IN THE CANTERBURY EARTHQUAKES
INSURANCE TRIBUNAL CEIT-0010-2020

IN THE MATTER OF	CANTERBURY EARTHQUAKES INSURANCE TRIBUNAL ACT 2019
BETWEEN	G
	Applicant
AND	EQC
	First Respondent
AND	SR
	Second Respondent (Discontinued)

Date: 11 November 2020

On the papers

DECISION OF MEMBER C D BOYS

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[1] The Canterbury Earthquake Sequence (CES) events, caused unprecedented damage. One of the most remarkable aspects was the effect the earthquakes had on the land, which underlies Christchurch, and its surrounds. Whole suburbs were shaken down closer to sea level, some were uplifted. Liquefaction caused buildings to settle into the ground, rivers, streams and other water courses were narrowed by slips and lateral spread of their banks. These changes caused parts of the city, already flood prone as they were built on: low lying ground, drained swamp, or flood-plains, to become more likely to suffer from floods.

[2] The increased flooding vulnerability (IFV) is land damage, recognised as being covered by the Earthquake Commission Act 1993 (the EQ Act). The forces and processes involved are well described by the full bench of the High Court in *Earthquake Commission v Insurance Council of New Zealand* (*Earthquake Commission v ICNZ*).[1] This decision is important to the dispute before me, and I discuss it at length below.

[3] xxxx is the home of G. It is a house built on a back section, in a flat part of Christchurch. The house was damaged during the CES events. Repairs were carried out by Milne Construction working for the Fletchers repair programme. Unfortunately, the repairs were defective, or inadequate. These issues were discovered in 2015, and correspondence between G and EQC began. Ultimately the issues were not resolved and disputes about various issues arose, leading to this application.

[4] The circumstances of this application are somewhat unusual due to the fact that, unlike most of the home insurance policies in place in Canterbury in 2010/2011, the policy insuring the house was capped with a sum insured of $150,000. All indications are that the damage to the house exceeds this amount, and the sum insured has been exhausted. The physical damage to the house has been largely settled by payments from EQC and the insurer, SR, which has been removed from these proceedings.

[1] *The Earthquake Commission v Insurance Council of New Zealand Inc* [2014] NZHC 3138 at [58] – [61].

[5] There remain unresolved:

(a) EQC's liability for the costs to rectify the defective repairs and to make good consequential water damage caused by the defective repairs; and

(b) G's claim for IFV.

[6] As I understand it the liability for the defective repairs and consequential water damage has been largely agreed although not finalised. This issue has not been pleaded in a way which would enable me to make a decision. It appears that the parties have made considerable progress in resolving this issue and I encourage them to take the steps to finalise those discussions.

[7] However, the claim of IFV damage to the land, is a live dispute. G's daughter L has cited instances during recent years where heavy rainfall has led to water building up on the land and entering the house. EQC says the land is not more vulnerable than its pre-earthquake condition. The question before me is whether the evidence provided by G shows that her land has become more at risk of flooding and meets the legal criteria to be considered as land damage. There are also some residual matters around a claim for general damages for distress and inconvenience to be considered.

THE LEGAL FRAMEWORK

[8] Section 19 of the EQ Act insures land:

> 19 Residential land
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> Subject to any regulations made under this Act and to Schedule 3 to this Act, where a residential building is deemed to be insured under this Act against natural disaster damage, the residential land on which that building is situated shall, while that insurance of the residential building is in force, be deemed to be insured under this Act against natural disaster damage …

[9] The EQ Act definitions at s 2 include:

> Land does not include improvements
>
> Natural disaster means, …
>
> (c) in the case only of residential land, a storm or flood.

> Residential building means-
>
> (d) All water supply, drainage, sewerage, gas, electrical, and telephone services, and structures appurtenant thereto—
>
> (i) Serving a dwelling referred to in paragraph (a), or a building or part of a building referred to in
>
> paragraph (b), of this definition or surrounding land…

Earthquake Commission v Insurance Council of New Zealand Inc

[10] In *Earthquake Commission v ICNZ* the full bench of the High Court considered whether IFV was natural disaster damage as defined by the EQ Act and concluded that: [2]

> As a direct result of the earthquakes, there has been a disturbance to the physical integrity of the land, reducing it in volume and leaving the body of the land in a changed physical state. This changed physical state has resulted in the land being more vulnerable to flooding, thereby adversely affecting its use and amenity. The primary use of residential land is as a platform for building. Land that is materially more prone to flooding is plainly less suitable for this purpose and is less habitable. The criteria for physical loss or damage are satisfied. We conclude that Increased Flooding Vulnerability constitutes natural disaster damage to insured residential land for the purposes of the Act.

