CPEC
Chartered Professional Engineers Council
Kāhui Kaiwetepanga Ngaio Whaimana

APPEAL NUMBER 01/17

In the matter of the Chartered Professional Engineers of New Zealand Act 2002

AND

In the matter of an appeal to the Chartered Professional Engineers Council pursuant to Section 35

Between

Mr and Mrs A

Appellants

And

Mr B CPEng., MIPENZ, IntPE(NZ)

Respondent

Introduction

1. This decision relates to an appeal to the Chartered Professional Engineers Council ("the Council") under the Chartered Professional Engineers of New Zealand Act 2002 ("the Act"). The appeal is of a decision of an Investigating Committee ('the IC'), dated 21 December 2016.

2. The Appeal relates to a complaint made by Mr and Mrs A to the Registration Authority ('the RA') by letter dated 8 October 2015. The original complaint was made against Mr B, who is Managing Director of Business C ("Business C"), and also Mrs D, who is an engineer employed by Business C. As Mrs D is not a Chartered Professional Engineer however, this Council has no jurisdiction over her actions. Moreover, in respect of the work done for Mr and Mrs A, it was Mr B who approved Business C's report on Mr and Mrs A's property, as the responsible Chartered Professional Engineer.

3. Mr and Mrs A complained about a structural engineering report on their house in Christchurch that was commissioned by their Insurers, was authored by Mrs D and signed off by Mr B. They complained about the accuracy of the findings and conclusions in the report, the basis for the findings, and the recommendations. Their concerns include the findings in the report relating to lateral stretch, floor levels, the location and size of cracks in the perimeter foundations, and the recommendation that the floor level be reinstated by "jacking and packing" the foundations and repairing cracks with epoxy resin.

4. For the reasons set out in its full decision, the Investigating Committee decided to dismiss the complaint about Mr B in accordance with Rule 60(b) of the Chartered Professional Engineers of New Zealand Rules (No 2) 2002, on the grounds of Rule 57(a) - that there is no applicable ground of discipline under section 21(1)(a) to (d) of the Act.

Background and context for the appeal

5. Mr and Mrs A own a two level 168m^2 timber framed house on a concrete perimeter beam and internal concrete piles at Address E in Christchurch. The house is in the east of Christchurch in the TC-2 zone, immediately adjacent to TC-3 zoning.

6. Mr and Mrs A advised that their house was subjected to extensive movement during the 22 February 2011 earthquake, with some significant damage to the house and its foundations. The history of their experience in terms of repair and reinstatement of their home since that time is summarised as follows:

   - The Earthquake Commission (EQC) delayed their initial claim for around 30 months;
   - in September 2013 Insurance Company F (F) "took over the project" and employed Business G (G) to carry out a full assessment;
   - in January 2014 Business G undertook an assessment and costed the job to include a replacement foundation;
   - in June 2014, new loss adjustors H were assigned;
   - Loss adjusters H (H) employed Business I (I) as project managers, Business J (J) for

ground testing, and Business C for a structural assessment.

- Business J prepared a report dated 16 September 2014, and stated that a foundation rebuild was deemed appropriate. They advised however that "before considering this alternative, a detailed structural assessment in order to verify the appropriate recover strategy, should be carried out by a suitably qualified structural engineer".
- The Business J report also noted that Insurance Company F had advised them that the property repairs were to comprise:
    i. Lifting and bracing of the dwelling
    ii. Full removal of the existing concrete ring and internal piles and replace with new foundations
    iii. Lower the superstructure onto the new foundation
- The Business C report is dated 6 November 2014. It states:

    "Based on the information provided in the geotechnical report, the MBIE guidelines and our own assessment, we consider the site geotechnically suitable for foundation reinstatement by re-levelling the floor. This conclusion is supported by the low MBIE index value for SLS settlement of 10mm, the low expected Lateral Spread as well as the adequate bearing pressure across the site at foundation level.

    We therefore recommend reinstating the floor levels by jacking the perimeter foundation through a process of underpinning, whilst systematically packing piles and bearers. Cracks throughout the perimeter foundation shall be repaired with an epoxy resin where appropriate."
- In their project scope report dated 20 November 2014 and signed off on 4 December 2014, Business I incorporated (thereby confirming) the Business C recommendations. The report is titled 'EQ Reinstatement Project: Insurance Company F—Address E'.
- The Appeal Panel understands that no reinstatement work has yet been done on the house.
- Mr and Mrs A have been in discussion and negotiation with their insurer, F, since that time, as they disagreed with Business I's conclusions and especially Business C's report and its recommendations.
- Mr and Mrs A made the complaint to the Registration Authority about the report done by Business C and its engineers on 8 October 2015.
- Mr and Mrs A engaged the assistance of MBIE's Residential Advisory Service ('the RAS'). A request for advice was made on 12 October 2015. A report was received by them from the Technical Advisory Panel to the RAS, prepared by Mr K of Business L, on 4 February 2016[1]. We will discuss this report further below but note here that this report was not made available to, or considered by, the Investigating Committee, nor seen by Mr B at the time that it was completed. It was received by the Appeal Panel on 2 July 2017, and immediately provided to all parties.
- This Appeal Panel now understands, as a result of information provided during the submission process by Mr and Mrs A, that the insurers, F, have commissioned

[1] This date is shown in footnote 6 on page 2 of Mr and Mrs A's notice of appeal dated 19 March 2017 (received by the Appeal Panel by email 27 March 2017)

a second structural engineering report - from Business M - and that, based on that report (completed 11 April 2016, but not submitted to the Registration Authority), a full foundation replacement is to be undertaken for Mr and Mrs A' house. A copy of Business M's report was provided to the Appeal Panel by Mr and Mrs A on 2 July 2017, and also distributed subsequently to the parties. It appears to have been seen earlier by Mr B (see his letter to IPENZ dated 19 April 2016 (page 416/417 of the bundle of documents).

7. The submissions made by Mr and Mrs A in their original complaint were:

   i. "that regarding the floor levels, Business C is using MBIE guidelines which are not based on sound engineering methods.

   ii. "that regarding the lateral spread, this was not measured and has proven to be well over the MBIE guidelines (if these could be seriously considered as sound engineering concepts).

   iii. "that Business C has called it 'minor vertical cracking' and 'approximately 5mm in width' yet at up to more than 13mm gaps, this must be considered breaks.

   iv. "that Business C has made the suggestion that because the 'cracks are mainly located at the corners of vents and do not compromise the structural performance of the foundation' is again a sign of poor understanding of sound engineering principles.

   v. "that Business C and in fact no-one has been under our floor (due to lack of access) so have no idea if these are cracks or breaks'; that is right through the full thickness of the wall.

   vi. "that Business C and in fact no-one has been under our floor (due to the lack of access) so have no idea of the condition of the piles.

   vii. "that jack and pack as a method has proven unreliable at best, and is certainly not earthquake–proof.

   viii. "that no-one can be assured that any adhesive can have full double-face coverage in such gaps as we have in our foundation ring.

   ix. "that none of the recommendations made by Business C can be assured to meet future possible earthquakes as well as our house did during the 2010-2012 series and that is a reasonable expectation."

