



Outcome of consultation Building Code update **Protection from fire**

Decisions for acceptable solutions and verification methods for
C1-C6 and F7
4 May 2023



Ministry of Business, Innovation and Employment (MBIE)

Hikina Whakatutuki – Lifting to make successful

MBIE develops and delivers policy, services, advice and regulation to support economic growth and the prosperity and wellbeing of New Zealanders.

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Summary of the consultation

Consultation process

Consultation is an important part of developing updates to the Building Code acceptable solutions and verification methods. Consultation provides the sector and public an opportunity to provide their feedback on proposed changes.

Between May and July 2022, MBIE sought feedback for proposals on:

- plumbing and drainage
- structural stability of hollow-core floors
- protection from fire for residential homes
- fire safety system standards

In June 2022, MBIE also consulted on a proposed extension to the transition period for changes to insulation requirements for housing from the 2021 Building Code update. In July, MBIE released an outcome document advising the decision to extend the transition period for insulation for housing to May 2023, with a staged transition for windows and doors. In November 2022, MBIE released the outcomes of the proposals for lead in plumbing products and hollow-core floors, advising that these proposals were proceeding with new documents to be published in November 2023.

Submissions received

The 2022 Building Code update consultation received 111 submissions across the proposals for plumbing and drainage, structural stability of hollow-core floors, and protection from fire.

MBIE would like to thank the individuals and organisations who took the time to prepare a submission for this consultation.

Number of submissions received by occupation

Occupation	Number of submissions and percentage of total
Architects	2 (2%)
Designers or engineers	35 (31%)
Builders or tradespersons	9 (8%)
Building consent authorities	22 (20%)
Building product manufacturers	12 (11%)
Building owners, occupants or tenants	4 (4%)
Other submitters including those who did not specify their occupation	27 (24%)
Total	111

Purpose of this document

This outcome document contains the decision made for the proposals for protection from fire. The feedback received during the consultation was used to inform the decisions on these proposals. Similar documents for the outcomes of the plumbing proposals and structural stability of hollow-core floors are available on building.govt.nz.

While the decisions on these proposals have been made, new acceptable solutions and verification methods will be published in November 2023. The release of these documents will be supported with education and information content about the changes.

MBIE is committed to updating the Building Code so that it keeps pace with innovation, current construction methods and the needs of modern society. The Building Code provides clarity, certainty and consistency to the building and construction sector.

Summary of the decisions

MBIE is amending Acceptable Solutions C/AS1, C/AS2, F7/AS1, and Verification Method C/VM2 to improve the safety of people from fire.

The changes are a result of feedback received during the consultation process and are intended to increase the protection of people in residential homes from fire and bring the requirements for fire safety systems in line with the latest industry standards. By aligning the requirements for fire safety systems with the latest industry standards, MBIE is ensuring that the provisions in the compliance pathways for fire safety systems are up-to-date, consistent, and clear.

One of the key changes is the adoption of interconnected smoke alarms as the minimum fire safety system in household units. Interconnected smoke alarms work by sending signals between the smoke alarms in a house. This means that if one smoke alarm in a particular room detects a fire, all the smoke alarms in that house will activate and sound an alarm. Requiring interconnected smoke alarms as the minimum fire alarm system in residential home is expected to further reduce the number of fatalities and injuries every year. The amended C/AS1 and C/AS2 cite NZS 4514: 2021 for their installation.

Along with this change, C/AS1 Part 3 on Means of escape will be amended to provide additional clarification on means of escape features for buildings in risk group SH, while Part 7 will be amended to align with C/AS2 requirements for fire prevention. Other amendments to C/AS1 include revising the appendices of definitions, fire safety systems, and fire testing to align with C/AS2.

There was mixed feedback on other proposed changes to protection from fire for residential homes. There was general support for the intent of the proposals to increase the level of fire safety in residential buildings. However, there was limited agreement on the technical details or where the changes increased the cost of new buildings without sufficient evidence of the benefits. Therefore, MBIE will also be withdrawing proposed changes to C/AS1 on fire resistance ratings and the control of internal and external fire spread. This means that the scope of multi-unit dwellings covered by the document will also remain the same as many of the increased fire risks for multi-unit dwellings require changes to these sections of the document. Withdrawing these proposed changes highlights MBIE's commitment to addressing concerns raised during the consultation process and ensuring that the revised documents are suitable for use in multi-unit dwellings. We intend to conduct further engagement with the sector and additional consultations to ensure we consider all perspectives on these issues before making a decision to progress our proposals for C/AS1 any further.

The changes will come into effect in November 2023 with a 12 month transition period ending in November 2024. After this period, previous versions of acceptable solutions and verification methods will no longer be deemed to comply with the Building Code.

The changes to protection from fire apply to new building work. However, there are additional provisions in the Building Act 2004 regarding the alternation and change in use of buildings that made need to be considered for existing buildings. MBIE is working with Te Tūāpapa Kura Kāinga - Ministry of Housing and Urban Development to discuss the potential impacts of these changes to the Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016. However, any new residential construction that complies with the new interconnected smoke alarm requirements will still be able to comply with those existing regulations.

1. Protection from fire for residential homes

1.1. What we proposed

MBIE proposed to increase the scope of C/AS1 to include additional types of low-rise multi-unit homes, with accompanying changes to address the associated fire risks. This proposal considered fire safety settings for all building types proposed to be covered by C/AS1 and took into account previous feedback on the document, the latest standard for smoke alarms, and international practices for residential fire safety. The proposed changes included measures to:

- Improve level of life safety and property protection in new residential homes.
- Enable housing densification by expanding the scope of C/AS1 to include more multi-unit residential buildings.
- Provide more clarity in the most common fire design solutions to support efficient consenting and recognise changing trends in residential construction.

