas likely to undergo frequent changes of use or where the future use is unknown.	Chemical packaging facilities, hospital facilities, pan washing apparatus, fertiliser injection systems, chemical dispensers (high toxicity), food preparation fixtures with clean in place systems, industrial shed complexes and light commercial properties.	Wash down of spills puts chemicals packaging / storage into this category even if liquid batching and storage is not practised. Also applies where there is no certainty about the type of activities to be practiced and the materials used.	3

Table B5V1d Cross-connection type

Site condition	Common examples	Notes	Score
The product or installation presents no possibility of cross-connection to food, drink or water or other liquid vessels other than those used for domestic purposes.	Residential units and offices.	There are no water storage tanks, swimming pools, spas or commercial kitchens on site or able to be installed.	0

B5V1

Water services

Table B5V1e Extent of contamination

Site condition	Common examples	Notes	Score
The product or installation presents a cross-connection that will only affect 1 small property (fewer than 10 people).	Domestic residences	Small site where a cross-connection will affect the drinking water to fewer than 10 people.	1
The product or installation presents a cross-connection that will affect a moderate size property or multiple small sites within the same property (fewer than 100 people).	Cafes or small restaurants on a single title property.	Cross-connection will potentially affect drinking water to fewer than 100 people.	2
The product or installation presents a cross-connection that will affect a large property or could allow contaminants to enter other properties.	Tenancies within a shopping complex, connected via water mains without Containment protection.	Cross-connection will affect drinking water to 100 people or greater. Consideration is needed as to whether water mains may not have suitable backflow protection or may not be adequate to mitigate the risk.	3

B5V1

Water services

B5V1 Determination of individual and zone hazard ratings

[New for 2022]

(1) Compliance with *Performance Requirement* B5P1 for *individual protection* and *zone protection* is verified by compliance with B5V1.

(2) A hazard exists wherever it is possible for water or *contaminants* to enter a *non-drinking water* service or supply via any potential *cross-connection* between itself and another separate *non-drinking water* service on the same *site*.

(3) Each hazard must be—

(a) assigned a *Hazard Rating* in accordance with (4); and

(b) isolated from the *drinking water* service by an appropriate *backflow prevention device* which is selected and installed for the appropriate *Hazard Rating* in accordance with Section 4 of AS/NZS 3500.1.

(4) To determine the *Hazard Rating*—

(a) an assessment of the property or proposed installation must be undertaken using Tables B5V1a, B5V1b, B5V1c, B5V1d and B5V1e; and

(b) the scores allocated from each table are calculated; and

(c) the *Hazard Rating* is determined by the sum of the scores in accordance with B5V1(5).

(5) A total score of—

(a) 0 to 3 presents no Hazard; and

(b) 4 to 7 presents a *Low Hazard*; and

(c) 8 to 10 presents a *Medium Hazard*; and

(d) 11 or greater presents a *High Hazard*.

(6) Notwithstanding the *Hazard Rating* determined in (4), where access to the *site* is restricted in a way that could limit or prevent future testing or maintenance of a *backflow prevention device*, the *site* must be protected with a *containment* device suitable for a *High Hazard*.

Explanatory Information

- The intent of this *Verification Method* is to provide a consistent means of determining *Hazard Ratings* for situations not listed in Specification 41.
- This *Verification Method* is not intended to enable the lowering of any *Hazard Ratings* already prescribed in Specification 41.

Informative and Normative

The terms “normative” and “informative” are used in documents to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a document, whereas an “informative” appendix is only for information and guidance.

