

To: 'xxxxxxx@xxx.xx.xx'
Cc: Dutt, Sanjay; Rang, Morehu; 'Gillian Stopford'; 'xxxxx@xxxxxxxxxxxxxxxxxxxxxx.xx.xx'; Harpur, Amy; Chen, Nicole

Richard

The following are Christchurch City Council's requirements for building consent applications for alterations to existing buildings that use VM2 as a means of demonstrating compliance with the fire requirements of the Building Code.

- Fire engineering brief which includes the agreement of the stakeholders. Council considers the minimum stakeholders to be peer reviewer, NZ Fire Service and Council.
- The peer reviewer must be on the IPENZ register as CPEng with practice field being fire engineering. They must also be practicing in their area of expertise.
- The fire design including any calculations. This must be complete and final.
- Documentation complying with practice note 22.
- A co-ordination statement from the fire engineer as required by Practice Note 22 and confirming the fire engineer has undertaken a lead PN22 co-ordination role.
- A PS1 from the fire engineer covering C1 to C6 and F6, F7 & F8 (where applicable).
If the alteration does not include new work the PS1 is only required to cover the Building Code clauses that related to means of escape from fire as required by Section 112 of the Building Act. This includes C3.4, C4.3, C4.4, C4.5, F6, & F8.3.3.
- Confirmation that the fire engineer will provide a PS4 along with a list of intended inspections.
- Confirmation that the emergency lighting designer will provide a PS4.
- A PS2 from the peer reviewer covering C1 to C6 and F6, F7 & F8 (where applicable).
If the alteration does not include new work the PS2 is only required to cover the Building Code clauses that related to means of escape from fire as required by Section 112 of the Building Act. This includes C3.4, C4.3, C4.4, C4.5, F6, & F8.3.3.
- The peer reviewer will confirm that the requirements of the FEB have been satisfied.
- The peer reviewer will confirm that practice Note 22 has been followed. This includes co-ordination of all consent documents including Architectural, Structural, Mechanical, Electrical, Hydraulic, Fire etc – as applicable to fire. The confirmation letter should list the documents reviewed (including revision number).
- The peer reviewer will confirm that the proposed Compliance Schedule is correct.
- The peer reviewer will provide a copy of any proposed conditions / advice notes for including in the Building consent. Consultation with Council may be required.
- For your ANARP assessment you will need to determine using VM2 how the building complies prior to the work starting, how the building will comply once the work has been completed and what is required in the building for it to fully comply with the Building Code. The 3 assessments are required to determine the gap and provide the sacrifice verse benefit assessment.

It is noted that only some of the above requirements have been included in the building consent application. Until all of the above have been supplied, Council is unable to start the review for the fire safety aspects of the building consent application.

Regards

Wayne Roden

Senior Fire Engineering Specialist
Building Consenting Unit
Consenting and Compliance Group

DDI: 03 941 8464
Email: wayne.roden@ccc.govt.nz
Web: www.ccc.govt.nz

Christchurch City Council
Civic Offices, 53 Hereford Street, Christchurch
PO Box 73013, Christchurch, 8154

Please consider the environment before printing this email

This electronic email and any files transmitted with it are intended solely for the use of the individual or entity to whom they are addressed.

The views expressed in this message are those of the individual sender and may not necessarily reflect the views of the Christchurch City Council.

If you are not the correct recipient of this email please advise the sender and delete.

Christchurch City Council
<http://www.ccc.govt.nz>

This e-mail message has been scanned and cleared by **MailMarshal** <http://www.fire.org.nz>

Released under the Official Information Act

From: Engineers
Sent: Friday, 11 March 2016 3:28 p.m.
To: 'Gillian Stopford'; Engineers; Harpur, Amy
Cc: 'Richard Hannam'
Subject: FEB 8761 347 Moorhouse Ave Christchurch Countdown
Attachments: FFFCV9b.pdf

Hi Gillian,

Thank you for the opportunity to be involved in the FEB process for 347 Moorhouse Ave Christchurch Countdown. This work has been given NZFS reference 8761 and has been tasked to:

- NZFS engineer Amy Harpur – Auckland (09 354 5102) who will provide advice on engineering matters and
- Area Manager – Dave Stackhouse's designate who will provide advice on operational matters.
- Please complete a **current Fire Fighting Facilities Checklist** for this location/building – please get your client to complete sections A&B and then email the completed form along with associated drawings and water supply information to xxxx.xxxxxx@xxxx.xxx.nz to complete section C with you. This document may form part of your consent package.
- Please send all FAP, FSI and Hose run distance enquires to Mark Thomas also if not included in your FEB document.

The tasked staff will contact you directly and will endeavour to provide advice on or before the **29/03/2016**

Please contact the staff members above if you have any queries or wish to arrange a stakeholder meeting.

Kind regards,



Emma McKenzie
Fire Engineering Support Co-ordinator
Fire Engineering Unit

New Zealand Fire Service

DDI: (09) 354 5105
Fax: (09) 309 0483
Email: xxxx.xxxxxxx@xxxx.xxx.nz
National Headquarters Auckland, 2 Poynton Terrace, Auckland
PO Box 68444, Auckland 1145

From: Gillian Stopford [mailto:gillian@vfe.co.nz]
Sent: Thursday, 10 March 2016 9:18 p.m.
To: Engineers
Cc: 'Richard Hannam'
Subject: Countdown Moorehouse FEB

Hi,

Please find attached FEB report for Countdown Moorehouse alterations.

Regards,

Gillian



Gillian Stopford

BA (Math) BAI (Mech) MSc (Fire & Explosion) CPEng (Fire, Mech) IntPE(NZ)

xxxxxx@xxx.xx, PO Box 133239, Eastridge,

m. 021 163 88 44 Auckland 1146

www.vfe.co.nz

This e-mail message has been scanned and cleared by **MailMarshal** <http://www.fire.org.nz>

Released under the Official Information Act

From: Thomas, Mark (Region 4)
Sent: Tuesday, 15 March 2016 9:15 a.m.
To: Harpur, Amy
Subject: Countdown Moorhouse Supermarket

Hi Amy

There is nothing in the FEB received from Vulcan that requires an operational response. I presume water supplies, access, panel and inlet positioning etc are unchanged. They are not mentioned in the document

Regards

Mark



Mark Thomas
Senior Fire Risk Management Officer

New Zealand Fire Service

Mobile: +64 (0)27 2211605
DDI: +64(03) 3728619
Email: xxx.xxxxx@xxx.xxx.nz
Christchurch Metro - Area 21
91 Chester Street East
PO Box 13747 Christchurch 8141

Te Manatū o ngā ratonga ohotata kia haumarū ake ai a Aotearoa | Leading integrated fire and emergency services for a safer New Zealand

From: Harpur, Amy
Sent: Tuesday, 29 March 2016 5:01 p.m.
To: 'Gillian Stopford'
Cc: 'Richard Hannam'; Engineers; Jeremy.Chang@ccc.govt.nz; Thomas, Mark (Region 4); 'xxxxx@xxxxxxxxxxxxxxxxxxxxxx.xx.xx'
Subject: FEB 8761 - Countdown Moorehouse - NZFS response
Attachments: FEB 8761 - NZFS response 29Mar2016.pdf

Hi Gillian,

Thank you for the information provided on this project.

As discussed, please find attached the NZFS response to your FEB.

Feel free to call should you wish to discuss further.

Kind regards,
Amy



Amy Harpur MSc PhD
Fire Engineer - Auckland

New Zealand Fire Service

DDI: (09) 354 5102
Mobile: (027) 836 6459
Email: amy.harpur@fire.org.nz
National Headquarters, 2 Poynton Terrace, Auckland 1010
PO Box 68 444, Newton, Auckland 1145

Te Manatū o ngā ratonga ohotata kia haumarū ake ai a Aotearoa | Leading integrated fire and emergency services for a safer New Zealand



Amy Harpur
NZFS Engineering Unit
PO Box 68444
Newton
Auckland 1145
New Zealand

amy.harpur@fire.org.nz
Phone: 09-354 5102

Gillian Stopford,
Vulcan Fire Engineering,
PO Box 133239,
Eastridge,
Auckland.

