

Determination 2007/114

Refusal of a code compliance certificate for a house at 105 Casuarina Drive, Te Puke



1 The matter 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 applicants are the owners Paul and Debbie Hutton (“the applicants”), and the other party is the Western Bay of Plenty District Council (“the territorial authority”).
- 1.2 The application arises from the territorial authority’s refusal to issue a code compliance certificate for a 4-year-old house, as it:
- did not carry out any inspections of the work undertaken under the building consent
 - was not satisfied that the inspections carried out by Bay Building Certifiers Ltd (“the building certifier”) were satisfactory.
- 1.3 The matter for determination is whether the territorial authority’s decision to decline to issue a code compliance certificate for the house is correct. The refusal arose because the building work had been erected under the supervision of the building certifier who did not issue a code compliance certificate for the building. The

¹ The Building Act 2004 is available from the Department’s website at www.dbh.govt.nz.

territorial authority has issued a certificate of acceptance in respect of some of the building work.

- 1.4 In order to determine that matter, I must answer the following questions in sequence:
- a) Is there sufficient evidence to establish whether the house as a whole complies with the Building Code?
 - b) Can a code compliance certificate be issued forthwith?
 - c) If a code compliance certificate cannot be issued forthwith, are there sufficient grounds to conclude that, once any outstanding items are fixed and inspected, a code compliance certificate could be issued?
 - d) If there are insufficient grounds to issue a code compliance certificate even after outstanding items are fixed and inspected, are there additional parts of the building work that can be confirmed, on reasonable grounds, as complying with the building code in order that an amended certificate of acceptance can be issued in respect of these parts?

I answer these questions in paragraph 7.10 of this determination.

- 1.5 In making my decision, I have considered the submissions of the parties, the report of the independent expert commissioned by the Department to advise on this dispute (“the expert”), and the other evidence in this matter, including the building certifier’s inspections records. In the case of the cladding, I have evaluated this information using a framework that I describe more fully in paragraph 6.
- 1.6 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.

2 The building

- 2.1 The building work consists of a single-storey “kitset” house, which is situated on a level site that is in a moderate wind zone for the purposes of NZS 3604². The house is simple in form and plan and is of conventional light timber frame constructed on concrete floors. The pitched roofs are at two levels and have wall-to-roof junctions and 300mm wide eaves and verge projections. A large timber-framed close-boarded deck is constructed along the front of the house at ground level and a timber-framed pergola is fixed above the deck.
- 2.2 Based on the information obtained by the expert, I accept that the external wall framing timber is likely to be at least H3.1 treated.
- 2.3 The external walls of the house are clad with fibre-cement sheets which have a textured plaster and paint finish, and are fixed through the building wrap to the framing.

3 Sequence of events

^{2 2} New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- 3.1 The building certifier was approved as a building certifier under section 53 of the Building Act 1991.
- 3.2 The territorial authority issued a building consent (No. 67075) on 23 May 2002 under the 1991 Act, based on a building certificate issued by the building certifier.
- 3.3 The building certifier carried out various inspections during the construction of the house from 24 May 2002, culminating in final inspections on 22 November 2002. With the exception of the final building inspection, all the assessments passed. The building certifier's job reports noted that, as regards the final building inspection, a producer statement was required for the cladding.
- 3.4 The building certifier's approval as a certifier expired on 30 June 2005.
- 3.5 The territorial authority wrote to the applicants noting their concerns as to the effectiveness of the building certifier's inspections and supporting documentation. Accordingly, the territorial authority was not prepared to issue a code compliance certificate based on the building certifier inspections carried out on the house. The territorial authority set out a process that would progress the situation existing at that time.
- 3.6 The territorial authority inspected the property on 1 November 2006 and in a letter to the applicants dated 7 November 2006, listed items that the territorial authority considered to be non-compliant. The territorial authority also stated that it would not be issuing a code compliance certificate. However, the applicants could apply for a certificate of acceptance.
- 3.7 The applicants wrote to the territorial authority on 15 January 2007, stating that all the non-complying items had been rectified and requesting that the territorial authority re-inspect the property.
- 3.8 The territorial authority issued a certificate of acceptance dated 3 May 2007. The certificate stated that compliance had been achieved for clauses C, E1, E2, H1, F4, G4, and G7. The certificate did not include:
- the structure or exterior cladding/weathertightness of the building or water pipes, waste pipes or other enclosed services or materials.
- 3.9 The Department received the application for a determination on 11 June 2007.

