

9(2)(a)

From: Hugh Cowan
Sent: Friday, 10 November 2017 9:06 a.m.
To: 9(2)(a) Mike Stannard; 9(2)(a)
9(2)(a)
Subject: RE: New Zealand Geotechnical Database Steering Group Meeting [UNCLASSIFIED]

Hi 9(2)(a)

I could attend a meeting on the Wednesday or the Friday

From: 9(2)(a) @mbie.govt.nz]
Sent: Friday, 10 November 2017 8:49 a.m.
To: Hugh Cowan; 9(2)(a) Mike Stannard; 9(2)(a)
9(2)(a)
Subject: New Zealand Geotechnical Database Steering Group Meeting [UNCLASSIFIED]

Good morning all,

A steering group meeting is proposed for the (one) week where both Mike Stannard and 9(2)(a) are in the office. The following times are available for the MBIE attendees – hopefully one of these times will also work for Hugh, 9(2)(a). Please could the EQC folks confirm whether any of these times will work? An agenda will be sent out closer to the meeting.

Tuesday 28 Nov 9.30am-11.30am
Wednesday 29 November 10.30am-12pm
Friday 1 December 3pm-4.30pm

Kind regards,

9(2)(a)

Building System Performance
Ministry of Business, Innovation & Employment
9(2)(a) @mbie.govt.nz
Telephone: 9(2)(a)
Level 5, 15 Stout Street, Wellington, New Zealand

**BUILDING
PERFORMANCE**



New Zealand Government

Any opinions expressed in this message are not necessarily those of the Ministry of Business, Innovation and Employment. This message and any files transmitted with it are confidential and solely for the use of the intended recipient. If you are not the intended recipient or the person responsible for delivery to the intended recipient, be advised that you have received this message in error and that any use is strictly prohibited. Please contact the sender and delete the message and any attachment from your computer.

9(2)(a)

From: Dave Brunsdon 9(2)(a)
Sent: Monday, 15 January 2018 5:38 p.m.
To: Hugh Cowan
Subject: RE: National Seismic Hazard Model - Business Case for Future

Happy New Year, Hugh

Likewise, of course I'd be happy to meet with 9(2)(a)

And to catch up with you in due course. Suspect it won't be our usual January catch up, as I'm out of town much of this week and next, but let me know what might suit subsequently.

Cheers

Dave

From: Hugh Cowan [mailto:9(2)(a)@eqc.govt.nz]
Sent: Monday, 15 January 2018 12:05 p.m.
To: 9(2)(a)@beca.com; David Brunsdon
Cc: 9(2)(a)
Subject: RE: National Seismic Hazard Model - Business Case for Future

Many thanks, 9(2)(a) great to hear that.

Hugh Cowan | GM Resilience

Earthquake Commission

P.O. Box 790 | Wellington, New Zealand

9(2)(a)@eqc.govt.nz



From: 9(2)(a)
Sent: Monday, 15 January 2018 12:03 p.m.
To: Hugh Cowan; 9(2)(a)@beca.com; David Brunsdon
Cc: 9(2)(a)
Subject: RE: National Seismic Hazard Model - Business Case for Future

Hi Hugh

Not 100% sure if the message got back to you, but 9(2)(a) contacted me and I have agreed to assist to the extent that I can

Cheers

9(2)(a)

From: Hugh Cowan [mailto:9(2)(a)@eqc.govt.nz]
Sent: Thursday, 21 December 2017 4:11 PM
To: 9(2)(a)@beca.com; David Brunsdon 9(2)(a)
Cc: 9(2)(a)@mbie.govt.nz
Subject: National Seismic Hazard Model - Business Case for Future

Dear 9(2)(a) Dave,

The attached letter refers to a slow-moving EQC and MBIE initiative to get the national seismic hazard model – its maintenance and governance – onto a firmer footing. The letter was circulated to multiple agencies with a perceived interest in the outcome and a contract has since been let to a consulting firm, Gravel Road.

I am writing to you because I'd like one of the Gravel Road team to speak with each of you, to gain a practical understanding of how the seismic hazard model inputs to the Loadings Standard and into the design and performance of buildings. I would like that conversation to impart a high-level but practical understanding of the strengths and limitations of our 'system', so they understand the difference between 'demand' and 'capacity' as well as the challenges we/you face, trying to codify expectations of performance and adapting these over time.

