



20 August 2019



Reference: OIA-2019/20-0017

Dear 

**Official Information Act request relating to the withdrawal of Cabinet Paper - 089 11-12  
CBC Paper re: Green Zone Land Issues**

Thank you for your Official Information Act 1982 (the Act) request received on 1 July 2019.  
You requested:

*"...any communication to or from Minister Brownlee (or his staff) relating to the  
referenced paper including (but not limited to) its withdrawal..."*

*[Image of Email]*

*Subject Line: 089 11-12 CBC Paper re Green Zone Land Issues*

*Contents: ...Just to confirm, this paper was withdrawn at the request of Minister  
Brownlee."*

I note the time frame for responding to your request was extended under section 15A of the Act by 15 working days because it necessitated a search through a large quantity of information, and consultations were required, before a decision could be made on your request. Following this extension, I am now in a position to respond.

A search for information containing the phrase "green zone land issues" was undertaken in the archived Canterbury Earthquake Authority Agency (CERA) records now held by the Department of the Prime Minister and Cabinet (DPMC) and also DPMC's own records database.

**Information being released**

I have decided to release the relevant parts of the documents listed below, subject to information being withheld as noted. The relevant grounds under which information has been withheld are:

- section 9(2)(a), to protect the privacy of individuals, and
- section 9(2)(h), to maintain legal professional privilege.

Item	Date	Document Description/Subject
1.	9/08/2011	Key Messages on DBH Guidelines
2.	5/09/2011	CERA Briefing Note Green Zone TC3 Assistance Options
3.	15/09/2011	EQ work underway in Treasury
4.	15/09/2011	points for meeting with DBH
5.	7/10/2011	DBH Canterbury Earthquake Recovery Update
6.	12/10/2011	Update on Green Zone Cab Paper
7.	8/06/2012	Draft agendas for Minister's meetings week of 5 June

In making my decision, I have taken the public interest considerations in section 9(1) of the Act into account.

Please note that the file for Item 1 above did not contain the associated attachment (green zone map) as noted in the paper. It appears that the map was a "living document" and we are unable to ascertain the version that would have been expected to accompany the final paper. Accordingly, I must refuse your request to the extent that it includes that attachment under section 18(e) of the Act, because the document alleged to contain the information, does not exist, or cannot after reasonable attempts to do so, be located.

You have the right to ask the Ombudsman to investigate and review my decision under section 28(3) of the Act.

This response will be published on the Department of the Prime Minister and Cabinet's website during our regular publication cycle. Typically, information is released monthly, or as otherwise determined. Your personal information including name and contact details will be removed for publication.

Yours sincerely



Anne Shaw  
**Executive Director,**  
**Greater Christchurch Group**



## Canterbury Earthquake Recovery Authority

**To** Minister for Canterbury Earthquake Recovery  
Minister for Building and Construction

**Date** Draft - 9 August 2011

**Subject** Canterbury green zone – key messages and next steps

**Action required** Note

<b>First Contact</b>	Rosalind Plimmer Interim Manager, Recovery Strategy, Planning & Policy, CERA	s9(2)(a)
	Angela Yeoman Advisor, Recovery Strategy Planning & Policy, CERA	
	David Kelly Deputy Chief Executive, Department of Building and Housing	XXXXXX

- note** the key messages about the green land issues, should a premature release of information occur
- note** that a paper is being drafted by the Department of Building and Housing, in consultation with Canterbury Earthquake Recovery Authority and the Treasury, for the Minister for Canterbury Earthquake Recovery and the Minister for Building and Construction to take to the ACE Cabinet Committee on xx August 2011.

**Hon Gerry Brownlee**  
**Minister for Canterbury Earthquake  
Recovery**

----- / ----- / 2011

**Hon Maurice Williamson**  
**Minister for Building and Construction**

----- / ----- / 2011

## Purpose of report

1. This report provides:
  - a. key messages about the green zone land issues, in the event of a premature information release about the damaged land
  - b. next steps and timeframes for providing the Canterbury Earthquake Recovery Cabinet Committee (ACE) with advice on the green zone land issues.

## Background

2. The majority of Christchurch residential properties (about 100,000) have been categorised as green zone. The green zone is defined as areas in which there are no significant issues which would prevent rebuilding, based on current knowledge of seismic activity. The Department of Building and Housing (DBH) now has better (but not complete) information about the state of the land in the green zone. It has identified that the green zone can be further categorised into three technical categories:
  - a. category 1 where future liquefaction is unlikely – normal house foundations are acceptable with no additional costs incurred
  - b. category 2 where minor liquefaction is likely – new raft foundations need to be constructed to an additional cost of up to \$10,000 (consistent with previous advice from DBH)
  - c. category 3 where significant liquefaction is expected in future, requiring site specific geotechnical assessments and foundation designs up with associated costs of up to \$90,000 each – this advice is new. It is estimated that about 26,000 houses fall into this category of which 2,200 are rebuilding and between 5,000 and 15,000 require foundation repairs.
3. A geotechnical assessment to ascertain whether a property is at risk of future significant liquefaction is estimated to cost (on average, assuming a simple site) about \$7,000, within a likely range of about \$3,000 to about \$11,000.
4. Government has already signalled to green zone residents that reconstruction or repair can proceed on an individual basis without the need to wait for any area-wide ground treatment (23 June 2011). Red zone residents are to receive their offers from Government on 18 August 2011, and many may chose to repurchase in new subdivisions in the risk areas of the green zone.

## Key messages

5. Geotechnical investigations are continuing to determine with more certainty which locations within the green zone are likely to perform poorly in the event of another earthquake. Until there is more clarity about the situation, a public communications strategy is not envisaged. In the event that there is a premature information release about the damaged land, key messages are suggested below.

### *The issue*

- a. The Government, the Department of Building and Housing, GNS and CERA have been working as fast as they can to provide as much certainty as they can for people wanting to repair or rebuild their earthquake damaged homes in the residential green zone.

- b. The risk, extent and severity of land damage in future earthquakes for properties in the residential green zone is not always immediately apparent. Some properties may require specific engineering design to comply with New Zealand Building Code requirements.
- c. Structural and geotechnical engineering experts have been investigating land in the residential green zone. The information gathered will help inform Department of Building and Housing guidance for building consent authorities, designers and homeowners on what is the best way to rebuild in land damaged areas. It will also help us identify if there is a need for further geotechnical reports.

***The facts as they are known now***

- d. The attached map is a draft map of green zone locations where different foundation options would be suitable. It recognises that not all ground within the green zone will perform the same way in future earthquake events. Some properties in the green zone may require specific engineering design to comply with New Zealand Building Code requirements.
- e. The map is a draft and the process to define the different locations within the green zone is incomplete. It is important that Government takes the time to get this right. Some of the technical land category areas may change as experts get a greater understanding of ground conditions.

***What happens next***

- f. When the map is finalised, it will be released as part of the Department of Building and Housing guidance on house repairs and reconstruction which are currently being revised.
- g. It is anticipated that the Department of Building and Housing's revised guidance, along with the map, will be released in September. In the meantime, homeowners wanting to undertake repairs now, and home buyers wanting to purchase properties in the Canterbury area, are advised to seek geotechnical engineering advice before progressing their plans.
- h. The Department of Building and Housing's guidance will provide a consistent technical approach to repair and reconstruction in the green zone. It will minimise delays and aid the Canterbury recovery effort.

**Next steps and timeframes**

- 6. A Cabinet paper is proposed by the end of August 2011, to determine the size of the green zone land issues, the appropriateness of proposed foundations to comply with the Building Code, a communications strategy, and the possible responses of insurance and mortgage markets.

	<b>Date (2011)</b>
Geotechnical investigations to provide certainty about localities most at risk of future liquefaction	xxx
First draft of Cabinet paper provided to your office covering: <ul style="list-style-type: none"> <li>the number of properties affected</li> <li>appropriateness of the proposed revised expectations for foundations of houses in the high risk areas of the green zone, to comply with the Building Code</li> <li>the timeframe for consultation on the proposed revised guidance for foundations</li> <li>a communications strategy</li> <li>possible responses of insurance and mortgage providers and potential implications of those?</li> </ul>	xxx
Final Cabinet paper provided to your office	18 August ??
ACE Cabinet Committee	Week of 22 - 26 August
Cabinet	29 August
Communications strategy, if agreed, rolled out Target audiences would include: <ul style="list-style-type: none"> <li>homeowners in the red, orange, white and green zones</li> <li>all Canterbury residents</li> <li>Canterbury councils</li> <li>the construction sector</li> <li>property developers</li> <li>the real estate sector</li> <li>insurance providers.</li> </ul>	From xx September
Revised DBH guidance on foundations repairs, to comply with the Building Code, if agreed, released for consultation	xx September
Anything else?	

