

Memorandum for Cabinet

## DECISIONS ON CANTERBURY EARTHQUAKE KAIAPOI ORANGE ZONES

### Purpose

- 1 This paper seeks agreement to enhance the methodology for analysing Canterbury Earthquake Orange zones and decisions on rezoning the Canterbury Earthquake Orange Zones of Kaiapoi. It also seeks agreement to extend the Government offer to purchase insured residential properties to the proposed new Red Zones for Kaiapoi.

### Executive summary

- 2 A staged approach to announcements and communications on the worst-affected areas began with the Prime Minister and me announcing the Red, Orange, Green and White Zones to the public on Thursday 23 June. Large areas of Kaiapoi were zoned Orange on 23 June and could not be classified as Red or Green at the time because further work was required.
- 3 Compared with the 23 June Red Zones, the Orange Zones require more detailed analysis because assessment against the criteria may not be clear cut. While the criteria for assessment have not changed, officials have refined the methodology for assessing the cost-effectiveness of proposed land remediation solutions.
- 4 A modification to the previous equation [CAB Min (11) 24/15 refers] has been made to:
  - 4.1 Make it clear that the cost of remediation to 3 September levels may sometimes differ from EQC's capped obligation (the EQC contribution was previously used as a proxy) and the cost of remediation should be used
  - 4.2 Make explicit the costs to decommission land if not suitable for rebuilding in the short-medium term (e.g. removing underground infrastructure that is no longer needed)
  - 4.3 Take account of the current land value (despite recent events, properties are likely to have some remaining land value) and the estimated remediated land value.

<i>Land reinstatement to pre-September condition</i> + <i>The betterment cost (i.e. perimeter treatment and/or additional raising of the land)</i> + <i>Infrastructure replacement<sup>1</sup></i> - <i>Decommissioning costs (infrastructure decommissioning and grassing)</i>	
<i>If the cost of the above exceeds the improvement in the value of the damaged land<sup>2</sup>, remediation is not cost-effective</i>	<i>If the cost of the above is less than the improvement in the value of the damaged land<sup>2</sup>, remediation may be cost-effective</i>

- 5 The northern part of Kaiapoi North (sub-zone A) is recommended to be rezoned Green because the land is assessed to be able to be repaired and does not meet the criteria for red zoning.
- 6 This paper recommends the following areas become Red Zones because the analysis shows that it is not cost-effective to remediate the land and repair infrastructure to service these, and remediation works would be lengthy, uncertain and disruptive:
- 6.1 Southern part of Kaiapoi North (B)
  - 6.2 Kaiapoi South – Bowler St South (river side) (C)
  - 6.3 Kaiapoi South – Raven Quay and Charters Street (D)
  - 6.4 Kaiapoi South – Courtenay Drive (E)
  - 6.5 Kaiapoi West Area 1 (F)
  - 6.6 Pines Beach (I)
- 7 This paper recommends the following areas require further analysis and should remain Orange at this stage, and that a subsequent paper will report back on these areas:
- 7.1 Kaiapoi West Area 2 (G)
  - 7.2 Kaiapoi West Area 3 (H)
- 8 It is proposed that the government offer to purchase properties in the Red Zones should be extended to insured residential property owners in any new Red Zones in Kaiapoi and Pines Beach. The net cost of this, to be a charge against the Canterbury Earthquake Recovery Fund, is estimated to be \$62.208 million.
- 9 This paper recommends the Crown contributes to property owner's legal fees as for the 23 June Red Zones i.e. 50%, capped at \$750 for those who accept Option 1 and \$500 for those who accept Option 2, at an estimated cost to the Crown of \$0.707 million.
- 10 The most significant of the land remediation works previously agreed for Kaiapoi and Pines Beach should no longer proceed in light of the analysis and decisions in this

<sup>1</sup> Includes the infrastructure within the Orange Zones required to service the sub-zone area of interest (and excludes the cost to repair infrastructure required to service surrounding Green Zones)

<sup>2</sup> Despite the recent earthquake events, properties are likely to have some land value left. We assume there is 10% of the land value remaining in the properties, as indicated by the Valuer General.

paper. I propose to invite EQC and Waimakariri District Council to report back to the Minister of Finance and me on the expenses that have been incurred to date and next steps for this project.

## Background

- 11 Prior to the 13 June 2011 aftershocks, significant land remediation works were due to begin in Waimakariri District (especially Kaiapoi) at the end of June. These areas sustained significant land damage following the 4 September earthquake. The government agreed to fund additional land remediation to that required under the Earthquake Commission Act 1993, some of which was for these area-wide works in Waimakariri [CAB Min (10) 42/7 refers].
- 12 Furthermore, the government agreed to provide top-up payments to a selected few individual properties that were identified to require additional land remediation above that covered by EQC under its Act and outside of the area-wide works already agreed. One of these properties was in Kaiapoi (the others were in Fendalton).
- 13 Subsequent to 13 June, the Kaiapoi works were put on hold pending further assessment of the land damage. This acknowledged the concept solution for perimeter works would need to be revalidated in line with any changes to the seismic load if remediation was to proceed.
- 14 On 23 June 2011, the Prime Minister and I announced four land damage zones for greater Christchurch, and an offer of purchase for insured residential properties in the Red Zones [CAB Min (11) 24/15 refers].
- 15 These decisions were in support of the following rebuild objectives:
  - a) **Certainty** of outcome for home-owners as soon as practicable;
  - b) Create **confidence** for people to be able to move forward with their lives;
  - c) Creating **confidence** in decision making processes (for home-owners, business-owners, insurers and investors);
  - d) Using the **best available information** at the time to inform decisions;
  - e) Having a **simple process** in order to provide clarity and support for land-owners, residents, and businesses in those areas.
- 16 The four zones were based on the severity and extent of land damage, the cost-effectiveness and social disruption of a likely land remediation solution.
  - a) In the **Green Zones**, there are no significant issues which prevent rebuilding in these areas, based on current knowledge of seismic activity.
  - b) For the **Orange Zones**, further work is required to determine if land repair is practical and if the areas are suitable for rebuilding on in the short-to-medium term.
  - c) In the **Red Zones**, rebuilding may not occur in the short-to-medium term because the land is damaged beyond practical and timely repair, most buildings are generally rebuilt, these areas are at high risk of further damage to land and buildings from low-levels of shaking (e.g. aftershocks), flooding or spring tides; and infrastructure needs to be rebuilt.

