

9(2)(a)

From: Dave Brunson <db@kestrel.co.nz>
Sent: Monday, 4 October 2010 9:41 p.m.
To: 'Hugh Cowan'
Subject: RE: Response to EQC TOR

No problem, Hugh

Could I take another day and reflect on that after tomorrow morning's workshop? I have an open mind about future engagement of the individuals - but for 9(2)(a) it is likely to be simply 3 to 5 hours at weekly meetings of this Advisory Group, whereas there may be more of a role for 9(2)(a) in terms of defining repair techniques in documented form. I've already tasked him and 9(2)(a) (who is putting in good extra effort already) in identifying specific elements of the jigsaw that would benefit from an early trial once a preferred project manager/ contractor is established (9(2)(a) was present at this point in the discussion)

I face a broader challenge in terms of my vision of a guidelines document - who to be the lead writer? Still pondering ...

Many thanks
Dave

From: Hugh Cowan [mailto:9(2)(a)]
Sent: Monday, 4 October 2010 21:24
To: Dave Brunson
Subject: Re: Response to EQC TOR

hi Dave,

I am happy with your letter as it applies to your involvement, thanks. What I would suggest though is that you go one step further and provide (suggest) a plausible basis for covering the actual and reasonable costs of others' contribution - as you see them - at least for October. What do you want them to do - or what would you like to be able to expect of them (where cost at a minimum is the impediment you can remove)...if this makes sense, please send me another version. cheers, hugh

On Mon, Oct 4, 2010 at 8:53 PM, Dave Brunson <db@kestrel.co.nz> wrote:
Hugh

I've prepared the attached letter of confirmation and proposed terms - I trust this is along the lines you are expecting, and if so, I'll send through a signed version.

Many thanks
Dave

From: Hugh Cowan [mailto:HACowan@eqc.govt.nz]
Sent: Saturday, 2 October 2010 13:50
To: David Brunson
Subject: draft TOR for you

Dave,

Grateful if you would review attached and identify any gaps, thanks.

regards

Hugh Cowan

Research Manager

Earthquake Commission

Level 20, Majestic Centre

100 Willis Street, P.O. Box 790

Wellington, New Zealand

DDI + 9(2)(a)

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9(2)(a)

From: Dave Brunsdon <db@kestrel.co.nz>
Sent: Monday, 4 October 2010 8:54 p.m.
To: Hugh Cowan
Subject: Response to EQC TOR
Attachments: Kestrel EQC Letter of Acceptance.doc

Hugh

I've prepared the attached letter of confirmation and proposed terms - I trust this is along the lines you are expecting, and if so, I'll send through a signed version.

Many thanks
Dave

From: Hugh Cowan [<mailto:HACowan@eqc.govt.nz>]
Sent: Saturday, 2 October 2010 13:50
To: David Brunsdon
Subject: draft TOR for you

Dave,

Grateful if you would review attached and identify any gaps, thanks.

regards

Hugh Cowan
Research Manager
Earthquake Commission
Level 20, Majestic Centre
100 Willis Street, P.O. Box 790
Wellington, New Zealand
DDI +649(2)(a)

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4 October 2010

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

Kestrel Group Ltd
www.kestrel.co.nz

Level 1
114 Lambton Quay
PO Box 5050
Wellington
New Zealand

PO Box 29066
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.

As you indicate, this role continues 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. Based on the time committed during the period to date of 15th to 30th September of 41 hours, and my understanding of the work required during October, an involvement of between 2 and 3 days per week would seem likely for planning purposes.

In terms of budget, based on a proposed rate of 9(2)(i) plus GST, this corresponds to a range of between 9(2)(j) plus the expenses associated with one visit and two to three nights accommodation in Christchurch per week.

I trust this time and budget range is acceptable at this stage. Please also advise the appropriate process for covering the time and costs of those that I have involved in the proposed Engineering Advisory Group 9(2)(a).

Thanks again for the opportunity to assist EQC.

Yours sincerely

Dave Brunson

Director

db@kestrel.co.nz
Ph 499 4433

Kestrel EQC Letter of Acceptance

9(2)(a)

From: Dave Brunsdon <db@kestrel.co.nz>
Sent: Sunday, 3 October 2010 8:34 p.m.
To: Hugh Cowan
Subject: RE: FW: EQC Workshop 8.30am Tuesday 5th October

Thanks, Hugh - will do!

-----Original Message-----

From: Hugh Cowan [mailto:hacowan@eqc.govt.nz]
Sent: Sunday, 3 October 2010 19:56
To: Dave Brunsdon
Subject: RE: FW: EQC Workshop 8.30am Tuesday 5th October

Dave, if you could get 9(2)(a) along I think that would be a coup and advance our interests in general. I would hesitate before endorsing others.

Why dont you try Plan A and revert if that doesnt fly?

--- original message ---

From: "Dave Brunsdon" <db@kestrel.co.nz>
Subject: FW: EQC Workshop 8.30am Tuesday 5th October
Date: 3rd October 2010
Time: 7:28:17 pm

Hi Hugh

Here is positive response from person who I've invited to Tues workshop at 9(2)(a) recommendation, but haven't yet met.

His suggestion about a person from the wider insurance industry is interesting, as per our conversation yesterday. I don't know if 9(2)(a) is in town, or how helpful 9(2)(a) would be.