AS3500.1 2021

The major changes in this revision are as follows:
(i) Conformance to individual product standards has been removed. All products used in plumbing and drainage systems in Australia need to comply with the PCA and, in New Zealand, the NZBC, see Appendix B for further information. Removal of specific product standard conformance requirements avoids inconsistencies and contradictions between this document and the PCA and NZBC.
(ii) Definitions have been relocated to AS/NZS 3500.0. This was done for consistency across the series.
(**iii) A number of the backflow prevention provisions, which were considered matters of public policy, have been elevated to PCA Part B5 Cross Connection Control.** To remove duplication between PCA 2019 and AS/NZS 3500.1, the provisions relating to cross-connection hazards and the corresponding hazard rating have been removed. This also avoids inconsistencies between the cross-connection hazards and the corresponding hazard rating in this document and in NZBC Acceptable Solution G12/AS1. Consequently, Appendix F has been deleted, and all remaining backflow provisions have been consolidated in Section 4.
(iv) Jointing requirements for plastics pipes have been clarified and expanded to allow different methods.
(v) Changes to the requirements for the marking of pipes in commercial buildings to assist in the better identification of pipework and avoid cross connections.
(vi) Changes to the requirements for the installation of water services located in metal-framed walls to bring the provisions in line with those of the National Association of Steel-framed Housing.
(vii) Clause 5.4 relating to bushfire zones has been removed in anticipation of requirements relating to bushfire prone areas being elevated to the PCA.
(viii) Section 12 relating to special connections for specific fixtures has been removed. With backflow requirements being moved to the PCA

AS3500.2 2021

Changes in this revision are as follows:
(i) Conformance to individual product standards has been removed. All products used in plumbing and drainage systems in Australia need to comply with the PCA and, in New Zealand, the NZBC, see Appendix A for further information. Removal of specific product standard conformance requirements avoids inconsistencies and contradictions between this document and the PCA and NZBC.
(ii) Definitions have been relocated to AS/NZS 3500.0 for consistency across the series.
(iii) The range of materials that can be used for wet wells has been expanded to encompass prefabricated wells.
(iv) Changes to the requirements for the marking of pipes in commercial buildings to assist in the better identification of pipework and avoid cross connections.
(v) Changes to the connection requirements for drains at grade.
(vi) The requirement for a commercial dishwashing machine drainage just to connect to a disconnector gully with a 10 m discharge pipe has been removed. This allows the more effective arrangement of commercial kitchens.
(vii) An appendix has been added providing guidance on the requirements of AS 2870 for flexible connections to be installed in plastics pipe drainage systems. It covers flexible connections, lagging and water ingress under the slab to accommodate a range of differential soil movement for Soil Classes M, M-D, H1, H1-D, H2, H2-D, E and E-D.
(viii) Changes to the number of pressure attenuators required

AS3500.3 2021

Changes in this revision are as follows:

(i)Definitions have been relocated to AS/NZS 3500.0 for consistency across the series.

