

Determination 2011/090

Regarding the refusal to issue a code compliance certificate for a 10-year-old house with monolithic cladding at 1 Taranui Place, Ohauti, Tauranga



1. The matters to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the Act”) made under due authorisation by me, John Gardiner, Manager Determinations, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department. The applicant is the owner, J Parsons (“the applicant”), and the other party is the Tauranga City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.2 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for a 10-year-old house, because it is not satisfied that the building work complies with certain clauses² of the Building Code (First Schedule, Building Regulations 1992). The authority’s concerns about the compliance of the building work relate to its age and to the weathertightness of the cladding (see paragraph 3.5).

¹ The Building Act 2004, the Building Code, Compliance Documents, past determinations, and guidance documents issued by the Department are available from the Department’s website at www.dbh.govt.nz or by contacting the Department on 0888 242 243.

² 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.

1.3 The matter to be determined³ is therefore whether the authority was correct to refuse to issue a code compliance certificate. In deciding this, I must consider:

1.3.1 Matter 1: The external envelope

Whether the external building envelope of the house complies with Clause B2 Durability and Clause E2 External Moisture of the Building Code. The building envelope includes the components of the systems (such as the monolithic cladding, the windows, the roof claddings and the flashings), as well as the way the components have been installed and work together. I consider this in paragraph 6.

1.3.2 Matter 2: The durability considerations

Whether the building elements comply with Clause B2 Durability of the Building Code, taking into account the age of the house. I consider this in paragraph 7.

1.4 I note that a building certifier inspected the construction of this house in 2001 on the authority's behalf. The company ceased operating as a building certifier in 2005, but continued operating under a different name as the authority's agent to provide inspection services for the authority. In this determination, both entities are therefore referred to as "the authority's contractor".

1.5 In making my decision, I have considered the submissions of the parties, the report of the expert commissioned by the Department to advise on this dispute ("the expert"), and the other evidence in this matter.

2. The building work

2.1 The building work consists of a detached house situated on a gently sloping corner site in a medium wind zone for the purposes of NZS 3604⁴. The single-storey house is simple in plan and form and is assessed as having a low weathertightness risk.

2.2 Construction is generally conventional light timber frame, with concrete foundations and floor slab, monolithic wall cladding, aluminium windows and pressed metal tile roof claddings. The 20° pitch hipped roof has eaves projections of about 600mm, except for bedroom 2 on the west elevation and the ensuite on the east elevation, where the projecting walls are sheltered only by gutters. The heads of the windows are well protected under the eaves

2.3 The monolithic wall cladding is a proprietary flush-finished fibre-cement cladding system that consists of 7.5mm thick fibre-cement sheets fixed directly through the building wrap to the framing, and finished with an applied textured coating system.

2.4 The expert noted no evidence of timber treatment and given the date of construction in 2001, I consider that the wall framing of this house is not treated.

³ Under sections 177(1)(b) and 177(2)(d) of the Act

⁴ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

3. Background

- 3.1 The authority issued a building consent for the house (No. 6077) on 2 August 2001 under the Building Act 1991, based on a building certificate dated 25 July 2001.
- 3.2 The authority's contractor carried out various inspections during construction, including pre-line building inspections on 24 August 2001. The final inspection was carried out on 8 October 2001, and the inspection summary identified no outstanding items but required documentation of 'engineering for new location of portal frame'.
- 3.3 In 2011, the applicant discovered that the house had not been issued with a code compliance certificate and apparently engaged a property inspection company to investigate outstanding matters. In a letter to the property inspection company dated 13 July 2011, the structural engineer stated that the changed portal frame position was 'an acceptable alternative' to his original design.
- 3.4 On receiving the engineer's letter, the applicant did not formally request a code compliance certificate from the authority; instead applying for a determination. The Department received the application on 27 July 2011 and asked the applicant to approach the authority about the matter.
- 3.5 In an email to the Department dated 5 August 2011, the authority explained that it:
- ...had no formal request to issue the CCC and on viewing the building records [the authority] would be loathe to do so as the dwelling has untreated framing and face fixed [fibre-cement] with texture coating. [The authority] is unable to confirm that the dwelling complies with Clause E2 and B2 of the NZ Building Code as the date of the last inspection was 8 October 2001 so for any liability the dwelling is out of time.

4. The submissions

- 4.1 The applicant provided copies of:
- the consent documents
 - the authority's contractor's inspection summary
 - the engineer's letter dated 27 July 2011.
- 4.2 The authority acknowledged the application and made no submission beyond its email of 5 August 2011 (see paragraph 3.5).
- 4.3 A draft determination was issued to the parties on 15 September 2011. The draft was issued for comment and for the parties to agree dates when the house complied with Building Code Clause B2 Durability.
- 4.4 Both parties accepted the draft without comment and agreed that compliance with B2 was achieved on 8 October 2001.

