



## Determination 2015/051

# Regarding the issue of a building consent for a 1-year-old house at 63 Kekerengu Valley Road, Clarence

### Summary

This determination discusses the approach to be taken in assessing documentation provided in support of a building consent application, and whether the documentation provided in this instance was adequate in terms of the decision to grant consent. The determination also addresses amendments to the consent and the compliance achieved.

## 1. The matters to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004<sup>1</sup> (“the Act”) made under due authorisation by me, John Gardiner, Manager Determinations and Assurance, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.

1.2 The parties to the determination are:

- the owner of the house, P Sutherland (“the applicant”) acting through a property inspection company (“the consultant”)
- Kaikoura District Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.

## 1.3 The building consents

The house was constructed under the following consent and amendments:

- 102441/1: dated 8 December 2010 (“the original consent”)
- 102441/1 amendment 18.10.2011: dated 18 October 2011 issued for ‘amended bracing design, PS for change of grade to rafters MSG10 [to] MSG8, move and add windows, close off door’ (“the first amendment”)
- 102441: dated 5 March 2013 issued for an amendment for ‘installation of Steel Portal [and] LVL Beam’ (“the second amendment”).

## 1.4 The matter to be determined

1.4.1 This determination arises from a dispute between the parties about the construction of a one-year-old<sup>2</sup> house and the decision of the authority to issue the original

<sup>1</sup> The Building Act, Building Code, Acceptable Solutions and Verification Methods, past determinations and guidance documents issued by the Ministry are all available at [www.building.govt.nz](http://www.building.govt.nz) or by contacting the Ministry on 0800 242 243.

<sup>2</sup> While the house was consented in 2010, the dispute arose when the partly-completed house was about 1-year-old.

building consent for the house. The submissions have raised a number of issues, however, under section 177 of the Act<sup>3</sup>, I can only determine the following matters:

- the exercise of the authority's powers in deciding to issue the building consent
- whether the building as constructed complied with certain requirements of the Building Code.

1.4.2 In this instance it is the decision to issue the original building consent that is disputed. In the application for determination, the consultant identified areas of particular concern within the consent drawings as follows:

- underfloor polystyrene insulation
- the internal roof gutter recessed into rafters
- the framing around the north wall openings
- sheet bracing.

1.4.3 I note that the decision to issue the code compliance certificate for the completed house, as constructed under the original building consent and the subsequent consent amendments, is not disputed between the parties.

1.4.4 The matters to be determined<sup>4</sup> are therefore whether the authority's decision to issue the original consent for the building was correct, and whether the building as constructed complies with the Building Code. In making my decision, I must consider whether the documentation submitted for the original consent provided reasonable grounds for the authority to be satisfied that the building would comply with the Building Code if built in accordance with those documents.

1.5 This determination is limited to questions of code compliance as set out in paragraph 1.4 above. I cannot consider the remaining issues raised by the parties, although these may assist me in providing the context leading to the determination. The authority's inspections and alleged failure to identify some defects during some inspections are not matters I can determine under section 177.

1.6 In making my decisions, I have considered the submissions of the parties and the other evidence in this matter.

## **2. The building work**

2.1 The building work comprises a single-storey detached house with an attached garage, built on a level site in a rural subdivision. The site was considered by the authority to be in a very high wind zone for the purposes of NZS 3604<sup>5</sup>. The house is relatively simple in shape and form but includes some complex junctions and intersections.