The work Gravel Road is being asked to do is quite limited in scope relative to the context for its application. If they don't understand the latter, we may forgo an important opportunity for the follow through. The person most likely

to talk with you is 9(2)(a) [redacted] has an infrastructure engineering background and has been working recently with me on the renewal and wider application of EQC's loss modelling capabilities.

If you're willing to have a conversation with 9(2)(a) [redacted] please let me know. 9(2)(a) [redacted] and I would then allow Gravel Road to arrange a time at your convenience to catch up in the New Year.

Warm regards

Hugh

Hugh Cowan | GM Resilience

Earthquake Commission

P.O. Box 790 | Wellington, New Zealand

DDI: 9(2)(a) [redacted] @eqc.govt.nz



This email message (along with any attachments) is intended only for the addressee(s) named above. The information contained in this email is confidential to the **New Zealand Earthquake Commission (EQC)** and must not be used, reproduced or passed on without consent. If you have received this email in error, informing EQC by return email or by calling (04)978 6400 should ensure the error is not repeated.

Please delete this email if you are not the intended addressee.

DISCLAIMER | This message and accompanying data may contain information that is confidential and subject to legal privilege. If you are not the intended recipient you are notified that any use, dissemination, distribution or copying of this message or data is prohibited. If you have received this email message in error, please notify us immediately and erase all copies of the message and attachments. The Company takes no responsibility for any unauthorized attachments, or unintentionally transmitted material (including viruses) sent by this email.

This email message (along with any attachments) is intended only for the addressee(s) named above. The information contained in this email is confidential to the **New Zealand Earthquake Commission (EQC)** and must not be used, reproduced or passed on without consent. If you have received this email in error, informing EQC by return email or by calling (04)978 6400 should ensure the error is not repeated.

Please delete this email if you are not the intended addressee.

9(2)(a)

From: Dave Brunson 9(2)(a)
Sent: Friday, 2 March 2018 4:36 p.m.
To: Hugh Cowan 9(2)(a)
Subject: Regulatory Hierarchy
Attachments: Design and Reality States 20160815.pptx

Hugh 9(2)(a)

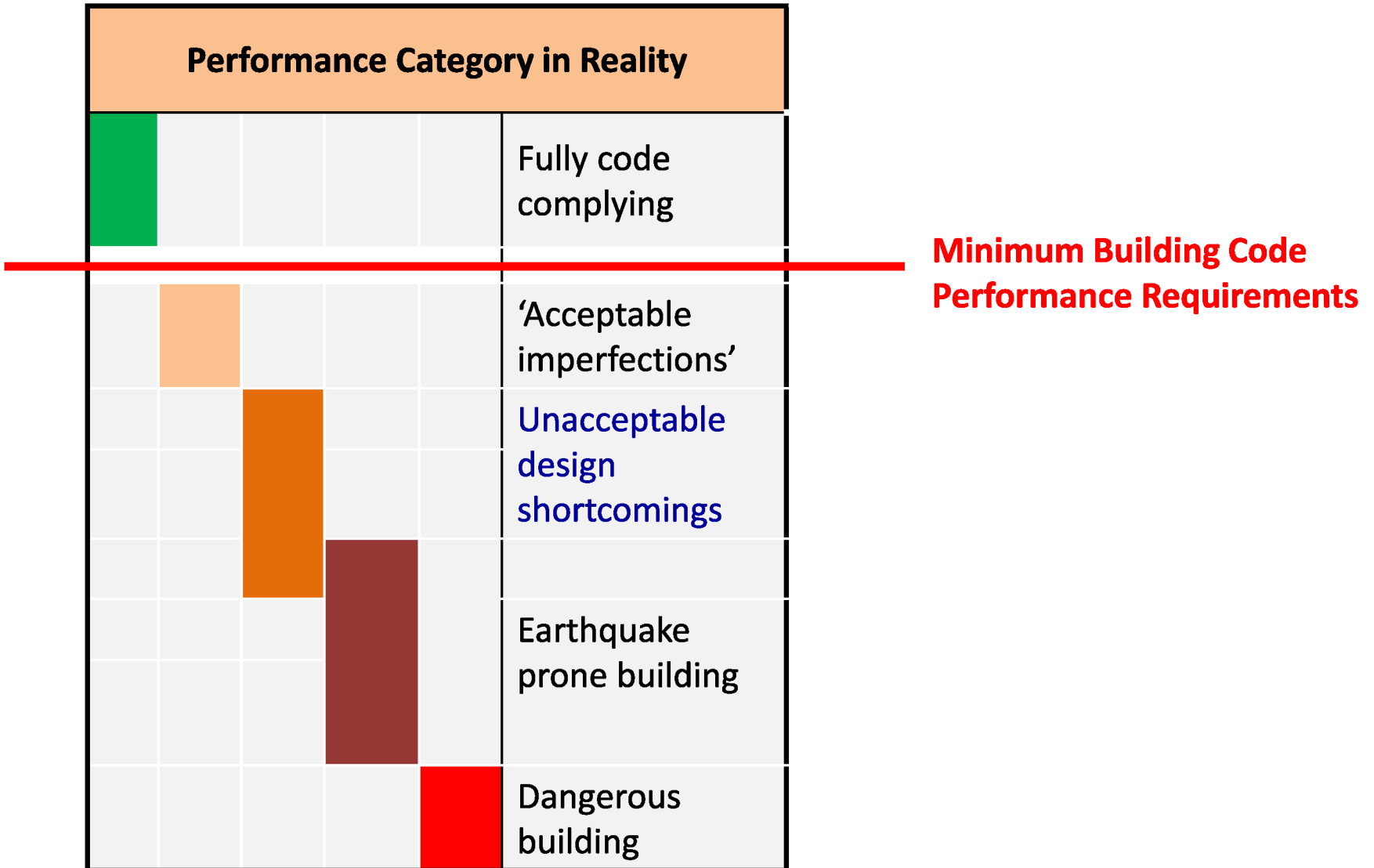
Thanks for the chance to catch up this morning – appreciated.

