

# Outcome of Building Code 2020 Update Public Consultation

Decisions to amend, revoke or issue New Zealand Building Code  
Acceptable Solutions and Verification Methods 2020



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## Foreword from the Manager, Building Performance and Engineering

I would like to thank every person and organisation who took the time to prepare a submission for the Building Code 2020 update. The valuable feedback we receive from the sector will allow the Ministry of Business, Innovation and Employment (MBIE) to better understand how the proposals will affect the sector and contribute to meaningful change.

Keeping the Building Code and compliance pathways up to date provides clarity, consistency and certainty for the whole construction sector, including homeowners, designers, builders and building consent authorities.

MBIE updates the Building Code annually, utilising the latest research, knowledge and building practices. The regular updates are intended to deliver both continuous improvement, as well as respond to new risks or developments, while contributing to warmer, safer and drier homes.

Gathering sector feedback through public consultation is a vital part of the Building Code update process. Based on the submissions we received, MBIE has been able to make improvements to our proposals, and reconsidered some aspects of the proposals based on what we heard. This is all reflected in the decision document.

I'd like to thank you again for your participation in this year's consultation and encourage you to continue to be part of future Building Code updates.

Dave Robson  
Manager, Building Performance and Engineering

## Summary of the consultation process

The updates to the Building Code in November 2020 relate to Acceptable Solutions and Verification Methods documents, which are issued under section 22 of the Building Act 2004.

Between 17 February and 17 April 2020, MBIE sought feedback on proposals to issue two new Acceptable Solutions and amend twelve existing Acceptable Solutions and Verification Methods. In total, there were 27 amendments proposed across 12 documents. The consultation originally intended to close on 27 March 2020, but this was extended by three weeks due to the impacts of COVID-19.

Over 130 submissions were received via an online form or email. These submissions came from a range of people in the building and construction sector, including building consent authorities, designers, builders, homeowners, suppliers and manufacturers.

The submissions provided comments on both the technical content of the changes, and their impact. The submitters were also asked to select one of four possible options on how they felt about the proposal overall, to go alongside their comments. They were given the option to:

- > support the proposal
- > support the proposal but with changes
- > object to the proposal
- > object to the proposal but with changes.

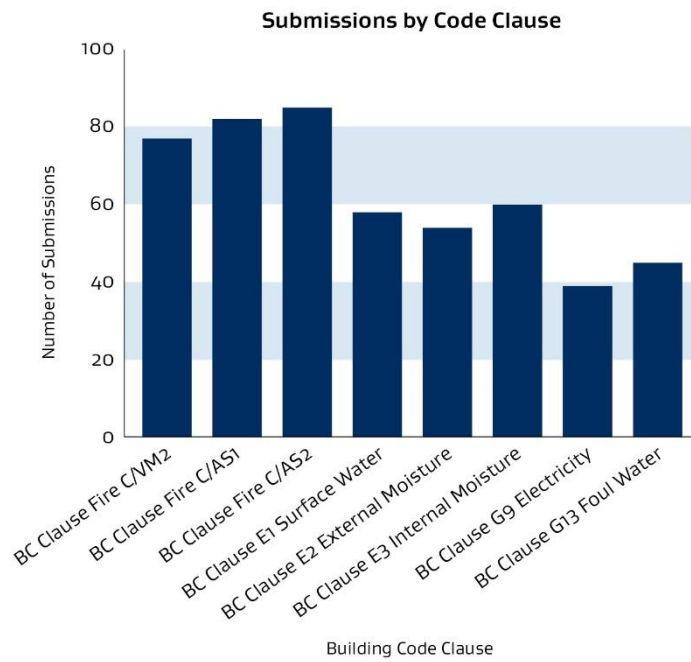
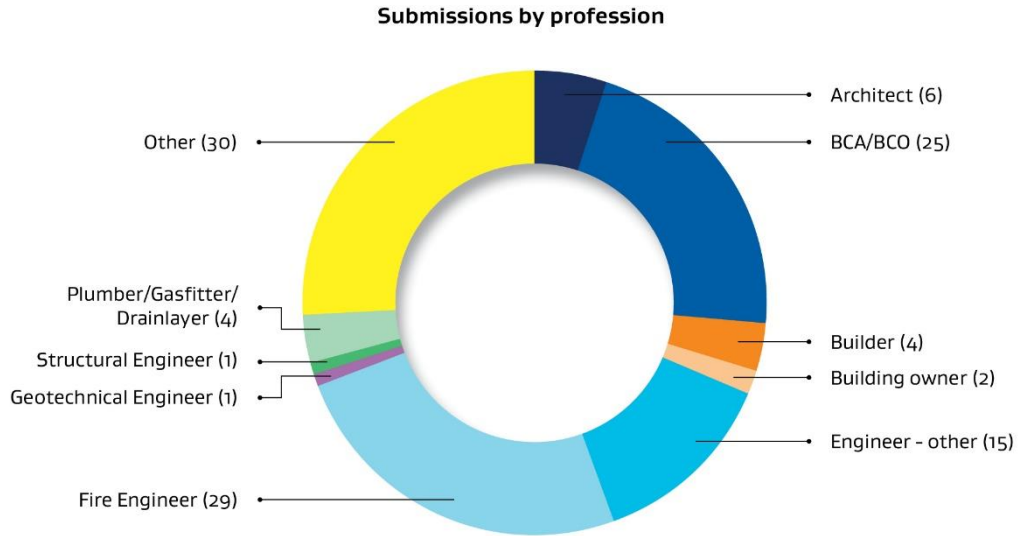
Feedback was analysed and considered by Building Performance and recommendations generated based on whether:

