

What defined the inspection and repair standards for the EQC and Insurers?

Was it defined by the MBIE (formerly DBH) Guidance issued under the Building Act - 'Repairing and rebuilding houses affected by the Canterbury earthquakes'? (<https://www.building.govt.nz/building-code-compliance/canterbury-rebuild/repairing-and-rebuilding-houses-affected-by-the-canterbury-earthquakes/>)

The history of the technical response:

05 Sep 2010 – 31 October 2010, the government insurer, the Earthquake Commission, funded and initiated the creation of the technical response to the Sep 04th 2010 earthquake, a document (EQC research paper 0380) that was to become the DBH (then MBIE) Guidance. (ref. [1] EQC engagement letters for the EAG (Engineering Advisory Group), ref. [2] Terms of Reference for EAG). There is specific mention of a need to understand (and control) how engineers will be briefed. The EQC acknowledges that the work may assist private insurers. There is no mention of homeowner representation or consultation during the creation of the Guidance.

December 2010, DBH Guidance 'Repairing and rebuilding houses affected by the Canterbury earthquakes' was published as a technical response to the disaster (ref. [3] – it aimed to identify earthquake damage and propose repair and rebuild methods that would meet the Building Act and Building Code. It was issued under Section 175 of the Building Act, as only a guide ([4] Extract from S175 of Building Act 2004).

In 2010 EQCs experienced contractors, Tonkin & Taylor, observed that it is 'difficult if not impossible' to repair the houses to even a pre-earthquake condition standard. They also pointed out it was their experience that 'repair costs escalate quickly beyond the EQC Cap of \$115,000 for seemingly minor repairs' and that it was 'important for realistic assessments' to be undertaken (ref. [5]).

One of the main objectives of the MBIE Guidance was to 'satisfy homeowners and insurers' (ref. [6]). The only way to be sure of satisfying both parties would be to meet the insurance policy contract and EQC Act (ref. [7]) 'full replacement' standards.

EQC and DBH clearly canvassed private insurers (ref. [8]) during the creation of the Guidance but one must wonder if homeowners were canvassed or even represented. If they were, then they would have insisted that the EQC Act and insurance policy standard were achieved by the response, rather than 'minimising the individual investigation and design effort required for each property', cost control and avoiding 'betterment concerns' (defined by MBIE as any response above a code compliant solution). The questions that arise from these secondary objectives, are:

'why was the guidance portrayed as satisfying insurance requirements, when the other party to the contract (the homeowner) were not represented during the documents creation? Or, if they were, who was representing them?'

In 2011 the floor level criteria that triggered a determination of 'structural damage' was relaxed and the Guidance was reissued. This appears to be in response to some investigations by EAG engineers, though the reason for this investigation has not been disclosed. It is also unclear how robust and scientific the investigation methods were, nor how they related to an insurance policy response (ref. [9]).

In 2012 the MBIE Guidance was endorsed by the BCAs, with them confirming they would grant consent if the Guidance was used (ref. [10]). This contradicts s175 of the Building Act where the use of Guidance does not relieve the BCAs of the obligation to consider any matter to which that

information relates according to the circumstances of the particular case (ref. [4]). In other words it is impossible for them to say they will grant consent before looking at how the guidance relates to the site specific information.

It appears Fletchers was fully indemnified under the contract they signed with the Earthquake Commission for any wrongdoing.

EQC and Fletchers used the MBIE Guidance as a basis for their inspections and repairs (ref [11]). The problem is, they did not follow the Guidance properly, most often not measuring the floor levels (in the authors personal experience) which the MBIE Guidance and Fletchers 'Redbook' both point out is required to be able to identify structural damage and choose an appropriate repair strategy. By the EQC not measuring floor levels they have not followed their own published processes and by doing so have misdiagnosed structural damage by identifying it as cosmetic damage only.

Insurers widely adopted MBIE Guidance as a basis for their inspections and proposed remediations.

Exemptions from consent were applied to the repairs by Fletchers (and insurers) for almost all (ref. [12]) the repairs, so there was very little independent oversight (either checks that designs met code or compliance inspections of the work carried out) by Building Consenting Authorities. The designers and builders did their work knowing that the result would not be checked. The obvious risk of this approach on the quality of the building work could be far reaching (refer paragraph later on for MBIE's own findings of the high failure rate of insurers exempted repairs - 2015).

2012 - EQC contracted Engineer applying an incorrect standard:

'to pre-existing condition, to a reasonable extent' (ref. [13]), rather than;

to the EQC Act replacement standard of 'as when new' (ref. [6]).

In the authors case the floor level differentials were understated and most of the dwellings structural damage was missed, (damage to foundation and superstructure). Based on the engineering advice, this dwelling was reassessed by EQC as under cap (\$45k repair) when the insurer had only just assessed it as over cap and 'uneconomic to repair'. This same engineer inspected thousands of dwellings in Canterbury around this time and was responsible for training many EQC assessors and estimators.

2013 – MBIE staff admit to Minister that Guidance repairs do not repair foundations to a current code compliant state. They admit to a more 'enabling' approach to repairs. ([14] MBIE 2013 Ministers Briefing). This was in response to the Minister of housing questioning if the standard been applied by the MBIE Guidance was too high. The EQC Act standard or Insurance policy standard are not referred to in the briefing.

S17 of the Building Act requires that all 'building work' must meet the Building Code. 'Building work' includes the 'design work' (for restricted activity which all structural work is) and any 'alterations' (or 'repairs').

Authors opinion:

If the structural function of the foundation, 'to transfer loads between the house structure and the ground without undue distortion and to maintain equilibrium and stability', has been compromised (negatively affected or 'damaged') by the earthquakes, then the insurance policy requires that structural function to be reinstated. It is my observation that MBIE does

not have a right to overrule or ignore that primary insurance response, where doing that would prejudice one party to the insurance policy contract in the favour of the other.