The proposed changes included:

- Part 1. General – Scope of this document
 - Increasing the scope of multi-unit dwellings covered by the document.
 - Adding ‘similar accommodation’ to the description of transient accommodation.
 - Adding home-based business activities to risk group SH.
- Part 2. Firecells, fire safety systems and fire resistance ratings
 - Increasing the life rating and property rating from 30 minutes to 60 minutes (unless a fire sprinkler system is installed, where applicable).
 - Clarifying the application of fire ratings to building elements including the structural adequacy of loadbearing elements during fire.
- Part 3. Means of escape
 - Adding general principles for escape routes including minimum heights and widths.
 - Providing requirements for external escape routes and three choices for meeting external safe path requirements.
 - Providing requirements for doors in escape routes.
- Part 4. Control of internal fire and smoke spread
 - Clarifying the requirements for fire separations and firecell construction.
- Part 5. Control of external fire spread
 - Removing the requirement for fire resistance rating for external walls in multi-unit dwellings between 1.0 and 5.0 m of the boundary and aligning these buildings with the requirements for standalone buildings.
 - Providing requirements for small unprotected areas and fire resisting glazing.
 - Clarifying requirements for external spread from roof projections, open sided buildings and similar construction.
 - Providing new requirements for decks, balconies, and building overhangs.
 - Providing new requirements for vertical fire spread in multi-unit dwellings and fire testing of cladding materials.
- Part 6. Firefighting operations
 - No changes were proposed to this section.
- Part 7. Prevention of fire occurring
 - Amending text to align with changes made in C/AS2.
- Appendix A. References (moved from the start of the document)
 - Citing the following standards in Acceptable Solution C/AS1:
 - NZS 4512: 2021 Fire detection and alarm systems in buildings
 - NZS 4514: 2021 Interconnected smoke alarms for houses
 - AS 1668.1: 2015 The use of ventilation and air conditioning in buildings – Fire and smoke control in buildings Amendment 1
 - BS EN 13501-1: 2018 Fire classification of construction products and building elements – Classification using test data from reaction to fire tests
- Appendix B. Definitions (moved from start of document)
 - Providing new and amended definitions to align with definitions in Acceptable Solution C/AS2.

Proposal 1. Protection from fire for residential homes

- “adjacent building”, “allotment”, “boundary”, “cavity barrier”, “concealed space”, “exitway”, “fire hazard”, “fire resisting glazing”, “hazardous”, “intended use”, “open space”, “other property”, “outbuilding”, “place of safety”, “protected shaft”, “road”, “safe path”, “travel distance”. (These proposed definitions align with definitions in Acceptable Solution C/AS2)
- “finished ground level” (This proposed definition aligns with definitions within compliance pathways for E2)
- Provide amended definitions for:
 - “building”, “firecell”, “fire resistance rating”, “fire stop”, “Group Number”, “integrity”, “non-combustible”, “occupant load”, “penetration”, “primary element”, “relevant boundary”, “surface finish” and “unprotected areas” (to align with definitions within Acceptable Solution C/AS2)
 - “structural adequacy”
- Removing the definitions of:
 - “handrail”, “smokecell”, “smoke control door” and “wharenuī” (these are not key terms used within Acceptable Solution C/AS1)

In the consultation, MBIE sought feedback on five questions:

- Do you support issuing the new Acceptable Solution C/AS1 with the changes proposed to the following parts of the document?
 - Part 1. General
 - Part 2. Firecells, fire safety systems and fire resistance ratings
 - Part 3. Means of escape
 - Part 4. Control of internal fire and smoke spread
 - Part 5. Control of external fire spread
 - Part 7. Prevention of fire occurring
 - References, definitions, and appendices
- Do you think the proposed Acceptable Solution C/AS1 covers all important aspects for protection from fire for risk group SH?
- What impacts would you expect for you or your business from the proposed change to the transition period? These impacts may be economic/financial, environmental, health and wellbeing, or other areas.
- What support, if required would you or your business would need to implement the proposed changes if introduced?
- Do you agree with the proposed transition time of 12 months for the proposed changes to take effect?

Respondents were given tick box options for the first and fifth questions with space available for free text responses across all questions. The first question contained separate tick boxes to respond to each of the main parts of C/AS1. Responses to the consultation were received through an online survey portal and through emails sent to MBIE directly.

1.2. What we heard

1.2.1. Who submitted on the proposal

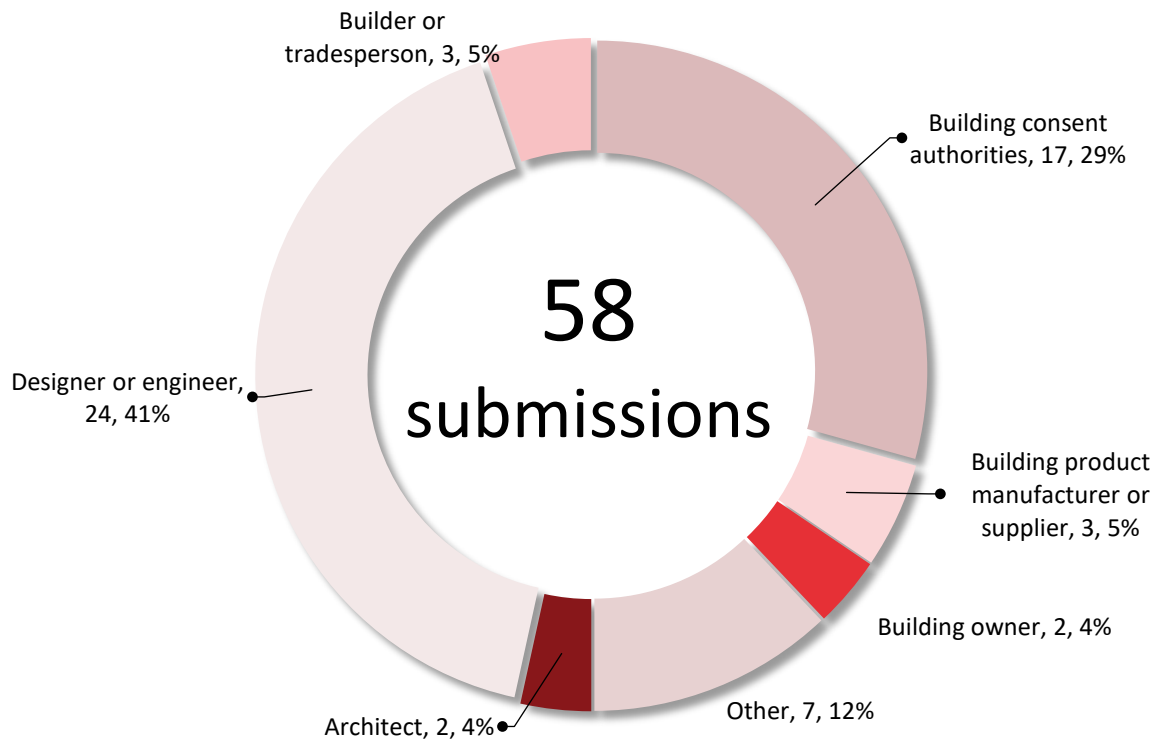
There were 58 submissions on this consultation as shown in Table 1.1 and Figure 1.1. Feedback was primarily received from designers and engineers, and building consent authorities.