- > no changes to the proposal were required
- > minor, moderate or major changes to the proposal were required
- > the feedback was out of scope for the November 2020 update but should be logged for consideration in future updates
- > the proposal should be withdrawn.

In general, the feedback received led to MBIE proceeding with most proposed changes, with some minor amendments.

However, there were several submissions about the complexity and impact of proposals for amending requirements of cladding and firefighter operations. The submissions highlighted several items in the proposal which these amendments hadn't fully resolved. Following this feedback, it has been decided to withdraw some portions of proposed changes from the November 2020 update.

The following graphs show how many submissions were received for each code clause, and who submitted them.



## Summary of decisions

A summary of the decisions is provided below.

Proposal	Decision	Description
<b>C1-C6 Protection from fire</b>		
C/VM2 – Item 1: Cladding requirements	<b>Publish with significant changes</b>	MBIE is publishing these amendments with modifications to the proposed text to address concerns raised on the contribution of structural members to vertical fire spread.
C/VM2 – Item 2: Horizontal fire spread	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
C/VM2 – Item 3: Editorial	<b>Publish with significant changes</b>	MBIE is publishing two amendments to the text and withdrawing the proposal to include Appendix D Practice advice for fire modelling (informative) in C/VM2.
C/AS1 – Item 1: Scope of risk group SH	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
C/AS2 – Item 1: Scope of risk group SH	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
C/AS2 – Item 2: Means of escape	<b>Publish with significant changes</b>	MBIE is withdrawing several proposed amendments and publishing the remainder with minor modifications to the proposed text to clarify the requirements.
C/AS2 – Item 3: Group sleeping areas	<b>Publish with significant changes</b>	MBIE is publishing these amendments with modifications to the proposed text and figures to clarify the requirements.
C/AS2 – Item 4: Cladding requirements	<b>Publish with significant changes</b>	MBIE is publishing these amendments with modifications to the proposed text to address concerns raised on the contribution of structural members to vertical fire spread.
C/AS2 – Item 5: Control of external fire spread	<b>Publish with significant changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
C/AS2 – Item 6: Firefighting	<b>Withdraw and reconsider</b>	MBIE is withdrawing this proposal.

Proposal	Decision	Description
C/AS2 – Item 7: Editorial	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
C/AS2 – Item 8: Errata	<b>Publish as proposed</b>	MBIE is publishing these amendments as proposed.
<b>E1 Surface water</b>		
Item 1: New Acceptable solution E1/AS2 for stormwater drainage	<b>Publish with minor changes</b>	MBIE is issuing this new Acceptable Solution with minor modifications to the proposed text.
Item 2: Rainfall intensities in E1/AS1	<b>Publish with minor changes</b>	MBIE is proceeding with amendments with minor modifications to the proposed text.
Item 3: Referenced standards in E1/VM1 and E1/AS1	<b>Publish as proposed</b>	MBIE is publishing these amendments as proposed.
Item 4: Editorial: Correct a spelling mistake in E1/AS1	<b>Publish as proposed</b>	MBIE is publishing these amendments as proposed.
<b>E2 External Moisture</b>		
Item 1: Align E2/AS1 with the new E1/AS2 for design of gutters, downpipes and spreaders	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text and figures to clarify the requirements.
<b>E3 Internal Moisture</b>		
Item 1: Overflow of free water in E3/AS1	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
Item 2: Issue new Acceptable Solution E3/AS2 for internal wet area membranes	<b>Publish with minor changes</b>	MBIE is issuing this new Acceptable Solution with minor modifications to the proposed text.
Item 3: Amend E3/AS1 to align with the new proposed E3/AS2	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
<b>G9 Electricity</b>		
Item 1: Reference Electricity (Safety) Regulations 2010 in G9/VM1 and G9/AS1	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
Item 2: Electricity Act 1992 comment box in G9/AS1	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.



Proposal	Decision	Description
Item 3: Accessibility for light switches and plug sockets in G9/AS1	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
<b>G13 Foul Water</b>		
Item 1: Modifications to AS/NZS 3500.2 in G13/AS3	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
Item 2: Referenced standards in G13/AS1 and G13/AS2	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
Item 3: Remove AS/NZS reference in G13/AS3	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.
Item 4: Editorial	<b>Publish with minor changes</b>	MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements.

