

TUES May 11th, 2021



HCAA General Meeting

May 2021

Topic 2 – Engineer or Consultant, Plumbing Designer, Hydraulic Designer?

Shaun Wallace

What title should we use and what should the minimum qualifications be for these titles?

Mid last year, the Australian Building Codes Board (ABCB) released a discussion paper on a draft National Registration Framework for Building Practitioners (NRF). The purpose of the NRF was to achieve national consistency in the registration of building practitioners across the jurisdictions to achieve significant economic benefits, improve the efficiency of the registration process through options such as mutual recognition (godfathering) and enhance public confidence in the building industry.

Topic 2 – Engineer or Consultant, Plumbing Designer, Hydraulic Designer?

The NRF covers core disciplines in the fields of building production (design, checking, construction and inspection), building approval (approval to build, approval to occupy) and coordination (project management).

The NRF is based on registration categories, with specific disciplines within each category. Among these categories is Hydraulic and Plumbing Design, which are summarised below:

Topic 2 – Engineer or Consultant, Plumbing Designer, Hydraulic Designer?

National Registration Framework for Building Practitioners Table 1 NRF Taxonomy

Field	Cate- gory	Discipline	Level	Endorsement	Definitions	Permitted Work	Qualification	Experience
Hydraulic Design			1		Hydraulic professional engineering design work means engineering work that requires, or is based on, the application of engineering principles and data to a design relating to hydraulic engineering for a building other than engineering work that is done only in accordance with a prescriptive standard. Engineering work includes design, checking, peer review and signing certificates of compliance.	Hydraulic professional engineering design work, all NCC building Classes or size - performance and DTS.	Degree in civil, hydraulic or water services engineering, accredited to the Washington Accord that includes approved NCC training, or Degree in civil, hydraulic or water services engineering, accredited to the Washington Accord, plus approved NCC training.	5 years
			2		Plumbing technical design work means engineering work that requires, or is based on, the application of hydraulic engineering principles and data to a design relating to hydraulic engineering for a building that is done only in accordance with a prescriptive standard. Engineering work includes design, checking, peer review and signing certificates of compliance.	Plumbing technical design work, all NCC building Classes or size - DTS only.	Approved diploma of hydraulic services design that includes NCC training, or Approved diploma of hydraulic services design plus approved NCC training.	3 years
Plumbing Design			1		Plumbing technical design work means engineering work that requires, or is based on, the application of hydraulic engineering principles and data to a design relating to hydraulic engineering for a building that is done only in accordance with a prescriptive standard. Engineering work includes design, checking, peer review and signing certificates of compliance.	Plumbing technical design work, all NCC building Classes or size - DTS only.	Approved diploma of hydraulic services design that includes NCC training, or Approved diploma of hydraulic services design plus approved NCC training.	3 years
			2		Plumbing technical design work means engineering work that requires, or is based on, the application of hydraulic engineering principles and data to a design relating to hydraulic engineering for a building that is done only in accordance with a prescriptive standard. Engineering work includes design, checking, peer review and signing certificates of compliance.	Plumbing technical design work for NCC Class 1 and 10 buildings and Class 2-9 buildings up to six storeys above a storey used for parking vehicles – DTS only.	Approved certificate IV in plumbing and services that includes NCC training, or Approved certificate IV in plumbing and services plus approved NCC training.	3 years

Topic 2 – Engineer or Consultant, Plumbing Designer, Hydraulic Designer?

Proposed HCAA discipline recategorization for discussion

Minimum Qualifications - Hydraulic Design in Australia				
Design Practitioner Level	Minimum Qualification	Recent Minimum Years of Hydraulic Design experience	Restrictions	Performance Solutions
Hydraulic Engineer level 1	Civil or Mechanical Engineering Degree	5	Unrestricted	Yes
Hydraulic Engineer level 2	Civil or Mechanical Engineering Degree	3	DTS only	No
Hydraulic Designer Level 1	Diploma In Hydraulic Services Design	5	Unrestricted	Yes
Hydraulic Designer Level 2	Diploma In Hydraulic Services Design	3	DTS only	No
Hydraulic Designer Level 3	Certificate IV in Plumbing and Services	3	DTS up to 6 Floors Only	No

Definition: *Recent*, in relation to practical experience of a person, means nominated years, or equivalent part-time, experience within the last 10 years, including at least 2 years practical experience relating to work carried out in Australia by the person

Topic 3 – Design and Building Practitioners Regulation 2021

Shaun Wallace / Nick Soden

From 1 July 2021, Design and Building Practitioners working on class 2 buildings need 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.

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What are the changes

Certain designs will 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.