- d) The **White Zones** include the Port Hills – the earthquakes on 13 June 2011 caused further extensive damage, which needs mapping and assessment. This is underway, as are likewise assessments in the CBD. The process for rezoning White Zones within the Green Zones is also underway.
- 17 For the Red Zones, where rebuild is not likely to be possible over the short-medium term, the Government has agreed to offer to purchase insured residential properties with the choice of two options [CAB Min (11) 27/12 refers]:
- 17.1 **Option 1:** The Crown will offer to purchase the entire property at the 2007 Capital Value rating valuation (less any land and dwelling insurance payments already made). The Crown will also take an assignment of all earthquake related insurance claims. There will be a process through which any property owners who consider that there is a material discrepancy between the 2007 rating valuation and the market value of their property (e.g. because of subsequent improvements) can raise their concerns.
- OR**
- 17.2 **Option 2:** The Crown will offer to purchase the property at the greater of the following (less any EQC land payments already made):
- a) 2007 Land Value rating valuation; or
  - b) EQC's actual land settlement under the Earthquake Commission Act 1993.
- The Crown will also take an assignment of the EQC land claim, and landowners will be free to pursue their private insurance company for any other insurance claims they have.
- 18 Some areas of Waimakariri were deemed to be Orange Zones, including parts of Kaiapoi North, Kaiapoi South – Courtenay Drive, Kaiapoi West and Pines Beach, as shown in the map attached at Appendix A. Kairaki was designated a Red Zone on 23 June (also shown on the map), and some remaining areas of Kaiapoi Ward were zoned Green. Also zoned Orange (but not shown on the map) is a small area in Kaiapoi Lakes. Outside of Kaiapoi Ward, the remaining areas of Waimakariri District were zoned Green on 15 July 2011 by the Minister of Finance and I under Cabinet's authority [CAB Min (11) 26/16 refers].
- 19 This paper seeks agreement to the reclassification of most of the Orange Zones in Waimakariri into Red or Green Zones. Decisions on the remaining Orange Zones in Waimakariri (specifically two areas in Kaiapoi West and a small area in Kaiapoi Lakes) and Christchurch City will follow in subsequent papers, as will decisions on the White Zones (e.g. the Port Hills).

## Land Assessment

### *Land assessment criteria for the 23 June Red Zones*

- 20 A set of criteria was previously developed for identifying where rebuilding is unlikely to be practicable over the short-medium term. These criteria were used to inform the land announcements on 23 June 2011 [CAB Min (11) 24/25 refers]. The criteria are:

- a) There is **area-wide land damage** (including thin crust and/or lateral spread), thereby implying some sort of area-wide solution; and
- b) An engineering solution to remediate the land damage would:
- **be uncertain** in terms of the detailed design, its success and its possible commencement, given the ongoing seismic activity,
  - **be disruptive** for landowners, as the commencement date is uncertain (both in terms of confidence in the land settling sufficiently to begin remediation and the need to sequence the many areas where remediation would be required), and the length of time they would need to be out of their homes to allow remediation to occur and new homes built,
  - **not be timely**: for example there is also substantial replacement of infrastructure required and/or the land level needs to be significantly lifted effectively requiring work equivalent to the development of a new subdivision, and would probably lead to significant social dislocation for those communities in the short-to-medium term,
  - **not be cost-effective**: on a per section basis the cost of remediation is greater than the value of the land as shown below:

<p><i>The EQC contribution to the land remediation</i></p> <p style="text-align: center;">+</p> <p><i>The betterment cost (i.e. perimeter treatment and/or additional raising of the land)</i></p> <p style="text-align: center;">+</p> <p><i>Infrastructure removal and replacement costs</i></p>	
<p><i>If the cost of the above exceeds the value of the relevant land the area is reclassified as a Red Zone</i></p>	<p><i>If the cost of the above is less than the value of the relevant land then the area is reclassified as a Green Zone, but may require some land repair work</i></p>

- c) The **health or well-being of residents** is at risk from remaining in the area for prolonged periods.
- 21 In addition, large-scale remediation programmes were likely to take from 3 to 5 years (if not longer because of the demand for resources for other recovery actions). During that time all of the residents of the affected areas would have needed to be relocated (albeit it is possible to stage the moves) as area-wide remediation would have required all improvements on the land to be removed to allow the work to occur. It was also uncertain whether private insurers would offer insurance to properties on land requiring this level of remediation.
- 22 I noted previously that I consider that the social disruption a 3 to 5+ year dislocation, or longer, adds further weight to any decisions not to commit to remediation at this stage where it currently appears not to be cost-effective [CAB Min (11) 24/15 refers].

