

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

**Appeal 01/21**

**AND**

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

**From**

**Ms A and Mr B  
Appellant**

**Against a decision of**

**Mr C - CPEng  
Respondent**

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**Decision of the Chartered Professional Engineers Council  
Dated 01 September 2021**

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## Introduction

1. Ms A and Mr B have appealed the Registration Authority (“RA”) decision (Engineering Complaint 504 - dated 18 December 2020) to the Chartered Professional Engineers Council (“the Council”) under the Chartered Professional Engineers of New Zealand Act 2002 (“the Act”).
2. The appeal relates to a complaint made by Ms A and Mr B about Mr C, relating to his performance of engineering services for a proposed new build at their property.
3. For the reasons set out in the RA’s decision the investigating committee (“IC”) decided to dismiss the complaint about Mr C in accordance with r 57(ba) of the Chartered Professional Engineers of New Zealand Rules (No2) 2002 (“the Rules”).
4. Rule 57 states that the RA may dismiss a complaint without referring it to a disciplinary committee if the IC decided under rule 58 that there is no applicable ground of discipline under s 21(1)(a) to (d) of the Act....”.

## The Legislation

5. The legislation considered by the appeal panel is presented in Schedules 1 and 2.
6. Following *Austin, Nichols & Co Inc. v Stichting Lodestar* [2008] 2 NZLR 141, the panel is entitled to take a different view from the investigating committee, but Ms A and Mr B carry the burden of satisfying the panel that it should do so.
7. The panel is entitled to confirm, vary, or reverse a decision (s 37(5)(a)) and may make any decision that could have been made by the decision authority.
8. The basis for the Council overturning an original judgement at a rehearing is outlined in *McMullen J in May v May* [1982] NZFLR 165,170. The appellant must show that in the original decision, the decision maker:
  - acted on a wrong principle, or
  - failed to take into account some relevant material, or
  - took into account some irrelevant material, or
  - was plainly wrong.

### **Chronology, Submissions and Correspondence**

9. The panel have been provided with a paginated Bundle of Documents file [BOD pages 1 to 225], including the recording of an interview [BOD interview] between the chair of the IC and Mr C, in the presence of Ms D of the RA.
10. A complaint chronology was provided by the RA [BOD 1 & 2]

Correspondence and submissions relating to the appeal process are listed in Schedule 2.

### **Notice of Appeal & Councils Acceptance**

11. The “decision” under appeal is Engineering Complaint 504 dated 18 December 2020.
12. On 18 January 2021, Ms A and Mr B made a request to Council to file an appeal out of time, with reasons.
13. On 20 January 2021, the Council sought consent from the RA, and Mr C, in their response. Both parties agreed to the appeal being heard.
14. Had Mr C not consented to the appeal being heard, the Council would have declined Ms A and Mr B request.

### **Grounds of Appeal and Outcome Sought**

15. Ms A and Mr B lodged their Notice of Appeal on 31 January 2021.
16. The grounds of appeal are:

Ground of appeal 1 – Mr C did not undertake engineering activities in a careful and competent manner (r 42E (a)(iii)), and

Ground of appeal 2 - Mr C misrepresented his competence (r 42E(b)(i))

17. The remedy sought is:
  - (i) Mr C be required to undergo training and support to gain a greater understanding of the NZ Building Code, in particular NZS3604:2011 and to better understand the ramifications of signing a PS1 declaration.

- (ii) Mr C & his team consider a better system to highlight when plans come back multiple times and the same problems are not rectified, including having direct contact with the client/architect.
  - (iii) Mr C undergo training to gain a greater understanding of the documentation required for consent by the NZ building authorities.
  - (iv) Mr C offer a formal apology should the claim be successful.
18. The panel notes that the outcomes which it can determine under the appeal are as set down in 7 above.

#### **Evidence Considered**

19. The evidence considered by the panel in arriving at this decision includes:
- (a) The RA's Bundle of Documents (BOD 1 – 225) & (BOD interview)
  - (b) Submissions from Ms A and Mr B (SubA) & (SubD), Mr C (SubB), the RA (SubC), as noted in Schedule 2.
  - (c) The hearing conducted on 3 June 2021.

#### **Hearing**

20. Ms A and Mr B initially requested a hearing in person.
21. The RA preferred the hearing to be on the papers, or via a virtual meeting.
22. Mr C preferred the Council decide, and advised if in person, he would attend via a virtual meeting, as he is based in Australia.
23. It is the Council's policy that if any party wishes the hearing to be held in person, that will generally be accommodated, but in consideration of health and logistical restrictions and guidance relating to the Covid 19 pandemic, the panel proposed a hearing in person, in Wellington, with Mr C's attendance via Zoom.
24. A hearing date of 3 June 2021 was set.
25. Present at the hearing were the appeal panel members, the appellants Ms A (via Zoom) and Mr B; the respondent Mr C (via Zoom), and Ms D and Ms E representing the RA.

26. The background is provided in Schedule 2 of this decision.

27. Key elements of oral submissions are discussed below.

Ms A/Mr B

28. Mr B made an oral submission to the panel, utilising a PowerPoint presentation, with reference to the BOD.

29. Mr B said, “if we had had the opportunity to talk directly with the Engineer, and later with the IC, we would not have been here today at all”.

30. Mr B said they had waited over 2 years for 5 drawings with a PS1 (Design Producer Statement); there was nothing in this for them; their concerns related to public trust in a Chartered Professional Engineer; concerns over safety and upholding the CPEng standard, and included complaints being properly investigated.

31. Mr B submitted the IC:

- did not fully consider the contents of the adjudicator’s letter;
- went down the engagement rabbit hole;
- incorrectly accepted the “building within a building” rabbit hole;
- failed to fully consider the responsibility associated with the signing of the PS1;
- failed to investigate the complaint fully and took Mr C’s word rather than carrying out their own fact checks;
- failed to consider the content of the calculations provided by Mr C.