### Consultation

7. This report was jointly prepared by CERA and DBH. Treasury was consulted, and the Department of Prime Minister and Cabinet was informed.

### Recommendations

8. It is proposed that you:

**note** the key messages about the green land issues, should a premature release of information occur

**note** that a paper is being drafted by the Department of Building and Housing, in consultation with Canterbury Earthquake Recovery Authority and the Treasury, for the Minister for Canterbury Earthquake Recovery and the Minister for Building and Construction to take to the ACE Cabinet Committee on xx August 2011.

**Rosalind Plimmer**  
Interim Manager Recovery Strategy,  
Planning & Policy, CERA

**David Kelly**  
Deputy Chief Executive  
Department of Building and Housing

Attachment: Draft map of green zone localities by category of risk of future liquefaction.

Note: The attachment was not attached to this file and is refused under section 18(e).



## Canterbury Earthquake Recovery Authority

**To** Minister for Canterbury Earthquake Recovery

**Date** **DRAFT** 5 September 2011

**Subject**

**First Contact**

Rosalind Plimmer  
Interim Manager Recovery Strategy, Planning & Policy

s9(2)(a)

Angela Yeoman  
Planning & Policy

a) **Direct** officials with respect to whether Cabinet Committee might seek advice, at the point it receives the *Green Zone Land Issues and Risks* paper, on:

**Direct**

- i. possible financial assistance options for homeowners
- ii. the utility of such options in negotiations with insurers
- iii. the costs and benefits of site-specific and area-wide land remediation options alongside the proposed site-specific foundations-related solutions.

**Hon Gerry Brownlee**

**Minister for Canterbury Earthquake Recovery**

----- / ----- / 2011

## Purpose of report

1. This report seeks your direction about the interest of Cabinet Committee in receiving advice about possible financial assistance options for homeowners in damaged green zone areas, at the time when it considers the Department of Building and Housing's paper (currently in draft form) on *Green Zone Land Issues and Risks*. The potential utility of such financial assistance options at the time of central government engagement with the insurance market is raised. Interest in knowing more about possible land remediation options in addition to foundations-related solutions is also queried.

## Background

2. The Department of Building and Housing (the Department) has provided you with a draft Cabinet Committee paper advising Ministers of the future moderate to significant risk of liquefaction in some areas of the green zone in Canterbury (referred to as technical category three or TC3). The Department's paper also covers some of the implications associated with this discovery.
3. The Department's estimates of the number of properties on land at risk of moderate to significant future liquefaction, and the estimated costs of responding to that risk, are tabled below.

	Number of properties	Est. average costs of 'fixing' foundations to new standards
A TC3 - significant liquefaction is likely – currently need foundations repairs to a new specific engineering foundation design	8,000	<b>\$22,000<sup>1</sup></b> Range: \$15,000 to \$30,000
	8,000	<b>\$60,000<sup>1</sup></b> Range; \$30,000 to \$90,000
B TC3 – significant liquefaction is likely – foundation repairs currently not required	10,000	<b>\$30,000<sup>1</sup></b> Average of the range of costs above
<b>Canterbury total</b> including those anticipated to be rezoned from orange	<b>26,000</b>	

4. Relevant numbers of properties in other green zone areas are included below for comparison

C TC2 - minor liquefaction is likely – enhanced foundations required, consistent with Dec 2010 Guidance	66,000	<b>\$4,000</b> Range: nil to \$10,000
D TC1- liquefaction is unlikely	20,000	nil

5. There are also an unknown number of properties around New Zealand on TC3-like land.

E Rest of New Zealand – TC3-type properties (e.g. Petone, Kilbirnie, Kapiti Coast, Napier)	unknown	\$30,000
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<sup>1</sup> Costs include a geotechnical assessment at average cost of \$7,000.

## Comment

6. The Department's Cabinet Committee paper:
  - a. assumes a site-specific foundations-related response, and does not provide details of options such as site-specific or area-wide land remediation
  - b. does not cover potential homeowner and insurer expectations about possible financial assistance options, or the estimated costs of any such options
  - c. proposes engaging with insurers to assess the likely response of the insurance market to the issues identified.
7. The issue has been raised within the Canterbury Earthquake Recovery Authority as to whether or not Cabinet Committee might seek advice about possible financial assistance options for site-specific foundations-related solutions on TC3 land, when considering the Department's paper. This issue has been raised because of concern that engagement with insurers may need to involve some bargaining and negotiation, and insurers may expect central Government to come to the table with such options.
8. In anticipation of Cabinet seeking such advice, some preliminary financial assistance options and their estimated costs and implications are included below for your consideration. Central government costs identified are associated with *damaged* green zone TC3 properties only. Costs associated with other properties are included in the 'other implications' column of the table. The preliminary options considered range across the continuum:
  - a. *from*: no or minimal central government role
  - b. *through*: cost-sharing arrangements between central government and either homeowners or insurers
  - c. *to*: full compensation from central government.

Option	Costs of option to central government	Other implications
a. no role	nil	<ul style="list-style-type: none"> <li>• Many homeowners with damaged foundations will be unable to afford to upgrade (estimated at a total value of \$432 million)</li> <li>• Homeowners with undamaged properties in TC3 areas will experience a loss in value of their properties if they do not upgrade, and insurers may withdraw cover of their property (upgrading is estimated at \$160 million)</li> </ul>
b. homeowner access to low-interest loans; government brokerage role	nil	<ul style="list-style-type: none"> <li>• Banks are already providing low-interest loans for red zone property owners, to maintain their market share – they may be willing to extend this option to a wider group of customers, although the size of this group may be hard to predict and ring fence</li> </ul>
c. 50 per cent cost-sharing with insurers	\$216m	<ul style="list-style-type: none"> <li>• Precedent setting: another \$80m for green zone TC3 undamaged properties whose land value will decrease without foundations upgrading</li> <li>• Precedent setting: for properties around NZ on land similar to green zone TC3 – number/cost unknown</li> </ul>
d. 50 per cent cost-sharing with homeowners	\$216m	<ul style="list-style-type: none"> <li>• As above</li> </ul>

e. costs of geotechnical assessments	<b>\$112m</b>	<ul style="list-style-type: none"> <li>• Precedent setting: another \$70m for geotech assessments for undamaged properties in green zone TC3 areas</li> <li>• Precedent setting: rest of NZ properties on land similar to green zone TC3 land – number/ cost unknown</li> <li>• Precedent setting: commercial properties</li> </ul>
f. 50 per cent of costs of geotechnical assessments	<b>\$56m</b>	<ul style="list-style-type: none"> <li>• Precedent setting: another \$35m for geotech assessments for undamaged properties in green zone TC3 areas</li> <li>• Precedent setting: rest of NZ properties on land similar to green zone TC3 land – number/ cost unknown</li> <li>• Precedent setting: commercial properties</li> </ul>
g. full compensation	<b>\$432m</b>	<ul style="list-style-type: none"> <li>• Precedent setting: another \$160m for green zone TC3 undamaged properties whose land value will decrease without foundations upgrading</li> <li>• Precedent setting: for properties around NZ on land similar to green zone TC3 – number/ cost unknown</li> </ul>

9. The financial assistance options identified and costed above are based on the costs associated with a foundations-related solution to the TC3 issues. Costs of any financial assistance may vary if site-specific or area-wide land remediation options were scoped.

### Funding availability

10. When the Canterbury Earthquake Recovery Fund (CERF) was established, an allocation for decisions relating to land damage was developed. There is around \$152 million remaining currently for other land damage decisions, including damage in remaining orange and white residential areas, commercial properties, utilities, the central city, and so on.
11. In the event that further land decisions exceed \$152 million, the remainder will have to be covered by a general contingency within the Canterbury Earthquake Recovery Fund. This contingency is for unknown policy decisions and estimation risk; the amount remaining in this fund is currently about \$746 million.

### Conclusion

#### *Assuming foundations-related solutions to TC3 issues*

12. There is limited funding available for central government financial assistance for TC3 homeowners with damaged foundations. In addition, any central government financial assistance for this group of homeowners would introduce significant precedents for other homeowners in Canterbury and around New Zealand whose homes are built in TC3 zones or on TC3-type land.
13. The least cost financial assistance option (to central government) would be the availability of low-interest loans. The palatability of this option to the banking industry is not known. Direction is sought about the utility of any of these financial assistance options as 'bargaining chips' in proposed discussions and negotiations with the insurance market, and whether Cabinet Committee might seek advice on such options at the point it considers the Department's *Green Zone Land Issues and Risks* paper.