8. In their formal appeal letter of 19 March 2017 to this Council, Mr and Mrs A set out additional grounds for their appeal:

   i. "that the Investigating Committee does not appear to have explored the evidence provided in our complaint and subsequent submissions in a thorough and even-handed manner. It seems that whatever Mr B *et al* say in reply to our statements, it is taken as fact. Most of our concerns are not even answered or discussed in the Final Decision.

   ii. "that this is not just about our disagreeing with the Mr B's and Ms D's recommendations, but that five other qualified organisations disagreed with them; EQC; Insurance company F's own in-house assessors; Business J; the MBIE Technical Panel; and Business M.

   iii. "that Mr B's suggestion is that Business J only recommended a foundation rebuild based on the insurance company's terms of reference, which are in

turn based on an earlier assessment is clearly false. It is clear and Business J has confirmed that the recommendation was based on their findings.

iv. "that no measurement of cumulative lateral stretch was carried out by Business C's employees, which is an essential part of best practice in these circumstances. Perhaps Mr N and Mr B could explain how this could possibly be associated with differential settlement. Business J's report clearly states that there is stretch.

v. "that the two signees of the recommendation (Mr B and Ms D) made that decision without taking into account Business J's report. If they had, they would have noted the existence of the floor levels data from the Insurance company F's Home Assessment summary, which Mr B denies having seen. If they had read Business F's report, they would surely have asked for a copy.

vi. "that at no time has Mr B, as Managing Director of Business C, ever attempted to consider the needs of the homeowner. He lied about the date he received his copy of the complaint. He did not bother contacting us until the investigation was confirmed to go ahead. He then had an opportunity in April 2016 but implied that we did not know what we were talking about; that the recommendation was within the MBIE Guidelines, and that any other recommendation was just a difference of opinion. He colluded with Business I to get information after the complaint and he tried to bully us into letting the complaint drop".

Process

9. The RA received the complaint from Mr and Mrs A (dated 8 October) on 12 October 2015.

10. Mr Charles Willmot, the Complaints Research Officer of the RA ('the CRO') completed an initial investigation report on 3 November 2015, which was then considered by Ms Joanna Saywell, the Chair of Investigating Committees (CIC) acting as Adjudicator.

11. The CIC, in her adjudication report of 16 December 2015, considered the CRO's report, as well as the referenced documentation, which included a response to the complaint from Mr B on behalf of both respondents dated 20 October 2015. She considered the grounds of discipline under the Act and decided that the complaint should be referred to an Investigating Committee.

12. On receipt of the Adjudicator's report, Mr B immediately appealed to CPEC, on the basis that the Adjudicator's report contained technical statements that he did not agree with, and would wish to address immediately, and also that alternative dispute resolution had not been fully explored.

13. The Chair of CPEC, Mr Jon Williams, wrote back to the RA suggesting that in the interest of handling this appeal in as expeditious manner as possible (i.e. rather than proceeding to a full appeal hearing at this point), the Adjudicator's report be withdrawn and a new report issued. He instructed that in accordance with Rule 58 (d), the Adjudicator should explore the possibility of alternative dispute resolution with both Mr B and Mr and Mrs A. Should this not be successful the Adjudicator should refer the complaint to an Investigating Committee.

14. The Adjudicator's revised report was issued on 18 February 2016. It acknowledged "that there may be a possibility of a meeting between Mrs D, Mr B, the complainants and an independent technical expert. This might clarify or modify Ms O's and Mr B's conclusions and thus address the complainants' concerns". If resolution by alternative

dispute resolution was not possible, her conclusion was that the complaint should be referred to an Investigating Committee.

15. A facilitated meeting was held between the complainants and Mr B in Christchurch on 1 April 2016. This did not achieve resolution of the complaint.

16. An Investigating Committee was appointed by the Registration Authority on 16 June 2016, and issued a provisional decision to the parties on 30 September 2016, seeking their response and any comments by 14 October 2016. Because of the tragic death of their son, Mr and Mrs A requested an extension of time to respond, which was granted.

17. Having not heard back from Mr and Mrs A or their legal adviser by early December (and despite several attempts to make contact with either of these), the RA decided it would be best to proceed and to issue the final IC report. This was finalised before Christmas 2016 and issued to the parties on 13 January 2017.

18. Mr and Mrs A sent a letter to the Council on 7 February 2017, commenting in some detail on aspects of the IC report, but also on the process involved. They appear to consider that CPEC is part of the same organisation as the Registration Authority and expressed unhappiness at the response timeframes they had been asked to meet despite apparent delays elsewhere in the process.

19. The Chair of CPEC acknowledged receipt of the letter from Mr and Mrs A by letter dated 16 February, and asked them to provide a notice of appeal as per the CPEC requirements. The letter noted that this would need to set out the grounds for the appeal in sufficient detail to give a full explanation of the issues involved, and the outcome sought.

20. An Appeals Panel to hear this appeal was appointed at the Council meeting on 3 March 2017. The Principal of the Panel then wrote to Mr and Mrs A on 15 March requesting that they provide the formal grounds for appeal by 29 March. This notice was received on 27 March. Their appeal stated their belief that the correct conclusion of this matter would be to censure the respondent(s).

21. All parties were then informed by letter dated 30 March 2017 from the Principal of the Appeal Panel, that a panel had been appointed to hear this appeal. In that letter, we advised that the process of the appeal should be the following:

    a) For Mr and Mrs A to file any additional submissions they may wish to make addressing their appeal, and in particular to advise us why they consider the Investigating Committee decision was wrong, by Thursday 13 April 2017.
    b) The Registration Authority to advise whether it wishes to make any submission and, if so decided, it should provide that submission by Thursday 13 April 2017.
    c) Mr B to respond to those submissions by Friday 28 April 2017.
    d) Mr and Mrs A to reply to Mr B's submissions by Friday 5 May 2017. We noted that this submission must be <u>strictly in reply</u> and must not raise new matters.

22. In response, Mr and Mrs A advised on 11 April 2017 that they could not meet this timeframe, and proposed a submission date for their additional material of 28 April 2017. By email dated 12 April 2017, the Principal of the Appeal Panel wrote again to the parties to this appeal, to set out a revised timetable for further submissions.

    a) Mr and Mrs A to file any additional submissions they may wish to make addressing their appeal, by Friday 28 April 2017.
    b) The Registration Authority was also requested to make any submission it wishes by Friday 28 April 2017.

c) Mr B may respond to the submissions from Mr and Mrs A by Friday 12 May 2017.
d) Mr and Mrs A may reply to Mr B's submissions by Friday 19 May 2017.

23. Submissions were subsequently received from Mr and Mrs A (25 April 2017); the Registration Authority (28 April 2017); Mr B in response (2 May 2017), and Mr and Mrs A again in reply (10 May 2017). A hearing date of Wednesday 5 July 2017 was arranged through exchanges of emails with the parties.

24. In a further letter dated 20 June, the Principal of the Appeal Panel provided further details about the process that the Appeal Panel would follow on Wednesday 5 July and also made some directions in respect of three matters that had been raised in the course of submissions.

25. The original complaint from Mr and Mrs A was laid against Mr B and Ms D and similarly, the appeal had been made as well in terms of both respondents. However, the Appeal Panel had ascertained that Ms D is not registered as a Chartered Professional Engineer. Therefore, the parties were advised (in the letter of 20 June) that the Chartered Professional Engineers' Council has no jurisdiction to rule on a complaint against her professional conduct. That is a matter for the Registration Authority alone to determine. Accordingly, any questions that might arise during the hearing about the work of Ms D would be directed to Mr B, as the responsible engineer, to respond to.

26. The Registration Authority had pointed out, in its submission for the appeal, that the Investigating Committee was not provided with the reports provided to Mr and Mrs A from the RAS (MBIE) technical panel or Business M. In their notice of appeal dated 19 March 2017, Mr and Mrs A refer to these reports to support their argument that the recommendations made by Business C were contradicted by such reports. As the Appeal Panel had also (at that point) not been given access to these reports, the Principal of the Appeal Panel requested in this letter that Mr and Mrs A provide copies of these reports by email as soon as possible in advance to all parties. The letter advised that they would be treated by the panel as a new matter, and other parties would be given opportunity to respond as appropriate.