Attached is that ppt, before I forget


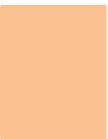



Cheers

Dave

Buildings of Recent Design



Buildings of Recent Design

Performance Category/ Expectation			Required Action
		Fully code complying	No action required
<hr/>			Minimum Building Code Performance Requirements
		'Acceptable imperfections'	Accept
		Unacceptable design shortcomings	???
		Earthquake prone building	Follow Building Act provisions (decades)
		Dangerous building	Follow Building Act provisions (immediate action)

9(2)(a)

From: Dave Brunson 9(2)(a)
Sent: Friday, 4 May 2018 4:43 p.m.
To: Hugh Cowan
Subject: RE: Seismic Reports - 9(2)(j)

Thanks Hugh – will digest

8am-ish Monday best, as I can join you physically for half an hour or so (can do earlier also)

Cheers
Dave

From: Hugh Cowan
Sent: Friday, 4 May 2018 4:06 p.m.
To: Dave Brunson
Subject: FW: Seismic Reports - 9(2)(j)

Hi Dave,

Gradually pulling the supporting info together to inform a discussion. I'd be grateful if we could talk (you, Paul and me) early Mon/Tue/Wed morning next week. Attached reports for your info – context setting.

Regards
Hugh

From: Paul Jepson
Sent: Friday, 4 May 2018 4:00 PM
To: Hugh Cowan 9(2)(a) <[9\(2\)\(a\)@eqc.govt.nz](mailto:9(2)(a)@eqc.govt.nz)>
Subject: FW: Seismic Reports - 9(2)(j)

From: 6(c)
Sent: Wednesday, 18 April 2018 9:43 AM
To: Paul Jepson 9(2)(a) <[9\(2\)\(a\)@eqc.govt.nz](mailto:9(2)(a)@eqc.govt.nz)>
Cc: 9(2)(a) <[9\(2\)\(a\)@eqc.govt.nz](mailto:9(2)(a)@eqc.govt.nz)>; 9(2)(a)
Subject: Seismic Reports - 9(2)(j)



Hi Paul,

Further to our discussion yesterday, I attach reports received from 9(2)(j) relating to the seismic upgrade work carried out at 9(2)(j)

9(2)(j)

9(2)(j)

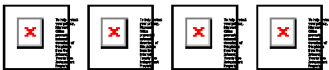
You indicated you will arrange a peer review of the documents in order to satisfy the EQC ELT that satisfactory due diligence has done on the structural strength of the building. I will leave this to you to manage internally.