TABLE 1.1: Number of submissions received on the proposal for protection from fire for residential homes

Occupation	Number of submissions and percentage of total
Architects	2 (3%)
Designers or engineers	24 (41%)
Builders or tradespersons	3 (5%)
Building consent authorities	17 (29%)
Building product manufacturers	3 (5%)
Building owners, occupants or tenants	2 (3%)
Other submitters including those who did not specify their occupation	7 (12%)
Total	58

Proposal 1. Protection from fire for residential homes

FIGURE 1.1: Number of submissions received on the proposal for protection from fire for residential homes



1.2.2. Submitter preferences on the proposal

There was mixed feedback on this proposal. The different topics received between 60% and 77% support in the submissions.

TABLE 1.2: Responses to the question in the consultation: Do you support issuing the new Acceptable Solution C/AS1 with the changes proposed to the following parts of the document?

Topic	Response		
	Yes, I support the proposal	No, I don't support the proposal	Not sure/no preference
Part 1. General	31 (62%)	15 (30%)	4 (8%)
Part 2. Firecells, fire safety systems and fire resistance ratings	32 (62%)	15 (29%)	5 (10%)
Part 3. Means of escape	35 (73%)	7 (15%)	6 (13%)
Part 4. Control of internal fire and smoke spread	31 (63%)	13 (27%)	5 (10%)
Part 5. Control of external fire spread	30 (60%)	15 (30%)	5 (10%)
Part 7. Prevention of fire occurring	36 (77%)	4 (9%)	7 (15%)
References, definitions, and appendices	31 (70%)	7 (16%)	6 (14%)

Overall, there was general support for the intent of the proposals to increase the level of fire safety in residential buildings. However, submissions opposed the changes where they would increase the cost of new buildings without sufficient evidence of the benefits. There were also concerns that the increase in complexity of C/AS1 will require additional

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competencies and skills to use and interpret the document. Support was also given where the existing requirements were clarified but did not result in a significant increase in costs to construction.

There were over 380 comments raised in the submissions on the technical details of the changes. The most comments were received on the proposed changes to Part 4 and Part 5. Common issues raised for each part of the document are provided below.

- Part 1. General
 - Comments on this section were primarily related to the scope of risk group SH and the scope of the document and how building height is measured.
 - There was general support for increasing the scope of C/AS1 to meet the demand for modern buildings. However, the proposed changes would be very complex for standalone housing and there was difficulty in understanding the proposals.
- Part 2. Firecells, fire safety systems and fire resistance ratings
 - There was support for the new requirements for interconnected smoke alarms to comply with NZS 4514: 2021 as this will improve life safety in residential buildings with a small cost increase.
 - A majority of the comments that did not support the proposal related to the increase from a 30 minutes to 60 minutes fire resistance rating and felt that there was insufficient evidence of the risks or analysis of the impacts to the cost to design, consenting, and construction to support the change.
- Part 3. Means of escape
 - A majority of the comments received in this part of the document related to the general means of escape requirements and on the requirements for external escape routes.
- Part 4. Control of internal fire and smoke spread
 - Submissions found this part of the document to be too complex for simple residential housing.
 - There was general support for increasing the fire rating of intertenancy walls but not for other property boundaries.
 - Submissions did not support proposed changes for junctions of fire separations to roof cladding or for fire rated shafts.
- Part 5. Control of external fire spread
 - The comments in this part focused on horizontal fire spread including the reduced distance of 5 m to 1 m to the boundary for multi-unit dwellings, the proposed Figure 5.1.1.1, the reduction of the distance to the boundary for eaves from 650 mm to 300 mm, and the change in the lower roof distance rule. It was felt that these changes increased the risk of horizontal fire spread for these buildings to adjacent buildings. The reduced distance to the boundary for multi-unit dwellings was also identified as increasing the risk to occupants evacuating from other units or for responding fire fighters.
 - Other comments on this part related to the provisions for decks and balconies. Applying these requirements to ground level or low-level decks would impact for houses in New Zealand.
- Part 7. Prevention of fire occurring
 - There was only one comment received on this part and it opposed the changes as the provisions for open fires would seem detrimental in helping Aotearoa New Zealand to reach its climate change and emission reductions goals. There is currently no requirement to phase out open fires to meet the current emission reduction targets.
- References, definitions, and appendices
 - Comments on the appendices primarily related to the definitions. These submissions did not support the new definitions for structural adequacy and also suggested changes to the existing definitions for building height and smoke control doors

There were additional comments received on Part 6. Firefighting which were considered out-of-scope for this consultation and suggested changes to require firefighting access or water supplies for housing. As noted in the consultation document, the performance criteria in Building Code clause C5 have limits on application would that exclude many of the situations proposed for the scope of C/AS1. The review of these requirements and the limits on application in the Building Code were outside the scope of this consultation. These comments were logged for future consideration.