#### Land assessment criteria for the Orange Zones

- 23 The Orange Zones announced on 23 June could not be classified as Red or Green at the time because further work was required. Orange Zones were characterised as having:

- 23.1 New damage following the 13 June 2011 event that requires further assessment
- 23.2 Land damage generally ranging from moderate to very severe
- 23.3 Many buildings that are uneconomic to repair
- 23.4 Infrastructure damage where the extent of damage is unclear
- 23.5 The need for detailed assessment to determine whether land repair is practical.
- 24 Compared with the 23 June Red Zones, the Orange Zones require a more detailed analysis because the assessment against the criteria may not be as clear cut.
- 25 While the criteria for assessment have not changed, officials have refined the methodology for assessing the cost-effectiveness of proposed land remediation solutions. The process for analysing the Orange Zones is shown in the diagram attached at Appendix B.

#### *Cost-effectiveness*

- 26 The first step is to identify whether land remediation is cost-effective or not, as per the equation below (changes to the previous equation have been underlined). Remediation may warrant further consideration where the net benefits of remediation are greater than the net benefit of not remedialating.

<u>Land reinstatement to pre-September condition</u> + <i>The betterment cost (i.e. perimeter treatment and/or additional raising of the land)</i> + <i>Infrastructure replacement<sup>1</sup></i> - <u>Decommissioning costs (infrastructure decommissioning and grassing)</u>	
<i>If the cost of the above exceeds the <u>improvement in the value of the damaged land<sup>2</sup></u>, remediation is not cost-effective</i>	<i>If the cost of the above is less than the <u>improvement in the value of the damaged land<sup>1</sup></u>, remediation may be cost-effective</i>

- 27 The costs of undertaking such works on a property-by-property basis are not clear. While we have indicative estimates from EQC of their cost for reinstatement of the properties, these are capped and may not represent the full cost of repairing an area to the 3 September condition.

<sup>1</sup> Includes the infrastructure within the Orange Zones required to service the sub-zone area of interest, such as the cost of replacing infrastructure in neighbouring areas if they are reclassified as Red. Excludes the cost to repair infrastructure required to service surrounding Green Zones.

<sup>2</sup> Despite the recent earthquake events, properties are likely to have some land value left. We assume there is 10% of the land value remaining in the properties, as indicated by the Valuer General.

- 28 In the analysis, it is assumed that the remediation works are undertaken on an area-wide basis, across all of the land in the zone of interest. This will provide a conservative estimate because:
- 28.1 Individual land repair on each property could be more expensive
  - 28.2 There would be costs to seeking agreement and coordinating work across multiple parties if co-ordinated repair was to be undertaken
  - 28.3 The government has not made a decision about the future of land which cannot practicably be rebuilt on over the short-medium term (i.e. the Red Zones) and this remains the case. However for the purpose of the analysis we assume that the damaged infrastructure and buildings would be removed if areas were not to be remediated. That is because it would be unsafe and impractical to leave derelict structures in place, although it is understood there may be circumstances where some infrastructure has to remain in order to service Green Zones. We have also been advised, that in some places, individual land repair could be impractical if it were to result in significant elevation differences which then exacerbate ground movement issues.
- 29 A modification to the previous equation in Paragraph 20 (b) has been made to:
- 29.1 Make it clear that the cost of reinstatement to 3 September levels may sometimes differ from EQC's capped obligation (the EQC contribution was previously used as a proxy) and the cost of remediation should be used
  - 29.2 Make explicit the costs to decommission land if not suitable for rebuilding in the short-medium term (e.g. removing underground infrastructure that is no longer needed)
  - 29.3 Take account of the current land value (despite recent events, properties are likely to have some remaining land value) and the estimated remediated land value.
- 30 There are also costs associated for demolishing buildings and any residual value of partially-damaged or undamaged buildings. However, these are not included because the costs are the same irrespective of remediating the land or not (the buildings need to be demolished to undertake area-wide land remediation in any case) and will therefore need to be factored in all final costs.

#### *Further analysis*

- 31 The cost-effectiveness analysis alone will not provide a clear rule for where land should be remediated or not. Because it is uncertain what the land will be worth after remediation, an accurate estimate of the benefits of land remediation cannot be provided. Instead, scenarios have been used to see what level of future land value would be needed to make remediation worthwhile. Furthermore, there is a reasonable uncertainty in the costs used in the analysis. For example the range in physical works is estimated by Tonkin and Taylor to be on the order of -5 to +13% in current prices.
- 32 This analysis identifies where remediation is unlikely to have a positive net benefit and also identifies areas where remediation could be worthwhile. Combining this with the other criteria listed in Paragraph 20 will determine whether a zone should go Red or Green.

### *Sub-zone analysis*

- 33 Because different parts of the Orange Zones have sustained different levels and types of damage, and therefore require different types of land remediation solutions, the assessment of Orange Zones is being undertaken on a sub-zone level. The sub-zones are defined by an engineering judgement based on the types of land damage (e.g. thin crust and/or lateral spread) and the level of infrastructure and building damage sustained.
- 34 Following the cost-effectiveness analysis, the potential fiscal costs<sup>1</sup> have been assessed. In the case of Red Zones, the costs to the Crown are largely due to the portion of the offer of purchase not met by insurance recoveries. It should be noted that Tonkin and Taylor has advised that uncertainties in its model of net insurance shortfalls range from -38% to +55%.
- 35 In some areas, where land remediation can proceed on an individual basis as per the Green Zones, the only fiscal costs expected would be those for the Crown's portion of repairing infrastructure as per existing cost-sharing arrangements between central and local government. Where additional land remediation for area-wide damage may be required, consideration must be given to what portion (if any) of the additional costs the government contributes.

### **Assessment of Kaiapoi Orange Zones**

- 36 Tonkin and Taylor has assessed land damage and a possible land remediation engineering solution for each of the sub-zone areas of Kaiapoi, as shown in the map at Appendix A. This technical information has been used to assess the cost-effectiveness of remediation and the cost to the Crown of reclassifying these areas as Red or Green Zones. The technical information has not been peer-reviewed and has been sourced from third parties outside of CERA's control and may be subject to uncertainties additional to those discussed below.
- 37 Two of the sub-zones in Kaiapoi West (shown as G and H on the map attached at Appendix A) require further assessment on possible remediation solutions and therefore remain as Orange Zones until further work is completed.