Case law shows that when reinstating foundation damage, the appropriate standards to use are the performance requirements of the (current) Building Code. There doesn't appear to be a more 'enabling approach' as MBIE has worded it, to only return that damaged structural function back to a pre-repair or pre-earthquake state (refer [2014] NZHC 3399 para. [103] & [2015] NZCOA 259 para. [39]).

Furthermore, by the MBIEs description they seem to have artificially reduced the scope of the 'building work' by ignoring the true structural function the foundation performed prior to the damage. This would allow them to only fill a crack in a foundation wall (for example), restricting the scope of the building work to just the material filling the crack, instead of properly addressing the loss of function caused by the crack to the foundation beam (loss of strength and stiffness) and allowing to repair that lost structural function to the insurance policy standard of 'when new' or 'as new'. MBIEs description to the Minister of how the Guidance responds simply does not meet an insurance policy standard response. It is doubtful it would even comply with S17 of the Building Act since it does not properly 'repair' the 'damage'. It appears to be a clever attempt to 'reduce the scope of the repair or building work' avoid the cost of expensive foundation repairs. I am sure that was not the intent of the Building Act when it was enacted.

EQC and Fletchers appear to have had no quality system in place to ensure that the MBIE Guidance was properly used or the repairs were properly carried out. This is based on the authors discussions with inspectors on site in 2012/2013/2014.

Widespread use of the MBIE Guidance by insurers as a basis for their inspections and repairs (EQC, IAG, Southern Response, VERO, Tower).

In 2015 Southern Response staff (Head of Legal and Strategy) admitted that they used the MBIE Guidance and when the guidance changed in 2011 it allowed them to downgrade their insurance response. ([15] Extract from 'Recovery following the Canterbury Earthquakes of 2010-11 The Experiences of a Major Residential Insurer'). This is surprising as the insurance policy contract in place at the time of the events cannot be changed, only an interpretation of how it is applied can be.

2013/14/15 Increasing emergence of poor inspections and faulty repairs, started to make the news.

2015 - Due to MBIEs involvement with RAS, and feedback from homeowners, MBIE started to realise that many repairs were simply not compliant and were failing. They completed their own survey of sample of 101 houses (with house claims where the owners had raised a complaint excluded from the sample) to check if work complied with the Building Code. They found that over a third of the exempted repairs failed to meet the Building Code. It was not within their brief to determine if the higher standards of the EQC Act or Insurance policy were met.

January 2016 - Under mounting pressure from dissatisfied homeowners over how MBIE Guidance was been used, MBIE issued a clarification letter to insurers that the MBIE Guidance is not equivalent to an insurance response. This clarification was not widely distributed to homeowners. ([16] MBIE Clarification letter to insurers).

April 2016 - The Earthquake Commission and EQC Joint Action Group issue a joint statement. It clarifies that MBIE Guidance floor level criteria should not be used as an indicator of damage nor as targets for repairs (ref. [17]).

April 2016 – MBIE investigations show a failure rate of 55% (over the last 200 claims reviewed by RAS Technical team (ref. [18])). It must be noted that this was a failure to meet the standard provided by the MBIE Guidance, rather than the higher insurance policy standard.

Mar 2016 – A surprising admission from an MBIE staff member by email when the author sent them some feedback around their observations of poor work by the EQC. MBIE appeared to have first hand knowledge of the issues at play (ref [19]).

2016 A practicing Lawyers view of MBIE Guidance. (ref. [20])

2016 and beyond –MBIE Guidance still gets used today as an insurance response. MBIE Guidance has been widely used in response to the November 2016 North Canterbury earthquake, even though it shouldn't be (MBIE Guidance itself and EQC advice to insurers).

2017 - MBIE admits that the epoxy repair method in the MBIE Guidance does not apply to pre NZS3604 (and its predecessor standard) foundations, though it has been widely applied to those type for years and EQC/Fletchers 'Redbook' has methods to cosmetically repair damaged (structural) foundation walls using epoxy.

2018 - EQC admits re-repairs cost reaches \$270 million and are likely to increase.

Questions the author poses:

1. Why did the EQC, a government insurer, fund and create a technical response (DBH/MBIE Guidance), knowing that it would be widely used, that does not meet the EQC Act or insurance policy 'full replacement' standard?
2. Why did the EQC and DBH (now MBIE) not involve homeowners in the creation of the Guidance Document, but widely canvassed the other party to the insurance contract, the insurers?
3. Why were the authors of the Guidance Document concerned with 'betterment' (defined by them as any response greater than the Building Code) and saving costs?
4. Why did the authors of the Guidance Document not provide some form of quality control to ensure the advice contained within it would be properly used and would meet its intention?
5. Why did the DBH (now MBIE) propose the MBIE Guidance as a legitimate insurance response, then later admit it wasn't (2016)? This deception has likely caused widespread loss to a vulnerable population.

The author, David Townshend is a Homeowner, Company Director, Pilot, and qualified Electrical Engineer with engineering design experience in the aeronautical industry.

The author has managed multiple insurance claims through the EQC/Insurers processes over the last six years.

The author has reached agreement with insurers (including the EQC) that MBIE Guidance is not the standard to achieve when inspecting for earthquake damage nor when remediating any damage found. Instead, the insurers have agreed that the standard to achieve is either the EQC Act 'replacement' standard, or the Insurance policy standard.

The author has reached agreement with insurers to engage engineering experts to the standard provided by the insurance policy (within their area of expertise and without reference to MBIE

Guidance) and has used the result of that as a basis to attain agreed settlement of his insurance claims within a good faith engagement, without the adversarial approach that litigation brings.

The author is concerned that this same process has not been widely applied across the insurance industry. Most claimants have little to no knowledge of the correct standard that should be applied, and instead, rely on insurers advice who continue to propose the MBIE Guidance as being sufficient for the settlement of insurance claims.

The author has raised his concerns around the MBIE Guidance not been a sufficient response with MBIE, the EQC, the EQC Minister, the State Services Commissioner, the Parliamentary Ombudsman, IPENZ, CCC and the SFO. These organisations (collectively or individually) appear to have little motivation in investigating why MBIE Guidance was created by our government insurer the Earthquake Commission, and represented as an insurance response, when it clearly isn't.