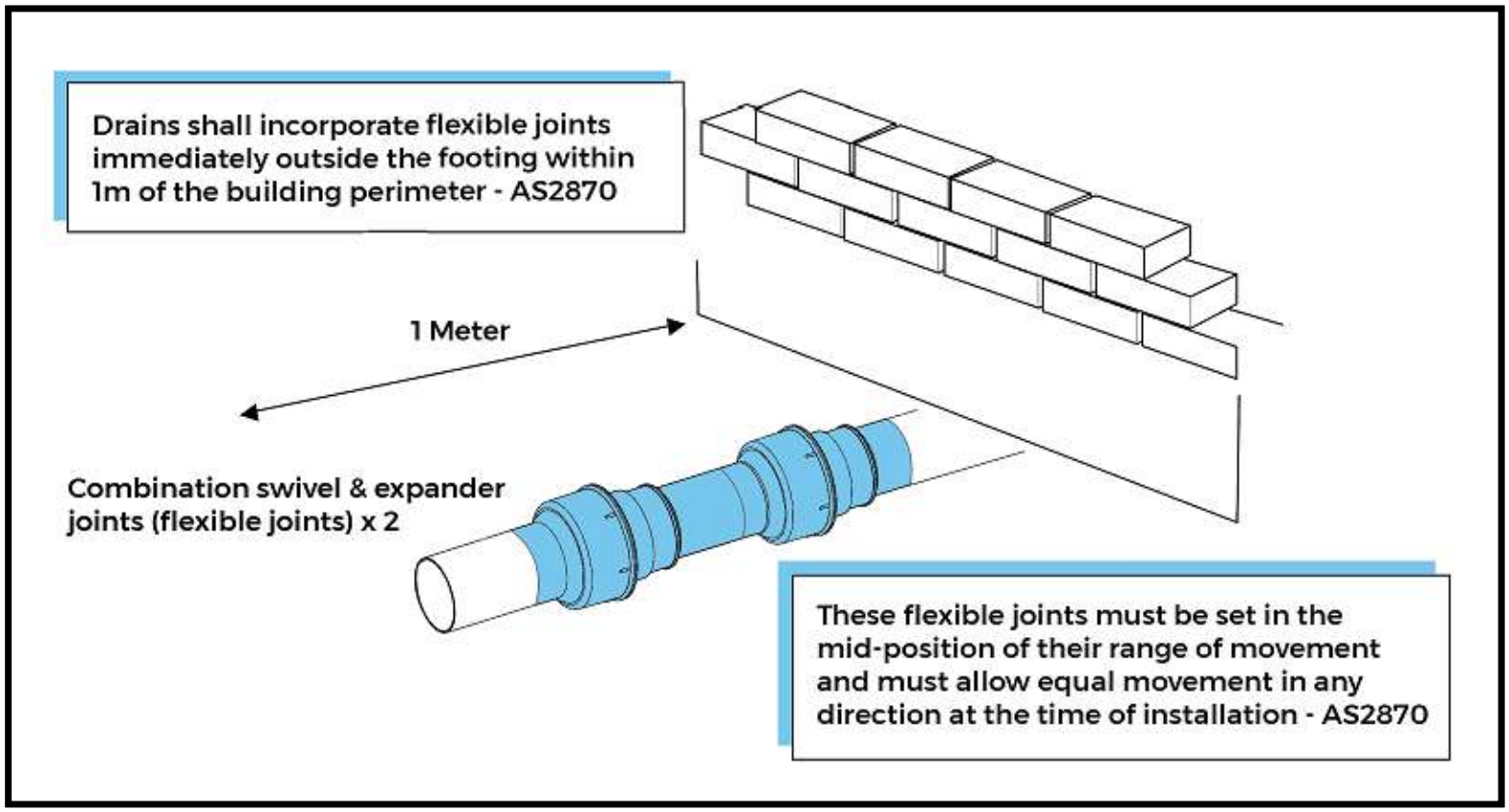
(ii) Design rainfall intensities are now expressed in terms of the Annual Exceedance Probability (AEP) values to reflect the practice of the Australian Bureau of Meteorology (BOM) and the performance requirements of NZBC Clause E1 Surface Water. There has been no change in the requirements or the calculations, and the original ARI values are shown for comparison.

(v) The range of materials that can be used for wet wells has been expanded to encompass prefabricated wells

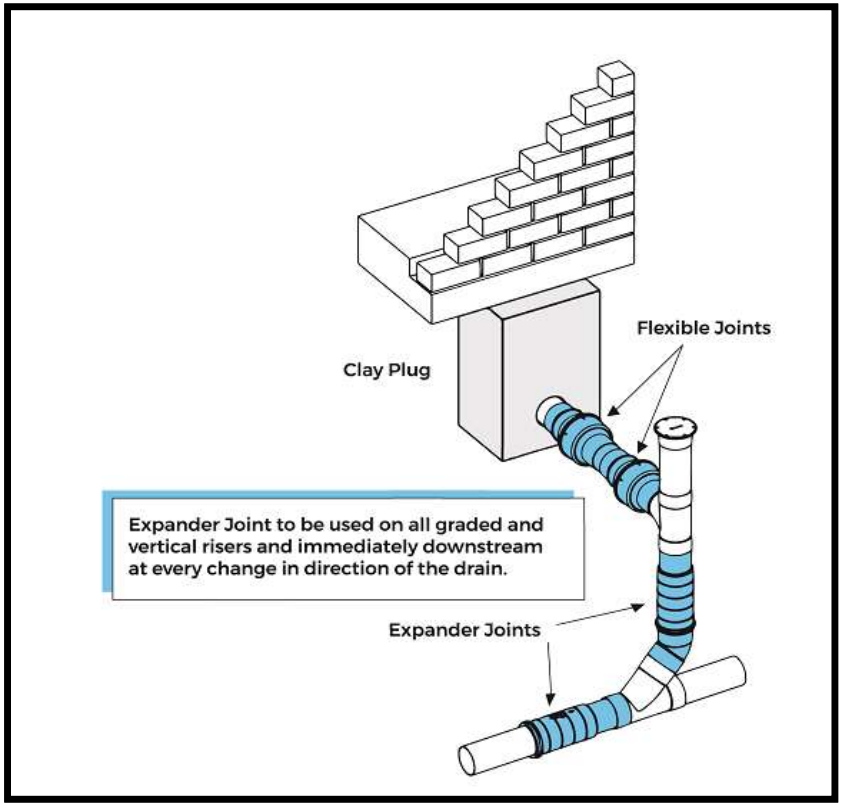
(vi) Changes have been made to the requirements for the marking of pipes in commercial buildings to assist in the betteridentification of pipework and avoiding cross connections.