9(2)(j)

I will be sending our response to 9(2)(j) on their lease proposal this morning, and will copy you and 9(2)(a) in.

Regards

9(2)(a)



This email message (along with any attachments) is intended only for the addressee(s) named above. The information contained in this email is confidential to the **New Zealand Earthquake Commission (EQC)** and must not be used, reproduced or passed on without consent. If you have received this email in error, informing EQC by return email or by calling (04)978 6400 should ensure the error is not repeated.

Please delete this email if you are not the intended addressee.

9(2)(a)

From: Dave Brunson 9(2)(a)
Sent: Monday, 7 May 2018 5:44 p.m.
To: Hugh Cowan
Subject: Followup Notes

Hi Hugh

As a follow up to this morning's discussion, I'd suggest the following question be put to the owners of the building in question (or direct to the engineers, as appropriate):

9(2)(j)

Let me know if this provides you with sufficient info, or if you need more.

Cheers
Dave

9(2)(a)

From: Dave Brunson 9(2)(a)
Sent: Friday, 8 June 2018 6:45 a.m.
To: Hugh Cowan
Subject: Rubble Foundations MBIE Q&A Clearinghouse Meeting

Hi Hugh

9(2)(a) has briefed me on your offer to provide examples from EQC engineers for the possible Canterbury Technical Clearinghouse meeting. I seem to have ended up with the role of organising that session, essentially for Engineering New Zealand, plus finalising the Q&A itself with Mike S and Graeme B.

9(2)(g)(i)

I am trying to put other items on the agenda for the Clearinghouse meeting, including from the Hurunui/Kaikoura EQ.

Cheers
Dave

9(2)(a)

From: Dave Brunson 9(2)(a)
Sent: Saturday, 9 June 2018 8:46 a.m.
To: Hugh Cowan
Subject: Kestrel Invoice for Assistance with New Office Accommodation
Attachments: Invoice KESTREL-2347.pdf

Hi Hugh

Our invoice for the recent work in relation to resilience aspects for your new office building is attached.

Please let me know if you have any questions on this.

Many thanks
Dave



kestrel
group

TAX INVOICE

EQC-Bldg18
Earthquake Commission
PO Box 790
Wellington 6145
Attention: Hugh Cowan

Invoice Date
31 May 2018

Invoice Number
KESTREL-2347

Reference
EQC-Bldg18

GST Number

9(2)(a)

**Address for Payment
& Administration**

Kestrel Group Limited
PO Box 5050
Wellington 6140

www.kestrel.co.nz
admin@kestrel.co.nz
04 499 4433

Description	Amount NZD
-------------	------------

Advice on Resilience Aspects of New Office Accommodation

Dave Brunson time inputs

9(2)(b)(ii)

9(2)(b)(ii)

Subtotal

Total GST 15%

Invoice Total NZD

Total Net Payments NZD

Amount Due NZD

PAYMENT ADVICE

To: Kestrel Group Limited
PO Box 5050
Wellington 6140

Customer EQC-Bldg18
Invoice Number KESTREL-2347
Amount Due 9(2)(b)(ii)
Due Date 20 Jun 2018

Amount Enclosed

Enter the amount you are paying above

Account for Direct Credit 9(2)(a)

9(2)(a)

From: Dave Brunson 9(2)(a)
Sent: Thursday, 21 June 2018 8:10 a.m.
To: Hugh Cowan
Subject: FW: Last Night's CTF Session
Attachments: CTF 20 June 20180618 Final.pptx

Good Morning Hugh

I'm being very lazy here, but doing a simple forward to you in the interests of time as I head out to the airport this email 'hits the highlights' of our chat to come.

Will call at some stage between 8.30 and 9.30, just not sure when

Cheers
Dave

From: Dave Brunson
Sent: Thursday, 21 June 2018 8:06 a.m.
To: 9(2)(a)@engineeringnz.org; 9(2)(a)
Subject: Last Night's CTF Session

9(2)(a)

Attached is the final presentation from last night for info/ record. It was a bit irritating to see some of the formatting wash out via the university's computer.

Nothing much more came out of the final 'Information Needs' slot after you left for the airport. I left our email addresses up on screen and encouraged people to send through any topics or issues they would like discussed in a forum context (if one is held), or any other concerns they have.