1.2.3. Submitter preferences on the transition period

There were 48 responses to the question on the transition period (see Table 1.3 and Figure 1.2). Forty submissions (83%) preferred a transition period of 12 months or sooner for the change to take effect. Four submissions had no preference on the transition period and four submissions preferred that the change should be two years or longer. Submissions that

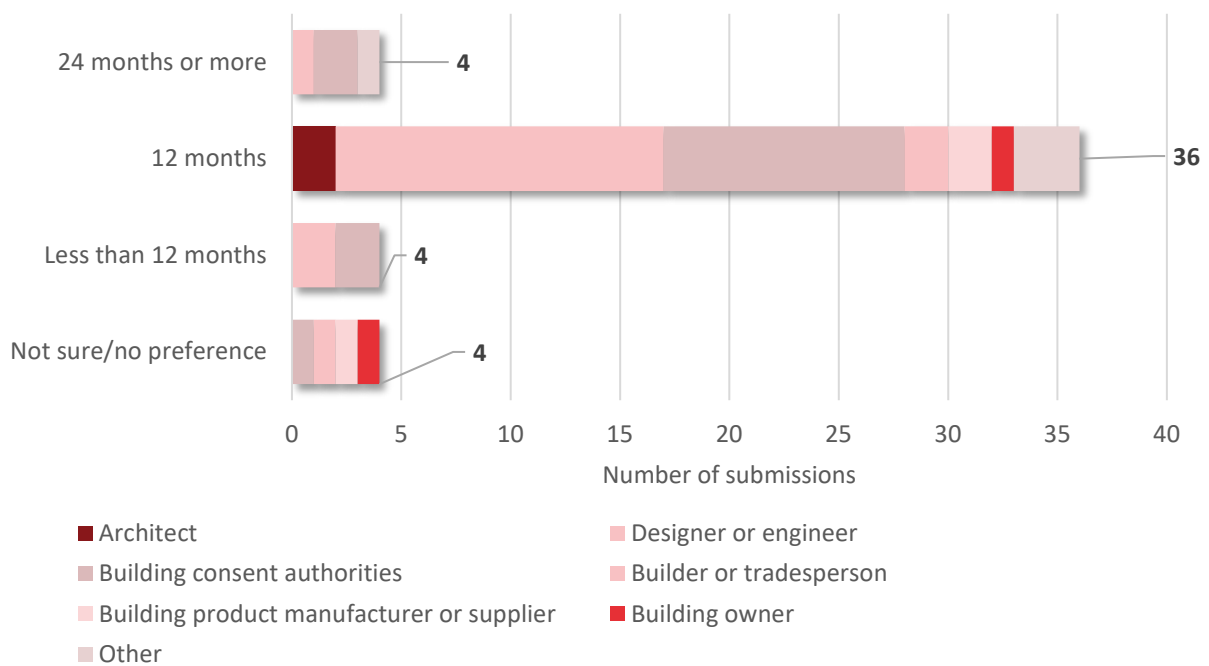
Proposal 1. Protection from fire for residential homes

favoured the longer transition period highlighted the complexity of the new requirements in Parts 4 and 5 that would require additional training to incorporate into design and construction practices.

TABLE 1.3: Preferred transition period from the public consultation submissions

Occupation	Preferred end of the transition period			
	24 months or more	12 months	Less than 12 months	Not sure/no preference
Architects	0	2	0	0
Designers or engineers	1	15	2	0
Builders or tradespersons	0	2	0	1
Building consent authorities	2	11	2	1
Building product manufacturers	0	2	0	1
Building owners, occupants or tenants	0	1	0	1
Other submitters	1	3	0	0
Total	4 (8.3%)	36 (75%)	4 (8.3%)	4 (8.3%)

FIGURE 1.2: Preferred transition period for the proposal for protection from fire for residential homes



Proposal 1. Protection from fire for residential homes

1.3. What we are doing

Considering the feedback from the consultation, MBIE is proceeding with changes to Acceptable Solution C/AS1 that provide the greatest to increase the life safety of building occupants and help clarify the existing document requirements. This includes:

- Requiring interconnected smoke alarms complying with NZS 4514: 2021 as the minimum fire safety system required in household units.
- Amending Part 3. Means of escape as proposed to provide additional clarification on means of escape features for buildings in risk group SH. The proposed text will be amendment based on feedback received in the consultation.
- Amending Part 7 as proposed to align with C/AS2 requirements for fire prevention.
- Issuing the document as a second edition in the new format for acceptable solutions with revised numbering, headings, and front and end matter. This includes separating out C/VM1 into its own standalone document in the new format as well.
- Including the necessary definitions in the document to align with C/AS2 other than the proposed new definition for structural adequacy.
- Revising the appendices for fire safety systems and fire testing as proposed to align with C/AS2 and changes in proposal 2.

MBIE will be withdrawing proposed changes to fire resistance ratings and the control of internal and external fire spread. These requirements primarily relate to the protection of other property from fire. While there was general support for the intent of these parts of the proposal, there was no consensus on the technical details of the changes. Further consideration and consultation on C/AS1 is required to address these issues. The scope of buildings covered by C/AS1 will not change as many of the increased fire risks for multi-unit dwellings relate to protection of other property. Further changes are required to the document to ensure it is suitable for use for these building types.

To confirm, MBIE will be withdrawing the following parts of the proposal:

- Part 1. General – Scope of this document
 - Increasing the scope of multi-unit dwellings covered by the document.
 - Limited the building height and escape height
 - Adding ‘similar accommodation’ to the description of transient and educational accommodation.
 - Adding permitted home-based business activities within risk group SH.
- Part 2. Firecells, fire safety systems and fire resistance ratings
 - Increasing the life rating and property rating from 30 minutes to 60 minutes (unless a fire sprinkler system is installed)
 - Clarifying the application of fire ratings to building elements including the structural adequacy of loadbearing elements during fire.
- Part 4. Control of internal fire and smoke spread
 - Clarifying the requirements for fire separations and firecell construction.
- Part 5. Control of external fire spread
 - Removing the requirement for fire resistance rating for external walls in multi-unit dwellings between 1.0 and 5.0 m of the boundary and aligning these buildings with the requirements for standalone buildings.
 - Providing requirements for small unprotected areas and fire resisting glazing.
 - Clarifying requirements for external spread from roof projections, open sided buildings and similar construction.
 - Providing new requirements for decks, balconies, and building overhangs.
 - Providing new requirements for vertical fire spread in multi-unit dwellings and fire testing of cladding materials.