The author has created a petition to gain support for this important issue to be properly investigated:

<https://www.change.org/p/2017mbieguidancepetition@gmail-com-mbie-guidance-why-was-it-used-as-a-response-to-mostly-insured-earthquake-loss>

For EQC Ministers response see ref. [21].

For MBIE Ministers response see ref. [22].

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References:

[1] EQC Engagement Letter to Kestrel Group:

Released under the Official Information Act 1982



Ref: 5/311

2 October 2010

Dave Brunson
Kestrel Group
PO Box 5050
WELLINGTON

Dear Dave

As previously discussed, there is a likely need for numbers of structural engineers to support EQC's lead geotechnical engineers, Tonkin & Taylor, and insurance loss adjusters as they assess the many significantly damaged residential buildings following the 4 September 2010 Canterbury earthquake.

EQC is seeking a better understanding of where these structural engineers will be sourced from, the adequacy and appropriateness of these resources and how they will be briefed. EQC is also wishing to understand how this process will dovetail with the structural engineers being engaged by private insurers for dealing with cases that exceed the EQC cap. An associated, but broader issue is how the wider scientific, geotechnical and structural engineering professions, with whom EQC has a long-standing relationship through research facilitation, can best be engaged to inform decision-making criteria and repair techniques for the reinstatement of damaged homes in areas of significant liquefaction and ground damage.

EQC wishes to commission pragmatic and focused advice to facilitate effective use of relevant knowledge and efficient use of expertise. We anticipate that the interactions and methods adopted and data gathered in the course of such work may assist not only EQC with its decision-making, but potentially that of other agencies including private insurers and local authorities involved in earthquake recovery in Canterbury.

Since early September, you have assisted me with preliminary efforts in support of these objectives and I would like to confirm your continued assistance to EQC. We see the duties associated with this work as:

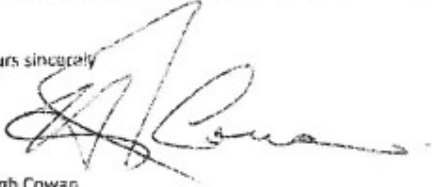
- a) Assisting me with Terms of Reference.
- b) Assisting me with a strategy to accomplish the broad objectives outlined above, including selection of sectors and discipline expertise; liaising with key groups and individuals, keeping me informed of progress and in particular any impediments being encountered.
- c) Reviewing and advising EQC on the outputs of formal technical discussions, workshops and ad-hoc interactions, ensuring that reports and recommendations are completed to meet agreed timelines and terms of reference.
- d) Reporting to the Executive Management Team and/or the Board of the Commission in support of your advice, if required.

Earthquake Commission
Level 20, Majestic Centre, 100 Willis Street, Wellington 6011, New Zealand
Corporate Mail: PO Box 790, Wellington 6140 Claims Mail: PO Box 311, Wellington 6140
Telephone: (04) 978-6400 Fax: (04) 978-6431
www.eqc.govt.nz

I hope this letter provides you with a sufficiently clear idea of what is expected. We have already discussed elements of the scope of work, which take us from 15 September to the end of October.

Please let me know if you have any further queries. I would appreciate your confirmation that you can continue this work for EQC, and a proposal including indicative costs for your involvement.

Yours sincerely



Hugh Cowan
Research Manager

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24 October 2010

Dr Hugh Cowan
Research Manager
Earthquake Commission
P O Box 790
WELLINGTON

Kestrel Group Ltd
www.kestrel.co.nz

Level 1
111 Linniston Quay
PO Box 5050
Wellington
New Zealand
PO Box 29065
Christchurch

Dear Hugh

Canterbury Earthquake: Engineering Process Advice to EQC

Thank you for your letter of 2 October seeking input in relation to engineering processes and resourcing following the Canterbury Earthquake. I am pleased to be able to assist EQC at this challenging time, and apply learnings from overseas earthquakes, in addition to drawing upon established relationships with NZ practitioners and researchers.

The enclosed spreadsheet provides an indication of the likely budget for the consulting members of the Engineering Advisory Group through until the completion of the document in mid-November. The different agreed charge-out rates for these members is indicated. I will update this budget at the beginning of November with the actual times and costs associated with the initial invoices from the Group members.

As Rob Robinson does not currently have a company set up, we propose that Kestrel Group will engage him as a sub-consultant. The others (John Hare, Barry Brown and John Snook) are to be engaged directly by EQC, with their invoices being approved by myself.

The scope of my role has continued to evolve with different areas of emphasis and focus with each new week. By the end of October, a clearer view regarding the scope and duration of this role is likely to emerge, as the scale of the tasks ahead of the Engineering Advisory Group becomes quantifiable. As previously advised, my time during the period to date of 15th to 30th September was 4.1 hours (2.5 days per week), and for the first three weeks of October has been 10.6 hours (4 days per week). Given that I have taken up the role of editor of the Guidance Document in addition to the project management of the Group members, this level of involvement is likely to continue through until the completion of the document in mid-November.

In terms of budget, based on a proposed rate of \$3(2)(j) plus GST, this corresponds to a figure of up to \$200 per week plus the expenses associated with one visit and two to three nights accommodation in Christchurch per week. The estimated budget for Rob Robinson is approximately \$1,500 plus GST, plus weekly travel and accommodation.

The engagement of Rob and myself through Kestrel Group will be based on the same form of agreement as the other consulting members of the Group, as per a separate letter.

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I trust this set of arrangements and overall budget is acceptable at this stage.

Thanks again for the opportunity to assist EQC.

Yours sincerely

Dave Brunson

Director

db@kestrel.co.nz
Ph 499 4433

Kestrel EQC Term of Acceptance 20101024

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[2] Terms of Reference for the EAG:

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**Engineering Advisory Group on House Repairs and Reconstruction
Following the Canterbury Earthquake**

**Terms of Reference
Phase 1: Feasibility and Indicative Content**

31 October 2010

Background

Following the Darfield, Canterbury Earthquake of 4 September 2010, the Earthquake Commission (EQC) established an Engineering Advisory Group to consider the range of technical issues the recovery of residential dwellings, and to establish the feasibility and indicative content of a Guidance Document to be produced by the Department of Building and Housing (Phase 2).