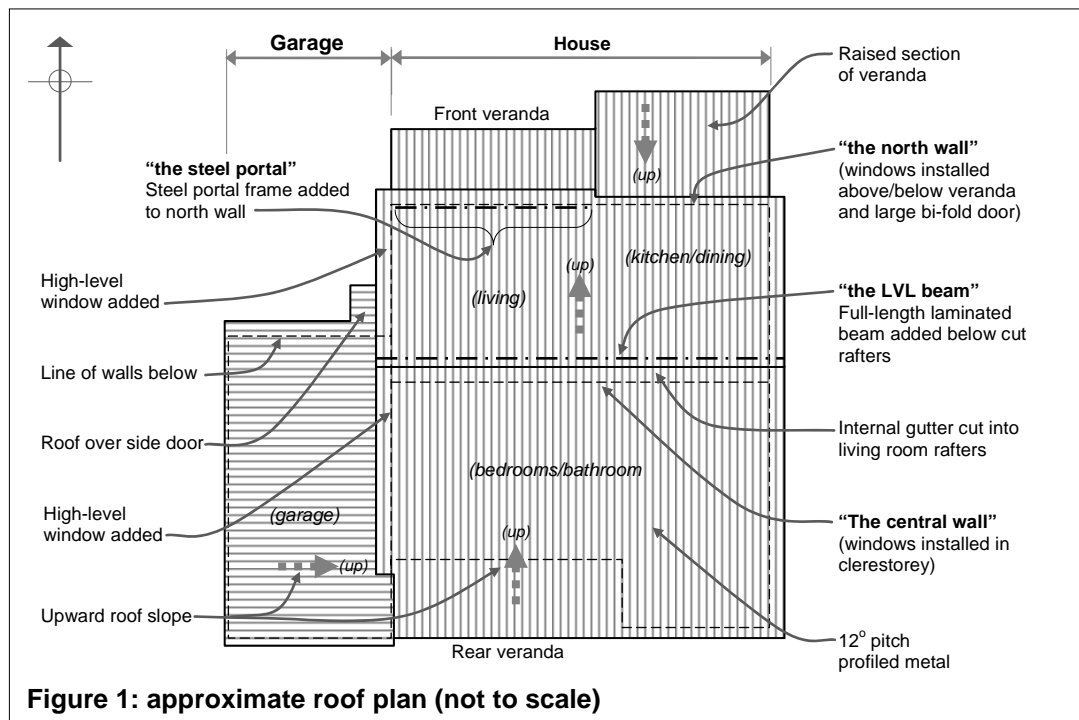
2.2 As shown in Figure 1 (over page), the building is made up of a number of attached monopitched roofs. The roofs slope up to form clerestorey walls, with high level windows and an internal gutter at the clerestorey to the south bedrooms. A lean-to entry veranda to the north includes a raised section above the eastern end and the south roof extends above a rear veranda, with both verandas supported on timber poles.

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<sup>3</sup> In this determination, unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

<sup>4</sup> Under sections 177(1)(b) and 177(2)(a) of the Act

<sup>5</sup> New Zealand Standard NZS 3604:1999 Timber Framed Buildings



2.3 In the original consent drawings, the only elements of the structure identified as being specifically engineered were the veranda posts, with other elements specified as in accordance with NZS 3604. Bracing was provided by a mix of plasterboard and plywood.

2.4 The first amendment to the consent in 2011 included:

- revisions to sheet bracing to take account of:
  - the deletion of the internal door between the living area and the garage
  - the addition of two high level windows into the west walls of the living area and bedroom 1
- amendment to studs between the north wall joinery openings.

2.5 The second amendment to the consent in 2013 included:

- a specifically engineered timber laminated beam (“the LVL beam”) adjacent to the internal gutter
- a steel portal frame (“the steel portal”) to the western half of the north clerestorey wall (“the north wall”).

2.6 The remaining construction is generally conventional light timber frame with concrete foundations and floor slab, profiled metal roofing, aluminium windows and plywood sheet wall cladding. The specification notes on the original consent drawings called for the exterior wall cladding to be a 12.5mm proprietary exterior plywood cladding ‘over 7.5mm bracing ply’.

### 3. Background

#### 3.1 The original building consent

3.1.1 The applicant applied for the original consent on 29 September 2010, based on drawings prepared by the original builder<sup>6</sup>. I note that the drawings were crudely prepared and difficult to decipher, with inconsistencies and few cross-references. Specifications consisted of handwritten notes on the drawings together with copies of technical data and annotated extracts from E2/AS1 and NZS3604.

3.1.2 A producer statement (“PS1”) dated 21 January 2010 was provided by an engineer (“the first engineer”), which was for:

... hardwood timber poles minimum 150mm diameter at verandah, for the strength requirements of NZS 3604 only. All other details as NZS 3604.

The PS1 noted other details in ‘7/A2 sheets’ were in accordance with NZS 3604. The producer statement stated that the engineer believed that, subject to soil conditions and proprietary products meeting specifications:

...the drawings, specifications, and other documents to which the building is proposed to be constructed comply with clause B1 STRUCTURE of the New Zealand Building Code.

3.1.3 Only the first drawing in the consented plans (Site Plan) is annotated ‘Design and drawn [name] 29 September 2010’. I am unable to confirm what drawings were referred to by the first engineer and what changes may have been made in the eight months before to the consent application being made, which was also on 29 September 2010.