9(2)(g)(i)

Hearing that engineers are using the MBIE Guidance for repairs etc in Hurunui was interesting. An obvious occurrence but not one that I've heard anything about. While aspects of the Guidance can be used directly following any earthquake, foundation aspects need to be calibrated against ground conditions (the Technical Categories), and that level of geotechnical information isn't necessarily available in Hurunui and Kaikoura and won't have been calibrated against the Canterbury information.

This along with stories of North Canterbury repairs from the Canterbury Earthquake Sequence opening up from the Hurunui/ Kaikoura EQ supports the view that we should have a full Hurunui/ Kaikoura Technical Forum. It'd be nice to have it in Amberley, maybe hosted by Hurunui District Council – but the nuisance of evening traffic means that it will probably need to be Chch based. HDC were invited to contribute to last night's session, but didn't respond.

I'll follow up with others on this.

9(2)(g)(i)

And we should return to the question of a date in July for the Wellington Kaikoura EQ Technical Clearinghouse, following on from our recent Engineering Leadership Group meeting. Recapping, your preferred week of 16 to 20

July doesn't suit [redacted] due to teaching commitments, plus I'm on the road a bit that week. The earlier week didn't suit you, so I guess we are looking at 23 to 27 July. Can you let me know your preferences Tues/Weds/ Thurs that week, and I'll check with [redacted] and [redacted]

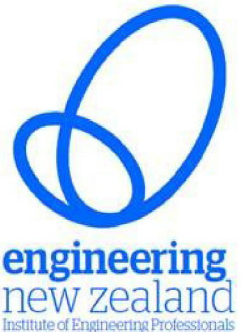
Cheers
Dave

Released under the Official Information Act 1982



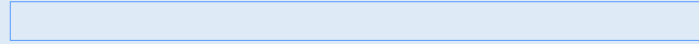
CANTERBURY TECHNICAL FORUM

20 June 2018



MEETING AGENDA

- Hurunui/ Kaikoura Earthquake
- Canterbury earthquakes
 - Residential repairs - briefing on MBIE Q&A on rubble foundations
- Christchurch City Council comments
- Seismic Assessment
 - Engineering New Zealand Seismic Reconciliation programme
 - Update on the revision of section C5 Concrete Buildings
 - MBIE EPB Methodology
- Information Needs – General Discussion

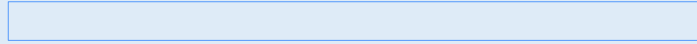


HURUNUI / KAIKOURA EARTHQUAKE

KAIKOURA DISTRICT HAZARD INFORMATION

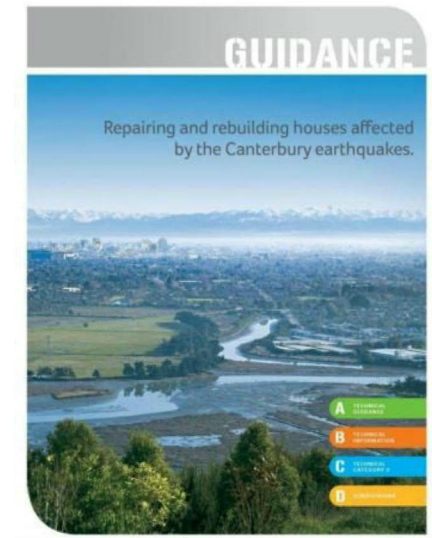


- Golders are about to complete a report on liquefaction occurrence during the Kaikoura earthquake and new zones that can be incorporated into the District Plan
 - Will outline areas where different levels of geotechnical assessment will be required for new developments
- GNS Science are currently mapping fault avoidance zones for selected faults in Kaikoura District, particularly the Hope and Kekerengu Faults, and a few others, which will also be included in the District Plan
- GNS Science are leading a 5 year Endeavour Programme project around planning for, and avoiding, landslide hazard and risk along the Kaikoura coast



CANTERBURY EARTHQUAKES

MBIE RESIDENTIAL GUIDANCE and RUBBLE FOUNDATIONS



MBIE Updates and Clarifications - Q&A #63

How does the Residential Guidance apply to 'rubble' concrete foundation walls?