My instinct is to keep it as an EQC show, unless I could get 9(2)(a) there on his own. Your thoughts?

Thanks
Dave

From: 9(2)(a)
Sent: Sunday, 3 October 2010 18:11
To: Dave Brunsdon; 9(2)(a)
Subject: Re: EQC Workshop 8.30am Tuesday 5th October

Dear Dave

Thank you for the invitation to Tuesday's meeting which I will be pleased to attend.

I note your comments below with regard to sensitivity and understand that, however, I do think it is important that guidance is given to all professionals on what to say. As time passes, it seems natural that public/client anxiety increases as people seek answers on their property investments.

Even if the guidance is to continue saying "I do not know" it would be prudent to reinforce this to all those who are involved in dealing with situations.

Thank you for the offer of inviting 9(2)(a) to the CSG Meeting on Wednesday and for your intended attendance. That will be valuable.

In response to several requests from CSG members, we have been endeavouring to get a representative from the wider insurance industry to attend and update us...what is your advice on this? Nothing is arranged yet so if you recommend that we don't proceed with an insurance rep, that is fine

I look forward to seeing you on Tuesday and will accept any guidance you can provide to structural engineers, geotechnical engineers and architects, all of whom will be present on Wednesday evening

Regards

9(2)(a)

From: Dave Brunson <db@kestrel.co.nz>

Organization: Kestrel Group Limited

Date: Fri, 1 Oct 2010 12:49:48 +1300

To: 9(2)(a)

Subject: FW: EQC Workshop 8.30am Tuesday 5th October

9(2)(a)

Notwithstanding my comment below, I am comfortable with you briefing 9(2)(a) 9(2)(a) that the workshop is being held.

9(2)(a)

I'm sorry I haven't managed to connect with you before issuing this agenda - it sounds like you are working in the outer reaches of the region! I hope you can attend, and would like to have a chat with you when it suits you.

I'd also like to have a chat with you about the CSG meeting that I understand is scheduled for next Weds. There is some sensitivity as to what is discussed with respect to house reconstruction matters. I heard from 9(2)(a) 9(2)(a) what he is intending to cover, and indicated to him that some of the detail might be getting a little ahead of the wider political game at present. But I agree that structural engineers in ChCh do need a good briefing on the situation, and I have suggested to 9(2)(a) 9(2)(a) that he may wish to talk at the meeting.

Would this be of value? I am also aiming to attend, as possibly 9(2)(a) 9(2)(a) from DBH also.

Cheers
Dave

From: Dave Brunsdon [mailto:db@kestrel.co.nz]
Sent: Friday, 1 October 2010 12:39

Out of scope

Cc: Hugh Cowan (hacowan@eqc.govt.nz); Out of scope

Out of scope

Subject: EQC Workshop 8.30am Tuesday 5th October

Thank you for being willing to attend next Tuesday's workshop at EQC's Operations Base in Christchurch.

The details for the workshop are provided in the attached agenda, along with the context and objectives of the workshop.

Can I request that this notification and the agenda NOT be forwarded or shared with others. As you will appreciate, this engineering discussion is just one part of a wider and rapidly moving process that has a number of sensitivities associated with it, and therefore requires careful management. You have been specifically nominated to attend this workshop for your technical knowledge and contribution into a small working group, as well as any sectors or organisations that you represent. We will discuss communications issues and strategies at the workshop.

Please contact me if you have any questions ahead of Tuesday.

Kind regards
Dave

--
Dave Brunsdon - Director
db@kestrel.co.nz - 9(2)(a)
Wellington Office - P 04 499 4433 - F 04 499 4445
Kestrel Group - Risk, Continuity and Emergency Management -
www.kestrel.co.nz <<http://www.kestrel.co.nz/>> <<http://www.kestrel.co.nz/>>

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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 sector 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.

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

A handwritten signature in black ink, appearing to read 'Hugh Cowan', written in a cursive style.

Hugh Cowan
Research Manager

9(2)(a)

From: Dave Brunsdon <db@kestrel.co.nz>
Sent: Friday, 1 October 2010 12:39 p.m.
To: Out of scope
Cc: Hugh Cowan; Out of scope
Subject: EQC Workshop 8.30am Tuesday 5th October
Attachments: Agenda for EQC Engineering Advisory Group Workshop 20101005.doc

Thank you for being willing to attend next Tuesday's workshop at EQC's Operations Base in Christchurch.

The details for the workshop are provided in the attached agenda, along with the context and objectives of the workshop.

Can I request that this notification and the agenda NOT be forwarded or shared with others. As you will appreciate, this engineering discussion is just one part of a wider and rapidly moving process that has a number of sensitivities associated with it, and therefore requires careful management. You have been specifically nominated to attend this workshop for your technical knowledge and contribution into a small working group, as well as any sectors or organisations that you represent. We will discuss communications issues and strategies at the workshop.

Please contact me if you have any questions ahead of Tuesday.