C/AS1 will be amended in November 2023 with a 12 month transition period ending in November 2024. At the end of the transition period, previous versions of the acceptable solutions and verification method will no longer be deemed to comply with the Building Code. By announcing this decision early and providing a one year transition period, this will give manufacturers and suppliers sufficient to transition any remaining stock of smoke alarms to meet the new requirements. As part of this change, MBIE will also be developing an information and awareness campaign on the changes.

2. Fire safety system standards

2.1. What we proposed

MBIE proposed to improve the protection of people and buildings from fire by bringing the requirements for fire safety systems (fire alarms, sprinklers, smoke alarms and smoke control in air-handling systems) in line with the latest industry standards. We also proposed changes for several other issues in relation to requirements for fire safety systems within the relevant acceptable solutions.

There were six main topics as part of this proposal:

- Fire safety system standards
 - Amendments to Verification Method C/VM2
 - Citing NZS 4512: 2021 Fire detection and alarm systems in buildings
 - Citing NZS 4541: 2020 Automatic fire sprinkler systems
 - Amendments to Acceptable Solution C/AS2
 - Citing the new AS 1668.1: 2015 The use of ventilation and air conditioning in buildings – Fire and smoke control in buildings Amendment 1
 - Citing AS/NZS 3000: 2018 Electrical installations – Known as the Australian/New Zealand Wiring Rules
 - Citing NZS 4512: 2021 Fire detection and alarm systems in buildings
 - Citing NZS 4514: 2021 Interconnected smoke alarms for houses
 - Citing NZS 4541: 2020 Automatic fire sprinkler systems
 - Amending Paragraphs 3.10.4 and 3.10.5 to replace the citation of AS/NZS 1688.1 with AS 1668.1.
 - Modifying the citations of NZS 4541 and AS 1668.1 in C/AS2 Appendix B.
- Domestic smoke alarms
 - Amending C/AS2 Paragraph 2.2.1, Table 2.2, Table 2.2a, Appendix A Paragraph A2.1.1 and cite NZS 4514 as a Type 1 system.
 - Removing Paragraph 3.0 Domestic smoke alarms from F7/AS1.
- Removing requirements for a landline phone
 - Amendments to Acceptable Solution C/AS2
 - Providing a new definition for a remote receiving centre
 - Amending Paragraph 2.2.1 and provide a new Paragraph 2.2.2 for when a remote receiving centre is not required.
 - Removing note 1 from Table 2.2a, note 3 from Table 2.2b, and note 3 from Table 2.2c which refer to the requirements for a landline phone. Refer to the proposed table notes in the new proposed Table 2.2.
- Removing restrictions for sprinklers to replace smoke detectors
 - Amending Acceptable Solution C/AS2 Table 2.2b table note 5 and Table 2.2c note 5. The amendment table note is proposed as Table 2.2 note 4.
- Requiring sprinkler systems to extend into car parks
 - Amending Acceptable Solution C/AS2 to remove the existing Paragraph 2.2.4 and Table 2.3 note 3.
- Editorial changes
 - Consolidating content relating to fire safety system types into one place – Issue a new edition of F7/AS1 and move content to C/AS1 Appendix C and C/AS2 Appendix A.
 - Correcting cross referencing errors in Table 2.3 – Amend Acceptable Solution C/AS2 Table 2.3
 - Combining Tables 2.2a to 2.2d into one Table 2.2 – Amend Acceptable Solution C/AS2 to remove Tables 2.2a to 2.2d and combine these into the proposed Table 2.2.
 - Moving the design sequence process to an informative figure – Amend Acceptable Solution C/AS2 to remove existing Paragraph 2.2.3 and insert a new Figure 2.1. The existing Figure 2.1 is proposed to be renumbered as Figure 2.2.
 - Aligning with the proposed changes to Acceptable Solution C/AS1 to amend Table 1.1 and the description of risk group SH in C/AS2 and provide a new definition for structural adequacy in C/AS2 and C/VM2

In the consultation, MBIE sought feedback on seven questions:

- Do you support the amendments to Acceptable Solutions C/AS1 and C/AS2 and Verification Method C/VM2 to reference the following standards?
 - NZS 4512: 2021 Fire detection and alarm systems in buildings

Proposal 2. Fire safety system standards

- NZS 4514: 2021 Interconnected smoke alarms for houses
- NZS 4541: 2020 Automatic fire sprinkler systems
- AS 1668.1: 2015 Fire and smoke control in building Amendment 1
- Are there any additional modifications to the referencing of the fire safety system standards that we should consider?
- Do you support amending Acceptable Solution F7/AS1 and referring to C/AS1 and C/AS2 for requirements for warning systems?
- Do you support the amendments to Acceptable Solution C/AS2 for the following topics?
 - Domestic smoke alarms
 - Removing requirements for a landline phone
 - Removing restrictions for sprinklers to replace smoke detectors
 - Requiring sprinkler systems to extend into car parks
- Do you support the editorial changes to Acceptable Solution C/AS2 and Verification Method C/VM2 for the following items?
 - Correcting cross referencing errors in Table 2.3
 - Combining Tables 2.2a, 2.2b, 2.2c and 2.2d into one Table 2.2
 - Moving process steps into an informative figure
 - Aligning with the proposed changes to Acceptable Solution C/AS1
- What impacts would you expect for you or your business from the proposed change to the transition period? These impacts may be economic/financial, environmental, health and wellbeing, or other areas.
- Do you agree with the proposed transition time of 12 months for the proposed changes to take effect?

Respondents were given tick box options for the questions with space available for free text responses across all questions. Questions one, four, and five contained separate tick boxes to respond to each item separately. Responses to the consultation were received through an online survey portal as well as through emails to MBIE directly.