*Other possible solutions*

14. It may also be useful to evaluate site-specific and area-wide land remediation options in the Department's Cabinet Committee paper, alongside the proposed site-specific foundations-related solutions.

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## Recommendations

15. It is recommended that you:

- (a) **Direct** officials with respect to whether Cabinet Committee might seek advice, at the point it receives the *Green Zone Land Issues and Risks* paper, on:
  - i. possible financial assistance options for homeowners
  - ii. the utility of such options in negotiations with insurers
  - iii. the costs and benefits of site-specific and area-wide land remediation options alongside the proposed site-specific foundations-related solutions.

Rosalind Plimmer  
Interim Manager Recovery Strategy, Planning & Policy  
**DRAFT** 5 September 2011

Not relevant to your request

**From:** Hilary Blake s9(2)(a)  
**Sent:** Friday, 16 September 2011 10:04 AM  
**To:** Rosalind Plimmer; Leone Evans; Sheila McBreen-Kerr; richard.braa s9(2)(a)  
Rob Steel; Benesia Smith; ^MOF: Dasha Leonova; David Corlett  
**Subject:** EQ work underway in Treasury - 15 September 2011.DOCX  
**Attachments:** EQ work underway in Treasury - 15 September 2011.DOCX

Hi everyone,

Here is this week's update.

Best wishes,  
Hilary

**Hilary Blake | Earthquake Recovery Co-ordination Team | The Treasury**

Tel: +s9(2)(a)

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Earthquake-related work underway in the Treasury – as at 1 pm 15 September 2011

UPCOMING DECISIONS EXPECTED		
Decision	By who?	Date sought
Not relevant to your request		
Green zone land issues	Cabinet (TBC)	19 September (TBC)
Not relevant to your request		

Following four pages removed as not relevant to your request

Not relevant to your request

**LAND REMEDIATION**

Not relevant to your request

- DBH (with Treasury and CERA) is preparing a Cabinet paper on the implications of new information from DBH on land damage in the Green Zone. Due probably for consideration by Cabinet Committee in September (TBC).

Not relevant to your request

The Goal is to ensure the transaction is fair, straightforward and affordable.

**Risks**

- Fiscal – costs will increase if Govt makes a generous offer to non-residential and uninsured landowners.

- Not relevant to your request

- Timing –highly uncertain due to complexity involved in reaching agreement with banks, insurers, landowners and the Crown on treatment of individual properties.

- Not relevant to your request

**Timing**

- Further papers follow in the next 2-3 weeks.

**AMI INSURANCE**

- Ongoing monitoring of AMI under the Crown Support Agreement

Following page removed as not relevant to your request.

Not relevant to your request

**From:** Angela Mellish  
**Sent:** Thursday, 15 September 2011 11:06 AM  
**To:** Rosalind Plimmer  
**Cc:** Angela Yeoman; Kelly Lock  
**Subject:** points for meeting with DBH  
**Attachments:** CERA\_BriefingNote\_GreenZoneTC3\_AssistanceOptions.doc  
 Attachment already provided as document 2

Hi Ros,

Talking points for meeting with DBH this afternoon on Green/Orange Zones

- Minister Brownlee indicated a reluctance to release information on Green Zone building technical categories prior to consideration of related policy questions
- We appreciate the need to get information out as soon as possible to help support rebuilding in the Green Zones and provision of information to insurers to enable them to assess future risk
- Issues which would be useful to discuss are:
  - similarities/differences between Green Zones and Orange Zone areas which may not meet Red Zone criteria, e.g.
    - level of damage e.g. there is a continuum of land performance, and in Orange Zone areas land is in some cases considered "worse" than Technical Category 3 - where can a line be drawn between what is acceptable and what is not?
    - type of land - thin crust (liquefaction risk) - where technical categories apply, versus lateral spread (how will consenting authorities deal with this?)
    - addressing future risk vs current damage (is it acceptable to leave undamaged or partially damaged buildings on land which is now not considered suitable for residential buildings?)
    - area-wide vs individual solutions - DBH guidance pertains to individual solutions - do they have a view on where area-wide (land) solutions may be more appropriate?
  - benefits/costs of land works vs foundation works, who is liable for the costs associated with rebuilding - we are currently seeking legal views on EQC and insurance liabilities s9(2)(h)
  - potential need for compensation in the Green Zones - particularly where property owners may face significantly high barriers to rebuild (costs, consenting, coordinated works if not dealt with by EQC/insurers)
    - widespread precedent risks if compensating for code changes
    - limited funds remaining in the Canterbury Earthquake Recovery Fund for land decisions
    - do DBH consider these are exceptional circumstances that may warrant compensation, and if so, how?

I have also attached Angela Y's draft paper on compensation options.

Please amend/forward to Roger as you see fit.

Cheers,  
 Angela

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**From:** Angela Yeoman  
**Sent:** Tuesday, 06 September, 2011 3:01 PM  
**To:** Angela Mellish; Rosalind Plimmer  
**Subject:** green zone etc

Hi guys

Here is where I got to with respect to the draft proposed briefing to the Minister re the green zone issues.

As discussed, it may need to look different to this e.g.:

- cover yellow **and** green
- update what we now know (and are still learning) re insurance/EQC matters and how this might impact on the costs of the options faced by homeowners in TC3
- if EQC/private insurers do not come to the party, include assistance options (in addition to the ones already included) re (i) affordability; (ii) the magnitude of costs and a threshold over which assistance might be considered; and (iii) a combination of those two.

Things should become clearer this week!  
cheers

**Angela Yeoman**  
**Contractor**  
**Canterbury Earthquake Recovery Authority (CERA)**  
s9(2)(a)

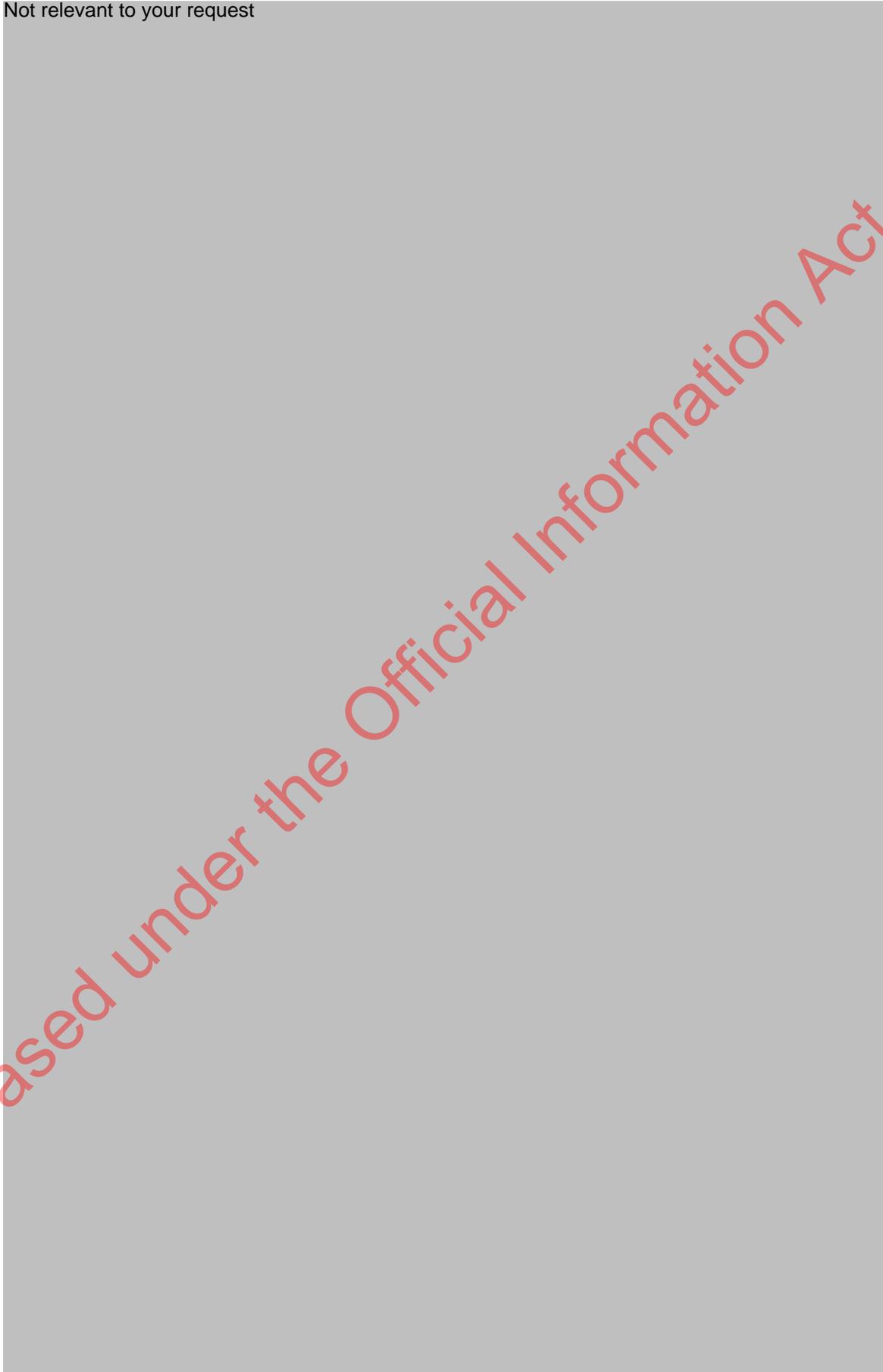
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**DBH Canterbury Earthquake Recovery Programme Update  
7 October 2011**