4 The submissions

- 4.1 Neither party forwarded a detailed submission.
- 4.2 The applicants forwarded copies of:
- the consent drawings
 - the building consent
 - a summary of the inspections undertaken by the building certifier

- the certificate of acceptance
 - the correspondence from the territorial authority
 - a letter from a firm of plumbing, heating and gas experts dated 5 December 2006, which stated that two freestanding fireplaces installed in the house were in sound condition and have been installed to the manufacturer's specifications
 - a electrical certificate of compliance dated 18 November 2002
 - a gasfitting certification certificate dated 18 November 2002
 - a warranty for the roofing materials installed in the house dated 5 August 2002.
- 4.3 Copies of the applicants' submissions were forwarded to the territorial authority and the other evidence was provided to each of the parties. Neither party made any further submissions in response to the submission of the other party.

5 The expert's report

- 5.1 Before deciding whether or not to rely on the reports and other evidence, I consider it important to look for evidence that corroborates them. In this particular case the corroboration comes from the expert's report that a visual inspection of the accessible components demonstrates code compliance of those components. Taken together, this information provides grounds on which to form a view that the building work will comply with the building code once the defects noted herein have been fixed to the satisfaction of the territorial authority.
- 5.2 As noted in paragraph 1.5, I engaged an independent expert, who is a member of the New Zealand Institute of Building Surveyors, to inspect the dwelling and report on the compliance of the building work with the relevant requirements of the building code.
- 5.3 The expert inspected the house on 3 and 7 July 2007 and furnished a report that was dated July 2007. The expert noted that the building is "an average quality home and the standard of building work and finish of elements is mostly to an adequate standard.
- 5.4 The expert took non-invasive moisture readings around the interior of the external walls of the house and some elevated readings were recorded in the cladding and associated framing, most notably in the lounge/playroom end wall. Subsequent invasive testing showed readings of 27% to 37% at these locations. Moisture levels above 18% recorded after cladding is in place generally indicate that external moisture is entering the structure.
- 5.5 The expert also removed small sections of the textured finish to check on aspects of the construction. I accept that the details observed at these locations are typical of similar situations elsewhere in the building.

5.6 The expert noted that there were only minor variations from the consent drawings, and these would not impact on the compliance of the building in terms of clauses B1 and E2.

5.7 The expert made the following specific comments on the building work:

5.7.1 The cladding and roofing

- The cladding has been well finished to line and level with no missing or poorly filled components. Sealing defects at the ends of the exterior joinery head flashings have been remedied by the builder.
- The cladding sheets are laid out correctly, and while clearly expressed control joints were not noted, these may be installed and hidden under the textured coating.
- There is extensive failure at the vertical taped joints, possibly due to the lack of reinforcing tape and primer, and the repairs already undertaken were also suspect.
- The horizontal joints to the gable end cladding are simply taped and lack flashing and drainage facilities.
- There are correctly installed metal head flashings over the exterior joinery units. However, the jambs of the units are inadequately sealed and sill drainage has not been provided.
- Some penetrations through the cladding are inadequately sealed.
- The roofing and its associated flashings are well fitted with particular care being taken at apron flashing terminations.

5.7.2 Other elements

- The deck and associated pergola are well constructed with appropriate timbers being used and the deck is spaced away from the main building.
- All visible work in relation to storm water collection and disposal appears satisfactory.
- There was no sign of leaks at the interior wet areas and no elevated moisture readings were obtained.
- The water supplies appeared adequate when tested and the as-built drainage plan is an adequate record of the foul water disposal.
- The expert had no issues with the building's compliance in respect of clauses F4, G1, G2, G3, G4, G7 G8, and H.