32. Mr B said the engagement is clearly defined, it is between Company F and Mr C, and between Ms A and Mr B and Mr C, as indicated on the PS1 and in their payment to Company F for engineering drawings prepared by Mr C.

33. Mr B submitted that by detailing the typical end wall [BOD 34 detail 2] as corrugated iron cladding on cold form girts with gib bracing on battens on the inside, the design became a specific design not a design to NZS3604 covered by the Architect.

34. Mr B questioned what information Mr C needed from the Architect to complete his design and what information was included in the additional drawings Ms A and Mr B were not privy to.

35. Mr B said calculations and a certificate of work done (CoDW) is needed for Specific Engineering Design (SED) design, and that whilst they have received a number of PS1s they have not seen any calculations.
36. Mr B said by ticking the PS1 “all” of the proposed work [BOD 48 & 49], Mr C was taking responsibility for the whole structural design.
37. Mr B queried whether Mr C was going to report himself if he was intent on reporting the designer of their current building to Council.
38. About the scope of their complaint, it had always been about the technical aspects of the project including: the foundations, beam placement, external walls, the ceiling diaphragm and included withholding information, and that their objective has always been about learning and quality improvement.
39. About the foundations, their Architect pointed out inadequate foundation detailing and he had queried whether a conversation between Mr C and Mr G had occurred, with regards to geotechnical limitations.
40. Regarding the beam placement, they pointed out the beam was indicated at two levels [BOD 29 & 41 Detail 4], there was no detailing indicating how the joists were connected to the beam or which direction they were running [BOD 26,27,29,30 & 42].
41. He also questioned whether Mr C had reviewed and signed off the drawings.
42. Regarding the BL1-H gib wall brace shown on the interior face of the exterior wall, BL1-H requires NZS3604 wall framing (not battens), cannot be cut through by joists, the base bracket does not fit, and the batten sizes are shown as both 75 and 70.
43. He also questioned Mr C’s’ reliance on a PS2 by others rather than providing his own design.
44. Referring to the ceiling diaphragm, Mr B claimed that Mr C’s response has altered between the interview and his submission, from being referred to as a NZS 3604 ceiling diaphragm to a ceiling diaphragm requiring engineering judgement.

45. Regarding construction monitoring, Mr B says there is a variance between the recommendation in the PS1's, from CM1 to CM2 to nothing, and that Mr C's submission differs from his interview response.
46. Mr B says Mr C misrepresented himself in going along with the IC in the interview with the design being a building within building. He queried the RA's submission that this was new evidence 42 E (b) (i) misrepresent.
47. In summing up Mr B stressed that for them the matter was grave, and that it warranted further investigation.

RA - Registration Authority

48. Ms D outlined the process, highlighted key points from the RA's submission and addressed items raised by the appellants.
49. Ms D said that the adjudicator's decision is not the brief for the IC, the IC can be guided by the questions raised by the adjudicator, but it is ultimately up to the IC to conduct its own investigation and to determine whether the grounds for dismissal apply. The IC is not obliged to investigate every question raised by the adjudicator; it is the IC's role to determine what information they feel is necessary to complete their investigation and determine whether the grounds for dismissal apply.
50. Ms D said the appellants are entitled to disagree with the IC's decision but that does not mean that the IC's decision was wrong.
51. Ms D said the questions raised by the adjudicator were further investigated by the IC, which is what led the IC to dismiss the matter.
52. Ms D stressed the RA's role is to conduct a fair and robust process, to act independently and to represent the objectives of the complaints and disciplinary procedures.
53. Ms D spoke to the scope of this appeal; the standard the IC refers to in making their decision to dismiss the matter; the additional information gathered and considered by the IC.
54. This consideration included the respondent's scope of engagement, termination of the contract midway through the project; Company H's usual commercial practises; the concerns raised by the appellants regarding the respondent's views on bracing, floor design, ceiling diaphragm,

and the deficiency specified by the appellants in the drawings; points raised by the appellants in their appeal submission, including the scope of the high level review and the IC's consideration to this review, the IC's characterisation of the project as a building within a building; and their consideration to Mr C's response to specific questions asked of him.

55. Ms D described the complaint raised as being about whether Mr C failed to undertake engineering activities in a careful and competent manner as required under r 42(e)(iii), with reference to the design and drawings produced for the project for the appellants' property.
56. Ms D asserted that the appellants have raised new material in their submissions, namely that the IC should have considered whether the respondent misrepresented his conduct in accordance with r 42 (E) b(i), and said this material was not raised during the investigation, is outside the scope of this appeal, and should not be considered in the appeal.
57. Ms D said the standard the IC considers is that measured against a responsible body of the engineer's peers, which means that the respondent's actions were to be judged against what a reasonable CPEng registered structural engineer would have done in those circumstances.
58. Ms D spoke to information gathered during the formal investigation, which was considered and weighed against the respondent's actions. This included the scope of engagement, the termination of the project and Company H's usual practises.
59. Regarding the scope of engagement, Ms D said it is important to consider as it established the part of the project the respondent was responsible for, which included Company F's email dated 22/9/17; the contract between Company I and Company H; and the interview held with the respondent on 11/09/20.
60. She concluded the respondent was engaged to review the design for the exterior part of the shed. The respondent was not engaged to carry out draughting or designing to NZS3604. Company H had engaged a separate contractor to draft the initial drawings and address the habitable space. Company H were the project managers for the project, they acted as the middle person between their client and Mr C. Company H controlled all communications.
61. Ms D submitted that Mr C was not provided all correspondence between Ms A and Mr B and Company H. Direct communication with the client was outside the scope of the engagement.