Topic 3 – Design and Building Practitioners Regulation 2021

Who needs to be registered

Design and Building Practitioners working on class 2 buildings or buildings with a class 2 part need to register to declare certain designs or building work, and lodge documents on the NSW Planning Portal.

Registration classes:

- Design Practitioners (18 Classes)
- Principal Design Practitioners (2 Classes)
- Building Practitioners (3 Classes)



Topic 3 – Design and Building Practitioners Regulation 2021

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 – Drainage (restricted)

Prepare regulated designs and make compliance declarations in relation to stormwater drainage and roof drainage systems for a building that has a rise in storeys of no more than 6.



Topic 3 – Design and Building Practitioners Regulation 2021

Design Practitioner – HCAA Relevant Classes – Continued

- 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



Topic 3 – Design and Building Practitioners Regulation 2021

Design Practitioner – Drainage – HCAA 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)



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Design Practitioner – Drainage – HCAA Relevant 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



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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.



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

- Relevant – being experience relevant to the class of registration involving a class 2, 3, 9a or 9c building



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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



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Design Practitioner – Fire Systems (Fire Sprinkler, Fire Hydrant and Fire Hose Reel) – HCAA Relevant Qualifications and Experience – Continued
Pathway 2

- A Engineering degree from an Australian university or a qualification under a program accredited by Engineers Australia including successful completion of particular units of competency; or



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Design Practitioner – Fire Systems (Fire Sprinkler, Fire Hydrant and Fire Hose Reel) – HCAA Relevant Qualifications and Experience – Continued Pathway 3

- 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

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.



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

- Relevant – being experience relevant to the class of registration involving a class 2, 3, 9a or 9c building

Design Practitioner – Fire Systems (Fire Sprinkler) and Fire System (Fire Hydrant and Fire Hose Reel) both have transitional arrangements for the three qualification pathways



Topic 3 – Design and Building Practitioners Regulation 2021

Regulated designs and variations

These are the designs prepared for a building element, or a performance solution, for building work.

Building work refers to the construction; alteration or addition; or the repair, renovation or protective treatment of a class 2 building.

A performance solution is a tailored solution to meet the performance requirements in the Building Code of Australia.

For this scheme, building element means any of the following:

- fire safety systems
- waterproofing



Topic 3 – Design and Building Practitioners Regulation 2021

Regulated designs and variations – Continued

- building structure
- building enclosure
- building services.

Each regulated design must be prepared by a registered Design Practitioner and be lodged onto the NSW Planning Portal by the Building Practitioner. A standard title block will be required and used by the NSW Planning Portal to extract data relating to the design. The title block will be available to practitioners soon and provided in a .dwg format so that it can be included in AutoCAD systems.

To ensure compliance and quality of the documents lodged, auditing is planned to start from September 2021.



Topic 3 – Design and Building Practitioners Regulation 2021

Regulated designs and variations – Continued

All variations related to a building element or performance solution will require an authorised Design Practitioner, not limited to the original designer, to prepare (or coordinate or supervise the preparation of) and declare a new design.

Variations to an aspect of a regulated design unrelated to a building element or performance solution do not need to be signed off by a Design Practitioner but must be recorded by the Building Practitioner in a variation statement.

Variations on regulated designs must be lodged on the NSW Planning Portal within one day of the variation alongside the design compliance declaration form. Work may need to stop so that the varied design can be prepared and declared within this timeframe.



Topic 3 – Design and Building Practitioners Regulation 2021

Regulated designs and variations – Continued

Variation statements will need to be lodged prior to the application for an Occupation Certificate and must not include any variations that are building elements or performance solutions.

See extracts below from the 'draft' regulated design guidelines for design practitioners



Topic 3 – Design and Building Practitioners Regulation 2021

Regulated designs and variations – Continued

Design Practitioner Title Block

Complete successive entries upwards

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



Topic 3 – Design and Building Practitioners Regulation 2021

Regulated designs and variations – Continued

Class of design: Drainage (prepared by a registered design practitioner in the class of hydraulic engineering)				
1:500	Services masterplans	<ul style="list-style-type: none"> □ Routes of pipework, pits and cabling on the site □ Identify those services that are unable to be concealed 	TBC	N/A
		<ul style="list-style-type: none"> □ All distribution methods and arrangements for the Utilities 		
1:100	Stormwater systems designs	<ul style="list-style-type: none"> □ Downpipes □ Rainwater harvesting □ Stormwater connection (prepared by a civil engineer) □ Designs to demonstrate compliance with any special planning permit conditions □ Single line diagrams for rainwater and stormwater infrastructure mains plans and building servicing □ stormwater drainage stacks dropping to points of discharge □ stormwater overflow path 	F and AS/NZS3500.3	N/A
	Other	<ul style="list-style-type: none"> □ tundishes and floor wastes for collection of condensate from air conditioning systems 		



