



Determination 2021/010

Regarding the refusal of a building consent for alterations to an existing students' hall of residence at 217 Willow Park Drive, Masterton

Summary

This determination considers a decision by the authority to refuse a building consent for alterations to an existing hall of residence building at a college. The determination discusses whether the authority was correct to refuse the consent and its assessment in accordance with section 112 of the Act, and what is 'as nearly as is reasonably practicable' ("ANARP") in relation to upgrades for the means of escape from fire.

1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004 ("the Act") made under due authorisation by me, Katie Gordon, National Manager Determinations, Ministry of Business, Innovation and Employment ("the Ministry"), for and on behalf of the Chief Executive of the Ministry.¹

1.2 The parties to the determination are:

- the owner of the building, Trinity Schools Trust Board (the "owner"), represented by a registered architect, (the "architect").
- Masterton District Council (the "authority") carrying out its duties as a territorial authority or building consent authority.

1.3 I consider the following to be persons with an interest in this matter:

- Spencer Holmes Limited - a company specialising in civil and structural engineering, fire safety, surveying and planning services (the "fire engineer")

¹ The Building Act and Building Code (Schedule 1 of the Building Regulations 1992) are available at www.legislation.govt.nz. Information about the legislation, as well as past determinations, compliance documents and guidance issued by the Ministry, is available at www.building.govt.nz.

- Enlightened Fire Solutions - a Chartered Professional Engineer specialising in fire engineering (the “peer review fire engineer”)

- 1.4 As this determination is about fire safety and fire engineering practice, I am also required to consult with Fire and Emergency New Zealand (“FENZ”) under section 170(a) of the Act.
- 1.5 This determination arises from the decision of the authority to refuse to issue a building consent for alterations to an existing hall of residence building at a college. The authority was of the view that after the alteration the building will not comply, as nearly as is reasonably practicable, with provisions of the Building Code that relate to the means of escape from fire².
- 1.6 The principal item of dispute between the owner and the authority is that the proposed building work does not include the installation of a new Type 7³ fire safety system. The installation of a Type 7 fire safety system would otherwise be required for a similar (new) building constructed in accordance with the current “Acceptable Solution⁴ for buildings other than Risk Group SH” (“C/AS2”) for New Zealand Building Code Clauses C1-C6 Protection from Fire⁵.
- 1.7 Accordingly, the matter to be determined is whether the authority correctly refused to grant a building consent for alterations to the existing hall of residence for the reasons given⁶. In deciding this matter, I must consider the reasons given for the refusal, and the legislative requirements of section 112 of the Act and what is “as nearly as is reasonably practicable” (ANARP) when assessing compliance against the provisions of the Building Code.
- 1.8 I have not considered any other aspects of the Act or Building Code beyond that required to decide on the matter to be determined. In particular, I have not considered whether the building work complies with the Building Code, or compliance with section 112(1)(a)(ii) of the Act (access and facilities for persons with disabilities) as this was not given as a reason for refusal of the building consent by the authority.
- 1.9 The relevant sections of the Act are contained in Appendix A. Unless otherwise stated, references in this determination to sections are to sections of the Act, and references to clauses are to clauses of the Building Code.

2. The building work

- 2.1 Rathkeale College is situated in a rural area on the northern outskirts of Masterton.
- 2.2 The proposed building work involves the upgrade and alterations to an existing students’ hall of residence building on the college site which is referred to as “Repton House”. The

² Section 112(1)(a)(i) of the Act – Alterations to existing buildings.

³ Type 7 fire safety system (as defined in Table 2.2 of Acceptable Solution C/AS2, First edition, Amendment 1, 22 October 2019): Automatic fire sprinkler system with smoke detection and manual call points.

⁴ Sections 19(1)(b) and 22 of the Act.

⁵ Acceptable Solution C/AS2, Amendment 1 (Errata 1), dated 22 October 2019.

⁶ Section 50(b) of the Act – Refusal of application for building consent.

building is not attached to any other building and is distinct and discrete in terms of providing sleeping accommodation for the students and supervising members of staff.

The existing building

- 2.3 Repton House is a hall of residence for 13-18 year old students, with a current total occupant load⁷ of 88 persons. The occupant load is based on the number of single bed spaces.
- 2.4 Repton House has two 'wings' (see figure 1 below) and both are two storeys in height and include sleeping accommodation for the students on both the ground and first floors. The building has a Tutor's flat, common room and TV room, sick bay, kitchen facilities, family room, and office. There are also additional spaces incorporating storage areas, laundry and sanitary facilities, and circulation spaces including an internal stair between floors. There are three external stairs that provide access to and egress from the first floor of the building.

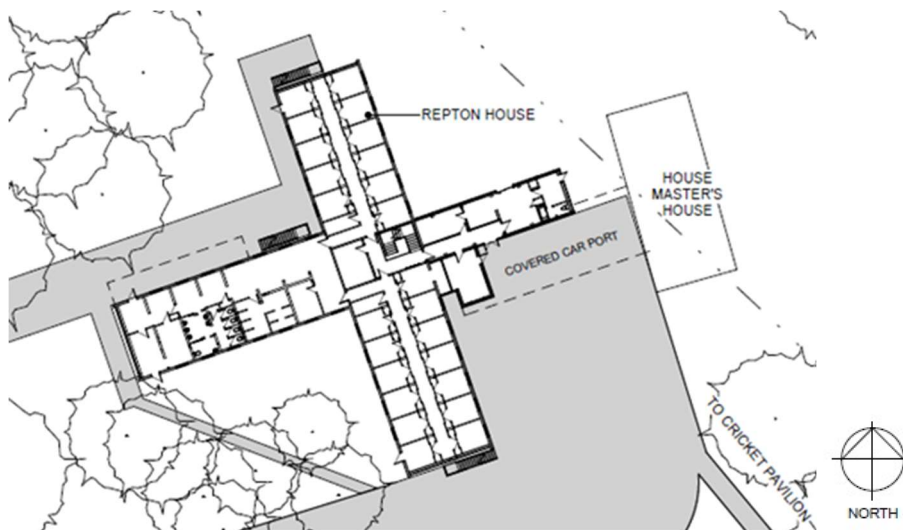


Figure 1: Ground floor layout of "Repton House" (not to scale)

- 2.5 The building has been assessed by the fire engineer as risk group SM⁸, and importance level 2 ("IL2") in accordance Building Code clause A3 – Building Importance Levels. Clause A3 sets levels to describe risk and structure factors for the purposes of clauses C1 – C6 Protection from fire.
- 2.6 The existing construction is described as:

reinforced concrete and masonry to the ground floor, the first floor is on a suspended concrete slab with lightweight timber framing and [fibre] cement board.

⁷ Acceptable Solution C/AS2: Occupant load is defined as "the greatest number of people likely to occupy a particular space within a building." For sleeping areas it is determined by counting the number of sleeping (or care) spaces.

⁸ Acceptable Solution C/AS2 defines "risk group" as: The classification of a building or firecells within a building according to the use to which it is intended to be put. Risk Group SM, as stated in Acceptable Solution C/AS2, Table 1.1 includes (but is not limited to) educational accommodation such as university halls of residence and school boarding hostels etc.

The building layout is in the shape of a cross, with the centre core containing the internal staircase and external staircases on three of the four wings.

- 2.7 The existing building is approximately 47 m long in the south west to north east direction, and between 9.8 m to 6.5 m wide. It is approximately 41 m long in the south east to north west direction and 10.75 m wide.
- 2.8 At ground level the external wall finish is a combination of exposed concrete and brick veneer.
- 2.9 There are a number of existing specified systems⁹ in the building. These include a Type 4¹⁰ alarm system, interfaced fire / smoke doors, emergency lighting, smoke separations, and signage.
- 2.10 The fire engineer described the existing first floor of the building as:

The existing inter-floor separation shall achieve 60/60/60 FRR as required by [Acceptable Solution] C/AS2. The existing reinforced concrete construction shall remain unchanged by the proposed works is considered to achieve this requirement.

The proposed building work

- 2.11 The scope of the proposed building work¹¹ includes but is not limited to:
- relocation of two of the three external stairs that provide means of escape from fire from the first floor level serving a total occupant load of 37 persons on the first floor. All three stairs to include new illuminated exit signage and emergency lighting
 - installation of new fire rated windows in close proximity to the external stairs
 - construction of new 60 minute fire rated internal walls, including around the internal stair (a newly formed vertical internal safe path, preceded by a horizontal safe path¹²), along with new one-way fire rated linings on the internal face of some external walls
 - installation of new ceiling, floor and wall finishes (complying with Acceptable Solution C/AS2, Tables 4.3¹³, 4.4¹⁴, 4.5¹⁵ and paragraph 4.17.8¹⁶)

⁹ Refer to section 7 of the Act: **specified system**—(a) means a system or feature that—(i) is contained in, or attached to, a building; and (ii) contributes to the proper functioning of the building (for example, an automatic sprinkler system);

¹⁰ Type 4 alarm system (as defined in Table 2.2 of Acceptable Solution C/AS2): Automatic fire alarm system activated by smoke detectors and manual call points.