62. Further to 61 above Ms D stated that the appellants were not provided all correspondence between Company H, and Mr C and the respondent was not given the opportunity to resolve issues raised by the appellants.
63. The parties have agreed the contract was terminated before the contract could be completed. The IC considered that after the contract was terminated the respondent was not liable to continue with or complete the full engagement. At the time of cancellation, the respondent had issued a Producer Statement for specific components of the exterior of the shed only and was waiting for the architect to confirm details for their design before finalising documentation for the BC application for the project. That is the conduct that was evaluated by the IC.
64. Ms D stated the IC had concluded Mr C was responsible for providing information to Company H and Company H was responsible for providing that information to the client.
65. Regarding design concerns raised, the IC had considered these concerns against Mr C's responses, specifically:
- (1) the use of an ezybrace system had not been applied correctly because it had not been applied consistently with NZS3604, Mr C responded he had specifically designed the steel strap bracing and NZS3604 was not applicable to his design,
  - (2) edge foundation detail – foundation not adequately accounted for, Mr C responded that he had correctly provided 300mm in the plans, had read and discussed the geotechnical engineering issues and had designed in accordance with Mr G's (the project Geotechnical Specialist) 2016 report to ensure the details had been accurately provided for,
  - (3) ceiling diaphragm not complying with the necessary building standards – Mr C said he was working with the architect on this aspect and was waiting for architectural detail and drawings before progressing with this aspect of the design, consideration to the ceiling diagram had not been completed when the contract ended.
66. Regarding concerns raised about the drawings, the IC considered the mistakes raised on the drawings were made by the drafter and that they were easily recognised and remedied by those in the industry including Engineers, architects, or builders. Only initial drawings had been provided and Mr C was waiting on further information from the architect before finalising those design at the time the contract was cancelled.

67. Regarding whether the IC made proper considerations to Mr J's independent high-level structural review (HLR), Ms D referred to the IC's decision [BOD 213-225], which gave full regard to Mr J's report; and his letter of engagement [BOD 110]. Ms D said an expert advisor can give technical advice but has no decision-making power.
68. Ms D spoke to the IC's characterisation of the project as a building within a building and said that this was a simple way that the IC conceptualised between the interior and exterior elements, and it did not affect the IC's decision; all relevant factors were appropriately considered.
69. She observed that the appellants' contract was with Company H, not Mr C and commented further that Company H had an obligation to provide the services the appellants paid for while Mr C's contract and his engagement was with Company H.
70. Regarding the files Mr C provided, that were not included in the BOD, Ms D said these were technical files which could not be opened because they required specific software, and that the IC did not consider those files were necessary to reach their decision.
71. Company K and Company F are not under investigation, but there may have been issues with the communication related to Company H not establishing a direct line of communication between Mr C and their client but that was not within Mr C's control.
72. The appellants chose to terminate 2 contracts before they were complete. Mr C cannot be held responsible for any delays associated with these actions.
73. In conclusion Ms D submitted that the IC went to considerable effort to work out Mr C's responsibility on the project, before making a holistic decision that the design elements carried out by Mr C were appropriate to the objective of the project.
74. Ms D further submitted that the IC did not need to decide on every detail raised for that decision to be robust and that the IC considered the work Mr C had completed was reasonable given the early termination of the contract; Company H's usual commercial practise; and that Mr C was not provided the opportunity to communicate directly with Ms A and Mr B.

#### Mr C

75. Mr C attended the meeting by Zoom and made a PowerPoint presentation, speaking to key points in his submission.
76. He submitted that he had 15 years' experience, 10 years in NZ; that he was a cold formed and FEA expert, and had publications on these subjects, was a shed-safe engineer from 2016-2020, had developed training programs for engineers unfamiliar with cold form steel.
77. Mr C said his engagement was with Company F and that following the original email, his scope of works was further clarified as being limited to the bracing walls and cold formed steel structure, and that it did not include the mezzanine, the ceiling design, detailing of interior elements such as load bearing walls, non-load bearing walls, flashings, and the detailing of the above.
78. Mr C described the variance between SED and alternative solution design and said that the design completed by Company I included several SED elements and no alternative design solutions.
79. Regarding the building bracing, Mr C described how the structure was braced using strap bracing and followed this with an explanation on the mechanism of sheet bracing.
80. In addressing the foundations, Mr C showed the ceiling was supported via the beams and the columns and column foundations and he highlighted the variance in the requirements between load bearing and non-load bearing foundations.
81. Regarding the ceiling diaphragm, Mr C:
- (a) referred to the document, The Basis of NZS3604, section 13 ceilings, which states *"they (the ceiling<sup>1</sup>) are assumed to provide lateral restraint to roof framing members (section 10 of the standard) and are also required to distribute lateral loads to bracing elements by diaphragm action. The concept of bracing lines depends on this function"*.
  - (b) highlighted by reference to the ceiling floor layout plan on Drawings 3 of 12 [BOD 27] the locations where the external cold form columns notched into the ceiling diaphragm.

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<sup>1</sup> Added the ceiling for clarity

(c) noted the ceiling diaphragm note which identified the plasterboard ceiling, the nail fastenings and reference to NZS3604 Table 13.3 for ceiling fastening requirements ceiling diaphragm.

(d) concluded Company I's designed ceiling is satisfactory, has the correct nailing specified and that Company I is allowed to do this as it will not reduce the performance of the ceiling performance.

82. Mr C summarised by saying Company I's design philosophy was not greatly different from their industry peers; with Company I's design illustrating the expectation of the design from both an engineers and architectural point of view; that 3 pages of a preliminary set where all NZS3604 information is missing and not detailed does not make a set, that architectural (sets) are typically very detailed and show the level of documentation Company I expect for the design.
83. Mr C said, typically Company I have never spent more than 4 weeks on a design or RFI; that often what is considered a mistake resolves itself during the clarification process; the PS1 has been issued for the cold formed steel building and that this was appropriate at the time of issue; that what is missing from the PS1 is the habitable area which has never been certified and is not covered by the PS1.
84. Mr C also said he has twice offered to participate in mediation on this project; prior to the cancellation of Company I's engineering services and during the complaint process; and that from Mr C's perspective the project was never finished.