Not relevant to your request



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Not relevant to your request



**Technical Guidance – land issues and house repairs**

- The December 2010 'Guidance on House Repairs and Reconstruction' is being revised based on experience from the Canterbury earthquake sequence. Finalising this guidance has been delayed pending Government decisions and discussions with Insurers and Councils on the three proposed technical categories within the green zone. Tonkin & Taylor has been working with DBH's Engineering Advisory Group to provide maps that show the various land categories.
- DBH is supporting CERA to finalise a communications plan to support the announcement of green zone land issues. DBH is preparing a summary of the guidance document, information sheets for homeowners and Q&A material.
- DBH's trial to test the performance of some innovative foundation system options is scheduled for completion at the end of October. Work has commenced in QEII Park after agreement by Christchurch City to commence physical works. Resource Consent was issued 6 October. The Christchurch City insurer has now objected to the test being undertaken because of concern about further damage to the QEII Stadium buildings. This is being worked through with Christchurch City and the Insurer's engineers.

Not relevant to your request



Not relevant to your request

**From:** Angela Yeoman  
**Sent:** Wednesday, 12 October 2011 4:09 PM  
**To:** Kelly Lock  
**Subject:** FW: Update on Green Zone Cab Paper  
**Attachments:** ACE paper on Green Zone Issues FINAL for CBC.doc

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Here is the green zone TC3 Cab paper that was not considered. Attached is the CERA-led Coms Plan.

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**From:** Nicola Blackburn s9(2)(a)  
**Sent:** Thursday, 25 August 2011 8:50 a.m.  
**To:** Tom Hall; Carl Bakker; Kate Williamson; Angela Yeoman; Debbie Ryan; Henry Dowler; Richard Braae  
**Cc:** Amy Moorhead; Susan Owens  
**Subject:** Update on Green Zone Cab Paper

Morning

Attached is the revised version that was sent to Hon Brownlee's office yesterday. Advice we have received from his office is that the Minister wants more time to consider the issues, and it is now uncertain whether the paper will go to CBC on Monday. DBH understands he will make a call in the next couple of days as to whether this makes the agenda as a late submission.

Regards  
 Nic

**Nicola Blackburn**  
 SENIOR ADVISOR OPS POLICY & MINISTERIALS

**Department of Building and Housing**  
 Te Tari Kaupapa Whare  
 s9(2)(a)  
 Fax: (04) 494 0290  
 Level 6, 86 Customhouse Quay  
 PO Box 10729, Wellington 6143, New Zealand  
 Web: <http://www.dbh.govt.nz>

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Office of the Minister for Canterbury Earthquake Recovery

Ad Hoc Cabinet Committee on Canterbury Earthquake Recovery

## **Canterbury Earthquake: Green Zone Land Issues and Risks**

### **Purpose**

- 1 This paper:
  - informs Ministers of new geotechnical information on land within the greater Christchurch residential Green Zone, particularly the future risk of liquefaction;
  - advises how this new information impacts on the nature and extent of repairs homeowners will have to undertake to meet the Building Code; and
  - outlines the costs and other implications involved.

### **Executive summary**

- 2 Since the initial earthquake on 4 September 2010, there has been an ongoing process to assess the geotechnical information available and how this may affect the Canterbury region in the future.
- 3 Three technical categories (1 to 3) have been used to reflect the range of performance of land and liquefaction effects expected in future significant earthquakes within the Green Zone.
- 4 The Department of Building and Housing (the Department) issued technical guidance in December 2010 on house repairs and reconstruction following the September earthquake (ACE Min (10) 8/8 refers) and is currently updating it to reflect the new geotechnical information. It will include the types of foundations needed in each technical category in order to comply with the Building Code.
- 5 The solutions contained in the guidance for technical categories 1 and 2 (affecting approximately 86,000 homes) are almost finalised and due for release in late September. This means that homeowners in these categories, provided they follow the technical guidance, will be able to begin repair work or rebuilding without costly geotechnical assessments of individual properties.
- 6 Land in technical category 3 is more problematic and covers approximately 26,000 homes. A more detailed geotechnical assessment is prudent for residential construction classified as technical category 3, and may require special foundations or ground treatment to enable this to occur. The solutions to poor

land performance will be site-specific and the cost will range from \$15,000 to \$90,000. There are approximately 16,000 homes in technical category 3 requiring a complete rebuild or foundation repairs, and it is estimated that half are expected to be suitable for “standard” solutions likely to be at the lower end of cost spectrum (\$15,000 to \$30,000).

- 7 This leaves approximately 8,000 houses within technical category 3 that will require complex design solutions at the higher end of the price spectrum (\$30,000 to \$90,000, including engineering investigations and design). The technical feasibility of these options is still subject to testing and international peer review, which is scheduled for completion by 31 October 2011.
- 8 There is a risk, especially for those 8,000 homes at the higher end of the cost spectrum, that some insurers may not support the additional cost of the special foundations or ground treatment required. Insurers may decide to pay out on the claim rather than fund a repair or rebuild on that land. This remains unknown until discussions can be held with insurers to determine their views
- 9 Time is still required to determine the feasibility of the proposed solutions for technical category 3, before they can be publicly released as part of the technical guidance. Trials on the sustainability of the proposed foundation solutions and treatment options for technical category 3 land are scheduled, and will be tested in an international peer review.
- 10 The new geotechnical information gained also has wider implications, particularly for land in the 110 proposed new subdivisions in Christchurch, and land around the country that is also prone to liquefaction. Note that no other area in New Zealand has the same level of risk regarding the ongoing liquefaction of land that has been experienced in Christchurch.
- 11 In order to build a more accurate picture of solutions for technical category 3 land, urgent discussions are needed with insurers to determine whether they are prepared to cover the cost of the engineering solutions to enable damaged homes to be repaired to the Building Code and whether there may be any issues regarding future insurability.
- 12 There are risks associated with the management of the information, especially to homeowners in technical category 3. A lack of substantial information could promote uncertainty amongst homeowners, already badly affected by the earthquakes. As well as outlining the issues presented with the updated geotechnical information, this paper also seeks Cabinet approval to implement the Communications and Engagement Plan.

### **Background**

- 13 Land in the greater Christchurch area was initially categorised by the Canterbury Earthquake Recovery Authority (CERA) into four zones<sup>1</sup>:
  - Green Zone (approximately 107,000 homes initially, with another 5,000 expected following assessment of homes in the Orange Zone) describes land

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<sup>1</sup> The figures that follow were based on Tonkin & Taylor's assessment provided for the 23 June 2011 announcement.

on which repair or rebuild can begin and will be supported by ongoing infrastructure. While there may be land damage present, this can be repaired on an individual basis;

- Red Zone (approximately 5,000 homes) describes land which has suffered significant and extensive damage on an area-wide basis, and is unlikely to be suitable for continued residential occupation for a prolonged period of time. Most of the buildings are uneconomic to repair and the infrastructure needs to be completely rebuilt;
- Orange Zone (approximately 10,000 homes) describes land requiring further investigation by engineers; and
- White Zone applies to land (including the CBD and Port Hills) yet to be assessed, and non-residential property outside the CBD that will not be assessed.