29 March 2016

Dear Gillian,

Re: Alterations to existing Countdown Supermarket, 347 Moorehouse Avenue, Christchurch (NZFS Reference: FEB 8761- Rev 01)

Thank you for the opportunity to be involved in the above project. The NZFS understands that the project involves alterations to the existing Countdown Supermarket located at 347 Moorehouse Avenue, Christchurch.

The FEB report proposes to use C/VM2 to demonstrate that the fire design for the building will meet the performance requirements of the NZ Building Code. This letter outlines the NZFS position as a stakeholder in the building design process.

Referenced Information

Item	Title	Date	Revision
FEB report	Alterations to existing Countdown Moorehouse Supermarket for Progressive Enterprises Ltd., 347 Moorehouse Avenue, Christchurch.	9 March 2016	-

As discussed, the NZFS has reviewed the FEB documentation identified above and offers the following comments.

The following items are considered to relate to compliance with the requirements of the Building Code:

1. **Scope of review** – The drawing included in the FEB report indicate that parts of this building are outside the scope of analysis. The NZFS notes the following:
 - a. No justification has been provided for assessing parts of what appears to be a single firecell building.
 - b. Given that the occupants of the new retail unit (shown between gridlines 1 and 3 on drawing FSK002) must share an escape route with the supermarket, and that the chemist occupants appear to share the same escape route, these occupants should be taken into account in the RSET for the supermarket.

- c. Noting that the excluded area around gridline 1 is a foodcourt, the building appears to form a single firecell which has combined capacity of more than 1000 occupants. On this basis please include consideration of FED_{CO} , $FED_{Thermal}$ and Visibility throughout the firecell.

Please confirm what is being proposed for all parts of this building and provide further justification for the spaces which are not be included in the proposed assessment.

2. **New retail spaces** – Section 1.2 of the fire report indicates that the existing supermarket will be subdivided to provide a new retail unit to be located at the front of the existing store. The NZFS notes that no occupant load has been assigned to the new retail spaces in section 1.2.2 of the fire report; the new retail space therefore does not appear to be included in the proposed assessment.

As new works this the new retail spaces must comply in full with the Building Code. Please confirm how the compliance of this space will be demonstrated; this is not clear from the FEB.

Note also that the proposed single exit from one of the new retail spaces this space (shown between gridlines 4 and 9 on drawing FSK002) may be inadequate given that this space has an area of 338m² and a capacity for greater than 50 people if used as a retail space.

3. **Primary exit** – Given that the supermarket occupants will be familiar with just one exit route please confirm that a primary exit will be assigned to the supermarket in determining RSET (as per C/VM2, paragraph 3.2.7).
4. **B-Risk (room aspect ratio)** – Section 2.1.1 of the fire report indicates the proposed room geometries for the B-Risk modelling. The NZFS notes that the aspect ratios for rooms 4 and 6 are greater than the recommended maximum aspect ratio of 1:5 (Width/Length) for rooms in B-Risk. Please amend the proposed geometries so that the aspect ratios of the rooms are within the guidelines (B-risk Workshop, February 2016, Slides 108-116).
5. **B-Risk (openings between rooms)** – Please confirm the geometries of openings between rooms in the B-Risk model; please also confirm the extent of room leakage.
6. **Tenability** – The NZFS notes the challenging fire locations proposed in the FEB report; please confirm which rooms will be assessed for tenability for each scenario.

The following items are considered to be detailed design elements that are considered to be required as part of the consent stage documentation. They have been identified at this stage to avoid delays during consenting.

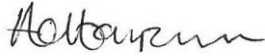
1. **Occupant load** – For clarity please highlight, on the drawings, the areas/spaces names in occupant load calculation in Table 1.2 of this report. This would facilitate verification of the occupant load at consent stage and reduce the risk of any confusion on this issue.

To avoid unnecessary iterations of the FEB process the NZFS welcomes discussion on any of the above items, however the NZFS recommends that the FEB be revised to address the items identified above as well as any additional items identified by other stakeholders.

Our review of the information provided has focused on the requirements of C/VM2 and is intended to provide guidance to reduce the consent risks associated with verification method design.

Also please note that this advice does not imply a technical verification of the information provided.
If you have any queries or questions related to the above please do not hesitate to contact me.

Sincerely,



Amy Harpur
Fire Engineering Unit

cc: Geoff Merryweather (Anvil Consultants, Regulatory Reviewer)
Jeremy Chang (Christchurch Council, Building Consent Authority)
Michelle Cowper/Allen Paulson (Progressive Enterprises, Client)
Richard Hannam (PTK Ltd., Project Architects)
Nicky Marshall (Protech Design Ltd., Fire Protection Engineer)
Mark Thomas (NZFS Operations)

Released under the Official Information Act

From: Rangji, Morehu <@>
Sent: Wednesday, 6 April 2016 4:30 p.m.
To: '@>
Cc: '@> Harpur, Amy; '@> Engineering
Subject: Services; Engineers
347 Moorhouse Avenue, Christchurch - FEB review

Hi Gillian

I have reviewed the FEB for the above project, titled 'Alterations to existing Countdown Moorehouse Supermarket for Progressive Enterprises Ltd, 347 Moorehouse Ave, Christchurch', version A dated 9 March 2016.

Please find below items to be clarified.

1. It appears the fire design does not include the adjacent tenancies (i.e. Burger King, foodcourt, new retail tenancies etc.). Under the Building Act, these areas are part of 'the building', are connected to the supermarket, and share egress routes. The Christchurch City Council also does not have a base building fire report on file addressing 'the building' in accordance to the current C Clauses. As such, please update the FEB to include the building.
2. Please confirm whether there are any ANARP considerations for the building and how they will be addressed.
3. It appears the height of the supermarket retail space at gridline E is lower than indicated. No section drawings for the proposed training room have been received, and therefore geometry could not be confirmed. Openings/leakage proposed have also not been provided. Please review and re-confirm the geometry of the building.
4. As per Design Scenario BE, please clarify how the separation distance between egress routes (egress by check-out area and main entry/exit) has been maintained to the final exit.
5. It appears the entry/exit to the supermarket has entry stiles that permit one direction of travel, into the supermarket. It has been shown that this is also the egress route for the supermarket. Please clarify how occupants navigate through the entry stiles.
6. It appears the entry/exit to the supermarket can be identified as a primary entrance. Please confirm the supermarket will be designed to egress 50% of the total occupant load of the space through the primary entrance.
7. It appears the chemist and new retail tenancy share an egress route with the supermarket. Please confirm whether merging flows will be considered.
8. Please clarify if egress doors will be provided with panic fastenings where more than 100 people may queue to escape through the doorway.
9. Considering the main entry/exit to the building contains a retail tenancy, we believe a challenging fire scenario is appropriate within this space.
10. With regard to the future fitouts of the retail tenancies, is it your intention that the acceptable solutions can be used. If so you will need to first show that these areas comply with VM2 and then justify that if acceptable solutions are used for these areas they will still comply with the overall building assessment.

Upon receipt of a revised FEB to address the building, additional design clarifications may be required.

If you have any questions let me know.

Yours sincerely

Morehu Rangji

Fire Consultant

Building Control & City Rebuild Group

Web: www.ccc.govt.nz

Christchurch City Council

Civic Offices, 53 Hereford Street, Christchurch

PO Box 73013, Christchurch, 8154

This electronic email and any files transmitted with it are intended solely for the use of the individual or entity to whom they are addressed. The views expressed in this message are those of the individual sender and may not necessarily reflect the views of the Christchurch City Council. If you are not the correct recipient of this email please advise the sender and delete.