¹¹ The 'scope' has been ascertained from the plans and specifications accompanying the associated building consent application.

¹² Acceptable solution C/AS2 defines "safe path" as: that part of an exitway which is protected from the effects of fire by fire separations, external walls, or by distance when exposed to open air.

¹³ C/AS2, Table 4.3 – Internal surface finishes.

¹⁴ C/AS2, Table 4.4 – Surfaces of building services.

¹⁵ C/AS2, Table 4.5 – Critical radiant flux requirements for flooring.

¹⁶ C/AS2, paragraph 4.17.8 – suspended flexible fabrics.

- installation of new doors and relocation of others, both fire rated [60FRR]¹⁷ and non-fire rated. The new fire rated doors being installed will comply with *New Zealand Standard NZS 4520:2010*¹⁸, and several openings are being made wider.
- construction of new 60FRR internal walls around the central internal stair
- applying intumescent paint to existing internal stair
- the existing Type 4 fire alarm system is being retained, modified to suit the new layout, and upgraded to include a new analogue addressable panel and addressable detectors. The Type 4 alarm system is in accordance with *New Zealand standard NZS 4512:2003*¹⁹ (the standard to which the current system was installed)
- additional fire protection measures proposed to the external walls; these include 60FRR spandrel panels to address vertical spread of fire from ground floor to first floor
- installation of new emergency lighting which will comply with Acceptable Solution F6/AS1 (the Acceptable Solution for Clause F6 Visibility in escape routes)
- installation of new illuminated 'Exit' signage will be provided to comply with Acceptable Solution F8/AS1 (the Acceptable Solution for Clause F8 Signs)
- installation of a direct connection from the fire alarm system to Fire and Emergency New Zealand (FENZ) will be provided if it does not already exist
- an increase in the number of external doors at ground floor level from eight to nine
- all doors to be fitted with locking devices that comply with Acceptable Solution C/AS2, item 3.15.2²⁰

2.12 Other proposed building work includes, but is not limited to, part demolition of some building elements, and installation of new kitchen and bedroom joinery, sanitary fixtures and fittings, stair balustrades, entry canopy, verandas, infill of some existing door and window openings, installation of some specific engineer design building elements, new accessible signage and facilities, non-fire-rated timber-framed internal walls, electrical works and lighting, installation of double glazed windows, external cladding at first floor level, and a new glazed skylight in the roof above the internal stair.

2.13 As a result of the proposed building work, the total occupant load will be reduced in number down from the current figure of 88. In response to the draft determination the

¹⁷ 60FRR: 60 minute fire resistance rating: The term used to describe the minimum *fire* resistance required of *primary* and *secondary elements* as determined in the *standard test for fire* resistance, or in accordance with a specific calculation method verified by experimental data from *standard fire* resistance tests. It comprises three numbers giving the time in minutes for which each of the criteria *structural adequacy*, *integrity* and *insulation* are satisfied, and is presented always in that order. There are two types of *FRR*: *life rating* and *property rating*.

¹⁸ New Zealand Standard NZS 4520:2010 – Fire-resistant doorsets.

¹⁹ New Zealand Standard NZS 4512:2003 – Fire detection and alarm systems in buildings. Superseded by NZS 4512:2010.

²⁰ C/AS2 – Acceptable Solution for Buildings other than Risk Group SH: paragraph 3.15.2 – “Locking devices”.

authority calculated a reduced figure of 76 persons; this is disputed by the architect who maintains a reduced figure of 81 persons is correct.

The means of compliance

- 2.14 The stated means of assessing compliance with the Building Code relied upon by the parties is Acceptable Solution C/AS2 – “Acceptable Solution for Buildings other than Risk Group SH – for New Zealand Building Code Clauses C1-C6 Protection from Fire” (First edition, Amendment 1 (Errata 1) dated 22 October 2019).
- 2.15 In assessing the means of escape from fire, both parties have referred to the minimum fire safety systems by type required for sleeping uses, including risk group SM, as detailed in Acceptable Solution C/AS2, Tables 2.2 and 2.2a (extracts applicable to this determination have been provided below).

Table 2.2	Fire safety systems specified in Acceptable Solution C/AS2
System Type	System description
4	Automatic fire alarm system activated by smoke detectors and manual call points
5	Automatic fire alarm system with modified smoke detection and manual call points
7	Automatic fire sprinkler system with smoke detection and manual call points
9	Smoke control in air handling system
18	Building fire hydrant system

Table 2.2a	Minimum fire safety systems by type required for sleeping uses	
Risk Group	Occupant type	Escape height (less than 4m)
SM	Education	5, 7, 9, 18

- 2.16 For an equivalent new building, as opposed to an alteration to the existing building, if compliance with the Building Code is being demonstrated using Acceptable Solution C/AS2, then Type 5, 7, 9 and 18 fire safety systems would be required (subject to certain limitations for a Type 18).
- 2.17 Section 1.3 - “Alterations to buildings” - of C/AS2 states:

1.3.1 This Acceptable Solution may be used to determine the compliance of building work (in relation to an existing building).

- 2.18 The absence of the Type 9 and 18 fire safety systems is not in dispute between the parties, and were not given as a reason for the refusal of the building consent by the authority. These have therefore not been considered further in this determination.

3. Background

- 3.1 The owner applied for a building consent (No. 200217) for the proposed building work on the 13 May 2020.
- 3.2 Between 24 June 2020 and 6 August 2020 the authority requested additional information²¹ from the owner, some of which related to protection from fire measures, the means of escape from fire, and matters pertaining to a Type 7 fire safety system.
- 3.3 In conjunction with the building consent application the fire engineer provided a report dated July 2020 (reference number 181053R01, Revision I) titled "Assessment in accordance with section 112 NZ Building Act 2004...for...Repton House...". The report considered that as "an existing building...retrofitting [a] sprinkler system for full compliance is not considered to be reasonably practicable". The report included a cost and benefit analysis, as well as a detailed summary of the proposed building work based on an ANARP assessment under section 112 of the Act.
- 3.4 Section 16 of the report states a:
- ...sprinkler system offers property protection, life safety, fire containment, and extinguishing within the cell of fire origin but comes at a huge cost of [\$400,000] approximately. With this huge cost the sprinkler upgrade works are not considered of tangible benefit as it does not provide any early warning to the occupants for life safety. Therefore for this project, the sacrifice is considered to outweigh the benefit for an existing building. Henceforth the building is considered to comply ANARP but certainly to a better extent than (sic) before the proposed works due to the other passive and active fire safety upgrade works already proposed in accordance with Section 112 assessment for this Building Consent.
- 3.5 In correspondence between the owner and the authority, reference was made to a "building memorandum" from FENZ²² dated 29 May 2020 (issue number 1, design review number 14857). FENZ advised the authority:
- 3.5.1 to retain the existing Type 4 alarm system rather than install a proposed Type 5²³ "unless a suppression system is provided to demonstrate that the proposed means of escape design will meet the performance requirements of the Building Code to the extent required by the Building Act"
- 3.5.2 that "while a Type 5 system may be suitable in a space where fire suppression is provided (as per [Acceptable Solution] C/AS2, table 2.2a allowance) this is not appropriate in an education sleeping space without suppression"

²¹ Section 48(2) of the Act.