## Transitions

- > MBIE will publish the changes on Thursday, 5 November 2020 as previously communicated in [Building Controls Update 268](#)
- > MBIE will be extending the transition period for these changes from 4 months to 12 months. The transition period will end on Thursday, 4 November 2021.

# 1. C1 – C6 Protection from Fire

## 1.1. C/VM2 – Item 1. Cladding requirements

### C/AS2 – Item 4. Cladding Requirements

#### What we proposed

MBIE proposed to include additional international fire test methods as alternatives to the current requirements. These changes were intended to standardise practices found in the 2019 guidance document "[Fire performance of external wall cladding systems](#)". The proposal expanded the suite of testing standards for cladding and allowed the use of a greater number of cladding systems in New Zealand that have appropriate fire tests to overseas standards. This included amendments to C/VM2 "Framework for fire safety design" and C/AS2 "Acceptable Solution for Buildings other than Risk Group SH" in the following sections:

- a. C/VM2 and C/AS2 Reference section
- b. C/VM2 and C/AS2 Definitions section
- c. C/VM2 Design Scenarios HS: Horizontal fire spread and VS: External vertical fire spread
- d. C/AS2 Paragraph 4.15 Concealed spaces, Paragraphs 5.7.17 to 5.7.18 covering External thermal insulation on walls in multi-storey buildings, 5.8 External cladding systems and Appendix C (normative): Test Methods

Further changes were proposed in C/VM2 to align the requirements and performance settings between C/AS2 and C/VM2. The text in the scenario description and design fire was updated to more-closely reflect the latest understanding of how fire spreads externally with modern facade construction.

#### What we heard

MBIE received 60 submissions on this item with 49 supporting the proposal or supporting the proposal with changes. The general opinion was that the proposals were in-line with modern practices and other international cladding test methodologies, and that the requirements in C/AS2 and C/VM2 provided more clarity than in the guidance document.

- > Most of the responses received agreed with the proposed changes with minor to significant modifications ranging from 'additional clarification on the definitions and terminologies used' to 'revisiting the relevant building code clauses'.
- > Industry stakeholders such as manufacturers and suppliers, including stakeholders from the timber industry, perceived the proposed changes to cladding requirements as unfairly restricting the use of timber framing.
- > Concerns were raised about cost implications associated with mandating large-scale testing for building code compliance.
- > Objections were raised to the proposed transition period of four months which would be too short for existing projects to adapt to any changes. Refer to Section 7 for further discussion of transitional arrangements.
- > Other objections related to the fire test method to be adopted. These objections were not consistent regarding the preferred fire test methods to be adopted in exclusion of others.

#### What we are doing

After consideration of the feedback on the submissions, MBIE is proceeding with amendments to C/VM2 and C/AS2 with the following amendments:

- For 10-25m high buildings without sprinkler protection, small scale testing of cladding materials will remain an option within C/AS2 and C/VM2.

The reasons for these decisions are as follows:

- > While we mainly received overwhelmingly positive feedback on the proposed changes, there were some concerns expressed about the impact the changes to 10-25 metre-high buildings would have on the sector.
- > As a result of these concerns, we've decided that there is a need for more evidence before requiring full scale testing for buildings in the 10-25 metre height range to fully understand how the proposed changes should be adopted, giving due consideration to the New Zealand context.
- > BRANZ is conducting some research in this area so in the future MBIE can make a decision on how to proceed.

Further to this, MBIE will be undertaking additional work to:

- > Revise the MBIE issued guidance document "[Fire performance of external wall cladding systems](#)" to ensure the terminology used in the guidance document is consistent with terminology used in C/AS2 and C/VM2 and the requirements and compliance options for 10-25m height range of buildings are consistent with the revised C/AS and C/VM2 requirements. The revised guidance will be published on 5 November 2020.
- > Publish an infographic explaining the proposed changes.
- > Published BRANZ Build magazine article that highlights the background of the fire testing for cladding systems and challenges when assessing the risk of fire spread through fire testing. <https://www.buildmagazine.org.nz/issues/show/fire-2>
- > Continue to support BRANZ's research on external vertical fire spread and consider further evidence of the performance of timber framed assemblies in large and intermediate scale fire tests.

## 1.2. C/VM2 – Item 2. Horizontal fire spread

### What we proposed

MBIE consulted on minor amendments to C/VM2 "Framework for fire safety design" Paragraph 4.5 Design Scenario: HS Horizontal fire spread. This design scenario is intended to limit fire spread from one building to neighbouring buildings.

### What we heard

MBIE received 46 submissions related specifically to this proposal. Of the 46 submissions, 44 supported the proposal or supported the proposal with changes. Of the 46 submissions, 31 expected that the proposal had minor or no Impact on their business.

- > There was support for providing heat flux values, previously found only in unofficial MBIE publications (Protection from Fire Clarifications). Submissions supported the consistent direction in the approach.
- > The dispensations for sprinklers will incentivise sprinkler use in buildings and this was thought to be a good outcome.
- > Specification of a sprinkler system to comply with "NZS 4541 as Amended by Appendix B of C/AS2" seemed to unnecessarily prohibit the use of systems that demonstrate full compliance with the Standard and maintain at least the same level of protection.
- > There were minor editorial comments on the text including the consistent use of greater than and less than signs.