Christchurch City Council

<http://www.ccc.govt.nz>

This e-mail message has been scanned and cleared by **MailMarshal** <http://www.fire.org.nz>

Released under the Official Information Act

From: Rangji, Morehu <[redacted]>
Sent: Thursday, 7 April 2016 11:53 a.m.
To: [redacted]
Cc: [redacted] Harpur, Amy; [redacted] Engineering Services; Engineers
Subject: RE: 347 Moorhouse Avenue, Christchurch - FEB review

Hi Gillian

Further to the comments for the FEB issued below, it has come to my attention that the site is composed of multiple unit titles. Hence additional comments require clarification.

11. The building is composed of multiple unit titles. Please clarify whether proposed works will affect the unit title fire separations for the building. If they do it is expected that the fire rating required will be based on the burnout fire rating.

12. It is proposed to subdivide the supermarket unit title to include new retail tenancies. Please clarify whether these new retail tenancies will be separate unit titles.

If you have any questions let us know.

Regards

Morehu Rangji
Fire Consultant
Building Control & City Rebuild Group

Web:
[www.ccc.govt.nz<https://mail.ccc.govt.nz/owa/redir.aspx?REF=vjR4KSZUJg0JzqkFWSWNhryDIAQswU7hEo1yfUwPTDVkNp_dV7TCAFodHRwOi8vd3d3LmNjYy5nb3Z0Lm56Lw..>](https://mail.ccc.govt.nz/owa/redir.aspx?REF=vjR4KSZUJg0JzqkFWSWNhryDIAQswU7hEo1yfUwPTDVkNp_dV7TCAFodHRwOi8vd3d3LmNjYy5nb3Z0Lm56Lw..)
Christchurch City Council
Civic Offices, 53 Hereford Street, Christchurch PO Box 73013, Christchurch, 8154

From: Rangji, Morehu
Sent: Wednesday, 6 April 2016 4:29 p.m.
To: 'gillxxx@xxx.xx.xx'
Cc: 'geoff@anvilfireconsultants.co.nz'; 'Harpur, Amy'; 'rhannam@ptk.co.nz'; Engineering Services; 'Engineers'
Subject: 347 Moorhouse Avenue, Christchurch - FEB review

Hi Gillian

I have reviewed the FEB for the above project, titled 'Alterations to existing Countdown Moorehouse Supermarket for Progressive Enterprises Ltd, 347 Moorehouse Ave, Christchurch', version A dated 9 March 2016.

Please find below items to be clarified.

1. It appears the fire design does not include the adjacent tenancies (i.e. Burger King, foodcourt, new retail tenancies etc.). Under the Building Act, these areas are part of 'the building', are connected to the supermarket, and share egress routes. The Christchurch City Council also does not have a base building fire report on file addressing 'the building' in accordance to the current C Clauses. As such, please update the FEB to include the building.
2. Please confirm whether there are any ANARP considerations for the building and how they will be addressed.
3. It appears the height of the supermarket retail space at gridline E is lower than indicated. No section drawings for the proposed training room have been received, and therefore geometry could not be confirmed. Openings/leakage proposed have also not been provided. Please review and re-confirm the geometry of the building.
4. As per Design Scenario BE, please clarify how the separation distance between egress routes (egress by check-out area and main entry/exit) has been maintained to the final exit.
5. It appears the entry/exit to the supermarket has entry stiles that permit one direction of travel, into the supermarket. It has been shown that this is also the egress route for the supermarket. Please clarify how occupants navigate through the entry stiles.
6. It appears the entry/exit to the supermarket can be identified as a primary entrance. Please confirm the supermarket will be designed to egress 50% of the total occupant load of the space through the primary entrance.
7. It appears the chemist and new retail tenancy share an egress route with the supermarket. Please confirm whether merging flows will be considered.
8. Please clarify if egress doors will be provided with panic fastenings where more than 100 people may queue to escape through the doorway.

9. Considering the main entry/exit to the building contains a retail tenancy, we believe a challenging fire scenario is appropriate within this space.

10. With regard to the future fitouts of the retail tenancies, is it your intention that the acceptable solutions can be used. If so you will need to first show that these areas comply with VM2 and then justify that if acceptable solutions are used for these areas they will still comply with the overall building assessment.

Upon receipt of a revised FEB to address the building, additional design clarifications may be required.

If you have any questions let me know.

Yours sincerely
Morehu Rangi
Fire Consultant
Building Control & City Rebuild Group

Web:
https://mail.ccc.govt.nz/owa/redir.aspx?REF=vjR4KSZUJg0JjZqkFWSWNhryDIAQswU7hEo1yfUwPTDVkNp_dV7TCAFodHRwOi8vd3d3LmNjYy5nb3Z0Lm56Lw..>
Christchurch City Council
Civic Offices, 53 Hereford Street, Christchurch PO Box 73013, Christchurch, 8154

This electronic email and any files transmitted with it are intended solely for the use of the individual or entity to whom they are addressed.

The views expressed in this message are those of the individual sender and may not necessarily reflect the views of the Christchurch City Council.

If you are not the correct recipient of this email please advise the sender and delete.

Christchurch City Council
<http://www.ccc.govt.nz>

This e-mail message has been scanned and cleared by MailMarshal

From: Harpur, Amy
Sent: Wednesday, 29 June 2016 7:55 a.m.
To: xxxxxx.xxxxx@xxx.xxxx.xx
Cc: McKenzie, Emma
Subject: RE: BCN/2016/2332 - 1/347 Moorhouse Ave

Hi Jeremy,

Just looking through this DR and I note that the peer reviewer correspondence hasn't been included in the documents. I note the Appendix F of the fire report has the heading NZFS & Peer Reviewer Correspondence. Am I missing it/does it exist? Would be good to see the peer reviewer comments, if any.

Kind regards,
Amy



Amy Harpur MSc PhD
Fire Engineer - Auckland

New Zealand Fire Service

DDI: (09) 354 5102
Mobile: (027) 836 6459
Email: amy.harpur@fire.org.nz
National Headquarters, 2 Poynton Terrace, Auckland 1010
PO Box 68 444, Newton, Auckland 1145

Te Manatū o ngā ratonga ohotata kia haumarua ake ai a Aotearoa | Leading integrated fire and emergency services for a safer New Zealand

From: Chang, Jeremy [<mailto:Jeremy.Chxxx@xxx.xxx.nz>]
Sent: Thursday, 23 June 2016 7:12 a.m.
To: DR Reviews
Cc: Engineering Services
Subject: BCN/2016/2332 - 1/347 Moorhouse Ave

Hi Emma,

Please find the link for the files for 1/347 Moorhouse Avenue. Amy has involvement of this project and Paul knows about this project also. This is the one Gillian Stopford refused to have the FEB agreed. This will be a major review.

<https://owncloud.holmesgroup.com/index.php/s/S9VCMpIZJ5XmO0M>

Regards,

Jeremy Chang

BE(Hon), MEFireE, PhD(Fire), CPEng, IntPE(NZ), MIPENZ

Fire Consultant

Building Control & City Rebuild Group

DDI: 03 941 8132

Web: www.ccc.govt.nz

Christchurch City Council
Civic Offices, 53 Hereford Street, Christchurch
PO Box 73013, Christchurch, 8154

This electronic email and any files transmitted with it are intended solely for the use of the individual or entity to whom they are addressed.

The views expressed in this message are those of the individual sender and may not necessarily reflect the views of the Christchurch City Council.

If you are not the correct recipient of this email please advise the sender and delete.