3.1.4 The authority requested further information on 19 October 2010, including a list of 32 items to be resolved. Some additional information was later provided and the authority required a further 6 items be clarified, which was duly done. The authority issued the original consent (No. 102441/1) on 8 December 2010 and construction started in the same month.

3.1.5 The authority’s records include an undated ‘Summary of events’ (“the summary” as outlined in paragraph 3.4.7), prepared during 2011 by the officer of the authority responsible for undertaking onsite inspections (“the inspector”). Some of the explanations in that summary have informed the following paragraphs.

#### 3.2 The foundation inspections

3.2.1 The inspector visited the site on 15 December 2010 for a foundation inspection but was only able to inspect the siting. The inspector re-visited the site on 21 December 2010 and found that 125mm polystyrene had been placed in the foundation excavations. The inspector arranged to return the following day ‘to re-check for the removal of the insulation from the foundation trench.’

3.2.2 In regard to the above, the consent drawings are inconsistent. I note that ‘cross section AA’ in sheet 6 of the consent drawings clearly shows the line of polystyrene floor insulation extended from the slab under the foundations. However, the specification note A20 on the same sheet refers to ‘under floor/slab insulation’ and another note (A2) does not specifically include the foundation as it states:

100mm reinforced concrete slab with 665 mesh over H grade[sic] polythene over 125mm polystyrene closed cell insulation...

<sup>6</sup> The original builder subsequently left the site in about March 2011.

- 3.2.3 The inspector returned to the site and the excavations and floor slab were approved as the insulation under the foundations had been removed. Although the inspection record notes ‘poly insulation installed’, it appears that this refers to the floor insulation only.

### 3.3 The pre-line inspections

- 3.3.1 When the inspector visited the site on 17 March 2011 for a pre-wrap inspection work was not complete, with ‘bracing elements marked out in crayon on the floor’. Those markings were checked against the consented bracing layout and, after discussion, approval was given to proceed.

- 3.3.2 It appears that the inspector did not notice that the installed roof rafters were ‘VSG 8 grade’ and not the ‘MSG 10 grade’<sup>7</sup> specified in the consent drawings; and the inspection record noted:

all fixings to specs, bottom plates all fixed at 600 centres, ply bracing all correct to plans, OK to proceed when nail plates complete to bottom plates. Minor amendment of plans required for 2 x extra windows and deletion of door from garage to lounge.

The authority has submitted that the inspector told the original builder that drawings for the above changes would need to include updating bracing calculations and the proposed amendment should be submitted to the authority for its approval before the changes were made.

- 3.3.3 The inspector returned for a post-wrap inspection on 23 March 2011 (which passed). At that stage no internal plywood bracing had been installed so bracing could not yet be approved. The inspector discussed the importance of correct fixing to the exterior ply cladding in order for its bracing value to be achieved.
- 3.3.4 It appears that the installation of plywood cladding and internal bracing commenced, with no amendments submitted for approval and no further pre-line inspection called for. The applicant became concerned about some of the work to date and a dispute with the original builder led to building work being halted and the consultant was engaged to assess the work.

### 3.4 The consultant’s report

- 3.4.1 In an email to the authority dated 18 April 2011, the consultant sought copies of approved consent documents and inspection records, noting that it appeared that amended plans were needed ‘as things have not been built fully in accordance with the approved plans.’ (I have taken this to be a reference to the window and door changes noted by the inspector.)
- 3.4.2 During May 2011 the consultant assessed the documentation and inspected the building work to date, and wrote to the authority on 12 June 2011 noting that the ‘original builder and designer’ was no longer involved. The report attached undated photographs taken of framing and bracing during the consultant’s inspection and explained that the consultant had been engaged to assess the applicant’s concerns.

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<sup>7</sup> From 1 August 2011 all structural timber became known as structural grades (SG), being the grade of timber verified as either machine or visual stress graded timber in accordance with NZS 3622. Dry SG 8 is required to meet the properties specified for MSG 8 or VSG 8 in NZS 3603, and SG 10 to meet the properties specified for VSG 10 in NZS 3603.