27. The Registration Authority had advised in its submission that allegations by Mr and Mrs A in their submissions to this appeal that Mr B colluded with Business I and tried to bully Mr and Mrs A into dropping the complaint, were not put to, or considered, by the Investigating Committee. The Registration Authority contended that as a consequence these allegations were not appropriate for consideration for the purposes of this appeal. The Principal of the Appeals Panel concurred, and ruled that, as the appeal is conducted as a rehearing of the evidence available to the Registration Authority, the Appeal Panel would not consider these allegations during the hearing.

28. Prior to the hearing, following the request from the Principal of the Panel by email dated 20 June, Mr A provided the panel with a copy of two documents that have been referred to in the submissions from Mr and Mrs A, but which had not been provided with the background bundle of documents sent to the Panel and parties by the Registration Authority. These documents were the following:

- 'RAS Engineering Review Panel: Reference Sheet'. This is a peer review report undertaken by MrK, a chartered professional engineer from Business L, for the technical review panel. It is not dated, but according to Mr and Mrs A (their submission of 7 February page 3, footnote 10) was received by them on 4 February 2016.
- Damage report (draft) on the property at Address E prepared by Business M dated 11 April 2016, commissioned by Insurance Company F (the insurers).

29. Mr and Mrs A forwarded the documents to the panel and the other parties to the appeal, on Sunday 2 July 2017. Separately they also forwarded two other emails (to all parties):

    - An email to Mr and Mrs A from a Business J engineer dated 27 March 2017. The email advised that the geotechnical advice produced by Business J was independent of Insurance Company F.
    - An email to Mr and Mrs A from Business I, dated 6 April 2017, stating that Business I had provided Business C with a copy of the original (not complete) subfloor investigation (the cavity critter report). The email noted that this 'report post-dates Business C's original assessment so their investigation and consideration of the case will not be influenced'.

30. A summary of the argument for Mr B was also received prior to the hearing. This was dated 29 June 2017, and had also been sent to all parties.

31. The Panel held its hearing in Christchurch on Wednesday 5 July 2017. Mr and Mrs A, and Mr B attended the hearing and were given the opportunity to address the panel in support of their written submissions. Mr B was accompanied by counsel, and a support person. The Registration Authority's Complaints Manager also attended as an observer. The hearing was audio-recorded.

32. At the commencement of the hearing the Principal noted that since the dates for completion of submissions, some additional material had been provided by Mr and Mrs A, as described above. He proposed that this new material would be considered by the Appeal Panel, and that the parties could address any issues arising during the course of their oral presentations and any questions from the Appeal Panel. There was general acceptance that the Appeal Panel would consider the new material.

Hearing and consideration of the appeal

33. The decision appealed in this case was that of an Investigating Committee to dismiss the complaint on the basis that there was no applicable ground of discipline under section 21(1)(a) to (d) of the Act.

34. Appeals to the Council are by way of rehearing (section 37(2) of the Act). We are entitled to confirm, vary or reverse a decision (section 37(5) (a)). We may make any decision that could have been made by the decision authority (section 37(5) (c)). Following *Austin, Nichols & Co Inc. v Stichting Lodestar* [2008] 2 NZLR 141 we are entitled to take a different view from the Investigating Committee but the appellant carries the burden of satisfying us that we should do so.

35. In the hearing, the Appeal Panel has considered whether there are any grounds for discipline under section 21 of the Act, and whether the IC's decision to dismiss the complaint was correct i.e.:

    "21 Grounds for discipline of chartered professional engineers

    (1) The Registration Authority may (in relation to a matter raised by a complaint or by its own inquiries) make an order referred to in section 22 if it is satisfied that a chartered professional engineer—

        (a) has been convicted, whether before or after he or she became registered, by any court in New Zealand or elsewhere of any offence punishable by imprisonment for a term of 6 months or more if, in the Authority's opinion, the commission of the offence reflects adversely on the person's fitness to practise engineering; or

(b) has breached the code of ethics contained in the rules; or

(c) has performed engineering services in a negligent or incompetent manner; or

(d) has, for the purpose of obtaining registration or a registration certificate (either for himself or herself or for any other person),—

(i) either orally or in writing, made any declaration or representation knowing it to be false or misleading in a material particular; or

(ii) produced to the Authority or made use of any document knowing it to contain a declaration or representation referred to in subparagraph (i); or

(iii) produced to the Authority or made use of any document knowing that it was not genuine."

36. Clearly, the criteria established under Sections 21 (1) (a), and (d) of the Act do not apply in this case. The question that the Panel has therefore considered is whether there is prima facie evidence that Mr B:

(i) has performed engineering services in negligent/incompetent manner.

(ii) has breached an aspect of the Code of Ethical Conduct set out in the Rules 43-53 respectively (the version of the Rules applicable at the time).

37. If the complaint had not been dismissed then it would have proceeded to a Disciplinary Committee. Under section 37 of the Chartered Professional Engineers of New Zealand Act (the Act) the Council may "*confirm, vary or reverse*" the decision to which the appeal relates and can "*make any decision that could have been made by the decision authority*".

38. So, in this matter, if the Investigating Committee decision is confirmed, the appeal will be dismissed. If the decision is reversed then the only relief that can be granted is for the Council to send the matter to a Disciplinary Committee.

Findings

39. The Appeal Panel has carefully read all of the submissions and supporting documents provided by the appellants and the responses to them by the respondent, as well as the original submissions to the RA and subsequent reports by the CRO and CIC.

40. The essence of the complaint from Mr and Mrs A is summarized by the following paragraph from their submission for this Appeal, dated 25 April 2017:

"We knew that we had a strong insurance policy that was not being honoured by the use of (Mr) B's repair strategy. We did not believe that we should have to pay for another engineer, only to find that they would probably just agree with each other, as has been happening in Christchurch. We considered that the insurers, F were not to be trusted, given the above. We also knew that the MBIE Guidelines was not there to help homeowners, but rather to save money for insurers and its application would not result in the restoration of our home to its previous quality and strength. Law courts were full of cases of people sueing the insurers, and very few plaintiffs were successful. Besides, we could not see why this should be at our cost. Having explored all other options, we therefore set about laying a complaint against the engineer who was quite happy to take money from the insurers, then do what we knew was a cursory

job, all the while hiding behind the Guidelines".

41. We now deal with each of the parts of this complaint and the appeal respectively. First, as to aspects of the original complaint:

i. "that regarding the floor levels, Business C is using MBIE guidelines which are not based on sound engineering methods.

42. We do not accept the assertion that the MBIE guidelines are not based on sound engineering methods. We have examined the guidance document[2] itself, which states in the Foreword on page 3, as follows:

> *"This document, issued by the Ministry, provides technical guidance for repairing and rebuilding houses in the Canterbury region following the Canterbury earthquake sequence. Publication of this document is a part of the Government's support for long-term recovery in Canterbury. It gives robust and well-balanced engineering solutions (our underlining) that will reduce the risk of injury to people and damage to homes in future earthquakes.*
>
> *The technical guidance has been developed in response to the Canterbury earthquake of 4 September 2010 (sometimes referred to as the Darfield earthquake). Since the 2010 guidance was published, there have been numerous aftershocks, large and small, including the disastrous 22 February 2011 aftershock, known as the Lyttelton aftershock. This document incorporates information gained from each significant aftershock and extensive scientific and geotechnical investigation into the impacts of the Canterbury earthquake sequence. In particular it draws on learnings about the effects of liquefaction. The scale of liquefaction in the Canterbury earthquake sequence, and the impact on residential dwellings, highlighted the importance of ensuring there are appropriate foundations on land that may be subject to liquefaction in major events".*

43. We also note that an Engineering Advisory Group (Residential), consisting of a number of engineers from respected engineering consultancy businesses and agencies, contributed to the guidance document. The guidance appears to have been accepted by the engineering profession as being good practice, and is being updated periodically by MBIE and its staff to reflect learnings from emerging experience. We also note that two engineers from BRANZ were current members of the Advisory Group that prepared the latest update of the Guidance. This seems to contradict Mr and Mrs A' view that BRANZ had distanced itself from these guidelines (page 6 of the bundle of documents). While the guidelines are not a BRANZ publication, BRANZ support is indicated in the assignment of two Engineers to the Engineering Advisory Group.