There were a number of items raised that were outside the scope of the consultation, including long-standing issues on notional boundaries, the expansion of the table method to higher heights and the application of heat fluxes in relation to sprinklered buildings or in comparison to the table method.

## What we are doing

After consideration of the feedback on the submissions, MBIE is proceeding with the proposed amendments with minor modifications of the proposed text. All out of scope items raised for this consultation will be logged for future consideration

### 1.3. C/VM2 – Item 3. Editorial

#### What we proposed

MBIE consulted on four minor amendments to C/VM2 “Framework for fire safety design” to be included on an editorial basis where the proposed text was identified to have a low or minor impact to the method of compliance. The proposal included:

- a. amending the Reference section to include text from C/AS2 for how standards are considered
- b. amending Paragraph 2.2.1 e) i) for doors considered open in analysis
- c. including Appendix D Practice advice for fire modelling (informative) which was previously found within the document “Commentary for Building Code Clauses C1-C6 and Verification Method C/VM2”
- d. amending Paragraph 2.2.1 p) to reference the proposed Appendix D.

#### What we heard

MBIE received 41 submissions related specifically to this proposal. Of the 41 submissions, 38 submissions supported the proposal or supported the proposal with changes. Of the 41 submissions, 28 expected that the proposal had minor or no Impact on their business.

- > Submissions identified that the text for amendment in the References section was not consistent with other documents published by MBIE and requested that the text match other published Acceptable Solutions and Verification Methods. However, there was no consistent version of this text published across all other Acceptable Solutions and Verification Methods. Additional submissions questioned the language of “secondary” references used in the text.
- > Submissions identified the proposed comment box for Paragraph 2.2.1 e) i) “Assuming the door is open will maximise smoke flow through the building” may not be accurate for all situations and that the influence of the door position may have positive or negative impact on smoke flow.
- > The content proposed for Appendix D Practice advice for fire modelling (informative) may not reflect current fire modelling practices in all instances. Specifically, concerns were raised on the recommended limits of non-dimensional HRR and shape factors for use in zone modelling.

#### What we are doing

In consideration of the feedback on the submissions,

- > MBIE is proceeding with amendments to the Reference section
- > MBIE is proceeding with amendments to Paragraph 2.2.1 e) i) with a minor modification to remove the comment box text “Assuming the door is open will maximise smoke flow through the building.”
- > MBIE is withdrawing the proposal to include Appendix D Practice advice for fire modelling (informative) in C/VM2 currently and withdrawing the consequential change to Paragraph 2.2.1 p) to reference this change. Further work will be undertaken to review the fire modelling rules in C/VM2 in a comprehensive manner.

## 1.4. C/AS1 – Item 1. Scope of risk group SH

### C/AS2 – Item 1. Scope of risk group SH

#### What we proposed

MBIE proposed to amend the scope of risk group SH covered by Acceptable Solution C/AS1 “Acceptable Solution for Buildings with Sleeping (residential) and Outbuildings (Risk Group SH)” and provide a consistent description of risk groups between C/AS1 and C/AS2. The proposal was intended to clarify the limitations of risk group SH as it applied to low-rise stacked multi-unit buildings. Previous determinations and consenting issues have highlighted concerns about the fire safety provisions for medium-density housing options and whether C/AS1 contained adequate provisions for modern construction of unique and complex designs.

#### What we heard

MBIE received 53 submissions related specifically to these proposals. Of the 53 submissions, 41 submissions supported the proposal or supported the proposal with changes.

- > There was support to align the wording of risk groups in C/AS1 and C/AS2 so that the scope of the two documents was clear.
- > It was identified by several submissions that C/AS1 may not adequately address many fire risks especially for the protection of other property.
- > It was suggested that an escape height limit of 4.0 metres was too low to address low-rise multi-unit buildings. This may increase costs for some styles of buildings by requiring a fire alarm system or increased levels of fire ratings between units.

Other items identified in the submissions that were outside the scope of the proposal:

- > C/AS1 is long overdue for revision and a complete overhaul is warranted. Some of the known items in C/AS1 that have caused consenting issues include:
  - definitions and how they apply to residential construction
  - external escape routes
  - post-fire structural stability
  - keyed locks and security
  - external fire spread
  - split levels and sloping sites
- > Requirements for the scope of C/AS1 need to consider the use of terms “transient accommodation”, “detached dwellings”, “household units”, “social cohesion”, “familial domesticity”, and others (refer to [Determination 2018/045 “Regarding the classified use of a building let out as accommodation at 8A Woodford Avenue, Henderson, Auckland”](#)).
- > More figures were desired to illustrate requirements.

#### What we are doing

In consideration of the feedback on the submissions, MBIE is proceeding with amendments to C/AS1 and C/AS2 to amend the scope of risk group SH and limit the use of C/AS1. Minor modifications to the proposal include:

- Clarifying the wording of the text for the 4.0 m escape height limitation to address split levels and sloping sites
- Changing the text in Table 1.1 as it applies to townhouses which are not covered by an escape limit height
- Establishing consistent formatting of defined terms in italics in Paragraph 1.1.1.