#### Ms A and Mr B Response

85. Mr B further stressed the importance of clearly identifying the scope of works associated with signing a PS1; further queried how the IC could consider the complaint with consideration of the drawings alone, without consideration of the calculations; said the duration between cancelling the contract and requesting a meeting was 6 weeks, and that he wished that he had had the opportunity of a discussion with Mr C, or Company H's draughting team.
86. Mr B acknowledged Mr C's comment regarding an alternate dispute resolution option via this process. He said "had that offer been given to us... we might have had a different discussion today, or maybe don't have this discussion at all ... if Mr C could see the point of view that we

have come from he may have taken the learnings out that we are seeking through this process, unfortunately that was not given”.

87. Mr B concluded his submission with thanking everyone for the opportunity to speak, and hoped lessons were learned from it.

#### **Panel Questions**

88. The Panel asked Mr B to consider and comment on the content of the email between Company F and Mr C, which he had indicated in his submission as being the instruction from Company F to Mr C [BOD 160-161]. Specifically, the following “idea is at this stage to apply for building consent for shed structure and then look to amend for habitable structure”.
89. Mr B said this was never their intent; their correspondence with Company F shows they were always going to build a habitable building straight away; this was a matter they intended to raise with Company F; but irrespective, the inclusion of the windows and openings in the first drawings indicate all were aware on the intent.
90. Mr C said the very first design (Company K) was for a shed which allowed a 25mm gap between the external frame and internal fitout. The second design (Company F) was for a shed that is habitable, with the internal fitout being connected directly to the external frame. It was that part that did not and has not happened.
91. The panel asked Mr C for further clarification on the timing of the issuing of drawing sets and PS1s; November 2017 set was issued as complete for the main exterior frame; the 2018 set was issued pending further input from the architect, issued for review.
92. The panel also asked Mr C if his normal practise was to issue a PS1 with preliminary drawings.
93. Mr C advised that at the time it was his practise to issue the PS1 as part of the drawing set, this practise has since been reviewed.
94. The panel also asked whether his normal practise to exclude construction monitoring for the structure and/or the subgrade on his PS1.

95. Mr C explained that in his experience most shed construction monitoring is covered by the councils and that by crossing it out it enables the councils the opportunity to carry out the works, rather than requiring an SED approved person.

### **The Original Complaint**

96. In the original complaint, Ms A and Mr B raised the following concerns [BOD 7-19]:

*“Mr C did not undertake engineering activities in a careful and competent manner, specifically:*

- the use of Gib Ezybrace System BL1-H is only certified with NZS3604 timber framing, not cold formed steel.*
- mistakes in the Company K drawing set have been repeated in the Company F drawings.*
- mistakes in the Company F drawings due to poor, incomplete or incorrect detailing including reference to floor sawcut, foundation supporting ground conditions, reinforcing and depths, wall type and location, member sizing and location, risk factors for junctions (flashings).*

### **Discussion and Findings**

97. Ms A and Mr B have raised two grounds of appeal, they are:

Ground of Appeal 1 - Mr C did not undertake engineering activities in a careful and competent manner (r 42E (a)(iii)), and

Ground of Appeal 2 - Mr C misrepresented his competence (r 42E(b)(i)).

98. The panel is tasked with considering whether it has been shown on the balance of probabilities, that Mr C has breached s21 (1) (b). Specifically, has Mr C breached his code of ethics personal obligation r 42E (a) (iii); has he performed engineering services in a careful and competent manner?
99. The panel is also tasked with considering whether it has been shown on the balance of probabilities, that Mr C has breached his personal obligation under r 42E (b)(i) of the Code of Ethical Conduct, by misrepresenting his competence.

100. If regard of the above potential breaches, the panel's decision differs from that made by the IC, the matter will be referred on to a disciplinary committee or dismissed on a ground in rule 57.

**Ground of Appeal 1.**

101. Ms A and Mr B submit the IC did not fact check or converse with them prior to issuing their decision, which they say has resulted in the IC's decision being based on a number of errors:

*(a) the reference to the building being an accommodation building within a shed, rather than a single building which houses both accommodation and shed activities.*

*(b) the drawings provided are the latest and they have not been superseded by a more recent issue.*

*(c) the gib bracing as specified for the walls and the ceiling diaphragm does not comply with the manufacturers documentation.*

*(d) the extent of Mr C's PS1 is incorrect.*

*(e) Mr C has failed to check the design and provide a Specific Engineered Design (SED) for the Building Bracing.*

*(f) Mr C has failed to address multiple requests for SED design and/or changes.*

*(g) Mr C has failed to address the disconnect presented by the business model, i.e., the lack of direct contact to address the structural concerns.*

102. Whilst Ms A and Mr B say their complaint was about technical matters, and nothing to do with the scope of Mr C's engagement, in order to consider whether Mr C has breached his obligations under the Act, the panel must assess whether Mr C has acted in a manner expected of a responsible engineer in the context of the scenario which includes consideration of his scope of engagement, contractual obligations and whether he was provided the opportunity to remedy any concerns.

The Scope of the Engagement

103. Mr C's company, Company I has been engaged by Company L to provide Company H and their distributors with structural engineering services [BOD 124-155]. This agreement specifically

excludes any draughting, and any direct engagement with Company H's clients or Company H's distributors' clients. It provides for structural design of cold form steel structures for a range of standard structures and provides further assistance to Company H's distributors on a job-by-job basis via a direct engagement with Company H's distributors. Company F is a Company H distributor.