44. Mr A stated during his presentation at the appeal hearing that he and Mrs A consider the MBIE guidelines to have been commissioned by a combination of politicians and the insurance companies as a cost-saving plan. They provided no evidence to justify that assertion. We also note that the 'Guidance' is just that:

> "Following the methods or solutions proposed in the document is not mandatory"[3].

ii. "that regarding the lateral spread, this was not measured and has proven to be well over the MBIE guidelines (if these could be seriously considered as sound engineering concepts).

[2] 'Repairing and rebuilding houses affected by the Canterbury Earthquakes: 3, December 2012: MBIE

[3] Guidance, op. cit., Foreword, page 5

45. Mr and Mrs A claim that the lateral stretch of the perimeter foundation is in excess of the indicators set out in the MBIE guidelines that would justify a foundation replacement.

46. Mr B however in his responses to questions asked of him by the IC, made the following comment (page 473 of the bundle):

> "*Mr N* (Business C's engineer who did the initial site inspection for Business C on 29 September 2014) *observed the cracking through the perimeter foundation and found no cracks greater than 10mm. Floor levels of the building were recorded and differential movement of the footing indicated settlement greater than 50mm. This indicated to us that the observed cracking in the foundation was due to differential settlement rather than lateral stretch, of which there was no sign externally.*
>
> *Further to this, the fact that the walls appeared to be plumb and there was no evidence of stretch in the superstructure led to the reasonable conclusion that there has been no lateral stretch in the foundations."*

47. Mr and Mrs A dispute this conclusion. For example, they state in their initial appeal letter to CPEC dated 7 February 2017 (page 4) that *"even the MBIE guidelines work on a cumulative formula along one side of a building".*

48. Mr B responded to this point in a letter to IPENZ dated 19 April 2016 (page 417 of the bundle):

> *",… the difference of opinion is that the owners (and now Business M) take an additive approach to the width of the cracks in a perimeter footing, the total being their conclusion as to the amount of lateral stretch under a dwelling. In Business C's opinion (backed by the laws of physics and plain logic) this can only be substantiated if there is an overall elongation of the footing in relation to the main house and relative movement (or not) of the house. No evidence of this stretch or ground movement has been provided. Furthermore, the geotechnical report states that the risk of lateral stretch for the site is minor to moderate."*

49. Mr and Mrs A point elsewhere in their submissions to the Appeal Panel that five other organisations involved with this damage claim (including Business M) have also disagreed with Business C's conclusion. We will discuss this point in more detail below in respect of a separate complaint point from Mr and Mrs A. We note here however that in respect of lateral stretch, Insurance Company F's Home Assessment Summary shows (page 488 of the bundle) that the lateral stretch is <u>not</u> greater than 20mm. On the other hand, Business J's report indicated that there was indeed lateral stretch greater than 20mm. There is clearly therefore a disagreement between different engineers of the sort that, in our view, would normally require a meeting between the engineers to resolve. In stating that, we understand that engineers do at times reach different conclusions based on observed data. It would be normal practice in such a circumstance for the engineers to be asked to resolve their differences and reach a consensus.

50. It is important to note here also that Business J's report is a geotechnical engineering report and that from Business C is a structural engineering report.

51. We have found Business L's report set out in the RAS Engineering Review Panel Reference Sheet to be helpful. There were three questions asked of the RAS Review Panel:

"1 Has there been sufficient amount of investigation completed on the property? Should a structural engineer complete an assessment of the cracks to the perimeter foundation? Does this kind of damage mean that further investigations should be performed on the rest of the house?

2 Based on the information provided from the home owner is the current proposed repair strategy appropriate? If not, what would you recommend as a proposed repair strategy for the home?

3 If there is lateral stretch in excess of 20mm does this mean that the whole foundation needs to be rebuilt or just the side that has encountered that level of stretch?"

52. On behalf of the RAS Panel, Business L's response to these questions was as follows:

"1. It appears from the information provided that sufficient investigations have been completed. Business C's structural engineer has identified the cracking to the perimeter foundation in their report, although they do not refer to specific dimensions for the crack widths.

2/3 - The current repair strategy put forward by Business C is to re-level the foundations. This recommendation is outside the indicator criteria set out in Table 2.3 of the MBIE guidelines with regard to lateral stretch of the perimeter foundation. (It is worth noting that the MBIE guidelines are not strict requirements and engineering judgment is encouraged in the application of the information within that document.)

We do not necessarily have an ***issue*** (this is our correction of what appears to be a typographical error) *with Business C's recommended solution being outside the MBIE criteria for a re-level. We do recommend however that discussion is had between Business C and Business J to confirm if there are any underlying geotechnical reasons that would mean that a re-level is not suitable. Business C make the statement that 'we consider the site geotechnically suitable for foundation reinstatement by re-levelling the floor'. It is important the geotechnical engineer agrees with this statement".*

53. The Appeal Panel places weight on the following points made above:

- the MBIE guidelines are not strict requirements and engineering judgment is encouraged in the application of the information within that document.
- Business L recommended however that there needed to be discussion between Business C and Business J to confirm if there are any underlying geotechnical reasons that would mean that a re-level (i.e. a repair) is not suitable. This is also the opinion of the Appeal Panel.

54. An appropriate step would have been for there to be an early discussion between Business C's engineers and Business J's engineers to discuss their respective findings and recommendations. It was however up to the project manager (Business I) either on their own account or after consultation with the insurer, Insurance Company F, to arrange for such a discussion to occur. This is because Business C was engaged by Business I to act on behalf of the insurer, who is their primary client. We shall return to this point again in our reasoning below.

55. Our conclusion on this aspect of the complaint is that the lateral stretch in the foundation was indeed measured and understood by Business C's engineers. They also had access to the Business J's report, which indicated lateral stretch of the ground in the minor to moderate category (page 87 of the bundle), and had also noted (page 82)

that there were several vertically oriented cracks in the foundation especially along the north side with 5mm to 10mm width (totalling 30mm).

56. Mr B also observed in his response to the IC that *"there is more to assessing the lateral floor stretch of the structure that simply adding up the cracks in the foundation perimeter"* (page 473). He continued later: *"Given there were no indicators of lateral stretch and only minor to moderate ground stretch was expected, the existence of these cracks would not have given us reason to suggest rebuilding the entire foundation was required"*.

57. The Appeal Panel has considered this latter point carefully. We had reviewed the photos of the cracks in the foundation (pages 11 to 36 of the evidence), which led us to seek Mr B's commentary at the hearing, on the cracking, in the context of the recommended repairs. We are satisfied that Business C had demonstrated a sound and appropriate grasp of the condition of the foundation and conclude that the cracking is consistent with differential settlement, which is also indicated by floor variations. The panel is of the view that it is conceivable that lateral floor stretch is not an exact reflection of the sum of average vertical crack widths along a foundation wall. However, it is reasonable to expect that there has been some lateral stretch, albeit not of a magnitude to mean that the repair method recommended by Business C was not viable. Factors which support this include the absence of evidence that walls were out of plumb to a significant extent and the absence of evidence of ground cracking that would be expected to be associated with any significant lateral stretch of the foundations.