Objectives of the Advisory Group

- (i) To establish the engineering requirements and regulatory linkages necessary to expedite the house repair and reconstruction process following the agreement on land remediation issues.
- (ii) To identify the engineering requirements for various repair and reconstruction options and techniques.
- (iii) To establish the elements and Terms of Reference of an ongoing Engineering Advisory Group to be established by the Department of Building and Housing to produce a Guidance Document.

Particular Areas of Work

The areas of work being addressed by the Engineering Advisory Group in the scoping phase (Phase 1) include:

1. Establishing appropriate structural and geotechnical engineering approaches to repair and reconstruction;
2. Consulting with Christchurch City, Waimakariri District and Selwyn District Councils on the regulatory issues and processes to be followed;
3. Consultation on the technical objectives and processes to the engineering profession, the wider construction sector, and other affected agencies;
4. Consideration of suitable engineering resources in support of the recovery operations.

Structure and Composition of the Engineering Advisory Group

The Engineering Advisory Group is to comprise a small group of leading engineers and remediation specialists including representatives from the following organisations:

- EQC
- Department of Building and Housing
- BRANZ (Incl. representing the NZS3604 Committee)
- Structural Engineering Society (SESOC)
- Tonkin and Taylor

1152032

The Engineering Advisory Group reports during Phase 1 to Dr Hugh Cowan, Research Manager, EQC.

Arrangements for Group Members

Those members representing government agencies (EQC, DBH) are providing their input directly. Other members are to be engaged on a commercial basis by EQC.

Phase 1 TOR for Engineering Advisory Group 2010/1031

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[3] Ministers statement for the initial release of the DBH Guidance December 2010:

Maurice Williamson

20 DECEMBER, 2010

Guidance document on Canterbury house repairs released

A Department of Building and Housing document released today will provide guidance on the repair and rebuilding of houses in earthquake affected Canterbury, Building and Construction Minister Maurice Williamson says.

The Guidance on House Repairs and Reconstruction following the Canterbury Earthquake will help speed up the rebuilding effort while enhancing quality and safety.

Mr Williamson says the document will assist in the recovery effort by providing a clear and consistent approach to the rebuilding work as desired by councils, insurers, designers and builders.

"A consistent approach to repair and reconstruction in areas will minimise delays and aid the recovery. This document proposes engineering solutions that enhance quality and safety and are consistent, robust and well considered."

The document is part of the Government's support for recovery in Canterbury and the Department of Building and Housing's ongoing work to simplify and streamline consent processes in Christchurch, Selwyn and Waimakariri.

At this stage the guidance only applies to houses affected by the Canterbury earthquake, but the Department of Building and Housing will consider incorporating them into more general guidance for the rest of the country at a later date following sector consultation.

The guidance document can be downloaded from on <http://www.dbh.govt.nz/guidance-on-repairs-after-earthquake>

[4] Extract from s175 of the Building Act 2004

- (2) Any information published by the chief executive under this section—
- (a) is only a guide, and
 - (b) if used, does not relieve any person of the obligation to consider any matter to which that information relates according to the circumstances of the particular case.

[5] Tonkin & Taylor Report (<http://www.tonkin.co.nz/canterbury-land-information/docs/T&T-Stage%201%20Report.pdf>) page 12:

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Claimants not only expect their homes to be "fit for purpose", i.e. weather tight, structurally sound and fully functional (doors and windows that open and close freely, floors and fittings level, framing straight and true, guttering draining to the downpipe etc), but looking as good as they did on 3 September 2010. T&T experience has shown that the latter expectation can be very difficult, if not impossible, to achieve.

It is therefore essential that, before embarking on a repair option, a realistic assessment is undertaken as to the probability of achieving an acceptable result. T&T's experience with repair work has shown that even seemingly minor repair costs, very rapidly escalate beyond the EQC residential building cap of \$100,000 plus GST.

[6] Objectives of the DBH Guidance 2010, Introduction, page 6.:

1.2 OBJECTIVES

The principal objective of this document is to provide building repair and reconstruction solutions and options that:

1. are appropriate to the level of land and building damage experienced
2. take account of the likely future performance of the ground
3. meet Building Act and Building Code requirements
4. are acceptable to insurers and property owners.

Increasing the resilience of residential dwellings is also an underlying objective.

[7] Earthquake Commission Act 1993, s2 Interpretation, 'replacement value':

- (ii) replacing or reinstating the building to a condition substantially the same as but not better or more extensive than its condition when new, modified as necessary to comply with any applicable laws;

[8] Extract from 2010 DBH Guidance page 7:

The guidance provided in this document aims for a consistent approach to repair and rebuilding that minimises the individual investigation and design effort required for each property. It takes a prudent approach that is mindful of costs and risks, providing solutions and construction methods that aim to meet the requirements of the Building Act and Building Code. It also looks to satisfy the relevant insurance requirements without giving rise to 'betterment concerns'. Independent costing advice indicates a strong positive benefit to cost in following the proposals in the document.

[9] <http://www.stuff.co.nz/the-press/business/your-property/8983864/EQC-cuts-costs-with-lower-standards>,

<http://www.rebuildchristchurch.co.nz/blog/2013/7/the-dbh-guidelines-and-egc-operation-hoodwink->

[10] CCC Letter to CERA:



26 January 2012

Rob Kerr
Advisor - Operations Group
Canterbury Earthquake Recovery Authority
Private Bag 4999
Christchurch 8140

Dear Rob


Department of Building & Housing (DBH) Guidance Document

Further to your email of 13 January 2012 I can confirm that the Christchurch City Council supports the production and use of the DBH guidance document "Revised guidance on repairing and rebuilding houses affected by the Canterbury earthquake sequence" by building consent applicants.