[11] The Court identified three relevant mechanisms that can cause flooding:[3]

(a) water flowing over land, or pluvial flooding, where the run-off from rainwater exceeds the capacity of drainage systems, or has changed overland flow paths, causing land to be flooded by water flowing on to it;

(b) river flooding, or fluvial flooding, where changes to the profile of watercourses reduces their capacity to drain excess water away, and the excess overflows, causing flooding; and

(c) tidal flooding, whether global settlement of land means that it is now affected by extreme high tides.

[12] The Court made the following declaration:[4]

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[2] At [79].
[3] At [36] – [38].
[4] At [80].

> In relation to "residential land", "natural disaster damage" under the Act may include circumstances where one or more earthquakes have caused physical changes to any such land and such changes have adversely affected the uses and amenities that could otherwise be associated with the land by increasing the vulnerability of that land to flooding events (Increased Flooding Vulnerability).

[13] The Court also considered the means by which EQC could settle IFV claims. The options discussed included remediation to raise the land to its pre-earthquake level by overlaying it with compacted soil. However, the Court noted that such an approach may often be infeasible due to the effects that such steps could have on liquefaction prone soils and neighbouring land.[5] The Court noted that EQC's policy contemplates that many claims would be settled by way of payment, a contingency open to the commission under s 29 to of the EQ Act.

[14] The Court compared and contrasted the cover for land in s 19 with the cover for residential buildings in s 18. It concluded that IFV cover under the EQ Act is available for land but not for residential buildings. This was due to the unique scheme of the Act which provides separate cover for residential land and for residential buildings. This is in contrast to the usual contractual arrangements of an insurance policy where there is no such distinction between a building and the underlying land of the building platform.

[15] The Court noted that EQC has flexibility to tailor its indemnity response to a particular case, concluding that EQC's policy of settling claims on the diminution of value basis in appropriate cases is consistent with its obligations.[6]

[16] The Court made the following declaration regarding the settlement of IFV claims:[7]

> Increased Flooding Vulnerability
> The settlement of claims compliant with the Act for natural disaster damage to residential land involving Increased Flooding Vulnerability may be approached on the basis of the Commission:
> (a) indemnifying the claimant against his or her financial loss by an appropriate payment, including by payment of:
> (i) the costs of relevant and appropriate repair or reinstatement activities; or
> (ii) in appropriate circumstances, by payment of the loss of market value of the insured land together with any associated residential buildings; or
> (b) at the option of the Commission, by undertaking relevant and appropriate repair or reinstatement activities.

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[5] At [95].
[6] At [114].
[7] At [125].

[17] It must be noted that, despite the fact that the EQ Act confers a discretion on EQC as to the means by which claims are settled, this discretion is not without limits and is subject to normal requirements that any decisions are reasonable and give effect to the purposes of the legislation.

[18] The Court also reviewed EQC's IFV policy (the policy). The policy was developed to deal with the major logistical issue of identifying which of the 169,000 properties for which EQC had received claims, had been affected by IFV. The policy was to identify affected properties using information obtained from two primary sources:

(a) aerial LiDAR surveys; and

(b) physical observations taken by 400 engineers of the land damage experienced across Christchurch.

[19] EQC sought declarations from the Court to affirm its framework for assessing IFV. The Court declined to make these declarations, instead finding that EQC was entitled to develop guidelines, and that these should not be applied mechanically. It was found that the commission is required to act in good faith, and that a decision under the guidelines was open to challenge or review.

THE FACTUAL BACKGROUND

[20] G's claim is that the earthquake related settlement of the land at xxxx (the land), has increased its vulnerability to flooding. L provided evidence that, every year since 2010, the property suffers from flooding and pooling. She states that when there is heavy persistent and prolonged rain, water pools on various parts of the property and enters the back door of the house and the garage. Her evidence is that the water is from rainfall, rather than due to drainage from surrounding land, or from changes in the flows of watercourses at, or near, the property. The areas she says are affected by the pooling are; the driveway, the paved areas beside the lawn, areas of the lawn itself, the front of the garage, the back of the garage, and at the back door where the house has sunk into the land, due to differential settlement.