²² Section 47 *Fire and Emergency New Zealand may give advice on applications under section 46.*

²³ Type 5 alarm system (as defined in Table 2.2 of Acceptable Solution C/AS2): Automatic fire alarm system with modified smoke detection and manual call points

- 3.5.3 Acceptable Solution “C/AS2 table 2.2a requires that education sleeping spaces be provided with a suppression system”
 - 3.5.4 the ANARP part of the fire report “has focused on the cost of the sprinkler system relative to the extent of the works and has framed the life safety benefits in terms of time to detection”
 - 3.5.5 “fire suppression is provided to protect the vulnerable occupants that sleep in education facilities” and “to not only provide early warning of a fire but limit the spread of a fire”
 - 3.5.6 the ANARP assessment in the fire report “does not give adequate consideration to the ability of the sprinkler system to limit fire spread”
 - 3.5.7 the ANARP assessment “has not taken into account that the occupants of this building are a vulnerable population (not adults). [Acceptable Solution] C/AS2 requires design options for vulnerable populations²⁴ should offer a higher level of protection than for other populations”
 - 3.5.8 the extent of building work including demolition of most of the internal partitions and 40 per cent of the ceilings, means “the invasive nature of a sprinkler installation is not as onerous as suggested in the fire report”
 - 3.5.9 that other design benefits with a sprinkler system included could reduce some fire resistance ratings, fire separations and fire stopping, as well reduce the effects of vertical fire spread. These cost savings could offset the cost of the sprinkler system
 - 3.5.10 it considered “that the ANARP argument provided to support the omission of a sprinkler system in this building is incomplete. The ANARP argument does not establish the importance of protecting a vulnerable population or show that in the context of the proposed building work an upgrade to provide a sprinkler system is beyond reasonably practicable”
 - 3.5.11 “to require the [owner] to either provide the required fire safety system or provide a more robust ANARP assessment”
 - 3.5.12 to seek clarification from the [owner] about the use of the “Quiet room” shown on the ground floor plan
 - 3.5.13 to ensure the [owner] provides additional information about surface finishes, construction monitoring, and co-ordination of fire safety requirements with other design disciplines.
- 3.6 In response to items raised in the building memorandum from FENZ, the fire engineer and architect confirmed the following:
- 3.6.1 Accepted retaining the existing Type 4 alarm system in lieu of the previously specified Type 5 alarm system.
 - 3.6.2 In response to the fire suppression issues, the fire engineer agreed “with the benefits of the sprinkler system” but considered the sprinkler system alone would outweigh the cost of the other fire safety systems and make the project non-viable. The fire engineer also noted the site is remote and an adequate mains water supply is not available, thereby requiring storage tanks and pumps.

²⁴ Building Code clause A3 – Building Importance Levels – importance level 3 – Buildings of a higher level of societal benefit or importance, or with higher levels of risk-significant factors to building occupants. These buildings have increased performance requirements because they house large number of people, **vulnerable populations**, or occupants with other risk factors, or fulfil a role of increased importance to the local community or to society in general.

3.6.3 In respect of the “Quiet room” the fire engineer stated “The [owner] has confirmed that the Quiet room will be used as a quiet place for resting and is not therefore used a bedroom”.

3.6.4 Provided manufacturer’s information about surface finishes.

3.6.5 That construction monitoring will be undertaken to CM1 level of monitoring²⁵ – [a] PS4²⁶ will be provided.

3.7 The building consent was refused²⁷ by the authority on 7 August 2020. The reasons given were confirmed in an email to the architect and owner dated 7 August 2020, in which the authority stated:

In the view of [the authority] the means of compliance in the assessment of s112 of the Building Act does not meet the as near as reasonably practicable test.

3.8 On the 10 August 2020 the architect contacted the authority to ask why the building “consent application had been cancelled”. The authority replied with six items, and the architect, fire engineer, and peer review fire engineer subsequently provided responses which are summarised in the table below:

The authority	The architect, the fire engineer, and peer review fire engineer
[The authority] would expect to see a sprinkler system, the [Acceptable Solution] requires a sprinkler system. The fire report states NO sprinkler system.	<p>The estimated cost of installing an automatic sprinkler system is \$405,000 NZD, and excludes additional costs of approximately \$5,000 - \$10,000 NZD. These costs were verified by a company of Quantity Surveyors.</p> <p>The architect also stated “As noted the fire safety upgrade works is almost 20% of the project costs and Sprinklers will require 40%, [a] deficit by 20%, and this will clearly make the project non-viable”.</p> <p>A cost analysis was included in the original fire report provided to the authority as part of the building consent application.</p> <p>A tabulated breakdown of the estimated costs is included in Appendix B, item 3 – project costs. This table was provided by the architect as part of the determination.</p> <p>This is notwithstanding issues with the available water supply and ceiling height (detailed below).</p>
The design is supported by a PS2 ²⁸ [from the fire engineer), which is incorrect and should be challenged (signed as “in full compliance”). The design is an alternative by default. [The	The supporting letter to the PS2 clearly indicates the design is as nearly as reasonably practicable. The peer review fire engineer does not consider that to be an alternative solution because section 112 of the Act permits consideration of a design that is compliant only as nearly as is reasonably practicable.

²⁵ CM1 is described by Engineering NZ in its guide titled “Construction Monitoring Services” (2014) as “Monitor the outputs from another party’s quality assurance programme against the requirements of the plans and specifications. Visit the works at a frequency agreed with the client to review important materials of construction critical work procedures and/or completed plant or components. Be available to advise the constructor on the technical interpretation of the plans and specifications”.

²⁶ PS4 – Producer Statement Construction Review.

²⁷ Section 50 of the Act.

²⁸ PS2 – Producer statement design review.

authority was] unable to find a PS1 ²⁹ from the specialist engineer.	The fire engineer has not provided a PS1, and the authority has previously accepted similar fire reports from the fire engineer for the owner without PS1s.
Drawings are inconsistent, saying a Type 4 will be retained in a flat ([plan] A102).	The note on the drawing states the Type 4 system is retained throughout the building including the flat.
The rooms cannot be group sleeping areas - full height Non FRR walls [are] not allowed in Group sleeping.	Refer to excerpt from [Acceptable Solution] C/AS2 [paragraph] 4.6.1 which states "Group sleeping area fire cells may be subdivided provided that the firecell contains no more than 40 beds, whether or not sprinklers are installed."
It is common for rural buildings to require tank and pump systems to provide a water supply for sprinklers.	The ANARP discussion is in section 16 of the fire report. A compliant sprinkler system cannot be installed in the boarding house using the available water supplies. "The only (very expensive) option to provide sprinklers would be to have a large tank on site and diesel power pump". The current water supply is not from the reticulated town mains or an elevated reservoir, and the existing pumped supply uses electrical pumps which then wouldn't comply with NZS 4515, section 6.1.2 (acceptable water supplies) ³⁰ .
The height to ceiling reason (for not having sprinklers) is exacerbated because of the inclusion of an architectural ceiling.	The existing building structure comprises concrete beams supporting the concrete floor and this restricts the ceiling height. The proposed building work includes a new ceiling to conceal cables and conduits. If a sprinkler system is installed this will reduce the clear height between finished floor level and the ceiling which won't achieve compliance with Acceptable Solution D1/AS1 of a minimum 2100 mm ³¹ . If sprinkler heads were installed at around 2000 mm above the finished floor level, these would "become a hazard and would be prone to damage" due to the height of the some of the students. The architectural ceiling is proposed to be set at level to be as close as possible to the underside of the existing concrete beams supporting the concrete floor above.

3.9 The Ministry received an application for a determination on 20 August 2020.

3.10 The Ministry wrote to the parties on 1 September 2020, and requested of the owner a complete 'sacrifice' versus 'benefit' weighting exercise be provided, and a gap analysis, in

²⁹ PS1 – Producer statement design.

³⁰ New Zealand standard NZS 4515:2009 – Fire sprinkler systems for life safety in sleeping occupancies (up to 2000 square metres).

³¹ Acceptable Solution D1/AS1, Amendment 6 effective 1 January 2017: Figure 3 – Height clearances along access route, Table 1 – Height clearances, and paragraph 1.4.1.

line with the current guidance from the Ministry³². The architect provided this information on 15 September 2020 (see Appendix B).

- 3.11 Further, the architect’s comments on the weighting exercise included the following statement:

Huge [b]enefit as the fire alarm panel is now addressable which permits the devices to be individually identified allowing to exercise more control over false alarms and also voice evacuation will make the occupants evacuate faster [and] better than before and this aspect will still be the driving factor even with sprinklers as sprinklers will not provide early warning and will only control the fire.

- 3.12 The Ministry also sought clarification from the authority on the reasons why the building consent was refused. The authority responded on 14 September 2020, stating that it considered the Act did not require it to be specific as to the exact reasons for refusal and it was the responsibility of the designer to provide “a compelling argument” as to what is reasonably practicable in the circumstances. The authority also stated:

Under [the owner’s] proposal no upgrades will occur to the fire safety system in the building.

... when measuring an alternative solution, the expectation is that the level of safety is measured against the level of safety a building, that complies with the acceptable solution, would have. The level of safety provided to a building with a sprinkler system is far greater than one with only a Type 4 fire alarm...