The document provides assistance to engineer, geotechnical engineers and designers in selecting the best fix solution/options for any site specific conditions, speeding up the process.

The Council views the use of this document, in conjunction with appropriate site specific geotechnical investigation (based on land classifications TC1, TC2 and TC3), as a simple means of demonstrating compliance with provisions of the New Zealand Building Code.

Yours sincerely


Patrick Schofield
Building Policy & Consents Manager
Environmental Policy & Approvals Unit

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[11] Extract from EQC/Fletchers 'Redbook' - Foundations:

Determining the Repair Strategy

Determining the level of foundation damage, and hence the degree of foundation structural repair or replacement required, involves consideration of the extent and interaction of three aspects:

1. Differential and overall settlement of the dwelling (checked by performing a zip level survey)
2. Overall lateral extension or 'stretch' of the floor and foundations (e.g. cracks in the perimeter foundation or concrete slab)
3. Damage to specific foundation elements (e.g. rotation of retaining walls, failure of bottom plate fixings)

Potential for pre-existing damage or settlement should always be taken into account.

When assessing the extent of foundation damage, Table 2.3 of the MBIE guidelines is a useful indicator for the repair strategy that should be applied. It can indicate firstly whether a house is likely to need levelling, and then secondly, if it does, whether a re-level, a foundation rebuild or a house rebuild is likely to be required. The criteria provide guidance only and the indicators are not absolutes.

[12] Extract from EQC/Fletchers 'Redbook' - Exemptions:

FILING AN EXEMPT BUILDING WORK RECORD EXPLANATORY NOTE

Prepared under the Official Information Act 1982

Every EQR project is required to comply with both the Building Act (2004) and its Regulation (1992).

Building work usually entails the issuing of a building consent to the property owner or their authorised agent. On completion of the work the local or district Council 'signs off' that work and issues a Code Compliance Certificate (a CCC) confirming compliance with the Building Act. The Council is also compelled to hold that information on its property files. This record is heavily relied on for its completion at the time that properties change hands.

It is estimated that 90% of Fletcher EQR Projects won't need a Building Consent because they're exempted under criteria set in the first Schedule of the Building Act. The majority of all exempted work may be completed "as of right", no Council approval is required (the exception is Schedule 1 Item (K) of the Act).

[13] Extract from 'Recovery following the Canterbury Earthquakes of 2010-11 The Experiences of a Major Residential Insurer' (Authors C Hurren from Southern Response and Eric Bird from Arrow International):

The 2011 Guidelines relaxed the extent to which floor slopes would impact on the repair or rebuild decision, a change which was of significance to Southern Response. The challenge Southern Response faced was determining how to apply the revised standard, with the knowledge that an entirely different insurance response would be possible, at odds with what had previously been communicated to customers. Some houses deemed a rebuild based on the 2010 Guidelines would now be considered repairable. After much deliberation, Southern Response determined that any first assessment it was required to make at any one point in time, would be based on the most recent guidance, balanced by its decision not to unilaterally revisit previous assessments that used older guidance.

[14] EQCs 2012 contracted engineers (G Robinsons) disclosed repair standard:

The proposed remedial works that were outlined in my earlier report were for the purpose of reinstatement of the house to its pre-existing condition to a reasonable extent. Allowance for re-leveling on about twenty pile

[15] 2013 MBIE Ministers briefing in response to Housing Ministers enquiry if MBIE standard was too high:



Ministry of Business,
Innovation & Employment

Minister of Housing
cc Minister for Building and Construction

Date 29 May 2013
Ministry reference 432 12-13

Building Code requirements for house foundation repair and rebuild scenarios in Canterbury

Purpose

This briefing is in response to questions you posed to officials at a meeting held on 10 April 2013.

Key Points

- 1 You met with Adrian Regnault, General Manager Building System Performance, and ^{50(2)(a)} from the Ministry of Business, Innovation and Employment (the Ministry) on 10 April 2013.
- 2 You requested advice on:
 - 1 the standard required for the repair or rebuilding of foundations in Canterbury for houses categorised as Technical Category (TC) 3, and
 - 2 whether a reduced standard could be applied for older properties nearing the end of their economic life. This question was particularly in the context of Housing New Zealand Corporation property repairs.
- 3 The Ministry has provided:
 - 1 Advice on questions 1 and 2 above.
 - 2 background information on the guidance issued by the Ministry post-Canterbury earthquakes, attached as Appendix 1, and
 - 3 examples of the standard required for the repair of foundations in Canterbury for houses categorised as TC3, attached as Appendix 2.

Recommendations

- 1 **Note** this briefing is for your information.

Relevant General Manager

Adrian Regnault, General Manager Building System Performance ^{50(2)(a)}

Principal author

^{50(2)(a)}

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Building Code requirements for house foundation repair and rebuild scenarios in Canterbury

Context

- 4 You met with Adrian Regnault, General Manager Building System Performance, and ^{(b)(2)(a)} from the Ministry on 10 April 2013.
- 5 You requested advice on:
 - 1 the standard required for the repair or rebuilding of foundations in Canterbury for houses categorised as Technical Category (TC) 3, and
 - 2 whether a reduced standard could be applied for older properties nearing the end of their economic life. This question was particularly in the context of Housing New Zealand Corporation property repairs.

Question 1: Repairing and rebuilding house foundations

Where does the boundary lie between what is considered a rebuild and what is considered a repair regarding house foundations damaged during the Canterbury earthquake sequence?

Context

- 6 You were concerned that if the repaired foundation was required to perform to the same level as that of a new house foundation, then the costs and timeframe for recovery could be excessive, particularly in TC3.
- 7 You compared this with the earthquake-prone building requirements for existing commercial buildings, where the buildings are required to be strengthened to at least 33% of New Building Standard but not to the full 100%.
- 8 You asked if we could be requiring too high a standard and therefore spending too much in Canterbury in comparison with the risks elsewhere in New Zealand, particularly with respect to liquefaction.