Kind regards
Dave

--
Dave Brunsdon - Director
db@kestrel.co.nz - 9(2)(a)
Wellington Office - P 04 499 4433 - F 04 499 4445
Kestrel Group - Risk, Continuity and Emergency Management - www.kestrel.co.nz

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

Workshop Agenda

Workshop Details

Date and Time: **8.30 to 12.00, Tuesday 5 October**

Venue: EQC Operations Base, 11 Deans Avenue (cnr Deans Avenue and Lester Lane)

Participants

EQC	George Hooper Dave Brunson	BRANZ	Roger Shelton
Tonkin & Taylor	Nick Rogers John Leeves	SESOC/ Consulting Engs	John Hare John Snook Barry Brown
Dept Bldg & Housing	Mike Stannard	Remediation Specialist	Rob Robinson

Workshop Context

This workshop forms part of a wider process to confirm appropriate structural engineering approaches to repair and reconstruction, mobilise suitable engineering resources in support of EQC operations, and consolidate and communicate the technical objectives and processes to the affected local authorities and to the wider construction sector.

Workshop Objectives and Outcomes

1. Establish the guiding principles with respect to performance objectives of repaired and reconstructed houses in future events
2. Form a consensus view on what is practically achievable from available remediation techniques for each of the principal modes of distress in the different land damage zones
3. Confirm the recommended foundation systems for reconstructed (new) dwelling units in the different land damage zones

Workshop Agenda

8.30 Introductions and Workshop Objectives

8.40 Summary of land damage zones and land remediation options

- *What is known and not known (not yet decided) about the way forward*

9.00 Guiding principles with respect to performance objectives of repaired and reconstructed houses in future events

10.00 Review of available remediation techniques for each of the principal modes of distress in the different land damage zones

- *Summary of observations and recommendations from 30 Sept and 1 Oct by BRANZ and T&T*

11.00 Appropriate foundation systems for reconstructed (new) dwelling units in the different land damage zones

11.30 Other Issues

11.45 Next Steps

12.00 Summary of Action Points and Closure

9(2)(a)

From: Dave Brunsdon <db@kestrel.co.nz>
Sent: Thursday, 30 September 2010 5:06 p.m.
To: 'Hugh Cowan'
Subject: RE: Update

Hi Hugh

Sorry to hear that all that energy expended has lowered your resistance ... but take the break that it occasions!

Useful sessions today with the BRANZ guys and 9(2)(a) generating material that should both inform your estimators and set the wider scene for Tuesday's workshop.

Take care
Dave

From: Hugh Cowan [mailto:9(2)(a)]
Sent: Thursday, 30 September 2010 08:31
To: Dave Brunsdon
Subject: Re: Update

Hi Dave,

Many thanks for your efforts. Unfortunately I have succumbed to a spring bug that the rest of the family had, so I am confining myself to email and occasional phone interaction. Not great timing but hopefully over it quickly...

regards
Hugh

On Thu, Sep 30, 2010 at 8:04 AM, Dave Brunsdon <db@kestrel.co.nz> wrote:
Hi Hugh

I hope my last email gives you a sense of where things are at with the work that I've been doing. After some ebbs and flows yesterday, but generally good discussions, set against the backdrop of growing urgency.

I mobilised 9(2)(a) to come down today, to both give 9(2)(a) some support in terms of the questions that he and his guys are asking, and to inform next weeks discussions from a BRANZ perspective. I'm about to go out into the field with them, before heading back to Wgton early afternoon (flights permitting).

Let me know if you need more of a picture by phone or meeting.

Thanks
Dave

9(2)(a)

From: Dave Brunson <db@kestrel.co.nz>
Sent: Thursday, 30 September 2010 7:54 a.m.
To: Out of scope
Cc: Hugh Cowan
Subject: Draft Agenda for EQC Engineering Workshop Next Tuesday
Attachments: Draft Agenda for EQC Engineering Advisory Group Workshop 20101005.doc

Good Morning Guys

Here is a 'starter for ten' agenda for next Tuesday's Engineering Workshop to be held on Tuesday morning.

Your comments and inputs please, ahead of further discussion 9.30am tomorrow at DBH (9(2)(a)), prior to sending out before midday tomorrow.

Many thanks
Dave

--

Dave Brunson - Director

db@kestrel.co.nz - 9(2)(a)

Wellington Office - P 04 499 4433 - F 04 499 4445

Kestrel Group - Risk, Continuity and Emergency Management - www.kestrel.co.nz

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

Agenda for Initial Workshop

Draft 30 September 2010

Workshop Details

Date and Time: 8.30 to 12.00, Tuesday 5 October

Venue: EQC Operations Base, 11 Deans Avenue (cnr Deans Avenue and Lester Lane)

Participants

EQC	George Hooper Dave Brunsdon	BRANZ	Roger Shelton
Tonkin & Taylor	Nick Rogers John Leeves	SESOC/ Consulting Engs	John Hare TBA
Dept Bldg & Housing	Mike Stannard	Remediation Specialists	Rod Robinson TBA

Workshop Context

This workshop forms part of a wider process to confirm appropriate structural engineering approaches to repair and reconstruction, mobilise suitable engineering resources in support of EQC operations, and consolidate and communicate the technical objectives and processes to the affected local authorities and to the wider construction sector.