The point of dispute is that the [owner] has failed to provide a compelling reason as to why it is not reasonably practicable to provide a building that would be as safe as a new building built today in accordance with the acceptable solution would provide.

- 3.13 The authority did not provide a copy of any other document that sets out their reasons for the refusal of the building consent.

4. The submissions

- 4.1 The parties’ submissions are summarised below:

The Owner

- 4.2 The owner believes that compliance with section 112 of the Act has been demonstrated in that the proposed building work meets the test of what is ‘as nearly as is reasonably practicable’ (ANARP) with the provisions of the Building Code that relate to the means of escape from fire.
- 4.3 The owner is of the view that it is impractical to install a Type 7 fire safety system. Some of the reasons relate to the limitations imposed by the existing floor to ceiling height, and a lack of a suitable and adequate water supply. The owner has also highlighted the additional

³² <https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/altering-existing-building/demonstrating-and-assessing-compliance-for-buildings-undergoing-alterations/step-3-applicants-assess-anarp-for-outstanding-fire-and-accessibility-building-code-clauses/> (accessed on 25 March 2021).

costs that would be required to install and subsequently maintain a Type 7 fire safety system, notwithstanding the costs of the proposed building work (as summarised in paragraphs 2.11 and 2.12), and considers the added cost to be disproportionate which would mean the building work would not go ahead. The owner advised there is no budget to install a Type 7 fire safety system, and this will impact on the College's ability to progressively retrofit other similar buildings on the site.

4.4 The existing access arrangements for FENZ, for fire-fighting purposes, are to remain unchanged.

4.5 The owner provided copies of the following:

- Building consent (architectural) plans, including various amendments.
- Fire safety and accessibility report from the fire engineer.
- Building Memorandum from Fire and Emergency New Zealand ["FENZ"] dated 29 May 2020.
- Documentation and manufacturer's information regarding internal surface finishes.
- Manufacturer's literature regarding intumescent coatings.
- A 'Producer Statement Design Review' [PS2] from the peer review fire engineer, plus covering letter, dated 12 August 2020 (both of which superseded previous versions dated 31 July 2020).

4.6 In response to a request for further information from the Ministry the architect provided copies of the following:

- A copy of a "Building Systems Status Report" dated 1 September 2020 (in lieu of an annual Building Warrant of Fitness ("BWOFF")³³) for the hall of residence.
- A copy of a BWOFF which had expired on 31 August 2020.
- A tabulated and detailed "gap assessment"³⁴, "weighting exercise", and estimated "project costs" assessment (see Appendix B).

4.7 The "gap assessment" listed seven areas of compliance with the Acceptable Solution C/AS2, and one item of non-compliance. The area of non-compliance was related to the Types 7 and 5 fire safety systems. However, as a result of advice received from FENZ (see paragraph 3.5), it was agreed between the parties to retain the current Type 4 alarm system (albeit this is being modified and upgraded as part of the proposed building work).

4.8 The "weighting exercise" identified six items (including issues associated with the fire alarm system, fire separations, escape routes, internal surface finishes and external spread of fire). The "weighting exercise" provided an assessment of the 'sacrifices', 'benefits', and

³³ Section 108 of the Act.

³⁴ "Gap analysis" and "weighting exercise" are described at <https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/altering-existing-building/demonstrating-and-assessing-compliance-for-buildings-undergoing-alterations/step-3-applicants-assess-anarp-for-outstanding-fire-and-accessibility-building-code-clauses/> (accessed on 25 March 2021).

'discussion' (which summarised the consequences of the 'sacrifices' versus 'benefits'). The architect stated:

...the weighting exercise [for] the building is at a tipping point where further upgrades will significantly increase the costs with not much tangible benefit to means of escape of the building and is therefore considered as being outside the scope of being reasonably practicable in accordance with Section 112 and [Ministry] guidance. Section 112 only requires to address means of escape for compliance and this is well demonstrated by the increased numbers of fully compliant external and internal escape routes, improved 60 minutes fire rating (including - fire rated doors and fire rated windows), fire and smoke rated surface finishes, spandrel protection (60 minutes and 30 minutes) throughout the building and Type 4 early warning smoke detection system which will provide egress times exceeding the required safe egress times typically required for a two storey building of this size with direct egress to a safe place from almost all spaces in the building (as noted before be[ing] less than 10 minutes). Also we would like to note that the costs for fire upgrade...clearly indicate that the ANARP balance on this building has been considerably exceeded.

- 4.9 The peer review fire engineer stated the fire report is based upon the Acceptable Solution on an ANARP basis which does not mean it is an alternative solution.

The Authority

- 4.10 The authority believes that insufficient justification was provided by the owner to not install a Type 7 fire safety system (in accordance with the Acceptable Solution C/AS2), and that the design proposal did not meet the ANARP test under section 112 of the Act.

- 4.11 The authority provided copies of:

- its email to the owner and architect dated 7 August 2020 that confirms the refusal of the building consent
- a compliance schedule³⁵ (reference number CS0219) for "Rathkeale College – Repton House", which lists 6 specified systems (including an existing – Type 4 fire alarm system).

- 4.12 The authority also submitted that there is no reference to ANARP in the Acceptable Solution therefore any departure from the Acceptable Solution is an alternative solution. The authority referred to C/AS1 1.1.3, which states "If the Acceptable Solution cannot be followed in full, use Verification Method C/VM2 or an alternative solution to demonstrate compliance."

5. Draft determination

- 5.1 A draft determination was issued to the parties for comment on 1 April 2021.

³⁵ Sections 100 – 107 of the Act.

- 5.2 The architect responded on behalf of the owner, fire engineer, and peer review fire engineer, to the draft determination on 9 April 2021. The architect confirmed the draft determination was accepted subject to a non-contentious amendment, which has been incorporated into paragraph 6.45.
- 5.3 The authority responded to the draft determination on 14 April 2021. The authority did not accept the draft determination and stated it was because:
- it included additional information not available to the authority at the time it made its decision to refuse the building consent
 - it did not believe the project costs included in Appendix B were correct, and noted that the estimated value of the building work stated on the original building consent application form was \$3,000,000.00, and therefore the percentage value for the installing a sprinkler system was much less at 12 percent
 - it believed there were 'no references to technical advice in [the] draft', and 'problems with [Acceptable Solution] C/AS2...have been ignored'
 - it queried the completeness and relevance of some of the items listed as part of 'the proposed building work'
 - it had calculated the proposed reduced occupant load would be 76 persons, and not 81 as calculated by the architect
 - it provided a copy of the compliance schedule for Repton House, and copies of requests for further information that were addressed to the architect dated 24 June 2020, 17 July 2020, and 6 August 2020. The letters requested additional information in relation to comments from FENZ, not accepting the 'ANARP argument', the locks on doors, 'fire partitions between suites', and information missing from the fire report etc.
 - it believed the information about reduced fire resistant ratings, fire separations and fire stopping by having a sprinkler system 'was not used to correctly assess the cost of [the] sprinkler upgrade'
 - it believed the information about construction monitoring 'is not a requirement, and in the authority's opinion CM1 level monitoring adds little value or reassurance'
 - that the 'reasons listed in [paragraph] 3.11 include emotionally persuasive language that should be ignored when assessing compliance'
 - it believed that insufficient justification was provided by the owner to not install a Type 7 fire safety system as part of the building consent and this statement was 'clearly justified' as the Ministry 'requested a gap assessment and [weighting] exercise', and provided copies of its requests for further information noted above

- it believed that the statements made about an authority being required to give sufficiently explicit, specific and clear reasons for refusing a building consent was inconsistent with other ‘messaging’ from the Ministry, and that section 14 of the Act ‘clearly identifies that the designer is responsible for providing plans and specifications that are sufficient in order for the resulting building to comply with the Building Code’
- it wanted confirmation that certain statements in the determination ‘can be used to establish compliance under [section] 19(1)(c)’ of the Act³⁶.

5.4 The architect provided additional comments on 29 April 2021 to the points raised by the authority. These comments were broad in nature and did not add anything substantive to the information already available to the Ministry, other than clarification on the cost estimates of the building work.