58. The finding of the panel in this respect is that Mr B and his engineering staff (Mr N is also a Chartered Professional (structural) Engineer) are entitled to form their professional opinion. If another engineer comes to a different conclusion it does not necessarily follow that one of them is either incompetent or unethical. Other steps then need to be taken to resolve the difference, a process which, in this instance, was available to Mr and Mrs A.

59. This brings us to the heart of one of the concerns expressed by Mr and Mrs A:

> *"We did not believe that we should have to pay for another engineer, only to find that they would probably just agree with each other, as has been happening in Christchurch"*[4].

The Appeal Panel is not aware of any real basis that Mr and Mrs A have to substantiate this comment but accepts that the decision as to whether or not to engage another engineer was rightly their call. A different call, however, may have led to a more speedy resolution of their problem.

iii. "that Business C has called it 'minor vertical cracking' and 'approximately 5mm in width' yet at up to more than 13mm gaps, this must be considered breaks.

60. We have checked Business C's report to find where the references above are located. There are in fact no such references in Business C's report at all. They are contained in the Business I's Scope Report on page 4 of their report (page 41 of the bundle of documents).

> *"There is minor vertical cracking in the perimeter foundation on all elevations; particularly the northern and eastern elevations where the concrete has spalled and cracking is approximately 5mm in width".*

[4] Mr and Mrs A' submission for this Appeal, dated 25 April 2017, Op. Cit

61. The measurements taken by Mr N of the cracks in his inspection of 29 September 2014 are described by Mr B in a response to the IC ((set out on page 472 of the bundle), and also above as follows:

> *"Mr N observed the cracking through the perimeter foundation and found no cracks greater than 10mm… Floor levels of the building were recorded and differential movement of the footing indicated settlement greater than 50mm. This indicated to us that the observed cracking in the foundation was due to differential settlement rather than lateral stretch, of which there was no sign externally".*

62. Mr and Mrs A provided their own measurements of the cracks in the perimeter foundation in their original complaint to the Registration Authority dated 8 October 2015. Each crack is located on a map and evidenced by a photo taken according to the submission (page 10 of the bundle) on 12 September 2015.

63. There is also a map and notation of the foundation cracks in Business M's report dated 11 April 2016.

64. Our finding is that the claim levelled at Business C by Mr and Mrs A as set out in complaint iii above is not correct.

iv. "that Business C has made the suggestion that because the 'cracks are mainly located at the corners of vents and do not compromise the structural performance of the foundation' is again a sign of poor understanding of sound engineering principles.

65. Business C's report does indeed state as follows:

> *"There are numerous cracks visible through the concrete beam. These cracks are mainly located at the corners of vents and do not compromise the structural performance of the foundation."* (Section 2.4.1 of their report entitled 'Damage Observations' – page 65 of the bundle).

There is no further comment in that report other than these words.

Mr and Mrs A however maintain in their original submission that this statement cannot be correct:

> *"it can be assumed that before an engineer is admitted to university that he or she would understand that the narrowest part of a structure is generally the weakest. It is therefore obvious that the majority of cracking and breaking would occur at or near the foundation vents. This is no reason to suspect that they "do not compromise the performance of the foundation". They must by their very nature, weaken the structure at least as much as in a blank, full height wall, if not more."*

The Appeal Panel consider that Mr B has demonstrated through his written evidence and his comments at the hearing an appropriate grasp of the structural principles involved.

66. The IC asked a question of Mr B during the course of their work, whether the cracking to the foundation would compromise its structural performance. His response (page 474 and 475 of the bundle) was:

> *"Our previous experience with repairing similar damage is that cracks of this magnitude can be adequately repaired in a way as to return the foundation to full strength".*

He also points to the MBIE guidance document, which states in Section 2.2:

" 'in perimeter foundation walls, cracks have often occurred at vents (where the cross section is reduced) over the life of the foundation as a result of local foundation settlement unrelated to earthquake activity'.

Mr B continues: …. *although we are not insinuating that these cracks were pre-existing we use it as an example that cracks of this kind do not compromise a foundation's overall structural capacity".*

67. As discussed in 55 above our finding is that Mr B has applied appropriate engineering judgement in respect of the condition of the foundation.

v. "that Business C and in fact no-one has been under our floor (due to lack of access) so have no idea if these are cracks or breaks'; that is right through the full thickness of the wall.

68. Business C's report states the following:

"The structural assessment is based on the visual evidence and indications present at the time of inspection. No invasive investigations have been carried out." (Page 63 of the bundle).

Mr B also comments in his "Further Response" letter to IPENZ dated 19 April 2016 that:

"Business C was also accused of not checking under the house during the site visit, this is not the case. Access was very difficult (no-one has been under there to this day, until recently when a robot camera was deployed which produced quite consistent photos to Business C's photos—just a lot more of them"

69. We have interpreted this statement from Mr B as being a reference to the Business M's draft report that was completed on 11 April 2016. We also understand that a separate reference elsewhere in the papers to there being a 'cavity critter' investigation under the floor, was in fact part of Business M's subsequent work and brief.

70. There is also further explanation contained in the Background Summary of Facts sent by Business C to the RA for consideration by the IC, undated, but on page 469-471 of the bundle.

"Business I had commissioned Business C to carry out numerous assessment reports of this sort for Insurance Company F. These were expected to be preliminary reports only, to give a first indication from a structural engineer's perspective, of likely structural repair or replacement required…. Once an overall repair strategy had been decided upon, the procedure was that Business C would carry out a more detailed investigation. At this point a report for 'Phase Two' would be prepared in which the details of the actual repair would be worked through thoroughly. This typically involved discussion with contractors as to the viability of the repair or further investigations such as sub-floor investigations".

71. There is no specific mention in Business C's Earthquake Damage Report that it was a 'preliminary' report. Nor was it seemingly made clear to Mr and Mrs A that this was the case, which might have allayed some of their concerns. Likewise, there is no reference in the covering Business I's Scope Report, to Business C's report (or any other aspect of the reports prepared for the insurer, F) being followed up by further investigation and design steps. The Appeal Panel can therefore understand how Mr and Mrs A saw the situation as one where they were then required, as the next stage of their negotiations with their insurers, to sign a contract for the repair work to be done, including the recommended repairs to the foundations. Notwithstanding these

factors, a combination of points indicate that Business C's report was in fact preliminary. On page 1 of Business C's report it is stated that *"Detailed design and documentation for the Christchurch City Council consent will be required should these recommendations be approved for implementation"*. Furthermore, the report's Table of Contents refers to *"Appendix A - Preliminary Drawings"*. These latter points do not indicate Business C's recommendation as final or the last step in the process.

72. A complicating factor seems to have been that there was no contractual relationship between Business C and Mr and Mrs A. Business C was engaged by the Insurance Company in an arrangement coordinated by Business I and the reports were presumably issued by the Insurance Company. Effectively, Business C was accountable to the Insurance Company and would therefore have had no mandate to engage formally with Mr and Mrs A. Any engagement Business C may have had under this arrangement would be informal. There appears to us, therefore, to have been a failure of communications with Mr and Mrs A from an early stage between the Insurance Company F (as principal) and its agents (Business I, and their sub-agent Business C) as to the exact nature of the inspection/ investigation process being followed, and the likely next steps as well as options available to Mr and Mrs A. Business C's engineers could possibly have made it clearer what their process consisted of at the point of 'preliminary investigation' and what their next steps might be. Business C's report, could have been clearly marked up as preliminary. However, any relationship between Business C and Mr and Mrs A was indirect at best, and this is not a question of engineering competence.

vi. "that Business C and in fact no-one has been under our floor (due to the lack of access) so have no idea of the condition of the piles.

73. Our finding in respect of this aspect of the complaint has been adequately covered by the discussion under *v.* above

vii. "jack and pack as a method has proven unreliable at best, and is certainly not earthquake –proof.