Christchurch City Council
<http://www.ccc.govt.nz>

This e-mail message has been scanned and cleared by **MailMarshal** <http://www.fire.org.nz>

Released under the Official Information Act

From: Chang, Jeremy <@>
Sent: Wednesday, 29 June 2016 8:10 a.m.
To: Harpur, Amy
Cc: McKenzie, Emma
Subject: RE: BCN/2016/2332 - 1/347 Moorhouse Ave
Attachments: ADD20168091 - Processing - RFI Response - Letter and Supporting Document....pdf

He only raised two items - please see attached (it only comes in with his PS2 btw, not passed to Council or NZFS). They ignored the Council comments also (occupancy). Geoff Merryweather signed the PS2 even though he raised the query about the occupancy also.

Regarding "alternative solution", please have a read of this interesting interpretation from MBIE - http://www.building.govt.nz/building-code-compliance/c-protection-from-fire/c-clauses-c1-c6/protection-from-fire-faqs/verification-method-cvm2-interpretations/#jumpto-2_002e6-can-any-of-the-design-inputs-into-c_002fvm2-be-varied_003f

It reads like if it's from C/VM2 then you don't need to justify the input.... Regardless, we are pinning them on not addressing the entire building (notice there's mezzanine floor also)

Regards
Jeremy

From: Harpur, Amy [mailto: Amy.Harpur@fire.org.nz]
Sent: Wednesday, 29 June 2016 7:55 a.m.
To: Chang, Jeremy
Cc: McKenzie, Emma
Subject: RE: BCN/2016/2332 - 1/347 Moorhouse Ave

Hi Jeremy,

Just looking through this DR and I note that the peer reviewer correspondence hasn't been included in the documents. I note the Appendix F of the fire report has the heading NZFS & Peer Reviewer Correspondence. Am I missing it/does it exist? Would be good to see the peer reviewer comments, if any.

Kind regards,
Amy



Amy Harpur MSc PhD
Fire Engineer - Auckland

New Zealand Fire Service

DDI: (09) 354 5102

Mobile: (027) 836 6459

Email: amy.haxxxx@xxxx.xxx.xx

National Headquarters, 2 Poynton Terrace, Auckland 1010

PO Box 68 444, Newton, Auckland 1145

From: Chang, Jeremy [<mailto:Jeremy.Chxxx@xxx.xxx.nz>]
Sent: Thursday, 23 June 2016 7:12 a.m.
To: DR Reviews
Cc: Engineering Services
Subject: BCN/2016/2332 - 1/347 Moorhouse Ave

Hi Emma,

Please find the link for the files for 1/347 Moorhouse Avenue. Amy has involvement of this project and Paul knows about this project also. This is the one Gillian Stopford refused to have the FEB agreed. This will be a major review.

<https://owncloud.holmesgroup.com/index.php/s/S9VCMpIZJ5XmO0M>

Regards,

Jeremy Chang

BE(Hon), MEFireE, PhD(Fire), CPEng, IntPE(NZ), MIPENZ

Fire Consultant

Building Control & City Rebuild Group

DDI: 03 941 8132

Web: www.ccc.govt.nz

Christchurch City Council

Civic Offices, 53 Hereford Street, Christchurch

PO Box 73013, Christchurch, 8154

This electronic email and any files transmitted with it are intended solely for the use of the individual or entity to whom they are addressed.

The views expressed in this message are those of the individual sender and may not necessarily reflect the views of the Christchurch City Council.

If you are not the correct recipient of this email please advise the sender and delete.

Christchurch City Council

<http://www.ccc.govt.nz>

This e-mail message has been scanned and cleared by **MailMarshal** <http://www.fire.org.nz>



Leading integrated fire and emergency services for a safer New Zealand ?Te Manatu o nga ratonga ohotata kia haumarua ake ai a Aotearoa

Notice: This email and any attachments may contain information that is confidential or the subject of legal privilege. If you received it in error:

1. Please let us know immediately by return email and then delete the email and your reply.
2. You must not use, copy or disclose any of the information contained in this email.

There is no warranty that this email is error or virus free.

If this is a private communication, it does not represent the views of the organisation.

This electronic email and any files transmitted with it are intended solely for the use of the individual or entity to whom they are addressed.

The views expressed in this message are those of the individual sender and may not necessarily reflect the views of the Christchurch City Council.

If you are not the correct recipient of this email please advise the sender and delete.

Christchurch City Council

<http://www.ccc.govt.nz>

This e-mail message has been scanned and cleared by **MailMarshal** <http://www.fire.org.nz>

Released under the Official Information Act



Hauroko Farm
47 Flay Road
RD3 Drury 2579
South Auckland

Anvil Fire Consultants Ltd
Fire Safety and Fire Protection Consulting Engineers

Ph 09-294 8068
Mbl 022-3853874
geoff@anvilfireconsultants.co.nz

Michelle Cowper
Progressive Enterprises Ltd
Private Bag 93306,
Otahuhu, Auckland, 1640

CC: Gillian Stopford - Vulcan Fire Engineering

20/06/16

Dear Gillian,

I have reviewed the fire report (draft and final) against the NZBC as a specific engineered design for the Countdown Moorhouse alterations. The PS2 for the review is attached.

Architectural and services drawings

As a duty of care, the following documentation was reviewed:

Service	Rev	Date/ by
BC Architectural Set and surface finishes schedule	BC set as per ToFDOC and updated drawing MOO-A201 [C] Floor Plan – Proposed (rev C)	PTK
PS1 – fire engineering	15/06/16	Vulcan FE
Fire report	B – 10/06/16	Vulcan FE
Electrical emergency lighting and PS1	E010 – general lighting rev C EM01 – emergency lighting rev C	ECS

I have provided review comments of the architectural and services drawings as per the attached correspondence and updated drawings, and all issues noted have been addressed.

Construction review.

The construction of the proposed works is standard with no specific fire engineering features and within the capabilities of the Council building inspectors and do not believe a PS4 from the fire engineer is required as a condition of consent.

I recommend the appropriate contractors are to provide a PS3 for at least the following;

- Fire alarm PS3 and independent inspection as per the requirements of the alarm standard NZS4512.
- Fire sprinkler PS3 and independent inspection as per the requirements of the sprinkler standard NZS4541 and SSC.
- Emergency lighting PS3

The proposed works do not appear to include any alterations to fire walls or similar. Should there be any alterations to these systems (e.g. as a result of running piped services such as refrigeration) then the appropriate construction documentation is to be provided. This

includes:

- Intumescent paint – if any. This is to include the dry film thickness measurements and paint schedule as per manufacturer's documentation requirements for the structural steel and timber.
- PS3 - Smoke door installation / wall construction if any
- Fire stopping if any. For this to be meaningful, the PS3 to note compliance with NZBC C3 as applicable, not just e.g. drainage to AS/NZS3500 or ventilation to G4. A schedule of systems used and a larked up plan of their location is to be included in the CCC documentation.

For more information, please do not hesitate to contact the undersigned.

Yours Sincerely

Geoff Merryweather
BE(mech) MBA MEFCE CPEng (fire) IntPE MIPENZ MSFPE

Attach:

PS2
Correspondence

Released under the Official Information Act



NEW ZEALAND INSTITUTE OF
ARCHITECTS
INCORPORATED



Building Code Clause(s)

PRODUCER STATEMENT – PS2 – DESIGN REVIEW

(Guidance notes on the use of this form are printed on the reverse side*)

ISSUED BY:
(Design Review Firm)

TO:
(Owner/Developer)

TO BE SUPPLIED TO:
(Building Consent Authority)

IN RESPECT OF:
(Description of Building Work)

AT:
(Address)

..... **LOT** **DP** **SO**

We have been engaged by
(Design Review Firm)

to review the design documents for this project in respect of the requirements of Clause(s)
of the Building Code.

The Review is for All Part only of the design work prepared by
(Design Firm)

as described in drawings titled and numbered
..... the specification, and other documents set out in the
schedule attached to this statement according to which the building is proposed to be constructed.