Key Aspects of Q&A #63

- Clarifies the applicability of the Guidance to residential dwellings generally
- Outlines the continuum of perimeter foundation walls
- Notes that the Guidance doesn't contain specific repair solutions for 'rubble' foundations, but the repair principles and solutions in the Guidance will be useful in developing solutions
- Re-iterates that careful consideration must be given to the nature and condition of the foundation

Reminder About Focus of the Guidance

- The MBIE residential guidance addresses Building Act and Code compliance
- This represents a minimum regulatory requirement for repairs which won't necessarily meet the insurance policy obligations for repair and reinstatement

The Continuum of Concrete Perimeter Foundations

Stones and Brick		Large inclusions within a concrete matrix	Reasonably well-graded concrete	NZS3604 foundation walls
Mortared	Some weak concrete present	No or nominal reinforcement	Reinforcement present	Horizontal and vertical reinforcement

Released under the Official Information Act 1982



Released under the Official Information Act 1982



Released under the Official Information Act 1982



Released under the Official Information Act 1982



Recap on Key Elements of MBIE Guidance for Perimeter Foundations

- Indicator criteria for foundation damage not requiring structural repair (Table 2.2)
- Indicator criteria for floor/ foundation re-level or rebuild (Table 2.3)
- Method statements for re-levelling perimeter concrete foundations (Appendix A1.1.2) and repair options for concrete foundation slabs and walls (Appendix A4.4)
- Criteria for extent of repairs for foundations in TC3 with minor damage (14.2.2)