(vii) The design rainfall for balconies and terraces has been included

AS3500.3 2021



AS3500.3 2021



AS3500.3 2021

Site Classification	Soil Description	Expected range of movement
A	Most sand and rock sites with little or no ground movement from moisture changes	
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes.	0-20mm
M	Moderately reactive clay or silt sites, which may experience moderate Ground movement from moisture changes.	20-40mm
H1	Highly reactive Clay sites, which may experience high ground movement from moisture changes	40-60mm
H2	Highly reactive Clay sites, which may experience very high ground movement from moisture change NOTE: To be used for all projects located within mine subsidence area's	60-75mm
E	Extremely Reactive sites s, which may experience extreme ground movement from moisture changes	>75mm
P	**May consist of any of the above soil types, but in combination with site conditions (for example, vegetation) produce undesirable foundations. P sites may also include fill, soft soils, mine subsidence, collapsing soils, soils subject to erosion, reactive sites subject to abnormal moisture conditions, or sites which cannot be classified otherwise.**	

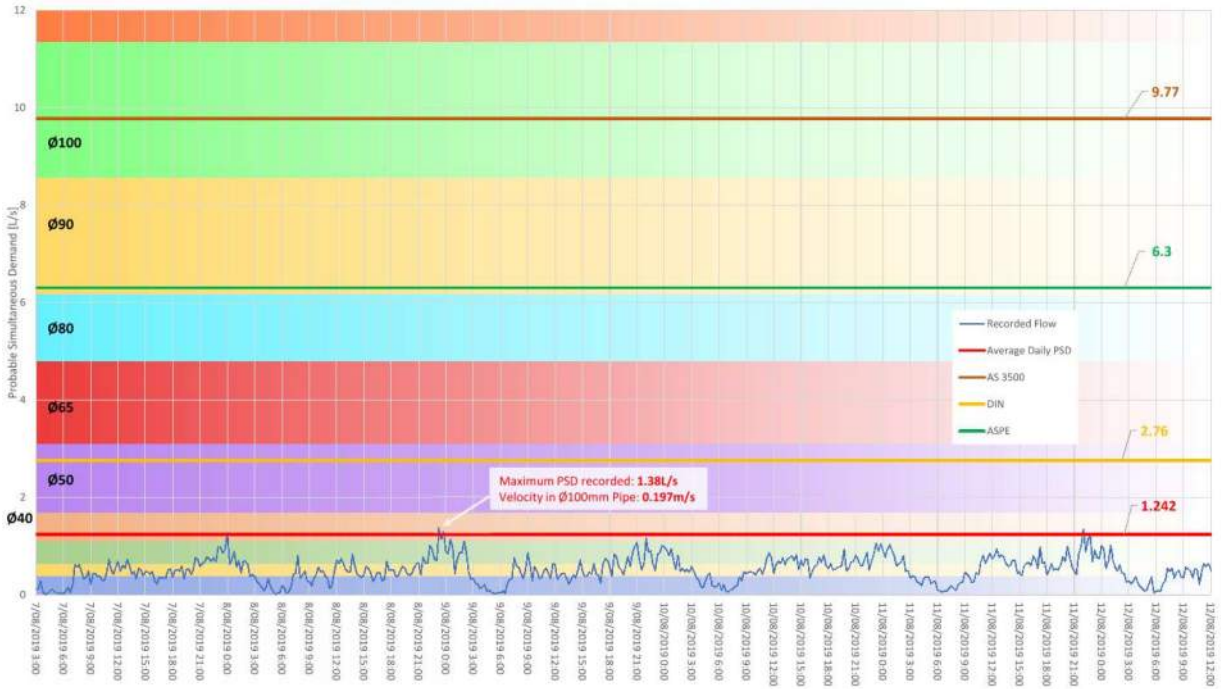
AS3500.4 2018

Air Release Valves		
Manufacturer	Bermad	
Model	Fox-RFP-HR	
Description	• Automatic air venting • Max 1,000kPa, 170°C (250032)	
Weblink	LINK	
Location	Locate at the highest points of all hot water risers and return lines.	
Note	Install a control valve before the air release valve for maintenance access Provide a drain for any condensate and provide an access hatch for maintenance. **Valve is approximately 0.4m in Height and has 25mm Connection**	