3.4.3 In regard to the original consent, the consultant considered there were ‘several areas on the plans where there is obvious non compliance’ including (in summary):

- polystyrene insulation extended beneath the foundations (see paragraph 3.2.2)
- roof rafters depth reduced by up to 70mm by checking out for internal gutter.

3.4.4 In regard to inspections, the consultant noted the following (in summary):

- The inspector had properly instructed the builder to remove the polystyrene under the foundations (see paragraph 3.2.1), but removal resulted in extra concrete being required in the over-excavated footings.
- Framing was in place during pre-line inspections and the inspector did not identify the incorrect grade of the rafters and the depth of the cut to accommodate the internal gutter.
- Only three sheets of plywood extend to the top plate as required, yet the pre-line inspection noted ‘ply bracing all correct to plans’.
- There are few full-height studs to the 3.3m high north wall, which has many joinery openings, and an engineer has advised that a steel portal will be needed to strengthen that wall. The lintel above the large opening for the bi-fold doors also does not connect to a full height stud.
- Insulation would have been in place at the next inspection so ‘none of the above issues would have been noticed’, resulting in a ‘substandard house’.

3.4.5 The consultant noted that:

I have come up with the most economic and practical solutions to the issues I have identified which is a revised bracing plan, LVL beams to reduce the span of the rafters over the lounge, kitchen, master bedroom and hallway and with the engineers involvement a steel portal to be installed into the front wall and additional bracing.

3.4.6 In his letter, the consultant stated that he and the applicant wished to discuss the matters raised; also pointing out ‘the wasted materials, extra materials, rebuild costs, engineering and consultancy costs, costs associated with lodging amendments to the plans etc’.

3.4.7 Following the above letter, the authority’s inspector reported on the matters raised and provided an undated internal report titled ‘Summary of Events’, which detailed inspections undertaken and responded to some of the matters raised by the consultant.

3.4.8 I have included some of the inspector’s explanations in descriptions of the inspections of the building work in paragraphs 3.2 and 3.3. I have also included some of the consultant’s responses to the authority’s submission as well as responses to information sought by the Ministry.

### **3.5 The second engineer’s initial review**

3.5.1 Following discussions with the consultant, the authority subsequently engaged an engineer (“the second engineer”), who visited the building site with the authority’s inspector on 15 July 2011<sup>8</sup>.

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<sup>8</sup> Based on a copy of the computer record of the inspector’s diary

3.5.2 The second engineer investigated the bracing and rafters and wrote to the authority on 12 August 2011; stating that he had completed an inspection of the partially completed dwelling and further reviewed plans and documentation in regard to the issues raised by the consultant. Design checks had been completed and the engineer concluded (in summary):

- The rafter grade and the gutter checkout has been reviewed in the context of the span and loading and confirmed as compliant with B1/VM1.
- The bracing calculations have been revised and the bracing will comply, providing minor remedial work is carried out.
- A number of windows and doors have been altered so an amendment to the consent is required.

### 3.6 The consultant's engineering advice

3.6.1 The second engineer's review was forwarded to the consultant, who remained concerned about the north wall and the cut rafters and sought advice from another engineer ("the third engineer"). In an email to the consultant dated 17 August 2011, the third engineer stated:

My reasoning for the steel frame [*the steel portal in the north wall*] is face wind loading which is not addressed on the PS1 provided. The bracing calculations note 5 studs provided but photo indicate not all these studs are continuous. Provided the notch is on the top side of the rafter [*the cut rafters under the internal gutter*] it would appear the rafters are okay under gravity loads. The notch has not been included in the wind uplift case where the tension side is notched so need to include k7 but shear is very small so not an issue.

3.6.2 The consultant met with authority officials on 18 August 2011. In a letter to the authority dated 19 August 2011, the consultant confirmed discussions at the meeting as to what the applicant wished to be considered in the second engineer's producer statement as follows (in summary):

- Specific design for the north wall due to wind loading, with the third engineer designing a steel portal due to extra loadings added by the separate sections of the verandas leading to studs being overloaded.
- Sheet bracing will need to be internal (with blocking added for sheets not extended to the top plate) because fixings to exterior ply is unknown.
- All bracing will need to be covered in the new producer statement.
- The rafters over the bedroom and hallway need to be covered.
- Some of the exterior cladding plywood is fixed over ply packing, which is outside the scope of its normal bracing capacity.