Ministry response

Building Code requirements

- 9 Under the Building Act 2004 (the Act), all building work must comply with the Building Code. For a new building, this means the whole of the building must be 100% of the current Building Code. When altering or repairing existing buildings, the building work must comply with the relevant provisions of the Building Code and the rest of the building must continue to perform no worse than before the alteration or repair.
- 10 For repairs, there is an important distinction between a building and building work. It is only the work actually being carried out that needs to comply with the Building

Code. The building as a whole just needs to be no worse than before the repair is carried out. This is the same for foundation repairs. For releveling foundations or repairing foundation cracks, it is only necessary that the material being used is appropriate for the situation. The foundations as a whole generally just need to perform no worse than before the repair (however, this will depend on the extent of the work being done, and whether it affects the structural integrity of the foundations).

- 11 The guidance issued by the Ministry encourages repair and releveling where economic and the damage is not excessive. It also takes a relatively minimalist approach for houses with only minor to moderate levels of foundation damage and where minor liquefaction was experienced during the earthquake sequence. There are criteria provided below which no repair is required. The guidance approach has been to provide cost effective repair methods consistent with risks elsewhere in New Zealand. Refer to Appendix 1, Rationale for guidance issued by the Ministry.
- 12 Repairs will not, in general, improve the performance of the foundation. In other words, the repaired foundation will not meet full existing code standards. This could be regarded as similar in philosophy to only requiring strengthening to 33% for earthquake-prone buildings.
- 13 If the foundations are being fully rebuilt, they must meet the full Building Code standard. For rebuilds of TC3 properties, the guidance provides three broad categories of foundations: deep piles, ground improvements, or surface structures. Not all options will be appropriate for all properties. For new foundations, the guidance enables "readily repairable" solutions to be built, rather than taking a highly conservative approach of requiring no damage in earthquake events (refer Appendix 1, Rationale for Building Code requirements).
- 14 A list of example scenarios providing performance requirements and criteria has been provided and is attached as Appendix 2.

Question 2: Foundation performance requirements for older houses

Is there any concession to reduce the foundation performance requirements for older houses? This question was particularly in the context of Housing New Zealand Corporation property repairs.

Context

- 15 You suggested that as the economic life of older buildings being repaired is less than the normal 50 year minimum expected for a new building, it may be justified in considering reduced requirements for repaired or replacement house foundations.

Ministry response

- 16 Where it is not practicable or economic for building work to comply fully with a provision of the Building Code an owner may apply to the council for a waiver or modification of the relevant building code provision.

- 17 Section 67 of the Act allows the Territorial Authority to grant building consents subject to waivers or modifications of the Building Code. For example, in the context of foundation repairs, an owner such as Housing New Zealand Corporation might request a waiver for the part of Building Code Clause B1 Structure, particularly that part requiring low probability of loss of amenity (refer Appendix 1 Rationale for Building Code requirements).
- 18 Any waiver or modification would be noted on the consent, kept on the property file and be available to any future buyer so they have the opportunity to understand the risk involved. Councils do issue waivers on a regular basis and the Ministry can provide advice to assist Housing New Zealand Corporation with the consenting process.

Supporting documents

- 19 The following documents are attached:
- Appendix 1 - Background information on the guidance issued by the Ministry post-Canterbury earthquakes.
 - Appendix 2 - Generic foundation rebuild or repair scenarios in TCS3.

Recommendations

- 1 Note this briefing is for your information.

Adrian Regnault
General Manager, Building System Performance

Hon Dr Nick Smith
Minister of Housing

Appendix 1: Background information on the guidance issued by the Ministry post-Canterbury earthquakes

Rationale for Building Code requirements

- 20 The Building Code for structure requires consideration of life safety (low probability of rupture during the building life) and amenity (low probability of loss of amenity). To address these engineers design for two limit states defined in the Loading Standard (NZS 1170): the Ultimate Limit State, ULS, (a 1 in 500 year earthquake); and the Serviceability Limit State, SLS, (a one in 25 year earthquake).
- 21 A narrow interpretation of SLS may lead to a conclusion that there should be no damage and differential settlements should be negligible following an SLS event. The guidance has taken a significantly more enabling interpretation. A framework for repairs and rebuilds to be 'readily repairable' in a future SLS event has been developed.

Rationale for guidance issued by the Ministry

- 22 The Canterbury earthquake sequence has caused uncertainty about some regulatory requirements. In the building control context the earthquake damage has highlighted some difficulties in applying the Building Code to repairs of existing buildings. This is why the Ministry developed guidance on repairing and rebuilding houses affected by the Canterbury earthquakes. There is also ongoing work to improve the clarity and specificity of the Building Code generally.
- 23 The purpose for the guidance has been to provide greater certainty to homeowners, engineers/designers, insurers and councils (Building Consent Authorities) on how to interpret the Act and Code in this exceptional situation.
- 24 In developing the guidance, the general philosophy has been to provide:
 - clarity and greater specificity on how to comply with regulatory requirements to minimize ambiguity and disputes between the various parties (e.g. engineers acting for homeowners, insurers and building consent authorities, all of whom may have different objectives), particularly in order to facilitate the building consenting process
 - pragmatic guidance on criteria for determining whether houses should be repaired or rebuilt, what investigations should be carried out, and
 - a suite of repair and rebuild options for designers that may be appropriate in given circumstances.
- 25 The approach taken has been to balance the needs of the various parties. These include:
 - homeowners and future owners, and their need to protect their asset against future events
 - insurers in settling their obligations and considering future underwriting, mindful that insurance contract obligations with homeowners that may be different to regulatory requirements

- engineers and designers in carrying out their obligations and managing liabilities
 - Building Consent Authorities, to help them make decisions 'on reasonable grounds' for consenting and issuing completion certificates, and
 - builders in carrying out the work.
- 26 The Ministry has aimed to:
- have repair and rebuild methods that, where sensible, will provide a degree of improved resilience in future large events while being conscious of any additional cost imposition.
 - minimize the need for scarce technical engineering input where possible and concentrate engineering input where the risk is greatest. For example, the Technical Category guidance allowed for the repair and rebuild of approximately 80% of Canterbury houses within the Green Zone to proceed without significant engineering input.
- 27 The guidance has been prepared under a backdrop of very uncertain on-going seismicity, repeated liquefaction events that are internationally unprecedented, and lack of international models and engineering methods to draw upon. The prospect of another liquefaction triggering earthquake in Canterbury causing further damage to recently repaired work has been a real concern throughout the process.
- 28 The guidance has been developed using the best New Zealand geotechnical, structural and remediation expertise available to the Ministry and has been reviewed by international experts. Significant consultation has occurred with the various parties during its development.
- 29 Close contact has been maintained with designers/engineers, Insurer Project Management Offices and Building Consent Authorities to respond to issues as they have arisen. The guidance has been consistently updated as we learn more. Ongoing development is occurring as new issues are raised and updates are planned on a relatively frequent basis.