Further to this, MBIE is already undertaking work to review C/AS1 to address several issues identified in the document.

## 1.5. C/AS2 – Item 2. Means of escape

### What we proposed

MBIE proposed several changes to C/AS2 Part 3 Means of escape to improve the clarity and consistency in this Acceptable Solution. This included proposed changes to text, figures and paragraph numbering.

### What we heard

MBIE received 49 submissions in total. The majority, 42 submitters, supported the proposal or supported the proposal with changes. We received over 130 comments with suggested amendments to the text or outlining issues that were out of the scope of the proposed amendments. A further review of means of escape is needed for a comprehensive overhaul of this section.

### What we are doing

Considering feedback, MBIE is proceeding with the following amendments to C/AS2:

- > Align the requirements for means of escape passing through fire separations with the definitions of escape route and open path (3.7.1, formerly 3.7.13)
- > Move requirements for ramps from section 3.7 (Special cases on open paths) into the general requirements for open paths
- > Remove 3.11.3 (external escape routes for risk group SI) as it is a replication of 3.11.2a) ii)
- > Update Figure 3.19 to remove duplicate text and symbols
- > Amend 3.15.3 (now 3.15.1) to clarify door swing is determined by the occupant load of the space the door serves, not the number of occupants expected to use the door.
- > Add an exception to the requirements for vision panels that single person sanitary facilities do not need one to ensure appropriate privacy and remove conflict with G1/AS1.
- > Clarify that panic fastenings are latching, not locking devices.

In consideration of the feedback on the submissions, MBIE is postponing some of the proposed updates and will include these in a wider review on Means of Escape. The following have been withdrawn from the proposal:

- > Further research the clear widths on escape routes in Table 3.1a, as per the feedback on the door widths into exitways for risk groups SI and SM
- > Retract the referral to D1 as opposed to D1/AS1 as submitters stated it did not provide sufficient clarity and quantifiable requirements, and review the sections where D1/AS1 is referenced.
- > Review the various figures to ensure these represent a clear and accurate reflection of the text
- > Further review the requirements on lifts. Submitters requested clarity on issues such as the fire rating requirements for lifts with no machine room and lift landings
- > Replace the outdated term “flame barrier” in Figure 3.21.
- > Review requirements for single escape routes, smoke lobbies, external escape routes
- > Review requirements for doors, such as door hardware, tilt and roller doors, panic fastenings, door swing, etc.
- > Review Tables 3.2 and 3.4 (travel distances)

Feedback was also received on several topics not addressed with this proposed update, which will be taken into consideration for further review:

- > External staircases
- > External escape routes, eg over roofs or external safe paths
- > The use of ladders on escape routes
- > Final exit separation for various occupant loads

- > Access control and security features
- > Escape route length reductions for intermediate floors
- > Measuring open paths
- > Clarifying the meaning of 'intermittent' in terms of occupancy
- > Discrepancies in open path length exemptions between C/AS1 and C/AS2
- > Discrepancies in open path separation between C/VM2 and C/AS2
- > Single escape route for risk group SI (Table 3.1)
- > Open path separation of eight metres and early childhood centers

## 1.6. C/AS2 – Item 3. Group Sleeping Areas

### What we proposed

MBIE proposed to amend Section 4.6 “Specific requirements for sleeping areas” to provide clarity on specific requirements for group sleeping areas. Household units and suites are redefined to distinguish between permanent and transient accommodation and care. Restrictions are added to prevent the subdivision of group sleeping areas without adequate safety measures, and more clarity is provided on which activities are allowed in direct support and community support functions.

### What we heard

MBIE received 41 submissions. 31 supported the proposal or supported the proposal with changes. There were over 70 comments, most of which were on Figure 4.5. A few submissions asked clarity whether sanitary facilities could be enclosed. Seven comments were out of scope for this update, such as the clarification on Airbnb, or number of beds in a group sleeping area.

### What we are doing

The following amendments have been made to the proposal:

- > Figure 4.5 will be revised
- > Clarification has been added to the partitions in group sleeping areas in risk group SM. Partitions need not be rated, they must be open on one side, sanitary facilities may be enclosed. The mention of curtains etc blocking an opening in a partitions has been removed as it was considered too difficult to enforce.

Where issues are considered out of scope, these will be logged for future consideration. This includes:

- > The number of beds allowed in certain group sleeping areas
- > Defining terms 'transient' and 'care'
- > Clarifying alternative living arrangements and how these sits within the scope of various risk groups, e.g. Airbnb.

## 1.7. C/AS2 – Item 5. Control of external fire spread

### What we proposed

MBIE proposed to amend C/AS2 Part 5 Control of external fire spread to maintain consistency of the text and formatting within the document and with similar requirements found in C/AS2. Additionally, the text was proposed to be amended in several paragraphs to provide better clarity of interpretations.