### 3.7 The second engineer's producer statement

3.7.1 Following correspondence with the consultant, the second engineer wrote to the authority on 3 October 2011 and attached:

- an amended bracing design
- a detail for 'remedial work' to framing in the north clerestorey wall

- a new ‘Producer Statement – PS1 – Design’ dated 3 October 2011 for:
  - rafters over lounge, bedroom 1 and hall
  - bracing of dwelling
  - studs and framing to front wall.

3.7.2 The second engineer noted that:

- loads to the north wall were checked and calculations show that framing will transfer loads to floor and wall (if amended according to revised detail)
- the amended bracing design replaces ‘short’ ply elements with ‘GIB’
- the new producer statement includes all bracing ‘in the interest of resolving this project’, although only the north wall is outside the scope of NZS 3604.
- the new producer statement includes the roof rafters.

(I note there was no mention of a requirement to install a steel portal to the north wall and a LVL beam to the rafters under the internal gutter at the central wall.)

### 3.8 The first amendment

3.8.1 On 14 October 2011, the consultant submitted an application for an amendment to the consent. The authority issued the first amendment on 18 October 2011 for:

Bracing design, producer statement for change of grade to rafters MSG10 [to] MSG8, move and add windows, close off door, strengthen front wall.

3.8.2 The amendment documents included:

- the west elevation showing the two additional high level windows
- the garage floor plan showing the garage/house door deleted
- the second engineers bracing design, calculations and producer statement
- the remedial detail to studs in the north clerestorey wall.

(I note that the first amendment included no steel portal to the north wall and no LVL beam to the rafters under the internal gutter at the central wall.)

### 3.9 The second amendment

3.9.1 I have not seen evidence of any progress of the building work, correspondence or inspections carried out during 2012 and I am not aware of the reasons for delays in completing the house.

3.9.2 However, it appears that the consultant remained concerned about the structural adequacy of the north clerestorey wall and the cut rafters at the living/bedroom wall. The consultant continued to pursue the 2011 proposal (see paragraph 3.4.5) for a steel portal frame to be installed in the north wall and also the installation of a laminated beam to support the cut ends of the rafters in the mid-wall.

3.9.3 The applicant again engaged the third engineer, who provided a third producer statement that covered the proposed building work ‘described on the drawings by others’ that were ‘dated 17 01 13 together with the specifications’. An attached ‘Inspection Schedule’ noted that an inspection was required for ‘RHS frame – prelining’.



- 3.9.4 Aside from the third engineer's email quoted in paragraph 3.6.1, I have seen no formal statement or design calculations by any qualified engineer about the need for a steel portal to the north wall. I have also seen no engineer's records regarding a requirement to install an LVL beam to the rafters under the internal gutter at the central wall in order for the house to be structurally adequate.
- 3.9.5 The consultant submitted an application for amendment on 4 February 2013. Following some correspondence, the authority issued the second amendment on 5 March 2013 for the installation of the steel portal, the LVL beam and wardrobes.
- 3.9.6 The amendment documents included:
- a sketch of the RHS portal for the north wall
  - elevations of the two clerestorey walls, showing bracing and the portal
  - a section showing the installation of the LVL beam to the cut rafters
  - the third engineer's producer statement, inspection schedule and calculations.

### **3.10 Completion of the building work**

- 3.10.1 The building work recommenced and the third engineer inspected the installation of the portal and beam; submitting a producer statement for construction review dated 9 July 2013. The authority carried out a preline inspection on 17 July 2013, with a recheck on 18 July 2013, which passed. A postline inspection on 23 July 2013 passed the plaster board bracing.
- 3.10.2 The authority carried out final inspections on 13 and 26 February 2014. The required documentation was subsequently provided and the authority issued the code compliance certificate on 12 March 2014.
- 3.11 The Ministry received an application for determination on 11 March 2015 and sought information and records from the authority, which were received on 30 April 2015.

## **4. The submissions**

### **4.1 The applicant**

- 4.1.1 The consultant made several submissions on the applicant's behalf, which I have taken into account and incorporated as I considered appropriate when preparing this determination.
- 4.1.2 The consultant provided copies of:
- the original consent documentation and processing records
  - the consultant's letter to the authority dated 12 June 2011
  - various emails, statements, sketches and other information.

### **4.2 The authority**

- 4.2.1 The authority made a submission dated 29 April 2015 which provided a background to the dispute. The authority considered that it had acted appropriately during its processing of the consent and had 'been proactive in resolving all of the issues to ensure the build could continue', including engaging with the owner, the original builder and later the consultant.