Appendix 2: Generic foundation rebuild or repair scenarios in TC3

No.	Scenario	Criteria	Foundation requirement	Performance
1	Remove existing house and build new house	Where superstructure damage and/or foundation damage uneconomic to repair	Full Building Code requirements (readily repairable in SLS event)	
2	Repair existing house superstructure as necessary but completely replace foundation (lift house off existing foundations)	Where foundation damage uneconomic to repair. Indicative criteria provided on overall stretch of house, crack width and floor settlement.	Full Building Code requirements (readily repairable in SLS event)	
3	Repair existing house superstructure as necessary but replace part of foundation (demolish part of house or lift whole house off foundations as necessary).	Indicative criteria provided on overall stretch of house, crack width and floor settlement.	Depending on the degree of damage, the foundation for the new part may be able to be similar to the existing. Standard details are provided in the Guidance to improve the performance of ring beam foundations (additional costs not significant).	
4	Add new extension to house	Homeowner choice	Depending on degree of damage to original house and the extent of the extension. If little damage to existing foundation and extension small, the foundation for the new part may be able to be similar to the existing. Otherwise, to full building code requirements unless Code requirements waived or modified through due process	
5	Repair existing house superstructure as necessary but repair/replace corner of house	Indicative criteria provided on floor settlement and slopes.	Repair must meet building code (unless waived). Otherwise no performance improvement over that for existing foundations	
6	Relevel foundations	Indicative criteria provided on floor settlement and slopes.	Generally, no performance improvement over that of existing foundations	
7	Repair cracks in foundations	Indicative criteria provided on crack widths	No performance improvement over that of existing foundations	

[16] 2016 MBIE Clarification Letter to Insurers:

Clarification of the role of the MBIE residential guidance and homeowner insurance policies.

The Ministry of Business, Innovation and Employment's technical guidance "Repairing and rebuilding houses affected by the Canterbury earthquakes" is published by the Chief Executive under section 175 of the Building Act. It is only guidance and therefore not binding on any parties. The purpose of section 175 guidance is to assist parties to comply with the Building Act.

The objective in developing the guidance was to get all parties (homeowner, insurer, designer, project management offices, councils) on the same page to assist with the recovery by providing good practice advice relating to assessment and repairs, and for rebuilds to have improved resilience, particularly in liquefaction-prone areas. The need for guidance was based on the experience of other international recoveries where recovery activities had been delayed by technical disputes.

The aim was to provide the sector with the best information available on a timely basis to assist the rebuild, with progressive updates in response to new issues, new knowledge, new developments, and requests for clarification as the rebuild progressed.

The guidance provides technical solutions that comply with the Building Act and Building Code. It is not a substitute for the policy homeowners have with their insurer, which will take precedence. The Ministry's guidance provides good practice repair solutions, but does not address insurance entitlement. Entitlements provided by insurers' policies may be greater than or equal to the repair and rebuild solutions provided by the MBIE guidance depending on the wording of the individual policies.

Homeowners offered repair strategies by their insurer should clarify with their insurer that the proposed solution is based on their policy entitlement.

For further clarification, please see section 8 of the Ministry's technical guidance document – insurance and regulatory requirements.

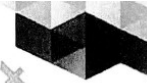
[17] 2016 EQC and EQC Joint Action joint statement: <https://www.eqcfix.nz/joint-statement>

The Action Group sought clarification on the use of a Guidance document that the Ministry of Business Innovation & Employment (MBIE) issued under the Building Act 2004. That document, entitled "Repairing and rebuilding houses affected by the Canterbury earthquakes" contains suggested indicator criteria for the levelness of floors. Table 2.2 of Part A of the Guidance document includes the following floor level criteria: "Vertical differential settlement <50 mm and floor slope less than one in 200 between any two points >2m apart". The Guidance document states that these criteria may be used to indicate that no releveling of the floor or foundation is considered necessary. The Action Group sought clarification on whether these criteria could be used to determine whether the insurance under the Act would cover the releveling of the floor of an earthquake-damaged house, and if so the extent of the releveling that would be covered. The parties agree that if a house has suffered earthquake damage that includes the floor being out of level:

1. The fact that the floor level is within the MBIE Guidance criteria is not a sufficient reason for the insurance under the Act not to cover the releveling of the floor; and
2. If the insurance covers the releveling of the floor, the releveling required is determined by the Act, not by the MBIE Guidance criteria.

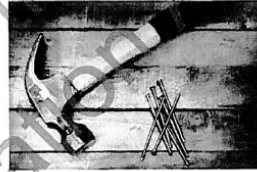
[18] 2016 MBIE Review of technical response using MBIE Guidance:

**BUILDING
PERFORMANCE**



RAS now part of MBIE

- Funded by ICANZ, CCC, EQC
- Technical panel Crown funded
- 400 cases referred
- Technical panel reviews engineering with reference to Residential Guidance
- RAS Independent Advisors and engineers meet monthly
- Claim concerns about adequacy of cash settlements vs technical solution proposals
- More cases where information required from property owner



MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HONORA WHANGATUTU

Government

**BUILDING
PERFORMANCE**



Results from the last 200 cases

- 55% cases tech panel did not accept engineering solution
- House assessment reports often not comprehensive
- Multiple professional reports do not lead to one clear strategy
- Differing opinions on historic versus earthquake damage
- Second and third visit repairs not to acceptable standard
- Cash settlements have been prepared off incomplete scope



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[19] Comments by MBIE Senior Engineering Advisor by email in response to the author sharing their views of the poor standard of inspections being performed by the EQC.

