



## Determination 2010/021

### Refusal to issue a code compliance certificate for a four year old house at 568 Whangamata Road, Waihi



#### 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, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of the Department.
- 1.2 The applicant is the owner, Mr D Maas (“the applicant”). The other party is the Hauraki District Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.3 The determination arises from the decision of the authority to refuse to issue a code compliance certificate for a five-year-old house, because it was not satisfied that it complied with Clauses B2 and E2 of the Building Code (Schedule 1, Building Regulations 1992).

---

<sup>1</sup> The Building Act 2004, Building Code, compliance documents, past determinations and guidance documents issued by the Department are all available at [www.dbh.govt.nz](http://www.dbh.govt.nz) or by contacting the department on 0800 242 243.

- 1.4 The matter to be determined<sup>2</sup> is whether the decision of the authority to refuse to issue a code compliance certificate was correct. In making this decision, I must consider whether the external envelope of the house complies with Clauses B2 Durability and E2 External Moisture of the Building Code. The external envelope includes the cladding, its configuration and components, junctions with other building elements, formed openings and penetrations, and the proximity of these building elements to the ground.
- 1.5 In making my decision, I have considered the applicant's submission, the report of the independent expert ("the expert") commissioned by the Department to advise on this dispute, and other evidence in this matter.

## **2. The building**

- 2.1 The building is a single-storey house of simple design, situated on a level, rural site that is in a medium wind zone for the purposes of NZS 3604<sup>3</sup>. The house is founded on timber piles and is constructed of timber framing. The external walls of the house are clad with face-fixed smooth fibre cement weatherboards.
- 2.2 The house has a single plane, 10° sloped roof, covered with long-run corrugated steel. The soffit overhang is 600mm for all four elevations, except in one area where the overhang is approximately 200mm.
- 2.3 The expert was unable inspect any of the concealed timber framing or find evidence of the treatment level of the timber. However, I note that the drawings specify the use of H1.2 treated timber and given the date of construction, I consider that the external framing for this house is likely to be treated to a level that will provide resistance to fungal decay if the framing gets wet and is unable to dry out.

## **3. Background**

- 3.1 The authority issued a building consent for the house on 15 April 2005. The house was purchased as a kitset and constructed by its previous owner. The authority carried out several inspections of the building work.
- 3.2 The authority carried out a final inspection of the house on 18 March 2009. The house failed the inspection and two site instruction notices issued on the same day noted 18 matters that needed to be rectified. The notices also stated that, because of these matters, the authority would not issue a code compliance certificate for the house, and advised the previous owner to apply for a determination. I note that the final inspections appear to have raised matters that the authority considered were non-compliant that it had previously passed as compliant.
- 3.3 This advice was followed up in a letter from the authority to the previous owner dated 25 May 2009. The authority confirmed that because of the amount of time that had passed since the house had been closed in, and because certain matters affecting the house's weathertightness, such as 'exterior flashings and finishing of the

---

<sup>2</sup> Under sections 177(a) and 177(b)(i) of the Building Act 2004. 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>3</sup> New Zealand Standard NZS 3604:1999 Timber Framed Buildings.

cladding', had remained uncompleted over this time, it could not be satisfied that the house complied with Clauses B2 Durability and E2 External Moisture of the Building Code, and therefore it could not issue a code compliance certificate.

3.4 The applicant (the house's current owner) made an application for a determination, which was received by the Department on 18 November 2009.

3.5 The authority acknowledged the application but made no submission.

#### **4. The submissions**

4.1 In a letter dated 10 November 2009, accompanying his application for a determination, the applicant stated that all 18 of the matters listed in the authority's site instruction notices had now been rectified.

4.2 The applicant also forwarded copies of:

- the two site instruction notices
- the authority's letter of 25 May 2009
- the building plans, project information memorandum and building consent documents.

4.3 The draft determination was sent to the parties for comment on 15 February 2010. Both parties accepted the draft without comment.