Topic 3 – Design and Building Practitioners Regulation 2021

Regulated designs and variations – Continued

Class of design: Fire safety systems (prepared by a registered design practitioner in the class of fire safety system)				
1:500	Fire Safety Services masterplans	<ul style="list-style-type: none"> □ For hydraulic fire systems: System block plans and system schematics showing water supplies, pumps, booster connections and other arrangements to the satisfaction of the Water Authority, the Fire Brigade and BCA. □ For detection and alarm systems: system block plans □ Fire systems control matrix 	TBC	
1:100	Fire safety systems generally	<ul style="list-style-type: none"> □ Plans □ Scaled sections and elevations □ Specifications □ Controls and single line diagrams □ Baseline data 	C, E	Minimum requirements for design category: This covers the systems listed in detail below including extinguishers, hydrants, hose reels, sprinklers, tanks and pumps, detection & alarm systems, BOWS and interface to BMS and other systems controlled by the detection system, mechanical services, duct dampers, magnetic hold open devices, lifts and any other essential fire safety measure listed in Clause 166 of the EP&A Reg.
1:100	Portable fire extinguishers	<ul style="list-style-type: none"> □ Locations, specifications, Warning and operational signs 	E, AS 2444	
1:100	Fire hydrant system plans and hose reel and hydrant coverage	<ul style="list-style-type: none"> □ Fire hose reel systems □ Fire hydrant systems □ For combined systems: Completed hydrant and sprinkler pipework layouts internal plans, including fire hydrant, fire hydrant head locations, hose reel and sprinkler pipes' risers supply and return from intake valves or plant rooms to relevant floor take-offs and associated isolation valves for fire sprinklers, hydrants and hose reels, boosters, as required □ Warning and operational signs 	E AS2419.1, AS 2441, AS2118.6	



Topic 3 – Design and Building Practitioners Regulation 2021

Regulated designs and variations – Continued

1:100	Sprinkler system plans	<ul style="list-style-type: none"> □ For combined systems: Completed hydrant and sprinkler pipework layout internal plans, including fire hydrant, hose reel and sprinkler pipes' risers supply and return from intake valves or plant rooms to relevant floor take-offs and associated isolation valves for fire sprinklers, hydrants and hose reels, as required □ Scaled sprinkler valve rooms, including risers supply and return from intake valves or plant rooms to relevant floor take-offs and associated isolation valves for fire water, and fire sprinkler control valves, isolation valves and drain down points, including water capture and recycling 	E AS 2118.1, AS 2118.4, AS2118.6, AS2118, FPAA101H or FPAA101D	
1:50 or 1:20	Fire water supply tanks and pumps	<ul style="list-style-type: none"> □ Pump rooms and infrastructure 	C, E, AS 2118.1;	
1:100	Water supply for fire systems, including reduced pressure zone devices (RPZs)		AS3500	
1:100	Automatic smoke-and-heat vents	Automatic smoke exhaust system or automatic smoke and heat vents fire compartments Fire and smoke damper locations	E2 AS 2665	
	Special hazards plans			



Topic 3 – Design and Building Practitioners Regulation 2021

Eligibility Requirements

You must prove that you:

- meet the qualification, knowledge, skills and experience requirements
- have successfully completed the pre-registration learning requirements
- are at least 18 years of age
- are a suitable person to carry out the work
- meet insurance requirements
- pass a national police check



Topic 3 – Design and Building Practitioners Regulation 2021

How to get registered

From 1 July 2021, you can apply to register on the Service NSW website but there are two important points:

1. Design, Principal Design and Building Practitioners – as long as you register before you need to declare or lodge a document, you don't need to register on 1 July 2021.
2. Only the person who will be declaring or lodging documents needs to register.



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Deemed Registration

From 1 July to 31 December 2021, there will be a transitional period where you will be ‘deemed’ registered – so you can keep working.

A deemed registration means you will receive a registration ID and can keep working while we assess your application.

After assessment, you’ll be notified as to whether you can keep your registration for one, three or five years (start date is date of application); or whether your deemed registration has been cancelled because you were not eligible.

If your application is successful, your registration ID will stay the same.

If you apply after 31 December 2021, you will need to stop declaring or lodging documents while you wait for your application to be assessed and approved.



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Transitional Arrangements

If building work **hasn't started** under a particular complying development certificate or construction certificate before 1 July 2021, then the new rules apply regardless of whether your construction certificate or complying development certificate was issued before or after 1 July 2021.