104. The 22 September 2017 email from Company F to Company I [BOD 161] provides the basis for Company I's engagement with Company F for Ms A and Mr B' house design [BOD 37-50]. This agreement allowed for a single dwelling, with *"allowance for applying for building consent for shed structure and then look to amend for habitable structure. Arch designer is to handle all internal habitable areas to NZS timber, can you please detail anything you believe is required for his information for bracing and he will deal with the rest, see attached his preliminary ceiling plan for review"*.
105. The information attached to this email included a ground floor plan of the building showing kitchen, sitting room, ablutions, bedroom layout, ceiling joist layout, a typical cross section, detailing of the proposed cold form steel base fixing and a separate drawing by Company F indicating bay spacing, and elevations.
106. The Company F/Company I brief followed an email from Ms A and Mr B to Company F [BOD 22]. This email contained Ms A and Mr B' brief for a 12m x12m x2.7m high sleepout/garage, in kitset form, with allowance for light storage within the ceiling space over a portion of the living space, and the inclusion of already purchased windows, fixtures and fittings. The site was identified as being within a high wind zone, and a snow zone. The email also included a copy of Mr G Consulting's geotechnical report.
107. Ms A and Mr B say the description provided to Company I for a two staged building consent was never their intent and they had always intended to build the habitable space immediately. They also say their payment to Company F for the engineering design and by Mr C's ticking all and addressing the PS1 to them his engagement extends from Company F to themselves, and the design extends to the complete build.
108. In an email between Company L and Company I, Mr M from Company L [BOD 85] voiced his expectation of Mr C's engagement, stating that Mr C *"should not be expected to engage with a third-party draftsman who isn't paying your bill"*.



109. During the design process, Company F sought clarification from Mr C on several items [BOD 67].
110. Except for a reference to correction to a beam location neither Company H nor Company F have raised any significant concern regarding their engagement with Mr C.
111. Mr C in interview said, Company I were engaged to review drawings produced by Company F and to check them for building code compliance. In his submission and at the hearing he also noted the scope of Company I's design with Company F changed over time, that it had extended from the design of a simple shell building with a separate interior by others, to consideration to the external framing supporting the interior framing in part. He also said the scope of his design for the 2018 Company F design [BOD 25-36] at the time of the complaint was limited to VM1/B1 & B2 compliance for the cold form steel structure, its bracing and foundations as covered by his PS1.
112. The panel considers the evidence on engagement supports Mr C's description of the scope of his (Company I's) engagement with Company F as that described in the Company F email to Company I in conjunction with the Company L/Company I brief. This engagement limits Mr C's design to specific engineering design (SED) of the cold form steel structure, its bracing, and foundations. It excludes draughting, direct communication with Company F's client, and the non-specific design by others, i.e., design to NZS3604.
113. The panels now consider the alleged failings.

Importance Level 2 Type Structure

114. Ms A and Mr B submit the design they required was for a habitable building, and that Mr C failed to provide for this in his design.
115. Mr C says [Sub C 1.38] *"... the code allows for different levels of design for importance levels.... a lot of shed(s) are importance level 2 buildings, .... the habitable nature of the building makes it importance level 2 but doesn't give it any greater consideration to (a) shed of similar importance."*
116. Drawing 8 [BOD 96] refers to the building importance level (IL) as 2, under Project Design Criteria.

117. The panel concludes the drawings refer to the building as an IL 2 building and can find no evidence to support Ms A and Mr B' claim that Mr C failed to design an IL 2 building.

PS1

118. There are 3 PS1s issued by Mr C in the BOD's.
119. The two issued with the Company F drawings [BOD 49 and BOD 101] reference Job Number ZCAN20033 and are dated 9 November 2017 & 28 February 2018. These PS1s relate to different revisions of the same project and pertain to a 144m<sup>2</sup> building.
120. Both PS1s reference the whole of the design to verification method B1 & B2. Neither make a recommendation for construction monitoring. They both have an associated drawing list complete with revision reference and date of issue.
121. The drawings indicate in addition to the cold form steel structure, internal timber framing to NZS3604, a plasterboard ceiling diaphragm with reference to fixings to NZS3604, a 1.5kPa NZS3604 timber framed mezzanine floor over part of the build, gib board and ply wall braces to Winstones ezybrace proprietary system and CHH Woodproducts Ecoply system respectively.
122. The buildings use is not mentioned on the drawings or in the PS1's.
123. Ms A and Mr B submit Mr C is responsible for the whole design, having ticked the "All" box in both PS1's; and further if not the whole design, then all of the structural design.
124. They submit [Sub A pgh 2] "by putting his signature on the plans as they stand, Mr C is saying the drawings are true and factual and that Mr C has taken responsibility for the drawings and technical aspects of it, ... the PS1 should not have been signed or noted/ticked under "All or Part only".
125. They also submit Mr C has not prepared any specific engineering design on the project on the basis he has not ticked the box for alternate solutions.
126. Mr C submits his design has been carried out in accordance with MBIE compliance documents, specifically B1 and B2 and there are no alternate solutions covered by his design, or NZS 3604 acceptable solution) components covered by his design and that this is clearly demonstrated in the engineering calculations provided to the RA.

127. The engineering calculations referred to above have not been included in the bundle of documents, due to the RA's inability to open them and the IC not requiring them for their decision.
128. Mr C's submits [Sub B 1.04] *"the engagement for this project for Company F is clearly stated as bracing of the walls and the cold formed steel structure, this engagement was expanded over time. However, we are awaiting architectural drawings to confirm our design for the habitable section in regard to load-bearing walls, ceiling joists etc. While we understand the PS1 doesn't reflect this and can see how this could be misconstrued, the calculations package is very clear on this point, and the CoDW would have made this clearer. A certificate of design work is required for this type of building. The architectural draftsmen would have completed his CoDW, and so would we to give Council a good idea of whom is in charge of what area. As we had not finished our commission when discharged from the project, this was never completed."*
129. The panel accepts Ms A and Mr B' argument that the ticking of the "all" box in the PS1 is incorrect. In taking into account the complete design process provided by Mr C, which includes consideration of all elements which do not fall within NZS3604, manufacturers written specifications, the issuing of a CoDW by all designers involved in a habitable building project, the panel considers this to be a minor error.
130. Mr C's evidence suggests he understands the Building Act requirements and the consenting process for habitable builds.
131. He acknowledges and accepts the potential confusion created when considering the content of the PS1 as written and as issued with "for review" drawings.
132. He also acknowledges that had the project continued to final design, the architectural drawing set, this drawing set, and his calculations would have included a CODW, and PS1 with supporting calculations.
133. The panel accept Mr C's design does not include alternate solutions.
134. The panel also accept Mr C's initial design excluded consideration of internal framing and internal bracing, and that this responsibility fell on others - Company F' s architect, or Ms A and Mr B architectural draughtsperson.