74. This assertion by Mr and Mrs A is described on page 6 of their original complaint (and page 6 of the bundle). They state that the 'jack and pack method of re-levelling floors is only patching the problem, not fixing it', and cite a recent MBIE survey (not available to the IC or the Appeal Panel) stating that 30 of 101 homes surveyed failed to comply due to the 'jack and pack' method.

75. However, the 'jack and pack' method remains accepted by the engineering profession as part of sound engineering and construction practice provided it is properly designed and executed. It also remains part of the MBIE guidance as an acceptable way of repairing dwellings (that fit within the appropriate parameters).

76. This appeal, and the originating complaint, are not the appropriate forum to make a determination on the engineering standards involved in the jack and pack method. Given however that it remains an acceptable method of repair, our finding is that Mr B and his Business C colleagues were justified in recommending it as a preferred method in this instance. That was their professional engineering judgement.

viii. "that no-one can be assured that any adhesive can have full double-face coverage in such gaps as we have in our foundation ring.

77. Mr and Mrs A have likewise questioned the intended use of an epoxy adhesive to bond the cracked surfaces of the house foundation.

> *"As the home owners, and therefore the ultimate client, we are entitled to an assurance that the epoxy adhesive has full coverage of all broken surfaces,*

and that it will meet all standards of strength and durability". (page 6 of the bundle)

78. Mr B responded to this concern as follows:

> *"Our previous experience with repairing similar damage is that cracks of this magnitude can be adequately repaired in a way as to return the foundation back to full strength. The epoxy repair we proposed forms a strong bond with the concrete and has higher shear and compressive properties than the concrete, meaning the repaired portion of the foundation will have a structural capacity at least as high as the concrete it is adhered to.*
>
> *Our proposed repair strategy is in accordance with Section A4.4.1 of the MBIE Guidance, which states:*
>
> *'The repair materials considered most appropriate are epoxy resin for cracks up to 10mm wide…'. "*

The Appeal Panel notes that the reference to Section A4.4.1 in paragraph 2 above should be to Appendix A4.4.1.

79. In their submission to this appeal dated 25 April, Mr and Mrs A counter the response from Mr B as follows:

> *"Regarding the ring foundation, what rational engineering analysis and assumptions did the Investigating Committee use to decide that (Mr) B could meet the Building Act or Building Code? Cracks or Breaks are a structural break in a beam. As MBIE has confirmed (evidence was cited but not provided to us) there is no proven methodology in New Zealand that substantiates the repair of an unreinforced concrete beam supporting a residential home by the use of any sort of adhesive, epoxy, or otherwise…. Your obligation as a governing body is to confirm and substantiate how (Mr) B's repair method meets the building code. You have not done that to date."*

80. The Chartered Professional Engineers' Council has no jurisdiction to make any comment or ruling on the matter of repair methods. That is not our role. It is properly a matter for the appropriate standards-setting authorities. Nor does the Registration Authority (or IPENZ) have any jurisdiction over engineering standards or methods, even though it does prepare practice notes and contributes to the standard-setting process. We also note that the MBIE guidance states (Foreword, page 5) that *"It provides solutions and construction methods that will meet the requirements of the Building Act and Building Code while avoiding over-design".*

81. Our finding therefore is that Business C's recommendations (as endorsed by Mr B) represent acceptable engineering practice and that there is no evidence of lack of competence in this respect.

ix. "that none of the recommendations made by Business C can be assured to meet future possible earthquakes as well as our house did during the 2010-2012 series and that is a reasonable expectation."

82. The Appeal Panel is satisfied that Mr B has provided sufficient evidence to demonstrate that he and his staff followed the MBIE guidelines and applied appropriate judgment in arriving at their repair recommendation. The Appeal panel has therefore no basis on which to question Business C's or Mr B's competence in this particular instance. In the Appeal Panel's view, damage thresholds are not black and white and there can be no guarantees such as referred to by Mr and Mrs A. Future earthquake instances are unlikely to have the same characteristics as those previously experienced.

83. We now turn to the grounds put forward by Mr and Mrs A in their appeal.

i. "that the Investigating Committee does not appear to have explored the evidence provided in our complaint and subsequent submissions in a thorough and even-handed manner. It seems that whatever (Mr) B et al say in reply to our statements, it is taken as fact. Most of our concerns are not even answered or discussed in the Final Decision.

84. We have noted earlier that this appeal is a rehearing of the original complaint and subsequent submissions. Our findings are therefore independent of the findings and decision of the Investigating Committee.

ii. "that this is not just about our disagreeing with the Mr B and Ms D recommendations, but that five other qualified organisations disagreed with them; EQC; Insurance Company F's own in-house assessors; Business J; the MBIE Technical Panel; and Business M.

85. We have checked this reference to the five other organisations to ascertain the exact nature of their recommendations:

a) There is no EQC report or other documents provided within the bundle of documents so we cannot see what they recommend about this site and dwelling.

b) Insurance Company F's (the insurer) repair strategy as at 30 January 2014[5] is to remove and replace the ring foundation and piles. As noted above however they also state in their assessment that the lateral stretch in the foundation and floors levels is not (our underlining) greater than 20mm. Mr and Mrs A note that this report was undertaken by in-house assessors.

c) Business J advise in their report (page 80 of the bundle) that they have been instructed by Insurance Company F 'to carry out a geotechnical investigation and provide advice relating to the replacement of the foundation'. They note in their proposal (page 88) that

> *"even though the floor variation is marginally within the re-level criteria the cumulative lateral stretch recorded within the concrete foundation is greater than 20mm. A foundation rebuild is therefore deemed appropriate (as per Table 2.3 of MBIE Guidance)".*

Subsequent email correspondence between Business J and Mr and Mrs A dated 27 March 2017 (provided to this Appeal Panel on 2 July 2017) states that:

> *"Insurance Company F engaged Business J to provide Geotechnical Engineering Advice. The… advice produced by Business J was independent of Insurance Company F. An investigation methodology was specifically developed to assess the site. This included a desktop study, geotechnical walkover survey, shallow and deep ground investigation and geotechnical analysis. The evaluation and subsequent report included information from the Insurance Company F's Home Assessment Summary but this was not the sole source of information as detailed above and in our report"*

We note in addition, however, that the Business J's report also made the following statement (page 88):

[5] Page 485 of the bundle of documents

"Before considering this alternative" (i.e., a foundation rebuild) *"a detailed structural assessment to verify the appropriate recovery strategy should be carried out by a suitably qualified structural engineer".*

The words 'this alternative' are used above and it is not clear to us why there is therefore only one option proposed and recommended. Nevertheless, it is clear that Business J has recognised that their advice needed to be confirmed by a qualified structural engineer. If there were to be any disagreement between the two recommendations we would have expected there to be a meeting at an early stage to resolve any issues and differences of approach.

Mr B advises in his response to the IC (page 472 of the bundle) as follows:

"No-one from Business C spoke to Business J at the time of writing the damage assessment report as the information contained in Business J's report regarding the ground conditions appeared comprehensive and consistent with the observations of Mr N at the property.

"…it was not normal for the structural engineers to rely on the advice of geotechnical engineers in regards to structural aspects of the property.

"…Business J had been instructed by Insurance Company F, on the strength of an Initial Home Assessment Summary, to consider only a foundation rebuild—not a possible repair". [We note here that we have dealt with this point immediately above].

"…Since the complaint was laid by the owners, Mr B of Business B offered to meet with Business J's engineers, along with the owners, to resolve matters".

We note further here that there was also contact between Mr B and Business J in July 2016 (pages 462-465 of the bundle). This was after the complaint from Mr and Mrs A had been referred to the IC.