Authors email (Sep 2015):

What I have found in my case will have likely been repeated many times over throughout canterbury as the issues are more systemic ones rather than any particular peculiarity of my case.

What I have struggled with throughout EQCs assessment process is for them to accurately describe the damage to the dwelling.

Until that is done, there is no basis for a correct repair strategy. They have used people who were not adequately qualified to perform assessments and measurements and who were often not even competent. I had one inspector tell me he could measure the plumbness of a wall by sighting down the length of the wall. When I called him on it and insisted that he measured it correctly, he found the wall to be over 50mm out of plumb over height, but went on to comment that 'state houses were built that way!' He purported to be a qualified builder.

They have used incorrect standards to repair to. Often quoting their aim is to take the house back to pre-earthquake condition, rather than the Acts requirement to repair or reinstate the earthquake damage to substantially the same as when new, but no better... This includes their contractors with engineering qualifications. The emphasis has been on saving costs, rather than effecting necessary repairs. The EQC proposed repairs to my house would not comply with the Building Act performance requirements.

It is as simple as this, if you apply a faulty assessment to incorrect standards, then the repairs will likely be faulty too. I suppose we are seeing that now.

I had hoped that MBIE might be interested in these systemic issues as they have far reaching consequences for the value of the affected housing stock, and for the publics confidence in the industry, the ministry and the government.

I guess the approach to only deal with the other end of the process, that is repairs that have been found to have failed, will mean that many won't be discovered and as a country we will end up with the same issues all over again at the next event.

MBIE Response (Sep 2015):

MBIE has a mandate to address quality of building work. This has allowed us to engage the insurers on the topics you raise based on involvement with the RAS technical panel. The CEDAR review also highlighted similar systemic issues which have been brought to insurers attention. Your case is far from unique and whilst we cannot address individual cases we are conscious of feedback like yours and are not silent on these matters.

We appreciate your documentation of events and have raised this with my manager.

MBIE Response (Mar 2016):

We have seen much of the observations below through the Residential Advisory Service. It also reflects in the number of properties now going over-cap as more realistic assessment of damage is occurring. A little late but EQC are hiring some engineers in part to oversee how well the EQR team are meeting quality and engineering standards.

[20] 2016 Practicing Lawyers of MBIE Guidance and its use:

<https://thechristchurchiasco.wordpress.com/2016/03/27/the-mbie-guidelines-the-insurance-industrys-new-clothes-guest-post-and-perspective-article-by-kalev-crossland/>

[21] 2018 EQC Ministers response to the petition:

02 FEB 2018

David Townshend
S9(2)(a)

Ref: EQC/MW 17-18/066

Dear Mr Townshend

Thank you for your email of 10 January 2018 regarding the petition about MBIE guidance and please accept my apologies for the delay in responding to you.

My office has sought advice on this matter from EQC, and I am advised that while EQC initially sponsored an engineering advisory group to consider the technical and engineering requirements associated with repairs to residential dwellings soon after the Darfield earthquake in September 2010, stewardship of this group transferred to MBIE prior to the terms of reference being established and finalised, and guidance being published. The question you have raised is therefore more closely aligned with the portfolio responsibilities of Hon Jenny Salesa, Minister for Building and Construction, so I am transferring your correspondence to her for response.

On a broader note, I appreciate your concerns and understand the frustration that you, as many others, have experienced in recent years. Since becoming Minister, I have made it a priority to understand the many concerns and frustrations residents of Canterbury are experiencing, and have restated this Government's commitment to an inquiry into EQC to make sure that the voices of people like you who have been affected by the earthquakes are heard. The Government looks forward to making announcements about the form and scope of the inquiry in due course.

Thank you for taking the time to write.

Yours sincerely



Hon Dr Megan Woods

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11 APR 2018

Mr David Townshend

S9(2)(a)

Dear Mr Townshend

Thank you for your email dated 10 November 2017 to Hon Dr Megan Woods regarding the creation of the Ministry of Business, Innovation and Employment's guidance document for repairing and rebuilding Christchurch following the Canterbury earthquakes. As the matter you raise falls within my ministerial responsibilities as Minister for Building and Construction, your email has been forwarded to me for response. Please accept my apologies for the delay in responding.

The Building Act guidance *'Repairing and Rebuilding Houses Affected by the Canterbury Earthquakes'* aimed to assist the Canterbury rebuild by providing good practice assessment and repair guidance using sound engineering principles.

Immediately following the Canterbury earthquakes, there was limited existing information available for the sector to work with when repairing or rebuilding affected houses. This was particularly the case for earthquake damaged houses situated on liquefaction-prone land or mass movement areas.

The guidance was developed to provide information to the sector as soon as practicable and was updated progressively as new issues occurred or new information became available.

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There has been a much greater engineering involvement for Canterbury residential rebuilds and repairs than usually occurs elsewhere, targeted to areas of higher risk. The guidance has assisted this to occur and would have been difficult without appropriate consultation during guidance preparation. In preparing the guidance, the Department of Building and Housing (DBH) officials worked with the best engineering and remediation experts available to provide robust advice in a timely manner. There was also wide consultation of proposed solutions with the sector on the practicality and appropriateness of repair and rebuild solutions.

As you are aware, the development of the guidance document was initially overseen by the Earthquake Commission (EQC). EQC identified the need for technical guidance on repairing and rebuilding during the inspection of damaged properties following the 4 September 2010 Canterbury earthquake. As the full extent of the required technical guidance was realised, the development of the guidance document was passed to DBH as it fell within the responsibilities of the department, and to avoid any potential conflicts of interest.

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Yours sincerely


Hon Jenny Salesa
Minister for Building and Construction

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