[21] I note that the Christchurch City Council maps supplied by both parties show that the property is approximately 100 metres from the nearest water courses, two small, culvert bound streams to the north and east. The property is in a wider flood management zone, is affected by a 1 in 50-year flood risk, is surrounded by land affected by 1 in 200-year flood risk, but is not itself within that assessment. Council documents from 1992 indicate that the property was in a flood limitation area prior to the CES events.

[22] Both parties have also submitted expert evidence by way of reports from their respective experts.

[23] EQC has submitted reports and correspondence from Mr Mike Nugent, a geologist, and Mr Mark Taylor, a civil engineer, both employed by Tonkin and Taylor. Both Mr Nugent and Mr Taylor are experienced and well qualified in their fields. G has submitted reports and correspondence from Mr Adrian Cowie of Topografo. Mr Cowie is an experienced and well qualified surveyor. All the experts meet the criteria of being suitably qualified to provide expert opinion on the issues before me. There were a number of reports issues by all three experts, as they exchanged views and responded to the opposing position over the period of several years. Many of the individual reports repeat previously made assertions and analysis. For the sake of brevity, I will consider the reports as a whole, which will inevitably involve summarising complexity. As both Mr Nugent and Mr Taylor authored reports, I will refer to their collective reporting as being from Tonkin and Taylor (T&T).

[24] Much of the discussions in the reports refer to LiDAR data, and modelling derived from those data. LiDAR stands for "light detection and ranging". It is a survey method which uses pulsed lasers to measure distance between the land being measured and the measuring equipment. Aerial LiDAR surveys were conducted by Christchurch City Council in 2003, and on behalf of EQC in September 2011 and February 2012. Comparisons of the pre and post CES surveys were used to create a suite of digital elevation models (DEM) showing the earthquake induced vertical movement of the land on which Christchurch stands.

[25] While a useful tool, LiDAR is a blunt instrument, as the equipment cannot differentiate between geographical features and other objects, such as trees or buildings. This is referred to as "surface roughness" and statistical methods are used to account for these effects. The DEM modelling also suffers from the fact that the pre-earthquake survey, carried out in 2003, had a

lower resolution than the later surveys. All up this means that the DEM have a vertical accuracy of +/-0.15 m, made up of the combined standard deviations of the 2003 surveys; +/-0.11 m, and of the post-earthquake surveys; +/- 0.03 to 0.04 m.

[26] T&T has based its assessment of IFV on three thresholds which are:

(a) Has the exacerbated flood depth on the residential land increased by 0.2 m or more as a result of the CES?

(b) Has the exacerbated flood depth on the residential land increased by 0.1 m or more as a result of a single earthquake event?

(c) Has the residential land suffered observable land damage as a result of the CES?

[27] T&T's conclusion on these three thresholds was that the land did not meet criteria A and B, and that criteria C was not applicable, presumably as there was no observed land damage recorded at the site.

[28] I note that these criteria, while useful as a triage tool, cannot be applied too rigidly. It is not difficult to envisage that 0.1m of flooding, were it to happen on a regular or prolonged basis, would have a clear adverse effect on the uses and amenity of residential land.

[29] T&T's analysis includes topographical diagrams, derived from the LiDAR data, showing that the property is adjacent to land which sits lower than it. Due to the distance from waterways, T&T's modelling does not show the property affected by fluvial flooding. This is consistent with L's evidence. Rather, the property is at risk of pluvial flooding, from heavy rain events which exceed the ability of manmade and natural drainage to remove excess water from the surrounding neighbourhood. However, T&T's modelling is that this risk was present before the CES events and is unchanged by the settlement of the land.

[30] Mr Cowie believes the land has suffered IFV, based on the following observations:

(a) that the house has settled differentially and, therefore, the land acting as a building platform has lost utility and function;

(b) that the site has settled in relation to the curb height at the front of the section by 0.093m and therefore drain pipes have less fall than prior to the CES events;

(c) that the site as a whole has settled locally against a remote datum point (approximately 250m away) by 0.21m, allowing for water to drain onto the site; and

(d) that global settlement, that is settlement of the site and its surrounding neighbourhood against the Christchurch City datum, combined with localised settlement, mean the site has settled globally by 0.35m, and the floor level of the house is now below the 50 year floodplain required by current building regulations.