135. The panel considers the intent of a PS1 is clear in its wording. It is a statement made by a designer on behalf of a design firm. It is supplied to a Building Consent Authority to show compliance with the NZ Building Act for the scope of design works carried out by that design firm and provides an indication of the insurance cover that firm holds.
136. At the hearing Mr C further acknowledged the issuing of a PS1 with partially completed designs as unusual, and further acknowledges this practise has been reviewed.

#### The Drawings

137. Ms A and Mr B provided a table of deficiencies associated with the drawings and raised 10 concerns [BOD 12].
138. Mr C [Sub C1.04] says some of these concerns fall outside Company I's B1/B2 certification.
139. Of the 10 items, 2 items (7 & 8.1) are non-structural and are acknowledged as being outside the scope of Mr C's engagement.
140. Mr C also submits [BOD 75] *"we are not the complete designer of the building; we review drawing provided by shed companies and provide engineering compliance. Our scope is limited to reviewing the pre-engineered building design and making recommending modifications to suit the requirements of the project. All drafting services are provided by Company H/Company F/Company K"*.
141. There are 12 drawings in both the November 2017 and February 2018 Company F Ltd drawing sets. The February 2018 version is stamped "for review" and dated 28/02/2018.
142. In this, the panel have been assisted by the high-level review by Mr J, CPEng FEngNZ IntPE (NZ), Proconsult structural engineering report<sup>2</sup> [BOD 111-113] which provides a summary of the variances between the 2017 & 2018 Company F documentation including:
- (a) Drawing 3 – ceiling over habitable space shaded and ceiling diaphragm called up.
  - (b) Drawing 4 – positions of wall bracing changed to habitable space.

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<sup>2</sup> The High-Level Review structural report (HLR)

(c) Drawing 5, notes added to end wall elevation regarding bracing and connections.

(d) Drawing 9 – Refs added and notes re thermal break and building wrap refer to architectural plan.

(e) Drawing 12 – changes to bracing

143. Ms A and Mr B felt the IC had erred in their consideration of foundations, bracing, and calculations which are considered below.

#### The Foundations

144. Ms A and Mr B submit Mr C has signed off on a foundation design which is not in keeping with NZS3604 or lacks SED, and provide their reasoning for this, as:

##### *Items 1-3: Foundation Detail Issues:*

*a) the lack of embedment of the perimeter foundations, into the undisturbed ground which is 300mm below the existing ground level).*

*b) the lack of reinforcement within the foundations.*

*c) the lack of detailing and consideration to the sawcut depth.*

145. Ms A and Mr B say [BOD 12] the edge thickening detail lacks compliance with NZS3604 detailing for embedment which requires 200mm embedment into undisturbed ground and that the minimum embedment of the perimeter foundation should be 300mm below existing ground level to “good ground”, the embedment detailed is 175mm below ground level.

146. Mr J’s HLR suggests [BOD 112] “12.....the foundations are inadequate for the site with the edge foundation 100mm into the soil, I would expect foundations to be at least 400mm into the soil. The edge foundation is supporting a structural wall....”

147. Mr C submits his design is a SED design, and that the foundation sizes and arrangement meet his design intent by placing foundations under the main columns of the building, under the mezzanine supporting braced walls and around the building perimeter for bracing purposes.

148. Mr C also submits [SubC 1.22] *the footing Ms A/ Mr B is referring to is non load bearing. NZS3604 ... is referring to a footing that supports a wall or similar bearing type load, the only requirement for the Company I design is to have enough footing to provide bracing hold down... Reference to bearing requirements is misleading for a footing that isn't load-bearing [SubC 1.26]; The internal load bearing wall sits on a 200mm thick footing, which then sits on 300mm of compacted fill which ensures the loading is to the appropriate level nominated by the Mr G Consulting geotechnical report. The slab edge will be retaining under slab soil and preventing a washout rather than acting as a load bearing footing. However, the slab edge will be sitting on hardfill brought up from the confirmed depth of good bearing"*
149. The 2018 foundation drawing [BOD 89] indicates the main structure is supported by individual concrete pads to good ground depth, the internal framed walls are supported on slab thickenings and replacement fill and the perimeter foundations is embed 175mm into compacted hardfill fill.
150. Ms A and Mr B submit the internal foundations are not required by NZS3604 design.
151. Mr C submits the design is SED, and foundations are required and prudent to enable framing and bracing hold downs for braced walls in an otherwise 100mm thick slab.
152. The panel accepts that whilst the design could have been carried out several ways, Mr C has opted for an SED rather than a combination of SED/NZS3604 slab and has provided his reasoning in support of this [BOD 77].
153. Had this design approach been identified on the drawings or shared with Ms A and Mr B, this aspect of the complaint may have been resolved more effectively.

GS1-N Gib Wall Bracing on the Exterior Wall

154. Ms A and Mr B submit Mr C signed off on a design which included the incorrect use of Gib Ezybrace, with reference to a Gib BL1-H braces on Grid A, detailed as an external wall constructed of gib sheeting on a timber batten on a cold form steel girted exterior wall.
155. Mr C agrees with Mr J, Ms A, and Mr B that this Gib BL1-H brace falls outside Winstones technical specifications and requires SED if it is to be used as a structural bracing element.