6 Evaluation framework for the cladding

- 6.1 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solution³, which in the case of the cladding is E2/AS1, and that will assist in determining whether the features of this house are code compliant. However, in making this comparison, the following general observations are valid:
- Some Acceptable Solutions cover the worst case, so that they may be modified in less extreme cases and the resulting alternative solution will still comply with the Building Code.
 - Usually, when there is non-compliance with one provision of an Acceptable Solution, it will be necessary to add some other provision to compensate for that in order to comply with the Building Code.
- 6.2 The approach in determining whether building work is weathertight and durable and is likely to remain so, is to apply the principles of weathertightness. This involves the examination of the design of the building, the surrounding environment, the design features that are intended to prevent the penetration of water, the cladding system, its installation, and the moisture tolerance of the external framing. The Department and its antecedent, the Building Industry Authority, have also described weathertightness risk factors in previous determinations⁴ (for example, Determination 2004/1) relating to cladding and these factors are also used in the evaluation process.
- 6.3 The consequences of a building demonstrating a high weathertightness risk is that building solutions that comply with the Building Code will need to be more robust. Conversely, where there is a low weathertightness risk, the solutions may be less robust. In any event, there is a need for both the design of the cladding system and its installation to be carefully carried out.
- 6.4 In relation to these characteristics I find that the house:
- is single storey and is simple in form and plan
 - is in a moderate wind zone
 - has 300mm eaves and verge projections
 - has external wall framing treated to a level that will resist the onset of decay if it gets wet.
- 6.5 The house has been evaluated using the E2/AS1 risk matrix. The risk matrix allows the summing of a range of design and location factors applying to a specific building design. The resulting risk rating can range from 'low' to 'very high'. The risk rating

³ An Acceptable Solution is a prescriptive design solution approved by the Department that provides one way, but not the only way, of complying with the Building Code. The Acceptable Solutions are available from The Department's Website at www.dbh.govt.nz.

⁴ Copies of all determinations issued by the Department can be obtained from the Department's website.

is applied to determine what claddings can be used on a building in order to comply with E2/AS1. Higher levels of risk will require more rigorous weatherproof detailing; for example, a high risk level is likely to require particular types of cladding to be installed over a drained cavity.

6.6 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.5 show that all elevations of the house demonstrate a low weathertightness risk. I note that, as the house is low-risk, in order to comply with E2/AS1 the monolithic cladding of this building would not require a drained cavity.

6.7 Apart from the exceptions listed below the cladding appears to have been installed in accordance to reasonable trade practice. However, taking account of the expert's opinion, I conclude that remedial work is necessary in respect of:

- the lack of clearly expressed control joints
- the extensive failures at the vertical taped joints
- the horizontal joints to the gable end cladding being simply taped and lacking flashing and drainage facilities.
- the inadequately sealed jambs of the external joinery units and the lack of sill drainage
- the inadequately sealed penetrations through the cladding
- any other defects discovered during the rectification process.

6.8 Notwithstanding the fact that the cladding is fixed directly to the timber framing, thus limiting drainage and ventilation behind the cladding, I have noted certain compensating factors that assist the performance of the cladding in this particular case:

- Apart from the noted exceptions, the cladding is installed to reasonable trade practice.
- The house is single storey.
- The house has 300mm eaves and verge projections that provide reasonable protection to the claddings beneath them.
- The house has external wall framing treated to a level that will resist the onset of decay if it gets wet.

6.9 I consider that these factors help compensate for the lack of a drained cavity and can assist the building to comply with the weathertightness and durability provisions of the Building Code.