5.5 In reference to paragraph 1.4, FENZ responded to the draft determination on 20 April 2021. FENZ confirmed that it ‘generally [agreed] with the analysis and conclusion in the draft determination’ and stated ‘that the altered building will comply ‘as nearly as is reasonably practicable’ (ANARP) with the provisions of the Building Code that relate to [the] means of escape from fire’. FENZ also stated:

- the conclusion reached in the draft determination ‘is justified on the basis of the information made available to the Ministry through the determination process’ as included in Appendix B, and that the authority ‘could have requested a more developed appraisal from the [owner]’ (as recommended in the previous FENZ building memorandum)
- that ‘the characteristics of building occupants’ particularly those of a more ‘vulnerable’ nature is a legitimate matter to take into account when making an ANARP appraisal under section 112(1)’. It went on to make reference to the High Court decision quoted in paragraph 6.26, and other comparative references in the Acceptable Solution C/AS2
- ‘it is apparent from this comment [see paragraph 6.26] that the weighing exercise is a dynamic one, to be carried out in light of all of the circumstances that have a bearing on human safety in the context of the relevant provisions of the building code. If the age or nature of the people expected to occupy a building have some effect on that, then that should be taken into account as part of the weighing exercise. The fact that section 112 does not refer to this specifically does not mean that cannot be a relevant component of an ANARP appraisal’
- that in reference to the ‘graph included in Appendix B’, it ‘appears to be intended to be indicative and an attempt to capture the weighing exercise conclusions in a visual form, Fire and Emergency is concerned that there is no explanation of how the sacrifice/benefit unit values are ascribed, axes determined etc. Caution should be

³⁶ Section 19 – How compliance with building code is established: (1) A building consent authority must accept any or all of the following as establishing compliance with the Building Code: (c) a determination to that effect made by the chief executive under subpart 1 of Part 3.

exercised when taking account of this sort of information as part of the weighing exercise, as it may improperly influence the interpretation of more objective material’.

6. Discussion

- 6.1 The matter to be determined³⁷ is whether the authority correctly exercised its powers to refuse to grant a building consent under section 50 of the Act for proposed alterations to an existing hall of residence at a college.
- 6.2 In determining whether the authority was correct to refuse to grant the building consent, I need to consider the reasons given for that decision.
- 6.3 The principal item of dispute between the owner and the authority is that the proposed building work does not include the installation of a new Type 7 fire safety system which is otherwise a requirement for an equivalent building, if constructed new, if compliance is demonstrated using Acceptable Solution C/AS2.
- 6.4 The owner is of the view that it is impractical and too costly to install a sprinkler system, bearing in mind the other upgrades proposed to improve and enhance the means of escape from fire which the owner believes satisfies the ANARP test under section 112 of the Act.
- 6.5 The authority is of the view that insufficient justification was provided by the owner to not install a Type 7 fire safety system (in accordance with the Acceptable Solution C/AS2), and that the design proposal did not meet the ANARP test under section 112 of the Act.
- 6.6 I therefore need to consider the legislative requirements of section 112(1)(a)(i) of the Act. In particular, I need to consider whether after the alteration the building will comply, as nearly as is reasonably practicable, with the provisions of the Building Code that relate to means of escape from fire, and that the building after the alteration will continue to comply with the Building Code to the extent required under section 112(1)(b).

The legislation

- 6.7 The Act places a strong emphasis on ensuring that people who use a building can escape from the building if it is on fire³⁸. Similarly one of the objectives of the Building Code Clauses C2 to C6 is to: “(a) safeguard people from an unacceptable risk of injury or illness caused by fire”.
- 6.8 If an authority exercises a decision to refuse to grant an application for a building consent, section 50 of the Act states:

...the building consent authority must give the applicant written notice of—

- (a) the refusal; and
- (b) the reasons for the refusal

³⁷ Sections 177(1)(b) and (2)(a) of the Act.

³⁸ Section 3(a)(iii) of the Act – Purposes.

6.9 Central to the dispute between the parties is compliance with section 112 of the Act, specifically the interpretation and application of what is “as nearly as is reasonably practicable”.

112 Alterations to existing buildings

- (1) A building consent authority must not grant a building consent for the alteration of an existing building, or part of an existing building, unless the building consent authority is satisfied that, after the alteration,—
- (a) the building will comply, **as nearly as is reasonably practicable**, with the provisions of the building code that relate to—
- (i) **means of escape from fire** [my emphasis]; and

and
- (b) the building will,—
- (i) if it complied with the other provisions of the building code immediately before the building work began, continue to comply with those provisions; or
- (ii) if it did not comply with the other provisions of the building code immediately before the building work began, continue to comply at least to the same extent as it did then comply.

6.10 The term “means of escape from fire” is defined in section 7 of the Act as:

...in relation to a building that has a floor area,—

- (a) means continuous unobstructed routes of travel from any part of the floor area of that building to a place of safety; and
- (b) includes all active and passive protection features required to warn people of fire and to assist in protecting people from the effects of fire in the course of their escape from the fire

6.11 The Ministry’s guidance on ‘Alterations to existing buildings and means of escape from fire’³⁹ confirms that the applicable Building Code clauses are:

- C3.4 Fire affecting areas beyond the fire source
- C4 Movement to place of safety
- C6 Structural stability
- D1 Access routes
- F6 Visibility in escape routes

³⁹ <https://www.building.govt.nz/building-code-compliance/c-protection-from-fire/c-clauses-c1-c6/means-of-escape/context/> (accessed on 25 March 2021).

- F7 Warning systems
- F8 Signs

The reasons for the refusal

- 6.12 Section 50 of the Act requires that if a building consent authority refuses to grant an application for a building consent, it must give the applicant a written notice of the refusal, and state the reasons for that refusal.
- 6.13 I disagree with the authority's view that it is not required to be "specific as to exact nature of the refusal". This issue has been considered in previous determinations in relation to the provisions of section 95A. The relevant requirements of section 50 of the Act are the same as section 95A⁴⁰, that is the building consent authority must give the applicant written notice of the refusal and the reasons for the refusal.
- 6.14 I hold the same view as discussed in determination 2020/005⁴¹ regarding what is expected of a building consent authority when giving reasons for a refusal, and in my opinion this applies regardless of whether it's in relation to a building consent or a code compliance certificate. In this respect I reiterate the following key points, albeit in relation to a building consent:
- The reasons given by the authority will need to consider those aspects of the design that it believes do not comply with the Building Code or the Act.
 - The requirement that an authority provides reasons in writing for refusing to grant a building consent so an owner is made aware of any shortcomings with the plans and specifications in order to obtain that building consent.
 - It is important that an owner is given sufficiently explicit, specific and clear reasons why compliance has not been achieved so the owner can consider what is necessary to remedy the situation.
- 6.15 I hold the view that where an authority makes a decision to refuse to grant an application for a building consent, the owner must be given sufficiently explicit, specific and clear reasons why the authority believes the building work does not comply with the Building Code. The owner can then consider whatever measures may be necessary to remedy the situation.
- 6.16 In my view the reason given by the authority in this case for the refusal to grant the application for building consent (see paragraph 3.7) was **not** sufficiently explicit, specific or clear. It would have been obvious to the authority that the owner could not be expected to understand or interpret from the statement it made what may be necessary to remedy the situation. This also needs to be considered in respect of the authority's obligations

⁴⁰ Section 95A – Refusal to issue code compliance certificate.

⁴¹ Determination 2020/005, dated 7 May 2020 – Regarding the refusal to issue a code compliance certificate for a 22-year-old house at 63b Thirteenth Avenue, Tauranga – section 5.2 "The authority's regulatory actions".

under section 22(1) of the Local Government Official Information and Meetings Act 1987 (“LGOIMA”)⁴², and decisions previously reached in the High Court and Court of Appeal⁴³.

6.17 A generalised refusal that does not identify non-compliant aspects of the design, or those that do not comply as nearly as is reasonably practicable with respect to section 112, is not sufficient for the authority to meet its obligations under section 50 of the Act.

6.18 In the High Court case of *Hollander v Auckland Council*⁴⁴ the court stated:

[53] Context is important in determining the extent to which it is necessary for reasons to be given. If the purpose for which reasons are required were to enable a party to determine whether to pursue a right of general appeal, the reasons must identify each material issue (legal and factual) relevant to that decision...

and

[54] The extent of the obligation to give reasons will also be dependent on the functions cast on the particular tribunal responsible for making the relevant decision. In common with the approach taken to application of the principles of natural justice, where Parliament has established a special procedure, the extent of reasoning required to support a decision will be moulded to fit the purpose of the process.

6.19 Section 112 has very clear and broad applications associated with means of escape from fire, plus access and facilities for persons with disabilities; notwithstanding the added requirements of Section 112(1)(b) of the Act.

6.20 The written notification issued by the authority on 7 August 2020 makes no mention of what or why particular aspects of the design did not comply with the Building Code or the provisions in section 112 of the Act. As it transpires, the item of dispute between the parties relates to not installing a Type 7 fire safety system, which would otherwise be required for a new building, and whether sufficient justification has been provided by the owner not to install one in the existing hall of residence. I note that the authority did provide some additional information to the architect on 10 August 2020 to further explain why it had refused to grant the building consent (see paragraph 3.8). All but one of the items related directly or indirectly to the item of dispute over the Type 7 fire safety system.