The Review is in respect of or per attached schedule.
(aspects of design)

The Review confirms that these aspects of the design are in accordance with:

Compliance Documents issued by Dept of Building & Housingor
(verification method / acceptable solution)

Alternative Solution as per attached schedule

On behalf of the firm undertaking this review, on the basis of the review undertaken, and subject to:

- (i) site verification of the following design assumptions
- (ii) all proprietary products meeting their performance specification requirements;

I believe on reasonable grounds the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code.

I, am: CPEng#
(Name of Design Professional)

Reg Arch#

I am a Member of: IPENZ NZIA and hold the following qualifications:

The Design Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than \$200,000*.
YES NO

SIGNED BY ON BEHALF OF
(Name of Design Review Firm)

Date..... (signature).....

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Review Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of \$200,000.*

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

GUIDANCE ON USE OF PRODUCER STATEMENTS

Producer statements were first introduced with the Building Act 1992. The producer statements were developed by a combined task committee consisting of members of the New Zealand Institute of Architects, Institution of Professional Engineers New Zealand, Association of Consulting Engineers New Zealand in consultation with the Building Officials Institute of New Zealand. The original suite of producer statements has been revised at the date of this form as a result of enactment of the Building Act (2004) by these organisations to ensure standard use within the industry.

The producer statement system is intended to provide Building Consent Authorities (BCAs) with reasonable grounds for the issue of a Building Consent or a Code Compliance Certificate, without having to duplicate design or construction checking undertaken by others.

PS1 Design	Intended for use by a suitably qualified independent design professional in circumstances where the BCA accepts a producer statement for establishing reasonable grounds to issue a Building Consent;
PS2 Design Review	Intended for use by a suitably qualified independent design professional where the BCA accepts an independent design professional's review as the basis for establishing reasonable grounds to issue a Building Consent;
PS3 Construction	Forms commonly used as a certificate of completion of building work are Schedule 6 of NZS 3910:2003 ¹ or Schedules E1/E2 of NZIA's SCC 2007 ²
PS4 Construction Review	Intended for use by a suitably qualified independent design professional who undertakes construction monitoring of the building works where the BCA requests a producer statement prior to issuing a Code Compliance Certificate.

This must be accompanied by a statement of completion of building work (Schedule 6).

The following guidelines are provided by ACENZ, IPENZ and NZIA to interpret the Producer Statement.

Competence of Design Professional

This statement is made by a Design Firm that has undertaken a contract of services for the services named, and is signed by a person authorised by that firm to verify the processes within the firm and competence of its designers.

A competent design professional will have a professional qualification and proven current competence through registration on a national competence-based register, either as a Chartered Professional Engineer (CPEng) or a Registered Architect.

Membership of a professional body, such as the Institution of Professional Engineers New Zealand (IPENZ) or the New Zealand Institute of Architects (NZIA), provides additional assurance of the designer's standing within the profession. If the design firm is a member of the Association of Consulting Engineers New Zealand (ACENZ), this provides additional assurance about the standing of the firm.

Persons or firms meeting these criteria satisfy the term "suitably qualified independent design professional".

* Professional Indemnity Insurance

As part of membership requirements, ACENZ requires all member firms to hold Professional Indemnity Insurance to a minimum level.

The PI insurance minimum stated on the front of this form reflects standard, small projects. If the parties deem this inappropriate for large projects the minimum may be up to \$500,000.

Professional Services during Construction Phase

There are several levels of service which a Design Firm may provide during the construction phase of a project (CM1-CM5)³ (OL1-OL4)². The Building Consent Authority is encouraged to require that the service to be provided by the Design Firm is appropriate for the project concerned.

Requirement to provide Producer Statement PS4

Building Consent Authorities should ensure that the applicant is aware of any requirement for producer statements for the construction phase of building work at the time the building consent is issued as no design professional should be expected to provide a producer statement unless such a requirement forms part of the Design Firm's engagement.

Attached Particulars

Attached particulars referred to in this producer statement refer to supplementary information appended to the producer statement.

Refer Also:

- ¹ *Conditions of Contract for Building & Civil Engineering Construction NZS 3910: 2003*
- ² *NZIA Standard Conditions of Contract SCC 2007 (1st edition)*
- ³ *Guideline on the Briefing & Engagement for Consulting Engineering Services (ACENZ/IPENZ 2004)*

www.acenz.org.nz
www.ipenz.org.nz
www.nzia.co.nz





Hauroko Farm
47 Flay Road
RD3 Drury 2579
South Auckland

Anvil Fire Consultants Ltd
Fire Safety and Fire Protection Consulting Engineers

Ph 09-294 8068
Mbl 022-3853874
geoff@anvilfireconsultants.co.nz

Gillian Stopford
Vulcan FE

Re: CD Moorhouse – RF11

1-6-16

Gillian,
I have reviewed

1. The architectural drawings still show the “sharks teeth” at the store entry meaning you cannot use that exit. If this is to be an exit as per your design, these are to be removed on the architect’s drawings, and the electrical exit sign plan updated to suit.
2. While not part of this consent, the empty tenancy in the entry lobby which is shown hoarded off will be used as a retail space at some stage. Has this been taken into account with the evacuation?

Released under the Official Information Act

Geoff Merryweather

From: Gillian Stopford <gillian@vfe.co.nz>
Sent: Wednesday, 15 June 2016 4:10 p.m.
To: Geoff Merryweather
Subject: CD Moorehouse

Hi Geoff,

CD Moorehouse revised report and PS1 are in dropbox link below per our peer review discussions.

https://www.dropbox.com/sh/g3w93ccg41yt7hh/AAAV_QqDg4FnDpjMAiIBUwA4a?dl=0

Please note that as discussed I have revised drawings to exclude 'shark teeth' at main entry. Clarification has been provided that the New Tenancies shall not be separate titles and therefore fire separation is not required. I have included occupancy numbers for the new tenancy in the Entry lobby. As discussed it was not necessary to consider merging of flows at the RSET analysis is conservative and in CF 3 Scenario (Fire in entrance lobby) this exit has been discounted for supermarket occupants although it remains tenable for a period greater than the RSET in all spaces.

I understand you have also received a copy of the updated emergency lighting design as requested.

Regards,

Gillian



Gillian Stopford

BA (Math) BAI (Mech) MSc (Fire & Explosion) CPEng (Fire, Mech) IntPE(NZ)

gillian@vfe.co.nz

m. 021 163 88 44

www.vfe.co.nz

PO Box 133239, Eastridge,

Auckland 1146



DOCUMENT REGISTER
ARCHITECTURAL DOCUMENTS

PROJECT NO: 32-08
PROJECT TITLE: COUNTDOWN MOORHOUSE REFURB, 347 MOORHOUSE AVE, CHRISTCHURCH

TO: See Distribution Below

Date: 22-03-2016

Set No: 1 of 1 **Page No:** 1 of 1

FOR BUILDING CONSENT / TENDER	DATE OF ISSUE			
	Day	Current Issue #	15	21
	Month		3	3
	Year		16	16