156. Mr C submits the gib braces on Grid A are not required. He says he has designed the required external wall bracing using metal strap bracing only, and that this design is covered by his PS1.
157. He also says the responsibility for the internal wall bracing lies with others, but if required, SED designs could be used. He explained that he had previously designed a system consisting of gibboard panel fixed to timber battens on cold formed girts along with a hold down strap fixing from the vertical battens to the bottom plate rather than the use of the standard handibrac [BOD 98], and highlighted that [BOD 76] *"We have had previous PS2 reviews undertaken on a number of jobs with this system specified and they are in agree(ment) that the system being employed does meet engineering design requirements"*.
158. Ms A and Mr B say the internal wall bracing was to be covered by their architectural designer using the acceptable solution NZS3604 and the Winstones Ezybrace system, and that without knowledge of the detailing of this element their architectural designer was unable to carry out his part of the design.
159. In January 2018 Company F sought clarification from Mr C in relation to the external wall bracing on Grid A, specifically whether the bracing on Grid A extended all the way to the rafter; whether it could stop at the ceiling level; and if not, how the ceiling joists were to connect allowing for the ceiling member extending through the bracing element. Mr C provided his response [BOD 76] which focused on the wall strap bracing which extends to the rafters.

Mr J's HLR raised potential concerns relating to the gib bracing indicated on Grid A, namely:

*"Drawing 10 Detail 2 - the bracing system does not comply with the Gib Bracing Manual. The system has been tested for this specific application and the designer would have been better to use steel strap bracing behind what has been specified (... the wall bracing would have been SED) & Drawing 5 ... Detail 4<sup>3</sup> there is an A/GIB BLH/0.80 call up(ed) and a red cloud to remove the brace."*

160. The panel accept the building's wall bracing is reliant on a combination of SED and acceptable solution bracing with input required from Mr C for SED, and Company F's draughtsperson or

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<sup>3</sup> [BOD 29]

Ms A and Mr B' architectural draughtsperson for the NZS3604 or Winstones Ezybrace system and Company F, for coordination of these designs.

161. The panel considers Mr C has demonstrated he understands the limitations and design requirements associated with the transfer of loads via wall sheet bracing, and that he has considered both the requirement for and the suitability of SED variance of the gib bracing on Grid A, in association with the full loading from both the final build.
162. The panel further consider that much of the confusion has resulted from the inclusion of a wall brace described by a common proprietary wall brace, for what has been identified as not being required, or if required is essentially a SED brace consisting of gibboard and specified fixings, and suggests had Mr C been clearer regarding the bracing, the concerns may not have arisen.

#### Gib Ceiling Diaphragm

163. Ms A and Mr B submit Mr C signed off on a design which involved incorrect use of a Gib Ceiling Diaphragm, citing reasons.
164. They say [BOD 23] their draftsman questioned the use of the ceiling diaphragm within this building, and they questioned why the ceiling is a ceiling diaphragm.
165. Drawing 3 [BOD 91] identifies the ceiling diaphragm, and the required fixings. Mr C has in his correspondence with Company F noted the ceiling and ceiling diaphragm as being one and the same.
166. Mr J's HLR considered there were 3 potential areas of concern with the ceiling diaphragm, namely:

*"- 5.1 There is no penetrations allowed through a ceiling diaphragm in certain zones, so the columns affect the design.*

*- 5.2 The double end joist is not in line with the wall at line M (Dwg 4); and*

*- 5.4 There is no continuity of the ceiling diaphragm to the walls (detail 1 Dwg 10)".*

167. Mr C submits his interpretation of the use of the ceiling diaphragms is correct based on:



- (a) the BRANZ publication<sup>4</sup>,
  - (b) the supplier/manufacturers documentation.
  - (c) the ceiling has been designed to act as a diaphragm.
  - (d) the horizontal load and engage the bracing walls underneath.
  - (e) the ceiling and ceiling diaphragm are the same.
  - (f) the diaphragm is made up of 3 ceiling diaphragms, each measured between brace lines.
  - (g) top plate connectively using gib fixing angle provided to NZS3604; and
  - (h) that the cut-outs in this instance do not neglect the transfer of loads via the ceiling plane, into the cold formed braced steel structure.
168. The panel accepts that Mr C has considered the scope and limitations associated with NZS3604 ceilings and ceiling diaphragms.

#### Requests for SED Design and/or Changes

169. Ms A and Mr B say they made numerous requests for SED design and/or changes and that Mr C has failed to carry out these requests or changes.
170. The evidence suggests that changes to the design have been made between the 2017 and 2018 drawings as provided under the drawings sections and Mr C has responded to requests from his client Company F and noted where changes are required for his design [BOD 76-77].

#### Communication

171. Ms A and Mr B assert that Mr C has failed to address the disconnect presented by the business model, i.e., the lack of direct contact to address the structural concerns.
172. As previously noted, Mr C's engagement excludes direct communication with Company H's distributors clients in that all communication is via Company H.

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<sup>4</sup> BRANZ Publication - The engineering basis of NZS3604

173. Whilst this has in this instance resulted in a lack of effective communication and frustration for Ms A and Mr B, the panel considers it appropriate that Mr C carried out his work in accordance with his terms of his engagement with his client, Company H and their distributors.
174. In summary, we find Mr C has not breached his personal obligation under the Code of Ethical Conduct (r 42E(a)(iii)).
175. This ground of appeal is not proven.

#### **Ground of Appeal 2.**

176. The panel is also tasked with considering whether it has been shown on the balance of probabilities, that Mr C breached his personal obligation under the Code of Ethical Conduct (r 42E(b)(ii)) by misrepresenting his competence.
177. Ms A and Mr B submit Mr C misrepresented his competence by failing to correct the IC in interview in relation to their interpretation of the building description.
178. The panel considers this to be a new complaint and concludes consideration as to whether Mr C has breached ethical obligations with regard to r 42 (b) (i) falls outside the scope of the original complaint and therefore falls outside the scope of this appeal and our decision.
179. This ground of appeal is not proven.