### **Should the land be remediated?**

#### *Land repair suitable on an individual basis*

- 38 In the northern part of Kaiapoi North (area A as shown on the map at Appendix A), there are 219 properties. The engineering assessment indicates that the land is able to be repaired cost-effectively via the usual individual EQC/insurance process. Any land remediation would be no less disruptive than for other Green Zone properties. This does not meet the criteria for Red Zone in Paragraph 20, and should be reclassified as a Green Zone. This would allow home-owners to rebuild on their respective properties as for the other Green Zones in greater Christchurch (although some owners may elect to vacate their land in the Green Zone if they receive the full EQC land payout).

#### *Land remediation on a coordinated area-wide basis*

- 39 The other areas of Kaiapoi and Pines Beach considered in this paper (refer areas B, C, D, E F and I) have been assessed by Tonkin and Taylor as requiring area-wide

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<sup>1</sup> Excluding EQC costs



coordinated land remediation to make them viable for rebuilding. For these areas, the cost-effectiveness of undertaking such works has been analysed.

- 40 The post-remediation land value, as a proportion of the 3 September 2010 rateable land value (LV), that would be required to make land remediation cost-effective is shown in the table below. This provides insight into whether remediation may be cost-effective. For example, if land values need to increase to 120% of LV to make remediation worthwhile, it suggests that remediation is not cost-effective.
- 41 In contrast, if land values only need to increase to 50% of LV, there may be a case to proceed with remediation subject to consideration against the other criteria. An approach to properties that might fall into this category will be considered in a subsequent paper.

Area	Map reference (refer Appendix A)	Post-remediation land value required for cost-effectiveness (%LV) <sup>1</sup>	Upper estimate assuming 25% increase in costs <sup>2</sup>	Is remediation cost effective?	Number of residential properties
Southern part of Kaiapoi North	B	120%	145%	No	578
Kaiapoi South - Bowler Street south - river side only	C	325%	405%	No	22
Kaiapoi South - Raven Quay and Charters Street	D	85%	100%	No (although this is less clear-cut, this would require perimeter treatment and there is uncertainty about the costs)	103
Kaiapoi South - Courtenay Drive	E	105%	125%	No	130
Kaiapoi West Area 1	F	190%	235%	No	32
Pines Beach	I	140%	170%	No	78
					<b>943</b>

Table 1: Cost-effectiveness analysis for Kaiapoi Orange Zones

- 42 The cost-effectiveness analysis assumes the remediation works are undertaken and the benefits realised immediately. The upper estimate shown in the table assumes a cost increase of 25%, which might reasonably be expected from a combination of cost inflation over time, and unforeseen costs that arise during the detailed design process for area-wide engineering solutions. This was the case for the Kaiapoi works agreed post-September, where an additional \$18 million for more perimeter works was required

<sup>1</sup> Rounded to the nearest 5%.

<sup>2</sup> Cost increase in physical works may be expected due to cost inflation and unforeseen design costs.

after a more detailed investigation. In part this was due to changes in the seismic design code which is expected to increase further in the near future. Also, the costs could be expected to increase further if the land remediation was undertaken on a property-by-property basis.

*Areas which are not cost-effective to remediate*

- 43 The above analysis shows that it is not cost-effective to remediate the land in any of these areas. The map at Appendix C shows that the building damage in these areas is substantial with many properties being likely to require rebuilding. The infrastructure damage in these areas is also significant – a map of damage to roads is shown at Appendix D.
- 44 Assessment against the Red Zone criteria in Paragraph 20, provides further reasons not to remediate the land in these areas. The estimated time to complete land remediation solutions and rebuild for the areas of Kaiapoi outlined above are estimated by Tonkin and Taylor to be up to a further 2 years. Property owners in Kaiapoi have already had a long wait - land in Kalapoi was more badly affected in the 4 September 2010 earthquake compared to many areas of Christchurch City (which were generally harder hit in the 22 February 2011 aftershock).
- 45 Ongoing seismic activity in the Canterbury region means that remediation works may take longer than expected. Delays may arise from further seismic events, or if new knowledge comes to light about seismicity risk, requiring adjustments to the engineering solution applied. These factors would further add to the costs, reduce the benefits, and add to the disruption and uncertainty for property owners in these areas.
- 46 I consider these areas should therefore become Red Zones as they meet the criteria outlined in Paragraph 20. In these potential Red Zones, the extent of land damage means that the cost to reinstate infrastructure and remediate the land far exceeds the reasonable range of expected benefits and it is therefore not cost-effective to repair. This is particularly the case in areas where land levels have dropped materially, infrastructure has been severely damaged and the land is unable to continue to bear the weight of buildings, requiring costly infill, strengthening, and in some cases perimeter treatment works along waterways.
- 47 A map showing the proposed Red Zones for Kalapoi is at in Appendix E.

**Crown offer to purchase properties in the Red Zones**

- 48 For the Red Zones announced on 23 June, the government agreed to offer to purchase insured residential properties with the choice of two options [CAB Min (11) 27/12 refers] based on the 2007 rating valuation.

*2008 Valuation*

- 49 The rating valuations for Waimakariri District that were current on 3 September 2010 are 2008 rating valuations and I consider these should be used for Red Zone offers in Kaiapoi, Pines Beach and Kairaki. Rating Valuations within plus or minus 10 -15% of the sale price is an accepted international best practice standard for the mass appraisal valuations.