7 Discussion

- 7.1 In previous determinations⁵ (for example, Determination 2006/115) relating to building certifiers' inspections, in the absence of any evidence to the contrary, the Department has taken the view that it is entitled to rely on the inspections reported by the building certifier with regard to inaccessible building components.
- 7.2 However, I am of the opinion that, in this instance, I can rely on the expert's report as a means of verification of the inspection work that was reported as being carried out. A condition for this reliance is that a visual inspection of the accessible components demonstrates code compliance of those components, so providing grounds to form a view that the building work as a whole complies with the building code. In addition, the certificate of acceptance indicates that the territorial authority has already approved clauses C, E1, E2, H1, F4, G4, and G7. Accordingly, the building certifier's inspections, while adding to the information provided to me, are not so relevant in these circumstances
- 7.3 In addition, the applicant has provided an electrical certificate of compliance, a gasfitting certification certificate and verification of the compliance of the two interior fireplaces.
- 7.4 I consider the expert's report establishes that the current performance of the cladding is not adequate because it is allowing some water penetration into the building at several locations at present. Consequently, I am satisfied that the building does not comply with clause E2 of the Building Code.
- 7.5 In addition, the building 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 on the building are likely to continue to allow the ingress of moisture in the future, the house does not comply with the durability requirements of clause B2.
- 7.6 Because the faults identified with the cladding system occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 6.7 will result in the building remaining weathertight and in compliance with clauses B2 and E2.
- 7.7 I emphasise that each determination is conducted on a case-by-case basis. Accordingly, the fact that a particular cladding system has been established as being code compliant in relation to a particular building does not necessarily mean that the same cladding system will be code compliant in another situation.
- 7.8 With regard to all the elements of the building I am of the view that, apart from the cladding defects, they comply with the relevant requirements of the Building Code.

⁵ Copies of all determinations issued by the Department can be obtained from the Department's website.

- 7.9 I believe that I have sufficient grounds to form a view that, based on all the verifications I have received, once the defects and outstanding items identified in paragraph 6.7 have been fixed to the satisfaction of the territorial authority, the house in its entirety will comply with the building code.
- 7.10 In paragraph 1.4 I posed a number of questions that I needed to answer. My answers to those questions are as follows:
- a) Is there sufficient evidence to establish whether the house as a whole complies with the Building Code? No, as concluded in paragraph 6.7, there is evidence that the house as a whole does not comply with the Building Code.
 - b) Can a code compliance certificate be issued forthwith? No, because the building does not comply with the Building Code.
 - c) If a code compliance certificate cannot be issued forthwith, are there sufficient grounds to conclude that, once any outstanding items are fixed and inspected, a code compliance certificate could be issued? Yes, see paragraph 7.9.
 - d) If there are insufficient grounds to issue a code compliance certificate even after outstanding items are fixed and inspected, are there parts of the building work that can be confirmed, on reasonable grounds, as complying with the building code in order that a certificate of acceptance can be issued in respect of these parts? This question is not relevant in the light of the answer to (c).

8 The decision

- 8.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the cladding installed on the house does not comply with the Building Code. I accordingly confirm the territorial authority's decision to refuse to issue a code compliance certificate.
- 8.2 I note that the territorial authority has not issued a notice to fix as required by section 164. A notice to fix should be issued that requires the applicant to bring the building work into compliance with the Building Code, identifying the defects listed in paragraph 6.7, but not specifying how those defects are to be fixed. That is a matter for the applicant to propose and for the territorial authority to accept or reject. It is important to note that the Building Code allows for more than one method of achieving compliance.
- 8.3 I would suggest that the parties adopt the following process to meet the requirements of paragraph 8.2. Initially, the territorial authority should issue the notice to fix, listing all the items that the territorial authority considers to be non-compliant. The owner should then produce a response to this in the form of a technically robust proposal, produced in conjunction with a competent and suitably qualified person, as to the rectification or otherwise of the specified issues. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.

- 8.4 In the event that the territorial authority becomes convinced on reasonable grounds that the entire building complies with the Building Code, it must reverse its decision to issue a certificate of acceptance and must issue a code compliance certificate instead.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 1 October 2007.

John Gardiner
Manager Determinations