6.21 The remaining item identified by the authority was that it considered that ‘the rooms cannot be group sleeping areas - full height Non FRR walls [are] not allowed in Group sleeping’. The peer review fire engineer responded to state ‘refer to excerpt from [Acceptable Solution] C/AS2 [paragraph] 4.6.1 which states “Group sleeping area fire cells may be subdivided provided that the firecell contains no more than 40 beds, whether or not sprinklers are installed”.’ I agree with the peer review fire engineer. Paragraph 4.6.1 of the current Acceptable Solution C/ASA2 that applied at the time of the building consent application does limit group sleeping area firecells to no more than 40 beds if the building is unsprinklered. While noting the proposed setting out of the fire separations on each floor,

⁴² Determination 2020/005, paragraphs 5.2.10 and 5.2.11.

⁴³ Determination 2020/005, paragraph 5.2.13.

⁴⁴ *Hollander v Auckland Council* [2017] CIV 2016-404-2322 NZHC 2487.

there are no more than 40 beds in each firecell in this case. Further, unlike paragraph 4.6.2 b) from the previous Acceptable Solution C/AS2 (Amendment 4 effective from 1 January 2017) the current Acceptable Solution C/AS2 (first edition, Amendment 1 from 22 October 2019) does not limit the height on non-fire rated walls in group sleeping fire cells. I have therefore not considered this item further in this determination.

- 6.22 In consideration of the foregoing items, I am of the view that the authority did not provide sufficiently explicit, specific and clear reasons for its refusal to grant the application for the building consent when it wrote to the owner and architect on 7 August 2020.

Section 112(1)(a) “As nearly as is reasonably practicable” [ANARP]

- 6.23 When assessing proposed alterations to an existing building (section 112 of the Act), a building consent authority needs to be satisfied that after the alteration the building will comply, ‘as nearly as is reasonably practicable’, with the provisions of the Building Code that relate to means of escape from fire and access and facilities for people with disabilities (section 112(1)(a)), and ensure the building after the alteration will continue to comply with the Building Code to at least the same extent as before the alteration (section 112(1)(b)).
- 6.24 An application for a building consent needs to be supported with the information necessary to establish compliance to the extent required under section 112.
- 6.25 The Ministry has published guidance on what would be appropriate information to be provided in a building consent application for assessment of compliance as nearly as is reasonably practicable to meet the requirements of section 112 of the Act, and what building consent authorities need to consider as a consequence⁴⁵. This includes, but is not limited to, a weighing exercise of the sacrifices versus benefits of full compliance with the Building Code, and a gap analysis between the building’s current state and full compliance with the fire and accessibility provisions, as well as information about the means of escape from fire in an existing building.
- 6.26 In considering any particular item of upgrading, I follow the approach taken by the High Court in *Auckland City Council v New Zealand Fire Service*⁴⁶ in interpreting the words “as nearly as is reasonably practicable to the same extent as if it were a new building”, in which it was held that:

[Whether any particular item of upgrading is required] must be considered in relation to the purpose of the requirement and the problems involved in complying with it, sometimes referred to as “the sacrifice”. A weighing exercise is involved. The weight of the considerations will vary according to the circumstances and it is generally accepted that where considerations of human safety are involved, factors which impinge upon those considerations must be given an appropriate weight.”

- 6.27 Section 112 does not require an existing building to be made as safe or accessible as a new building where it is not reasonably practicable to do so with regard to the alterations

⁴⁵ <https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/altering-existing-building/demonstrating-and-assessing-compliance-for-buildings-undergoing-alterations/step-3-applicants-assess-anarp-for-outstanding-fire-and-accessibility-building-code-clauses/> (accessed on 25 March 2021).

⁴⁶ *Auckland City Council v New Zealand Fire Service* [1996] 1 NZLR 330, an appeal against Determination 93/004.

proposed; it is only required to comply to the extent of what is as nearly as reasonably practicable. Also, an additional requirement is that after the alteration the building will continue to comply with the Building Code to at least the same extent as before the alteration (section 112(1)(b) of the Act).

- 6.28 In this case the fire engineer did provide a cost analysis, and ‘benefits’ assessment as part of the original fire report, as well as a summary of the ‘proposed upgrade works’. This information was available to the authority when it refused to grant the building consent.
- 6.29 I have also taken into consideration the related building memorandum from FENZ (see paragraph 3.5), and the responses to it as detailed in paragraph 3.6. Specifically, FENZ advised the authority “to require the [owner] to either provide the required fire safety system or provide a more robust ANARP assessment”.
- 6.30 Another a key focus for FENZ was in relation to the building being used for sleeping purposes by a “vulnerable population”. Other than supervising adults, the students are between 13 – 18 years of age, and the occupant load is proposed to be reduced in number (see paragraph 2.13). Acceptable Solution C/AS2 only refers to “vulnerable populations” in relation to importance level 3 (IL3) buildings, which the distinct, discrete and separate hall of residence in this case is not (see paragraph 2.5), and IL3 buildings are only referenced in Building Code clause C3.7(b) which is not relevant in this case. Further, section 112 of the Act does not require consideration to be given to the age or nature of the people occupying a building, or the purpose of the occupation (in this case, for sleeping purposes).
- 6.31 Regardless, I do acknowledge the concerns raised by FENZ (see paragraph 5.5), in that the students are between 13 – 18 years of age, the building is being used for sleeping purposes, and therefore the potential risks associated with those factors in combination. As such, it is reasonable under these specific circumstances to consider the characteristics and nature of the occupants should be taken into account as part of a weighting exercise. In this case, the occupants are teenagers, notwithstanding the adult supervision provided, and the proposed building work is a significant improvement on the current situation. Conversely, if the building work were to not go ahead, then the current conditions would prevail for the same students and therefore any existing or ongoing risks would remain to the same extent.
- 6.32 As detailed in paragraph 3.10, the Ministry did obtain from the owner a completed ‘sacrifice’ versus ‘benefit’ weighting exercise and a gap analysis (see Appendix B), and I have considered that in making my decision.

The fire alarm system

- 6.33 The existing students’ hall of residence already has a Type 4 alarm system installed in it.
- 6.34 In providing clarification of its reasons for refusal (see paragraph 3.12), the authority stated: “Under [the owner’s] proposal no upgrades will occur to the fire safety system in the building”. However, it is clear from the evidence that the proposal did include modifying the existing Type 4 alarm system to reflect the new internal layout of the building, and a new analogue addressable panel and addressable detectors installed. I also

note the fire report confirms “[a] direct connection to the fire service shall be provided if it does not already exist” (see paragraph 2.11).

- 6.35 In respect of the existing Type 4 fire alarm system in the building, as detailed in paragraphs 3.5.1 and 3.5.2, FENZ has recommended retention of this system (in lieu of the Type 5 alarm system noted in Acceptable Solution C/AS2, Table 2.2a) unless a fire suppression system is installed, and this has been agreed with authority, fire engineer and peer review fire engineer. Consequently, I have not considered the Type 4 alarm system further.
- 6.36 There is no dispute between the parties, that for a ‘new’ students’ hall of residence building (Risk Group SM) that if the relevant Acceptable Solution was used as the means of compliance a Type 7 fire safety system would need to be installed. However, that is not the test under section 112 of the Act, where consideration must be given the means of escape from fire and what is as ANARP when complying with the provisions of the Building Code that relate to it.
- 6.37 In this case, the owner contends the additional costs associated with installing and maintaining a sprinkler system, including the requirement for new water tanks and a pump to address the insufficient water supply, and difficulties associated with the existing concrete structure and low ceiling height, does not make it reasonably practicable to install a Type 7 fire safety system.
- 6.38 I note that, in response to the draft determination, the authority queried the cost estimates associated with installing a sprinkler system that have been provided by the architect, and it has compared this with the total estimated cost noted on the building consent application form. Regardless, it is clear from the evidence that installing a Type 7 fire safety system in this case does attract a substantial additional cost (see Appendix B and paragraph 3.8), and this is one factor to consider when assessing compliance on ANARP basis under section 112 of the Act.
- 6.39 There are clearly benefits associated with installing a Type 7 fire safety system, but in this case, there are compelling reasons to conclude it is not reasonably practicable to do so, including (but not limited to) the risk that the building work would not proceed and therefore the existing situation would prevail (see paragraph 4.3).
- 6.40 I note, that just because I have reached this conclusion for Repton House, this does not necessarily mean I would reach the same conclusion for the other halls of residence at the college or any other similar case. It is important to understand that all such considerations are case specific, and therefore they cannot be applied unilaterally.