2.2. What we heard

2.2.1. Who submitted on the proposal

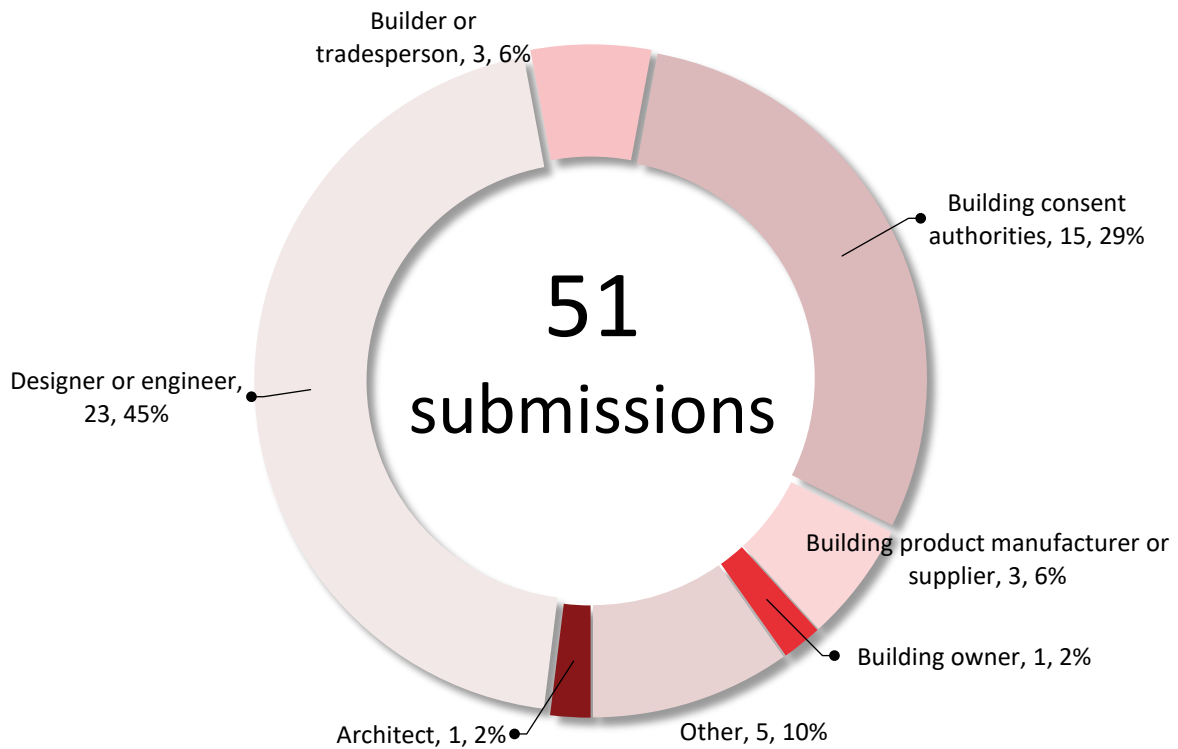
There were 51 submissions on this consultation as shown in Table 2.1 and Figure 2.1. Feedback was primarily received from designers and engineers, and building consent authorities.

TABLE 1.1: Number of submissions received on the proposal for fire safety system standards

Occupation	Number of submissions and percentage of total
Architects	1 (2%)
Designers or engineers	23 (45%)
Builders or tradespersons	3 (6%)
Building consent authorities	15 (29%)
Building product manufacturers	3 (6%)
Building owners, occupants or tenants	1 (2%)
Other submitters including those who did not specify their occupation	5 (10%)
Total	51

Proposal 2. Fire safety system standards

FIGURE 2.1: Number of submissions received on the proposal for fire safety system standards



2.2.2. Submitter preferences on the proposal

Support for the different aspects of the proposals are provided in Table 2.2 Generally, there were high levels of support across all aspects of the proposal. Comments on individual proposals are discussed separately in the following sections.

TABLE 2.2: Responses to questions regarding support for the different aspects of the proposal

Topic	Response		
	Yes, I support the proposal	No, I don't support the proposal	Not sure/no preference
NZS 4512: 2021 Fire detection and alarm systems in buildings	47 (98%)	0	1 (2%)
NZS 4514: 2021 Interconnected smoke alarms for houses	46 (96%)	1 (2%)	1 (2%)
NZS 4541: 2020 Automatic fire sprinkler systems	42 (88%)	1 (2%)	5 (10%)
AS 1668.1: 2015 Fire and smoke control in building Amendment 1	42 (89%)	2 (4%)	3 (6%)
Amending Acceptable Solution F7/AS1	36 (82%)	3 (7%)	2 (5%)
Domestic smoke alarms	39 (89%)	3 (7%)	2 (5%)
Removing requirements for a landline phone	42 (91%)	1 (2%)	3 (7%)
Removing restrictions for sprinklers to replace smoke detectors	42 (93%)	1 (2%)	2 (4%)

Proposal 2. Fire safety system standards

TABLE 2.2 Continued

Topic	Response		
	Yes, I support the proposal	No, I don't support the proposal	Not sure/no preference
Requiring sprinkler systems to extend into car parks	34 (76%)	5 (11%)	6 (13%)
Correcting cross referencing errors in Table 2.3	35 (80%)	2 (5%)	7 (16%)
Combining Tables 2.2a, 2.2b, 2.2c and 2.2d into one Table 2.2	29 (69%)	3 (7%)	10 (24%)
Moving process steps into an informative figure	36 (82%)	0	8 (18%)
Aligning with the proposed changes to Acceptable Solution C/AS1	32 (73%)	4 (9%)	8 (18%)

2.2.3. Fire safety system standards

2.2.3.1. NZS 4512: 2021 Fire detection and alarm systems in buildings

Forty-seven submissions supported this topic in the proposal. There were no submissions that opposed the citation of this standard and there were limited comments or proposed modifications to the standard. The comments received included:

- To provide equity for the deaf and hard of hearing, there should be a clear requirement for both visual alerting devices (VADs) and audible alerting devices in general access areas of public buildings. New Zealand is well behind international best practice in this area.
- More context is required for the standard on alarm interconnections with other systems such as access control.

2.2.3.2. NZS 4514: 2021 Interconnected smoke alarms for houses

Forty-six submissions supported this topic in the proposal. There was one submission that objected to the citation of the standard. This submission stated that the costs associated with smoke alarm requirements might deter access to affordable housing. MBIE has determined that there are minimal costs or impacts to construction associated with the installation of interconnected smoke alarms. For new buildings, installing a hard-wired interconnected smoke alarm system can be installed during construction while the house is being wired. For renovations to existing buildings, battery operated, wirelessly interconnected smoke alarms option allows this to be done without rewiring the home.