Workshop Objectives and Outcomes

1. Confirm the guiding principles with respect to performance objectives of repaired and reconstructed houses in future events
2. Form a consensus view on what is practically achievable from available remediation techniques for each of the principal modes of distress in the orange, green and blue land damage zones
3. Confirm the recommended foundation systems for reconstructed (new) dwelling units corresponding to the black, red and orange land damage zones

Workshop Agenda

- 8.30 Introductions and Workshop Objectives
- 8.45 Summary of land damage zones and remediation options – T&T
 - *What is known and not known (not yet decided) about the way forward*
- 9.15 Guiding principles with respect to performance objectives of repaired and reconstructed houses in future events (draft to be tabled – 9(2)(g)(i))
- 9.45 Review of available remediation techniques for each of the principal modes of distress in the orange, green and blue land damage zones
 - *Summary of observations and recommendations from 30 Sept and 1 Oct by BRANZ and T&T*
- 11.00 Appropriate foundation systems for reconstructed (new) dwelling units corresponding to the black, red and orange land damage zones
- 11.30 Other Issues
- 11.45 Next Steps
- 12.00 Summary of Action Points and Closure

9(2)(a)

From: Dave Brunsdon <db@kestrel.co.nz>
Sent: Tuesday, 28 September 2010 11:39 a.m.
To: Hugh Cowan
Subject: RE: Reporting on Progress

Sure, Hugh

9(2)(a) just back today apparently, haven't yet connected

Dave

From: Hugh Cowan [<mailto:HACowan@eqc.govt.nz>]
Sent: Tuesday, 28 September 2010 11:21
To: David Brundson
Subject: RE: Reporting on Progress

Thanks Dave, sounds like good progress. Also, if you have time please bring 9(2)(a) up to speed with our recent thinking. I did this with 9(2)(a) yesterday and I think that helped, but I'm too busy with this RFP to discuss with others. Cheers, Hugh

From: Dave Brunsdon [<mailto:db@kestrel.co.nz>]
Sent: Monday, 27 September 2010 11:14 p.m.
To: Hugh Cowan
Subject: Reporting on Progress

Hi Hugh

Just a brief check in.

[I've checked into Room 311 actually, and seen what you mean about the neighbouring wall!]

A good session over dinner with 9(2)(a) leading to an agreed way forward, with a scoping meeting 8.30 Weds to establish a process for creating an 'Engineering Requirements Package' (9(2)(a) has agreed to come down for), with a wider meeting aimed for next Monday pm. I'll see what sort of a TOR I can come up with.

Out of scope

Cheers
Dave

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9(2)(a)

From: Dave Brunson <db@kestrel.co.nz>
Sent: Tuesday, 28 September 2010 11:29 a.m.
To: Out of scope Hugh Cowan
Cc: Out of scope
Subject: Draft TOR for Advisory Group and Updated Structural Eng Inputs Table
Attachments: Draft TOR for Engineering & Regulatory Advisory Group 20100928.doc; Canterbury EQ Residential - Scope of Struct Eng Inputs Req'd 20100928.doc

9(2)(a) (please forward or deliver to 9(2)(a) I don't have his email)

Here is that draft straw man TOR for the Advisory Group that we discussed last night, along with an updated table of structural engineering inputs (just one part of the wider 'engineering requirements package' that we mapped out).

Can you and 9(2)(a) me know by the end of today if this is in line with your thinking, and if there is anything to be changed before using these at tomorrow's largely in-house meeting.

Thank
Dave

**Advisory Group to the Canterbury Earthquake Recovery Commission
On Engineering and Regulatory Aspects of House Repairs and
Reconstruction**

Draft Terms of Reference

28 September 2010

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 4 September 2010 Canterbury Earthquake.
- (ii) To provide guidance to the Canterbury Earthquake Recovery Commission and Christchurch City, Selwyn District and Waimakiriri District councils on the engineering requirements and regulatory issues and processes that will expedite the repair and reconstruction process following the agreement on land issues.
- (iii) To convey the engineering requirements for various repair and reconstruction options and techniques to the insurance, design and construction sectors.

Reporting Relationships

It is envisaged that this Advisory Group will report to the Canterbury Earthquake Recovery Commission

Principal Outputs of the Advisory Group

1. A process map of the house reconstruction processes, both for areas that are being extensively rebuilt and where individual houses are being rebuilt
2. Recommended foundation and floor systems for predominant reconstruction situations, and the associated specifications. This includes indications of where Acceptable Solutions are and are not applicable and appropriate, and where Alternative Solutions are required, and the preparation of these
3. Preparation of guidelines and sample specifications for common elemental repairs such as cracked veneers and the assessment and strengthening of chimneys
4. Recommended processes for Building Consent approvals, providing detail in support of the new legislation
5. Recommended arrangements for construction monitoring by professional engineers during construction

Structure and Composition of the Advisory Group

- The Core Group is to comprise approximately a small group of people drawn from relevant technical, regulatory, insurance and construction sectors, including:
 - EQC
 - Department of Building and Housing

- BRANZ (incl. representing the NZS3604 Committee)
 - Structural Engineering Society (SESOC)
 - Geotechnical Society
 - Insurers
 - NZ Master Builders Federation
 - Certified Builders
-
- The Core Group is to have access to and the ability to task other practitioners, researchers and agency representatives whose inputs would be of value to them

Proposed Time Frames and Arrangements

- *To be developed*

Canterbury Earthquake Residential Recovery
Scope of Structural Engineering Inputs Required – Houses
Preliminary Draft V2