We believe, and will comment further below, that there needed to be much earlier contact between Business J and Business C, and between both of them and Mr and Mrs A but we acknowledge however, that both consultants were engaged by Insurance Company F (through BusinessI) and not Mr and Mrs A. Earlier and better communication might have avoided the subsequent difficulty for Mr and Mrs A, and this protracted process.

d) The advice of Business L, via the RAS (Engineering Review Panel: Reference Sheet has been already referred to in our findings (see paragraph 51 above), as stating that the repair strategy put forward by Business C is outside the indicator criteria set out in Table 2.3 of the MBIE guidelines with regard to lateral stretch of the perimeter foundation. However, they also make the crucial observation that:

   "We do not necessarily have an <u>issue</u>" (our correction of what appears to be a typographical error) *"with Business C's recommended solution being outside the MBIE criteria for a re-level. We do recommend however that discussion is had between Business C and Business J to confirm if there are any underlying geotechnical reasons that would mean that a re-level is not suitable".*

e) Business M's report was commissioned by Insurance Company F (we assume as a result of a request for them to do so by Mr and Mrs A) and they reported on 11 April 2016. They advise that they sighted no earlier reports in their review other than Business I's EQ Scope draft drawings dated 9 September 2014. They also state that no site-specific geotechnical information was provided for this

review. They note that the house has numerous cracks around the foundation and, on the northern elevation, these sum to 27mm. The floor level variation is in excess of 100mm.Their recommendation is therefore for a foundation rebuild: *"The MBIE Guidelines would recommend the foundation should be replaced on either measure".*

It is also worth noting (again) here that the report notes that a Cavity Critter (i.e. underfloor investigation) report was completed during Business M's investigation work. The photographs indicate that some internal piles may have rotated and there are visible cracks in the perimeter wall.

iii. "that Mr B's suggestion is that Business J only recommended a foundation rebuild based on the insurance company's terms of reference, which are in turn based on an earlier assessment is clearly false. It is clear and Business J has confirmed that the recommendation was based on their findings.

86. It is correct that Mr B had made this statement about Business J's terms of reference and recommendation. We had ourselves developed the same impression (and therefore a question) from reading the Business J report. It is clarified by the email dated from Business J to Mr and Mrs A discussed in paragraph 83 (c) above that the advice from Business J was produced independently of Insurance Company F. However, the Appeal panel notes that Business J reported only on the foundation rebuild option. This email correspondence was not available to the IC.

iv. "that no measurement of cumulative lateral stretch was carried out by Business C's employees, which is an essential part of best practice in these circumstances. Perhaps Mr N and Mr B could explain how this could possibly be associated with differential settlement. Business J's Report clearly states that there is stretch.

87. We have discussed this issue adequately in paragraphs 45-58 above.

v. "that the two signees of the recommendation (Mr B and Ms D) made that decision without taking into account Business J's report. If they had, they would have noted the existence of the floor levels data from Insurance Company F's Home Assessment summary, which Mr B denies having seen. If they had read Business J's report, they would surely have asked for a copy.

88. It is clear from Business C's report (see for example Section 1.2: Scope and Nature of Services, and Section 3), that Mr B and his employees did refer to Business J's Report. Mr B notes that Business C did however not see a copy of Insurance Company F's Home Assessment Summary until 7 July 2016. It was not furnished to Business C at the time of their investigation and report. Moreover, as we have noted above, we are not convinced that, even if it had been furnished to Business C, it would have changed their conclusions - given what it says about lateral stretch.

vi. "that at no time has Mr B, as Managing Director of Business C, ever attempted to consider the needs of the homeowner. He lied about the date he received his copy of the complaint. He did not bother contacting us until the investigation was confirmed to go ahead. He then had an opportunity in April 2016 but implied that we did not know what we were talking about; that the recommendation was within the MBIE Guidelines, and that any other recommendation was just a

difference of opinion. He colluded with Business I to get information after the complaint and he tried to bully us into letting the complaint drop".

89. In respect of the allegation that Mr B had not attempted to consider the needs of the homeowner, we have discussed the formal relationship between Business C and Mr and Mrs A in para 72 above. We have stated that there was no contractual relationship between Business C and Mr and Mrs A. Business C was engaged by the Insurance Company in an arrangement coordinated by Business I and the reports were presumably issued by the Insurance Company. Effectively, Business C were accountable to the Insurance Company and would therefore have had no mandate to engage formally with Mr and Mrs A. Any engagement Business C may have had under this arrangement would be informal. There appears to us, therefore, to have been a failure of communications with Mr and Mrs A from an early stage between Insurance company F (as principal) and its agents (Business I, and their sub-agent Business C) as to the exact nature of the inspection/ investigation process being followed, and the likely next steps as well as options available to Mr and Mrs A. Business C's engineers could possibly have made it clearer what their process consisted of at the point of 'preliminary investigation' and what their next steps might be. Business C's report could have been clearly marked up as preliminary. However, any relationship between Business C and Mr and Mrs A was indirect at best, and this is not a question of engineering competence.

90. In respect of the other allegations set out above, we commented in paragraph 27 above that the Registration Authority had advised in its submission that allegations by Mr and Mrs A in their submissions to this appeal that Mr B colluded with Business I and tried to bully Mr and Mrs A into dropping the complaint, were not considered by the Investigating Committee. The Registration Authority contended that as a consequence these allegations were not appropriate for consideration for the purposes of this appeal. In any event the Appeal Panel observes that the allegations of bullying and collusion were not stated elements of the original complaint and therefore are not admissible for the Appeal. The Principal of the Appeal Panel ruled that, as the appeal is conducted as a rehearing of the evidence available to the Registration Authority, the Appeal Panel would not consider these allegations during the course of the hearing.

Conclusions

91. At the outset of this summary and concluding section of this decision, the Appeal Panel notes that it does sympathize with the situation faced by Mr and Mrs A. This journey started for them with the earthquake sequence in Christchurch, especially that of 22 February 2011. Insurance Company F's Home Assessment Report was completed on 30 January 2014, and the report that is subject to this appeal was completed on 6 November 2014. It is now nearly three years later than that.

92. In respect of each element of their original complaint however, and based on the detailed findings discussed above, our conclusions are as follows:

    i. The MBIE guidelines are indeed based on sound engineering methods. The guidance appears to have been accepted by the engineering profession, as being good practice, and is being updated periodically by MBIE and its staff to reflect learnings from emerging experience.

    ii. The evidence we have cited relating to lateral spread indicates that there is room for debate about the measurement and impact of lateral spread in respect of the Mr and Mrs A's property (and possibly others). This difference of views is not necessarily an indicator of lack of competence, rather of professional disagreement, and which should be sorted out by discussion and a search for consensus between

engineers themselves. The report undertaken by Business C and signed off by Mr B does not indicate the elements of lack of competence, as alleged by Mr and Mrs A.

iii. Business C did not make the reference to 'minor vertical cracking' as alleged by Mr and Mrs A. This was mentioned in Business I's report.

iv. The complaint that Business C had made the suggestion that because the 'cracks are mainly located at the corners of vents and do not compromise the structural performance of the foundation' is again a sign of poor understanding of sound engineering principles, is not justified. We accept Mr B's response that his previous experience with repairing similar damage is that cracks of this magnitude can be adequately repaired in a way as to return the foundation to full strength, and would not compromise its structural performance. Mr B has applied appropriate engineering judgement in this respect.

v. The complaint that Business C did not investigate under the floor (due to lack of access) so have no idea if the cracks in the foundation and piles are cracks or breaks' is understood by the Appeal Panel on the basis that no-one apparently communicated with Mr and Mrs A to inform them that Business C's report was preliminary or that further investigation measures normally associated with detailed design and construction activities, would allow previously unobserved defects to be identified and remedied. Mr B responds that their report was intended as a preliminary one only and to be followed up by a more detailed investigation once a repair strategy had been agreed.