[31] These observations lead Mr Cowie to conclude that:

(a) the loss of height against the curb means that wastewater pipes will no longer discharge efficiently, and will be less able to drain away rainwater which falls upon the land;

(b) that the floor height is no longer 0.18m above kerb height as required by the building consent;

(c) that the settlement with regard to the remote datum point, will increase the frequency of flooding caused by movement of water across the surrounding land; and

(d) that the global settlement means that the house is now flood prone as its floor level is now below that required by Christchurch City Council's interim building code for new buildings.

[32] Mr Cowie is critical of the T&T's assessment. He says, amongst other things:

(a) T&T did not correctly apply the definition of damage from *Earthquake Commission v ICNZ*;

(b) T&T ignores civil engineering design principles by not placing sufficient weight on the loss of floor level height against the kerb, the loss of freeboard and that the floor level is below minimum heights required by current regulations;[8]

(c) that the authors of the T&T reports should have visited the site (a criticism repeated by L); and

(d) that the DEM is a "blackbox" calculation, using data which cannot be checked for veracity.

[33] T&T's response is that:

(a) it applied the correct definition of damage, pointing out that, in *Earthquake Commission v ICNZ*, the Court drew a clear distinction between land damage and dwelling damage, and IFV is not damage to residential buildings;

(b) issues such as free board, minimum floor heights and the loss of kerb height was building damage rather than land damage;

(c) while neither Mr Nugent or Mr Taylor had visited the site, other T&T staff had; and

(d) it provided information regarding the modelling, the data used and the assumptions which underpin the modelling.

[34] T&T acknowledges the loss of height to the kerb may have occurred as a result of the CES, and may have affected stormwater drainage *from* the property. However, it says this is not IFV damage. It also notes that some of the current minimum floor level requirements are driven by projected sea level rises and are therefore not related to earthquake issues.

[35] All up T&T reiterated that, in order for the land in question to have suffered from IFV, the property would need to have settled more than the surrounding land. However, this had not occurred.

[8] The minimum height of a building's floor level above the surrounding land, as required by building regulations.

Analysis

[36] IFV is not a straightforward issue; that land has settled either locally (with reference to its immediate surrounds) or globally (with reference to the wider Christchurch area) does not of itself mean that the risk of flooding has increased. For instance, a property may have been part of the city which was affected by uplift but, because of changes in the local topography, or in the drainage patterns of nearby watercourses, the risk of flood may be increased. Alternatively, a property may have undergone settlement, but, as nearby properties have suffered greater settlement, have a lessened risk of flood. Projected increases in heavy rainfall events and higher sea-levels due to global heating complicate the picture.

[37] I note that both parties largely agree on the amount of settlement suffered by the land. Conventional survey methods were used to cross check the accuracy of the DEM. I note that Mr Cowie's survey produced results for the site which were within a standard deviation for the DEM derived results. This shows that the DEM data is reliable within its implicit constraints.

[38] Mr Cowie is critical of the accuracy of the data which, limited by resolution issues, produces levels averaged across 5m x 5m squares. However, given his own on the ground surveys are largely consistent with the DEM, I do not see that this criticism has any relevance. Mr Cowie relies on Christchurch City Council flood datum modelling, which is itself, in part, derived from the DEM data. My reading is that both parties agree on the extent of the vertical movement of the land. Where they differ is whether this settlement means that the land has suffered IFV.

[39] It is important to keep in mind the distinction, drawn by the Court in *Earthquake Commission v ICNZ*, that under the EQ Act, IFV is not damage to residential dwellings. Had the sum insured for the house not been exhausted, it is arguable that the policy could respond to the IFV. However, in this case that is a moot point.

[40] There are in effect two propositions put forward by the parties as to the meaning of IFV:

(a) that IFV, as covered by the EQ Act, means only the risk of water entering the land from beyond its boundary, with rivers overflowing, excess tidal effects, or

from heavy rain events which overwhelm drainage leading to water draining across the land.

(b) That IFV, as covered by the EQ Act, can include the risk of water pooling due to the failure of drainage systems to remove rainfall.