If building work **has started** before 1 July 2021, the new rules don't apply to the work that has started under that construction or complying development certificate. However, the designs you have relied upon will still need to be lodged. Any subsequent building work started on another certificate after 1 July 2021 will need to comply with the new rules.



Topic 3 – Design and Building Practitioners Regulation 2021

Transitional Arrangements – Continued

From 1 July 2022, the transitional period ends. For projects where the first building work was carried out after 1 July 2022, all regulated designs will need to be declared before any building work can start at all, including where the designs were prepared before 1 July 2021. By enabling a holistic view of design, we are improving industry practices at the start of the building process.



Topic 3 – Design and Building Practitioners Regulation 2021

How to prepare for 1 July

Here are some things you can do to prepare for 1 July 2021.

- proof of identity (two types) – the Service NSW application form will step you through what types of identity will be accepted for registration
- to complete and pass:
 - Design and Building Practitioners Regulation 2021 learning module (available from May on the Construct NSW Digital Learning Platform)
 - The Value of Australian Standards learning module (available now on the Construct NSW Digital Learning Platform)



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Practitioners Regulation 2021

How to prepare – Continued

- a police check – you may do this through the Service NSW National Police Certificate - Name and Date of Birth or choose your own provider
- if you hold an existing licence in your field of work, make sure those licence details are up to date and match your proof of identity documents
- a copy of your degree, postgraduate degree, diploma or NVR* course certificate. In some cases, a transcript may be required – check eligibility requirements.

* *National Vocational Education and Training Regulator Act 2011*

Note, there will be additional requirements to prove you are eligible. Please keep checking the NSW Fair Trading list as it will be updated in the lead-up to 1 July 2021.



Topic 3 – Design and Building Practitioners Regulation 2021

Code of Practice

Comply with a Code of practice that sets out required professional and ethical standards.

The Code includes the duty to:

- act in a professional manner
- act within their level of competence and expertise
- maintain satisfactory level of competence
- avoid conflicts of interest
- maintain confidentiality.

More information about code of practice is published in Schedule 4 of the [Design and Building Practitioners Regulation 2021](#).



Topic 3 – Design and Building Practitioners Regulation 2021

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.



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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](#).



Topic 3 – Design and Building Practitioners Regulation 2021

Insurance

There is a transitional period for insurance requirements. While adequate insurance is recommended, from 1 July 2021 to 30 June 2022, there are no additional, mandatory insurance requirements for Design Practitioners, Principal Design Practitioners and Building Practitioners under the new scheme.



Topic 3 – Design and Building Practitioners Regulation 2021

Registration Fees

Registration fees for Design Practitioners – Level 2

The following fees are the proposed registration, renewal, restoration and variation fees for a Design Practitioner in the following classes only:

- Design Practitioner – Building Design (Low Rise)
- Design Practitioner – Building Design (Medium Rise)
- Design Practitioner – Drainage
- Design Practitioner – Drainage (Restricted)
- Design Practitioner – Façade
- Design Practitioner – Fire Systems (Detection and Alarm Systems)
- Design Practitioner – Fire Systems (Fire Sprinkler)
- Design Practitioner – Fire Systems (Fire Hydrant and Fire Hose Reel)
- Design Practitioner – Fire Systems (Mechanical Smoke Control)
- Design Practitioner – Vertical Transportation

Design Practitioner – Level 2		
Fee Type		Proposed Fee (\$)
Application	1 year	440
	3 years	990
	5 years	1,650
Renewal	1 year	330
	3 years	742
	5 years	1,237
Restoration	1 year	385
	3 years	797
	5 years	1,293
Variation		186



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Registration Fees – Continued

The following fees are the proposed registration, renewal, restoration and variation fees for a Professional Engineer in the following classes:

- Professional Engineer – Civil
 - Professional Engineer – Electrical
 - Professional Engineer – Fire Safety
 - Professional Engineer – Geotechnical
- Professional Engineer – Mechanical
 - Professional Engineer – Structural.

Professional Engineers		
Fee Type		Proposed Fee (\$)
Application	1 year	592
	3 years	1,332
	5 years	2,219
Renewal	1 year	444
	3 years	999
	5 years	1,665
Restoration	1 year	499
	3 years	1,054
	5 years	1,697
Variation		254



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Relevant Website Links

NSW Fair Trading - Information

<https://www.fairtrading.nsw.gov.au/trades-and-businesses/construction-and-trade-essentials/design-and-building-practitioners/becoming-registered-to-work-on-class-2-buildings#preparefor1july>

NSW Planning Portal

<https://www.planningportal.nsw.gov.au/>

Construct NSW Digital Learning Portal

<https://training.tafensw.edu.au/constructnsw/>