#### **Updated geotechnical information on land in the Green Zone**

- 14 When the zoning announcement was made on 23 June 2011, homeowners in the Green Zone were advised that, with some isolated exceptions, reconstruction and/or repair in this area could proceed. However, some properties within the Green Zone have experienced liquefaction and considerable settlement during the Canterbury earthquake series, and can be expected to do so again in future earthquake events (either directly related to the Canterbury earthquake series or other earthquake sources).
- 15 Since the earthquake on 4 September 2010, there has been an ongoing process to assess the geotechnical information available and how this may affect the Canterbury region in the future. Each significant aftershock has provided more information.
- 16 There is now better (but still incomplete) information about the geotechnical state of land in the Green Zone. The Department, based on input from its Engineering Advisory Group<sup>2</sup> of technical experts and the EQC's engineering consultants Tonkin & Taylor. This new information suggests that while the majority of Green Zone land is suitable for repairs to buildings or reconstruction to proceed, some land within the Green Zone is not suitable for building without enhanced foundations and land treatment.
- 17 Land in the Green Zone can be divided into three technical categories. These categories describe how the land is expected to "perform" (be affected by) a one in 25 year earthquake, such as another magnitude 6 or above aftershock:
- Technical category 1 – no liquefaction is likely;
  - Technical category 2 – minor liquefaction is likely; and

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<sup>2</sup> This has been gained by EQC's engineering consultants Tonkin & Taylor, and the Department's Engineering Advisor Group. This Group consists of experienced practitioners, including from: the Department of Building and Housing, BRANZ, the New Zealand Society for Earthquake Engineering, the Structural Engineering Society of New Zealand, the New Zealand Geotechnical Society, Tonkin & Taylor, and EQC. There has also been significant input at various stages of the process from international experts

- Technical category 3 – significant liquefaction is likely.

18 The three categories are based on field observations of the extent of liquefaction experienced, damage to buildings and other geotechnical information gathered during the recent Christchurch earthquake series (from September 2010 to June 2011).

What does this new information mean?

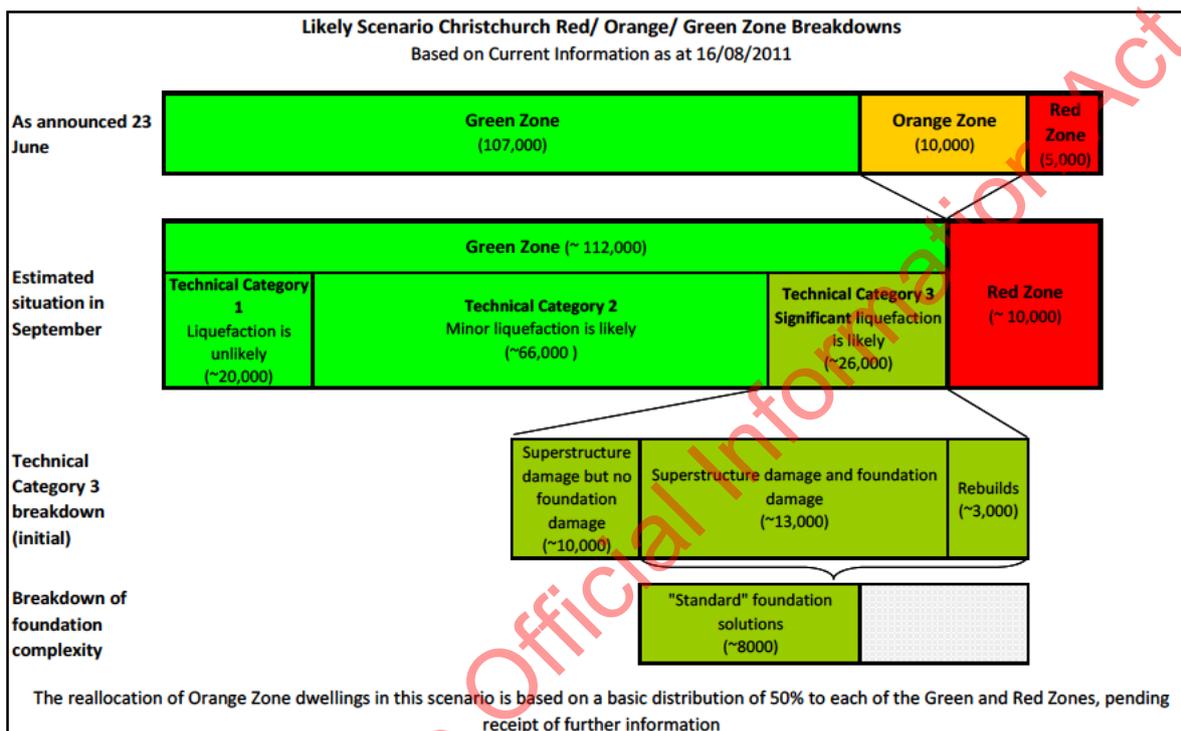


Figure 1 Likely Scenario of the Red/Orange/Green Zone Breakdowns

19 The varying performance of land in the Green Zone has implications for homeowners who want to rebuild over the coming months or for people in the Red Zone who purchase properties in the Green Zone. In particular, homeowners in the Green Zone where there is risk of future liquefaction may require specially designed foundations to ensure the land can support a house being built on top of it now, and to reduce the risk of significant damage or safety risk in future earthquake events.

20 The different technical categories broadly identify the recommended approach for constructing new foundations and undertaking house repairs, based on what we know about the condition of the land.

21 The Department will issue guidance on recommended approaches for constructing new foundations and undertaking house repairs to assist homeowners in technical categories 1 and 2 (see *Technical Guidance* section below). The technical experts have a reasonable level of confidence in how the ground will perform in these areas and that, in future earthquakes, overall foundation settlement will not be excessive.

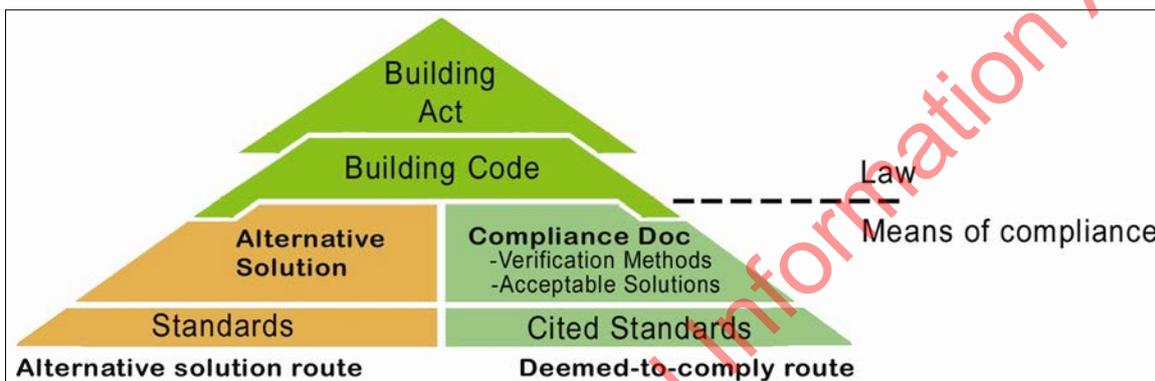
- 22 The solutions for land in technical category 3 are more complex. Although the ground in technical category 3 is better than land in the Red Zone a more detailed geotechnical assessment is prudent, and special foundations or ground treatment may be required in order to meet the current Building Code.
- 23 Solutions for homes in technical category 3 will be site-specific and potentially costly. While yet to be confirmed, solutions could involve deep piles, stone columns, soil compaction or mixing, cement jet grouting, confinement or other engineering techniques. Depending on the site and the solution required, this could cost as much as \$90,000, including engineering investigations and design.
- 24 There are approximately 26,000 homes included in technical category 3, making the assumption that half of the current Orange Zone properties will be reclassified as Green Zone. For Orange Zone properties to be reclassified in the Green Zone some area-wide ground treatment may be required, particularly to control lateral spreading. Separate advice is being prepared on this issue. If area-wide remediation occurs, any repairs or building on this land will need to comply with the updated technical guidance.
- 25 The new geotechnical information presents significant issues, which will be managed by:
- updating the technical guidance for homeowners in the Green Zone looking to rebuild;
  - planning for the release of the updated technical guidance, which takes into account the current perception that there are no issues or increased cost with rebuilding or repairing homes on Green Zone land;
  - considering the implications for the rest of the country where there is the potential for liquefaction; and
  - investigating what insurers will do – both in respect of paying out on repairs or rebuilds and reinsuring properties once they are fixed.

*Accuracy of geotechnical information*

- 26 The assessment of geotechnical information and implications for building repairs and reconstruction has been, and continues to be, informed by new knowledge. Each significant aftershock generates more information that enables experts to refine their advice. Numerous research studies in Canterbury regarding various aspects of the seismic events are also contributing to the information flow and building a bigger picture all the time.
- 27 The Engineering Advisory Group has been assisting the Department of Building and Housing since the September earthquake to work through the issues presented by the ongoing seismic activity and risk.
- 28 The Tonkin & Taylor methodology in relation to establishing the three technical categories has already been presented to a peer group of New Zealand geotechnical engineers with no adverse comment. An international peer review has also been commissioned and covers the methodology and analysis upon which the three categories have been determined.