Repair Category	Insurance Characterisation	Geotechnical Characterisation	Structural Engineering Issues and Inputs	Structural Engineering Resource Types
1: Full Reconstruction	<ul style="list-style-type: none"> • Insurers responsible for and co-ordinating • EQC payout to cap level 	<ul style="list-style-type: none"> • Either on remediated ground; or • Single site rebuild 	<ul style="list-style-type: none"> • Pre-construction - contribution to document summarising agreed foundation systems corresponding to remediated and un-remediated ground This may involve the development of standard 'Alternative Solutions' • Pre-construction – expediting structural design (standard details where possible) • During construction – working with geotechnical engineers regarding site acceptance and foundation preparations, plus expediting standard superstructure checks 	<ul style="list-style-type: none"> • National panel of experienced residential engineers, incl. BRANZ & NZS 3604 cttee rep • Local panel of experienced residential engineers
2: Significant Repairs – Above EQC Cap	<ul style="list-style-type: none"> • Above \$100,000 • Insurers responsible for and co-ordinating • EQC payout to cap level 	<ul style="list-style-type: none"> • Either foundation work req'd (liquefaction influence); or • No foundation work required 	<ul style="list-style-type: none"> • Pre-construction - contribution to document summarising standard agreed repair types (with and without foundation repairs corresponding to remediated and un-remediated ground) • Pre-construction – expediting structural repair specification (standard details where possible) • During construction – providing construction observation of repairs, working with geotechnical engineers as required • During construction – providing construction observation of repairs, working with geotechnical engineers as required 	<ul style="list-style-type: none"> • National panel of experienced residential engineers, incl. BRANZ & NZS 3604 cttee rep • Local panel of experienced residential engineers
3: Minor to Moderate Repairs	<ul style="list-style-type: none"> • Up to \$100,000 • EQC co-ordinating via contracted Project Manager 	<ul style="list-style-type: none"> • Typically no foundation work required 	<ul style="list-style-type: none"> • Pre-construction - contribution to agreed repairs to brick veneers, damaged plasterboard that may provide bracing; agreed approaches to chimney assessment and removal/strengthening This should include reviewing previous measures in BRANZ repair catalogue • During construction – as a backup for Adjusters and others for spot questions; specific advice re chimney assessment and removal/ strengthening 	<ul style="list-style-type: none"> • National panel of experienced residential engineers, incl. BRANZ & NZS 3604 cttee rep • Local panel of experienced residential engineers

9(2)(a)

From: Dave Brunsdon <db@kestrel.co.nz>
Sent: Sunday, 26 September 2010 10:14 p.m.
To: Out of scope; Hugh Cowan
Cc: Out of scope
Subject: RE: Structural engineering response
Attachments: Canterbury EQ Residential - Scope of Struct Eng Inputs Req'd 20100926.doc

Hi 9(2)(a)

Thanks for this very helpful summary. I'm looking forward to working with you.

I have some questions, and an offering.

Firstly the questions:

1. Noting your point below about the Gisborne experience of different engineers working for EQC and the insurer, has an alternative integrated approach been established subsequently, or does this need to feature as a 'new' element of the integrated system that we're now trying to develop?
2. Understand and agree with the focus being on full rebuilds and those over the cap, but EQC needs to be very careful about so-called minor repairs under the cap that may either not be done properly or may ignore underlying foundation issues. Heading off these potential 'boomerangs' is one of the key lessons from the Newcastle earthquake that I feel is relevant here.
3. Similarly, the boundary between something being non-structural or structural typically can't be crisply defined. I seem to recall this was attempted in the work that BRANZ did for EQC a few years back - is the BRANZ Repair Specification Catalogue going to be used by EQC's adjusters?
4. How many multi-storey apartment buildings sustained damage, and how are these being handled with respect to engineering inputs?

Secondly, the offering - I've quickly drafted the attached table which attempts to map out the insurance and geotechnical case characterisations into a suggested four categories, and then indicate the possible structural engineering issues, inputs and resource types. These typically cover 'pre-construction' (ie. very soon) and 'during construction' work elements, and is heading towards a national panel to nut out a document covering off standard approaches.

This all needs further consideration and discussion amongst ourselves, with 9(2)(a) and his team and your Field Operations leaders, and the insurers. It would be preferable if some form of joint leadership group of technical advisers across the key insurance players and EQC could be established. Plus I need to share this initial outline with other leading industry practitioners from a technical perspective, once I have EQC's feedback.

Quantifying the number of structural engineers ultimately required will take a little longer; it is possible that a large number won't be required, provided the work up front on standard solutions and good documentation can be achieved.

This latter aspect is also vital for comprehensive communications with a wide range of parties that may not be directly involved in reconstruction works, including in order to minimise the 'engineer for the owner' syndrome, plus expediting Council consent approvals. This is another element that Hugh has asked me to look at.

In terms of the engineer names you have listed below, there's not much to excite as prospects of the required calibre, apart from 9(2)(a)

I'm meeting up with 9(2)(a) tomorrow evening in Christchurch, and will be looking to progress this during the week. I'll be away from email for most of tomorrow, but please give me a call.

Kind regards

Dave

--

Dave Brunsdon - Director

db@kestrel.co.nz - 9(2)(a)

Wellington Office - P 04 499 4433 - F 04 499 4445

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From: Out of scope

Sent: Friday, 24 September 2010 14:45

To: David Brunsdon

Cc: Hugh Cowan

Subject: Structural engineering response

Hi David,

Thank you for the opportunity to introduce myself to you as you rushed to another meeting..