4.2.2 The authority provided a copy of the property file, which included documents pertinent to this determination, including:

- the original consent documentation and subsequent amendments
- correspondence with the consultant
- producer statements, calculations and information from the three engineers
- the inspection records and code compliance certificate
- various other statements, drawings and other information.

### 4.3 Submissions in response to the draft determination

4.3.1 A draft determination dated 19 June 2015 was issued to the parties for comment. The authority accepted the draft without comment on 2 July 2015.

4.3.2 The consultant responded to the draft determination on the applicant's behalf on 2 July 2015. The consultant did not accept the draft and attached a letter setting out a number of detailed comments. I have amended the determination as I consider appropriate.

4.3.3 The consultant was of the view the second engineer did not take into account all aspects of the construction, therefore the engineer's design 'could not be relied on'. The consultant 'remained concerned about the second engineers reports' citing what he considered were significant omissions.

4.3.4 The consultant concluded:

We are happy with [the Ministry's] decision that the consent should not have been granted. ...

We are not happy that the owner had to get [the consultant] involved due to [the authority] passing substandard work. ... if it was up to standard no engineers would have been required to approve completed work ...

4.3.5 As noted in paragraph 1.4.4, the matters I am able to determine are limited to those matters described in section 177 of the Act.

## 5. Discussion

### 5.1 The approach to assessing documentation

5.1.1 In regard to consent documentation, the relevant sections of the Act are:

#### 45 How to apply for building consent

- (1) An application for a building consent must-
  - a) be in the prescribed form; and
  - b) be accompanied by plans and specifications that are-
    - (i) required by regulations made under section 402; or
    - (ii) if the regulations do not so require, required by a building consent authority; and
  - c) contain or be accompanied by any other information that the building consent authority reasonably requires...

#### **49 Grant of building consent**

- (2) A building consent authority must grant a building consent if it is satisfied on reasonable grounds that the provisions of the building code would be met if the building work were properly completed in accordance with the plans and specifications that accompanied the application.

5.1.2 As required by Section 49(1) of the Act, the authority needed to have reasonable grounds to be satisfied that the relevant provisions of the Building Code would be met if 'the building work were properly completed in accordance with the plans and specifications' submitted.

5.1.3 There are various means by which an authority can form a view as to whether it has reasonable grounds, which include:

- demonstrated performance with the requirements of the Building Code
- completeness and clarity of the information provided
- the credentials of the designer and builder (if known).

5.1.4 The documents should therefore provide instruction and certainty on those areas of the buildings that are specifically designed elements or alternative solutions, with fewer details necessary for areas that a builder can be expected to be familiar with.

## **5.2 The authority's processing of the original consent**

5.2.1 In the case of this house I note the following:

- The building is a small, fairly simple, conventional timber framed cottage.
- The original builder was appointed as the applicant's agent in dealing with the authority during its assessment of the consent application and:
  - had prepared the drawings and specification notes for the house
  - was not a local builder, so was unlikely to be known to the authority.
- The drawings were crudely prepared and drawn, with specifications consisting of handwritten notes on the drawings, together with annotated extracts from E2/AS1 and NZS3604.
- The drawings were accompanied by the first engineer's PS1 that was dated some eight months prior to the original consent application.

5.2.2 The authority assessed the information it had received with this building consent application and appropriately sought further information prior to issuing that consent. In regard to areas highlighted by the consultant (see paragraph 1.4.2), the authority sought further information about (with item numbers in brackets):

- In the first request on 19 October 2010:
  - wind zone for bracing calculations (item 1)
  - main roof rafter spans (item 11)
  - additional detail for box gutter (item 31)
- In the second request on 9 November 2010:
  - roof framing plan required, inconsistencies and lack of clarity in section.

5.2.3 Following the provision of additional information, the authority considered that the documentation supplied in support of the consent application was sufficient to allow it to be satisfied, on reasonable grounds, that the building would comply with the Building Code if properly completed in accordance with the documents submitted.

### 5.3 The drawings and specifications submitted

5.3.1 As noted above, the drawings were crudely prepared by the original builder and were not of the quality I would expect, even for a project of this small scale and nature. The Ministry's guidance document<sup>9</sup> provides a useful measure for the level and quality of documentation needed for a building consent.