## Building standards – the regulatory framework

- 29 Compliance with the Building Code in New Zealand is mandatory. However, the Building Code is high level and performance-based. While it sets out the structural performance requirements that buildings must meet, it does not prescribe the actual method to achieve compliance.
- 30 Instead, people rely on a range of non-regulatory documents that do provide detail on the actual method to comply with the Building Code. These documents are not mandatory (but, in practice, a large majority of homes in New Zealand are built using them).
- 31 Figure 2 outlines the regulatory framework that applies to building in New Zealand.



- 32 This framework, and the elements which make up the framework, have not changed since the earthquake series in Canterbury began in September 2010. What has changed is the state of the land in Canterbury, and the technical experts understanding of the land. The extent and impact of liquefaction in the series of earthquakes is, to the Department's knowledge, internationally unique.
- 33 The Department is not changing the performance standards; but it recognises that due to the change in the state of the land in Canterbury, in order to perform to the required standard, houses, particularly the foundations, need to be built differently.
- 34 Currently, the actual methods described in the standards, alternative solutions, compliance documents and cited standards do not deal with land that is damaged as badly as land in Canterbury. Using any of these methods on some land in Canterbury would not achieve compliance with the Building Code.
- 35 New guidelines have been required in order to continue to build on this damaged land and still meet the Building Code. The regulatory framework outlined above does not need to change for this to occur.

## Technical guidance for residential repairs and construction

- 36 The Department provides technical guidance to demonstrate how to meet various sections of the Building Code. Guidance on house repairs and reconstruction, including the types of foundations required to minimise damage caused by liquefaction, was issued following the initial earthquake on 4 September 2010 earthquake. This guidance was endorsed by the ACE Cabinet Committee [ACE Min (10) 8/8 refers].

37 The objectives of the guidance was to assist the recovery process by:

- providing greater confidence for homeowners that their repaired/reconstructed home meets Building Code requirements, such that equity and insurance cover can be maintained, and future resale issues are minimised;
- increasing certainty for Building Consent Authorities about the required standard, speed up the consenting process, but also minimise their future liability; and
- avoiding onerous and expensive specific design costs on a house-by-house basis.

38 Cabinet was advised in May 2011, that knowledge from the more damaging 22 February 2011 earthquake meant that the appropriateness of some of the foundation options provided in the guidance was being reviewed [CAB Min (11) 19/2]. Work on the updated guidance material is nearing completion and is being informed by the new geotechnical information.

39 The guidance provides solutions that minimise the cost of engineered foundation designs in order to meet the current Building Code. It also recognises that for a home to perform in future earthquake events (and the liquefaction that results) there may be damage to the repaired home. However, the damage is considered to be economically repairable and more cost-effective in the long-term.

40 The updated guidance should be ready for the Department to approve and release by late September 2011. The guidance forms part of a Communications and Engagement Plan on Green Zone land issues (full version attached in Appendix 1).

41 Publishing guidance does not require a new Standard or a change to the Building Code. It provides a consistent technical approach to repair and reconstruction within the Green Zone that will minimise delays and aid the Canterbury recovery effort. If the technical guidance is followed, then all parties can be assured that the Building Code will be met. Without the guidance, there is a risk that building consent authorities could require all homeowners to undertake a geotechnical assessment at considerable cost.

42 Furthermore, the updated guidance will include strategies to minimise repair costs should there be liquefaction in the future. These strategies include houses framed and clad in light materials, on shallow timber pile foundation systems, which would be readily re-levelled and repaired. This is consistent with current work by the Department of Building and Housing, to clarify the Building Code to better articulate damage expectations for more frequently occurring events.

#### **Cost implications for new builds, rebuilds and repairs in the three technical land categories**

43 Based on the geotechnical information currently available, the additional costs for repair or reconstruction expected in the different categories are as follows:

Green Zone Technical Category	Repair options as outlined in the technical guidance	Additional foundation costs if rebuilding a new foundation	Comments
1 - future liquefaction unlikely	Standard foundations acceptable	\$0	Foundation details outlined in the Building Code B1/AS1 (referencing Standard NZS 3604) are suitable
2 - minor liquefaction likely	Lightweight construction or enhanced foundations required	Average: \$4,000 Range: \$0 to \$10,000	This is consistent with previous guidance issued in December 2010.
3 - significant liquefaction likely	Site-specific geotechnical investigation and specific engineering foundation design	Average: \$30,000 Range: \$15,000 to \$90,000	The wide range recognises some repair costs will be higher, for example if a house has to be lifted and moved and a new foundation built underneath (an additional cost of approximately \$30,000 )

44 Actual repairs or reconstruction will be site-specific; therefore, the average cost of repairs is difficult to quantify. Depending on the site, technical category 3 land will likely require a geotechnical investigation to ascertain whether a property is at risk of significant liquefaction in the future (this is estimated to cost in the range of \$3,000 to \$11,000).

45 Not every home within technical category 3 will require \$90,000 worth of foundations. Of the 26,000 homes within technical category 3, the following estimates have been made based on recent claim information:

- approximately 10,000 homes have suffered damage, but not to the foundations;
- approximately 13,000 homes are likely to need some type of foundation repairs; and
- approximately 3,000 homes are likely to require complete rebuilds, including foundations.

46 Of the 16,000 homes requiring a rebuild or foundation repairs, approximately half are expected to be suitable for “standard” solutions that are likely to be at the lower end of cost spectrum (\$15,000 to \$30,000).

47 This leaves approximately 8,000 houses within technical category 3 that will require complex design solutions at the higher end of the price spectrum (\$30,000 to

\$90,000, including engineering investigations and design). The technical feasibility of these options is still subject to testing and international peer review.

- 48 There remains a question at this time as to who will cover the cost of geotechnical assessments, and repairs or rebuilds where complex design solutions are required. Both insurance companies and homeowners need to have confidence that the house complies with the Building Code.
- 49 For houses that currently need repairs, it is a question of making an immediate investment in robust foundation solutions, to enable a house to be repaired to withstand future liquefaction events (but with some repairable damage); and to enable insurers to underwrite future risk. For houses that do not need repairs to foundations following this earthquake series, homeowners require security of ongoing insurance to cover any future damage that occurs.

### **Implications for new subdivisions**

- 50 People are starting to make decisions about their future options, and this information will impact on their decision-making. As more residents take up the Government's offer to purchase their damaged properties, this number will increase and many will look to build in one of the 110 proposed subdivisions.
- 51 Many of these subdivisions do not have the geotechnical information required to fit them into one of the three categories used to describe land within the Green Zone. From the information available, there appear to be a number of subdivisions that would fall into technical category 2 or 3. Care is needed to confirm the accuracy of this information before specifics about particular subdivisions are mentioned, so as not to jeopardise the market value of developments.
- 52 Councils appear to have varying requirements for geotechnical assessments. Decisions on the appropriate levels of investigation for liquefaction are left to the developer's geotechnical engineer, and the acceptance level (or not) is up to each council.
- 53 The Department is preparing draft guidelines to establish a minimum level of geotechnical investigation and land performance parameters, to standardise the quality of investigation to at least a 'level playing field'. However, from preliminary discussions, there are different views amongst Canterbury councils about requiring developers to have their engineers report back on how their subdivision fits in with the three categories. The Department is working with CERA and planners for the Canterbury councils to ensure a standard approach is adopted.
- 54 Depending on the results for each subdivision, developers who undertake thorough geotechnical assessments could potentially use that information as a positive marketing tool to attract prospective buyers.

### **Implications for other parts of the country**

- 55 The response to technical category 3 land also has implications for some other areas in New Zealand. An initial assessment of the liquefaction hazard across the country indicates that approximately 10 percent of land yet to be developed, and 20 percent of land already developed in other parts of the country, is likely to experience some degree of liquefaction in a one in 500 year earthquake. It is not

possible to directly infer what proportion of land would have the same characteristics as technical category 3. From the information available, no other area in New Zealand has the same level of risk regarding the ongoing liquefaction of land that has been experienced in Christchurch.

- 56 The Department intends to work with councils across the country to better identify land with the potential for liquefaction and provide appropriate solutions for new building work. Many councils already have hazard maps identifying such land but it will take time to review these in accordance with the criteria being used to classify the three technical categories.
- 57 There are wider implications for existing houses on land with similar characteristics as technical category 3, both in Christchurch and other parts of the country. Equity, house values and potential for insurance cover need to be carefully considered before final decisions are made on technical category 3 land.