AS3500.4 2021

Changes in this revision are as follows:
(i) Conformance to individual product standards has been removed. All products used in plumbing and drainage systems in Australia need to comply with the PCA and, in New Zealand, the NZBC, see Appendix B for further information. Removal of specific product standard conformance requirements avoids inconsistencies and contradictions between this document and the PCA and NZBC
(ii) Definitions have been relocated to AS/NZS 3500.0 for consistency across the series.
(iii) Jointing requirements for plastics pipes have been clarified and expanded to allow different methods.
(iv) Changes to the requirements for the marking of pipes in commercial buildings to assist in the better identification of pipework and avoid cross connections.
(v) Changes to the requirements for the installation of water services located in metal-framed walls to bring the provisions in line with those of the National Association of Steel-Framed Housing (NASH).
(vi) The separation between above-ground heated water services pipe work and electrical services has been reduced to bring it in line with AS/NZS 3000 and AS/NZS 3500.1.
(vii) To improve the amenity of users and reduce wastage of water and energy, changes have been made to requirements for circulated heated water systems including water meters and entry points for heated water, thermal insulation for non-circulatory heated water piping, and maximum capacities of any dead leg from the branch offtake to its termination.
Appendix Q has
been added to provide a guide to determining capacity of dead legs and estimating wait times.
(viii) Heated water temperature control provisions, which are considered matters of public policy, were elevated from AS/NZS 3500.4 to the PCA Part B2 Heated Water Systems. To avoid conflict between the PCA and this document, clauses relating to sanitary fixtures deliver

Water Demand Project – Ongoing Research



Progress Report

DEAKIN UNIVERSITY

The NSW Gas and Electricity (Consumer Safety) Regulation 2018 was changed on 26 March 2021.

This change is important for gas installations and designs in NSW, as it now brings us in line with other states in Australia by bringing into force any new version of the gas standard as soon as it is published.

Part 10 Gas and autogas installations - standards for gasfitting work and autogas work

39 Gasfitting work to comply with certain standards

(1) For the purposes of section 34(b) of the Act, each of the following standards is prescribed for the type of gasfitting work to which the standard applies:

(a) the Australian and New Zealand Standard entitled AS/NZS 5601.1:2013, Gas installations, Part 1: General installations,

(b) AS/NZS 5601.2,

(c) the Australian and New Zealand Standard entitled AS/NZS 1596:2014, The storage and handling of LP Gas,

(d) the Australian Standard entitled AS 4041—2006, Pressure piping.

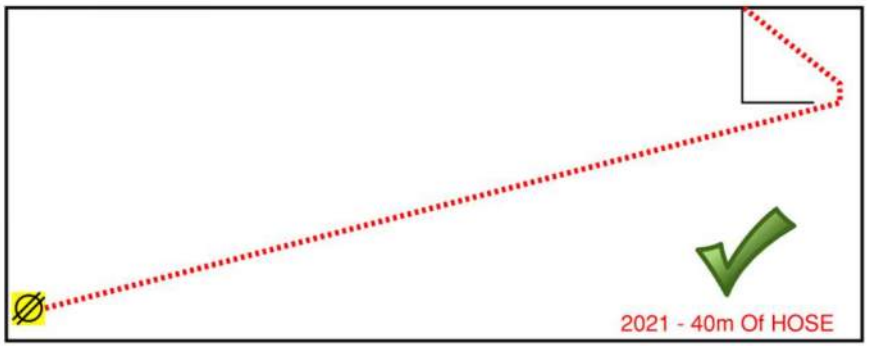
(2) For the purposes of this clause, if a standard mentioned in subclause (1)(a)–(c) is amended or a new version of the standard is published, gasfitting work is taken to comply with the standard, as prescribed for that type of work by subclause (1), if it complies with the standard:

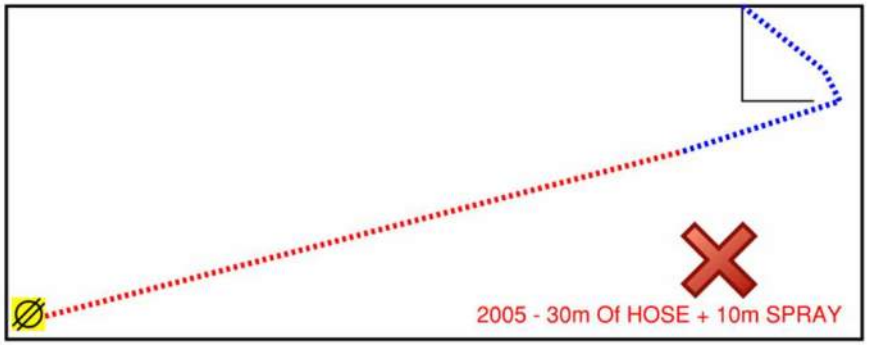
(a) as in force when the work is carried out, or

(b) as in force immediately before the amendment or publication, if the work is carried out during the 6-month period commencing on the date of the amendment or publication

AS2419.1 2021

What is Changing?





AS/NZS 5601.1:2022

AS/NZS 5601.1:2020(DRAFT)

Major changes from AS/NZS 5601.1:2013 include the following:

(A) New definition for an "ignition source".

(B) Section 2 has been separated into "Essential safety requirements" and "Performance based design requirements".

(C) Brazing prohibited within 1 m of a joint with non-metallic components.

(D) New drawings for consumer piping located in cavities.

(E) Prohibition on the installation of multilayer pipe above ground external to buildings

(F) Provision of emergency isolation for multilayer pipe including a new definition for a fire safety system.

(G) Increased clearance requirement between domestic cooking appliances and rangehoods to align with IEC 60335-2-31, *Household and similar electrical appliances – Safety, Part 2-31: Particular requirements for rangehoods and other cooking fume extractors.*

(H) Prohibition on the use of semi-rigid connectors in the installation of commercial catering equipment.

(I) New requirements for the protection of combustible surfaces adjacent to commercial catering equipment.

(J) New pipe sizing graphs and tables based upon the Churchill friction factor equation.

(K) Effect of altitude on gas supply pressure for high rise building installations.

(L) Revised requirements for the location of flue terminals under a covered area, in a recess, or on a balcony.

(M) New requirement for the isolation of installations in educational institutions.

(N) New requirements for freestanding commercial catering equipment with under-equipment connection.

(O) New requirements for the connection of freestanding commercial catering equipment using a hose assembly.

Multilayer pipe – Class 1 Building

1.3.77
Multilayer pipe
pipe comprising of stress-designed polymeric layers, including one or more stress-designed metallic layers (e.g., PE-X/AL/PE)
Note 1 to entry: Also known as “composite pipe” and “macro-composite pipe”.

Provision of fire emergency isolation for multilayer pipe

Where *multilayer pipe* is used as part of *consumer piping,* the following requirements for fire emergency isolation shall apply:

Multilayer pipe

a) For a **Class 1** **buildings** in Australia, or detached or multi-unit dwellings in New Zealand, with **a *consumer piping* volume of less than 30 L,** the method of isolation shall be either a *fire safety system* or an under-pressure cut-off device (commonly known as an "**UPSO**") that meets the requirements of AS 4632 and is in a readily accessible location as close as practicable to the point of supply and prior to any multilayered pipe.

Pipe Diameter	Length	Litres
20mm	184m	29.97L
25mm	117m	29.77L
32mm	70m	29.59L

UPSO <30L Class 1 Dwelling

Multilayer pipe – Any other Building

b) For any other building, or where the *consumer piping* volume is greater than 30 L:

i. **The installation shall be fitted with a system that will shut off the gas supply when the fire safety system operates.**

ii. The method of isolation shall be a single **class 1 *safety shut off valve***, that meets the requirements of AS 4629 and automatically isolates the gas flow to the building when de-energized. This valve shall –

- **A. operate only when the fire safety system operates; and**
- **B. be located prior to any multi-layered pipe or as close as practicable to the gas supply point to the building, and be readily accessible**

iii. The system shall provide pressure proving of the downstream installation prior to restoration of the gas supply.

NOTE 1: Multilayer piping has less durability and mechanical strength than metallic piping when subjected to fire.

NOTE 2: Class 1 buildings are defined in the National Construction Code.