[41] The evidence does not support that the first of these meanings has occurred at xxxx. The criticisms of T&T's modelling do not persuade me that it can be discounted. There is no evidence to show that land is more flood prone, due to fluvial, pluvial or tidal flooding, than it was prior to September 2010. The land in question has undoubtedly suffered global settlement, however, this is also true of the land which surrounds it. The evidence shows that the land at xxxx, in fact, sits slightly higher than the surrounding land, as it did before September 2010. There is no evidence that nearby watercourses have had their flows changed in any way which would increase the risk that they will overflow. Nor is there evidence that vertical settlement means the land will be affected by excess high tides.

[42] In order for G's claim for IFV to succeed, the second meaning at [39] must be available in terms of the EQ Act.

[43] The Interpretation Act 1999 states:

> **5 Ascertaining meaning of legislation**
>
> (1) The meaning of an enactment must be ascertained from its text and in the light of its purpose.

[44] The purpose of the EQ Act is to provide insurance for residential property, including land, against damage caused by natural disaster. The Act uses the word "flood"; it is one of the natural disaster events covered by the Act. That provides some context, but the scheme of the Act adds little more in the context of IFV.

[45] In *Earthquake Commission v ICNZ*, the Court viewed flooding, in the context of IFV, as being fluvial, pluvial or tidal. This is consistent with the EQ Act as insuring against natural disasters, rather than smaller damage causing events.

[46] The OED defines flood as; "an overflow of a large amount of water beyond its normal limits, especially over what is normally dry land".

[47] Given the text and purposes of the EQ Act, and approach of the Court in *Earthquake Commission v ICNZ*, and the dictionary definition of the word "flood", I find that the pooling of water caused by heavy rainfall, described by G is not IFV covered by s 19 of the EQ Act. The pooling is consequential to damage to drains which are appurtenant to the dwelling, and therefore both covered under s 18 of the Act and excluded from the definition of land by s 2. However, as discussed above, the cover for the dwelling has been exhausted. G's claim for IFV is unsuccessful.

GENERAL DAMAGES

[48] G has made claims for general damages due to hurt and distress caused by EQC's handling of the claims. In the context of an insurance policy, such damages are available when the insurer has breached its duties of utmost good faith.[9] Under the EQ Act, there is no similar duty, however, that does not mean that such damages are not available where a statutory body, such as the EQC, has failed in its statutory obligations in a manner which has unreasonably and un-necessarily caused distress.[10]

[49] In *Dodds v IAG,* Gendall J noted that there was a reasonably high threshold to be met, before general damages for distress could be awarded.[11] In *Sleight v Beckia Holdings* Gendall J reviewed the earthquake cases where general damages had been considered or awarded.[12] *Sleight* itself was a case where defective repairs were a significant part of the cause of action. It was found that the behaviour of the insurer and project manager was not at a level where general damages were justified. However, the liquidated builder had behaved in a way which did justify general damages, had any assets survived.[13]

[50] In this case, G advised EQC of the defective repairs in 2015. On 12 September 2016, EQC advised that it was unable to carry out remedial work before 2017, and offered a cash

[9] *Young (as trustees of Young Trust) v Tower Insurance* Ltd [2016] NZHC 2956.
[10] *Gabilinscy and Another v Hamilton City Corporation* [1975] 1 NZLR 150.
[11] *Dodds v Southern Response Earthquake Insurance Services Ltd* [2019] NZHC 2016 at [223].
[12] *Sleight v Beckia Holdings Limited & Ors* [2020] NZHC 2851.
[13] At [706] – [707].

settlement. On 10 January 2017, EQC wrote to G seeking to arrange a meeting to find a suitable resolution. After this the correspondence indicates that the issues became about a difference in remedial solutions. I have no doubt that the suffering experienced by G, is real and distressing, caused as it is by the uncertainty and frustrations caused by living in an improperly repaired home which was suffering water ingress due to the defective repairs.

[51] This case is similar to *Sleight*. Whilst EQC's initial assessment and repairs were, by its own admission, inadequate, the fault for the defective repairs seems to me to lie principally with Fletchers, the project manager, and the builder, Milne Construction, neither of whom were parties to this application. While there were delays it was apparent that EQC was responding, although the timeframes were prolonged, and the solutions offered were disputed. Overall, EQC has not behaved in a manner which justifies an award of general damages.

C D Boys
Member
Canterbury Earthquakes Insurance Tribunal