### What we heard

MBIE received 44 submissions for this proposal. Of the 44 submissions, 36 supported the proposal or supported the proposal and offered changes. Of those who supported the proposal, there were minimal comments provided with the submissions and the general opinion was that the changes had minor or no impact on the business. Of those who objected:

- > Four objections were unrelated to this proposal and instead referenced items in C/AS2 Item 4: Cladding.
- > Two objections were relatively minor wording issues to delete the words “below the roof” for a figure in the proposal and add a “less than” sign for another figure.
- > Two objections were outside the scope of this consultation.

Items raised that were outside the scope of this consultation included:

- > Relevant and Notional boundary should be clarified
- > Apron and spandrel requirements and figures need to be clarified
- > The values in horizontal fire spread tables for risk groups SI, SM, CA, WB require review.

### What we are doing

In consideration of the feedback on the submissions, MBIE is proceeding with amendments to C/AS2 Part 5 with minor modifications to the proposal to correct wording issues. Items raised that were outside the scope of the consultation will be logged for future consideration. Further to this, MBIE will be undertaking additional work to review horizontal fire spread across C/AS1, C/AS2 and C/VM2 for calculation and tabular methods as a future programme of work.

## 1.8. C/AS2 – Item 6. Firefighting

### What we proposed

The proposed updates included provisions for building design features that facilitate firefighting operations, which are currently placed in Standards and in the Fire and Emergency New Zealand design guide or left to the discretion of local FENZ representatives. The intent was to provide consistency and clarity for the sector by placing these requirements within the Acceptable Solution C/AS2.

### What we heard

Due to complexity of this proposal, there were conflicting views in the submissions received. The submissions highlighted several items in the proposal to be resolved.

From the 43 submissions, 40% supported the proposed changes, 54% objected to the proposal, and 6% had no opinion. The majority, 53% considered the proposed changes to have a significant impact, and 35% thought they had no impact, or were minor or moderate.

Most of the feedback was based on the proposal to place hard standings near a water supply. There were also comments on site access and building design issues taken from Standards.



## What we are doing

It has been decided to withdraw the proposed amendments to the building design requirements for firefighting from the 2020 update and form a working group to review the comments in a comprehensive manner with relevant sector involvement. MBIE expect to re-consult on changes in 2022.

## 1.9. C/AS2 – Item 7. Editorial

### What we proposed

Throughout the document, minor amendments were made with the intent to provide additional clarity on the requirements.

### What we heard

MBIE received 82 submissions for this proposal. Most respondents (80%) are in support, or support with suggested changes. 21% object to some aspects.

### What we are doing

Based on the feedback, we've made some amendments to some of the proposed changes, such as:

- > Replacing 'Plant' with 'building services plant' (4.9.4)
- > Retaining Figure 2.1
- > Updating Table 4.2 to remove the 30-minute insulation requirement for sprinklered SI firecells
- > Reordering and renumbering some paragraphs
- > Fixing a typographical error in Table 5.3 to change the maximum size of an unprotected area in an external wall for risk group SM from 69 to 96 m<sup>2</sup>)

Some suggestions were out of scope for this update, and will be addressed in future reviews:

- > Type 1 – domestic smoke alarms manufacturing standards
- > Fire rating ~~is~~ for vehicle parking firecells (risk group VP)
- > Glazing area for smoke lobbies
- > Definition of 'elements' about insulation requirements and sprinkler exemption
- > Removal of guidance documents
- > Reviewing the referenced Standards to update newer editions

## 1.10. C/AS2 – Item 8. Errata

### What we proposed

MBIE proposed to permanently adopt three errata changes published on 31 October 2019 in C/AS2 Amendment 1. These errata items were obvious errors that were unintentionally missed during publishing of C/AS2 First Edition in 2019. The errata items appeared in Table 1.1 risk group WB, Table 2.2b and Table 2.2c.

### What we heard

MBIE received 36 submissions on this proposal, with 33 submissions supporting the proposal or supporting the proposal and offering changes. Of those that offered changes and those who objected, the comments were outside of the scope of the consultation. MBIE did not hear any issues with the items proposed to be corrected by errata.

## What we are doing

In consideration of the feedback on the submissions, MBIE is proceeding with errata amendments. Items raised that were out of scope of the current consultation will be logged for future consideration.

## 2. E1 Surface Water

### 2.1. Item 1. E1/AS2: Issue a new Acceptable Solution which references AS/NZS 3500.3 *Stormwater drainage*, with modifications, as a means of compliance with NZBC clause E1 *Surface Water*

#### What we proposed

MBIE proposed to issue a new Acceptable Solution as a means of compliance with NZBC clause E1 Surface Water (E1/AS2) to cover larger sites and designs that were previously considered Alternative Solutions. The new Acceptable Solution E1/AS2 will reference AS/NZS 3500.3:2018 Part 3 Stormwater Drainage, with modifications, as a mean of compliance with NZBC clause E1 Surface Water A significant portion of the construction industry already uses and are familiar with the AS/NZS 3500 Plumbing and drainage series and referencing this Standard as an Acceptable Solution supports current practice.