5. The expert's report

- 5.1 As mentioned in paragraph 1.5, I engaged an independent expert to assist me. The expert is a member of the New Zealand Institute of Building Surveyors and inspected the house on 24 August 2011; providing a report dated 7 September 2011.
- 5.2 The expert considered that the wall cladding was 'straight and generally well fixed', with the texture coating generally in good condition but due for re-painting. The expert noted that roof flashings appeared satisfactory and 'not suspect'.
- 5.3 The expert observed that windows and doors had metal head flashings with satisfactory projections past the jamb flanges. The windows had been face-fixed against the fibre-cement backing sheets prior to applying the coating system. The expert noted that there was no sign of seals behind the flanges, with a small fillet of sealant applied at the edge of the frame. The sealant is showing signs of cracking which would be exacerbated by the use of dark coloured joinery.

5.4 Moisture levels

- 5.4.1 The expert inspected the interior of the house and took non-invasive moisture readings; noting no evidence of moisture penetration.
- 5.4.2 The expert took invasive moisture readings through the wall cladding into the framing at 23 locations considered to be at particular risk of moisture penetration. The lowest readings were from 10% to 14%; indicating likely equilibrium moisture levels in the framing. The expert noted the following elevated readings:

Bottom plates

- 19% on the left hand side of the garage door
- 18% in the corner and east bottom plate to bedroom 1
- 19% in the east bottom plate to the ensuite

Windows

- 18% under a jamb to sill junction of the west bedroom 2 window
- 17% under a jamb to sill junction of the north bedroom 1 window
- 17% under the corner sill of the north bedroom 1 window
- 17% and 18% under the jamb to sill junctions of the east ensuite window
- 17% under a jamb to sill junction of the east bedroom 3 window.

Moisture levels above 18%, or which vary significantly, generally indicate that external moisture is entering the structure and further investigation is needed. I note that the readings were taken at the end of winter and can be expected to be lower during dryer months.

- 5.5 Commenting specifically on the external envelope of the house, the expert noted that:
- the fibre-cement cladding is due for re-painting
 - there are insufficient clearances below the cladding at the garage door and projecting wall of bedroom 2, with elevated moisture in the bottom plate
 - windows are face-fixed against fibre-cement backing sheets, with no seals behind jamb flanges and the coating applied after the window installation.
- 5.6 The expert also made the following comments:
- Garden levels have only recently been lowered to increase cladding clearances and elevated moisture levels in bottom plates to the east elevation should decline to satisfactory levels and remain at lower levels.
 - Although there is no evidence of vertical control joints in walls longer than 5.4m, there are no cracks in the cladding or other signs of movement after ten years.
 - Although the meter box relies on sealant for weatherproofing, it is sheltered beneath 600mm eaves and moisture levels are low in the framing below.
- 5.7 The expert also commented that ‘some aspects of this dwelling do not reflect the guideline recommendations provided within the 1992 NZBC clauses, product manufacturer’s literature and/or applicable industry trade standards’.
- 5.8 A copy of the expert’s report was provided to the parties on 12 September 2011.

Matter 1: The cladding

6. Weathertightness

6.1 The evaluation of building work for compliance with the Building Code and the risk factors considered in regards to weathertightness have been described in numerous previous determinations (for example, Determination 2004/1).

6.2 Weathertightness risk

6.2.1 The house has the following environmental and design features which influence its weathertightness risk profile:

Increasing risk

- the cladding is fixed directly to the framing
- the external wall framing is not treated to a level that provides resistance to decay if it absorbs and retains moisture.

Decreasing risk

- the single-storey house is in a medium wind zone
- the house is fairly simple in plan and form
- the only attached deck has a free-draining timber floor

- there are eaves to shelter most of the cladding.

6.2.2 When evaluated using the E2/AS1 risk matrix, these features show that the elevations of the house demonstrate a low weathertightness risk rating. I note that, if the details shown in the current E2/AS1 were adopted to show code compliance, flush-finished fibre-cement cladding would require a drained cavity at all risk levels. However, I also note that a drained cavity was not a requirement at the time of construction.

6.3 Weathertightness performance

6.3.1 Taking account of the expert's comments in paragraph 5.5, I conclude that remedial work is necessary in respect of the following areas:

- the deteriorating paint finish to the cladding
- the inadequate clearances below the cladding beside the garage door and the adjacent wall to bedroom 2
- the inadequate protection of the junction between the window and door joinery and the wall cladding, so that the junction is not reliant only on a small external bead of sealant

6.3.2 I also note the expert's comments as outlined in paragraph 5.6 and accept that these areas are adequate in the particular circumstances.