As discussed Hugh Cowan has asked that I become involved in the Structural engineering response that will be undertaken and I gather we will be working towards a system which will satisfy EQC and insurer requirements for the forthcoming repair and rebuilding phase of this event. I am the EQC Corporate Office liaison with Tonkin & Taylor and the land response aspect and am familiar with many Building Act requirements. (an ex-loss adjuster myself).

Currently EQC has concentrated their teams on the more badly damaged of the areas in and around Christchurch.

Information from our Field Offices has indicated that there has been little need so far for EQC to appoint Structural Engineers because all of the homes have been damaged in excess of our 'Cap' payment amount (\$100,000 plus GST). Because of this there is no requirement for a structural engineer as we would, in normal times, simply pay the cap amount and the insurer would need to take over. This of course may be subject to change and especially as lesser damaged homes are viewed. However we need to be able to work with the insurers. There were times for example in the Gisborne 2007 event where EQC had appointed one engineer and the insurer another and this lead in some cases to disagreement and then conflict for the claimant who became somewhat caught in the middle.

Below I have incorporated a number of email details from Structural engineers and other bodies who have been in contact with EQC Claims and offered their services to date.

I look forward to working together with Hugh and yourself to smooth the processes.

1. 9(2)(a)

9(2)(a) was in Christchurch last week working with council on building inspections so he is familiar with the situation and would be happy to extend his services.

I am structural engineer who have recently come back from Christchurch as a volunteer for building assessments in the CBD and suburbs. As such, I am very familiar with the problems of buildings there.

I understand that there is a shortage of engineers for EQC and I am

happy to put myself forward to assist EQC with carrying out damage assessments. In my past employment, I have done work for EQC through loss adjustors and hence am familiar with the reporting.

Please feel free to forward this email and my contact info to anyone who needs my services.

Best Regards

9(2)(a)

Out of scope

2.

9(2)(a)

They have 8 technical staff on hand for inspections, consultancy etc and also have a specialist historic building consultant

3.

From: 9(2)(a)

To: 9(2)(a)

Cc: 9(2)(a)

Sent: Mon, 6 September, 2010 9:23:22 AM

Subject: Available for EQC work in Christchurch

Hello 9(2)(a)

Following our phone conversation on Saturday, and after discussion here at BTW, I confirm my potential availability for urgent EQC work in Christchurch as a consequence of the earthquake on 4 September. I have friends resident in Christchurch and Rolleston so expect that accommodation can be arranged with them at low cost. I have sent a similar offer of assistance to the Christchurch City Council. I am able to supply my CV or discuss this further if you have any questions.

9(2)(a)

Senior Engineer

Out of scope

4. I have been contacted by the EBANZ – Earth Building Association of NZ

These guys run the Standards Technical Committee for all earthen walled buildings and assist in design, consents and repairs to earthen buildings. They have an experienced earth building engineer available.

There are apparently quite a few in and around Canterbury and they have held up well to the EQ by all accounts. However there may be damage out there and these could be a bit 'curly' as are non-typical construction.

Anyway if any of the team get a claim for one of these and the estimator or LA are struggling with either structural impairment or safety issues right through to how to SOW one for repair this organisation have advised they can be contacted at any time to provide advice and assistance.

Contacts are:

9(2)(a)

Many regards,

9(2)(a)

Earthquake Commission

MOBILE: 9(2)(a)

DDI: 9(2)(a)

FAX: 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.

Canterbury Earthquake Residential Recovery
Scope of Structural Engineering Inputs Required – Houses

Preliminary Draft

Repair Category	Insurance Characterisation	Geotechnical Characterisation	Structural Engineering Issues and Inputs	Structural Engineering Resource Types
1: Full Reconstruction	<ul style="list-style-type: none"> • Insurers responsible for and co-ordinating • EQC payout to cap level 	<ul style="list-style-type: none"> • Either on remediated ground; or • Single site rebuild (with local ground treatment for liquefaction?) 	<ul style="list-style-type: none"> • Pre-construction - contribution to document summarising agreed foundation systems corresponding to agreed remediation options This may involve the development of standard 'Alternative Solutions' • Pre-construction – expediting structural design (standard details where possible) • During construction – working with geotechnical engineers regarding site acceptance and foundation preparations, plus expediting standard superstructure checks 	<ul style="list-style-type: none"> • National panel of experienced residential engineers, incl. BRANZ & NZS 3604 cttee rep • Local panel of experienced residential engineers
2: Significant Repairs – Clearly Above EQC Cap	<ul style="list-style-type: none"> • Above \$120,000 (?) • Insurers responsible for and co-ordinating • EQC payout to cap level 	<ul style="list-style-type: none"> • Either foundation work req'd (liquefaction influence); or • No foundation work required 	<ul style="list-style-type: none"> • Pre-construction - contribution to document summarising standard agreed repair types (with and without foundation repairs corresponding to agreed remediation options) • Pre-construction – expediting structural repair specification (standard details where possible) • During construction – providing construction observation of repairs, working with geotechnical engineers as required 	<ul style="list-style-type: none"> • National panel of experienced residential engineers, incl. BRANZ & NZS 3604 cttee rep • Local panel of experienced residential engineers
3: Significant Repairs – Close to EQC Cap	<ul style="list-style-type: none"> • Between \$70,000 and \$120,000 • Active co-ordination between Insurers and EQC until cost of repairs more accurately determined 	<ul style="list-style-type: none"> • Either foundation work req'd (liquefaction influence or not); or • No foundation work required 	<ul style="list-style-type: none"> • Pre-construction - contribution to document summarising standard agreed repair types (with and without foundation repairs corresponding to agreed remediation options) • Pre-construction – expediting structural repair specification (standard details where possible) • During construction – providing construction observation of repairs, working with geotechnical engineers as required 	<ul style="list-style-type: none"> • National panel of experienced residential engineers, incl. BRANZ & NZS 3604 cttee rep • Local panel of experienced residential engineers, plus BRANZ or other research rep for data gathering
4: Minor to Moderate Repairs	<ul style="list-style-type: none"> • Up to \$70,000 • EQC co-ordinating 	<ul style="list-style-type: none"> • Typically no foundation work required 	<ul style="list-style-type: none"> • Pre-construction - contribution to agreed repairs to brick veneers, damaged plasterboard that may provide bracing This should include reviewing previous measures in BRANZ repair catalogue • During construction – as a backup for Adjusters and others for spot questions 	<ul style="list-style-type: none"> • National panel of experienced residential engineers, incl. BRANZ & NZS 3604 cttee rep • Local panel of experienced residential engineers