2.2.3.3. NZS 4541: 2020 Automatic fire sprinkler systems

Forty-two submissions supported this topic in the proposal and five had no stated preference. There was only one submission that objected to the citation of the standard. This submission stated that requiring sprinklers installed to NZS 4541 was excessive for buildings designed in accordance with C/AS1. There was no requirement proposed to C/AS1 to require a sprinkler system in a residential home to comply with NZS 4541, but there were allowances if someone were to install a NZS 4541 system.

One submission highlighted a misalignment between NZS 4541 and NZS 1170.5 with regard to the requirements for non-structural seismic bracing. After discussing the comments with several experts including members of both standard committees, no further modifications were deemed necessary to the sprinkler standard. However, designers are still able to design to higher levels of performance for seismic bracing than specified in the standard if they chose to.

One submission objected to the modification of NZS 4541 to remove clause 2.6 on external fire loads. Clause 2.6 sets restrictions around fire loads external to the sprinklered building or firecell, which may be located on an owners own property or on an adjacent property. Items on adjacent property are outside of control of the building owner and are difficult to assess or restrict as part of a consent application. The classification of external fire loads also includes items that do not require a building consent when sited on the property and may not have been present or considered when the building consent was issued such as dumpsters, pallets, or shipping containers.

2.2.3.4. AS 1668.1: 2015 Fire and smoke control in building Amendment 1

Forty-two submissions supported the citation of the standard. Comments received on the proposal requested updates to the description of a Type 9 (smoke control in air-handling systems). Other comments on this standard we related to

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AS 1682.1 and AS 1682.2 related to fire dampers which is cited in AS 1668.1. Reference to the newer versions of these standard in C/AS2 is part of an on-going workstream at MBIE for consideration in future consultations.

2.2.4. Domestic smoke alarms

Thirty-nine submissions (89%) supported this topic in the proposal and two submissions (5%) had no stated preference. Three submissions did not support this topic. This proposal received the most comments. One submission noted that the allowance of battery powered devices would be affected by the need to replace the battery every year. The NZS 4514 standard however requires the batteries to be long-life for not less than ten years. There were several other submissions that supported the allowance for battery powered devices. Another submission was concerned that removing the battery allowance would be too restrictive for existing buildings undergoing renovations that seek compliance as nearly as reasonably practicable under s112 of the Building Act. As the standard permits wirelessly interconnected, battery powered smoke alarms, the costs to install a system in an existing building are considered to be minimal. No significant impacts were identified in the comments on the proposal and there were no expected supply chain issues for requiring interconnected smoke alarms.

2.2.5. Removing requirements for a landline phone

Forty-two submissions (91%) supported this topic in the proposal and three submissions (7%) had no stated preference. One submission did not support this topic in the proposal. Those in support of the proposal noted that it reflected modern technology and that it would lower the cost for some building owners. The submission that did not support the proposal was concerned about lack of mobile phone coverage areas. As noted in the consultation document, mobile networks currently cover areas where over 95% of New Zealand's population work and live and continue to expand.

2.2.6. Removing restrictions for sprinklers to replace smoke detectors

Forty-two submissions (93%) supported this topic in the proposal and two submissions (4%) had no stated preference. One submission did not support this topic. The submission that did not support the proposal noted that a sprinkler system relies on flow switches for activating the fire alarm system and this may be less efficient (longer to notify occupants) than fire alarm systems using heat detectors. As noted in the consultation document, sprinkler systems provide additional advantages over heat detectors since they function as suppression systems and help to reduce the risk of early fire spread.

2.2.7. Requiring sprinkler systems to extend into car parks

Thirty-six submissions (82%) supported this topic in the proposal and two submissions (5%) had no stated preference. Three submissions did not support this topic in the proposal. Submissions that support this topic recognised the increase in life safety for providing sprinkler systems in car parks and cited an increased fire risk in car parks with the rise in electric vehicles. Two submissions suggested that smaller car park areas (less than 6 cars) should be exempt as the fuel load in these areas is quite small. The scope of buildings that this exemption would apply to is quite limited as the building would need to be large enough to require sprinklers but also have a very small car park area. Two submitters thought there was insufficient evidence to support the proposal.

2.2.8. Editorial changes

2.2.8.1. Amending Acceptable Solution F7/AS1 and consolidating content relating to fire safety system types into one place

Thirty-six submissions (82%) supported this proposal and two submissions (5%) had no stated preference. Three submissions did not support the proposal. Submitters who supported the proposal noted that it would make the documents easier to use. Submitters who did not support the proposal noted that this creates a disconnect for system types referred in C/VM2. However, C/AS2 already includes reference to Type 9 and Type 18 systems that are not specified in C/VM2 or in the existing F7/AS1. For fire alarm systems, these are also included in NZS 4512.

2.2.8.2. Correcting cross referencing errors in Table 2.3

Thirty-five submissions (80%) supported this proposal and seven submissions (16%) had no stated preference. Two submissions did not support the proposal. One submission noted that the cross-reference for risk group VP Type 2 with risk group SM had increased to a Type 5 from a Type 2. This was an unintentional change in the proposal. Two submissions did not support this proposal on the basis that a Type 5 system should not be installed in corridors or other risk groups outside SM. This is correct as a Type 5 only adds features for smoke detection in sleeping areas but this still aligns with what was proposed.

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2.2.8.3. Combining Tables 2.2a to 2.2d into one Table 2.2

Twenty-nine submissions (69%) supported this proposal and ten submissions (24%) had no stated preference. Three submissions did not support the proposal. The submissions that did not support the proposal commented on the term 'capable of storage height' and the table notes and entries for risk WB as this appears to create an unintentional increase of requirements from a Type 2 to Type 3 fire alarm for some building types. One submission opposed the change as the requirements were previously one table prior to 2012, split into separate tables for individual acceptable solutions, and now proposed to be combined again.