### **Insurance implications for Christchurch**

- 58 A major issue affecting rebuilding activity is a lack of information and certainty regarding future seismicity and land performance. In this respect, provision of clear, timely and reliable information about land categories will help insurers and residents make well informed decisions about where they should rebuild, and guide insurer decisions on property insurability and risk.
- 59 Increased awareness of the risk in category 3 areas, will affect costs of building and insuring buildings in this category, not just in Christchurch, but in other areas of New Zealand that face similar liquefaction risks. As such, the costs will guide future investment choices in sensible ways.
- 60 For Christchurch residents whose homes lie within category 3, costs will be faced in several ways: for undamaged buildings insurance premiums may rise (should insurance companies differentiate policies at an individual house level based on construction type and land category rather than at a portfolio level) and land values may drop; for owners facing rebuilds and repairs, their costs will be increased by whatever geotechnical investigation and strengthened foundations are required. At this stage it is not clear the extent to which this would be covered by either EQC or private insurers. For new builds, insurance may be difficult to obtain without a geotechnical assessment, and this may impact on homeowners' ability to obtain mortgage finance.
- 61 Private insurers typically interpret their responsibility as having to reinstate to the Building Code that applied when the policy was issued. While they have previously informally indicated they could be willing to absorb additional foundation costs in the 2-4 percent range, they would be unlikely to bear the full cost of repairs much above this level.
- 62 The intention of the revised technical guidance is to enable as many claims as possible to be settled, and to provide confidence to insurers for future underwriting of other property in technical category 3 areas.

## Communications and engagement plan

- 63 The purpose of the communication and engagement plan is to manage the public release of the new geotechnical information concerning Green Zone land. This includes the redefinition into technical categories 1, 2 and 3 and the consequences for immediate repairs and reconstruction and future builds. The full plan is attached as Appendix 1.
- 64 Preliminary information about the three technical categories should be made public as soon as practically possible. Green Zone residents should receive an indication of what the repair and rebuild process might involve, as many may be in the process of starting repairs and/or rebuilds.
- 65 It is recommended that engagement begin immediately with EQC, insurers, the building and construction sector, the legal community and Canterbury councils prior to the public release of information, to minimise risks and retain confidence in land damage decisions.
- 66 All communication will be led by CERA, with principal support from the Department of Building and Housing, and other agencies/key stakeholders where applicable. A three phased approach to the communications is recommended as follows:
- **Phase 1:** engage (in confidence) with key influencers to gain initially some certainty around information most likely to be of high interest and benefit to affected residents. This engagement will include one on one meetings with insurers to seek solutions around claims settlements on the special foundations or ground treatment required, particularly in technical category 3, and meetings and workshops with council building control managers and consulting structural and geotechnical engineers, to ensure all parties are in agreement around the required compliance in each land category to meet consenting arrangements and building code standards
  - **Phase 2:** Announcement from Minister for Canterbury Earthquake Recovery, and the public release of available information on the three new Green Zone land categories. Also at this time the proposed Department solutions and guidance for technical categories 1 and 2 will be released for consultation.
  - **Phase 3:** Confirmation and public release of the solutions and guidance for technical category 3, as well as the ongoing release of new information as it becomes available.
- 67 The most significant risks involved with the issues in this paper relate to the management of information, especially to homeowners in land category 3. A lack of substantial information could promote uncertainty and fear amongst homeowners, already badly affected by the earthquakes. Any release of information to the public must cover all three categories to allay fears as much as possible.
- 68 An indicative timeline is provided under Next Steps.

### Next steps

- 69 The market is awaiting clarity on how to proceed with the rebuild in the Green Zone. With the release of the updated guidance, repairs and reconstruction can begin in technical categories 1 and 2. The issues surrounding technical category 3 land are more difficult to resolve. The solutions to allow repairs and reconstruction to begin are still subject to trial and international peer review to prove their suitability.
- 70 This work is also dependent on discussions with insurers about the issues facing homeowners in technical category 3, to determine how willing they are to invest in the solutions now to ensure a house remains Building Code compliant.
- 71 In addition, trials on the sustainability of the proposed foundation solutions and treatment options for technical category 3 land are scheduled, and an international peer review is planned for October 2011. This peer review, combined with information from the discussions with insurers will clarify the options and associated costs available to homeowners in technical category 3.
- 72 An indicative timeline of the key Next Steps is provided below:

Next step	What's involved	Date
Phase 1 of Communication Plan implemented	Discussions with insurers, Canterbury councils, designers and engineers on issues with land in the Green Zone	From 5 September 2011
Phase 2 of Communication Plan implemented	Announcement from Minister for Canterbury Earthquake, and the public release of available information on the three new Green Zone land categories. Also at this time the proposed DBH solutions and guidance for Technical Categories 1 and 2 will be released	Late September 2011
Confirmation of technical category 3 solutions	Testing of solutions to determine their suitability and sustainability and international peer review completed	End of October 2011
Phase 3 of Communication Plan Implemented	Release of the solutions and guidance for Technical Category 3, and ongoing release of new information as it becomes available	Early November 2011

### Consultation

- 73 The following agencies have been consulted during the development of this paper: The Treasury, Department of the Prime Minister and CERA.

## Recommendations

The Minister for Canterbury Earthquake Recovery recommends that the Committee:

- 1 **Note** that updated geotechnical information has highlighted that there is some land within the Green Zone that will be subject to significant liquefaction in a future significant earthquake, and a more detailed geotechnical assessment is prudent for residential construction, and may require special foundations or ground treatment, that will have cost and potential insurance implications.
- 2 **Note** that the Department of Building and Housing is updating its technical guidance to provide assurance to homeowners, Building Consent Authorities, engineers and insurers on the solutions required to meet the current Building Code, to reflect the new geotechnical information.
- 3 **Note** that the Department of Building and Housing has prepared draft guidelines to establish a minimum level of geotechnical investigation and land performance parameters for proposed new subdivisions, and is working with CERA and planners for the Canterbury councils to ensure a standard approach is adopted.
- 4 **Direct** officials to engage with insurers to gain a more accurate picture of their reaction, and gauge whether they are likely to cover the enhanced foundations and ground treatment required to meet the current Building Code and minimise damage from future liquefaction, particularly the 8,000 homes requiring foundation repairs estimated to be at the higher end of technical category 3.
- 5 **Approve** the implementation of the Communications and Engagement Plan for the Green Zone prepared by CERA, starting with engagement with insurers, as outlined in recommendation 4 and Canterbury councils, engineers and designers.
- 6 **Note** that there are risks around engaging on this issue at this early stage, however, this engagement is important so as not to hinder Government's ability to more fully understand potential implications, and not engaging could work against objectives of certainty, confidence, and sensible utilisation of available information
- 7 **Note** that a further update will be provided to Cabinet following engagement with key stakeholders, particularly insurers, to seek solutions around claims settlements on the special foundations or ground treatment required, particularly in technical category 3.

Hon Gerry Brownlee

Minister for Canterbury Earthquake Recovery

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## Appendix 1 Communications and Engagement Plan

### Purpose

This communication plan is to manage the public release of new information concerning residential green zone land, including the redefinition into land categories 1, 2 and 3 and consequences of those categories for future builds and rebuilds.

### Communication approach

- Engage EQC, insurers, the building and construction sector, the legal community and Councils prior to public release of information to minimise risks and retain confidence in land damage decisions.
- Make publically available as soon as practically possible preliminary information about the three technical green zone categories. While it is not ideal to release this information before having all the facts at hand, people do need to have warning of potential issues with their properties prior to beginning remedial work or purchasing new land.
- Ensure Green zone residents receive an indication of what effect these categories could have on the process of new builds, rebuilds and repairs. Red Zone residents also need to be aware prior to purchasing new land or homes currently zoned green.
- Where possible ensure all information released is 100% accurate. Where information is unable to be accurate, ensure the communication underlines its interim nature.
- When information is not available be upfront about the missing information, and communicate that as soon as it is available it will be published.
- All communication with Canterbury residents is to reiterate the need to seek advice on the necessity of a geotechnical assessment prior to starting any work and to liaise with their insurers.
- All communications to be led by CERA, with principal support from the Department of Building and Housing, and other agencies/key stakeholders where applicable.
- Adopt a three phased approach to the communications.
  - **Phase 1:** engage (in confidence) with key influencers to gain initially some certainty around information most likely to be of high interest and benefit to affected residents. This engagement will include one on one meetings with insurers to seek solutions around claims settlements on the special foundations or ground treatment required, particularly in Technical Category 3, and meetings and workshops with council building control managers and consulting structural and geotechnical engineers, to ensure

all parties are in agreement around the required compliance in each land category to meet consenting arrangements and building code standards

- **Phase 2:** Announcement from Minister for Canterbury Earthquake, and the public release of available information on the three new Green Zone land categories. Also at this time the proposed DBH solutions and guidance for Technical Categories 1 and 2 will be released.
- **Phase 3:** Confirmation and public release of the solutions and guidance for land category 3, as well as the ongoing release of new information as it becomes available.