9(2)(a)

From: Dave Brunsdon <db@kestrel.co.nz>
Sent: Tuesday, 21 September 2010 6:39 p.m.
To: Hugh Cowan
Subject: Update

Hugh

9(2)(a)ng, and we had a positive 5 min chat. But he's too busy to easily schedule a 15 min chat over the next couple of days thanks to Min Brownlee's mtgs, so I asked him if one of his '2nd tier' geotech co-ords could ring and talk me through their eng resourcing process. He said he'd arrange - I asked him to get them to call me this evening or first thing tomorrow.

9(2)(a)(i)

am starting to think more about the solution aspect of what they need, and am looking to line up a couple of on the ground resources.

Can you please let me know your movements for the rest of the week, Friday in particular. We need to be in the same place, and I can come to ChCh if that works.

I'll try to get to 9(2)(a) tomorrow.

Good luck with tonight's meeting, wherever it is!

Call me anytime from 0630 tomorrow if you'd like
Dave

Dave Brunsdon - Director

db@kestrel.co.nz - 9(2)(a)

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9(2)(a)

From: Dave Brunson <db@kestrel.co.nz>
Sent: Monday, 20 September 2010 10:08 p.m.
To: Hugh Cowan
Subject: Draft TOR re Structural Engineers
Attachments: Draft TOR for Review of EQC Structural Engineer Resourcing Processes
20100920.doc

Hi Hugh

I've quickly put together the attached draft TOR for you to see if I have captured and understood the essence of what you're after, and the steps that I propose. And my thoughts on where the further 'technical outreach' needs to go - some of which I'm sure has been covered.

Let me know what you think in the morning.

Kind regards
Dave

--

Dave Brunson - Director
db@kestrel.co.nz - 9(2)(a)
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Review of Resourcing and Briefing Arrangements for Structural Engineers to Assist EQC with the Assessment of Significantly Damaged Residential Buildings Following the Canterbury Earthquake

Draft Terms of Reference

20 September 2010

Situation and Context

- There is a likely need for considerable 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.
- 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 issue is how the wider geotechnical and structural engineering profession is to be briefed on the criteria and processes being applied by EQC's engineering consultants.

Proposed Initial Steps

- Discussions are to be held with 9(2)(a) to gain an understanding of:
 - i. The numbers of geotechnical engineers at their disposal
 - ii. Their sources of suitably qualified and experienced structural engineers, and the likely total numbers from these sources (covering both dwelling houses and apartment buildings)
 - iii. Their processes for briefing the structural engineers and establishment of criteria for either recommending structural repairs or indicating exceedance of the cap; and in the case of the latter, how their views are conveyed to the engineers for the private insurer in order to efficiently determine the overall viability of repair or otherwise
- Discussions are then to be held with 9(2)(a) covering points (i) and (ii) above, and the corresponding equivalent of (iii).
- A verbal report by the end of Friday 24 September (followed up by a brief written report as required) to EQC on the understandings obtained from these discussions, their implications, and recommendations to enhance or provide additional support to these arrangements.
- Preparation of suggestions around the processes for a wider briefing of consulting engineers, architects and other building professionals not directly involved in the insurance assessment process.

Subsequent Questions to be Addressed

1. The process for briefing the three Councils (key staff (esp. Building Control Officers) and elected members) on the process and criteria being applied (geotech and structural)
 - Who will be the technical spokesperson(s) for the process?
 - What form will briefings take?
 - What form will the accompanying handout information take?
2. Ditto for briefing other structural and geotechnical engineers, architects and other building professionals so that they fully understand the process that is being followed and criteria that are being applied

9(2)(a)

From: Dave Brunson <db@kestrel.co.nz>
Sent: Sunday, 19 September 2010 8:12 p.m.
To: Hugh Cowan
Subject: Some Further Thoughts

Hugh

Hope you had something of a break today! Just a few thoughts below for you to read (tomorrow) as I mull over the points you mentioned yesterday afternoon when you briefed me, and also seeing the reported figures of 2,700 homes uninhabitable.

These thoughts are somewhat random, as I consider the 'next steps' connection with the relevant professions that you raised, so ignore them if they're not relevant or don't add. I have found my report to the Insurance Council of Australia prepared 18 months after the Newcastle earthquake. But it only has marginal relevance to this event, as liquefaction wasn't an issue there, but reactive clays were.