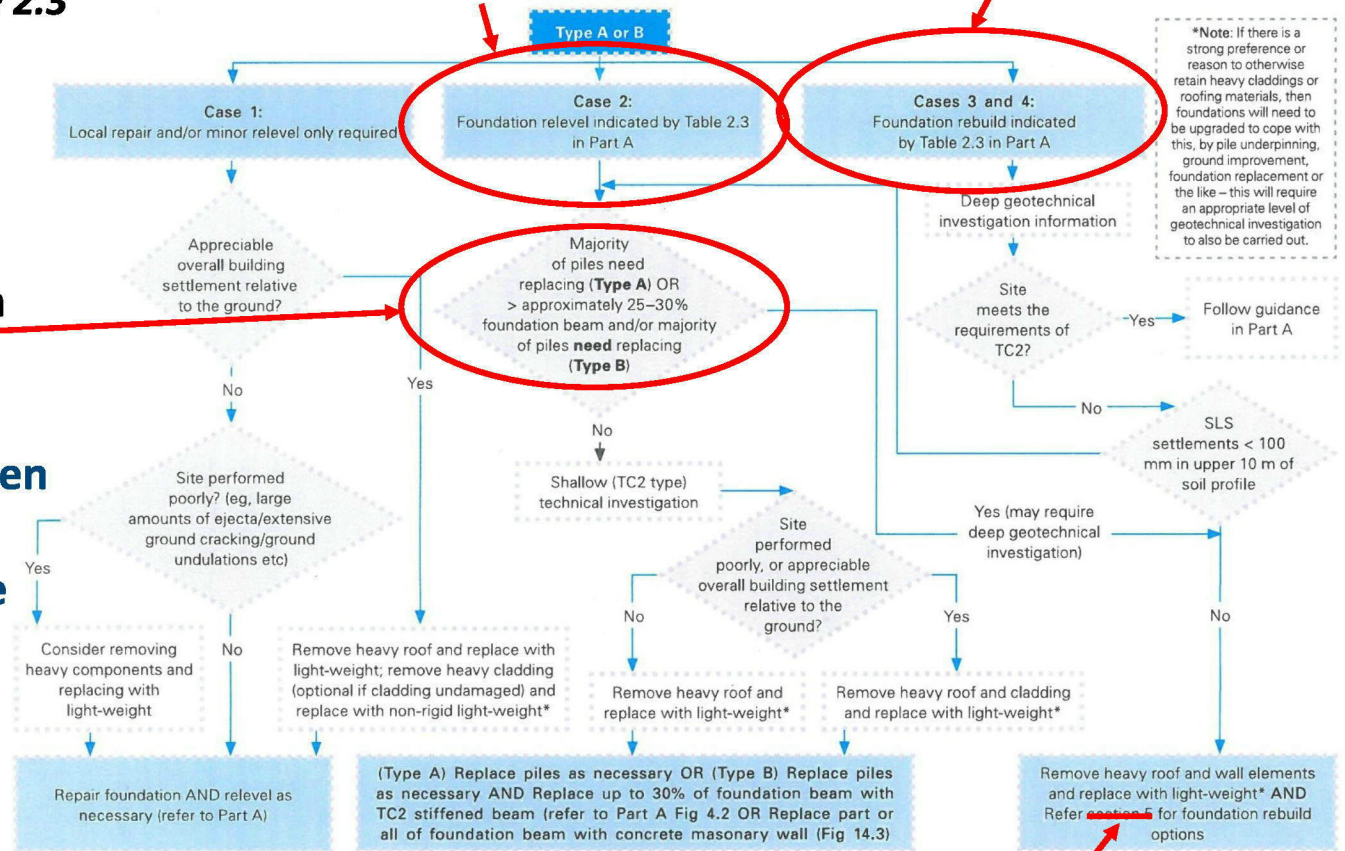
Repairs to Type B Foundations in TC3

Refer Figure 14.1 of Guidance

Requires start at Table 2.3

Relevel and partial replacement

Full foundation rebuild

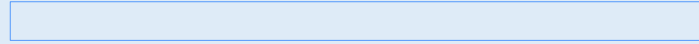


*Note: If there is a strong preference or reason to otherwise retain heavy claddings or roofing materials, then foundations will need to be upgraded to cope with this, by pile underpinning, ground improvement, foundation replacement or the like – this will require an appropriate level of geotechnical investigation to also be carried out.

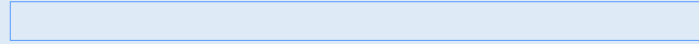
>25-30% of foundation needs replacing

NOT because it has been broken back in the repair process to more than 30%

Released under the Official Information Act 1982

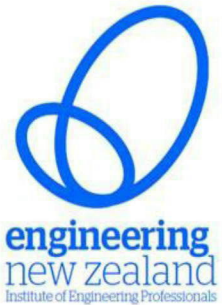


CHRISTCHURCH CITY COUNCIL COMMENTS



SEISMIC ASSESSMENTS

SEISMIC ASSESSMENT RECONCILIATION



- Situations arise where there may be more than one engineering assessment showing differing results
- Engineering New Zealand is offering a programme that provides expert-led independent facilitation in situations of differing seismic assessment
- Aims to reach general agreement on seismic rating
- It is not intended to resolve commercial disputes nor disputes with a Territorial Authority
- At the completion of the facilitated meeting, parties will put together an agreed statement whether or not agreement is reached

Current Work on the Guidelines: Revision of C5 *Concrete Buildings*

- Draft revision prepared
 - Covers general aspects as well as precast concrete floors
- Review comments from the Technical Review Group have been received and a final draft prepared
 - Reps from NZSEE, SESOC and Concrete NZ Learned Society ManComs
- Impacts of the changes on previous assessments for earthquake-prone purposes are being evaluated
- The Guidelines Technical Committee will undertake a final review and make recommendations to MBIE
- Aiming for public consultation in September/ October