The means of escape from fire

- 6.41 As detailed in paragraph 6.11, the Ministry has provided some guidance on which Building Code clauses relate to the means of escape from fire when considering alterations to existing buildings.

- 6.42 Based on the information available from the Building Consent plans and specifications, and noting the proposed building work described in paragraph 2.11, a useful summary emerges where an assessment of what is ANARP which can be applied in this case:

Building Code clause
Repton House: the proposed building work – ‘as nearly as is reasonably practicable’
C3.4 Fire affecting areas beyond the fire source
Installation of new internal ceiling, floor and wall finishes (complying with Acceptable Solution C/AS2, Tables 4.3 , 4.4 , 4.5 and paragraph 4.17.8).
C4 Movement to place of safety
<p>Relocation of two of the three external stairs that provide means of escape from fire from the first floor level. This serves a total occupant load of 37 persons on the first floor. All three stairs include new illuminated exit signage and emergency lighting.</p> <p>Installation of new fire rated windows in close proximity to the external stairs.</p> <p>Construction of new 60 minute fire rated internal walls, including around the internal stair (a newly-formed vertical internal safe path, preceded by a horizontal safe path), along with new internal one-way fire rated linings on the internal face of some external walls.</p> <p>Installation of new doors and relocation of others, both fire rated (60FRR) and non-fire rated. The new fire rated doors being installed will comply with NZS 4520:2010, and several openings are being made wider.</p> <p>Applying intumescent paint to existing internal stair.</p> <p>An increase in the number of external doors at ground floor level from 8, to 9.</p> <p>All doors to be fitted with locking devices that comply with Acceptable Solution C/AS2, item 3.15.2.</p>
C6 Structural stability
<p>The primary existing building structure remains unchanged, including the first floor reinforced concrete floor.</p> <p>See notes above regarding new fire rated walls and linings.</p> <p>The existing structural systems in the building that are necessary to provide firefighters with safe access to floors for the purpose of conducting firefighting and rescue operations remain unchanged (notwithstanding the additional fire safety measures noted in paragraph 2.11).</p> <p>Additional fire protection measures proposed to the external walls; these include 60FRR spandrel panels to limit the effects of vertical spread of fire from ground floor to first floor.</p>

D1 Access routes
Relocation of two of the three external stairs that provide means of escape from fire from the first floor level. This serves a total occupant load of 37 persons on the first floor. All three stairs include new illuminated exit signage and emergency lighting. An increase in the number of external doors at ground floor level from 8, to 9.
F6 Visibility in escape routes
Installation of new emergency lighting which will comply with Acceptable Solution F6/AS1.
F7 Warning systems
The existing Type 4 fire alarm system is being retained, modified to suit the new layout, and upgraded to include a new analogue addressable panel and addressable detectors. The Type 4 alarm system is in accordance with New Zealand standard NZS 4512:2003 (the standard to which the current system was installed). Installation of a direct connection from the fire alarm system to Fire and Emergency New Zealand [FENZ] will be provided if it does not already exist.
F8 Signs
Installation of new illuminated 'Exit' signage to comply with Acceptable Solution F8/AS1.

- 6.43 Taking into consideration all of the information available to me (including that summarised above and outlined in appendix B), I am of the view that the proposed building work does provide a significant improvement to the existing hall of residence, and sufficiently justifies the conclusion that after the alteration the building will comply, as nearly as reasonably practicable, with the provisions of the Building Code that relate to the means of escape from fire.
- 6.44 Further, I am of the view that the building, after the alteration, will comply with the other provisions of the Building Code to at least the same extent as it did comply before the building work (section 112(1)(b) of the Act), in relation to the means of escape from fire.
- 6.45 It is noted, however, that as detailed in paragraph 3.10 some of the information obtained during the course of the determination was not available to the authority when it made a decision to refuse to grant the building consent application. I have not been presented with any evidence to suggest that the authority tried to obtain the same from the owner during the course of processing the building consent application (specifically a complete 'sacrifice' versus 'benefit' weighting exercise, and gap analysis). These are not mandatory, but they are important tools to assist all parties in assessing compliance on an ANARP basis. Regardless, I also note that the copies of the requests for further information received from the authority in response to the draft determination did give an indication that it had attempted to seek some justification from the architect in relation to its considerations under section 112 of the Act.

7. Conclusion

- 7.1 The authority did not provide sufficiently explicit, specific and clear reasons for its refusal to grant the building consent application 200217.
- 7.2 After the alteration, the building will comply, as nearly as is reasonably practicable, with the provisions of the Building Code that relate to the means of escape from fire.
- 7.3 After the alteration, the building will, if it complied with the other provisions of the Building Code immediately before the building work began, continue to comply with those provisions, and if it did not comply with the other provisions of the Building Code immediately before the building work began, continue to comply at least to the same extent as it did then comply, in relation to the means of escape from fire.

8. The decision

- 8.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the authority did not correctly exercise its powers when it refused to grant the building consent number 200217. I reverse that decision, requiring the authority to make a new decision taking into account all of the information in this determination.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 31 May 2021.

Katie Gordon

National Manager, Determinations

Appendix A: The Legislation

The relevant sections of the Building Act 2004 referred to in this determination, in chronological order are:

7 Interpretation

Section 7 of the Act defines 'means of escape from fire' as: means of escape from fire, in relation to a building that has a floor area,—

- (a) means continuous unobstructed routes of travel from any part of the floor area of that building to a place of safety; and
- (b) includes all active and passive protection features required to warn people of fire and to assist in protecting people from the effects of fire in the course of their escape from the fire.

14D Responsibilities of designer

- (1) In subsection (2), **designer** means a person who prepares plans and specifications for building work or who gives advice on the compliance of building work with the building code.
- (2) A designer is responsible for ensuring that the plans and specifications or the advice in question are sufficient to result in the building work complying with the building code, if the building work were properly completed in accordance with those plans and specifications or that advice.

19 How compliance with building code is established

- (1) A building consent authority must accept any or all of the following as establishing compliance with the building code:
 -
 - (b) compliance with an acceptable solution:
 -

22 Acceptable solution or verification method for use in establishing compliance with building code

- (1) The chief executive may, by notice in the *Gazette*, issue an acceptable solution or a verification method for use in establishing compliance with the building code.
- (2) A person who complies with an acceptable solution or a verification method must, for the purposes of this Act, be treated as having complied with the provisions of the building code to which that acceptable solution or verification method relates.
- (3) Subsection (2) is subject to any regulations referred to in section 20.

45 How to apply for building consent

- (1) An application for a building consent must—
 - (a) be in the prescribed form; and
 - (b) be accompanied by plans and specifications that are—
 - (i) required by regulations made under section 402; or
 - (ii) if the regulations do not so require, required by a building consent authority;

48 Processing application for building consent

- (1) After receiving an application for a building consent that complies with section 45, a building consent authority must, within the time limit specified in subsection (1A),—
- (a) grant the application; or
 - (b) refuse the application.
- (1A) The time limit is—
- (a) if the application includes plans and specifications in relation to which a national multiple-use approval has been issued, within 10 working days after receipt by the building consent authority of the application; and
 - (b) in all other cases, within 20 working days after receipt by the building consent authority of the application.
- (2) A building consent authority may, within the period specified in subsection (1A), require further reasonable information in respect of the application, and, if it does so, the period is suspended until it receives that information.
- (3) In deciding whether to grant or refuse an application for a building consent, the building consent authority must have regard to—
- (a) a memorandum provided by Fire and Emergency New Zealand under section 47 (if any); and
 - (b) whether a building method or product to which a current warning or ban under section 26(2) relates will, or may, be used or applied in the building work to which the building consent relates.
- (4) Subsection (3) does not limit section 49(1).

50 Refusal of application for building consent

If a building consent authority refuses to grant an application for a building consent, the building consent authority must give the applicant written notice of—

- (a) the refusal; and
- (b) the reasons for the refusal.

95A Refusal to issue code compliance certificate

If a building consent authority refuses to issue a code compliance certificate, the building consent authority must give the applicant written notice of—

- (a) the refusal; and
- (b) the reasons for the refusal.