- 50 Analysis based on an assessment by Quotable Value (the rating valuers for Waimakariri District Council) shows that in the 12 month period prior to the 4 September earthquake, property sale prices<sup>1</sup> within the Red and Orange Zones of Kaiapoi indicate that:
- property sale prices were on average 102% of the Capital Value as indicated in the 2008 Rating Valuation
  - 63% of the properties that sold in the 12 months prior to 4 September were sold above the 2008 rating valuation
  - of the properties sold, the average capital rating valuation was \$281,000. The offer at 2008 rating valuation would be approximately \$5,600 below the market value for the average property in Waimakariri as at 3 September 2010.
- 51 A copy of the sales analysis report commissioned by CERA is attached as Appendix F.

*Offer and terms*

- 52 I consider that the government offer to purchase properties in the Red Zones should be extended to insured residential property owners in any new Red Zones in Kaiapoi and Pines Beach. I also propose that they should have 9 months to make a decision on the government's purchase offer (as for the previous Red Zones of 23 June).
- 53 I consider the final settlement date for accepted offers should remain at 30 April 2013. In terms of the phasing of settlement dates, I propose to discuss this with Waimakariri District Council.
- 54 No decisions have been made on the treatment of vacant residential lots or part builds, uninsured residential properties, or non-residential properties. Consideration to these property owners, along with any Crown or related property, will be considered over time. It should be noted that if a council owns property for residential purposes in a Red Zone and it is covered by EQC, then it will receive a Crown offer in respect of those properties.

*Crown contribution to legal fees*

- 55 For the 23 June Red Zones, the Crown agreed to pay a proportion of property owner's legal fees i.e. 50%, capped at \$750 for those who accept Option 1 and \$500 for those who accept Option 2.
- 56 I consider this offer should be extended to the new Kaiapoi and Pines Beach Red Zones and any subsequent Red Zones.

*Process for the offers*

- 57 I propose that a letter of advice be sent to all Orange Zone properties in Waimakariri District to inform them of their land status, and formal letters of offer be sent to landowners in the new Kaiapoi and Pines Beach Red Zones progressively from mid September 2011. This will allow sufficient time to obtain consent from property owners and to collect information on their properties from EQC and their insurance companies and formulate the purchase offer.

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<sup>1</sup> Exclusive of chattels

- 58 Further work is being done to establish whether the Red Zone purchase offer should be extended to properties which received a top-up payment from the government via EQC for their land after the September earthquake, one of which is in the proposed Red Zone in Kaiapoi North. Agreement is sought for the Minister of Finance and the Minister of Canterbury Earthquake Recovery to have power to act on policy decisions that may arise on this matter, and other technical issues in relation to the transaction design and letters of offer to Red Zone residents.

### Assessment of costs

#### *Green Zones*

- 59 In the northern part of Kaiapoi North, it is expected that the costs for land repair will fall to EQC under its obligation to its policy holders since the land should be able to be repaired via the usual individual EQC/insurance process.
- 60 The infrastructure repair to service these areas is estimated by Waimakariri District Council to cost \$6.5 million. The intention is that this work will be undertaken by Waimakariri District Council. For the repair of infrastructure following a major disaster, agreements between central and local government provide for cost-sharing. Under current arrangements, this amounts to:
- 60.1 Crown/local government pays 60/40% of costs to repair underground infrastructure (water pipes)
- 60.2 Central government contributes to local roads, with an indicative funding assistance rate for Waimakariri District assessed as 83% by NZTA in March 2011.
- 61 Treasury, Department of Internal Affairs and CERA are preparing advice for Cabinet on negotiations with local authorities for the sharing of appropriate earthquake-related costs. A paper will be presented to Cabinet before the end of September and will include applicability to Waimakariri District Council.

#### *Red Zones*

- 62 The cost of purchasing Red Zone properties is a cost to the Crown. As noted above, Tonkin and Taylor has estimated an overall cost uncertainty of -39% to +56%.
- 63 The ultimate cost will depend on:
- 63.1 Which of the two Crown offers are accepted by property owners
- 63.2 The amount of insurance recoveries received by the Crown under the purchase agreements.
- 64 It is estimated that the net cost to the Crown of the purchase offer for these Red Zone properties will be \$62.208 million (a gross cost of \$149.466 million less estimated insurance recoveries). This assumes that property owners will choose the option which maximises their payout. This is likely to represent an upper bound as some property owners may choose Option 1 if it saves them negotiating with their insurers and allows them to move on more quickly.
- 65 The Crown contribution to legal fees is estimated at an additional \$0.707 million.

- 66 Additional costs include those for the management of purchased land, such as to decommission infrastructure, clear the land, and grass the area (indicative \$9 million). A subsequent paper will address the management of purchased land and associated costs.

*Land remediation works previously agreed for Kaiapoi*

- 67 The most significant of the land remediation works previously agreed for Kaiapoi should no longer proceed in light of the analysis and decisions in this paper. I propose to invite EQC and Waimakariri District Council to report back to the Minister of Finance and me on the expenses that have been incurred to date and the next steps in relation to this project.