DRAWINGS	SCALE	SIZE	DRAWING NO:																	
Cover Sheet	-	-	MOO-A000	A	A	A														
Site & Locality Plan	1:500	A0	MOO-A001	B	A	B														
Floor Plan - Existing / Demo	1:100	A0	MOO-A101	B	A	B														
Floor Finishes Plan - Existing / Demo	1:100	A0	MOO-A111	A	A	A														
Reflected Ceiling Plan - Existing / Demo	1:100	A0	MOO-A121	A	A	A														
Internal Elevations - Existing / Demo - Sht 1	1:100	A0	MOO-A141	A	A	A														
Internal Elevations - Existing / Demo - Sht 2	1:100	A0	MOO-A142	A	A	A														
Internal Elevations - Existing / Demo - Sht 3	1:100	A0	MOO-A143	A	A	A														
Floor Plan - Proposed	1:100	A0	MOO-A201	B	A	B														
Floor Plan - Extg / Proposed OVERLAY	1:100	A0	MOO-A205	A	A	A														
Floor Plan - Under Floor Services - Refrigeration	1:10	A0	MOO-A206	A	A	A														
Floor Finishes Plan - Proposed	1:100	A0	MOO-A211	A	A	A														
Reflected Ceiling Plan - Proposed	1:100	A0	MOO-A221	A	A	A														
Wall Protection Plan - Proposed	1:100	A0	MOO-A231	A	A	A														
Wall Finishes Plan - Proposed	1:100	A0	MOO-A241	A	A	A														
Wall Types Plan - Proposed	1:100	A0	MOO-A251	A	A	A														
External Elevations - Existing / Demo & Proposed	1:100	A0	MOO-A301	A	A	A														
Internal Elevations - Proposed - Sht 1	1:100	A0	MOO-A501	A	A	A														
Internal Elevations - Proposed - Sht 2	1:100	A0	MOO-A502	A	A	A														
Internal Elevations - Proposed - Sht 3	1:100	A0	MOO-A503	A	A	A														
Wall Protection Details	1:10	A0	MOO-A611	A	A	A														
Interior Finishes Details	1:10	A0	MOO-A621	A	A	A														
Construction Details	1:10	A0	MOO-A631	A	A	A														
Door Schedule Interior	1:50	A0	MOO-A901	A	A	A														
Door Schedule Exterior	1:50	A0	MOO-A902	A	A	A														

SPECIFICATION																				
SPECIFICATION (Arch)			-	A	A	A														



DOCUMENT REGISTER

ARCHITECTURAL DOCUMENTS

PROJECT NO: 32-08
PROJECT TITLE: COUNTDOWN MOORHOUSE REFURB, 347 MOORHOUSE AVE, CHRISTCHURCH

TO: See Distribution Below

Date: 22-03-2016

Set No: 1 of 1 **Page No:** 1 of 1

FOR BUILDING CONSENT / TENDER	DATE OF ISSUE										
	Day	Current Issue #	15	21							
	Month		3	3							
	Year		16	16							

DRAWINGS SCALE SIZE DRAWING NO:

DISTRIBUTION:

Role:	Attention:	Compan Company:																		
Client (DM/PM)	Michelle Cooper	Progressive		E	-															
QS	Craig Knox	PEL		E	-															
Structural Engineer	Alistair Knowles	KCL		E	-															
Electrical Engineer	David McKenzie	ECS		E	-															
Mechanical Engineer	Mike Tunney	AHL		E	-															
Fire Protection Engineer	Nicky Marshall	PDL		E	-															
Hydraulics Engineer	Ian Todd	I&L		E	-															
Fire Safety Engineer	Gillian Stopford	VFE		E	-															
Refrigeration Consultant	David Scarfe	RCL		E	-															
TA	Christchurch City Council	CCC			E															
Contractor	TBA				-															
Architect	Richard Hannam	PTK (PTK File)		E	E															

LEGEND:

SIZE	A0 = 0; A1 = 1; A2 = 2; A3 = 3; A4 = 4																			
PD=PRELIM DESIGN	DD=DEVELOPED DESIGN		PURPOSE		T	BC														
T=TENDER	WD=WORKING DRAWINGS		TYPE																	
A=APPROVAL	CO=COORDINATION		DELIVERY																	
R=RESOURCE CONSENT	C=CONSTRUCTION		Delivery Method: P=Post; CP=Courier; CL=Collect; S=Staff; E=Email; DB=DropBox																	
BC=BLDG CONSENT	I=INFORMATION		Delivery Type: H = Hard Copy; DV = DVD; CR=CD ROM; FD = Flash Drive; E + Email																	

Released under the Official Information Act

To: Harpur, Amy
Cc: McKenzie, Emma

Attachment was quarantined.

Two questions from Geoff Merryweather -

1. The architectural drawings still show the "sharks teeth" at the store entry meaning you cannot use that exit. If this is to be an exit as per your design, these are to be removed on the architect's drawings, and the electrical exit sign plan updated to suit.
2. While not part of this consent, the empty tenancy in the entry lobby which is shown hoarded off will be used as a retail space at some stage. Has this been taken into account with the evacuation?

From: Chang, Jeremy
Sent: Wednesday, 29 June 2016 8:10 a.m.
To: 'Harpur, Amy'
Cc: McKenzie, Emma
Subject: RE: BCN/2016/2332 - 1/347 Moorhouse Ave

He only raised two items - please see attached (it only comes in with his PS2 btw, not passed to Council or NZFS). They ignored the Council comments also (occupancy). Geoff Merryweather signed the PS2 even though he raised the query about the occupancy also.

Regarding "alternative solution", please have a read of this interesting interpretation from MBIE - http://www.building.govt.nz/building-code-compliance/c-protection-from-fire/c-clauses-c1-c6/protection-from-fire-faqs/verification-method-cvm2-interpretations/#jumpto-2_002e6-can-any-of-the-design-inputs-into-c_002fvm2-be-varied_003f

It reads like if it's from C/VM2 then you don't need to justify the input.... Regardless, we are pinning them on not addressing the entire building (notice there's mezzanine floor also)

Regards
Jeremy

From: Harpur, Amy [<mailto:Amy.Harpur@fire.org.nz>]
Sent: Wednesday, 29 June 2016 7:55 a.m.
To: Chang, Jeremy
Cc: McKenzie, Emma
Subject: RE: BCN/2016/2332 - 1/347 Moorhouse Ave

Hi Jeremy,

Just looking through this DR and I note that the peer reviewer correspondence hasn't been included in the documents. I note the Appendix F of the fire report has the heading NZFS & Peer Reviewer Correspondence. Am I missing it/does it exist? Would be good to see the peer reviewer comments, if any.

Kind regards,
Amy



Amy Harpur MSc PhD
Fire Engineer - Auckland

New Zealand Fire Service

DDI: (09) 354 5102
Mobile: (027) 836 6459
Email: amy.harpur@fire.org.nz
National Headquarters, 2 Poynton Terrace, Auckland 1010
PO Box 68 444, Newton, Auckland 1145

Te Manatū o ngā ratonga ohotata kia haumarua ake ai a Aotearoa | Leading integrated fire and emergency services for a safer New Zealand

From: Chang, Jeremy [<mailto:Jeremy.Chxxx@xxx.xxxt.nz>]
Sent: Thursday, 23 June 2016 7:12 a.m.
To: DR Reviews
Cc: Engineering Services
Subject: BCN/2016/2332 - 1/347 Moorhouse Ave

Hi Emma,

Please find the link for the files for 1/347 Moorhouse Avenue. Amy has involvement of this project and Paul knows about this project also. This is the one Gillian Stopford refused to have the FEB agreed. This will be a major review.

<https://owncloud.holmesgroup.com/index.php/s/S9VCMplZJ5Xm00M>

Regards,

Jeremy Chang

BE(Hon), MEFireE, PhD(Fire), CPEng, IntPE(NZ), MIPENZ

Fire Consultant

Building Control & City Rebuild Group

DDI: 03 941 8132

Web: www.ccc.govt.nz

Christchurch City Council

Civic Offices, 53 Hereford Street, Christchurch
PO Box 73013, Christchurch, 8154

This electronic email and any files transmitted with it are intended solely for the use of the individual or entity to whom they are addressed.

The views expressed in this message are those of the individual sender and may not necessarily reflect the views of the Christchurch City Council.

If you are not the correct recipient of this email please advise the sender and delete.

Christchurch City Council

<http://www.ccc.govt.nz>



Leading integrated fire and emergency services for a safer New Zealand ?Te Manatu o nga ratonga ohotata
kia haumaruru ake ai a Aotearoa

Notice: This email and any attachments may contain information that is confidential or the subject of legal privilege. If you received it in error:

1. Please let us know immediately by return email and then delete the email and your reply.
2. You must not use, copy or disclose any of the information contained in this email.