#### What we heard

MBIE received 47 submissions for this proposal. Of the 47 submissions, 45 submissions supported the proposal or supported the proposal with changes. There were 2 objections regarding this proposal but neither contained comments outlining why the submitters objected.

#### What we are doing

In consideration of the feedback on the submissions, MBIE is proceeding with issuing the new Acceptable Solutions E1/AS2 with minor modifications to the proposed text.

Further to this, all items raised that were outside the scope of the consultation have been logged for future consideration.

### 2.2. Item 2. E1/AS1 Appendix A Rainfall intensities

#### What we proposed

MBIE proposed to replace the existing E1/AS1 Appendix A Rainfall Intensities maps with a table that lists design rainfall intensities for various towns and cities. The proposed new rainfall intensity table is based on currently available historical rainfall data provided by the National Institute for Water and Atmospheric Research (NIWA). This proposal also contained an updated informative comment within Verification Method E1/VM1 to provide additional information about the NIWA High Intensity Rainfall Design System (HIRDS). This additional information includes noting that HIRDS can be used to provide rainfall intensity estimates for any location in New Zealand based on historical rain gauge data and projections of future rainfall intensities for various climate change scenarios.

#### What we heard

MBIE received 42 public consultation submissions received regarding this item. Of the 42 submissions, 40 submissions indicated support for this proposal or supported the proposal with changes. There were two objections indicated regarding this proposal and only one with comments. The objections appear to be misunderstanding of rainfall data.

The remainder of the submissions contained suggestions outside of the scope of the 2020 Consultation. Several submissions desired clear direction regarding climate change adaptation requirements for stormwater system design.

#### What we are doing

In consideration of the feedback on the submissions, MBIE is proceeding with amendments to E1/AS1 Appendix A and E1/VM1 with minor modifications of the proposed text.

### 3. E2 External Moisture

#### What we proposed

MBIE proposed to amend E2/AS1 to support the introduction of E1 Acceptable Solution E1/AS2, for the design of gutters, downpipes and spreaders.

#### What we heard

MBIE received 37 submissions on the proposal, of which 30 submissions supported the proposal or supported the proposal and offered changes.

#### What we are doing

In consideration of the feedback on the submissions, MBIE is proceeding with the proposal, with minor changes to clarify some provisions and improve consistency between E2/AS1, E1/AS1 and E1/AS2. The reasons for these decisions are that they will improve clarity and consistency for users of E2/AS1. Further to this, several wider suggestions were received which MBIE will consider for future updates.

### 4. E3 Internal Moisture

#### What we proposed

MBIE proposed to:

- > Amend E3/AS1 to optimise the requirements for accidental overflow protection measures for multi-level housing. It also introduced the use of integrated sink overflows as a means of disposal of free water in kitchens and laundries where a floor waste would previously have been required.
- > Issue a new Acceptable Solution E3/AS2 for internal wet area membranes
- > Align E3/AS1 with the new E3/AS2.

For the new E3/AS2, MBIE proposed to reference the Waterproofing Membrane Association Inc (WMAI) code of practice for Internal Wet-area Membrane Systems (IWAM) as an Acceptable Solution for Building Code clauses E3.3.2 – E3.3.6. Wet-area membranes are typically used beneath tiles in kitchens, laundries and bathrooms (including in tiled showers). The proposal complemented the current Acceptable Solution E3/AS1 which provides for the use of these membranes but provides no information on membrane product selection, design or installation.

#### What we heard

MBIE received 44 submissions in total, with the number of submissions varying for each item. Although support levels varied for each item, at least 73% of submissions on each item either supported that item or supported it with changes. Supporters of the proposal liked the certainty it provides and anticipated lower costs to achieving compliance. Objections to the proposal included disagreement on the level of overflow protection provided and interpretation of the term “accidental overflow”, the residual risk of wet-area membrane failure such as failure due to poor workmanship, and desire for additional solutions for finishes in water splash areas.

## What we are doing

In consideration of the feedback on the submissions, MBIE has made some changes to the proposal. These changes will improve clarity for users, reference an updated version of the IWAM Code of Practice, and improve consistency between E3/AS1 and E3/AS2.

The reasons for these decisions are to:

- > Provide the protection required by the NZBC from “accidental overflow”, considering in the ordinary meaning of that term, without unnecessarily imposing the cost of installing floor wastes where these provide little protection.
- > Ensure the provisions for containment of overflow water align with practicable construction practices.
- > Reduce the likelihood of membrane failures by having clear provisions for their selection, design and installation.
- > Improve clarity and consistency in the requirements of E3/AS1 and E3/AS2.

## 5. G9 Electricity

### What we proposed

MBIE proposed to amend G9/AS1 and G9/VM1. This included:

- > Electricity (Safety) Regulations 2010: Citing the Electricity (Safety) Regulations 2010 within G9/AS1 and G9/VM1.
- > New comment on electrical exemptions in domestic dwelling: The amendment will add a comment box to explain the compliance pathway for exemption works in residential dwelling.
- > Access and facility for person with disability: updating content in G9/AS1 to be consistent with NZS4121:2001.