**Assessment of other impacts**

- 68 The implications of the Red Zones will have significant social and economic impacts on Kaiapoi. However, this needs to be considered in the context of the alternative of an extended land remediation and rebuild programme. Personal and community cost and disruption would have been required to return households where people currently or until recently lived, to a safe and pleasant living environment. These impacts are unavoidable and a consequence of the destruction from the earthquakes.
- 69 Based on the number of dwellings for the Kaiapoi town, the Red Zones proposed in this paper for Kaiapoi would require 24% of the population to become 'mobile'. This equates to approximately 2500 people moving from their homes in the Red Zones involving around 865 dwellings in Kaiapoi; and a further 78 dwellings in Pines Beach.
- 70 In the case of the Red Zones, social and economic impacts are likely to be felt in relation to schools, community organisations and sports clubs, community confidence and social cohesion, and town centre businesses and function. However, the significance of this will be felt most strongly if there is a low level of community/catchment retention of the Red-Zone residents.
- 71 In light of the possibility of some degree of Red-Zoning, the Waimakariri District Council is actively considering how to hasten a number of Kaiapoi catchment development areas at various stages in the planning process. This could require targeted use of Canterbury Earthquake Recovery Act powers to ensure that there are no unnecessary delays to new residential developments.
- 72 The businesses in the area, which are likely to be affected by these decisions, are outlined in Appendix G. Non-residential properties in the Red Zones will be addressed in a subsequent paper.

**Consultation**

- 73 Treasury was consulted on this paper.
- 74 The Department of the Prime Minister and Cabinet was informed of this paper.

**Financial implications**

- 75 Tonkin and Taylor's analysis indicates that the gross cost of purchase properties in the new Kaiapoi and Pines Beach Red Zones will be up to \$149.466 million. However, the Crown can also recognise the insurance receivables relating to the purchased

properties. The exact quantum of these receivables is yet to be confirmed, but the net cost of purchasing these properties is estimated to be \$62.208 million. It is important to recognise that these costs could increase depending on the interpretation of insurance policies and coverage.

- 76 The net costs of purchasing these properties will be a charge against the Canterbury Earthquake Recovery Fund. There is currently approximately \$436 million remaining in the \$900 million within the Fund tagged for land decisions, after accounting for the charge against it for purchasing properties in the Red Zones that were announced on the 23 June 2011. The decisions in this paper will therefore reduce this allocation by \$62 million.
- 77 This will leave approximately \$374 million in the Fund available for other land damage decisions. The government will also likely incur additional expenditure on land in the remaining Orange Zones and other areas as more information emerges. This forecast is also highly dependent on the amount of insurance receipts the Crown gets. It is further subject to time lags between payments and receipts.
- 78 In the event that further land decisions exceed \$374 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 and at the moment the amount remaining is roughly \$1.1 billion.
- 79 A new appropriation is required for the purchase of properties in the new Kaiapoi and Pines Beach Red Zones. An appropriation was not able to be obtained for the 23 June Red Zone announcements because there was no further opportunity to obtain Parliamentary approval for the expenditure in 2010/11. It is proposed that a new Non-Departmental Other Expense appropriation entitled "Acquisition of Canterbury Red-Zone properties" be agreed with the following scope: "This appropriation is limited to the acquisition of Red Zone properties in Canterbury."
- 80 Providing a contribution towards the legal fees of property owners in the new Kaiapoi and Pines Beach Red Zones is estimated to cost up to \$0.707 million. This expenditure will be a charge against the Canterbury Earthquake Recovery Fund and is additional to the \$3.830 million already charged against the Fund to assist property owners in existing Red Zones. An existing appropriation will need to be increased to cover this expense.
- 81 The infrastructure repair works are provided for under existing cost-sharing arrangements between central and local government for the repair of infrastructure following a major disaster. Under current arrangements, this amounts to:
- 81.1 Crown/local government pays 60/40% of costs to repair underground infrastructure (water pipes)
- 81.2 Central government contributes to local roads, with the proportion indicatively assessed as 83% for Waimakariri.
- 82 The costs for infrastructure repair in the Green Zones will be addressed in a subsequent paper.
- 83 There are additional costs for the management of purchased land, such as clearing the land and grassing the area, and other issues associated with the transaction of purchase. These costs, and those for the Red Zones announced on 23 June, are being developed and will be addressed in a separate Cabinet paper.

- 84 The nature of the decisions that Ministers are taking in this paper would normally trigger requirements to follow the Better Business Case standard (Cabinet Office Circular CO 10(2) refers). Given the urgency of the timeframes this has not occurred and we recommend that the proposals in this paper be exempt from those requirements. To the extent that future capital proposals requiring Cabinet approval are needed, Treasury will work with CERA to develop business cases that, to the extent possible, are consistent with the business case standard but do not compromise decision making timelines.

### **Human rights implications**

- 85 The proposals in this paper are not inconsistent with the New Zealand Bill of Rights Act 1990, or the Human Rights Act 1993.

### **Legislative implications**

- 86 There are no legislative implications arising from this paper.

### **Regulatory impact and compliance cost statement**

- 87 A regulatory impact statement is not required at this time as there are no regulatory changes.

### **Gender implications**

- 88 There are no gender implications associated with the proposals in this paper.

### **Disability perspective**

- 89 There are no disability implications associated with the proposals in this paper.

### **Publicity**

- 90 Following decisions, it is important to mobilise the public communications and support channels, for example outbound calling, community meetings, door knocking, letters of notification, and updating the LandCheck website.
- 91 I propose to announce the re-zoning for most Kaiapoi and Pines Beach Orange Zones on Tuesday 16 August, with LandCheck updated at the same time.
- 92 A letter of advice will be sent to all Orange Zone properties in Waimakariri District to inform them of their new land status (including those that remain Orange in the interim), and formal letters of offer be sent to landowners in the new Kaiapoi and Pines Beach Red Zones progressively from mid September 2011.

### **Recommendations**

It is recommended that Cabinet:

### **Background**

- 1 **Note** that on 23 June 2011, the Prime Minister and I announced four land damage zones for greater Christchurch and an offer of purchase for insured residential properties in the Red Zones.
- 2 **Note** that in these announcements, Kairaki was made a Red Zone and the following areas of Waimakariri District became Orange Zones: parts of Kaiapoi North, Kaiapoi South – Courtney Drive, Kaiapoi West, Pines Beach and a small area in Kaiapoi Lakes.
- 3 **Note** that some areas in Kaiapoi West and Kaiapoi Lakes (and the remaining Christchurch Orange Zones) will be assessed in subsequent papers, and remain Orange in the interim.
- 4 **Note** land remediation works post the 4 September earthquake for Kaiapoi North Bank, South and West have been put on hold by Waimakariri District Council pending decisions on the reclassification of the Kaiapoi Orange Zone.