5.3.2 Commenting generally on the quality of the plans and submissions submitted for the building consent, I note that:

- the documentation does not set out the required information in a logical and easy to follow manner to allow the authority and other trades to work easily with the information
- plans are not professionally drawn using appropriate scales, with difficult to decipher handwritten notes and drawing conventions not followed<sup>10</sup>
- plans and elevations are not clearly cross-referenced to specific details and specification notes
- specific details are very limited, with over-reliance on extracts from standard documents
- there is no site and project specific specification that clearly explains the products and systems used and how these relate to the proposed work
- the project specific specification is limited to a collection of handwritten 'key notes' listed on one drawing, which are very difficult to read and understand
- the only date shown is '19/9/2010' on the site plan in 'page 1', with individual drawings undated and not showing revisions made in response to the authority's queries
- there are various conflicts and inconsistencies in the drawings, including the cross section clearly showing a line of polystyrene floor insulation extended from the slab under the foundations while the associated specification notes 'under floor/slab insulation' and another note not mentioning foundations.

5.3.3 I consider that the poor standard of drawings in the application did not provide information in a sufficiently clear and easy to follow format that would allow the authority to reasonably assess the information contained therein.

### 5.4 Conclusion on the consent documentation

5.4.1 The authority is entitled to set minimum requirements to ensure that the proposed building work is clearly documented and in an appropriate format. As shown in paragraph 5.1.1, the authority can set reasonable requirements for the documentation that accompanies applications for building consents.

5.4.2 In regard to the documentation provided to the authority for the proposed building work, I consider that:

<sup>9</sup> Guide to applying for a building consent (residential buildings): Second Edition October 2010 *Department of Building and Housing*

<sup>10</sup> Such as conforming to AS/NZ 1100 Technical Drawing

- although crudely presented and confusing, drawings contained some of the information required including a floor plan, elevations, a typical section, and other construction information
- issues in the building consent documentation should have been clarified before the consent was granted and issued, including detailed information to address flashing details, cladding installation details, etc
- the subsequent drawings provided for the first amendment are also of poor quality, with similar shortcomings as the original consent drawings
- the poor quality of the drawings and the lack of clarity make it unclear how the authority was satisfied that the requirements of the Building Code were to be met in some respects.

5.4.3 The drawings, specification notes and other information submitted for the original building consent and later amendments fall short of the standard described in the guidance information, and I hold the view that the authority incorrectly exercised its powers of decision in granting the consent based on the information submitted to it. The authority was entitled to refuse to issue the building consents until the proposed building work was clearly documented in an appropriate format.

## 5.5 The first amendment

5.5.1 In regard to the first amendment to the consent, I note the following:

- The original building consent included the requirement for construction to accord with NZS 3604, which required certain full height studs and lintel connections within the north wall framing.
- North wall framing and some sheet bracing was not installed in accordance with NZS 3604.
- The original builder had also made changes to windows and doors, without submitting those changes with recalculated bracing for authority approval.
- The first amendment to account of:
  - some joinery changes and construction defects in work carried out prior to the original builder leaving the site
  - a producer statement issued by the second engineer that covered the identified defects and joinery changes.

## 5.6 The second amendment

5.6.1 The second amendment was instigated by the consultant, who remained concerned about the structural adequacy. The consultant engaged the third engineer who:

- prior to the first amendment had informally suggested a steel portal frame and noted that the cut rafters were likely to be adequate
- did not formally state that a steel portal frame is necessary for the house to be structurally adequate
- did not state that an LVL beam under the rafters was necessary
- has not implied that the second engineer's producer statement is deficient.

5.6.2 There is insufficient evidence that demonstrates structural inadequacy in the amended construction prior to the second amendment.

## **6. The decision**

6.1 In accordance with section 188 of the Building Act 2004, I hereby determine that:

- the documentation submitted for the original building consent was inadequate for the authority to be satisfied on reasonable grounds that the proposed house would comply with Clause B1 Structure of the Building Code in all respects if the building work was properly completed in accordance with the plans and specifications, and the authority therefore incorrectly exercised its powers in issuing the original building consent
- notwithstanding the issue of the original consent, the subsequent building work included in the amendments to the original consent have resulted in the house complying with Clause B1 Structure of the Building Code.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 12 August 2015.

John Gardiner  
**Manager Determinations and Assurance**