#### **5. The expert's report**

5.1 As mentioned in paragraph 1.5, I engaged an expert to provide an assessment of the condition of those building elements subject to the determination. The expert is a member of the New Zealand Institute of Building Surveyors. He filed his report on 27 January 2010 and a copy was sent to the parties for comment on 28 January 2010.

5.2 The expert visually inspected the house and carried out invasive and non-invasive moisture testing. He noted that although the standard of workmanship used for the house was below average, the house appeared to have been constructed in accordance with the authority's approved plans and specifications. He also noted that all of the matters that the authority had identified as requiring rectification had now been satisfactorily attended to.

5.3 The expert took non-invasive and invasive moisture content readings at numerous at-risk locations throughout the house's interior. All testing was conducted through interior walls, due to the difficulties in repairing holes drilled through fibre-cement weatherboard. No evidence of water ingress was found, with all readings coming between 7% and 12%. The expert also found no visual evidence that water ingress had occurred in the past.

5.4 Commenting specifically on the house's external envelope, the expert noted that:

- there was ample ground clearance on all elevations

- all flashings and scribes around windows, doors and at soffit-cladding junctions were adequate, with silicon sealant used where necessary
- the roof was sound and well-fixed and the roof flashings were tidy and effective
- the weatherboards were straight and in good condition, with no cracking
- all cladding penetrations had been appropriately sealed
- the cladding finish, although below average, is acceptable.

5.5 The expert also noted that it was important that the cladding system was well maintained and maintenance was carried out in accordance with the manufacturer's instructions.

## 6. Discussion

6.1 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 examining the design of the building, the surrounding environment, and 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. Weathertightness risk factors have also been described in previous determinations (for example, Determination 2004/1) relating to cladding and these factors are also used in the evaluation process.

6.2 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.

6.3 I have evaluated the house using the risk matrix in E2/AS1. The risk matrix allows the summing of a range of design and location factors applying to a specific building design. The resulting risk level can range from "low" to "very high" and is applied to determine what claddings can be used on a building in order to comply with E2/AS1. Higher risk levels will require more rigorous weatherproof detailing.

### Weathertightness risk

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

#### Increasing risk

- while the eaves are generally 600mm wide, the north side of the house has an oblique angle where the eaves are only 200mm wide

#### Decreasing risk

- it is located in a medium wind zone
- it is single story

- the roof to wall intersection design is simple
- the envelope is a simple shape and design
- there is a timber deck at ground level.

6.5 When evaluated using the E2/AS1 risk matrix, these features show that the house demonstrates a low weathertightness risk rating. If the current details of E2/AS1 were adopted to show code compliance, a drained and ventilated cavity would not be required.

### **Weathertightness performance**

6.6 Notwithstanding that the expert has noted that the standard of workmanship to the cladding was below average, I have noted certain compensating features that assist the performance of the cladding in this particular case:

- there is no evidence of current moisture penetration
- the dwelling is low risk and the weatherboards can be directly fixed onto the framing
- the framing is likely to be treated to a level that will provide some resistance to decay.

6.7 These factors can assist the building to comply with the weathertightness and durability provisions of the Building Code.

### **Weathertightness conclusion**

6.8 I also consider that the expert's report establishes there is no evidence of external moisture entering the house, and accordingly, I am satisfied that the house complies with Clause E2 of the Building Code.

6.9 In addition to Clause E2, the external 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. Taking account of paragraphs 5.4 and 5.5, I consider the house complies with the durability requirements of Clause B2.

6.10 In general, the cladding appears to have been installed to an acceptable standard, although the expert has noted the standard of workmanship is below average. I accept the expert's opinion that remedial work is not required.

6.11 Effective maintenance of claddings is important to ensure ongoing compliance with clauses B2 and E2 of the Building Code and this 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).

## **7. The decision**

- 7.1 In accordance with section 188 of the Building Act 2004, I determine that the external envelope complies with Clauses B2 and E2 of the Building Code, and accordingly I reverse the authority's decision to refuse to issue a code compliance certificate.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 9 March 2010.

John Gardiner  
**Manager Determinations**