#### Land Assessment Criteria

- 5 **Note** that the criteria for determining the 23 June Red Zones were [CAB Min (11) 24/15]:
  - 5.1 There is **area-wide land damage**, thereby implying some sort of area-wide solution; and
  - 5.2 An engineering solution to remediate the land damage would:
    - 5.2.1 **be uncertain** in terms of the detailed design, its success and its possible commencement, given the ongoing seismic activity,
    - 5.2.2 **be disruptive** for landowners, as the commencement date is uncertain (both in terms of confidence in the land settling sufficiently to begin remediation and the need to sequence the many areas where remediation would be required), and the length of time they would need to be out of their homes to allow remediation to occur and new homes built,
    - 5.2.3 **not be timely**: for example there is also substantial replacement of infrastructure required and/or the land level needs to be significantly lifted effectively requiring work equivalent to the development of a new subdivision, and would probably lead to significant social dislocation for those communities in the short-to-medium term,
    - 5.2.4 **not be cost-effective**: on a per section basis the cost of remediation is greater than the value of the land as shown below:

<i>The EQC contribution to the land remediation</i> + <i>The betterment cost (i.e. perimeter treatment and/or additional raising of the land)</i> + <i>Infrastructure removal and replacement costs</i>	
<i>If the cost of the above exceeds the value of the relevant land the area is reclassified as a Red Zone</i>	<i>If the cost of the above is less than the value of the relevant land then the area is reclassified as a Green Zone, but may require some land repair work</i>



- 5.3 The **health or well-being of residents** is at risk from remaining in the area for prolonged periods.
- 6 **Note** the Orange Zones require a more detailed assessment than the 23 June Red Zones because the assessment that the land is not suitable for rebuilding over the short to medium term may not be as clear cut.
- 7 **Rescind** the previous equation for determining the cost-effectiveness of land remediation as per Recommendation 5.2.4.
- 8 **Agree** a new methodology for determining the cost-effectiveness of land remediation solutions:
- 8.1 **not be cost-effective:** the cost of remediation is greater than the value of the land as shown below:

<i>Land reinstatement to pre-September condition</i> + <i>The betterment cost (i.e. perimeter treatment and/or additional raising of the land)</i> + <i>Infrastructure replacement<sup>1</sup></i> - <i>Decommissioning costs (infrastructure decommissioning and grassing)</i>	
<i>If the cost of the above exceeds the improvement in the value of the damaged land<sup>2</sup>, remediation is not cost-effective</i>	<i>If the cost of the above is less than the improvement in the value of the damaged land, remediation may be cost-effective</i>

#### Assessment of Kaiapoi Orange Zones

- 9 **Note** that areas of the Kaiapoi Orange Zones were divided into sub-zones to assess possible land remediation engineering solutions (refer map at Appendix A).
- 10 **Note** that land in the northern part of Kaiapoi North (refer area A of the map attached at Appendix A) is cost-effective to remediate and can be repaired via the usual individual EQC/insurance process and does not meet the criteria for Red Zoning.
- 11 **Agree** that the northern part of Kaiapoi North (area A) be rezoned Green.
- 12 **Note** the post-remediation land value, as a proportion of the rateable land value (LV), in place at 3 September 2010 that would be required to make land remediation cost-effective in the sub-zones is:

<sup>1</sup> Includes the infrastructure within the Orange Zones required to service the sub-zone area of interest (and excludes the cost to repair infrastructure required to service surrounding Green Zones)

<sup>2</sup> Despite the recent earthquake events, properties are likely to have some land value left. We assume there is 10% of the land value remaining in the properties, as indicated by the Valuer General.

Area	Map reference (refer Appendix A)	Post-remediation land value required for cost-effectiveness (%LV) <sup>1</sup>	Upper estimate assuming 25% increase in costs <sup>2</sup>	Is remediation cost effective?	Number of residential properties
Southern part of Kaiapoi North	B	120%	145%	No	578
Kaipoi South - Bowler Street south - river side only	C	325%	405%	No	22
Kaipoi South - Raven Quay and Charters Street	D	85%	100%	No (although this is less clear-cut, this would require perimeter treatment and there is uncertainty about the costs)	103
Kaipoi South - Courtenay Drive	E	105%	125%	No	130
Kaipoi West (F)	F	190%	235%	No	32
Pines Beach	I	140%	170%	No	78
					<b>943</b>

- 13 **Note** It is not considered cost-effective to remediate the land in the areas referred to in Recommendation 12.
- 14 **Note** area-wide land remediation in the above areas B-F and I would also be disruptive and uncertain and therefore meet the criteria for Red zoning.
- 15 **Agree** that areas B-F and I be rezoned Red.
- 16 **Note** that areas G and H in Kaiapoi West require further analysis and will remain Orange in the interim.

*Land remediation works previously agreed for Kaiapoi*

- 17 **Agree** the most significant of the land remediation works previously agreed for Kaiapoi should no longer proceed in light of recommendations above.
- 18 **Invite** the Minister of Finance and Minister for Canterbury Earthquake Recovery to report back to Cabinet on the expenses that have been incurred on this project to date and the next steps in relation to Kaiapoi.

<sup>1</sup> Rounded to the nearest 5%.

<sup>2</sup> Cost increase in physical works may be expected due to cost inflation and unforeseen design costs.