What is that figure of 'uninhabitables' based on, as in who has made that decision - Council or EQC?

9(2)(g)(i)

One aspect might be an independent panel of engineers to give owners a second opinion, maybe for free or agreed rate (as in, independent from EQC).

I would be interested to know the nature of the technical (engineering) resource that EQC currently has at its disposal. For example, how many Chartered Prof Engs are there?

Brownlee has been reported as saying (Stuff website) that those claims between \$10k and \$100k are 'clear and easy', whereas >\$100k would require full geotech assessment. I would say be very wary of those between \$50k and \$100k - if there's one relevant lesson from Newcastle, it is they are the 'boomerangs' that could come back and bite later (ie. often treated as superficial damage and the underlying causes (foundations) not given enough attention).

Anyway, good luck tomorrow, and let me know if and where I can help.

Kind regards
Dave

--

Dave Brunson - Director

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9(2)(a)

From: Dave Brunson <db@kestrel.co.nz>
Sent: Saturday, 18 September 2010 1:06 p.m.
To: Hugh Cowan
Subject: Sparing a Thought ...

Hi Hugh

I trust things are OK with you, and that you're continuing to make reasonable ground after Thursday's meeting with the Ministers and PM. 9(2)(g)(ii)

9(2)(g)(ii)

9(2)(g)(ii)

As always, let me know if/ how I can support you in the days ahead.

Kind regards
Dave

--

Dave Brunson - Director

db@kestrel.co.nz - 9(2)(a)

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9(2)(a)

From: Dave Brunson <db@kestrel.co.nz>
Sent: Thursday, 16 September 2010 6:36 a.m.
To: 'Hugh Cowan'
Cc: Hugh Cowan
Subject: RE: Draft TOR for Damaged House Advisory Group

9(2)(g)(ii)

Cheers
Dave

From: Hugh Cowan [mailto:9(2)(a)]
Sent: Wednesday, 15 September 2010 23:30
To: Dave Brunson
Subject: Re: Draft TOR for Damaged House Advisory Group

9(2)(g)(ii)

cheers
Hugh

On Wed, Sep 15, 2010 at 10:04 PM, Dave Brunson <db@kestrel.co.nz> wrote:
Hi Hugh

I hope your public meeting at Kaiapoi went OK.

After further quick discussions with 9(2)(a) during the research meeting, I've drafted the attached as a raw starter for ten.

9(2)(g)(ii)

If you think this might be broadly on track, please make suggestions for improvement by email or phone call, and then I or you can send it round 9(2)(a) and 9(2)(a)

I'm up until around 10.30 if you'd like to call, or up by 6.00. I've already got breakfast here in my fridge, but I'm happy to have a breakfast coffee with you before I report into CCC at 7.30 for one last day. I can of course break out at any stage once I get a few things going, as this is priority.

9(2)(g)(ii)

Cheers
Dave

9(2)(a)

From: Dave Brunson <db@kestrel.co.nz>
Sent: Wednesday, 15 September 2010 10:04 p.m.
To: Hugh Cowan
Subject: Draft TOR for Damaged House Advisory Group
Attachments: Draft TOR for Damaged House Advisory Group 20100915.doc

Hi Hugh

I hope your public meeting at Kaiapoi went OK.

After further quick discussions with 9(2)(a) during the research meeting, I've drafted the attached as a raw starter for ten.

9(2)(g)(ii)

If you think this might be broadly on track, please make suggestions for improvement by email or phone call, and then I or you can send it round 9(2)(a) and 9(2)(a)

I'm up until around 10.30 if you'd like to call, or up by 6.00. I've already got breakfast here in my fridge, but I'm happy to have a breakfast coffee with you before I report into CCC at 7.30 for one last day. I can of course break out at any stage once I get a few things going, as this is priority.

9(2)(g)(ii)

Cheers
Dave

Advisory Group to Government and the Insurance Sector On Damaged Canterbury Houses in Areas of Significant Liquefaction

Draft Terms of Reference

15 September 2010

Objective of the Advisory Group

- To provide pragmatic and focused advice initially to Government Ministers and then to the insurance sector and their advisers on decision-making criteria and repair techniques for the reinstatement of damaged Canterbury Houses in areas of significant liquefaction and ground damage following the 4 September 2010 Darfield Earthquake.

Principal Outputs of the Advisory Group

1. The establishment of clear and practical criteria to guide decisions on whether or not damaged houses in areas of significant liquefaction can realistically be repaired
2. The identification of appropriate repair techniques for damaged houses that are considered repairable

Associated (Secondary) Outputs of the Advisory Group

3. Advice on time frames for decision-making regarding reinstatement, and the inputs required by other sectors and agencies
4. Advice on time frames for the commencement of repairs
5. The identification of factors that may contribute towards broader decisions as to whether areas/ streets should be reinstated as residential areas
6. Identification of forms of house construction that have performed well in areas of significant ground damage

Structure and Composition of the Advisory Group

- The Core Group is to comprise approximately six people drawn from relevant technical and industry sectors, including engineering, geotechnical, residential remedial practitioners, insurance, regulatory and risk
- The Core Group is to have access to and the ability to task other practitioners, researchers and agency representatives whose inputs would be of value to them

Proposed Time Frames and Arrangements

- *To be developed*