There is no warranty that this email is error or virus free.

If this is a private communication, it does not represent the views of the organisation.

This electronic email and any files transmitted with it are intended solely for the use of the individual or entity to whom they are addressed.

The views expressed in this message are those of the individual sender and may not necessarily reflect the views of the Christchurch City Council.

If you are not the correct recipient of this email please advise the sender and delete.

Christchurch City Council
<http://www.ccc.govt.nz>

Released under the Official Information Act

From: DR Reviews
Sent: Friday, 1 July 2016 11:03 a.m.
To: 'Engineering Services'
Cc: 'Chang, Jeremy'; Wayne Roden
Subject: DR memo 9133
Attachments: DR memo 9133.pdf

Importance: High

Attention: BCA - Building Consent Department

Subject: BCN: BCN/2016/2332 - 1/347 Moorhouse Ave
Purchase Order: 4500401530

Job No: 9133

Please find attached a memorandum on the above project that sets out our advice in accordance with Section 47 of the Building Act.

Our invoice for the time spent on providing this advice will follow within 14-21 days if this has not please contact the office for your cost.

If you have any queries regarding the NZFS review of this consent application, please do not hesitate to contact me. To assist could you quote the job number at the top of this page. Alternatively please email me at the address below.

Thanks Kindly



Emma McKenzie
Fire Engineering Support Co-ordinator
Fire Engineering Unit

New Zealand Fire Service

DDI: (09) 354 5105
Fax: (09) 309 0483
Email: xxx.xxxxxxx@xxx.xxx.nz
National Headquarters Auckland, 2 Poynton Terrace, Auckland
PO Box 68444, Auckland 1145



New Zealand Fire Service Building Memorandum

Memo Issue 1
Date 1 July 2016
Design Review No 9133

In accordance with section 47 of the Building Act 2004 the New Zealand Fire Service (NZFS) provides advice to the Christchurch City Council in respect of the following building:

Building Consent Authority (BCA) Reference

File Ref	BCN/2016/2332	Contact	Building Consent Administrator
-----------------	---------------	----------------	--------------------------------

Property Information

Street Number	347	Legal Description	-
Street Name	Moorhouse Avenue		
Town/Suburb	-	City/Region	Christchurch
Owner/Registered Proprietor			
Premises / Company Name	Countdown		

Design Details

Architect	PTK Architects
Fire Engineer	Gillian Stopford, Vulcan Fire Engineering
Fire Report Title	Alterations to Existing Countdown Moorehouse Supermarket for Progressive Enterprises Ltd 347 Moorehouse Ave Christchurch Fire Engineering Report
Fire Report Date	10 June 2016
Version	B
Identifier	16010

Drawings Referenced

Description	Date	Project No.	Revision
M00-A001 Site and Locality Plan	22.03.16	32-08	B
M00-A101 Floor Plan – Existing/Demo	22.03.16	32-08	B
M00-A201 Floor Plan Proposed	22.03.16	32-08	B
M00-A141-143 Interior Elevations	15.03.16	32-08	A
M00-A201 Floor Plan Proposed (in fire report)	09.06.16	32-08	C

This memorandum is provided based on the information shown above. Note that the memorandum provides advice on the following matters:

1. Provision of the means of escape from fire.
2. The needs of persons who are authorised by law to enter the building to undertake fire-fighting.

The fire report uses the Verification Method Amendment 4 – Specific Design hybrid as a basis for design. The NZFS has therefore assessed the design on its merits when providing the advice contained in this memo.

The consent documentation indicates that this is an existing building undergoing alterations. The NZFS has therefore assessed this design in accordance with s.112 of the Building Act 2004.

Introduction

This application for building consent concerns an existing retail building located at 347 Moorehouse Ave, Christchurch.

This building currently contains a supermarket, a Burger King restaurant, a chemist and a food court. This consent involves seismic bracing of services within the supermarket as well as the creation of two new retail tenancies at the front of the existing supermarket space. The NZFS understands the following with respect to the new retail tenancies:

- a. The proposed new retail tenancies will not form a separate property title from the existing supermarket.
- b. The new retail tenancies are not fire separated from the existing supermarket.
- c. The fit-out fire design of these new retail tenancies are to be addressed as part of future consents.

The works also involve some additional internal alterations to facilitate egress from the supermarket space and to create a new training room. Following the proposed works the building is to form a single firecell.

The building has an existing Type 6 fire safety system; it is proposed to retain this system and alter as required to suit the new layout of the building.

The NZFS has been engaged in the Fire Engineering Brief (FEB) for this project (NZFS ref: 8761), a response letter was issued to the designer on 29 March 2016. No written response was received by the NZFS therefore this FEB was not closed out. The NZFS notes the response to NZFS comments contained in the Appendix F of the fire report, however the NZFS has no record of this response being issued to the NZFS.

New Zealand Fire Service Advice Under Section 47

1. METHODOLOGY

- 1.1. **Compliance route** – The FEB was originally presented as an assessment against the requirements of C/VM2 however section 1.1 of the fire report indicates that “This report is a specific fire engineering design based on the principals of C/VM2 Verification Method”. Subsequent sections of the fire report indicates that the design basis has been altered from C/VM2 to specific fire engineering design.

The MBIE FAQ (question 2.6) states:

C/VM2 inputs cannot be replaced with elements from Acceptable Solutions C/ASx or specific design. Using other inputs can have significant effect on the outcome. [emphasis added]

On that basis a hybrid of C/VM2 and performance based engineering is not adequate to demonstrate compliance with the NZ Building Code and the design must be considered entirely as either C/VM2 or on a performance basis.

Considering the design against the requirements of C/VM2, shows that it essentially follows C/VM2 except that:

- a. There has been no consideration of failure of non-rated or smoke rated walls at an upper layer temperature of 200°C (C/VM2 Paragraph 2.2.1(l)). The NZFS notes that these upper layer temperatures are reached in the modeling.
- b. The fire growth rate in the back of house store was to be based on a storage height of 5.2m. The NZFS notes that the internal elevations show a ceiling height at the apex of approximately 8m and therefore the building is capable of storage to a height greater than that assumed by the fire design.

When considering the fire engineering design on a performance based design basis, the design provides no justification for any of the inputs such as design fire growth rate and occupant movement rate, consideration of occupant behavior etc.

The NZFS recommends that the BCA require the applicant to revise the design to demonstrate compliance using either C/VM2 in its entirety or present the design as a fully performance based design with all design inputs justified from first principles.

Irrespective of the design basis, the NZFS notes the following issues with the assessment provided

2. MEANS OF ESCAPE

- 2.1. **Extent of review** – Section 1.4 of the fire report indicates that this building is a single firecell. Section 1.1 of the fire report indicates that the new retail tenancies have been excluded from the fire report. Section A1.2 of the fire report states the following:

“The areas outside the supermarket are outside the scope of this analysis.”

The NZFS notes the following points:

- a. For the existing areas of the building, Section 112 of the Building Act requires that the means of escape complies as nearly as reasonably practicable with the requirements of the Building Code. In the absence of a base building review to the current Building Code, the proposal is effectively arguing that the means of escape for these areas be accepted on the basis they are no worse than before. This represents a lower compliance threshold than that required by Section 112 of the Building Act.
- b. The documentation included in Appendix F of the fire report states that *‘the adjacent retail spaces are remote from the fire separated by standard solid construction which may be assumed to limit the spread of smoke...’* The NZFS notes that the architectural drawings show that the chemist has egress doors into both the supermarket foyer and the food court area. Therefore a fire in the foyer area or the chemist has the ability to affect occupants of both the food court and the supermarket. This has not been considered by the design.
- c. The new tenancy has a floor area of approximately 340m². Based on the retail use as outlined in the fire design, this results in an occupancy of 96 people and therefore two means of escape are required. While the fit-out of this new tenancy is expected to be subject to a future consent, the shell design of this tenancy does not comply with the Building Code. As this is within the project area, full compliance with the Building Code is required.
- d. Section 5 of the consent application form describes the work as: *New Fire Rated Wall to the boundary side of the existing western canopy and infill cladding and translucent sheeting infill to the north side of the north canopy.* The fire report is silent on this aspect of the work.