2.2.8.4. Moving process steps into an informative figure

Thirty-six submissions (82%) supported this proposal and eight submissions (18%) had no stated preference. No submissions objected to the proposal. Comments on this proposal stated that the new figure would make the document easier to use.

2.2.8.5. Aligning with the proposed changes to Acceptable Solution C/AS1

Thirty-two submissions (73%) supported this proposal and eight submissions (18%) had no stated preference. Four submissions did not support the proposal. This proposal is contingent on the outcome of proposal 1. As the description of the risk group and the definition for structural adequacy is not changing in C/AS1, these items would not change in C/AS2 or C/VM2.

2.2.9. Comments outside the scope of the consultation

There were multiple submissions both supporting and objecting to the citation of the recently published NZS 4510: 2022 Fire hydrant systems. This standard was not proposed for citation as part this proposal and these comments were out-of-scope for this consultation.

Other comments that were out-of-scope on for the consultation were on the hazards of electric vehicles and their charging stations, updating F6/AS1 (emergency lighting) and F8/AS1 (exit signs), the scope of C/AS2, the requirements on smoke control and the definition of Type 9.

2.2.10. Submitter preferences on the transition period

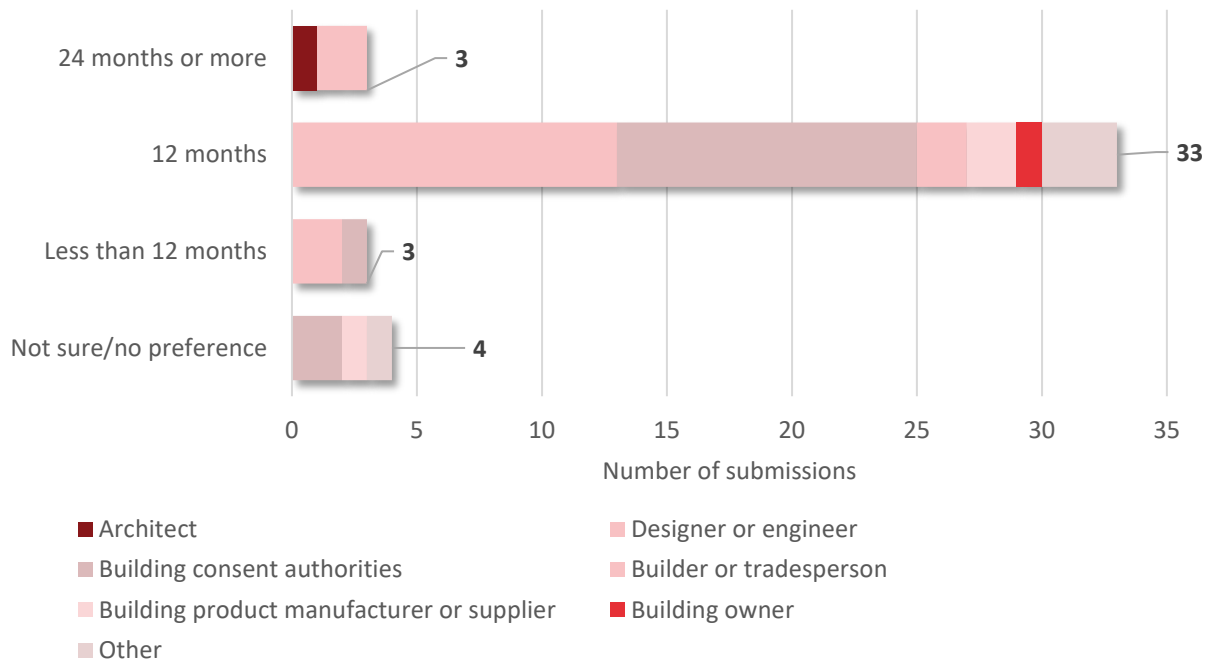
There were 39 responses to the question on the transition period (see Table 2.3 and Figure 2.2). Thirty-six submissions (84%) preferred a transition period of 12 months or sooner. One submission had no preference on the transition period. Three submissions preferred that the change should be two years or more.

TABLE 2.3: Preferred transition period from the public consultation submissions

Occupation	Preferred end of the transition period			
	24 months or more	12 months	Less than 12 months	Not sure/No preference
Architects	1	0	0	0
Designers or engineers	1	13	2	0
Builders or tradespersons	1	2	0	0
Building consent authorities	0	12	1	2
Building product manufacturers	0	2	0	1
Building owners, occupants or tenants	0	1	0	0
Other submitters	0	3	0	1
Total	3 (7%)	33 (77%)	3 (7%)	4 (9%)

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FIGURE 2.2: Preferred transition period for the proposal for fire safety system standards



2.3. What we are doing

Considering the feedback from the consultation, MBIE is amending Acceptable Solutions C/AS1, C/AS2, F7/AS1 and Verification Method C/VM2 as proposed. These amendments will improve the protection of people and buildings from fire by bringing the requirements for fire safety systems (fire alarms, sprinklers, smoke alarms and smoke control in air handling systems) in line with the latest industry standards. This includes requiring interconnected smoke alarms as the minimum fire safety system in sleeping risk groups. These changes would ensure the provisions in our compliance pathways for fire safety systems are up-to-date, consistent and clear.

To address the comments received in the consultation, MBIE will be revising the proposed text to:

- Withdraw the changes to risk group SH and the definition of structural adequacy that were intended to align with changes in C/AS1 and are no longer necessary.
- Correct Tables 2.2 and 2.3 to ensure that the Correcting Table 2.3 where risk group VP Type 2 is cross referenced with risk group SM, to ensure this does not increase to a Type 5 from a Type 2 system.
- Revise the headings and entries in Table 2.2 to ensure the performance requirements reflect the status quo and that the only changes from the previous version of C/AS2 are editorial changes to the formatting of the tables.

The documents will be amended in November 2023 with a 12-month transition period ending in November 2024. At the end of the transition period, previous versions of the acceptable solutions and verification method will no longer be deemed to comply with the Building Code. Announcing this decision early and providing a 12-month transition period will give manufacturers and retailers sufficient time to update their supplies of smoke alarms to meet the new requirements.