### **Crown offer to purchase properties in the Red Zone**

- 19 **Agree** to extend the government offer to purchase to insured residential property owners in the new Red Zones in Kaiapoi and Pines Beach outlined in Recommendation 15 (refer map at Appendix E).
- 20 **Note** no decisions have been made on vacant residential lots or part builds, uninsured residential properties, or non-residential properties (including Crown and related land) and consideration to these property owners will be considered over time; but that council-owned residential properties covered by EQC will receive the Crown offer.

### *Rating Valuation*

- 21 **Note** that the most recent valuations for Waimakariri District were made in 2008;
- 22 **Agree** the 2008 rating valuations will be the basis for the offers in Waimakariri District (including Kairaki Red Zone from 23 June), as these were the valuations that were in force immediately preceding the 4 September 2010 earthquake.

### *Crown contribution to legal fees*

- 23 **Note** that Cabinet previously agreed to fund 50% of the legal fees to a maximum of \$750 for those insured residential property owners who accept the Crown's Option 1, and a maximum of \$500 for those who accept Option 2 [CAB Min (11) 27/13 refers].
- 24 **Agree** the offer in Recommendation 23 be extended to the new Kaiapoi and Pines Beach Red Zones.

### *Process for the offers*

- 25 **Agree** that property owners have 9 months to make a decision on the Government's purchase offer.
- 26 **Agree** that the final settlement date for accepted offers should remain at 30 April 2013.
- 27 **Note** the Minister for Canterbury Earthquake Recovery will discuss the appropriate phasing of settlement dates with Waimakariri District Council.

### **Land availability**

- 28 **Note** in light of the possibility of some degree of Red-Zoning, the Waimakariri District Council is actively considering what would be necessary to hasten a number of Kaiapoi catchment development areas at various stages in the planning process.

### **Financial Recommendations**

- 29 **Note** that the gross cost of purchasing properties in the new Kaiapoi and Pines Beach Red Zones is estimated to be \$149.466 million;
- 30 **Note** that the Crown can recognise insurance receivables relating to the purchased properties.
- 31 **Note** that the net costs of purchasing these properties is estimated to be \$62.208 million.

- 32 **Agree** that the net cost of purchasing insured residential properties in the new Kaiapoi and Pines Beach Red Zones will be a charge against the Canterbury Earthquake Recovery Fund.
- 33 **Agree** to establish a new Non-Departmental Other Expense appropriation "Acquisition of Canterbury Red Zone properties".
- 34 **Agree** that the scope of the new appropriation in Recommendation 33 be "This appropriation is limited to the acquisition of Red Zone properties in Canterbury".
- 35 **Approve** the following changes to appropriations to provide for the purchase of insured residential Red Zone properties in Recommendation 15, with a corresponding impact on the operating balance:

Vote Canterbury Earthquake Recovery Minister for Canterbury Earthquake Recovery	\$m – increase/(decrease)				
	2011/12	2012/13	2013/14	2014/15	2015/16 & Outyears
Non-Departmental Other Expense: Acquisition of Canterbury red zone properties	99.644	49.822	-	-	-

- 36 **Note** that the cost of providing a contribution towards legal fees to property owners in the new Kaiapoi and Pines Beach Red Zones is estimated to be \$0.707 million.
- 37 **Agree** to charge the costs of contributions toward legal fees against the Canterbury Earthquake Recovery Fund.
- 38 **Agree** the following changes to appropriations to provide for contributions towards legal fees incurred by property owners in the new Kaiapoi and Pines Beach Red Zones, with a corresponding impact on the operating balance:

Vote Canterbury Earthquake Recovery Minister for Canterbury Earthquake Recovery	\$m – increase/(decrease)				
	2011/12	2012/13	2013/14	2014/15	2015/16 & Outyears
Non-Departmental Other Expense: Contributions towards legal fees	0.471	0.236	-	-	-

- 39 **Note** the costs for infrastructure repair in the new Green Zones referred to in Recommendation 11 are estimated to be \$6.470 million and will be addressed in a subsequent paper.
- 40 **Note** that land management costs of purchased properties will be addressed in a subsequent paper.

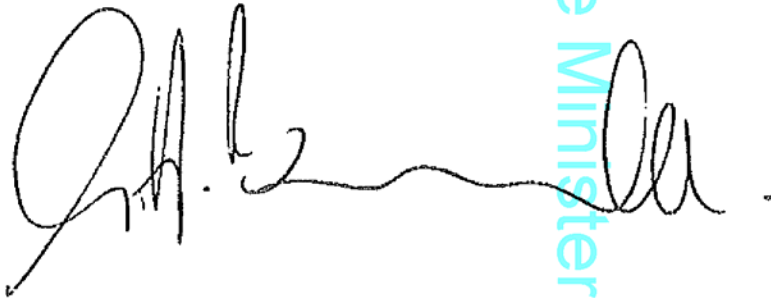
#### Publicity

- 41 **Agree** that an announcement be made on the re-zoning for the Kaiapoi and Pines Beach Orange Zones on Tuesday 16 August, with LandCheck updated at the same time.

- 42 **Agree** a letter of advice be sent to all Kaiapoi residential property owners in the areas identified in Recommendations 11, 15 and 16 to inform them of their land status, and formal letters of offer be sent to landowners in the new Kaiapoi and Pines Beach Red Zones progressively from mid September 2011.

**Power to Act**

- 43 **Delegate** authority to the Minister of Finance and the Minister of Canterbury Earthquake Recovery to have power to act on minor policy, technical and communications issues in relation to the transaction design and letters of offer to Red Zone residents in Kaiapoi and Pines Beach.



Hon Gerry Brownlee  
Minister for Canterbury Earthquake Recovery

12, 08, 11