### **Communication Outcomes**

- People understand the new zoning decisions and acknowledge there may be a need to increase foundation requirements in land categories 2 & 3 as per new DBH guidelines to meet building code standards.
- People building, rebuilding or purchasing in the green zone have the information they need prior to embarking on any work/purchase.
- The information and advice provided in the Department of Building and Housing's new guidelines on house repairs and reconstruction is understood as being the base for building code compliance.
- Key stakeholders, including those in the building, construction and insurance sectors, understand and support the need to increase foundation requirements and have sufficient information to help residents repair and rebuild homes in green zone categories 1, 2 and 3.
- All affected land owners know where they can go to find additional information and/or receive assistance.

### **Target audiences**

The following are identified as the principal target audiences:

- homeowners in the red, orange, white and green zones
- all Canterbury residents
- Christchurch City, Selwyn and Waimakariri councils
- the building and construction sector
- property developers
- the real estate sector
- insurance providers
- Government Ministers
- Government agencies
- insurance industry

- legal community
- media

## Key messages

### Public

- a. Land in the green zone is generally considered suitable for rebuilding. Ongoing geotechnical and seismic investigation indicates that while a number of the 100,000 or so homeowners in this zone can proceed with repairing and rebuilding their homes, there are some newly identified areas within the green zone that may require additional work.
- b. The risk, extent and severity of land damage in future earthquakes is not always immediately apparent and some properties in the green zone will require specific engineering design to comply with New Zealand Building Code requirements.
- c. The green zone has now been divided into three separate land categories
  - Technical Category 1: There are no significant land issues preventing homeowners from carrying out repairs or rebuilding their homes based on current adopted seismic standards.
  - Technical Category 2: There are no significant land issues preventing homeowners from carrying out repairs or rebuilding their homes providing they follow Department of Building and Housing guidance. Light construction roof and wall materials, timber floors with short piles or enhanced concrete raft foundations are recommended to minimise the risk of future earthquake damage.
  - Technical Category 3: Land in this category is at risk of future liquefaction in an earthquake event. The land is still suitable for residential dwellings but new builds and repair and reconstruction will require specific engineering assessment and design to minimise damage from any future quakes.
- d. Consequently, anyone considering purchasing land or property (including in new subdivisions) or who are beginning to build, rebuild or repair houses in the green zone are advised to first obtain advice around the need to obtain a geotechnical assessment
- e. This advice and, potentially, assessment will assist in establishing the level of risk for the individual property
- f. A geotechnical assessment could be important in enabling future decisions around building and insurance

- g. The Department of Building and Housing is preparing guidance to assist building consent authorities, designers and homeowners in the green zone repair their earthquake damaged homes. This information will be available from late September. These guidelines may also be applicable to other similar geotechnical areas identified in New Zealand.
- h. New information will be advised publicly as it comes to hand. A timeline of expected release of information will be made available.

### **Construction, real estate, and insurance sectors**

- i. The construction industry in Canterbury, particularly with respect to new subdivision development and repairs/rebuilds, will be immediately impacted by the newly released information about the risk of future significant liquefaction. Quotes and costings will need to factor in geotechnical assessments and, where appropriate, more rigorous foundations.
- j. Real estate agents should be fully informed about this matter, in the spirit of full disclosure, to be able to advise clients to seek a geotechnical assessment prior to any green zone purchase.
- k. The insurance implications of the newly received information about the risk of future significant liquefaction will be of extreme importance to all affected residents. Insurers will need to clearly detail implications of all scenarios to their clients.

### **Proposed delivery**

*Public communications – including Red, Orange, White and Green Zone residents*

1. Primary communication:
  - a. media conference with Roger Sutton, and key stakeholders
  - b. media releases
  - c. interview on CTV with Roger Sutton
  - d. printed fact sheet for general distribution
  - e. series of Questions and Answers
  - f. mail drop in affected green zone areas (no personal addresses)
  - g. Press supplement
  - h. web page with information on all three Green Zone categories and FAQs on the Canterbury Earthquake Recovery Authority's (CERA's) website
  - i. updated information as more detail becomes available

*Canterbury councils*

- a. CERA briefing prior to public announcement
- b. CERA provide the Canterbury councils with regular updates on this matter
- c. Set up link from Councils web site to CERA web page
- d. provide the councils with fact sheets on the issue for their websites and as hard copies.

*Construction, real estate, and property developers*

2. It is proposed that key representatives of relevant sectors be:
  - a. Invited to a CERA briefing prior to public announcement
  - b. advised in writing of the issue
  - c. given information to disseminate to their members

*Insurance sector*

- d. Hold discussions prior to preparing public information to anticipate probable questions around insurance
- e. advised in writing of the issue
- f. given information to disseminate to their members

Released under the Official Information Act 1982

### Indicative Timeline

Next step	What's involved	Date
Phase 1 of Communication Plan implemented	Discussions with insurers, Canterbury councils, designers and engineers on issues with land in the Green Zone	From 22 August 2011
Phase 2 of Communication Plan implemented	Announcement from Minister for Canterbury Earthquake Recovery, and the public release of available information on the three new Green Zone land categories. Also at this time the proposed DBH solutions and guidance for Technical Categories 1 and 2 will be released.	Late September 2011
Phase 3 of Communication Plan Implemented	Confirmation and public release of the solutions and guidance for land category 3, as well as the ongoing release of new information as it becomes available.	Early November 2011

### Communications and Engagement Risks and Mitigation

Risks	Mitigations
Information leaks out to Canterbury residents before announcement made	Equip appropriate Ministers with up to date talking points
Lack of information promotes uncertainty and fear amongst homeowners already badly affected by the earthquakes	<p>Announcement should be accompanied by as much accurate information as possible – and acknowledgment that more detail will be given as it becomes available</p> <p>Anticipate top six questions and make extra effort to have those answered by liaising with appropriate stakeholders prior to public announcement</p> <p>Provide details of where people can go for more information</p>
Some homeowners on affected property have completed repairs or recently purchased affected land and look to compensation as a result of feeling they had not been informed about risk to land and in fact had been given the go ahead to proceed	<p>Make announcement as soon as possible to limit this possibility.</p> <p>Ensure CERA and the Government have information and timing from all letters sent to homeowners in simple bullet point form</p>
Some properties are given incorrect	Ensure no communications to Green Zone

category which homeowners act on without resorting to land assessment	owners are individually addressed
Perception this information has been kept quiet by CERA and Minister Brownlee leading to claims residents have been misled about the zoning	Make announcement as soon as possible to limit this possibility. Outline process and timing that has led to this knowledge
Indicated costs for remedial work promotes panic/depression, particularly with lower cost housing/land	Keep any indications of potential costs very general in all communications
Key stakeholders have different agendas	CERA brief all key stakeholders in advance of public announcement and outline expectations from each group Provide regular updates
Political risk – at this stage of an election year chance local MPs will use as political platform	Brief all local MPs prior to public announcement Announcements and briefings to be lead by CERA – Roger Sutton
People in Technical Category 3 who find they can't afford to rebuild/get insurance/do not qualify for Government compensation	Ensure people know where to go for help and advice
Possible media allegations that the Government has tried to limit its financial obligations by drawing the Green Zone too wide	Reiterating messages provided by CERA to Green Zone residents in previous correspondence and underlining that unlike red zone land – this land is able to be built on with specific engineering solutions
Public/media question whether the guidance is soundly based and whether the engineering work has been robust enough (credibility of Tonkin & Taylor brought into question)	Release information on the investigation process and guidelines used for assessment
Insurance companies may not be prepared to pay for repairs if homeowners are not replacing like with like.	Engagement with insurance sector prior to release of public announcement



**Canterbury Earthquake  
Recovery Authority**

**MEETING WITH MINISTER FOR CANTERBURY EARTHQUAKE RECOVERY AND  
CERA OFFICIALS  
FRIDAY 8 JUNE 2012**

**CERA Attendees:** Roger Sutton, Benesia Smith, Diane Turner, Mike Shafford, Steve Wakefield, Warwick Isaacs, James Hay, Michelle Mitchell, Richard MacGeorge, Jacinda Lean

**Apologies:**

	Issues to be covered	Speakers
9.30am	1. Any matters to be raised by the Minister	
Not relevant to your request		
(15 mins)	3. Green Zone Land Issues	Diane Turner, Steve Rylands, Angela Mellish
Not relevant to your request		

<b>Afternoon Meeting</b>
Not relevant to your request

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