112 Alterations to Existing Buildings

A building consent authority must not grant a building consent for the alteration of an existing building, or part of an existing building, unless the building consent authority is satisfied that, after the alteration,—

- (a) the building will comply, as nearly as is reasonably practicable, with the provisions of the building code that relate to—
 - (i) means of escape from fire; and
 - (ii) access and facilities for persons with disabilities (if this is a requirement in terms of section 118); and
- (b) the building will,—
 - (i) if it complied with the other provisions of the building code immediately before the building work began, continue to comply with those provisions; or

(ii) if it did not comply with the other provisions of the building code immediately before the building work began, continue to comply at least to the same extent as it did then comply.

(2) Despite subsection (1), a territorial authority may, by written notice to the owner of a building, allow the alteration of an existing building, or part of an existing building, without the building complying with provisions of the building code specified by the territorial authority if the territorial authority is satisfied that,—

(a) if the building were required to comply with the relevant provisions of the building code, the alteration would not take place; and

(b) the alteration will result in improvements to attributes of the building that relate to—

(i) means of escape from fire; or

(ii) access and facilities for persons with disabilities; and

(c) the improvements referred to in paragraph (b) outweigh any detriment that is likely to arise as a result of the building not complying with the relevant provisions of the building code.

Appendix B: Gap Assessment and Weighting Exercise

1. Gap Assessment (Red - Non-Compliant; and Green - Compliant)

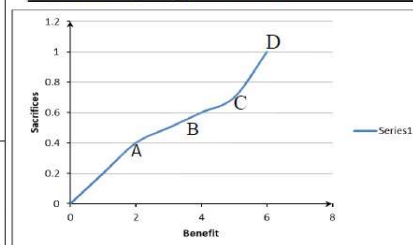
No.	Fire Design Parameters	Existing level of compliance	Level of compliance after Upgrade works	Full compliance in accordance with Acceptable Solutions C/AS2	Gap Analysis
1	<u>Fire Alarm system - Section 9 of the fire safety assessment</u>	Type 4	Modified to suit redevelopment works but still Type 4 and is more robust than Type 5 as there is no facility for local alarms for the sleeping residents	Required Type 7 with Type 5 fire alarm system	Sprinklers are required for full compliance
2	<u>Usage of the building - Section 8 of the fire safety assessment</u>	Risk Group SM	Unchanged	Risk Group SM	Compliant
3	<u>Occupant loads - Section 8 of the fire safety assessment</u>	Unchanged from before	Unchanged as no new sleeping spaces are provided	Occupant load 81	Compliant
4	<u>Numbers of escape routes - Section 10.1 of the fire safety assessment</u>	Ground Floor - single means of escape, First floor no compliant means of escape	Ground floor unchanged - fully compliant with one new additional escape route, First floor is provided with three new and fully compliant external escape routes and existing single means of escape is made fully compliant for Tutuors flat and Head Boy room	Single means of escape for each level and this is satisfied by the proposed upgrade works	Fully Compliant
5	<u>Fire separations - Life rating - Section 11 of the fire safety assessment</u>	Non-compliant around the stairs, Only Compliant at the floor level achieving 60 minutes fire rating	New fire separations are added and existing are made fully compliant all achieving 60 minutes fire rating	Required 60 minutes fire rating	Fully Compliant
7	<u>Fire doors - Section 11</u>	Non-compliant x four fire doors	All four fire doors are made fully compliant	Required 60 minutes tagged and certified fire doors	Fully Compliant
8	<u>External vertical spread of fire - Section 12.2 of the fire safety assessment</u>	Non-compliant as there are no existing spandrels	New fully compliant spandrels are being provided in spaces where existing windows are being made larger and in spaces with new doors on the ground floor achieving two minutes 60 minutes fire rating. This results in approximately 60% of new two way spandrels and the balance 40% being one way rated spandrels considered to comply ANARP	Required 2-way 60 minutes fire rated spandrels for a height of 1.5m between two levels	60% fully compliant & 40% compliant with one way fire rating 60 minutes ANARP better than before

2. Weighting Exercise

No	Weighting Exercise	Sacrifices	Benefits	Discussion
1	<u>Numbers of escape routes - Section 10.1 of the fire safety assessment</u>	Costs and loss of usable space	Fully compliant and safe means of escape directly to the outside of the building	Significant as the occupants do not have to go through the ground floor any more and can evacuate directly to the outside. There will be no queuing between the wings as each wing will have a dedicated egress route to the safe place outside
2	<u>Fire separations - Life rating and fire doors - Section 11.1 and 11.2 of the fire safety assessment</u>	Costs and disruption of existing services	The evacuation time is approximately a max of 10 minutes including the pre-movement times and the building is fully fire rated to achieve 60 minutes fire rating meaning ASET is extended by more than 5 times	Huge benefit as the fire separations will keep the fire limited to the firecell and will keep the safe path stairs safer for evacuation
3	<u>Surface finishes - Section 11.3 of the fire safety assessment</u>	Costs	Smoke rated surface finishes which will help to keep the atmosphere tenable for fire evacuation and will resist spread of fire	Significant once again as the surface finishes will not only resist the spread of fire but will also keep the environment tenable for longer periods for safe evacuation of the sleeping occupants due to the smoke rated finishes.
4	<u>External spread of fire - Section 12 and 12.2 of the fire safety assessment</u>	Costs	The building is protected 100% from the spread of fire externally between two levels as the cladding on the entire first floor is being upgraded to achieve 60 minutes fire rating	This provides additional benefit to the sleeping risk group by providing protection from spread of fire externally and safe guard the sleeping risk group.
5	<u>Alarm system - Type 4 automatic smoke detection - Section 9.1, 9.2 & Section 16 of the fire safety assessment</u>	Modified to suit proposed works with a new analogue addressable panel and addressable detectors is being installed	Maintain compliance to the same level in terms of Type 4 but gives a lot more functionality in respect of identifying issues in the working of the fire alarm system and provides future flexibility of Type 5 which was not possible with the old panel as before the proposed works	Huge Benefit as the fire alarm panel is now addressable which permits the devices to be individually identified allowing to exercise more control over false alarms and also voice evacuation will make the occupants evacuate faster better than before and this aspect will still be the driving factor even with sprinklers as sprinklers will not provide early warning and will only control the fire.
6	<u>Type 7 Alarm system - Section 16 of the fire safety assessment</u>	Huge Costs	Control of fire providing life and property safety	Advantage is will control the fire but does not provide early warning, hence the benefit is rather not tangible for such a huge expense at-least at this stage. Also this is no different to residential apartments or even Motels/Hotels permitted without sprinklers for a two storey building

Weighting Exercise	
A	The building is being provided with three new external escape routes for the first floor and one final exit door on the ground floor. The external escape routes on the first floor provide huge improvement over the existing escape routes which are not only non-compliant but delays the evacuation due to queuing effect. With three new external stairs and dedicated egress for the tutors flat and head boy room the evacuation times for the first floor is reduced by 3 times which is a huge gain over the existing configuration of escape routes.
B	Fire separations including fire doors and external spread of fire all provide improved fire separation to the sleeping risk group limiting the fire growth to the cell of fire origin and is a significant improvement over the existing condition of the fire ratings within the building. Safe path stairs and fully compliant external escape routes provide more robust evacuation then before reducing the evacuation time to one wing only as each wing now on the first floor will be provided with dedicated egress route without causing any interference between evacuation of adjacent wings.
C	The building will be provided with new surface finishes due to the nature of works and these will be fire rated finishes which will not only resist the spread of fire but will also reduce the smoke in the environment and this is better than in a sprinkler protected building as the surface finishes do not require any smoke rating if the building has sprinklers.
D	Sprinkler system alone will not only make the project non-viable but will also loose out on the benefits that the building is proposed to be provided with. With improved robustness in evacuation and reinstating passive control of fire along with new fire and smoke rated surface finishes the Repton House building is being made considerably better than before and by far supersedes the ANARP requirements for compliance in accordance with Section 112 Assessment.

Below is the plot of Weighting exercise on a unit scale with major upgrades labelled



3. Project costs

Proposed Building works	Costs of Upgrade works	Proportion of the project costs
Demolition and removal works	9000	8.62%
Structural works	9000	0.86%
New surface finishes (internal)	239000	22.89%
Sanitary Plumbing	117000	11.20%
Drainage	28000	2.68%
Mechanical services	140350	13.44%
Fire upgrade works	198000	19%
• Fire partitions and fire doors and	• 55000	5%
• Surface finishes	• 45000	4%
• Fire alarm system	• 40000	4%
• Spandrels	• 58000	6%
Electrical works	163000	16%
Internal doors and windows	60000	6%
Total Project costs	1044350	100%
Cost of Sprinkler system	400000	38%