**BUILDING
PERFORMANCE**

The EPB Methodology

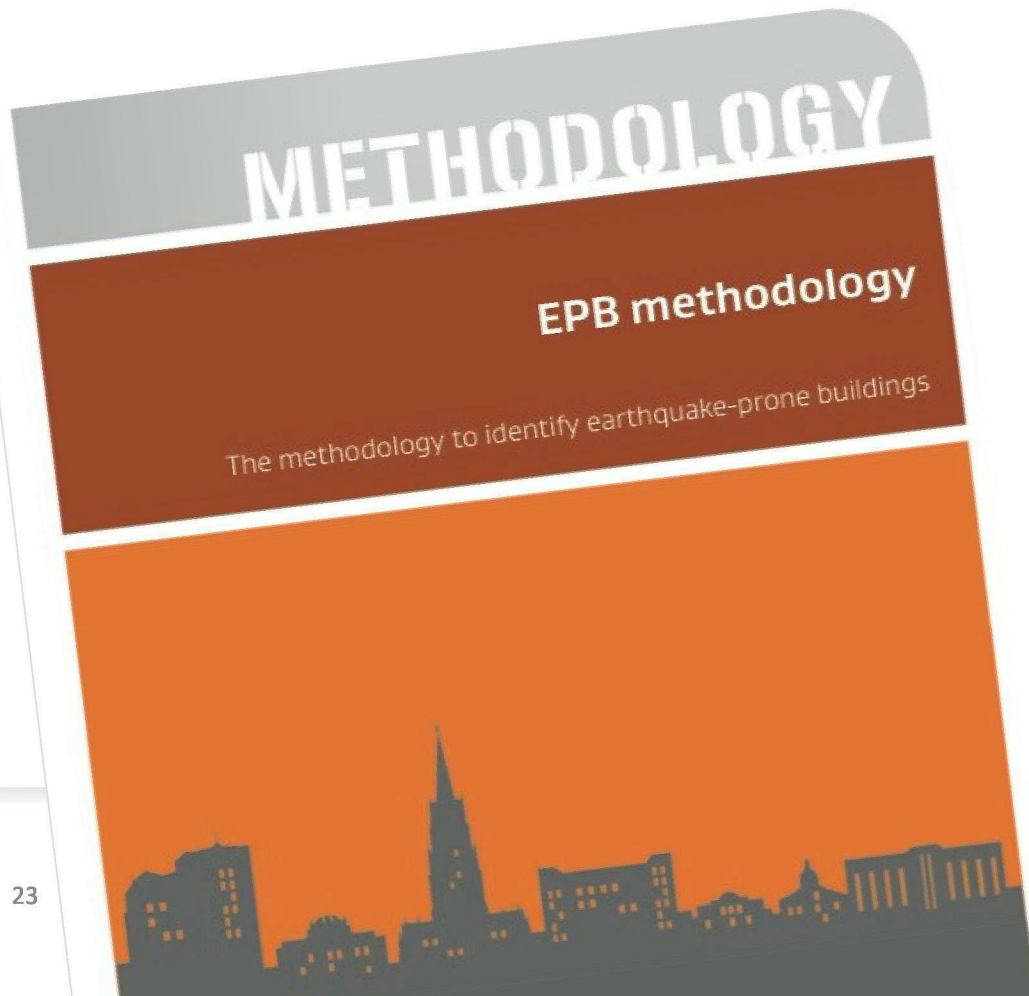
Training for Engineers

Christchurch

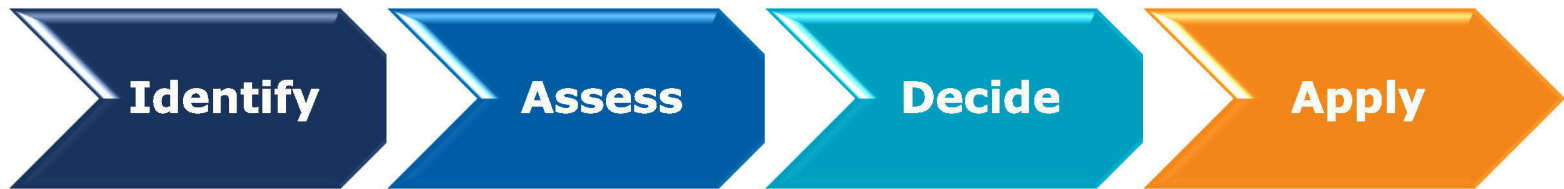
?? July 2018

The EPB Methodology

- The “engine room” of the new system
- Cites the Engineering Assessment Guidelines
- Rules for TAs and Engineers to **identify, assess** and **make decisions** about EPBs
- Supporting resources are available on the MBIE website



How the system works...

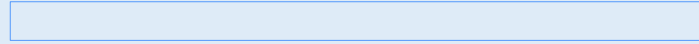


TAs **identify**
potentially
EPBs

Building
owners
commission
engineers to
assess
potentially
EPBs

TAs **decide**
on EPBs

Building
owners are
required to
apply
remediation
requirements
to EPBs



**OTHER INFORMATION
NEEDS?**



THANKS.

9(2)(a)

[\[REDACTED\]@engineeringnz.org](mailto:[REDACTED]@engineeringnz.org)

9(2)(a)

[\[REDACTED\]@engineeringnz.org](mailto:[REDACTED]@engineeringnz.org)

9(2)(a)

[\[REDACTED\]@engineeringnz.org](mailto:[REDACTED]@engineeringnz.org)