GSSV Interlocked to Smoke Detectors or fire alarm system – All other situations

Location of appliances – in single residential premises

Location of appliances in single residential premises

Appliances in single residential *premises* shall be located such that any additional means of access as indicated in Clause 6.3.12.3 is not required.

NOTE: Local workplace health and safety (WHS) requirements should be considered for future servicing. replacement and maintenance of appliance(s).

Appliance on roof, wall or elevated structure in locations other than single residential premises

When an *appliance* is to be located on a roof, wall or elevated structure, the following shall apply:

(b) **The *appliance* shall be installed more than 1.5 m from the edge of the roof or structure** unless the edge of the roof or structure has a parapet wall or an alternative means of fall protection,

(c) Where an *appliance* is mounted on a wall, **the height of the base of the appliance from the ground or floor level shall not exceed 2.5 m** unless a permanent means of access or another means of access which is acceptable to the local WHS Regulator is provided, that can be arranged by the body corporation or its representative.

Flue Terminal –

under a covered area, in a recess or on a balcony

Flue terminal under a covered area, in a recess or on a balcony

Where a *flue terminal* is to be installed under a covered area, in a recess or on a balcony, ready dispersion of combustion products and avoidance of nuisance shall be achieved as follows:

(a) For partially or fully covered areas and recesses, which are not balconies and which are open on at least two sides, the *flue terminal* shall be located to ensure a free flow of air across it and conform to the requirements of Clause 6.2.5. The *appliance* shall be a *balanced flue appliance*, *room-sealed appliance*, a *fan-assisted appliance* or an *appliance* designed for *outdoor* installation.

(b) For partially or fully covered areas and recesses, which are not balconies and which are open on only one side, the *flue terminal* shall extend beyond the covered area and discharge towards the open side, in accordance with Figure 6.9.4(a) or Figure 6.9.4(b) respectively, to ensure that combustion products discharge to open atmosphere. The *flue terminal* shall be located to ensure a free flow of air across it and conform to requirements of Clause 6.2.5. The appliance shall be a *fan-assisted appliance.*

(c) For all balconies, regardless of the number of open sides and including partially covered balconies, the *flue terminal* shall extend beyond any covered area and discharge towards an open side in accordance with Figure 6.9.4(c) to ensure that combustion products discharge to open atmosphere. The *flue terminal* shall be located to ensure a free flow of air across it and conform to the requirements of Clause 6.2.5. The *appliance* shall be a *fan-assisted appliance.*

Isolation for installations in educational institutions

Isolation for installations in educational institutions

In installations where a number of *appliances* without *flame safeguard systems* are used, such as a school laboratory, a means of isolation shall be fitted and include all of the following:

(a) A *readily accessible* quarter turn manual isolation valve at the inlet of the installation.

(b) **An electrically operated solenoid valve** to supply gas to the installation. The solenoid valve shall be controlled by a timing device set to the duration the installation is expected to operate.

(c) **A *readily accessible* emergency stop button** connected to the electrically operated valve with a key-operated reset function to ensure no gas flows to the installation after restoration of power following a power failure.

(d) Signage adjacent to the emergency stop button indicating its purpose (see Note).

(e) Operating instructions for the emergency stop button.

NOTE: Suggested wording for the signage is "GAS ISOLATION: Turn off when gas is not in use or in the case of emergency. Before turning on, ensure all the appliances (e.g., Bunsen burners) are turned off".

Effect of altitude on high rise installations

Compensation for the effect of altitude on *gas* supply *pressure* should be made in high rise buildings. An increase in altitude will result in an increase in *gas* supply *pressure* for lighter than air *gas*es such as NG. Conversely, for heavier than air *gas*es, such as *LP Gas*, an increase in altitude will result in a decrease in *gas* supply *pressure*.

Consideration should be given to the following:

1.(a) Selection of the correct inline and *appliance regulator*s;

2.(b) Correct adjustment of *operating pressure*s for *appliance*s on each floor level

3.(c)*Over-pressure protection* (see Clause 5.11.2)

A general rule of thumb is that for *Natural gas* (NG) the *pressure* will increase by approximately 0.5 kPa for every 100 m rise in altitude while for *LP Gas* the *pressure* will decrease approximately by 1 kPa for every 100 m rise in altitude.


thank you!