Because of these issues, the fire design as it currently stands is considered to be incomplete and insufficient to demonstrate compliance with the Building Code.

The NZFS recommends that the BCA requires the applicant to provide a fire assessment considering the entire building to demonstrate that following the proposed works the building will meet the performance requirements of the Building Code to the extent required by Section 112 of the Building Act.

- 2.2. **Tenability criteria** – Section A1.2 of the fire report states the following:

“It is noted that in accordance with MBIE published interpretation of Clause C4.4 of the Building Act as the area immediately surrounding the space of fire origin and adjacent spaces within the supermarket have a total occupancy of less than 1000 persons and therefore FED_{CO} need only be assessed.”

The adjacent tenancies have not been assessed on the basis that where FED_{CO} is not exceeded in the room of fire origin and adjacent supermarket spaces it shall not be exceeded in the adjacent tenancies.

The adjacent tenancies have egress directly to the outside and shorter travel distances than the supermarket and hence the RSET for the adjacent tenancies would be in all cases less than the RSET for the adjacent spaces in the supermarket.”

While the NZFS acknowledges that the supermarket space does not have an occupant load which exceeds 1000 people, the NZFS does not consider the arbitrary ring-fencing of the supermarket space and one retail tenancy as the scope of the assessment an appropriate justification for assessing tenability based on measurements of FED_{CO} only.

The NZFS notes that the bulk of the building could be considered to form a *single space* as the architectural drawings and site observations do not show that the tenancies in this building are “*separated by standard solid construction*” as suggested in the designer’s response to FEB comments. As outlined above, a fire in the chemist has the potential to affect all occupants of the food court, the chemist, the supermarket and one of the new retail spaces. Based on the occupant densities used in the fire report, the total occupant load of these spaces is more than 1000 occupants. While visibility is not required to be assessed for all of these areas, in accordance with the MBIE FAQ it is required to be assessed in some areas. Agreement of the locations where visibility is to be assessed is best achieved through the FEB process.

The NZFS recommends that the BCA requires the applicant to revise the design to include consideration of visibility in spaces remote from the fire as required by Clauses C4.3 and C4.4 of the Building Code.

2.3. **Occupant load (supermarket)** – Section 2.3 of the fire report indicates the occupant load for the supermarket. The NZFS notes the following:

- a. The figures indicated in Table 1.2 are indicated to sum to 763 people (adjusted for spaces excluded). The NZFS calculates this figure as 814 people.
- b. The lobby has been excluded from the occupant load calculation to avoid duplication. The NZFS considers that this approach does not appear to consider that people are likely to congregate in this space during bad weather and on this basis these occupants should not be excluded from the occupant count.
- c. The lunch room/training room has been assigned an occupant load based on the area of the space (16 people) however the NZFS notes that seating is provided for 18 people in the lunch room and 6 people in the training room (24 people).

Given the errors identified above are carried through to the ASET/RSET assessment, that analysis will also need to be revised.

The NZFS recommends that the BCA requires that the applicant to correct the occupancy of the supermarket and reflect the impact of the increased occupancy in the ASET/RSET analysis.

- 2.4. **Occupant load (other tenancies)** – Section 2.3 of the fire report indicates the occupant load contributed by spaces in this building other than the supermarket. The NZFS understands from Table 1.2 that all occupants from the new tenancy shown between gridlines 2 and 3 have been accounted for in the RSET assessment.

The chemist tenancy has two access routes shown on drawing Floor Plan – Fire engineering design (sheet no. FSK011). As the occupant load of this tenancy exceeds 50 people, both of these routes are required for egress. Therefore at least half of these occupants are required to be included in the number of occupants using the main entrance for egress. If these occupants are not included the occupant load for this building may be under-represented in the fire ASET/RSET assessment contained in the fire report.

The NZFS recommends that the BCA requires that the applicant revise the assessment to include all occupants that are reasonably expected to use the foyer exit route in ASET/RSET assessment contained in the fire report.

- 2.5. **ASET/RSET assessment** – Sections A2.0 and A3.0 of the fire report indicate the outcomes of the ASET/RSET assessment carried out using B-Risk and hand calculations respectively. The NZFS notes the following:

- a. Challenging fire 2 which was located in the grocery store appears to have an unusually low growth rate for a fire in storage space. The B-risk results indicate that the heat release rate after 600 seconds is 245kW, roughly equivalent to a rubbish bin fire.

The B-Risk output does not indicate that a sprinkler activation took place during the 600 second run however Table A2.4 in the fire report (RSET calculation for CF2) indicates a detection at 131 seconds; the NZFS is unclear where this figure was sourced from given the B-Risk output noted.

- b. The fire report argues that if tenability is passed within the space of fire origin then it is not required to be assessed in other locations as they will have more time for egress. While the NZFS accepts the underlying logic, we note that for Challenging Fires 1 and 2, tenability is not measured in the space of fire origin.
- c. Seven Figures (A3.2-A3.8) are include in the fire report to illustrate the FED_{CO} results attained for the four challenging fire scenarios. The NZFS has been provided with B-Risk Output for four B-Risk runs (one for each Challenging Fire). Each B-Risk run assesses tenability in one room only therefore only four sets of results are available. Insufficient information has been provided therefore to corroborate the results presented in Figures A3.2-A3.8.
- d. Table A2.3 in the fire report indicates a detection time of 319 seconds; the B-Risk output for the corresponding challenging fire indicates a detection time (sprinkler activation time) of 324 seconds.
- e. The plans show two mezzanine floors yet all tenability is assessed at a height of 2m above ground level.

Given the above identified issues with the ASET/RSET assessment the NZFS cannot be satisfied that the information presented in the fire report demonstrates the compliance of this building.

The NZFS recommends that the BCA requires the applicant to amend the fire report to provide fire modelling output to support the ASET/RSET values indicated in the fire report and amend the fire report to show consistency with respect to fire modelling output across the fire report and supporting documentation.

- 2.6. **Security features on escape routes** – Section 2.5.1 of the fire report indicates that security features such as “sharks teeth” will not be located on escape routes. The NZFS notes that Architectural drawing Floor Plan – Proposed (sheet no. M00-A201, rev B) indicates a one-way security gate at the main entrance to the supermarket.

The same gate does not appear in the corresponding drawing in the fire report (sheet no. FSF0011) which is based on revision C of the drawing identified. The NZFS is concerned that this inconsistency between the architectural and fire report drawings may lead to the existing security gates remaining in place and preventing escape as assumed in the proposed fire design.

The NZFS recommends that the BCA requires that the applicant confirm that design co-ordination has been carried out and that this specific issue with the security gates has been addressed to demonstrate that the assumptions of the means of escape assessment are valid.

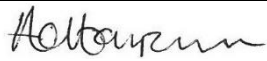

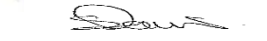
New Zealand Fire Service Recommendation

Given that these technical issues fundamentally impact on the fire engineering assessment, the NZFS strongly recommends that before the design documentation is resubmitted for Building Consent, a meeting involving all project stakeholders is held with the objective to resolve the issues identified.

Disclaimer

This memorandum is provided in accordance with section 47 of the Building Act 2004 and as such does not constitute a regulatory review of all fire safety systems in the design.

Document Control

Action	Name	Signature	Date
Produced by:	Amy Harpur		29 June 2016
Checked by:	Paul Richards		30 June 2016
Approved by:	Simon Davis		1 July 2016