### What we heard

MBIE received 28 submissions across three proposals.

- > Most submissions support the proposed change, with one suggested updating the reference section in the G9/AS1&VM1, and one suggested including “energy work certificate” as the verification method for G9. One submitter believed the proposed change would still refer to the outdated Wiring Rules as the Electricity (Safety) Regulations 2010 currently referencing to AS/NZS3000:2007.
- > Two suggestions were put forward to clarify what can and cannot be undertaken by a homeowner in order to minimise risk in domestic electrical works.
- > All submissions support the change to align content in G9/AS1 with NZS4121:2001.

### What we are doing

In consideration of the feedback on the submissions, MBIE is publishing amendments to G9/AS1 and G9/VM1 with minor modifications to the proposed text to clarify the requirements. The modifications to the proposal include:

- > Updating reference section to include Electricity (Safety) Regulations 2010, deleting outdated standards and code of practice.
- > Amending the comment box by requiring verification of the domestic electrical work by a licensed electrical inspector.

Some editorial changes have also been made during the post consultation period to allow the document to be accessible.

The reason for citing the Electricity (Safety) Regulations 2010, and move away from citing specific standard, is because the Electricity (Safety) Regulations 2010 covers a range of electrical works, and it is commonly followed in the industry. By citing the regulation, it will create a consistent process with the Electricity Act 1992, as well as to be in line with the industry practice.

## 6. G13 Foul Water

### What we proposed

MBIE proposed to amend the Acceptable Solutions for NZBC clause G13 Foul Water.

These amendments included:

- > Modify Standard AS/NZS 3500.2: Add further modifications to the citation of AS/NZS 3500:2018 Part 2 - Sanitary Plumbing and Drainage in G13/AS3. The modifications were intended to reduce the probability of blockages within drains and graded discharge pipes occurring due to junctions installed on grade.
- > Reference Standards: Reference the most recent versions and amendments of various product manufacturing standards for sanitary plumbing and drainage system components.
- > Remove G13/AS3 Standard Reference: Amend Acceptable Solution G13/AS3 by deleting paragraph 1.0, which cites AS/NZS 2032:2006 Installation of PVC pipe systems as an Acceptable Solution for the installation of PVC-U pipe and fittings, as this Standard is referenced within all other Acceptable Solutions for NZBC clause G13
- > Editorial: Correcting spelling and referencing errors.

### What we heard

MBIE received between 30 and 33 submissions across the four proposals.

- > All 33 submissions for item one indicated support for the proposal. There were comments that one reference within the Standard was made in error and that the connection of stacks to graded pipes or drains above ground required clarification.
- > All 31 submissions for item two indicated support for the proposal and no comment were provided.
- > Of the 31 submissions for item three, two objections to the proposal were raised. The objections were that the primary referencing of AS/NZS 2032 within G13/AS3 should not be removed solely because this Standard is referenced elsewhere (eg AS/NZS 2032 is a secondary referenced Standard within AS/NZS 3500.2:2018, which is cited by G13/AS3).
- > All 30 submissions for Item four indicated support for the proposal.

Several submissions provided comments that were out of scope of the current consultation.

### What we are doing

In consideration of the feedback on the submissions, MBIE is publishing these amendments with minor modifications to the proposed text to clarify the requirements. The modifications to the proposal include:

- > Correcting a referencing error within the modifications to AS/NZS 3500.2: 2018 Sanitary plumbing and drainage and clarifying requirements for the connection of stacks to graded pipes or drains above ground.
- > Include an informative comment referencing clause A1 regarding the definition of the term "Housing".
- > An additional modification to cl.10.7 of AS/NZS 3500.2:2018 to delete the redundant reference to NZS 7643 and highlight that AS/NZS 2032 remains clearly cited by G13/AS3

Further to this, all items raised that were outside the scope of the consultation have been logged for future consideration.

## 7. Transitions

**Effective date:** 5 November 2020

**Transitional arrangements:** 12 months

It is also proposed that the existing Acceptable Solutions and Verification Methods will remain in force, as if not amended, until 4 November 2021 (the proposed cessation date), a period of 12 months. This transition period is longer than the 4 months proposed during consultation. The timing is consistent with MBIE’s new Building Code updates schedule, where updates will be published in November each year, as previously announced in [Building Controls Update 268](#).

Document	Before 5 November 2020	From 5 November 2020 (effective date) To 4 November 2021 (cessation date)
Existing Acceptable Solutions and Verification Methods	If used, will be treated as complying with the Building Code	If used, will be treated as complying with the Building Code
Amended or new Acceptable Solutions and Verification Methods	Does not apply to Building Consents issued before this date.	If used, will be treated as complying with the Building Code

## 8. Additional work being undertaken

In response to items raised during this consultation and previous consultations, MBIE has captured all feedback that was identified as being out-of-scope and will consider this feedback as part of our future work programme.