#### **Outcome**

180. The decision of the panel is to uphold the decision of the Investigating Committee and to dismiss the appeal.
181. In accordance with S35 of the Act either party may appeal this decision to the High Court within 28 days.

## Costs

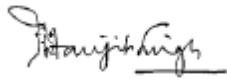
182. A ruling on costs was not an outcome sought in the Notice of Appeal from Ms A & Mr B.
183. Neither party has made submissions in respect of costs, and the panel's decision is that costs shall lie where they fall.

**Dated 1 day of September 2021**

Signed by the Appeal Panel

A handwritten signature in black ink, appearing to read 'S. Hardie'.

Sandra Hardie – Principal

A handwritten signature in black ink, appearing to read 'Manjit Devgun'.

Manjit Devgun – Member

A handwritten signature in blue ink, appearing to read 'A. Fairclough'.

Anthony Fairclough – Member

## **Schedule 1: Legislation**

### **Chartered Professional Engineers Act 2002 (“the Act”)**

1. S21 of the Act sets the grounds for discipline of CPEng
2. S25-S27 of the Act provides the decision-making functions and powers and procedure of the RA and Council in making decisions relating to S20 complaints about engineers.
3. The right of a party to appeal a decision by the RA is contained in S35 of the Act.
4. The hearing and determination of an appeal is contained in S37. In particular the scope of the Council’s jurisdiction, which is to deal with the matter by way of rehearing.
5. The Council has no power to review any part of the decision other than the part to which the appeal relates (the Act s 37(6)).
6. S45 of the Act covers Council hearing appeals on decisions of the RA.
7. S60 of the Act provides for not referring the matter on to a disciplinary hearing.

### **Chartered Professional Engineers of New Zealand Rules (No 2) 2002 (“the Rules”)**

8. The rules are enacted pursuant to S40 of the Act.
9. Part 3 sets the code of conduct required by a Chartered Professional Engineer under the Act.  
Rule 42E – Act competently prescribes the obligations relating to personal conduct:  
(i) ensure that the engineer’s relevant knowledge and skills are kept up to date; and  
(ii) only undertake engineering activities that are within the engineer’s competence; and  
(iii) undertake engineering activities in a careful and competent manner
10. Rule 60 provides for the IC to determine whether to refer complaint or inquiry to disciplinary committee.
11. Rule 62 the IC may explore alternative dispute resolution for complaints.
12. Rule 63 the IC must give the person complained about opportunity to respond.
13. Rule 65 the RA must notify and implement decision.

## **Schedule 2: Correspondence and Submissions**

- (a) 31 January 2021 - Notice of Appeal received by email from Ms A and Mr B (attachments: Document 1 – Notice of Appeal – Ref 504.pdf; Document 2 – Appendix - Ref 504.pdf; RA Letter & Decision.pdf)
- (b) 02 February 2021 – email issued by CPEC to the parties acknowledging receipt of the Notice of Appeal and instructing the RA to prepare a paginated bundle of documents.
- (c) 11 February 2021 - email from the RA providing a link to the parties/panel to the paginated bundle of documents & the RA’S video interview with Mr C.
- (d) 16 February 2021 - email issued by CPEC appeal panel principal to the parties advising the names of panel members, the process and submission timelines (attachments: 210216-01-out-initial panel letter CPEC MsA MrB\_MrC.pdf Document 1 – Notice of Appeal – Ref 504.pdf; Document 2 – Appendix - Ref 504.pdf; RA Letter & Decision.pdf).
- (e) 01 March 2021 – email from RA containing copy of the RA’s interview questions received by email from the RA (attachment: 004 Questions for Mr C.docx)
- (f) 12 March 2021 - submission received by email from Ms A and Mr B (attachments: Submission Appeal1 – A & B.pdf, Appendices A, B, C & D.pdf).
- (g) 23 March 2021 – submission received by email from Mr C (Mr C Appeal Submission.pdf).
- (h) 06 April 2021 – email from RA advising submission almost ready and issuing tomorrow.
- (i) 07 April 2021 – submission received by email from The RA (RA’s submissions.pdf).
- (j) 07 April 2021 – email issued by CPEC appeal panel providing for acceptance of RA’s late submission and proposed revision of time for remaining submissions.
- (k) 13 April 2021 - submissions from Ms A and Mr B, in response to Mr C and the RA’s submissions (Document Submission in Response 2A & 2B).
- (l) 14 April 2021- Panel emailed all parties requesting their preference to the type of hearing and providing a hearing date of 30 April 2021.

- (m) 14 April 2021 – email received from Mr C agreeing to panels selection of type of hearing and advising he was able to attend a zoom hearing.
- (n) 14 April 2021 – email received from Ms A and Mr B requesting an in-person hearing and accepting Zoom as an alternative, should an in person hearing not be possible; also advising their unavailability.
- (o) 15 April 2021 – email received from the RA advising they consider the hearing should be made on the papers suggesting an alternative being via a virtual meeting.
- (p) 15 April 2021, Mr C advising he would be attending via Zoom
- (q) 15 April 2021 – email from Ms A and Mr B advising they would attend Wellington in person hearing.
- (r) Hearing16 April 2021- email from the appeal panel principal to the parties confirming an in person hearing in Wellington, with Mr C attending via zoom; finalised arrangements for date and location to be arranged by CPEC Executive Officer, providing preliminary agenda, with agenda finalised 1 week prior to selected hearing date when set.
- (s) 03 May 2021 – email from appeal panel principal confirming hearing date as Thursday 3<sup>rd</sup> June 2021 and providing general agenda.