There is no specific mention in Business C's Earthquake Damage Report that it was a 'preliminary' report. Nor was it seemingly made clear to Mr and Mrs A that this was the case, which might have allayed some of their concerns. Likewise, there is no reference in Business I's covering Scope report, to Business C's report (or any other aspect of the reports prepared for the insurer, F) being followed up by further investigation and design steps. The Appeal Panel can understand how Mr and Mrs A saw the situation as one where they were then required, as the next stage of their negotiations with their insurers, to sign a contract for the repair work to be done, including the repairs to the foundations. This is however beyond the scope of this appeal to remedy. Notwithstanding these factors, a combination of points indicate that Business C's report was in fact preliminary. On page 1 of Business C's report it is stated that "Detailed design and documentation for the Christchurch City Council consent will be required should these recommendations be approved for implementation". Furthermore, the report's Table of Contents refers to "Appendix A - Preliminary Drawings". These latter points do not indicate Business C's recommendation as final or the last step in the process.

A complicating factor seems to have been that there was no contractual relationship between Business C and Mr and Mrs A. Business C was engaged by Insurance Company F in an arrangement coordinated by Business I and the reports were presumably issued by Insurance Company F. Effectively, Business C was accountable to the Insurance Company and would therefore have had no mandate to engage formally with Mr and Mrs A. Any engagement that business C may have had under this arrangement would be informal. There appears to us, therefore, to have been a failure of communications with Mr and Mrs A from an early stage between the Insurance company F (as principal) and its agents (Business I, and their sub-agent Business C) as to the exact nature of the inspection/investigation process being followed, and the likely next steps, as well as options available to Mr and Mrs A. Business C's engineers could possibly have made it clearer what their process consisted of at the point of 'preliminary investigation' and what their next steps might be. Business C's report, if it was indeed preliminary, should have been clearly marked up as such. But this is not a question of engineering competence.

vi. Our view on the complaint that Business C had not been under the floor (due to the lack of access) so have no idea of the condition of the piles has been adequately covered by the discussion under *v.* above.

vii. The contention that the "jack and pack as a method has proven unreliable at best, and is certainly not earthquake-proof" is not justified or substantiated. The 'jack and pack' method remains accepted by the engineering profession as part of sound engineering and construction practice. It also remains part of the MBIE guidance as an acceptable way of repairing dwellings (that fit within the appropriate parameters).

viii. The contention that no-one can be assured that any adhesive can have full double-face coverage in such gaps as exist in the foundation ring at Address E is not accepted. We consider that business C's recommendations (as endorsed by Mr B) represent acceptable engineering practice and that there is no evidence of lack of competence on his part in this respect.

ix. Mr and Mrs A assert that none of the recommendations made by Business C can be assured to meet future possible earthquakes as well as their house did during the 2010-2012 series, and that that is a reasonable expectation. The Appeal Panel is satisfied that Mr B has provided sufficient evidence to demonstrate that he and his staff followed the MBIE guidelines and applied appropriate judgment in arriving at their repair recommendation. The Appeal panel has therefore no basis on which to question Business C's or Mr B's competence in this particular instance. In the Appeal Panel's view, damage thresholds are not black and white and there can be no guarantees such as referred to by Mr and Mrs A. Future earthquake instances are unlikely to have the same characteristics as those previously experienced.

93. In respect of each element of their additional grounds of appeal, and based on the detailed findings discussed above, our conclusions are as follows:

i. Mr and Mrs A submitted, as part of their appeal, that the Investigating Committee does not appear to have explored the evidence provided in their complaint and subsequent submissions in a thorough and even-handed manner We have noted earlier that this appeal is a rehearing of the original complaint and subsequent submissions. We therefore cannot make any comment about the findings and decision of the Investigating Committee

ii. Mr and Mrs A contended that five other qualified organisations disagreed with Business C, not just Mr and Mrs A. We did not receive a copy of the EQC report. A reading of the other reports: Insurance Company F's own in-house assessors; Business J; the RAS (MBIE) Technical Review Panel; and Business M indicated that there is some variability in the recommendations and that there is room for discussion, especially on the question of the impact of lateral spread. We noted also the advice Business L via the RAS (MBIE) technical panel (that while the repair strategy put forward by Business C is outside the indicator criteria set out in Table 2.3 of the MBIE guidelines with regard to lateral stretch of the perimeter foundation, they did not necessarily have an "issue" with that. They recommended however that discussion is had between Business C and Business J to confirm if there are any underlying geotechnical reasons that would mean that a re-level is not suitable. Similarly, our conclusion is that there should have been much earlier discussions between Business J and Business C, probably arranged by Business I or the insurer, Insurance Company F, to discuss their respective recommendations.

iii. Mr B's suggestion that business J only recommended a foundation rebuild based on the insurance company's terms of reference, which are in turn based on an earlier assessment, is incorrect. It is clarified by the email dated 27 March 2017

from Business J to Mr and Mrs A discussed in paragraph 83 (c) above that the advice from Business J was produced independently of Insurance Company F. However, Business J did only report on the foundation replacement option. This email correspondence was not available to the IC.

iv. The complaint that no measurement of cumulative lateral stretch was carried out by Business C's employees is not justified. We have discussed this issue adequately under conclusion ii. above.

v. It was alleged that the two signees of Business C's recommendation (Mr B and Ms D) made that decision without taking into account Business J's Report. It is however clear from Business C's report (see for example Section 1.2: Scope and Nature of Services, and Section 3), that Mr B and his employees did refer to Business J's Report.

vi. The final allegations were more serious:

> "*that at no time had Mr B as Managing Director of Business C, ever attempted to consider the needs of the homeowner. He lied about the date he received his copy of the complaint. He did not bother contacting Mr and Mrs A until the investigation was confirmed to go ahead. He then had an opportunity in April 2016 but implied that Mr and Mrs A did not know what they were talking about; that the recommendation was within the MBIE Guidelines, and that any other recommendation was just a difference of opinion. He colluded with Business I to get information after the complaint and he tried to bully Mr and Mrs A into letting the complaint drop*."

In respect of the allegation that Mr B had not attempted to consider the needs of the homeowner, we conclude that there appears to have been a failure of communications with Mr and Mrs A from an early stage between the Insurance Company F (as principal) and its agents (Business I, and their sub-agent Business C) as to the exact nature of the inspection/ investigation process being followed, and the likely next steps as well as options available to Mr and Mrs A. Business C's engineers could possibly have made it clearer what their process consisted of at the point of 'preliminary investigation' and what their next steps might be. Business C's report could have been clearly marked up as preliminary. However, any relationship between Business C and Mr and Mrs A was indirect at best, and this is not a question of engineering competence.

The Registration Authority submitted to us that allegations by Mr and Mrs A in their submissions to this appeal that Mr B colluded with Business I and tried to bully Mr and Mrs A into dropping the complaint, were not considered by the Investigating Committee. The Registration Authority contended that, as a consequence, these allegations were not appropriate for consideration for the purposes of this appeal. In any event the Appeal Panel observes that the allegations of bullying and collusion were not stated elements of the original complaint and therefore are not admissible for the Appeal. The Principal of the Appeals Panel ruled that, as the appeal is conducted as a rehearing of the evidence available to the Registration Authority, the Appeal Panel would not consider these allegations during the course of the hearing.

Decision

94. The Appeal is declined, and the decision of the Investigating Committee is confirmed.

Costs

95. It is the view of the Appeal Panel that the costs incurred by all parties to this appeal should remain where they lie. We will nevertheless consider submissions from the parties on this point. Submissions should be made no later than Friday 25 August.

Dated this 11th day of August 2017

Mr Ross Tanner
Principal

Mr Chris Harrison

Mr Alan Winwood