6.4 Weathertightness conclusion

6.4.1 I consider the expert's report establishes that the current performance of the flush-finished fibre-cement cladding is not adequate because there is evidence of moisture penetration into the timber framing in some areas. Although the moisture levels are only slightly elevated, the untreated framing is susceptible to moisture damage. Consequently, I am satisfied that the house does not comply with Clause E2 of the Building Code.

6.4.2 In addition, the building envelope is also required to comply with the durability requirements of Clause B2. Clause B2 requires that a building continues to satisfy all the objectives of the Building Code throughout its effective life, and that includes the requirement for the house to remain weathertight. Because the cladding faults will allow the ingress of moisture in the future, the building work does not comply with the durability requirements of Clause B2.

6.5 Because the identified cladding faults occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 6.3.1 will result in the external envelope being brought into compliance with Clauses B2 and E2 of the Building Code.

6.6 Effective maintenance of claddings is important to ensure ongoing compliance with Clauses B2 and E2 of the Building Code and is the responsibility of the building owner. The Department has previously described these maintenance requirements, including examples where the external wall framing of the building may not be treated to a level that will resist the onset of decay if it gets wet (for example, Determination 2007/60).

Matter 2: The durability considerations

7. Discussion

- 7.1 There are concerns about the durability, and hence the compliance with the Building Code, of certain elements of the building taking into consideration the completion of the building in 2001.
- 7.2 The relevant provision of Clause B2 of the Building Code requires that building elements must, with only normal maintenance, continue to satisfy the performance requirements of the Building Code for certain periods (“durability periods”) “from the time of issue of the applicable code compliance certificate” (Clause B2.3.1).
- 7.3 These durability periods are:
- 5 years if the building elements are easy to access and replace, and failure of those elements would be easily detected during the normal use of the building
 - 15 years if building elements are moderately difficult to access or replace, or failure of those elements would go undetected during normal use of the building, but would be easily detected during normal maintenance
 - the life of the building, being not less than 50 years, if the building elements provide structural stability to the building, or are difficult to access or replace, or failure of those elements would go undetected during both normal use and maintenance.
- 7.4 In this case the delay since the completion of the building has raised concerns that many elements of the building are now well through or beyond their required durability periods, and would consequently no longer comply with Clause B2 if code compliance certificates were to be issued effective from today’s date. However, I have not been provided with any evidence that elements did not comply with Clause B2 in October 2001.
- 7.5 It is not disputed, and I am therefore satisfied, that all the building elements in respect of consent No. 6077, excluding those that are to be rectified as described in paragraph 6.3.1 of this determination, complied with Clause B2 8 October 2001 (refer paragraph 4.4).
- 7.6 In order to address these durability issues when they were raised in previous determinations, I sought and received clarification of general legal advice about waivers and modifications. That clarification, and the legal framework and procedures based on the clarification, is described in previous determinations (for example, Determination 2006/85). I have used that advice to evaluate the durability issues raised in this determination.
- 7.7 I continue to hold that view, and therefore conclude that:
- (a) the authority has the power to grant an appropriate modification of Clause B2 in respect of all the building elements, if requested by an owner

- (b) it is reasonable to grant such a modification, with appropriate notification, as in practical terms the building is no different from what it would have been if code compliance certificates for the building work had been issued in 2001.

7.8 I strongly recommend that the authority record this determination and any modifications resulting from it, on the property file and also on any LIM issued concerning this property.

8. What is to be done now?

8.1 A notice to fix should be issued that requires the owner to bring the house into compliance with the Building Code, including the defects identified in paragraph 6.3.1, but not specifying how those defects are to be fixed. It is not for the notice to fix to specify how the defects are to be remedied and the building brought to compliance with the Building Code. That is a matter for the owners to propose and for the authority to accept or reject.

8.2 I suggest that the parties adopt the following process to meet the requirements of paragraph 8.1. The applicant should produce a response to the notice to fix in the form of a detailed proposal, produced in conjunction with a competent and suitably qualified person, as to the investigation and rectification or otherwise of the specified matters. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.

9. The decision

9.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the external building envelope does not comply with Building Code Clauses E2 and B2 and accordingly, I confirm the authority's decision to refuse to issue a code compliance certificate.

9.2 I also determine that:

- (a) all the building elements installed in the house, apart from the items that are to be rectified, complied with Clause B2 on 8 October 2001.
- (b) the building consent is hereby modified as follows:

The building consent is subject to a modification to the Building Code to the effect that, Clause B2.3.1 applies from 8 October 2001 instead of from the time of issue of the code compliance certificate for all the building elements, except the items to be rectified as set out in paragraph 6.3.1 of Determination 2011/090.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 5 October 2011.

John Gardiner
Manager Determinations